NetApp

metrocluster commands

ONTAP 9.6 commands

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metrocluster commands

metrocluster configure

Configure MetroCluster and start DR mirroring for the node and its DR group

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configure` command creates a MetroCluster configuration on either all the nodes in both MetroCluster clusters or solely on nodes in a DR group. The command configures a HA partner, DR partner, and a DR auxiliary partner for the nodes and also starts NVRAM mirroring between the configured DR partner nodes.

In MetroCluster, a DR group is a group of four nodes, two in each of the MetroCluster clusters:

- In the local cluster, a node and its HA partner,
- In the peer cluster, a node and its HA partner. These nodes are DR partners to the nodes in the local cluster.

In a two node MetroCluster configuration, a DR group is a group of two nodes, one in each of the MetroCluster clusters.

There can be several DR groups in the MetroCluster configuration. MetroCluster provides synchronous DR protection to all data sets belonging to nodes within a properly configured DR group.

Without the `-node` parameter, the `metrocluster configure` command configures all the DR groups in both the MetroCluster clusters.

With the `-node`*mynode* parameter, the command configures both the *mynode* node and its HA partner node from the local cluster, and its DR partner and DR auxiliary partner from the peer cluster.

Before running the `metrocluster configure` command, the aggregates and Vservers on each node must be prepared for the MetroCluster configuration. Each node should have:

- At least one non-root, mirrored aggregate of size greater than 10GB. This non-root aggregate should not have any volumes in it.
- No other non-root aggregates. Any other non-root, unmirrored aggregates and volumes should be deleted.
- No Vservers other than Vservers of type "node" or "admin." Any Vservers that are not of type "node" or "admin" should be deleted.
- A mirrored and healthy root aggregate.

After the command is successful all nodes in the local and remote clusters will have HA, DR, and DR auxiliary partners and NVRAM mirroring between the DR partners will be turned on. The same conditions apply before running the `metrocluster configure-node`*mynode*` command, except that only one DR group is configured.

For a MetroCluster over IP configuration, the `metrocluster configuration-settings` commands must be completed before using the `metrocluster configure` command. The commands required to be completed are:

Parameters

`[-node-name {<nodename>|local}]` - **Node to Configure**

This optional parameter specifies the name of a single node in the local cluster. The command creates MetroCluster configuration on the local node specified by this parameter and the three other nodes belonging to the same DR group.

`[-refresh {true|false}]` - **Refresh Configuration (privilege: advanced)**

This optional parameter specifies if the node partner configuration steps should be done again. Not specifying this parameter will cause the MetroCluster configuration to continue using the current node partner information.

`[-allow-with-one-aggregate {true|false}]` - **Override the Two Data Aggregates Requirement (privilege: advanced)**

This optional parameter specifies if MetroCluster configuration should be allowed with only one data aggregate in each cluster. This option has no effect if two or more aggregates are present.

Examples

The following example shows the creation of the MetroCluster configuration for a single DR group:

```
clusA::> metrocluster show
    Cluster                              Configuration State    Mode
    ----------------------------- ----------------------
------------------------
     Local: clusA                        not-configured        -
    Remote: clusB                        not-configured        -
clusA::> metrocluster node show
    DR                                   Configuration  DR
    Group Cluster Node                   State          Mirroring Mode
    ----- ------- ----------------- -------------- ---------
--------------------
    -       clusA    clusA-01             ready to configure
                                                           -       -
             clusA-02             ready to configure
                                                           -       -
             clusA-03             ready to configure
                                                           -       -
             clusA-04             ready to configure
                                                           -       -
    4 entries were displayed.
clusA::> metrocluster configure -node clusA-01
    [Job 45] Job succeeded: Configure is successful
clusA::> metrocluster show
    Cluster                              Configuration State    Mode
    ----------------------------- ----------------------
------------------------
     Local: clusA                        partially-configured   normal
    Remote: clusB                        partially-configured   normal
clusA::> metrocluster node show
    DR                                   Configuration  DR
    Group Cluster Node                   State          Mirroring Mode
    ----- ------- ----------------- -------------- ---------
--------------------
    -       clusA    clusA-03             ready to configure
                                                           -       -
             clusA-04             ready to configure
                                                           -       -
    1       clusA    clusA-01             configured     enabled   normal
             clusA-02             configured     enabled   normal
         clusB    clusB-01             configured     enabled   normal
             clusB-02             configured     enabled   normal
    6 entries were displayed.
```

The following example shows the creation of the MetroCluster configuration for all DR groups:

```
clusA::> metrocluster show
    Cluster                           Configuration State    Mode
    ----------------------------- ----------------------
    ------------------------
     Local: clusA                    not-configured        -
    Remote: clusB                    not-configured        -
clusA::> metrocluster node show
    DR                                 Configuration  DR
    Group Cluster Node                 State          Mirroring Mode
    ----- ------- ----------------- -------------- ---------
    --------------------
    -       clusA   clusA-01           ready to configure
                                                      -       -
                 clusA-02           ready to configure
                                                      -       -
                 clusA-03           ready to configure
                                                      -       -
                 clusA-04           ready to configure
                                                      -       -
    4 entries were displayed.
clusA::> metrocluster configure
    [Job 45] Job succeeded: Configure is successful
clusA::> metrocluster show
    Cluster                           Configuration State    Mode
    ----------------------------- ----------------------
    ------------------------
     Local: clusA                    configured            normal
    Remote: clusB                    configured            normal
clusA::> metrocluster node show
    DR                                 Configuration  DR
    Group Cluster Node                 State          Mirroring Mode
    ----- ------- ----------------- -------------- ---------
    --------------------
    1       clusA   clusA-01           configured     enabled   normal
                 clusA-02           configured     enabled   normal
          clusB   clusB-01           configured     enabled   normal
                 clusB-02           configured     enabled   normal
    2       clusA   clusA-03           configured     enabled   normal
                 clusA-04           configured     enabled   normal
          clusB   clusB-03           configured     enabled   normal
                 clusB-04           configured     enabled   normal
    8 entries were displayed.
```

Related Links

- [metrocluster configuration-settings dr-group create](#)
- [metrocluster configuration-settings interface create](#)
- [metrocluster configuration-settings connection connect](#)

metrocluster heal

Heal DR data aggregates and DR root aggregates

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster heal` command heals DR data aggregates and DR root aggregates in preparation for a DR switchback. You must issue this command twice to complete the two phases of the healing process: first to heal the aggregates by resynchronizing the mirrored plexes and then to heal the root aggregates by switching them back to the disaster site. The DR partner nodes must be powered off and remote disk shelves must be powered on before running this command.

Parameters

`-phase {aggregates|root-aggregates}` - MetroCluster Healing Phase

This parameter specifies the healing phase. The first phase, `aggregates` , heals aggregates by resynchronizing mirrored plexes. The second phase, `root-aggregates` , heals the root aggregates of partner nodes. Healing root aggregates switches them back to the disaster site, allowing the site to boot up.

`[-override-vetoes <true>]` - Override All Soft Vetoes

This optional parameter overrides almost all heal operation soft vetoes. If this optional parameter is set to true, the system overrides subsystem soft vetoes that might prevent the heal operation. Hard vetoes cannot be overridden and can still prevent the switchback operation.

Examples

The following example performs the healing of both the aggregates and root aggregates:

```
cluster1::> metrocluster heal -phase aggregates
        [Job 136] Job succeeded: Heal Aggregates is successful
cluster1::> metrocluster heal -phase root-aggregates
        [Job 137] Job succeeded: Heal Root Aggregates is successful
```

metrocluster modify

Modify MetroCluster configuration options

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster modify` command modifies MetroCluster parameters for nodes in the MetroCluster configuration.

Parameters

{ `-auto-switchover-failure-domain <MetroCluster AUSO Failure Domain>` - Cluster Level AUSO Option

This parameter specifies the configuration of automatic switchover. Modifying `auto-switchover-failure-domain` is not supported on a MetroCluster over IP configuration.

The parameter values are:

- auso-on-cluster-disaster - triggers an unplanned switchover if all nodes in a DR cluster are down.
- auso-on-dr-group-disaster - triggers an unplanned switchover if both nodes of a DR group are down.
- auso-disabled - automatic switchover is disabled.

On a MetroCluster over IP configuration, `auto-switchover-failure-domain` is set to `auso-disabled`; otherwise, it is set to `auso-on-cluster-disaster`.

A change to the parameter affects only the local cluster where the `metrocluster modify` command is used.

| `-node-name {<nodename>|local}` - Node to Change the Option On }

This parameter is used to specify the node in the cluster for which the parameter needs to be modified.

[`-automatic-switchover-onfailure <true>`] - Node Level AUSO Option (privilege: advanced) }

This parameter is used to enable automatic switchover on node failures. The `automatic-switchover-onfailure` parameter is not supported on a MetroCluster over IP configuration.

All nodes in a MetroCluster configuration must have this option enabled to enable automatic switchover on failure.

Examples

The following example shows the output of Metrocluster modification done on a node:

```
clusA::*> metrocluster modify -node-name clusA-01 -node-object-limit on
   [Job 168] Job succeeded: Modify is successful
clusA::*> metrocluster modify -node-name clusA-01 -automatic-switchover
-onfailure false
   [Job 308] Job succeeded: Modify is successful
clusA::> metrocluster modify -auto-switchover-failure-domain auso-on-
cluster-disaster
   [Job 308] Job succeeded: Modify is successful
```

metrocluster show

Display MetroCluster configuration information

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster show` command displays configuration information for the pair of clusters configured in MetroCluster.

This command displays the following details about the local cluster and the DR partner cluster:

- Configuration State: This field specifies the configuration state of the cluster.
- Mode: This field specifies the operational mode of the cluster.
- AUSO Failure Domain: This field specifies the AUSO failure domain of the cluster.

Parameters

`[-periodic-check-status ]`
    If this option is used the MetroCluster periodic check status is displayed.

Examples

The following example shows the output of the command before MetroCluster configuration is done:

```
clusA::> metrocluster show
  Cluster                              Entry Name           State
  ---------------------------- ------------------
--------------------
  Local: clusA
         Configuration State  not-configured
                   Mode  -
         AUSO Failure Domain  -
  Remote: clusB
         Configuration State  not-configured
                   Mode  -
         AUSO Failure Domain  -
```

The following example shows the output of the command after MetroCluster configuration is done only for some DR groups:

```
clusA::> metrocluster show
  Cluster                              Entry Name          State
  ------------------------------ -------------------
----------------------
  Local: clusA
          Configuration State  partially-configured
                    Mode   -
          AUSO Failure Domain   -
  Remote: clusB
          Configuration State  partially-configured
                    Mode   -
          AUSO Failure Domain   -
```

The following example shows the output of the command after MetroCluster configuration is done:

```
clusA::> metrocluster show
  Cluster                              Entry Name          State
  ------------------------------ -------------------
----------------------
  Local: clusA
          Configuration State  configured
                    Mode   normal
          AUSO Failure Domain  auso-on-cluster-disaster
  Remote: clusB
          Configuration State  configured
                    Mode   normal
          AUSO Failure Domain  auso-on-cluster-disaster
```

The following example shows the output of the command in switchover mode:

```
clusA::> metrocluster show
  Cluster                              Entry Name          State
  ------------------------------ -------------------
----------------------
  Local: clusA
          Configuration State  configured
                    Mode   switchover
          AUSO Failure Domain  auso-on-cluster-disaster
  Remote: clusB
          Configuration State  not-reachable
                    Mode   -
          AUSO Failure Domain  not-reachable
```

The following example shows the output of the command when -peridiodic-check-status option is used:

```
clusA::> metrocluster show -periodic-check-status
      Cluster                             Periodic Check Enabled
      ----------------------------- ----------------------
       Local: clusA                        true
      Remote: clusB                        true
```

metrocluster switchback

Switch back storage and client access

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

```
The `metrocluster switchback` command initiates the switchback of storage
and client access from nodes in the DR site to their home nodes. The home
nodes and storage shelves must be powered on and reachable by nodes in the
DR site. The xref:{relative_path}metrocluster-heal.html[metrocluster
heal]`-phase```_aggregates_`` and xref:{relative_path}metrocluster-
heal.html[metrocluster heal]`-phase```_root-aggregates_`` commands must
have successfully completed before running the `metrocluster switchback`
command.
```

Parameters

[-f, -override-vetoes <true>] - Override All Soft Vetoes

This optional parameter overrides all switchback operation soft vetoes. If this optional parameter is used, the system overrides subsystem soft vetoes that might prevent the switchback operation. Hard vetoes cannot be overridden and can still prevent the switchover operation.

[-simulate <true>] - Simulate Switchback (privilege: advanced)

If this optional parameter is used, the system runs a simulation of the switchback operation to make sure all the prerequisites for the operation are met. This parameter cannot be used with switchback operations performed for switching back left-behind aggregates or for retrying a partially successful switchback.

Examples

The following is an example of how to start the switchback operation.

```
clusA::> metrocluster switchback
```

metrocluster switchover

Switch over storage and client access

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

> The `metrocluster switchover` command initiates the switchover of storage
> and client access from the source cluster to the disaster recovery (DR)
> site. This command is to be used after a disaster that renders all the
> nodes in the source cluster unreachable and powered off. It can also be
> used for negotiated switchover when the outage of the source cluster is
> anticipated as in cases such as disaster recovery testing or a site going
> offline for maintenance. If a switchover operation previously failed on
> certain nodes on the DR site then issuing the command retries the
> operation on all of those nodes.

Parameters

{ [-simulate <true>] - Simulate Negotiated Switchover (privilege: advanced)

If this optional parameter is used, the system runs a simulation of the negotiated switchover operation to make sure all the prerequisites for the operation are met. This parameter cannot be used with switchover with the `-forced-on-disaster` parameter.

[-forced-on-disaster <true>] - Force Switchover on Disaster

This optional parameter forces a switchover on disaster. This parameter should be used if all the nodes on the disaster stricken site are powered off and unreachable. In the absence of this parameter, the command attempts to perform a negotiated switchover operation.

[-force-nvfail-all <true>] - Sets in-nvfailed-state on All Volumes (privilege: advanced)

If this parameter is used, the switchover command will set the in-nvfailed-state parameter to true for all volumes being switched over and will set the `-dr-force-nvfail` parameter to true for any volumes that do not already have it enabled. This parameter has no effect when performning a negotiated switchover.

[-retry-failed-nodes <Node name>,…] - Nodes to Switchover

This optional parameter takes the list of nodes that previously failed the switchover operation and it retries the switchover operation on each of the nodes. This parameter is applicable only for a switchover with the `-forced-on-disaster` parameter.

[-override-vetoes <true>] - Override All Soft Vetoes

This optional parameter overrides all switchover operation soft vetoes. If this parameter is used, the system overrides all subsystem soft vetoes that might prevent the switchover operation. Hard vetoes cannot be overridden and can still prevent the switchover operation.

