NetApp

Migrate switches

Install and maintain

NetApp
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Migrate switches

Migrate from a switchless cluster environment to a switched NetApp CN1610 cluster environment

If you have an existing two-node switchless cluster environment, you can migrate to a two-node switched cluster environment using CN1610 cluster network switches that enables you to scale beyond two nodes.

Review requirements

Before you begin

Make sure you have the following:

For a two-node switchless configuration, ensure that:

- The two-node switchless configuration is properly set up and functioning.
- The nodes are running ONTAP 8.2 or later.
- All cluster ports are in the `up` state.
- All cluster logical interfaces (LIFs) are in the `up` state and on their home ports.

For the CN1610 cluster switch configuration:

- The CN1610 cluster switch infrastructure are fully functional on both switches.
- Both switches have management network connectivity.
- There is console access to the cluster switches.
- CN1610 node-to-node switch and switch-to-switch connections use twinax or fiber cables.

  The Hardware Universe contains more information about cabling.

- Inter-Switch Link (ISL) cables are connected to ports 13 through 16 on both CN1610 switches.
- Initial customization of both the CN1610 switches are completed.

  Any previous site customization, such as SMTP, SNMP, and SSH should be copied to the new switches.

Related information

- Hardware Universe
- NetApp CN1601 and CN1610
- CN1601 and CN1610 Switch Setup and Configuration
- NetApp KB Article 1010449: How to suppress automatic case creation during scheduled maintenance windows

Migrate the switches

About the examples

The examples in this procedure use the following cluster switch and node nomenclature:

- The names of the CN1610 switches are cs1 and cs2.

- The names of the LIFs are clus1 and clus2.

- The names of the nodes are node1 and node2.

- The `cluster::*>` prompt indicates the name of the cluster.

- The cluster ports used in this procedure are e1a and e2a.

  The Hardware Universe contains the latest information about the actual cluster ports for your platforms.

Step 1: Prepare for migration

1. Change the privilege level to advanced, entering `y` when prompted to continue:

   `set -privilege advanced`

   The advanced prompt (*>) appears.

2. 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.

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

   Show example

   The following command suppresses automatic case creation for two hours:

   ```
   cluster::*> system node autosupport invoke -node * -type all
   -message MAINT=2h
   ```

Step 2: Configure ports

1. Disable all of the node-facing ports (not ISL ports) on both the new cluster switches cs1 and cs2.

   You must not disable the ISL ports.

Show example

The following example shows that node-facing ports 1 through 12 are disabled on switch cs1:

```
(cs1)> enable
(cs1)# configure
(cs1)(Config)# interface 0/1-0/12
(cs1)(Interface 0/1-0/12)# shutdown
(cs1)(Interface 0/1-0/12)# exit
(cs1)(Config)# exit
```

The following example shows that node-facing ports 1 through 12 are disabled on switch cs2:

```
(c2)> enable
(cs2)# configure
(cs2)(Config)# interface 0/1-0/12
(cs2)(Interface 0/1-0/12)# shutdown
(cs2)(Interface 0/1-0/12)# exit
(cs2)(Config)# exit
```

2. Verify that the ISL and the physical ports on the ISL between the two CN1610 cluster switches cs1 and cs2 are up:

```
show port-channel
```

Show example

The following example shows that the ISL ports are `up` on switch cs1:

```
(cs1)# show port-channel 3/1
Local Interface................................ 3/1
Channel Name................................... ISL-LAG
Link State..................................... Up
Admin Mode..................................... Enabled
Type........................................... Static
Load Balance Option............................ 7
(Enhanced hashing mode)

Mbr     Device/         Port       Port
Ports   Timeout         Speed      Active
------  -------------   ---------  -------
0/13    actor/long      10G Full   True
        partner/long
0/14    actor/long      10G Full   True
        partner/long
0/15    actor/long      10G Full   True
        partner/long
0/16    actor/long      10G Full   True
        partner/long
```

The following example shows that the ISL ports are `up` on switch cs2:

```
(cs2)# show port-channel 3/1
Local Interface................................ 3/1
Channel Name................................... ISL-LAG
Link State..................................... Up
Admin Mode..................................... Enabled
Type........................................... Static
Load Balance Option............................ 7
(Enhanced hashing mode)

Mbr    Device/         Port        Port
Ports  Timeout         Speed       Active
------ -------------   ---------   -------
0/13   actor/long      10G Full    True
       partner/long
0/14   actor/long      10G Full    True
       partner/long
0/15   actor/long      10G Full    True
       partner/long
0/16   actor/long      10G Full    True
       partner/long
```

3. Display the list of neighboring devices:

```
show isdp neighbors
```

This command provides information about the devices that are connected to the system.

