NetApp

Replace Cisco Nexus 3132Q-V cluster switches

ONTAP Systems Switches

NetApp
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Table of Contents

Replace Cisco Nexus 3132Q-V cluster switches

You must be aware of certain configuration information, port connections and cabling requirements when you replace Cisco Nexus 3132Q-V cluster switches.

- The Cisco Nexus 3132Q-V cluster switch is supported.

- The number of 10 GbE and 40/100 GbE ports are defined in the reference configuration files (RCFs) available on the Cisco® Cluster Network Switch Reference Configuration File Download page.

- The cluster switches use the Inter-Switch Link (ISL) ports e1/31-32.

- The Hardware Universe contains information about supported cabling to Nexus 3132Q-V switches:

  ◦ The nodes with 10 GbE cluster connections require QSFP optical modules with breakout fiber cables or QSFP to SFP+ copper break-out cables.

  ◦ The nodes with 40/100 GbE cluster connections require supported QSFP/QSFP28 optical modules with fiber cables or QSFP/QSFP28 copper direct-attach cables.

  ◦ The cluster switches use the appropriate ISL cabling: 2x QSFP28 fiber or copper direct-attach cables.

- On Nexus 3132Q-V, you can operate QSFP ports as either 40/100 Gb Ethernet or 4 x10 Gb Ethernet modes.

  By default, there are 32 ports in the 40/100 Gb Ethernet mode. These 40 Gb Ethernet ports are numbered in a 2-tuple naming convention. For example, the second 40 Gb Ethernet port is numbered as 1/2. The process of changing the configuration from 40 Gb Ethernet to 10 Gb Ethernet is called *breakout* and the process of changing the configuration from 10 Gb Ethernet to 40 Gb Ethernet is called *breakin*. When you break out a 40/100 Gb Ethernet port into 10 Gb Ethernet ports, the resulting ports are numbered using a 3-tuple naming convention. For example, the breakout ports of the second 40/100 Gb Ethernet port are numbered as 1/2/1, 1/2/2, 1/2/3, 1/2/4.

- On the left side of Nexus 3132Q-V is a set of four SFP+ ports multiplexed to the first QSFP port.

  By default, the RCF is structured to use the first QSFP port.

  You can make four SFP+ ports active instead of a QSFP port for Nexus 3132Q-V by using the `hardware profile front portmode sfp-plus` command. Similarly, you can reset Nexus 3132Q-V to use a QSFP port instead of four SFP+ ports by using the `hardware profile front portmode qsfp` command.

- You must have configured some of the ports on Nexus 3132Q-V to run at 10 GbE or 40/100 GbE.

  You can break-out the first six ports into 4x10 GbE mode by using the `interface breakout module 1 port 1-6 map 10g-4x` command. Similarly, you can regroup the first six QSFP+ ports from breakout configuration by using the `no interface breakout module 1 port 1-6 map 10g-4x` command.

- You must have done the planning, migration, and read the required documentation on 10 GbE and 40/100 GbE connectivity from nodes to Nexus 3132Q-V cluster switches.

  The Cisco Ethernet Switches page has information about the ONTAP and NX-OS versions supported in this procedure.

How to replace Cisco Nexus 3132Q-V cluster switches

Replacing a defective Cisco Nexus 3132Q-V switch in a cluster network is a nondisruptive procedure (NDO), and you must perform a specific sequence of tasks.

Before you begin

- The existing cluster and network configuration must have:

  - The Nexus 3132Q-V cluster infrastructure must be redundant and fully functional on both switches.

    The Cisco Ethernet Switch page has the latest RCF and NX-OS versions on your switches.

  - All cluster ports must be in the up state.

  - Management connectivity must exist on both switches.

  - All cluster logical interfaces (LIFs) must be in the up state and must not have been migrated.

- The Nexus 3132Q-V replacement switch:

  - Management network connectivity on the replacement switch must be functional.

  - Console access to the replacement switch must be in place.

  - The desired RCF and NX-OS operating system image switch must be loaded onto the switch.

  - Initial customization of the switch must be complete.

About this task

This procedure replaces the second Nexus 3132Q-V cluster switch CL2 with new 3132Q-V switch C2. The examples in this procedure use the following switch and node nomenclature:

- n1_clus1 is the first cluster logical interface (LIF) connected to cluster switch C1 for node n1.