Examples

When a disaster strikes one site, the `metrocluster switchover` command is issued on the disaster recovery site as follows:

```
cluster1::> metrocluster switchover -forced-on-disaster true

Warning: MetroCluster switchover is a Disaster Recovery operation that
could
        cause some data loss. The cluster on the other site must either
be
        prevented from serving data or be simply powered off (nodes and
disk
        shelves)
        The following nodes ( cluster1-01 cluster1-02 ) will participate
in
        the switchover operation
Do you want to continue? {y|n}: y
Queued job. Use 'metrocluster operation show' to check status of the DR
operation.
cluster1::> metrocluster operation show
  Operation: switchover
      State: successful
 Start time: 10/3/2013 22:11:47
   End time: 10/3/2013 22:11:53
     Errors: -
```

metrocluster check commands

metrocluster check disable-periodic-check

Disable Periodic Check

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check disable-periodic-check` command disables the periodic checking of the MetroCluster configuration.

After this command is run, the MetroCluster Check job will be prevented from periodically checking the configuration for errors.

Parameters

Examples

```
clusA::> metrocluster check disable-periodic-check
```

metrocluster check enable-periodic-check

Enable Periodic Check

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check enable-periodic-check` command enables the periodic checking of the MetroCluster configuration.

After this command is run, the MetroCluster Check job will able to run in the background and periodically check the configuration for errors.

Parameters

Examples

```
clusA::> metrocluster check enable-periodic-check
```

metrocluster check run

Check the MetroCluster setup

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check run` command performs checks on the MetroCluster configuration and reports configuration errors if any.

To run this command, at least one DR group needs to be configured. The command checks the following parts of the configuration:

Node Configuration:

- node-reachable: This check verifies that the node is reachable.
- metrocluster-ready: This check verifies that the node is ready for MetroCluster configuration.
- local-ha-partner: This check verifies that the HA partner node is in the same cluster.
- ha-mirroring-on: This check verifies that HA mirroring for the node is configured.
- symmetric-ha-relationship: This check verifies that the relationship between the node and its HA partner is symmetric.
- remote-dr-partner: This check verifies that the DR partner node is in the remote cluster.

- dr-mirroring-on: This check verifies that DR mirroring for the node is configured.
- symmetric-dr-relationship: This check verifies that the relationship between the node and its DR partner is symmetric.
- remote-dr-auxiliary-partner: This check verifies that the DR auxiliary partner node is in the remote cluster.
- symmetric-dr-auxiliary-relationship: This check verifies that the relationship between the node and its DR auxiliary partner is symmetric.
- storage-failover-enabled: This check verifies that storage failover is enabled.
- has-intercluster-lif: This check verifies that the node has an intercluster LIF.
- node-object-limit: This check verifies that the node object limit option for the node is turned on.

Aggregate Configuration:

- mirroring-status: This check verifies that the aggregate is mirrored.
- disk-pool-allocation: This check verifies that the disks belonging to this aggregate have been correctly allocated to the right pools.

At the end of the check the command displays a summary of the results. This summary output can be viewed again by running metrocluster check show . If any of the rows in this output show any warnings more details can be viewed by running the metrocluster check show command for that component.

Parameters

`[-skip-dr-simulation {true|false}]` - **Skip the DR Readiness Checks (privilege: advanced)**
   If this optional parameter is set to true, the switchover and switchback simulations are not run.

Examples

The following example shows the execution of the command when there are no warnings:

```
clusA::> metrocluster check run


        Last Checked On: 4/9/2014 20:11:46
Component            Result
        ------------------- ---------
        nodes               ok
        clusters            ok
        lifs                ok
        config-replication  ok
        aggregates          ok
5 entries were displayed.
Command completed. Use the "metrocluster check show -instance" command or
sub-commands in "metrocluster check" directory for detailed results.
```

The following example shows the execution of the command when there are some warnings:

```
clusA::> metrocluster check run
Last Checked On: 4/9/2014 20:11:46
Component          Result
        ------------------- ---------
        nodes              warning
        clusters           ok
        lifs               ok
        config-replication ok
        aggregates         ok
5 entries were displayed.
Command completed. Use the "metrocluster check show -instance" command or
sub-commands in "metrocluster check" directory for detailed results.
```

Related Links

- metrocluster check show

metrocluster check show

Show the results of the last instance of MetroCluster check

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check show` command displays the results of the `metrocluster check run` command.

This command displays the high-level verification results for each of the components. If there are any errors for a component, running the show command for that component (for example metrocluster check node show or metrocluster check aggregate show) will display more information about the warning.

ⓘ Please note that this command does not run the checks but only displays the results of checks. To look at the latest results, run the metrocluster check run command and then run this command.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>`, … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-timestamp <MM/DD/YYYY HH:MM:SS>] - Time of Check

This is the time at which the metrocluster check run command was last run in this cluster and these results were produced. If this parameter is specified, only rows with this timestamp will be displayed.

`[-component <MetroCluster Check Components>]` - **Name of the Component**

> This is the name of the component. If this parameter is specified, only rows with this component will be displayed.

`[-result {ok|warning|not-run|not-applicable}]` - **Result of the Check**

> This is the result of the check for the component. If this parameter is specified, only rows with this result will be displayed.

`[-additional-info <text>]` - **Additional Information/Recovery Steps**

> This is the additional info for the verification for this component. This field will have detailed information about the warning and recovery steps. If this parameter is specified, only rows with this additional info will be displayed.

Examples

The following example shows the execution of the command when there are no warnings:

```
clusA::> metrocluster check show
cked On: 4/9/2014 20:11:46
t               Result
------------------- ---------
nodes               ok
clusters            ok
lifs                ok
config-replication  ok
aggregates          ok
connections         ok
s were displayed.
```

The following example shows the execution of the command when there are some warnings:

```
clusA::> metrocluster check show
cked On: 4/9/2014 20:11:46
t               Result
------------------- ---------
nodes               warning
clusters            ok
lifs                ok
config-replication  ok
aggregates          ok
connections         ok
s were displayed.
```

The following example shows the execution of the command with -instance option:

```
clusA::> metrocluster check show -instance
Time of Check: 4/9/2014 20:12:36
                    Name of the Component: nodes
                      Result of the Check: warning
       Additional Information/Recovery Steps:
Time of Check: 4/9/2014 20:12:36
                    Name of the Component: cluster
                      Result of the Check: ok
       Additional Information/Recovery Steps:
Time of Check: 4/9/2014 20:12:36
                    Name of the Component: lifs
                      Result of the Check: ok
       Additional Information/Recovery Steps:
Time of Check: 4/9/2014 20:12:36
                    Name of the Component: config-replication
                      Result of the Check: ok
       Additional Information/Recovery Steps:
Time of Check: 4/9/2014 20:12:36
                    Name of the Component: aggregates
                      Result of the Check: warning
       Additional Information/Recovery Steps:
Time of Check: 4/9/2014 20:12:36
                    Name of the Component: connections
                      Result of the Check: ok
       Additional Information/Recovery Steps:
       6 entries were displayed.
```

Related Links

- metrocluster check run
- metrocluster check node show
- metrocluster check aggregate show

metrocluster check aggregate show

Show results of MetroCluster check for aggregates

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check aggregate show` command displays the results of aggregate checks performed by the metrocluster check run command.

The command verifies the following aspects of the configuration of all aggregates in MetroCluster:

- mirroring-status: This check verifies that the aggregate is mirrored.

- disk-pool-allocation: This check verifies that the disks belonging to this aggregate have been correctly allocated to the right pools.

Additional information about the warnings (if any) and recovery steps can be viewed by running the command with the -instance option.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>`, … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node <Node name>] - Node Name

This is the name of the node for which the check was run. If this parameter is specified, only rows with this node will be displayed.

[-aggregate <aggregate name>] - Name of the Aggregate

This is the name of the aggregate for which the check was run. If this parameter is specified, only rows with this aggregate will be displayed.

[-check <MetroCluster Aggregate Check>] - Type of Check

This is the type of the check performed. If this parameter is specified, only rows with this check will be displayed.

[-cluster <Cluster name>] - Name of Cluster

This is the name of the cluster the node belongs to. If this parameter is specified, only rows with this cluster will be displayed.

[-result {ok|warning|not-run|not-applicable}] - Result of the Check

This is the result of the check. If this parameter is specified, only rows with this result will be displayed.

[-additional-info <text>,…] - Additional Information/Recovery Steps

This is additional information about the check. This field has more information and recovery steps for the warning. If this parameter is specified, only rows with this additional info will be displayed.

Examples

The following example shows the execution of the command in a MetroCluster configuration with two nodes per cluster:

```
clusA::> metrocluster check aggregate show

Last Checked On: 4/9/2014 20:11:46

Node                 Aggregate            Check                Result
-------------------- -------------------- --------------------
---------
clusA-01             a1_required_data_aggr
                                          mirroring-status     ok
                                          disk-pool-allocation ok
                     aggr0_a1
                                          mirroring-status     ok
                                          disk-pool-allocation ok
clusA-02             a2_required_data_aggr
                                          mirroring-status     ok
                                          disk-pool-allocation ok
                     aggr0_a2
                                          mirroring-status     ok
                                          disk-pool-allocation ok
clusB-01             b1_required_data_aggr
                                          mirroring-status     ok
                                          disk-pool-allocation ok
                     aggr0_b1
                                          mirroring-status     ok
                                          disk-pool-allocation ok
clusB-02             aggr0_b2
                                          mirroring-status     ok
                                          disk-pool-allocation ok
                     b2_required_data_aggr
                                          mirroring-status     ok
                                          disk-pool-allocation ok
16 entries were displayed.
```

The following example shows the execution of the command with -instance option:

```
clusA::> metrocluster check aggregate show -instance
Node Name: clusA-01
               Name of the Aggregate: a1_required_data_aggr_1
                      Type of Check: mirroring-status
                    Name of Cluster: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusA-01
               Name of the Aggregate: a1_required_data_aggr_1
                      Type of Check: disk-pool-allocation
```

```
                        Name of Cluster: clusA
                     Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusA-01
                  Name of the Aggregate: a1_required_data_aggr_2
                          Type of Check: mirroring-status
                        Name of Cluster: clusA
                     Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusA-01
                  Name of the Aggregate: a1_required_data_aggr_2
                          Type of Check: disk-pool-allocation
                        Name of Cluster: clusA
                     Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusA-01
                  Name of the Aggregate: aggr0_a1
                          Type of Check: mirroring-status
                        Name of Cluster: clusA
                     Result of the Check: warning
Additional Information/Recovery Steps: Root aggregate "aggr0_a1" is un-
mirrored. Root aggregates should be mirrored in a MetroCluster
configuration.
Node Name: clusA-01
                  Name of the Aggregate: aggr0_a1
                          Type of Check: disk-pool-allocation
                        Name of Cluster: clusA
                     Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusB-01
                  Name of the Aggregate: aggr0_b1
                          Type of Check: mirroring-status
                        Name of Cluster: clusB
                     Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusB-01
                  Name of the Aggregate: aggr0_b1
                          Type of Check: disk-pool-allocation
                        Name of Cluster: clusB
                     Result of the Check: ok
Additional Information/Recovery Steps: -
Node Name: clusB-01
                  Name of the Aggregate: b1_required_data_aggr_1
                          Type of Check: mirroring-status
                        Name of Cluster: clusB
                     Result of the Check: ok
```

```
                Additional Information/Recovery Steps: -
      Node Name: clusB-01
                       Name of the Aggregate: b1_required_data_aggr_1
                                Type of Check: disk-pool-allocation
                             Name of Cluster: clusB
                         Result of the Check: ok
                Additional Information/Recovery Steps: -
      Node Name: clusB-01
                       Name of the Aggregate: b1_required_data_aggr_2
                                Type of Check: mirroring-status
                             Name of Cluster: clusB
                         Result of the Check: ok
                Additional Information/Recovery Steps: -
      Node Name: clusB-01
                       Name of the Aggregate: b1_required_data_aggr_2
                                Type of Check: disk-pool-allocation
                             Name of Cluster: clusB
                         Result of the Check: ok
                Additional Information/Recovery Steps: -
      12 entries were displayed.
```

Related Links

- metrocluster check run

metrocluster check cluster show

Show results of MetroCluster check for the cluster components

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check cluster show` command displays the results of cluster checks performed by the metrocluster check run command.

The command displays the results of the following cluster configuration checks:

- negotiated-switchover-ready: This check verifies that the cluster is ready for a negotiated switchover operation.

- switchback-ready: This check verifies that the cluster is ready for a switchback operation.

- job-schedules: This check verifies that the job schedules between the local and remote clusters are consistent.

- licenses: This check verifies that the licenses between the local and remote clusters are consistent.

- periodic-check-enabled: This check verifies that the periodic MetroCluster Check Job is enabled.

- onboard-key-management: This check verifies that the Onboard Key Management hierarchies are consistent.

- external-key-management: This check verifies that the External Key Management configurations are consistent.

Additional information about the warnings (if any) and recovery steps can be viewed by running the command with the `-instance` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>`, … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-check {negotiated-switchover-ready|switchback-ready|job-schedules|licenses|periodic-check-enabled|onboard-key-management|external-key-management}] - Type of Check

This is the type of the check performed. If this parameter is specified, only rows with this check will be displayed.

[-cluster <Cluster name>] - Cluster Name

This is the name of the cluster the check results apply to. If this parameter is specified, only rows matching the specified cluster will be displayed.

[-result {ok|warning|not-run|not-applicable}] - Result of the Check

This is the result of the check. If this parameter is specified, only rows with this result will be displayed.

[-additional-info <text>] - Additional Information/Recovery Steps

This is additional information about the check. This field has more information and recovery steps for the warning. If this parameter is specified, only rows with this additional info will be displayed.

Examples

The following example shows the execution of the command in a MetroCluster configuration:

```
clusA::> metrocluster check cluster show

Last Checked On: 11/29/2018 17:15:00

Cluster              Check                              Result
-------------------  ---------------------------------  ---------
clusA
                     negotiated-switchover-ready        not-applicable
                     switchback-ready                   not-applicable
                     job-schedules                      ok
                     licenses                           ok
                     periodic-check-enabled             ok
                     onboard-key-management             ok
                     external-key-management            ok
clusB
                     negotiated-switchover-ready        not-applicable
                     switchback-ready                   not-applicable
                     job-schedules                      ok
                     licenses                           ok
                     periodic-check-enabled             ok
                     onboard-key-management             ok
                     external-key-management            ok
14 entries were displayed.
```

The following example shows the execution of the command with the `-instance` parameter:

```
clusA::> metrocluster check cluster show -instance
Type of Check: negotiated-switchover-ready
                    Cluster Name: clusA
              Result of the Check: not-applicable
Additional Information/Recovery Steps: Disaster recovery readiness checks
are not performed as part of periodic metrocluster check. To run these
checks, use the "metrocluster check run" command.
Type of Check: switchback-ready
                    Cluster Name: clusA
              Result of the Check: not-applicable
Additional Information/Recovery Steps: Disaster recovery readiness checks
are not performed as part of periodic metrocluster check. To run these
checks, use the "metrocluster check run" command.
Type of Check: job-schedules
                    Cluster Name: clusA
              Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: licenses
```

```
                            Cluster Name: clusA
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: periodic-check-enabled
                            Cluster Name: clusA
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: onboard-key-management
                            Cluster Name: clusA
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: external-key-management
                            Cluster Name: clusA
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: negotiated-switchover-ready
                            Cluster Name: clusB
                    Result of the Check: not-applicable
Additional Information/Recovery Steps: Disaster recovery readiness checks
are not performed as part of periodic metrocluster check. To run these
checks, use the "metrocluster check run" command.
Type of Check: switchback-ready
                            Cluster Name: clusB
                    Result of the Check: not-applicable
Additional Information/Recovery Steps: Disaster recovery readiness checks
are not performed as part of periodic metrocluster check. To run these
checks, use the "metrocluster check run" command.
Type of Check: job-schedules
                            Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: licenses
                            Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: periodic-check-enabled
                            Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: onboard-key-management
                            Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Type of Check: external-key-management
                            Cluster Name: clusB
                    Result of the Check: ok
```

```
Additional Information/Recovery Steps:
14 entries were displayed.
```

Related Links

- metrocluster check run

metrocluster check config-replication show-aggregate-eligibility

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check config-replication show-aggregate-eligibility` command displays the MetroCluster configuration replication aggregate eligibility.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>`, … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-aggregate <aggregate name>] - Aggregate

This is the aggregate name. If this parameter is specified, only rows with this aggregate will be displayed.

