Manage X1143A-R6 adapters

ONTAP 9

NetApp
April 18, 2023

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Supported port configurations for X1143A-R6 adapters overview

By default the X1143A-R6 adapter is configured in FC target mode, but you can configure its ports as either 10 Gb Ethernet and FCoE (CNA) ports or as 16 Gb FC initiator or target ports. This requires different SFP+ adapters.

When configured for Ethernet and FCoE, X1143A-R6 adapters support concurrent NIC and FCoE target traffic on the same 10-GBE port. When configured for FC, each two-port pair that shares the same ASIC can be individually configured for FC target or FC initiator mode. This means that a single X1143A-R6 adapter can support FC target mode on one two-port pair and FC initiator mode on another two-port pair. Port pairs connected to the same ASIC must be configured in the same mode.

In FC mode, the X1143A-R6 adapter behaves just like any existing FC device with speeds up to 16 Gbps. In CNA mode, you can use the X1143A-R6 adapter for concurrent NIC and FCoE traffic sharing the same 10 GbE port. CNA mode only supports FC target mode for the FCoE function.

Configure the ports

To configure the unified target adapter (X1143A-R6), you must configure the two adjacent ports on the same chip in the same personality mode.

Steps

1. Configure the ports as needed for Fibre Channel (FC) or Converged Network Adapter (CNA) using the `system node hardware unified-connect modify` command.
2. Attach the appropriate cables for FC or 10 Gb Ethernet.
3. Verify that you have the correct SFP+ installed:

   ```
   network fcp adapter show -instance -node -adapter
   ```

   For CNA, you should use a 10Gb Ethernet SFP. For FC, you should either use an 8 Gb SFP or a 16 Gb SFP, based on the FC fabric being connected to.

Change the UTA2 port from CNA mode to FC mode

You should change the UTA2 port from Converged Network Adapter (CNA) mode to Fibre Channel (FC) mode to support the FC initiator and FC target mode. You should change the personality from CNA mode to FC mode when you need to change the physical medium that connects the port to its network.

Steps

1. Take the adapter offline:

   ```
   network fcp adapter modify -node node_name -adapter adapter_name -status-admin
   down
   ```

2. Change the port mode:

   `ucadmin modify -node node_name -adapter adapter_name -mode fcp`

3. Reboot the node, and then bring the adapter online:

   `network fcp adapter modify -node node_name -adapter adapter_name -status-admin up`

4. Notify your admin or VIF manager to delete or remove the port, as applicable:

   - If the port is used as a home port of a LIF, is a member of an interface group (ifgrp), or hosts VLANs, then an admin should do the following:
     i. Move the LIFs, remove the port from the ifgrp, or delete the VLANs, respectively.
     ii. Manually delete the port by running the `network port delete` command.

     If the `network port delete` command fails, the admin should address the errors, and then run the command again.

   - If the port is not used as the home port of a LIF, is not a member of an ifgrp, and does not host VLANs, then the VIF manager should remove the port from its records at the time of reboot.

     If the VIF manager does not remove the port, then the admin must remove it manually after the reboot by using the `network port delete` command.

```
net-f8040-34::> network port show

    Node: net-f8040-34-01
                                                          Speed(Mbps) Health
    Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
    --------- ------------ ---------------- ---- ---- -----------
--------
    ...
    e0i       Default      Default          down 1500  auto/10     -
    e0f       Default      Default          down 1500  auto/10     -
    ...

    net-f8040-34::> ucadmin show
                           Current  Current    Pending  Pending    Admin
    Node          Adapter  Mode     Type       Mode     Type
Status
    ------------  -------  -------  ---------  -------  ---------
-----------
    net-f8040-34-01
                  0e       cna      target     -        -
offline
    net-f8040-34-01
                  0f       cna      target     -        -
```

```
offline
    ...

    net-f8040-34::> network interface create -vs net-f8040-34 -lif m
-role
node-mgmt-home-node net-f8040-34-01 -home-port e0e -address 10.1.1.1
-netmask 255.255.255.0


    net-f8040-34::> network interface show -fields home-port, curr-port

    vserver lif                  home-port curr-port
    ------- -------------------- --------- ---------
    Cluster net-f8040-34-01_clus1 e0a       e0a
    Cluster net-f8040-34-01_clus2 e0b       e0b
    Cluster net-f8040-34-01_clus3 e0c       e0c
    Cluster net-f8040-34-01_clus4 e0d       e0d
    net-f8040-34
            cluster_mgmt         e0M       e0M
    net-f8040-34
            m                    e0e       e0i
    net-f8040-34
            net-f8040-34-01_mgmt1 e0M       e0M
    7 entries were displayed.

    net-f8040-34::> ucadmin modify local 0e fc

    Warning: Mode on adapter 0e and also adapter 0f will be changed to
fc.
    Do you want to continue? {y|n}: y
    Any changes will take effect after rebooting the system. Use the
"system node reboot" command to reboot.

    net-f8040-34::> reboot local
      (system node reboot)

    Warning: Are you sure you want to reboot node "net-f8040-34-01"?
    {y|n}: y
```

5. Verify that you have the correct SFP+ installed:

   `network fcp adapter show -instance -node -adapter`

   For CNA, you should use a 10Gb Ethernet SFP. For FC, you should either use an 8 Gb SFP or a 16 Gb SFP, before changing the configuration on the node.

Change the CNA/UTA2 target adapter optical modules

You should change the optical modules on the unified target adapter (CNA/UTA2) to support the personality mode you have selected for the adapter.

Steps

1. Verify the current SFP+ used in the card. Then, replace the current SFP+ with the appropriate SFP+ for the preferred personality (FC or CNA).
2. Remove the current optical modules from the X1143A-R6 adapter.
3. Insert the correct modules for your preferred personality mode (FC or CNA) optics.
4. Verify that you have the correct SFP+ installed:

   ```
   network fcp adapter show -instance -node -adapter
   ```

   Supported SFP+ modules and Cisco-branded Copper (Twinax) cables are listed in the NetApp Hardware Universe.

View adapter settings

To view the settings for your unified target adapter (X1143A-R6), you must run the `system hardware unified-connect show` command to display all modules on your controller.

Steps

1. Boot your controller without the cables attached.
2. Run the `system hardware unified-connect show` command to see the port configuration and modules.
3. View the port information before configuring the CNA and ports.

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