- n1_clus2 is the first cluster LIF connected to cluster switch CL2 or C2, for node n1.

- n1_clus3 is the second LIF connected to cluster switch C2, for node n1.

- n1_clus4 is the second LIF connected to cluster switch CL1, for node n1.

- The number of 10 GbE and 40/100 GbE ports are defined in the reference configuration files (RCFs) available on the Cisco® Cluster Network Switch Reference Configuration File Download page.

- The nodes are n1, n2, n3, and n4. - The examples in this procedure use four nodes: Two nodes use four 10 GB cluster interconnect ports: e0a, e0b, e0c, and e0d. The other two nodes use two 40 GB cluster interconnect ports: e4a and e4e. See the Hardware Universe for the actual cluster ports on your platforms.

This procedure covers the following scenario:

- The cluster starts with four nodes connected to two Nexus 3132Q-V cluster switches, CL1 and CL2.

- Cluster switch CL2 is to be replaced by C2 (Steps 1 -21)

  - On each node, cluster LIFs connected to CL2 are migrated onto cluster ports connected to CL1.

  - Disconnect cabling from all ports on CL2 and reconnect cabling to the same ports on the replacement switch C2.

  - On each node, its migrated cluster LIFs are reverted.

Steps

1. If AutoSupport is enabled on this cluster, suppress automatic case creation by invoking an AutoSupport

message:

```
system node autosupport invoke -node * -type all - message MAINT=xh
```

x is the duration of the maintenance window in hours.

> (i) The AutoSupport message notifies technical support of this maintenance task so that automatic case creation is suppressed during the maintenance window.

2. Display information about the devices in your configuration:

```
network device-discovery show
```

```
cluster::> network device-discovery show
            Local  Discovered
Node        Port   Device                  Interface        Platform
----------- ------ -------------------- ----------------
---------------
n1          /cdp
            e0a    CL1                     Ethernet1/1/1    N3K-C3132Q-V
            e0b    CL2                     Ethernet1/1/1    N3K-C3132Q-V
            e0c    CL2                     Ethernet1/1/2    N3K-C3132Q-V
            e0d    CL1                     Ethernet1/1/2    N3K-C3132Q-V
n2          /cdp
            e0a    CL1                     Ethernet1/1/3    N3K-C3132Q-V
            e0b    CL2                     Ethernet1/1/3    N3K-C3132Q-V
            e0c    CL2                     Ethernet1/1/4    N3K-C3132Q-V
            e0d    CL1                     Ethernet1/1/4    N3K-C3132Q-V
n3          /cdp
            e4a    CL1                     Ethernet1/7      N3K-C3132Q-V
            e4e    CL2                     Ethernet1/7      N3K-C3132Q-V
n4          /cdp
            e4a    CL1                     Ethernet1/8      N3K-C3132Q-V
            e4e    CL2                     Ethernet1/8      N3K-C3132Q-V

12 entries were displayed
```

3. Determine the administrative or operational status for each cluster interface:

   a. Display the network port attributes:

   ```
   network port show
   ```

   ```
   cluster::*> network port show -role cluster
           (network port show)

   Node: n1
   ```

```
Ignore
                                                           Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e0a       Cluster      Cluster          up   9000 auto/10000  -
-
e0b       Cluster      Cluster          up   9000 auto/10000  -
-
e0c       Cluster      Cluster          up   9000 auto/10000  -
-
e0d       Cluster      Cluster          up   9000 auto/10000  -
-

Node: n2

Ignore
                                                           Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e0a       Cluster      Cluster          up   9000  auto/10000 -
-
e0b       Cluster      Cluster          up   9000  auto/10000 -
-
e0c       Cluster      Cluster          up   9000  auto/10000 -
-
e0d       Cluster      Cluster          up   9000  auto/10000 -
-

Node: n3

Ignore
                                                           Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e4a       Cluster      Cluster          up   9000 auto/40000  -
-
```

```
e4e        Cluster      Cluster            up    9000 auto/40000  -
-

Node: n4

Ignore
                                                  Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e4a        Cluster      Cluster            up    9000 auto/40000  -
-
e4e        Cluster      Cluster            up    9000 auto/40000  -
-
12 entries were displayed.
```