[-hosted-configuration-replication-volumes <volume name>,…] - Currently Hosted Configuration Replication Volumes

This is the list of the configuration replication volumes hosted on this aggregate. If this parameter is specified, only rows with these configuration replication volumes will be displayed.

[-is-eligible-to-host-additional-volumes {true|false}] - Eligibility to Host Another Configuration Replication Volume

This is the eligibility of the aggregate to host additional configuration replication volumes. If this parameter is specified, only rows with this eligibility will be displayed.

[-comment <text>] - Comment for Eligibility Status

This is a comment regarding the eligibility of the aggregate to host configuration replication volumes. If this parameter is specified, only rows with this comment will be displayed.

Examples

The following example shows the execution of the command in a MetroCluster configuration with thirteen aggregates in the cluster:

```
clusA::metrocluster check config-replication> show-aggregate-eligibility
                                                     Eligible to
Aggregate     Hosted Config Replication Vols         Host Addl Vols
Comments
------------ --------------------------------------- --------------
--------
a0            -                                       false
Root Aggregate
a1            MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A true       -
a2            MDV_CRS_1bc7134a5ddf11e3b63f123478563412_B true       -
a3            -                                       false
Unable to determine available space of aggregate
a4            -                                       false
Non-Local Aggregate
a5            -                                       false
Non-Home Aggregate
a6            -                                       false
Unable to determine mirror configuration
a7            -                                       false
Mirror configuration does not match requirement
a8            -                                       false
Disallowed Aggregate
a9            -                                       false
Insufficient Space - 10GB required
a10           -                                       false
Aggregate Offline
a11           -                                       false
Inconsistent Aggregate
a12           -                                       false
Aggregate Full
13 entries were displayed.
```

metrocluster check config-replication show-capture-status

Display MetroCluster capture status information

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster check config-replication show-capture-status` command indicates whether or not a configuration change that would prevent a negotiated switchover is currently being captured for replication.

Examples

The following example shows the execution of the command in a MetroCluster configuration when capture is not in progress:

```
cluster1::*> metrocluster check config-replication show-capture-status
Is Capture in Progress: false
```

metrocluster check config-replication show

Display MetroCluster config-replication status information

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check config-replication show` command displays the results of MetroCluster configuration replication.

The command verifies the following aspects of MetroCluster configuration replication :

- Enabled: Verifies that MetroCluster configuration replication is enabled on the cluster.
- Running: Verifies that MetroCluster configuration replication is running on the cluster.
- Remote Heartbeat: Verifies that the MetroCluster configuration replication heartbeat with the remote cluster is healthy.
- Last Heartbeat Sent: Prints the timestamp of the last MetroCluster configuration replication heartbeat sent to the remote cluster.
- Last Heartbeat Received: Prints the timestamp of the last MetroCluster configuration replication hearbeat received from the remote cluster.
- Storage Status: Verifies that MetroCluster configuration replication storage is healthy.
- Storage In Use: Prints the location of MetroCluster configuration replication storage.
- Storage Remarks: Prints the underlying root cause for non healthy MetroCluster configuration storage.
- Vserver Streams: Verifies that MetroCluster configuration replication Vserver streams are healthy.
- Cluster Streams: Verifies that MetroCluster configuration replication Cluster streams are healthy.

Additional information about the warnings (if any) and recovery steps can be viewed by running the command with the -instance option.

Parameters

`[-instance ]`

If you specify the -instance parameter, the command displays detailed information about all fields.

Examples

The following example shows the output of `metrocluster check config-replication show` :

```
clusA::metrocluster check config-replication> show
                        Enabled: true
                        Running: true
              Remote Heartbeat: ok
          Last Heartbeat Sent: 12/12/2013 14:24:59
      Last Heartbeat Received: 12/12/2013 14:25:00
                Storage Status: ok
                Storage In Use: Cluster-wide Volume:
 MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A
               Storage Remarks: -
               Vserver Streams: ok
               Cluster Streams: ok
```

metrocluster check connection show

Display the check results of connections for nodes in a MetroCluster over IP configuration

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check connection show` command displays the check results of connections for nodes in a MetroCluster over IP configuration.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster specified by uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the matching cluster.

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching node specified by uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-home-port {<netport>|<ifgrp>}] - Home Port

If this parameter is specified, the command displays information for the matching home-port.

[-relationship-type <Roles of MetroCluster Nodes>] - Relationship Role Type

If this parameter is specified, the command displays information for the matching relationship-type.

[-source-address <IP Address>] - Source Network Address

If this parameter is specified, the command displays information for the matching source address.

[-destination-address <IP Address>] - Destination Network Address

If this parameter is specified, the command displays information for the matching destination address.

[-partner-cluster-uuid <UUID>] - Partner Cluster UUID

If this parameter is specified, the command displays information for the matching partner-cluster-uuid.

[-partner-node-uuid <UUID>] - Partner Node UUID

If this parameter is specified, the command displays information for the matching partner-node-uuid.

[-partner-node <text>] - Partner Node Name

If this parameter is specified, the command displays information for the matching partner-node.

[-partner-type <text>] - Partner Relationship Type

If this parameter is specified, the command displays information for the matching partner-type.

[-config-state <text>] - Configuration State

If this parameter is specified, the command displays information for the matching config-state.

[-config-error-info <text>] - Configuration Error Information

If this parameter is specified, the command displays information for the matching config-error-info.

[-check-result {ok|warning|not-run|not-applicable}] - Check Connection Result

If this parameter is specified, the command displays information for the matching check-result.

[-check-ping-error-info <text>] - Check Connection Ping Error Info

If this parameter is specified, the command displays information for the matching check-ping-error-info.

[-check-mtu-size-error-info <text>] - Check Connection MTU Size Error Info

If this parameter is specified, the command displays information for the matching check-mtu-size-error-info.

[-check-storage-error-info <text>] - Check Connection Storage Error Info

If this parameter is specified, the command displays information for the matching check-storage-error-info.

Examples

The following example shows the output of the `metrocluster check connection show` command:

```
clusA::>  metrocluster check connection show
DR                      Source          Destination
```

```
Group Cluster Node     Network Address Network Address Partner Type Config
State
----- ------- ------- -------------- -------------- ------------
------------
1     cluster-A
              node-A1
                 Home Port: e0f
                     10.140.113.214  10.140.113.216  HA Partner
completed
              Check Result: ok
                 Home Port: e0f
                     10.140.113.214  10.140.113.218  DR Partner
completed
              Check Result: ok
                 Home Port: e0f
                     10.140.113.214  10.140.113.249  DR Auxiliary
completed
              Check Result: ok
                 Home Port: e0g
                     10.140.113.215  10.140.113.217  HA Partner
completed
              Check Result: ok
                 Home Port: e0g
                     10.140.113.215  10.140.113.248  DR Partner
completed
              Check Result: ok
                 Home Port: e0g
                     10.140.113.215  10.140.113.25   DR Auxiliary
completed
              Check Result: ok
              node-A2
                 Home Port: e0f
                     10.140.113.216  10.140.113.214  HA Partner
completed
              Check Result: ok
                 Home Port: e0f
                     10.140.113.216  10.140.113.249  DR Partner
completed
              Check Result: ok
                 Home Port: e0f
                     10.140.113.216  10.140.113.218  DR Auxiliary
completed
              Check Result: ok
                 Home Port: e0g
                     10.140.113.217  10.140.113.215  HA Partner
completed
```

```
                    Check Result: ok
                 Home Port: e0g
                     10.140.113.217  10.140.113.25   DR Partner
completed
                    Check Result: ok
                 Home Port: e0g
                     10.140.113.217  10.140.113.248  DR Auxiliary
completed
                    Check Result: ok
     cluster-B
                 node-B1
                 Home Port: e0f
                     10.140.113.218  10.140.113.249  HA Partner
completed
                    Check Result: ok
                 Home Port: e0f
                     10.140.113.218  10.140.113.214  DR Partner
completed
                    Check Result: ok
                 Home Port: e0f
                     10.140.113.218  10.140.113.216  DR Auxiliary
completed
                    Check Result: ok
                 Home Port: e0g
                     10.140.113.248  10.140.113.25   HA Partner
completed
                    Check Result: ok
                 Home Port: e0g
                     10.140.113.248  10.140.113.215  DR Partner
completed
                    Check Result: ok
                 Home Port: e0g
                     10.140.113.248  10.140.113.217  DR Auxiliary
completed
                    Check Result: ok
                 node-B2
                 Home Port: e0f
                     10.140.113.249  10.140.113.218  HA Partner
completed
                    Check Result: ok
                 Home Port: e0f
                     10.140.113.249  10.140.113.216  DR Partner
completed
                    Check Result: ok
                 Home Port: e0f
                     10.140.113.249  10.140.113.214  DR Auxiliary
```

```
completed
              Check Result: ok
                 Home Port: e0g
                        10.140.113.25    10.140.113.248   HA Partner
completed
              Check Result: ok
                 Home Port: e0g
                        10.140.113.25    10.140.113.217   DR Partner
completed
              Check Result: ok
                 Home Port: e0g
                        10.140.113.25    10.140.113.215   DR Auxiliary
completed
              Check Result: ok
24 entries were displayed.
```

metrocluster check lif repair-placement

Repair LIF placement for the sync-source Vserver LIFs in the destination cluster

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check lif repair-placement` command reruns LIF placement for those LIFs displayed by the metrocluster check lif show command. This command is expected to be run after the admin manually rectifies the LIF placement failures displayed in the metrocluster check lif show command output. The command is successful if the LIF placement rerun does not encounter any LIF placement failure. This is to be confirmed by subsequent running of the metrocluster check lif show .

Parameters

-vserver <Vserver Name> - sync-source Vserver Name

This is the name of the sync source Vserver that has LIF placement failures as reported by the metrocluster check lif show command. This input ensures that the command is run on the specified Vserver.

[-lif <lif-name>] - Logical Interface Name

This is the Logical Interface name that belongs to the sync source Vserver that has a LIF placement failure in the destination cluster as reported by the metrocluster check lif show command. This input ensures that the command is run on the specified LIF only.

Examples

The following example shows the execution of the command with a sync source Vserver and a LIF specified:

```
clusA::> metrocluster check lif repair-placement -vserver vs1.example.com
-lif fcplif1
Command completed. Run the "metrocluster check lif show" command for
results.

clusA::> metrocluster check lif repair-placement -vserver vs1.example.com
-lif iscsilif1
Command completed. Run the "metrocluster check lif show" command for
results.
```

The following example shows the execution of the command with only a sync-source Vserver specified:

```
clusA::> metrocluster check lif repair-placement -vserver  vs1.example.com

Command completed. Run the "metrocluster check lif show" command for
results.

clusA::>
```

Related Links

- metrocluster check lif show

metrocluster check lif show

Show results of MetroCluster check results for the data LIFs

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check lif show` command displays the LIF placement failures in the MetroCluster configuration.

The command verifies the following aspects of the LIF placements of all the data LIFs in Metrocluster:

- lif-placed-on-dr-node: This check verifies that the LIF is placed on DR partner node.
- port-selection: This check verifies that the LIF is placed on correct port.

The LIF placement failures are mostly fabric/network connectivity issues that require manual intervention. Once the connectivity issues are resolved manually, the admin is expected to run metrocluster check lif repair-placement command to resolve the LIF placement issues for the sync source Vserver.

Additional information about the warnings (if any) and recovery steps can be viewed by running the command with the -instance option.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,` … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-cluster <Cluster name>] - Name of the Cluster

This is the name of the cluster the LIF belongs to. If this parameter is specified, only rows with this cluster will be displayed.

[-vserver <text>] - Name of the Vserver

This is the name of the Vserver in the MetroCluster configuration

[-lif <lif-name>] - Name of the Lif

This is the name of the LIF.

[-check <MetroCluster LIF placement Check>] - Description

This is the type of the check performed. If this parameter is specified, only rows with this check will be displayed.

[-result {ok|warning|not-run|not-applicable}] - Result of the Check

This is the result of the check performed. If this parameter is specified, only rows with this result will be displayed.

[-additional-info <text>] - Additional Information/Recovery Steps

This is additional information about the check. This field has more information and recovery steps for the warning. If this parameter is specified, only rows with this additional info will be displayed.

Examples

The following example shows the execution of the command in a MetroCluster configuration with two nodes per cluster:

```
clusA::>metrocluster check  lif show
Cluster               Vserver    LIF          Check                   Result
------------------- ----------- -----------  ---------------------- ------
ClusA                 vs1         a_data1      lif-placed-on-dr-node  ok
                                               port-selection         ok
                                  a_data1_inet6
                                               lif-placed-on-dr-node  ok
                                               port-selection         ok
ClusA                 vs2-mc      b_data1      lif-placed-on-dr-node  ok
                                               port-selection
warning
                                  b_data1_inet6
                                               lif-placed-on-dr-node  ok
                                               port-selection
warning
ClusB                 vs1-mc      a_data1      lif-placed-on-dr-node
warning
                                               port-selection         ok
                                  a_data1_inet6
                                               lif-placed-on-dr-node
warning
                                               port-selection         ok
ClusB                 vs2         b_data1      lif-placed-on-dr-node  ok
                                               port-selection         ok
                                  b_data1_inet6
                                               lif-placed-on-dr-node  ok
                                               port-selection         ok
16 entries were displayed.
```

Related Links

- metrocluster check lif repair-placement

metrocluster check node show

Show results of MetroCluster check for nodes

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check node show` command displays the results of node checks performed by the metrocluster check run command.

The command displays the results of the following node configuration checks:

- node-reachable: This check verifies that the node is reachable.

- metrocluster-ready: This check verifies that the node is ready for MetroCluster configuration.

- local-ha-partner: This check verifies that the HA partner node is in the same cluster.

- ha-mirroring-on: This check verifies that HA mirroring for the node is configured.

- ha-mirroring-op-state: This check verifies that the HA mirroring operation is online.

- symmetric-ha-relationship: This check verifies that the relationship between the node and its HA partner is symmetric.

- remote-dr-partner: This check verifies that the DR partner node is in the remote cluster.

- dr-mirroring-on: This check verifies that DR mirroring for the node is configured.

- dr-mirroring-op-state: This check verifies that the DR mirroring operation is online.

- symmetric-dr-relationship: This check verifies that the relationship between the node and its DR partner is symmetric.

- remote-dr-auxiliary-partner: This check verifies that the DR auxiliary partner node is in the remote cluster.

- symmetric-dr-auxiliary-relationship: This check verifies that the relationship between the node and its DR auxiliary partner is symmetric.

- storage-failover-enabled: This check verifies that storage failover is enabled.

