NetApp

metrocluster interconnect commands

Command reference

NetApp
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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.

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

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

| [-switch]

Displays details of switches connected to all the interconnect adapters.

| [-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 switchover 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 switchover 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 specified 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
```