b. Display information about the logical interfaces:

```
network interface show
```

```
cluster::*> network interface show -role cluster
        (network interface show)

             Logical    Status     Network                  Current
Current Is
Vserver      Interface  Admin/Oper Address/Mask             Node
Port     Home
----------- ---------- ---------- ------------------ -------------
------- ----
Cluster
             n1_clus1   up/up      10.10.0.1/24             n1
e0a      true
             n1_clus2   up/up      10.10.0.2/24             n1
e0b      true
             n1_clus3   up/up      10.10.0.3/24             n1
e0c      true
             n1_clus4   up/up      10.10.0.4/24             n1
e0d      true
             n2_clus1   up/up      10.10.0.5/24             n2
e0a      true
             n2_clus2   up/up      10.10.0.6/24             n2
e0b      true
             n2_clus3   up/up      10.10.0.7/24             n2
e0c      true
             n2_clus4   up/up      10.10.0.8/24             n2
e0d      true
             n3_clus1   up/up      10.10.0.9/24             n3
e0a      true
             n3_clus2   up/up      10.10.0.10/24            n3
e0e      true
             n4_clus1   up/up      10.10.0.11/24            n4
e0a      true
             n4_clus2   up/up      10.10.0.12/24            n4
e0e      true

12 entries were displayed.
```

c. Display the information on the discovered cluster switches:

```
system cluster-switch show
```

```
cluster::> system cluster-switch show

Switch                            Type                Address          Model
--------------------------- ------------------ -----------------
---------------
CL1                                cluster-network    10.10.1.101
NX3132V
       Serial Number: FOX000001
        Is Monitored: true
               Reason:
     Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                      7.0(3)I4(1)
       Version Source: CDP

CL2                                cluster-network    10.10.1.102
NX3132V
       Serial Number: FOX000002
        Is Monitored: true
               Reason:
     Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                      7.0(3)I4(1)
       Version Source: CDP

2 entries were displayed.
```

4. Verify that the appropriate RCF and image are installed on the new Nexus 3132Q-V switch as necessary for your requirements, and make any essential site customizations.

   You must prepare the replacement switch at this time. If you need to upgrade the RCF and image, you must follow these steps:

   a. On the NetApp Support Site, go to the Cisco Ethernet Switch page.

   b. Note your switch and the required software versions in the table on that page.

   c. Download the appropriate version of the RCF.

   d. Click **CONTINUE** on the **Description** page, accept the license agreement, and then follow the instructions on the **Download** page to download the RCF.

   e. Download the appropriate version of the image software.

5. Migrate the LIFs associated to the cluster ports connected to switch C2:

   `network interface migrate`

   This example shows that the LIF migration is done on all the nodes:

```
cluster::*> network interface migrate -vserver Cluster -lif n1_clus2
-source-node n1 -destination-node n1 -destination-port e0a
cluster::*> network interface migrate -vserver Cluster -lif n1_clus3
-source-node n1 -destination-node n1 -destination-port e0d
cluster::*> network interface migrate -vserver Cluster -lif n2_clus2
-source-node n2 -destination-node n2 -destination-port e0a
cluster::*> network interface migrate -vserver Cluster -lif n2_clus3
-source-node n2 -destination-node n2 -destination-port e0d
cluster::*> network interface migrate -vserver Cluster -lif n3_clus2
-source-node n3 -destination-node n3 -destination-port e4a
cluster::*> network interface migrate -vserver Cluster -lif n4_clus2
-source-node n4 -destination-node n4 -destination-port e4a
```

6. Verify cluster's health:

```
network interface show
```

```
cluster::*> network interface show -role cluster
        (network interface show)

          Logical    Status     Network          Current
Current Is
Vserver     Interface  Admin/Oper Address/Mask    Node          Port
Home
----------- ---------- ---------- ------------------ -------------
------- ----
Cluster
          n1_clus1   up/up      10.10.0.1/24     n1            e0a
true
          n1_clus2   up/up      10.10.0.2/24     n1            e0a
false
          n1_clus3   up/up      10.10.0.3/24     n1            e0d
false
          n1_clus4   up/up      10.10.0.4/24     n1            e0d
true
          n2_clus1   up/up      10.10.0.5/24     n2            e0a
true
          n2_clus2   up/up      10.10.0.6/24     n2            e0a
false
          n2_clus3   up/up      10.10.0.7/24     n2            e0d
false
          n2_clus4   up/up      10.10.0.8/24     n2            e0d
true
          n3_clus1   up/up      10.10.0.9/24     n3            e4a
true
          n3_clus2   up/up      10.10.0.10/24    n3            e4a
false
          n4_clus1   up/up      10.10.0.11/24    n4            e4a
true
          n4_clus2   up/up      10.10.0.12/24    n4            e4a
false
12 entries were displayed.
```