- has-intercluster-lif: This check verifies that the node has an intercluster LIF.

- node-object-limit: This check verifies that the node object limit option for the node is turned on.

- automatic-uso: This check verifies that the automatic USO option for the node is enabled.

Additional information about the warnings (if any) and recovery steps can be viewed by running the command with the `-instance` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,` … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node <Node name>] - Node Name

This is the name of the node for which the check was run. If this parameter is specified, only rows with this node will be displayed.

[-check <MetroCluster Node Check>] - Type of Check

This is the type of the check performed. If this parameter is specified, only rows with this check will be displayed.

[-cluster <Cluster name>] - Cluster Name

This is the name of the cluster the node belongs to. If this parameter is specified, only rows with this cluster will be displayed.

[-result {ok|warning|not-run|not-applicable}] - Result of the Check

This is the result of the check. If this parameter is specified, only rows with this result will be displayed.

`[-additional-info <text>]` - **Additional Information/Recovery Steps**

This is additional information about the check. This field has more information and recovery steps for the warning. If this parameter is specified, only rows with this additional info will be displayed.

Examples

The following example shows the execution of the command in a MetroCluster configuration with two nodes per cluster:

```
clusA::> metrocluster check node show

Last Checked On: 9/12/2016 13:47:00

Node                 Check                              Result
-------------------- ---------------------------------- ---------
clusA-01
                     node-reachable                     ok
                     metrocluster-ready                 ok
                     local-ha-partner                   ok
                     ha-mirroring-on                    warning
                     ha-mirroring-op-state              ok
                     symmetric-ha-relationship          warning
                     remote-dr-partner                  ok
                     dr-mirroring-on                    ok
                     dr-mirroring-op-state              ok
                     symmetric-dr-relationship          ok
                     remote-dr-auxiliary-partner        ok
                     symmetric-dr-auxiliary-relationship  warning
                     storage-failover-enabled           ok
                     has-intercluster-lif               ok
                     node-object-limit                  ok
                     automatic-uso                      ok
clusA-02
                     node-reachable                     ok
                     metrocluster-ready                 ok
                     local-ha-partner                   ok
                     ha-mirroring-on                    warning
                     ha-mirroring-op-state              ok
                     symmetric-ha-relationship          warning
                     remote-dr-partner                  ok
                     dr-mirroring-on                    ok
                     dr-mirroring-op-state              ok
                     symmetric-dr-relationship          ok
                     remote-dr-auxiliary-partner        ok
                     symmetric-dr-auxiliary-relationship  warning
                     storage-failover-enabled           ok
                     has-intercluster-lif               ok
```

```
                          node-object-limit                   ok
                          automatic-uso                        ok
clusB-01
                          node-reachable                       ok
                          metrocluster-ready                   ok
                          local-ha-partner                     ok
                          ha-mirroring-on                      warning
                          ha-mirroring-op-state                ok
                          symmetric-ha-relationship            warning
                          remote-dr-partner                    ok
                          dr-mirroring-on                      ok
                          dr-mirroring-op-state                ok
                          symmetric-dr-relationship            ok
                          remote-dr-auxiliary-partner          ok
                          symmetric-dr-auxiliary-relationship  warning
                          storage-failover-enabled             ok
                          has-intercluster-lif                 ok
                          node-object-limit                    ok
                          automatic-uso                        ok
clusB-02
                          node-reachable                       ok
                          metrocluster-ready                   ok
                          local-ha-partner                     ok
                          ha-mirroring-on                      warning
                          ha-mirroring-op-state                ok
                          symmetric-ha-relationship            warning
                          remote-dr-partner                    ok
                          dr-mirroring-on                      ok
                          dr-mirroring-op-state                ok
                          symmetric-dr-relationship            ok
                          remote-dr-auxiliary-partner          ok
                          symmetric-dr-auxiliary-relationship  warning
                          storage-failover-enabled             ok
                          has-intercluster-lif                 ok
                          node-object-limit                    ok
                          automatic-uso                        ok
64 entries were displayed.
```

The following example shows the execution of the command with the -instance parameter:

```
clusA::> metrocluster check node show -instance
Node Name: clusA-01
                     Type of Check: node-reachable
                      Cluster Name: clusA
                 Result of the Check: ok
```

```
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: metrocluster-ready
                          Cluster Name: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: local-ha-partner
                          Cluster Name: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: ha-mirroring-on
                          Cluster Name: clusA
                 Result of the Check: warning
Additional Information/Recovery Steps: Node's HA mirroring is not active.
Enable it on using "storage failover" commands.
Node Name: clusA-01
                         Type of Check: ha-mirroring-op-state
                          Cluster Name: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: symmetric-ha-relationship
                          Cluster Name: clusA
                 Result of the Check: warning
Additional Information/Recovery Steps: Partner not found. Check if node
"clusA-01's HA partner" is configured in MetroCluster.
Node Name: clusA-01
                         Type of Check: remote-dr-partner
                          Cluster Name: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: dr-mirroring-on
                          Cluster Name: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: dr-mirroring-op-state
                          Cluster Name: clusA
                 Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                         Type of Check: symmetric-dr-relationship
                          Cluster Name: clusA
```

```
                        Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                        Type of Check: remote-dr-auxiliary-partner
                         Cluster Name: clusA
                  Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                        Type of Check: symmetric-dr-auxiliary-relationship
                         Cluster Name: clusA
                  Result of the Check: warning
Additional Information/Recovery Steps: Partner not found. Check if node
"clusA-01's DR auxiliary partner" is configured in MetroCluster.
Node Name: clusA-01
                        Type of Check: storage-failover-enabled
                         Cluster Name: clusA
                  Result of the Check: warning
Additional Information/Recovery Steps: Node's storage failover is
disabled.  Enable using "storage failover" commands.
Node Name: clusA-01
                        Type of Check: has-intercluster-lif
                         Cluster Name: clusA
                  Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusA-01
                        Type of Check: node-object-limit
                         Cluster Name: clusA
                  Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                        Type of Check: node-reachable
                         Cluster Name: clusB
                  Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                        Type of Check: metrocluster-ready
                         Cluster Name: clusB
                  Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                        Type of Check: local-ha-partner
                         Cluster Name: clusB
                  Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                        Type of Check: ha-mirroring-on
```

```
                          Cluster Name: clusB
                    Result of the Check: warning
Additional Information/Recovery Steps: Node's HA mirroring is not active.
Enable it on using "storage failover" commands.
Node Name: clusB-01
                          Type of Check: ha-mirroring-op-state
                          Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                          Type of Check: symmetric-ha-relationship
                          Cluster Name: clusB
                    Result of the Check: warning
Additional Information/Recovery Steps: Partner not found. Check if node
"clusB-01's HA partner" is configured in MetroCluster.
Node Name: clusB-01
                          Type of Check: remote-dr-partner
                          Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                          Type of Check: dr-mirroring-on
                          Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                          Type of Check: dr-mirroring-op-state
                          Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                          Type of Check: symmetric-dr-relationship
                          Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                          Type of Check: remote-dr-auxiliary-partner
                          Cluster Name: clusB
                    Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                          Type of Check: symmetric-dr-auxiliary-relationship
                          Cluster Name: clusB
                    Result of the Check: warning
Additional Information/Recovery Steps: Partner not found. Check if node
"clusB-01's DR auxiliary partner" is configured in MetroCluster.
```

```
Node Name: clusB-01
                    Type of Check: storage-failover-enabled
                     Cluster Name: clusB
              Result of the Check: warning
Additional Information/Recovery Steps: Node's storage failover is
disabled.  Enable using "storage failover" commands.
Node Name: clusB-01
                    Type of Check: has-intercluster-lif
                     Cluster Name: clusB
              Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                    Type of Check: node-object-limit
                     Cluster Name: clusB
              Result of the Check: ok
Additional Information/Recovery Steps:
Node Name: clusB-01
                    Type of Check: automatic-uso
                     Cluster Name: clusB
              Result of the Check: ok
Additional Information/Recovery Steps:
32 entries were displayed.
```

Related Links

- metrocluster check run

metrocluster check volume show

Show results of the MetroCluster check for volumes

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster check volume show` command displays the results of volume checks performed by the metrocluster check run command.

The command displays the results of the following volume configuration checks:

- unmirrored-flexgroups: This check looks for flexgroups residing on unmirrored aggregates.
- mixed-flexgroups: This check looks for flexgroups residing on a mix of mirrored and unmirrored aggregates.

Additional information about the warnings, if any, and recovery steps can be viewed by running the command with the `-instance` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-vserver <vserver name>] - Vserver Name

This is the name of the vserver that contains the volume that the check results apply to. If this parameter is specified, only rows matching the specified cluster will be displayed.

[-volume <volume name>] - Volume Name

This is the name of the volume that the check results apply to. If this parameter is specified, only rows matching the specified volume will be displayed.

[-check <MetroCluster Volume Check>] - Type of Check

This is the type of the check performed. If this parameter is specified, only rows with this check will be displayed.

[-result {ok|warning|not-run|not-applicable}] - Result of the Check

This is the result of the check. If this parameter is specified, only rows with this result will be displayed.

[-additional-info <text>,…] - Additional Information/Recovery Steps

This is additional information about the check. This field has more information and recovery steps for the warning. If this parameter is specified, only rows with this additional info will be displayed.

Examples

The following example shows the execution of the command in a MetroCluster configuration:

```
clusA::*> metrocluster check volume show


Last Checked On: 7/25/2018 10:04:07


Vserver                 Volume                      Check
Result
--------------------    ----------------------      --------------------
-------
vs1                     unMirr

                                                    unmirrored-volumes
warning
vs2                     vs2UnMirrA

                                                    unmirrored-volumes
warning
2 entries were displayed.


clusA::*> metrocluster check volume show -instance
Vserver Name: vs1
                    Volume Name: unMirr
                  Type of Check: unmirrored-volumes
              Result of the Check: warning
Additional Information/Recovery Steps: FlexGroup "unMirr" resides on
unmirrored aggregates. Parts of the FlexGroup may not be available after
an un-planned switchover.
Vserver Name: vs2
                    Volume Name: vs2UnMirrA
                  Type of Check: unmirrored-volumes
              Result of the Check: warning
Additional Information/Recovery Steps: FlexGroup "vs2UnMirrA" resides on
unmirrored aggregates. Parts of the FlexGroup may not be available after
an un-planned switchover.
2 entries were displayed.
clusA::>
```

Related Links

- metrocluster check run

metrocluster config-replication commands

metrocluster config-replication cluster-storage-configuration modify

Modify MetroCluster storage configuration information

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster config-replication cluster-storage-configuration modify` command modifies the configuration of storage used for configuration replication.

Parameters

`[-disallowed-aggregates <aggregate name>,…]` **- Disallowed Aggregates (privilege: advanced)**
Use this parameter to set the list of storage aggregates that are not available to host storage for configuration replication.

Examples

The following example disallows two aggregates named *aggr1* and *aggr2* :

```
cluster1::*> metrocluster config-replication cluster-storage-configuration
modify -disallowed-aggregates aggr1,aggr2
```

metrocluster config-replication cluster-storage-configuration show

Display MetroCluster storage configuration information

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster config-replication cluster-storage-configuration show` command shows details of the configuration of the storage used for configuration replication.

The information displayed is the following:

- Disallowed Aggregates - The list of storage aggregates that are configured as not allowed to host storage areas.

- Auto-Repair - Displays *true* if the automatic repair of storage areas used by configuration replication is enabled.

- Auto-Recreate - Displays *true* if the automatic recreation of storage volumes used by configuration replication is enabled.

- Use Mirrored Aggregate - Displays *true* if storage areas for configuration replication are to be hosted on a mirrored aggregate.

Examples

The following is an example of the `metrocluster config-replication cluster-storage-configuration show` command:

```
cluster1::*> metrocluster config-replication cluster-storage-configuration
show
Disallowed Aggregates: -
           Auto-Repair: true
         Auto-Recreate: true
Use Mirrored Aggregate: true
```

metrocluster config-replication resync-status show

Display MetroCluster Configuration Resynchronization Status

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster config-replication resync-status show` command displays the state of the configuration synchronization operation between the two clusters in the MetroCluster configuration.

This command displays the following details about the local cluster and the peer cluster:

- Source: This is the source side whose configuration is being replicated to the destination side.
- Destination: This is the destination side where the configuration is being replicated to from the source side.
- State: This is the state of the synchronization operation.
- % Complete: This is completion percentage of the operation.

Examples

The following example shows the output of the command when synchronization is in progress:

```
clusterA::> metrocluster config-replication resync-status show
     Source                    Destination              State       %
Complete
     ---------------------- ---------------------- -----------
----------
     clusterA                  clusterB                 complete    -
     clusterB                  clusterA                 complete    -
```

The following example shows the output of the command when synchronization from clusB to clusA is in progress:

```
clusA::> metrocluster config-replication resync-status show
     Source                  Destination              State        %
Complete
     ----------------------- ----------------------- -----------
----------
     clusterA                clusterB                 complete    -
     clusterB                clusterA                 messaging   95
```

metrocluster configuration-settings commands

metrocluster configuration-settings show-status

Display the configuration settings status for a MetroCluster setup

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings show-status` command displays the configuration settings status for nodes in a MetroCluster setup. If a DR group has not been created, then status for nodes in the local cluster only are displayed.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays detailed information about all nodes in the cluster matching the specified cluster-uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays detailed information about all the nodes in the specified cluster.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-configuration-status <text>] - Configuration Settings Status

If this parameter is specified, the command displays detailed information about all nodes with the specified configuration status.

`[-config-error-info <text>]` - **Configuration Error Information**

  If this parameter is specified, the command displays detailed information about all nodes with the specified configuration error information.

Examples

The following example shows the display of MetroCluster setup status:

```
Nodes do not have a valid platform-specific personality value (equivalent
to HAOSC parameter on non-Apollo platforms) for a MetroCluster setup.
clusA::> metrocluster configuration-settings show-status
Cluster                        Node              Configuration Settings
Status
-------------------------- ------------------
-------------------------------
   clusA                       A1                not a MetroCluster setup
                               A2                not a MetroCluster setup
2 entries were displayed.
MetroCluster setup uses FC links rather than IP
xref:{relative_path}clusA::> metrocluster configuration-settings show-
status
Cluster                        Node              Configuration Settings
Status
-------------------------- ------------------
-------------------------------
clusA                          A1                not applicable for FC and
SAS
                               A2                not applicable for FC and
SAS
2 entries were displayed.
Output of the command when MetroCluster setup uses IP links and before
`"metrocluster configuration-settings dr-group create"` command is run:
clusA::> metrocluster configuration-settings show-status
Cluster                        Node              Configuration Settings
Status
-------------------------- ------------------
-------------------------------
clusA                          A1                ready for DR group create
                               A2                ready for DR group create
2 entries were displayed.
Output of the command after `"metrocluster configuration-settings dr-group
create"` command is run:
clusA::> metrocluster configuration-settings show-status
Cluster                        Node              Configuration Settings
Status
-------------------------- ------------------
```

```
--------------------------------
clusA
                              A1                    ready for interface create
                              A2                    ready for interface create
clusB
                              B1                    ready for interface create
                              B2                    ready for interface create
4 entries were displayed.
Output of the command after `"metrocluster configuration-settings
interface create"` command is run for every node:
clusA::> metrocluster configuration-settings show-status
Cluster                   Node                 Configuration Settings
Status
------------------------- -----------------
--------------------------------
clusA
                              A1                    ready for next interface
create
                              A2                    ready for connection connect
clusB
                              B1                    ready for connection connect
                              B2                    ready for connection connect
4 entries were displayed.
Output of the command after ` "metrocluster configuration-settings
connection connect" ` command is run:
usA::> metrocluster configuration-settings show-status
Cluster                   Node                 Configuration Settings
Status
------------------------- -----------------
--------------------------------
clusA
                              A1                    completed
                              A2                    completed
clusB
                              B1                    completed
                              B2                    completed
4 entries were displayed.
Output of the command after ` "metrocluster configuration-settings
connection connect"` command is run and there are connection errors:
clusA::> metrocluster configuration-settings show-status
Cluster                   Node                 Configuration Settings
Status
------------------------- -----------------
-------------------------------
clusA                         A1                    connection error
                              A2                    completed
```

```
clusB                        B1                    connection error
                             B2                    completed
4 entries were displayed.
```

metrocluster configuration-settings connection check

Check the network connections between partner nodes

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster configuration-settings connection check` command checks the settings of a MetroCluster over IP configuration.