7. Shut down the cluster interconnect ports that are physically connected to switch CL2:

```
network port modify
```

This example shows the specified ports being shut down on all nodes:

```
cluster::*> network port modify -node n1 -port e0b -up-admin false
cluster::*> network port modify -node n1 -port e0c -up-admin false
cluster::*> network port modify -node n2 -port e0b -up-admin false
cluster::*> network port modify -node n2 -port e0c -up-admin false
cluster::*> network port modify -node n3 -port e4e -up-admin false
cluster::*> network port modify -node n4 -port e4e -up-admin false
```

8. Ping the remote cluster interfaces and perform an RPC server check:

```
cluster ping-cluster
```

```
cluster::*> cluster ping-cluster -node n1
Host is n1
Getting addresses from network interface table...
Cluster n1_clus1 n1     e0a 10.10.0.1
Cluster n1_clus2 n1     e0b 10.10.0.2
Cluster n1_clus3 n1     e0c 10.10.0.3
Cluster n1_clus4 n1     e0d 10.10.0.4
Cluster n2_clus1 n2     e0a 10.10.0.5
Cluster n2_clus2 n2     e0b 10.10.0.6
Cluster n2_clus3 n2     e0c 10.10.0.7
Cluster n2_clus4 n2     e0d 10.10.0.8
Cluster n3_clus1 n4     e0a 10.10.0.9
Cluster n3_clus2 n3     e0e 10.10.0.10
Cluster n4_clus1 n4     e0a 10.10.0.11
Cluster n4_clus2 n4     e0e 10.10.0.12

Local = 10.10.0.1 10.10.0.2 10.10.0.3 10.10.0.4
Remote = 10.10.0.5 10.10.0.6 10.10.0.7 10.10.0.8 10.10.0.9 10.10.0.10
10.10.0.11 10.10.0.12
Cluster Vserver Id = 4294967293
Ping status:
....
Basic connectivity succeeds on 32 path(s)
Basic connectivity fails on 0 path(s)
...............
Detected 1500 byte MTU on 32 path(s):
    Local 10.10.0.1 to Remote 10.10.0.5
    Local 10.10.0.1 to Remote 10.10.0.6
    Local 10.10.0.1 to Remote 10.10.0.7
    Local 10.10.0.1 to Remote 10.10.0.8
    Local 10.10.0.1 to Remote 10.10.0.9
    Local 10.10.0.1 to Remote 10.10.0.10
    Local 10.10.0.1 to Remote 10.10.0.11
    Local 10.10.0.1 to Remote 10.10.0.12
```

```
      Local 10.10.0.2 to Remote 10.10.0.5
      Local 10.10.0.2 to Remote 10.10.0.6
      Local 10.10.0.2 to Remote 10.10.0.7
      Local 10.10.0.2 to Remote 10.10.0.8
      Local 10.10.0.2 to Remote 10.10.0.9
      Local 10.10.0.2 to Remote 10.10.0.10
      Local 10.10.0.2 to Remote 10.10.0.11
      Local 10.10.0.2 to Remote 10.10.0.12
      Local 10.10.0.3 to Remote 10.10.0.5
      Local 10.10.0.3 to Remote 10.10.0.6
      Local 10.10.0.3 to Remote 10.10.0.7
      Local 10.10.0.3 to Remote 10.10.0.8
      Local 10.10.0.3 to Remote 10.10.0.9
      Local 10.10.0.3 to Remote 10.10.0.10
      Local 10.10.0.3 to Remote 10.10.0.11
      Local 10.10.0.3 to Remote 10.10.0.12
      Local 10.10.0.4 to Remote 10.10.0.5
      Local 10.10.0.4 to Remote 10.10.0.6
      Local 10.10.0.4 to Remote 10.10.0.7
      Local 10.10.0.4 to Remote 10.10.0.8
      Local 10.10.0.4 to Remote 10.10.0.9
      Local 10.10.0.4 to Remote 10.10.0.10
      Local 10.10.0.4 to Remote 10.10.0.11
      Local 10.10.0.4 to Remote 10.10.0.12

 Larger than PMTU communication succeeds on 32 path(s)
 RPC status:
 8 paths up, 0 paths down (tcp check)
 8 paths up, 0 paths down (udp check)
```

9. Shut down the ports 1/31 and 1/32 on CL1, and the active Nexus 3132Q-V switch:

```
shutdown
```

This example shows the ISL ports 1/31 and 1/32 being shut down on switch CL1:

```
(CL1)# configure
(CL1)(Config)# interface e1/31-32
(CL1(config-if-range)# shutdown
(CL1(config-if-range)# exit
(CL1)(Config)# exit
(CL1)#
```

10. Remove all the cables attached to the Nexus 3132Q-V switch CL2 and reconnect them to the replacement switch C2 on all nodes.

11. Remove the ISL cables from ports e1/31 and e1/32 on CL2 and reconnect them to the same ports on the replacement switch C2.

12. Bring up ISLs ports 1/31 and 1/32 on the Nexus 3132Q-V switch CL1.

```
(CL1)# configure
(CL1)(Config)# interface e1/31-32
(CL1(config-if-range)# no shutdown
(CL1(config-if-range)# exit
(CL1)(Config)# exit
(CL1)#
```

13. Verify that the ISLs are up on CL1:

```
show port-channel
```

Ports Eth1/31 and Eth1/32 should indicate (P), which means that the ISL ports are up in the port-channel.

```
CL1# show port-channel summary
Flags: D - Down         P - Up in port-channel (members)
       I - Individual   H - Hot-standby (LACP only)
       s - Suspended    r - Module-removed
       S - Switched     R - Routed
       U - Up (port-channel)
       M - Not in use. Min-links not met
--------------------------------------------------------------------------------
Group Port-        Type   Protocol  Member                          Ports
      Channel
--------------------------------------------------------------------------------
1     Po1(SU)      Eth    LACP      Eth1/31(P)    Eth1/32(P)
```

14. Verify that the ISLs are up on C2:

```
show port-channel summary
```

Ports Eth1/31 and Eth1/32 should indicate (P), which means that both ISL ports are up in the port-channel.

```
C2# show port-channel summary
Flags: D - Down          P - Up in port-channel (members)
       I - Individual    H - Hot-standby (LACP only)
       s - Suspended     r - Module-removed
       S - Switched      R - Routed
       U - Up (port-channel)
       M - Not in use. Min-links not met
--------------------------------------------------------------------------
--------
Group Port-          Type    Protocol  Member Ports
      Channel
--------------------------------------------------------------------------
--------
1     Po1(SU)        Eth     LACP      Eth1/31(P)   Eth1/32(P)
```

15. On all nodes, bring up all the cluster interconnect ports connected to the Nexus 3132Q-V switch C2:
    `network port modify`

```
cluster::*> network port modify -node n1 -port e0b -up-admin true
cluster::*> network port modify -node n1 -port e0c -up-admin true
cluster::*> network port modify -node n2 -port e0b -up-admin true
cluster::*> network port modify -node n2 -port e0c -up-admin true
cluster::*> network port modify -node n3 -port e4e -up-admin true
cluster::*> network port modify -node n4 -port e4e -up-admin true
```

16. For all nodes, revert all of the migrated cluster interconnect LIFs:

    `network interface revert`

```
cluster::*> network interface revert -vserver Cluster -lif n1_clus2
cluster::*> network interface revert -vserver Cluster -lif n1_clus3
cluster::*> network interface revert -vserver Cluster -lif n2_clus2
cluster::*> network interface revert -vserver Cluster -lif n2_clus3
Cluster::*> network interface revert -vserver Cluster -lif n3_clus2
Cluster::*> network interface revert -vserver Cluster -lif n4_clus2
```