This command is used for MetroCluster configurations that are connected through IP links.

Examples

```
The following example shows the output for the check command in
MetroCluster over IP configurations:
```

```
clusA::*> metrocluster configuration-settings connection check
[Job 68] Job succeeded: Connect is successful.

Begin connection check.
Start checking the partner cluster.
    Check partner cluster: PASS.
Start checking the configuration settings.
    Check configuration settings: PASS.
Start pinging the network endpoints from cluster "clusA".
    Ping network endpoints: PASS.
Start pinging the network endpoints from cluster "clusB".
    Ping network endpoints: PASS.
Start checking the network MTU sizes from cluster "clusA".
    Check network MTU sizes: PASS.
Start checking the network MTU sizes from cluster "clusB".
    Check network MTU sizes: PASS.
Start checking the network subnets from cluster "clusA".
    Check network subnets: PASS.
Start checking the network subnets from cluster "clusB".
    Check network subnets: PASS.
Start checking the storage daemons on cluster "clusA".
    Check storage daemons: PASS.
Start checking the storage daemons on cluster "clusB".
    Check storage daemons: PASS.
End of connection check.
```

metrocluster configuration-settings connection connect

Configure the network connections between partner nodes

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings connection connect` command configures the connections that mirror NV logs and access remote storage between partner nodes in a MetroCluster setup.

This command is used for MetroCluster setups that are connected though IP links. MetroCluster setups that are connected through FC links will configure the FC connections automatically.

The `metrocluster configuration-settings` commands are run in the following order to set up MetroCluster:

- metrocluster configuration-settings dr-group create ,
- metrocluster configuration-settings interface create ,
- `metrocluster configuration-settings connection connect .`

Before this command is run

- The DR groups must have been configured. Run the metrocluster configuration-settings dr-group show command to verify that every node is partnered in a DR group.

- The network logical interfaces must have been configured on every node. Use the metrocluster configuration-settings interface show command to verify that every node has network logical interfaces configured to mirror NV logs and access remote storage.

After this command completes successfully, every node will:

- Have NV log mirroring configured and mirroring disabled. NV log mirroring will be enabled by the metrocluster configure command.

- Have access to remote storage. Use the storage disk show -pool Pool1 command to view the remote disks that are hosted on DR partner nodes.

The DR groups and network logical interfaces that were configured by the `metrocluster configuration-settings` commands cannot be deleted after the connections have been configured. The metrocluster configuration-settings connection disconnect command must be run to remove the connections before the DR groups and network logical interfaces can be deleted.

Examples

The following example shows configuration of connections in a MetroCluster over IP setup:

```
clusA::> metrocluster configuration-settings connection connect
[Job 269] Job succeeded: Connect is successful.
clusA::>  metrocluster configuration-settings connection show
DR                        Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
                Home Port: e0f
                      10.140.113.214  10.140.113.216  HA Partner
completed
                Home Port: e0f
                      10.140.113.214  10.140.113.218  DR Partner
completed
                Home Port: e0f
                      10.140.113.214  10.140.113.249  DR Auxiliary
completed
                Home Port: e0g
                      10.140.113.215  10.140.113.217  HA Partner
completed
                Home Port: e0g
```

```
                             10.140.113.215  10.140.113.248  DR Partner
completed
                   Home Port: e0g
                             10.140.113.215  10.140.113.25   DR Auxiliary
completed
                        A2
                   Home Port: e0f
                             10.140.113.216  10.140.113.214  HA Partner
completed
                   Home Port: e0f
                             10.140.113.216  10.140.113.249  DR Partner
completed
                   Home Port: e0f
                             10.140.113.216  10.140.113.218  DR Auxiliary
completed
                   Home Port: e0g
                             10.140.113.217  10.140.113.215  HA Partner
completed
                   Home Port: e0g
                             10.140.113.217  10.140.113.25   DR Partner
completed
                   Home Port: e0g
                             10.140.113.217  10.140.113.248  DR Auxiliary
completed
     clusB B2
                   Home Port: e0f
                             10.140.113.249  10.140.113.218  HA Partner
completed
                   Home Port: e0f
                             10.140.113.249  10.140.113.216  DR Partner
completed
                   Home Port: e0f
                             10.140.113.249  10.140.113.214  DR Auxiliary
completed
                   Home Port: e0g
                             10.140.113.25   10.140.113.248  HA Partner
completed
                   Home Port: e0g
                             10.140.113.25   10.140.113.217  DR Partner
completed
                   Home Port: e0g
                             10.140.113.25   10.140.113.215  DR Auxiliary
completed
                        B1
                   Home Port: e0f
                             10.140.113.218  10.140.113.249  HA Partner
```

```
completed
                Home Port: e0f
                        10.140.113.218  10.140.113.214  DR Partner
completed
                Home Port: e0f
                        10.140.113.218  10.140.113.216  DR Auxiliary
completed
                Home Port: e0g
                        10.140.113.248  10.140.113.25   HA Partner
completed
                Home Port: e0g
                        10.140.113.248  10.140.113.215  DR Partner
completed
                Home Port: e0g
                        10.140.113.248  10.140.113.217  DR Auxiliary
completed
24 entries were displayed.
clusA::> metrocluster configuration-settings show-status
Cluster                    Node              Configuration Settings
Status
------------------------- ------------------
-------------------------------
clusA
                          A1                completed
                          A2                completed
clusB
                          B1                completed
                          B2                completed
4 entries were displayed.
```

Related Links

- metrocluster configuration-settings dr-group create
- metrocluster configuration-settings interface create
- metrocluster configuration-settings dr-group show
- metrocluster configuration-settings interface show
- metrocluster configure
- storage disk show
- metrocluster configuration-settings connection disconnect

metrocluster configuration-settings connection disconnect

Tear down the network connections between partner nodes

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings connection disconnect` command removes the connections between nodes in a DR group that are used to mirror NV logs and access remote storage.

This command cannot be run if a node in the DR group has remote disks assigned to the node. The assigned ownership of remote disks can be removed by running the storage disk removeowner command.

The `metrocluster configuration-settings` commands are run in the following order to remove MetroCluster over IP configuration:

- `metrocluster configuration-settings connection disconnect`,
- metrocluster configuration-settings interface delete ,
- metrocluster configuration-settings dr-group delete .

Parameters

`-dr-group-id <integer>` - **DR Group ID**
    This parameter identifies the DR group to be disconnected.

Examples

The following example illustrates removal of connections in a four-node MetroCluster setup:

```
clusA::> metrocluster configuration-settings connection disconnect -dr
-group-id 1
[Job 270] Job succeeded: Disconnect is successful.

clusA::>  metrocluster configuration-settings show-status
Cluster                    Node              Configuration Settings
Status
------------------------- ------------------
--------------------------------
clusA
                          A1                ready for connection connect
                          A2                ready for connection connect
clusB
                          B1                ready for connection connect
                          B2                ready for connection connect
4 entries were displayed.
clusA::> metrocluster configuration-settings connection show
DR                        Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
              Home Port: e0f
```

```
                            10.140.113.214  10.140.113.216  HA Partner
disconnected
                 Home Port: e0f
                            10.140.113.214  10.140.113.218  DR Partner
disconnected
                 Home Port: e0f
                            10.140.113.214  10.140.113.249  DR Auxiliary
disconnected
                 Home Port: e0g
                            10.140.113.215  10.140.113.217  HA Partner
disconnected
                 Home Port: e0g
                            10.140.113.215  10.140.113.248  DR Partner
disconnected
                 Home Port: e0g
                            10.140.113.215  10.140.113.25   DR Auxiliary
disconnected
                  A2
                 Home Port: e0f
                            10.140.113.216  10.140.113.214  HA Partner
disconnected
                 Home Port: e0f
                            10.140.113.216  10.140.113.249  DR Partner
disconnected
                 Home Port: e0f
                            10.140.113.216  10.140.113.218  DR Auxiliary
disconnected
                 Home Port: e0g
                            10.140.113.217  10.140.113.215  HA Partner
disconnected
                 Home Port: e0g
                            10.140.113.217  10.140.113.25   DR Partner
disconnected
                 Home Port: e0g
                            10.140.113.217  10.140.113.248  DR Auxiliary
disconnected
      clusB B2
                 Home Port: e0f
                            10.140.113.249  10.140.113.218  HA Partner
disconnected
                 Home Port: e0f
                            10.140.113.249  10.140.113.216  DR Partner
disconnected
                 Home Port: e0f
                            10.140.113.249  10.140.113.214  DR Auxiliary
disconnected
```

```
                    Home Port: e0g
                         10.140.113.25   10.140.113.248  HA Partner
disconnected
                    Home Port: e0g
                         10.140.113.25   10.140.113.217  DR Partner
disconnected
                    Home Port: e0g
                         10.140.113.25   10.140.113.215  DR Auxiliary
disconnected
                      B1
                    Home Port: e0f
                         10.140.113.218  10.140.113.249  HA Partner
disconnected
                    Home Port: e0f
                         10.140.113.218  10.140.113.214  DR Partner
disconnected
                    Home Port: e0f
                         10.140.113.218  10.140.113.216  DR Auxiliary
disconnected
                    Home Port: e0g
                         10.140.113.248  10.140.113.25   HA Partner
disconnected
                    Home Port: e0g
                         10.140.113.248  10.140.113.215  DR Partner
disconnected
                    Home Port: e0g
                         10.140.113.248  10.140.113.217  DR Auxiliary
disconnected
24 entries were displayed.
```

Related Links

- storage disk removeowner
- metrocluster configuration-settings interface delete
- metrocluster configuration-settings dr-group delete

metrocluster configuration-settings connection show

Display the connections between partner nodes in a MetroCluster setup

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings connection show` command displays the connection configuration information between the nodes in a MetroCluster setup.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster specified by uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the matching cluster.

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching node specified by uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-home-port {<netport>|<ifgrp>}] - Home Port

If this parameter is specified, the command displays information for the matching home-port.

[-relationship-type <Roles of MetroCluster Nodes>] - Relationship Role Type

If this parameter is specified, the command displays information for the matching relationship-type.

[-source-address <IP Address>] - Source Network Address

If this parameter is specified, the command displays information for the matching source address.

[-destination-address <IP Address>] - Destination Network Address

If this parameter is specified, the command displays information for the matching destination address.

[-partner-cluster-uuid <UUID>] - Partner Cluster UUID

If this parameter is specified, the command displays information for the matching partner-cluster-uuid.

[-partner-node-uuid <UUID>] - Partner Node UUID

If this parameter is specified, the command displays information for the matching partner-node-uuid.

[-partner-node <text>] - Partner Node Name

If this parameter is specified, the command displays information for the matching partner-node.

[-partner-type <text>] - Partner Relationship Type

If this parameter is specified, the command displays information for the matching partner-type.

[-config-state <text>] - Configuration State

If this parameter is specified, the command displays information for the matching config-state.

[-config-error-info <text>] - Configuration Error Information

If this parameter is specified, the command displays information for the matching config-error-info.

Examples

The following example shows the output of metrocluster configuration-settings connection connect command:

```
Output of the command before the connections are established using the
xref:{relative_path}metrocluster-configuration-settings-connection-
connect.html[metrocluster configuration-settings connection connect]
command:
clusA::> metrocluster configuration-settings connection show
DR                      Source          Destination
Group Cluster Node     Network Address Network Address Partner Type Config
State
----- ------- ------- -------------- -------------- -----------
------------
1     clusA A1
                Home Port: e0f
                      10.140.113.214  10.140.113.216  HA Partner
disconnected
                Home Port: e0f
                      10.140.113.214  10.140.113.218  DR Partner
disconnected
                Home Port: e0f
                      10.140.113.214  10.140.113.249  DR Auxiliary
disconnected
                Home Port: e0g
                      10.140.113.215  10.140.113.217  HA Partner
disconnected
                Home Port: e0g
                      10.140.113.215  10.140.113.248  DR Partner
disconnected
                Home Port: e0g
                      10.140.113.215  10.140.113.25   DR Auxiliary
disconnected
                 A2
                Home Port: e0f
                      10.140.113.216  10.140.113.214  HA Partner
disconnected
                Home Port: e0f
                      10.140.113.216  10.140.113.249  DR Partner
disconnected
```

```
                 Home Port: e0f
                 10.140.113.216  10.140.113.218  DR Auxiliary
disconnected
                 Home Port: e0g
                 10.140.113.217  10.140.113.215  HA Partner
disconnected
                 Home Port: e0g
                 10.140.113.217  10.140.113.25   DR Partner
disconnected
                 Home Port: e0g
                 10.140.113.217  10.140.113.248  DR Auxiliary
disconnected
      clusB B2
                 Home Port: e0f
                 10.140.113.249  10.140.113.218  HA Partner
disconnected
                 Home Port: e0f
                 10.140.113.249  10.140.113.216  DR Partner
disconnected
                 Home Port: e0f
                 10.140.113.249  10.140.113.214  DR Auxiliary
disconnected
                 Home Port: e0g
                 10.140.113.25   10.140.113.248  HA Partner
disconnected
                 Home Port: e0g
                 10.140.113.25   10.140.113.217  DR Partner
disconnected
                 Home Port: e0g
                 10.140.113.25   10.140.113.215  DR Auxiliary
disconnected
             B1
                 Home Port: e0f
                 10.140.113.218  10.140.113.249  HA Partner
disconnected
                 Home Port: e0f
                 10.140.113.218  10.140.113.214  DR Partner
disconnected
                 Home Port: e0f
                 10.140.113.218  10.140.113.216  DR Auxiliary
disconnected
                 Home Port: e0g
                 10.140.113.248  10.140.113.25   HA Partner
disconnected
                 Home Port: e0g
                 10.140.113.248  10.140.113.215  DR Partner
```

```
disconnected
                    Home Port: e0g
                         10.140.113.248  10.140.113.217  DR Auxiliary
disconnected
24 entries were displayed.
Output of the command after the connections are established using the
xref:{relative_path}metrocluster-configuration-settings-connection-
connect.html[metrocluster configuration-settings connection connect]
command:
clusA::> metrocluster configuration-settings connection show
DR                    Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- -------------- -------------- ------------
------------
1     clusA A1
                    Home Port: e0f
                         10.140.113.214  10.140.113.216  HA Partner
completed
                    Home Port: e0f
                         10.140.113.214  10.140.113.218  DR Partner
completed
                    Home Port: e0f
                         10.140.113.214  10.140.113.249  DR Auxiliary
completed
                    Home Port: e0g
                         10.140.113.215  10.140.113.217  HA Partner
completed
                    Home Port: e0g
                         10.140.113.215  10.140.113.248  DR Partner
completed
                    Home Port: e0g
                         10.140.113.215  10.140.113.25   DR Auxiliary
completed
                     A2
                    Home Port: e0f
                         10.140.113.216  10.140.113.214  HA Partner
completed
                    Home Port: e0f
                         10.140.113.216  10.140.113.249  DR Partner
completed
                    Home Port: e0f
                         10.140.113.216  10.140.113.218  DR Auxiliary
completed
                    Home Port: e0g
                         10.140.113.217  10.140.113.215  HA Partner
```

```
completed
                    Home Port: e0g
                           10.140.113.217  10.140.113.25    DR Partner
completed
                    Home Port: e0g
                           10.140.113.217  10.140.113.248   DR Auxiliary
completed
      clusB B2
                    Home Port: e0f
                           10.140.113.249  10.140.113.218   HA Partner
completed
                    Home Port: e0f
                           10.140.113.249  10.140.113.216   DR Partner
completed
                    Home Port: e0f
                           10.140.113.249  10.140.113.214   DR Auxiliary
completed
                    Home Port: e0g
                           10.140.113.25   10.140.113.248   HA Partner
completed
                    Home Port: e0g
                           10.140.113.25   10.140.113.217   DR Partner
completed
                    Home Port: e0g
                           10.140.113.25   10.140.113.215   DR Auxiliary
completed
                     B1
                    Home Port: e0f
                           10.140.113.218  10.140.113.249   HA Partner
completed
                    Home Port: e0f
                           10.140.113.218  10.140.113.214   DR Partner
completed
                    Home Port: e0f
                           10.140.113.218  10.140.113.216   DR Auxiliary
completed
                    Home Port: e0g
                           10.140.113.248  10.140.113.25    HA Partner
completed
                    Home Port: e0g
                           10.140.113.248  10.140.113.215   DR Partner
completed
                    Home Port: e0g
                           10.140.113.248  10.140.113.217   DR Auxiliary
completed
24 entries were displayed.
```