17. Verify that the cluster interconnect ports are now reverted to their home:

    `network interface show`

    This example shows that all the LIFs are successfully reverted because the ports listed under the `Current Port` column have a status of `true` in the `Is Home` column. If the `Is Home` column value is `false`, the LIF has not been reverted.

```
cluster::*> network interface show -role cluster
  (network interface show)
           Logical      Status      Network                   Current
Current Is
Vserver      Interface  Admin/Oper  Address/Mask              Node         Port
Home
----------- ---------- ---------- ----------------- -------------
------- ----
Cluster
           n1_clus1   up/up        10.10.0.1/24            n1                  e0a
true
           n1_clus2   up/up        10.10.0.2/24            n1                  e0b
true
           n1_clus3   up/up        10.10.0.3/24            n1                  e0c
true
           n1_clus4   up/up        10.10.0.4/24            n1                  e0d
true
           n2_clus1   up/up        10.10.0.5/24            n2                  e0a
true
           n2_clus2   up/up        10.10.0.6/24            n2                  e0b
true
           n2_clus3   up/up        10.10.0.7/24            n2                  e0c
true
           n2_clus4   up/up        10.10.0.8/24            n2                  e0d
true
           n3_clus1   up/up        10.10.0.9/24            n3                  e4a
true
           n3_clus2   up/up        10.10.0.10/24           n3                  e4e
true
           n4_clus1   up/up        10.10.0.11/24           n4                  e4a
true
           n4_clus2   up/up        10.10.0.12/24           n4                  e4e
true
12 entries were displayed.
```

18. Verify that the cluster ports are connected:

network port show

```
cluster::*> network port show -role cluster
   (network port show)
Node: n1

Ignore
                                                  Speed(Mbps) Health
```

```
                                                      Ignore
                                        Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- ----------- --------
------
e0a       Cluster      Cluster          up   9000 auto/10000  -          -
e0b       Cluster      Cluster          up   9000 auto/10000  -          -
e0c       Cluster      Cluster          up   9000 auto/10000  -          -
e0d       Cluster      Cluster          up   9000 auto/10000  -          -

Node: n2

  Ignore

                                        Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- ----------- --------
------
e0a       Cluster      Cluster          up   9000  auto/10000 -          -
e0b       Cluster      Cluster          up   9000  auto/10000 -          -
e0c       Cluster      Cluster          up   9000  auto/10000 -          -
e0d       Cluster      Cluster          up   9000  auto/10000 -          -

Node: n3

  Ignore

                                        Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- ----------- --------
------
e4a       Cluster      Cluster          up   9000 auto/40000  -          -
e4e       Cluster      Cluster          up   9000 auto/40000  -          -

Node: n4

  Ignore

                                        Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- ----------- --------
------
e4a       Cluster      Cluster          up   9000 auto/40000  -          -
```

```
e4e       Cluster       Cluster          up   9000 auto/40000  -        -
12 entries were displayed.
```

19. Ping the remote cluster interfaces and perform an RPC server check:

cluster ping-cluster

```
cluster::*> cluster ping-cluster -node n1
Host is n1
Getting addresses from network interface table...
Cluster n1_clus1 n1     e0a 10.10.0.1
Cluster n1_clus2 n1     e0b 10.10.0.2
Cluster n1_clus3 n1     e0c 10.10.0.3
Cluster n1_clus4 n1     e0d 10.10.0.4
Cluster n2_clus1 n2     e0a 10.10.0.5
Cluster n2_clus2 n2     e0b 10.10.0.6
Cluster n2_clus3 n2     e0c 10.10.0.7
Cluster n2_clus4 n2     e0d 10.10.0.8
Cluster n3_clus1 n3     e0a 10.10.0.9
Cluster n3_clus2 n3     e0e 10.10.0.10
Cluster n4_clus1 n4     e0a 10.10.0.11
Cluster n4_clus2 n4     e0e 10.10.0.12

Local = 10.10.0.1 10.10.0.2 10.10.0.3 10.10.0.4
Remote = 10.10.0.5 10.10.0.6 10.10.0.7 10.10.0.8 10.10.0.9 10.10.0.10
10.10.0.11 10.10.0.12
Cluster Vserver Id = 4294967293
Ping status:
....
Basic connectivity succeeds on 32 path(s)
Basic connectivity fails on 0 path(s)
...............
Detected 1500 byte MTU on 32 path(s):
    Local 10.10.0.1 to Remote 10.10.0.5
    Local 10.10.0.1 to Remote 10.10.0.6
    Local 10.10.0.1 to Remote 10.10.0.7
    Local 10.10.0.1 to Remote 10.10.0.8
    Local 10.10.0.1 to Remote 10.10.0.9
    Local 10.10.0.1 to Remote 10.10.0.10
    Local 10.10.0.1 to Remote 10.10.0.11
    Local 10.10.0.1 to Remote 10.10.0.12
    Local 10.10.0.2 to Remote 10.10.0.5
    Local 10.10.0.2 to Remote 10.10.0.6
    Local 10.10.0.2 to Remote 10.10.0.7
    Local 10.10.0.2 to Remote 10.10.0.8
    Local 10.10.0.2 to Remote 10.10.0.9
```

```
     Local 10.10.0.2 to Remote 10.10.0.10
     Local 10.10.0.2 to Remote 10.10.0.11
     Local 10.10.0.2 to Remote 10.10.0.12
     Local 10.10.0.3 to Remote 10.10.0.5
     Local 10.10.0.3 to Remote 10.10.0.6
     Local 10.10.0.3 to Remote 10.10.0.7
     Local 10.10.0.3 to Remote 10.10.0.8
     Local 10.10.0.3 to Remote 10.10.0.9
     Local 10.10.0.3 to Remote 10.10.0.10
     Local 10.10.0.3 to Remote 10.10.0.11
     Local 10.10.0.3 to Remote 10.10.0.12
     Local 10.10.0.4 to Remote 10.10.0.5
     Local 10.10.0.4 to Remote 10.10.0.6
     Local 10.10.0.4 to Remote 10.10.0.7
     Local 10.10.0.4 to Remote 10.10.0.8
     Local 10.10.0.4 to Remote 10.10.0.9
     Local 10.10.0.4 to Remote 10.10.0.10
     Local 10.10.0.4 to Remote 10.10.0.11
     Local 10.10.0.4 to Remote 10.10.0.12

Larger than PMTU communication succeeds on 32 path(s)
RPC status:
8 paths up, 0 paths down (tcp check)
8 paths up, 0 paths down (udp check)
```

20. Display the information about the devices in your configuration:

  ° `network device-discovery show`

  ° `network port show -role cluster`

  ° `network interface show -role cluster`

  ° `system cluster-switch show`

```
cluster::> network device-discovery show
            Local   Discovered
Node        Port    Device              Interface        Platform
----------- ------  ------------------  ---------------  ----------------
n1          /cdp
            e0a     C1                  Ethernet1/1/1    N3K-C3132Q-V
            e0b     C2                  Ethernet1/1/1    N3K-C3132Q-V
            e0c     C2                  Ethernet1/1/2    N3K-C3132Q-V
            e0d     C1                  Ethernet1/1/2    N3K-C3132Q-V
n2          /cdp
            e0a     C1                  Ethernet1/1/3    N3K-C3132Q-V
            e0b     C2                  Ethernet1/1/3    N3K-C3132Q-V
            e0c     C2                  Ethernet1/1/4    N3K-C3132Q-V
            e0d     C1                  Ethernet1/1/4    N3K-C3132Q-V
n3          /cdp
            e4a     C1                  Ethernet1/7      N3K-C3132Q-V
            e4e     C2                  Ethernet1/7      N3K-C3132Q-V
n4          /cdp
            e4a     C1                  Ethernet1/8      N3K-C3132Q-V
            e4e     C2                  Ethernet1/8      N3K-C3132Q-V
12 entries were displayed.
```

```
cluster::*> network port show -role cluster
   (network port show)
Node: n1

Ignore
                                                  Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- -----------  --------------- ---- ---- -----------
-------- ------
e0a       Cluster      Cluster          up   9000 auto/10000  -
-
e0b       Cluster      Cluster          up   9000 auto/10000  -
-
e0c       Cluster      Cluster          up   9000 auto/10000  -
-
e0d       Cluster      Cluster          up   9000 auto/10000  -
-

Node: n2
```

```
Ignore
                                               Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e0a       Cluster      Cluster          up   9000  auto/10000 -
-
e0b       Cluster      Cluster          up   9000  auto/10000 -
-
e0c       Cluster      Cluster          up   9000  auto/10000 -
-
e0d       Cluster      Cluster          up   9000  auto/10000 -
-

Node: n3

Ignore
                                               Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e4a       Cluster      Cluster          up   9000 auto/40000  -
-
e4e       Cluster      Cluster          up   9000 auto/40000  -
-

Node: n4

Ignore
                                               Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e4a       Cluster      Cluster          up   9000 auto/40000  -
-
e4e       Cluster      Cluster          up   9000 auto/40000  -
-
12 entries were displayed.
```

```
cluster::*> network interface show -role cluster
  (network interface show)
          Logical     Status     Network                 Current
Current Is
Vserver     Interface  Admin/Oper Address/Mask            Node
Port     Home
----------- ---------- ---------- ----------------- -------------
------- ----
Cluster
          n1_clus1   up/up      10.10.0.1/24            n1
e0a     true
          n1_clus2   up/up      10.10.0.2/24            n1
e0b     true
          n1_clus3   up/up      10.10.0.3/24            n1
e0c     true
          n1_clus4   up/up      10.10.0.4/24            n1
e0d     true
          n2_clus1   up/up      10.10.0.5/24            n2
e0a     true
          n2_clus2   up/up      10.10.0.6/24            n2
e0b     true
          n2_clus3   up/up      10.10.0.7/24            n2
e0c     true
          n2_clus4   up/up      10.10.0.8/24            n2
e0d     true
          n3_clus1   up/up      10.10.0.9/24            n3
e4a     true
          n3_clus2   up/up      10.10.0.10/24           n3
e4e     true
          n4_clus1   up/up      10.10.0.11/24           n4
e4a     true
          n4_clus2   up/up      10.10.0.12/24           n4
e4e     true
12 entries were displayed.
```

```
cluster::*> system cluster-switch show

Switch                          Type              Address          Model
--------------------------- ----------------- -----------------
---------------
CL1                             cluster-network   10.10.1.101      NX3132V
        Serial Number: FOX000001
         Is Monitored: true
               Reason:
      Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                        7.0(3)I4(1)
        Version Source: CDP

CL2                             cluster-network   10.10.1.102      NX3132V
        Serial Number: FOX000002
         Is Monitored: true
               Reason:
      Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                        7.0(3)I4(1)
        Version Source: CDP
C2                              cluster-network   10.10.1.103      NX3132V
        Serial Number: FOX000003
         Is Monitored: true
               Reason:
      Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                        7.0(3)I4(1)
        Version Source: CDP

3 entries were displayed.
```