metrocluster configuration-settings dr-group create

Create a DR group in a MetroCluster setup

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings dr-group create` command partners the nodes that will comprise a DR group in a MetroCluster setup.

This command is used for MetroCluster setups that are connected though IP links. MetroCluster setups that are connected through FC links will configure DR groups automatically and do not require the `metrocluster configuration-settings` commands.

The `metrocluster configuration-settings` commands are run in the following order to set up MetroCluster:

• `metrocluster configuration-settings dr-group create`,

• metrocluster configuration-settings interface create ,

• metrocluster configuration-settings connection connect .

Before running this command, cluster peering must be configured between the local and partner clusters. Run the cluster peer show command to verify that peering is available between the local and partner clusters.

This command configures a local node and a remote node as DR partner nodes. The command also configures the HA partner of the local node and the HA partner of the remote node as the other DR partner nodes in the DR group.

Parameters

`-partner-cluster <Cluster name>` - Partner Cluster Name

    Use this parameter to specify the name of the partner cluster.

`-local-node {<nodename>|local}` - Local Node Name

    Use this parameter to specify the name of a node in the local cluster.

`-remote-node <text>` - Remote Node Name

    Use this parameter to specify the name of a node in the partner cluster that is to be the DR partner of the specified local node.

Examples

> The following example shows the creation of the MetroCluster DR group:

```
clusA::>  metrocluster configuration-settings dr-group  create -partner
-cluster clusB -local-node A1 -remote-node B1
[Job 268] Job succeeded: DR Group Create is successful.

clusA::>  metrocluster configuration-settings dr-group show
DR Group ID Cluster                          Node              DR Partner Node
----------- ------------------------- ------------------
------------------
1           clusA
                                      A1                B1
                                      A2                B2
            clusB
                                      B2                A2
                                      B1                A1
4 entries were displayed.
clusA::> metrocluster configuration-settings show-status
Cluster                   Node              Configuration Settings
Status
------------------------- ------------------
---------------------------------
clusA
                          A1                ready for interface create
                          A2                ready for interface create
clusB
                          B1                ready for interface create
                          B2                ready for interface create
4 entries were displayed.
```

Related Links

- metrocluster configuration-settings interface create
- metrocluster configuration-settings connection connect
- cluster peer show

metrocluster configuration-settings dr-group delete

Delete a DR group in a MetroCluster setup

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings dr-group delete` command deletes a DR group and its node partnerships that were configured using the metrocluster configuration-settings dr-group create command.

This command cannot be run if the metrocluster configuration-settings interface create command has

configured a network logical interface on a network port provisioned for MetroCluster. The metrocluster configuration-settings interface delete command must then be run to delete the network logical interfaces on every node in the DR group.

The `metrocluster configuration-settings` commands are run in the following order to remove the MetroCluster over IP configuration:

- metrocluster configuration-settings connection disconnect ,
- metrocluster configuration-settings interface delete ,
- `metrocluster configuration-settings dr-group delete` .

Parameters

`-dr-group-id <integer>` - **Dr group Id**
   This parameter indentifies the DR group to be deleted.

Examples

The following example shows the deletion of the MetroCluster DR group:

```
clusA::> metrocluster configuration-settings dr-group delete -dr-group-id
1

Warning: This command deletes the existing DR group relationship. Are you
sure
         you want to proceed ? {y|n}: y
[Job 279] Job succeeded: DR Group Delete is successful.

clusA::>  metrocluster configuration-settings dr-group  show
No DR groups exist.

clusA::> metrocluster configuration-settings show-status
Cluster                          Node                Configuration Settings
Status
-------------------------- ------------------
--------------------------------
clusA
                                 A1                  ready for DR group create
                                 A2                  ready for DR group create
clusB
                                 B1                  ready for DR group create
                                 B2                  ready for DR group create
4 entries were displayed.
```

Related Links

- [metrocluster configuration-settings dr-group create](#)
- [metrocluster configuration-settings interface create](#)
- [metrocluster configuration-settings interface delete](#)
- [metrocluster configuration-settings connection disconnect](#)

metrocluster configuration-settings dr-group show

Display the DR groups in a MetroCluster setup

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings dr-group show` command displays the DR groups and their nodes.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the specified cluster.

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching nodes uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-dr-partner-node-uuid <UUID>] - DR Partner Node UUID

If this parameter is specified, the command displays information for the matching DR partner node uuid.

[-dr-partner-node <text>] - DR Partner Node Name

If this parameter is specified, the command displays information for the matching DR partner nodes.

Examples

The following example illustrates the display of DR group configuration in a four-node MetroCluster setup:

```
clusA::>  metrocluster configuration-settings dr-group show
DR Group ID Cluster                       Node               DR Partner Node
----------- ------------------------- ------------------
------------------
1           clusA
                                          A1                 B1
                                          A2                 B2
            clusB
                                          B2                 A2
                                          B1                 A1
4 entries were displayed.
```

metrocluster configuration-settings interface create

Create a MetroCluster interface

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings interface create` command configures the network logical interfaces that will be used on a node in a MetroCluster setup to mirror NV logs and access remote storage.

This command is used for MetroCluster setups that are connected though IP links. MetroCluster setups that are connected through FC links do not require the user to provision network logical interfaces to mirror NV logs and access remote storage.

The `metrocluster configuration-settings` commands are run in the following order to set up MetroCluster:

- metrocluster configuration-settings dr-group create ,
- `metrocluster configuration-settings interface create` ,
- metrocluster configuration-settings connection connect .

Before running this command , the node's DR group must be configured using the metrocluster configuration-settings dr-group create command. Run the metrocluster configuration-settings dr-group show command to verify that the node's DR group has been configured.

Parameters

`-cluster-name <Cluster name>` - Cluster Name
   Use this parameter to specify the name of the local or partner cluster.

`-home-node <text>` **- Home Node**

Use this parameter to specify the home node in the cluster which hosts the interface.

`-home-port {<netport>|<ifgrp>}` **- Home Port**

Use this parameter to specify the home port provisioned for MetroCluster.

`-address <IP Address>` **- Network Address**

Use this parameter to specify the network address to be assigned to the home port.

`-netmask <Contiguous IP Mask>` **- Netmask**

Use this parameter to specify the network mask to be assigned to the interface.

Examples

This example shows configuring logical interface on MetroCluster IP capable port:

```
clusA::>  metrocluster configuration-settings interface create -cluster
-name clusA -home-node A1 -home-port e0f -address 10.140.113.214 -netmask
255.255.192.0
[Job 281] Job succeeded: Interface Create is successful.

clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask         Gateway
State
----- ------- ------- -------------- -------------- ---------------
---------
1     clusA A1
               Home Port: e0f
                                      10.140.113.214  255.255.192.0   -
completed
Output after configuring all the interfaces:
clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask         Gateway
State
----- ------- ------- -------------- -------------- ---------------
---------
1     clusA A1
               Home Port: e0f
                       10.140.113.214  255.255.192.0   -
completed
               Home Port: e0g
                       10.140.113.215  255.255.192.0   -
completed
```

```
                        A2
                Home Port: e0f
                        10.140.113.216  255.255.192.0   -
completed
                Home Port: e0g
                        10.140.113.217  255.255.192.0   -
completed
      clusB B2
                Home Port: e0f
                        10.140.113.249  255.255.192.0   -
completed
                Home Port: e0g
                        10.140.113.25   255.255.192.0   -
completed
                         B1
                Home Port: e0f
                        10.140.113.218  255.255.192.0   -
completed
                Home Port: e0g
                        10.140.113.248  255.255.192.0   -
completed
8 entries were displayed.

clusA::> metrocluster configuration-settings show-status
Cluster                   Node            Configuration Settings
Status
------------------------- ------------------
-------------------------------
clusA
                          A1              ready for connection connect
                          A2              ready for connection connect
clusB
                          B1              ready for connection connect
                          B2              ready for connection connect
4 entries were displayed.

clusA::> metrocluster configuration-settings connection show
DR                   Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- -------------- -------------- ------------
------------
1     clusA A1
                Home Port: e0f
                        10.140.113.214  10.140.113.216  HA Partner
disconnected
```

```
                      Home Port: e0f
                      10.140.113.214  10.140.113.218  DR Partner
disconnected
                      Home Port: e0f
                      10.140.113.214  10.140.113.249  DR Auxiliary
disconnected
                      Home Port: e0g
                      10.140.113.215  10.140.113.217  HA Partner
disconnected
                      Home Port: e0g
                      10.140.113.215  10.140.113.248  DR Partner
disconnected
                      Home Port: e0g
                      10.140.113.215  10.140.113.25   DR Auxiliary
disconnected
                   A2
                      Home Port: e0f
                      10.140.113.216  10.140.113.214  HA Partner
disconnected
                      Home Port: e0f
                      10.140.113.216  10.140.113.249  DR Partner
disconnected
                      Home Port: e0f
                      10.140.113.216  10.140.113.218  DR Auxiliary
disconnected
                      Home Port: e0g
                      10.140.113.217  10.140.113.215  HA Partner
disconnected
                      Home Port: e0g
                      10.140.113.217  10.140.113.25   DR Partner
disconnected
                      Home Port: e0g
                      10.140.113.217  10.140.113.248  DR Auxiliary
disconnected
      clusB B2
                      Home Port: e0f
                      10.140.113.249  10.140.113.218  HA Partner
disconnected
                      Home Port: e0f
                      10.140.113.249  10.140.113.216  DR Partner
disconnected
                      Home Port: e0f
                      10.140.113.249  10.140.113.214  DR Auxiliary
disconnected
                      Home Port: e0g
                      10.140.113.25   10.140.113.248  HA Partner
```

```
disconnected
                 Home Port: e0g
                     10.140.113.25   10.140.113.217  DR Partner
disconnected
                 Home Port: e0g
                     10.140.113.25   10.140.113.215  DR Auxiliary
disconnected
                  B1
                 Home Port: e0f
                     10.140.113.218  10.140.113.249  HA Partner
disconnected
                 Home Port: e0f
                     10.140.113.218  10.140.113.214  DR Partner
disconnected
                 Home Port: e0f
                     10.140.113.218  10.140.113.216  DR Auxiliary
disconnected
                 Home Port: e0g
                     10.140.113.248  10.140.113.25   HA Partner
disconnected
                 Home Port: e0g
                     10.140.113.248  10.140.113.215  DR Partner
disconnected
                 Home Port: e0g
                     10.140.113.248  10.140.113.217  DR Auxiliary
disconnected
24 entries were displayed.
```

Related Links

- metrocluster configuration-settings dr-group create
- metrocluster configuration-settings connection connect
- metrocluster configuration-settings dr-group show

metrocluster configuration-settings interface delete

Delete a MetroCluster interface

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings interface delete` command deletes the network logical interface that was configured on a network port provisioned for MetroCluster.

This command cannot be run if the metrocluster configuration-settings connection connect command has set up the connections between the nodes in a DR group. The metrocluster configuration-settings connection

[disconnect](#) command must then be run to remove the connections.

The `metrocluster configuration-settings` commands are run in the following order to remove the MetroCluster over IP configuration:

- [metrocluster configuration-settings connection disconnect](#) ,
- `metrocluster configuration-settings interface delete`,
- [metrocluster configuration-settings dr-group delete](#) .

Parameters

`-cluster-name <Cluster name>` - **Cluster Name**
    Use this parameter to specify the name of the local or partner cluster.

`-home-node <text>` - **Home Node**
    Use this parameter to specify the home node in the cluster which hosts the interface.

`-home-port {<netport>|<ifgrp>}` - **Home Port**
    Use this parameter to specify the home port provisioned for MetroCluster.

Examples

The following example shows the deletion of interface in a MetroCluster setup:

```
clusA::> metrocluster configuration-settings interface delete -cluster
-name clusA -home-node A1 -home-port e0f
[Job 271] Job succeeded: Interface Delete is successful.

clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask        Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1     clusA A1
                Home Port: e0g
                    10.140.113.215  255.255.192.0   -
completed
                     A2
                Home Port: e0f
                    10.140.113.216  255.255.192.0   -
completed
                Home Port: e0g
                    10.140.113.217  255.255.192.0   -
completed
      clusB B2
```

```
                    Home Port: e0f
                          10.140.113.249  255.255.192.0   -
completed
                    Home Port: e0g
                          10.140.113.25   255.255.192.0   -
completed
                       B1
                    Home Port: e0f
                          10.140.113.218  255.255.192.0   -
completed
                    Home Port: e0g
                          10.140.113.248  255.255.192.0   -
completed
7 entries were displayed.


clusA::> metrocluster configuration-settings show-status
Cluster                        Node               Configuration Settings
Status
------------------------ ------------------
--------------------------------
clusA
                              A1                  ready for next interface
create
                              A2                  ready for connection connect
clusB
                              B1                  ready for connection connect
                              B2                  ready for connection connect
4 entries were displayed.
Output of the command after deleting all the interfaces:
clusA::> metrocluster configuration-settings interface show
No interfaces exist.


clusA::> metrocluster configuration-settings show-status
Cluster                        Node               Configuration Settings
Status
------------------------ ------------------
--------------------------------
clusA
                              A1                  ready for interface create
                              A2                  ready for interface create
clusB
                              B1                  ready for interface create
                              B2                  ready for interface create
4 entries were displayed.
```

metrocluster configuration-settings interface show

Display the network logical interfaces provisioned for MetroCluster

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster configuration-settings interface show` command displays the network logical interfaces that were provisioned for MetroCluster.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster specified by uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the matching cluster..