21. Remove the replaced Nexus 3132Q-V switch, if it is not already removed automatically:

```
system cluster-switch delete
```

```
cluster::*> system cluster-switch delete –device CL2
```

22. Verify that the proper cluster switches are monitored:

```
system cluster-switch show
```

```
cluster::> system cluster-switch show

Switch                          Type              Address          Model
--------------------------- ------------------ -----------------
---------------
CL1                              cluster-network    10.10.1.101      NX3132V
      Serial Number: FOX000001
        Is Monitored: true
            Reason:
  Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                    7.0(3)I4(1)
    Version Source: CDP


C2                               cluster-network    10.10.1.103      NX3132V
      Serial Number: FOX000002
        Is Monitored: true
            Reason:
  Software Version: Cisco Nexus Operating System (NX-OS) Software,
Version
                    7.0(3)I4(1)
    Version Source: CDP

2 entries were displayed.
```

23. Enable the cluster switch health monitor log collection feature for collecting switch-related log files:

```
system cluster-switch log setup-password
```

```
system cluster-switch log enable-collection
```

```
cluster::*> system cluster-switch log setup-password
Enter the switch name: <return>
The switch name entered is not recognized.
Choose from the following list:
C1
C2

cluster::*> system cluster-switch log setup-password

Enter the switch name: C1
RSA key fingerprint is e5:8b:c6:dc:e2:18:18:09:36:63:d9:63:dd:03:d9:cc
Do you want to continue? {y|n}::[n] y

Enter the password: <enter switch password>
Enter the password again: <enter switch password>

cluster::*> system cluster-switch log setup-password

Enter the switch name: C2
RSA key fingerprint is 57:49:86:a1:b9:80:6a:61:9a:86:8e:3c:e3:b7:1f:b1
Do you want to continue? {y|n}:: [n] y

Enter the password: <enter switch password>
Enter the password again: <enter switch password>

cluster::*> system cluster-switch log enable-collection

Do you want to enable cluster log collection for all nodes in the
cluster?
{y|n}: [n] y

Enabling cluster switch log collection.

cluster::*>
```

ⓘ   If any of these commands return an error, contact NetApp support.

24. If you suppressed automatic case creation, re-enable it by invoking an AutoSupport message:

```
system node autosupport invoke -node * -type all -message MAINT=END
```

Related information

Cisco Ethernet Switch description page

Hardware Universe