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching nodes uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-home-port {<netport>|<ifgrp>}] - Home Port

If this parameter is specified, all interfaces with home-port set to this value are displayed.

[-address <IP Address>] - Network Address

If this parameter is specified, the command displays information for the matching network address.

[-netmask <Contiguous IP Mask>] - Netmask

If this parameter is specified, all interfaces with netmask set to this value are displayed.

`[-gateway <IP Address>]` - Gateway

If this parameter is specified, all interfaces with gateway set to this value are displayed.

`[-config-state <text>]` - Configuration State

If this parameter is specified, all interfaces with this field set to the specified value are displayed.

`[-config-error-info <text>]` - Configuration Error Information

If this parameter is specified, all interfaces with this field set to the specified value are displayed.

Examples

The following example illustrates display of logical interfaces configured in a four-node MetroCluster setup:

```
clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node     Network Address Netmask         Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1     clusA A1
                Home Port: e0f
                      10.140.113.214  255.255.192.0   -
completed
                Home Port: e0g
                      10.140.113.215  255.255.192.0   -
completed
                 A2
                Home Port: e0f
                      10.140.113.216  255.255.192.0   -
completed
                Home Port: e0g
                      10.140.113.217  255.255.192.0   -
completed
      clusB B2
                Home Port: e0f
                      10.140.113.249  255.255.192.0   -
completed
                Home Port: e0g
                      10.140.113.25   255.255.192.0   -
completed
                 B1
                Home Port: e0f
                      10.140.113.218  255.255.192.0   -
completed
                Home Port: e0g
                      10.140.113.248  255.255.192.0   -
completed
8 entries were displayed.
```

metrocluster interconnect commands

metrocluster interconnect adapter modify

Modify MetroCluster interconnect adapter settings

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster interconnect adapter modify` command enables you to modify settings of the MetroCluster interconnect adapter.

Parameters

`-node {<nodename>|local}` - Node Name (privilege: advanced)

    This parameter specifies the node name.

`-is-ood-enabled {true|false}` - Is Out-of-Order Delivery Enabled? (privilege: advanced)

    This parameter specifies the out-of-order delivery setting on the adapter.

Examples

The following example enables out-of-order delivery for the port 'fcvi_device_0' on the node 'clusA-01':

```
clusA::*> metrocluster interconnect adapter modify -node clusA-01 -adapter
-port-name fcvi_device_0 -is-ood-enabled true
```

metrocluster interconnect adapter show

Display MetroCluster interconnect adapter information

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster interconnect adapter show` command displays interconnect adapter information for the nodes in a MetroCluster configuration.

This command displays the following details about the local node and the HA partner node:

- Node: This field specifies the name of the node in the cluster.
- Adapter Name: This field specifies the name of the interconnect adapter.
- Adapter Type: This field specifies the type of the interconnect adapter.
- Link Status: This field specifies the physical link status of the interconnect adapter.
- Is OOD Enabled: This field specifies the out-of-order delivery status of the interconnect adapter.
- IP Address: This field specifies the IP address assigned to the interconnect adapter.
- Port Number: This field specifies the port number of the interconnect adapter.

Parameters

`{ [-fields <fieldname>,…]`

    If you specify the `-fields <fieldname>`, … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-connectivity]

Displays the connectivity information from all the interconnect adapters to the connected nodes.

| [-switch]

Displays details of switches connected to all the interconnect adapters.

| [-connectivity-hidden] (privilege: advanced)

Displays additional connectivity information (IP address, Area ID, Port ID) from all the interconnect adapters to the connected nodes.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node Name

Displays information only about the interconnect adapters that are hosted by the specified node.

[-adapter <text>] - Adapter

Displays information only about the interconnect adapters that match the specified name.

[-port-name <text>] - Port Name

Displays information only about the interconnect adapters that host the specified port name.

[-type <text>] - Adapter Type

Displays information only about the interconnect adapters that match the specified adapter type.

[-physical-status <text>] - Physical Status

Displays information only about the interconnect adapters that match the specified physical status.

[-wwn <text>] - Adapter Port World Wide Name

Displays information only about the interconnect adapters that match the specified world wide name.

[-address <text>] - IP Address

Displays information only about the interconnect adapters that match the specified IP address.

[-firmware-version <text>] - Firmware Version

Displays information only about the interconnect adapters that match the specified firmware version.

[-link-speed <text>] - Link Speed

Displays information only about the interconnect adapters that match the specified link speed.

[-link-speed-neg-type <text>] - Link Speed Negotiation Type

Displays information only about the interconnect adapters that match the specified negotiated link speed type.

[-switch-name <text>] - Switch Name

Displays information only about the interconnect adapters that are connected to the specified switch.

[-switch-model <text>] - **Switch Model**

Displays information only about the interconnect adapters that are connected to the switch with the specified model.

[-switch-wwn <text>] - **Switch WWName**

Displays information only about the interconnect adapters that are connected to the switch with the specified world wide name.

[-switch-vendor <text>] - **Switch Vendor**

Displays information only about the interconnect adapters that are connected to the switch with the specified vendor.

[-switch-status <text>] - **Switch Status**

Displays information only about the interconnect adapters that are connected to the switch with the specified operational status.

[-switch-port-number <text>] - **Switch Port Number**

Displays information only about the interconnect adapters that are connected to the switch with the specified port number.

[-switch-port-wwpn <text>] - **Switch Port WWPN**

Displays information only about the interconnect adapters that are connected to the switch with the specified word wide port name.

[-remote-adapter-name-list <text>,…] - **Remote Adapter Name List**

Displays information only about the interconnect adapters that are connected to the specified remote adapters.

[-remote-adapter-wwn-list <text>,…] - **Remote Adapter WWName List**

Displays information only about the interconnect adapters that are connected to the remote adapters with the specified world wide names.

[-remote-adapter-address-list <text>,…] - **Remote Adapter IP Address List**

Displays information only about the interconnect adapters that are connected to the remote adapters with the specified IP addresses.

[-remote-adapter-port-id-list <Hex Integer>,…] - **Remote Adapter Port ID List**

Displays information only about the interconnect adapters that are connected to the remote adapters with the specified port IDs.

[-remote-adapter-domain-id-list <integer>,…] - **Remote Adapter Domain ID List**

Displays information only about the interconnect adapters that are connected to the remote adapters with the specified domain IDs.

[-remote-adapter-area-id-list <integer>,…] - **Remote Adapter Area ID List**

Displays information only about the interconnect adapters that are connected to the remote adapters with the specified Area IDs.

[-remote-partner-system-id-list <integer>,…] - **Remote Partner System ID List**

Displays information only about the interconnect adapters that are connected to the remote nodes with the

specified System IDs.

[-remote-partner-name-list {<nodename>|local}] - Remote Partner Name List

Displays information only about the interconnect adapters that are connected to the specified remote nodes.

[-is-ood-enabled {true|false}] - Is Out-of-Order Delivery Enabled?

Displays information only about the interconnect adapters that match the specified out-of-order delivery setting.

Examples

The following example shows the output of the command during normal operation (neither cluster is in switchover state):

```
clusA::> metrocluster interconnect adapter show
                                     Link   Is OOD
        Node           Adapter        Type  Status Enabled? IP Address   Port
Number
        ------------   --------------- ----- ------ -------- -----------
-----------
        clusA-01       cxgb3_0        iWARP Up      false    10.0.1.1     c0a
        clusA-01       cxgb3_0        iWARP Down    false    10.0.2.1     c0b
        clusA-01       fcvi_device_0  FC-VI Up      false    1.0.0.1      1a
        clusA-01       fcvi_device_1  FC-VI Up      false    2.0.0.3      1b
        clusA-02       cxgb3_0        iWARP Up      false    10.0.1.2     c0a
        clusA-02       cxgb3_0        iWARP Down    false    10.0.2.2     c0b
        clusA-02       fcvi_device_0  FC-VI Up      false    1.0.1.1      1a
        clusA-02       fcvi_device_1  FC-VI Up      false    2.0.1.3      1b
```

The following example shows the output of the command after MetroCluster switchover is performed:

```
clusA::> metrocluster interconnect adapter show
                                     Link   Is OOD
        Node           Adapter        Type  Status Enabled? IP Address   Port
Number
        ------------   --------------- ----- ------ -------- -----------
-----------
        clusA-01       cxgb3_0        iWARP Up      false    10.0.1.1     c0a
        clusA-01       cxgb3_0        iWARP Down    false    10.0.2.1     c0b
        clusA-01       fcvi_device_0  FC-VI Down    false    1.0.0.1      1a
        clusA-01       fcvi_device_1  FC-VI Down    false    2.0.0.3      1b
        clusA-02       cxgb3_0        iWARP Up      false    10.0.1.2     c0a
        clusA-02       cxgb3_0        iWARP Down    false    10.0.2.2     c0b
        clusA-02       fcvi_device_0  FC-VI Down    false    1.0.1.1      1a
        clusA-02       fcvi_device_1  FC-VI Down    false    2.0.1.3      1b
```

The following example shows the output of the command with connectivity field during normal operation (neither cluster is in swithover state):

```
clusA::> metrocluster interconnect adapter show -connectivity -node local
-type FC-VI
Adapter Name: fcvi_device_0
                    WWName: 21:00:00:24:ff:32:01:68
                    PortNo: 1a
Remote Adapters:
Adapter Name Partner Node Name World Wide Name        PortId
      ------------ ---------------- ---------------------- ------
      fcvi_device_0
                clusA-01          21:00:00:24:ff:32:01:80  65536
      fcvi_device_0
                clusB-01          21:00:00:24:ff:32:01:54 131072
      fcvi_device_0
                clusB-02          21:00:00:24:ff:32:01:60 131328
Adapter Name: fcvi_device_1
                    WWName: 21:00:00:24:ff:32:01:69
                    PortNo: 1b
Remote Adapters:
Adapter Name Partner Node Name World Wide Name        PortId
      ------------ ---------------- ---------------------- ------
      fcvi_device_1
                clusA-01          21:00:00:24:ff:32:01:81 196608
      fcvi_device_1
                clusB-01          21:00:00:24:ff:32:01:55 262144
      fcvi_device_1
                clusB-02          21:00:00:24:ff:32:01:61 262400
```

The following example shows the output of the command with connectivity field after MetroCluster swithover is performed.

```
clusA::> metrocluster interconnect adapter show -connectivity -node local
-type FC-VI
Adapter Name: fcvi_device_0
                   WWName: 21:00:00:24:ff:32:01:68
                   PortNo: 1a
Remote Adapters:
Adapter Name Partner Node Name World Wide Name        PortId
     ------------ ---------------- ---------------------- ------
     fcvi_device_0
                   clusA-01       21:00:00:24:ff:32:01:80  65536
Adapter Name: fcvi_device_1
                   WWName: 21:00:00:24:ff:32:01:69
                   PortNo: 1b
Remote Adapters:
Adapter Name Partner Node Name World Wide Name        PortId
     ------------ ---------------- ---------------------- ------
     fcvi_device_1
                   clusA-01       21:00:00:24:ff:32:01:81 196608
```

metrocluster interconnect mirror show

Display MetroCluster interconnect mirror information

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster interconnect mirror show` command displays NVRAM mirror information for the nodes configured in a MetroCluster.

This command displays the following details about the local node and the HA partner node:

- Node: This field specifies the name of the node in the cluster.
- Partner Name: This field specifies the name of the partner node.
- Partner Type: This field specifies the type of the partner.
- Mirror Admin Status: This field specifies the administrative status of the NVRAM mirror between partner nodes.
- Mirror Oper Status: This field specifies the operational status of the NVRAM mirror between partner nodes.
- Adapter: This field specifies the name of the interconnect adapter used for NVRAM mirroring.
- Type: This field specifies the type of the interconnect adapter used for NVRAM mirroring.
- Status: This field specifies the physical status of the interconnect adapter used for NVRAM mirroring.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,` … parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node Name

If this parameter is specified, mirror details of the specified node are displayed.

[-partner-type {HA|DR|AUX}] - Partner Type

If this parameter is specified, mirror details of the specified partner type are displayed.

[-adapter <text>] - Adapter

If this parameter is specified, mirror details of the specified adapter are displayed.

[-type <text>] - Adapter Type

If this parameter is specified, mirror details of the specified adapter type are displayed.

[-status <text>] - Status

If this parameter is specified, mirror details of the adapter with the specified status are displayed.

[-mirror-oper-status {unknown|online|offline}] - Mirror Operational Status

If this parameter is specified, only mirror details with the specified operational status are displayed.

[-partner-name <text>] - Partner Name

If this parameter is specified, mirror details of the specified partner are displayed.

[-mirror-admin-status {enabled|disabled}] - Mirror Administrative Status

If this parameter is specified, only mirror details with the specified administrative status are displayed.

Examples

The following example shows the output of the command during normal operation (neither cluster is in switchover state):

```
clusA::> metrocluster interconnect mirror show
                             Mirror   Mirror
                     Partner Admin    Oper
     Node Partner Name Type   Status   Status Adapter Type   Status
     ---- ------------ ------- -------- ------- ------- ------ ------
     clusA-01
         clusA-02
                     HA      enabled  online
                                             cxgb3_0 iWARP  Up
                                             cxgb3_0 iWARP  Up
         clusB-01
                     DR      enabled  online
                                             fcvi_device_0
                                                     FC-VI  Up
                                             fcvi_device_1
                                                     FC-VI  Up
     clusA-02
         clusA-01
                     HA      enabled  online
                                             cxgb3_0 iWARP  Up
                                             cxgb3_0 iWARP  Up
         clusB-02
                     DR      enabled  online
                                             fcvi_device_0
                                                     FC-VI  Up
                                             fcvi_device_1
                                                     FC-VI  Up
```

The following example shows the output of the command after MetroCluster switchover is performed:

```
clusA::> metrocluster interconnect mirror show
                              Mirror   Mirror
                      Partner Admin    Oper
      Node Partner Name Type    Status   Status  Adapter Type    Status
      ---- ------------ ------- -------- ------- ------- ------ ------
      clusA-01
          clusA-02
                        HA      enabled  online
                                                 cxgb3_0 iWARP  Up
                                                 cxgb3_0 iWARP  Up
          clusB-01
                        DR      disabled offline
                                                 fcvi_device_0
                                                       FC-VI  Up
                                                 fcvi_device_1
                                                       FC-VI  Up
      clusA-02
          clusA-01
                        HA      enabled  online
                                                 cxgb3_0 iWARP  Up
                                                 cxgb3_0 iWARP  Up
          clusB-02
                        DR      disabled offline
                                                 fcvi_device_0
                                                       FC-VI  Up
                                                 fcvi_device_1
                                                       FC-VI  Up
```

metrocluster interconnect mirror multipath show

Display multipath information

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster interconnect mirror multipath show` command displays the NVRAM mirror multipath policy for the nodes configured in a MetroCluster.

This command displays the following details about the local node and the HA partner node:

  • Node: This field specifies the name of the node in the cluster.

  • Multipath Policy: This field specifies the multipath policy used for NVRAM mirroring.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-node {<nodename>|local}] - Node Name

If this parameter is specified, mirror details of the specified node are displayed.

[-multipath-policy {no-mp|static-map|dynamic-map|round-robin}] - Multipath Policy

If this parameter is specified, nodes with the specidifed multipath policy are displayed.

Examples

The following example shows the output of the command:

```
clusA::> metrocluster interconnect mirror multipath show
      Node             Multipath Policy
      --------------   ----------------
      clusA-1          static-map
      clusA-2          static-map
```

metrocluster node commands

metrocluster node show

Display MetroCluster node configuration information

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster node show` command displays configuration information for the nodes in the MetroCluster configuration.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-partners]

If this option is used the MetroCluster node partnership view will be displayed.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, all nodes belonging to the specified DR group are displayed.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, all nodes belonging to the specified cluster are displayed.

[-node <Node name>] - Node Name

If this parameter is specified, the specified node is displayed.

[-ha-partner <Node name>] - HA Partner Name

If this parameter is specified, the node with the specified HA partner is displayed.

[-dr-cluster <Cluster name>] - DR Cluster Name

If this parameter is specified, all nodes belonging to the specified cluster are displayed.

[-dr-partner <Node name>] - DR Partner Name

If this parameter is specified, the node with the specified DR partner is displayed.

[-dr-auxiliary <Node name>] - DR Auxiliary Name

If this parameter is specified, the node with the specified DR auxiliary partner is displayed.

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the node with the specified Uuid is displayed.

[-ha-partner-uuid <UUID>] - HA Partner UUID

If this parameter is specified, the nodes with the specified HA partner is displayed.

[-dr-partner-uuid <UUID>] - DR Partner UUID

If this parameter is specified, the node with the specified DR partner is displayed.

[-dr-auxiliary-uuid <UUID>] - DR Auxiliary UUID

If this parameter is specified, the node with the specified DR auxiliary partner is displayed.

[-node-cluster-uuid <UUID>] - Node Cluster UUID

If this parameter is specified, all nodes belonging to the specified cluster are displayed.

[-ha-partner-cluster-uuid <UUID>] - HA Partner Cluster UUID

If this parameter is specified, all nodes whose HA partner belong to the specified cluster are displayed.

[-dr-partner-cluster-uuid <UUID>] - DR Partner Cluster UUID

If this parameter is specified, all nodes whose DR partner belong to the specified cluster are displayed.

[-dr-auxiliary-cluster-uuid <UUID>] - DR Auxiliary Cluster UUID

If this parameter is specified, all nodes whose DR auxiliary partner belong to the specified cluster are displayed.

[-node-systemid <integer>] - Node System ID

If this parameter is specified, all nodes with the specified system ID are displayed.

[-ha-partner-systemid <integer>] - HA Partner System ID

If this parameter is specified, all nodes with an HA partner with the specified system ID are displayed.

[-dr-partner-systemid <integer>] - DR Partner System ID

If this parameter is specified, all nodes with a DR partner with the specified system ID are displayed.

[-dr-auxiliary-systemid <integer>] - DR Auxiliary System ID

If this parameter is specified, all nodes with a DR auxiliary partner with the specified system ID are displayed.

[-dr-mirroring-state <text>] - State of DR Mirroring Config

If this parameter is specified, all nodes with this field set to the specified value are displayed. This field specifies if the NVRAM mirroring to the DR partner is enabled through the metrocluster configure command. This field needs to be set to "enabled" for the DR mirroring to be active.

[-configuration-state <text>] - Configuration State of Node

If this parameter is specified, all nodes with this field set to the specified value are displayed.

[-additional-configuration-info <text>] - Additional Configuration Info

If this parameter is specified, all nodes with this field set to the specified value are displayed.

[-dr-operation-state <text>] - DR Operation State

If this parameter is specified, all nodes with this field set to the specified value are displayed.

[-dr-operation-time <integer>] - Time to Complete Operation (secs)

If this parameter is specified, all nodes with this field set to the specified value are displayed.

[-node-object-limit {on|off}] - Specifies if the Node Object Limits are Enforced

If this parameter is specified, all nodes with this field set to the specified value are displayed.

[-node-ha-partner <text>] - Node and its HA Partner

If this parameter is specified, all nodes with this field set to the specified value are displayed.

[-automatic-uso {true|false}] - Automatic USO (privilege: advanced)

If this parameter is specified, all nodes with this field set to the specified value are displayed.

Examples

The following example shows the output of the command before the MetroCluster configuration is done:

```
clusA::> metrocluster node show
      DR                                 Configuration  DR
      Group Cluster Node                 State          Mirroring Mode
      ----- ------- ------------------ -------------- ---------
--------------------
      -       clusA   clusA-01           ready to configure
                                                       -         -
                      clusA-02           ready to configure
                                                       -         -
                      clusA-03           ready to configure
                                                       -         -
                      clusA-04           ready to configure
                                                       -         -
      4 entries were displayed.
clusA::> metrocluster node show -partners
                              Node (HA Partner) DR Partner (DR Auxiliary)
      -----------------------------------------
-----------------------------------------
      Cluster:                            clusA -
                              clusA-01 (-) - (-)
                              clusA-02 (-) - (-)
                              clusA-03 (-) - (-)
                              clusA-04 (-) - (-)
      4 entries were displayed.
```

The following example shows the output of the command when some DR groups in the MetroCluster configuration are not yet configured:

```
clusA::> metrocluster node show
      DR                                Configuration  DR
      Group Cluster Node               State          Mirroring Mode
      ----- ------- ------------------ -------------- ---------
--------------------
      -     clusA   clusA-03           ready to configure
                                                       -         -
            clusA-04           ready to configure
                                                       -         -
      1     clusA   clusA-01           configured     enabled   normal
                    clusA-02           configured     enabled   normal
            clusB   clusB-01           configured     enabled   normal
                    clusB-02           configured     enabled   normal
      6 entries were displayed.
clusA::> metrocluster node show -partners
                            Node (HA Partner) DR Partner (DR Auxiliary)
      ----------------------------------------
----------------------------------------
      Cluster:                          clusA -
                      clusA-03 (-) - (-)
                      clusA-04 (-) - (-)
      Cluster:                          clusA clusB
                  clusA-01 (clusA-02) clusB-01 (clusB-02)
                  clusA-02 (clusA-01) clusB-02 (clusB-01)
      Cluster:                          clusB clusA
                  clusB-01 (clusB-02) clusA-01 (clusA-02)
                  clusB-02 (clusB-01) clusA-02 (clusA-01)
      6 entries were displayed.
```

The following example shows the output of the command after after all DR groups in the MetroCluster configuration are configured:

```
clusA::> metrocluster node show
      DR                                   Configuration  DR
      Group Cluster Node                   State          Mirroring Mode
      ----- ------- ------------------ -------------- ---------
--------------------
      1     clusA   clusA-01              configured     enabled   normal
                    clusA-02              configured     enabled   normal
            clusB   clusB-01              configured     enabled   normal
                    clusB-02              configured     enabled   normal
      2     clusA   clusA-03              configured     enabled   normal
                    clusA-04              configured     enabled   normal
            clusB   clusB-03              configured     enabled   normal
                    clusB-04              configured     enabled   normal
      8 entries were displayed.
clusA::> metrocluster node show -partners
                             Node (HA Partner) DR Partner (DR Auxiliary)
      ----------------------------------------
----------------------------------------
      Cluster:                          clusA clusB
                      clusA-01 (clusA-02) clusB-01 (clusB-02)
                      clusA-02 (clusA-01) clusB-02 (clusB-01)
      Cluster:                          clusB clusA
                      clusB-01 (clusB-02) clusA-01 (clusA-02)
                      clusB-02 (clusB-01) clusA-02 (clusA-01)
      Cluster:                          clusA clusB
                      clusA-03 (clusA-04) clusB-03 (clusB-04)
                      clusA-04 (clusA-03) clusB-04 (clusB-03)
      Cluster:                          clusB clusA
                      clusB-03 (clusB-04) clusA-03 (clusA-04)
                      clusB-04 (clusB-03) clusA-04 (clusA-03)
      8 entries were displayed.
```

Related Links

- metrocluster configure

metrocluster operation commands

metrocluster operation show

Display details of the last MetroCluster operation

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster operation show` command displays information about the most recent MetroCluster operation run on the local cluster.

This command will display information about all MetroCluster commands except for the commands in the `metrocluster check` directory. This command will not display any information after MetroCluster has been completely unconfigured using the `metrocluster unconfigure` command.

Examples

The following example shows the output of `metrocluster operation show` after running a metrocluster configure command was successful:

```
clusA::> metrocluster operation show
            Operation: configure
                State: successful
           Start time: 2/15/2013 18:22:46
             End time: 2/15/2013 18:25:18
               Errors: -
```

Related Links

- metrocluster configure

metrocluster operation history show

Display details of all MetroCluster operations

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster operation history show` command displays information about all the MetroCluster operations run on the local cluster.

This command will display information about all MetroCluster commands except for the commands in the `metrocluster check` directory. This command will not display any information after MetroCluster has been completely unconfigured using the `metrocluster unconfigure` command.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>, …` parameter, the command output also includes the specified field or fields. You can use '-fields ?' to display the fields to specify.

| [-instance] }

If you specify the `-instance` parameter, the command displays detailed information about all fields.

`[-operation-uuid <UUID>]` **- Identifier for the Operation**

This is the UUID of the operation. If this parameter is specified, only the operation with this UUID is displayed.

`[-cluster <Cluster name>]` **- Cluster Where the Command Was Run**

This is the name of the cluster where the command was run. If this parameter is specified, only the operations that were run in this cluster are displayed.

`[-node-name <Node name>]` **- Node Where the Command Was run**

This is the name of the node where the command was run. If this parameter is specificed, only the operations that were run on this node are displayed.

`[-operation <MetroCluster Operation Name>]` **- Name of the Operation**

This is the name of the operation. If this parameter is specificed, only the operations with this name are displayed.

`[-start-time <MM/DD/YYYY HH:MM:SS>]` **- Start Time**

This is the time the operation started execution. If this parameter is specificed, only the operations that were started at this time are displayed.

`[-state <MetroCluster Operation state>]` **- State of the Operation**

This is the state of the operation. If this parameter is specificed, only the operations that are in this state are displayed.

`[-end-time <MM/DD/YYYY HH:MM:SS>]` **- End Time**

This is the time the operation completed. If this parameter is specificed, only the operations that completed at this time are displayed.

`[-error-list <text>,…]` **- Error List For the Operation**

This is the list of errors that were encountered during an operation's execution. If this parameter is specificed, only the operations that have the matching errors are displayed.

`[-job-id <integer>]` **- Identifier for the Job**

This is the job id for the operation. If this parameter is specificed, only the operation that has the matching job id displayed.

`[-additional-info <text>]` **- Additional Info for Auto Heal**

This is the completion status of the auto heal aggregates and auto heal root aggregates phases when processing switchover with auto heal.

Examples

The following example shows the output of `metrocluster operation history show` after some MetroCluster operations have been performed:

```
clusA::> metrocluster operation history show
  Operation        State         Start time        End time
  --------------- ------------- ---------------- ------------------
  configure        successful    2/15/2013 18:22:46
                   2/15/2013 18:25:18
  configure        failed        2/15/2013 18:13:45
                   2/15/2013 18:13:45
  2 entries were displayed.
```

metrocluster vserver commands

metrocluster vserver recover-from-partial-switchback

Recover vservers from partial switchback

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster vserver recover-from-partial-switchback` command executes the necessary steps needed for a Vserver to be in healthy state after partial completion of the Switchback.

Parameters

Examples

```
cluster::> metrocluster vserver recover-from-partial-switchback
```

metrocluster vserver recover-from-partial-switchover

Recover vservers from partial switchover

Availability: This command is available to *cluster* administrators at the *advanced* privilege level.

Description

The `metrocluster vserver recover-from-partial-switchover` command executes the necessary steps needed for a Vserver to be in healthy state after partial completion of the Switchover.

Parameters

Examples

```
cluster::> metrocluster vserver recover-from-partial-switchover
```

metrocluster vserver resync

Resynchronize Vserver with its partner Vserver

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster vserver resync` command resynchronizes the Vserver with its partner Vserver

Parameters

`-cluster <Cluster name>` - Cluster Name

Name of the cluster where the Vserver belongs

`-vserver <vserver>` - Vserver

Name of the Vserver to be resynchronized

Examples

```
cluster::> metrocluster vserver resync -cluster clus1 -vserver vs1
```

metrocluster vserver show

Display MetroCluster Vserver relationships

Availability: This command is available to *cluster* administrators at the *admin* privilege level.

Description

The `metrocluster vserver show` command displays configuration information for all pairs of Vservers in MetroCluster.

Parameters

`{ [-fields <fieldname>,…]`

The command output includes the specified field or fields

`| [-creation-time ]` (privilege: advanced)

Shows the last configuration modification time on the Vserver

`| [-instance ] }`

If you specify the `-instance` parameter, the command displays detailed information about all fields.

`[-cluster <Cluster name>]` - Cluster Name

Name of the cluster where the Vserver belongs

`[-vserver <vserver>]` - Vserver

Name of the Vserver

[-partner-vserver \<vserver>] - Partner Vserver

    Name of the partner Vserver

[-configuration-state {healthy|unhealthy|degraded|pending-setup|syncing|replication-paused|pending-switchback}] - Configuration State

    Configuration states include:

- *healthy*
- *unhealthy*
- *degraded* indicates that Vservers are not in sync
- *syncing* indicates that the Vserver configuration is being synchronized
- *replication-paused* indicates that the configuration replication was manually paused
- *pending-setup* indicates that partner Vserver creation is pending

[-corrective-action \<text>] - Corrective Action

    Corrective action which can be followed to successfully create the partner Vserver

[-creation-time-of-last-applied-change \<MM/DD/YYYY HH:MM:SS>] - Creation Time on the source

    Last configuration modification time on the Vserver

[-out-of-sync \<true>] - Is out of sync

    Indicates that the Vserver configuration replication is not in sync

[-config-resume-time \<MM/DD/YYYY HH:MM:SS>] - configuration Resume Time

    Displays the resume time of the Vserver configuration replication

Examples

The following example shows the output of the command when partner Vservers are created

```
clusA::> metrocluster vserver show
Cluster: clusA
                                        Partner
Configuration
          Vserver                       Vserver
State
          ------------------            ----------------------
----------------
          clusA                         clusB
healthy
          vs1                           vs1-mc
healthy
Cluster: clusB
                                        Partner
Configuration
          Vserver                       Vserver
State
          ------------------            ----------------------
----------------
          clusB                         clusA
healthy
          3 entries were displayed.
```

The following example shows the output of the command when the partner Vserver creation is pending

```
clusA::> metrocluster vserver show
Cluster: clusA
                                        Partner
Configuration
          Vserver                       Vserver
State
          ------------------            ----------------------
----------------
          clusA                         clusB
healthy
          vs1                           -
pending-setup
          Corrective Action: Create Ipspace ips1 on the partner cluster.
      2 entries were displayed.
```