Show example

The following example lists the neighboring devices on switch cs1:

```
(cs1)# show isdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route
Bridge,
                S - Switch, H - Host, I - IGMP, r - Repeater
Device ID              Intf          Holdtime  Capability   Platform
Port ID
---------------------- ------------ --------- ------------ ---------
------------
cs2                        0/13           11        S            CN1610
0/13
cs2                        0/14           11        S            CN1610
0/14
cs2                        0/15           11        S            CN1610
0/15
cs2                        0/16           11        S            CN1610
0/16
```

The following example lists the neighboring devices on switch cs2:

```
(cs2)# show isdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route
Bridge,
                S - Switch, H - Host, I - IGMP, r - Repeater
Device ID              Intf          Holdtime  Capability   Platform
Port ID
---------------------- ------------ --------- ------------ ---------
------------
cs1                        0/13           11        S            CN1610
0/13
cs1                        0/14           11        S            CN1610
0/14
cs1                        0/15           11        S            CN1610
0/15
cs1                        0/16           11        S            CN1610
0/16
```

4. Display the list of cluster ports:

```
network port show
```

Show example

The following example shows the available cluster ports:

```
cluster::*> network port show -ipspace Cluster
Node: node1

Ignore
                                                    Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e0a       Cluster      Cluster          up   9000 auto/10000
healthy  false
e0b       Cluster      Cluster          up   9000 auto/10000
healthy  false
e0c       Cluster      Cluster          up   9000 auto/10000
healthy  false
e0d       Cluster      Cluster          up   9000 auto/10000
healthy  false
e4a       Cluster      Cluster          up   9000 auto/10000
healthy  false
e4b       Cluster      Cluster          up   9000 auto/10000
healthy  false

Node: node2

Ignore
                                                    Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- -----------
-------- ------
e0a       Cluster      Cluster          up   9000 auto/10000
healthy  false
e0b       Cluster      Cluster          up   9000 auto/10000
healthy  false
e0c       Cluster      Cluster          up   9000 auto/10000
healthy  false
e0d       Cluster      Cluster          up   9000 auto/10000
healthy  false
e4a       Cluster      Cluster          up   9000 auto/10000
healthy  false
e4b       Cluster      Cluster          up   9000 auto/10000
healthy  false
12 entries were displayed.
```

5. Verify that each cluster port is connected to the corresponding port on its partner cluster node:

```
run * cdpd show-neighbors
```

Show example

The following example shows that cluster ports e1a and e2a are connected to the same port on their cluster partner node:

```
cluster::*> run * cdpd show-neighbors
2 entries were acted on.

Node: node1
Local   Remote           Remote                   Remote           Hold
Remote
Port    Device           Interface                Platform         Time
Capability
------  ---------------  ----------------------   ---------------- -----
----------
e1a     node2            e1a                      FAS3270          137
H
e2a     node2            e2a                      FAS3270          137
H


Node: node2

Local   Remote           Remote                   Remote           Hold
Remote
Port    Device           Interface                Platform         Time
Capability
------  ---------------  ----------------------   ---------------- -----
----------
e1a     node1            e1a                      FAS3270          161
H
e2a     node1            e2a                      FAS3270          161
H
```

6. Verify that all of the cluster LIFs are `up` and operational:

```
network interface show -vserver Cluster
```

Each cluster LIF should display `true` in the "Is Home" column.

Show example

```
cluster::*> network interface show -vserver Cluster
            Logical    Status      Network          Current
Current Is
Vserver     Interface  Admin/Oper  Address/Mask    Node          Port
Home
----------- ---------- ---------- ------------- -------------
------- ----
node1
            clus1      up/up       10.10.10.1/16 node1           e1a
true
            clus2      up/up       10.10.10.2/16 node1           e2a
true
node2
            clus1      up/up       10.10.11.1/16 node2           e1a
true
            clus2      up/up       10.10.11.2/16 node2           e2a
true

4 entries were displayed.
```

> (i) The following modification and migration commands in steps 10 through 13 must be done from the local node.

7. Verify that all cluster ports are `up`:

   `network port show -ipspace Cluster`

Show example

```
cluster::*> network port show -ipspace Cluster

                                       Auto-Negot   Duplex      Speed
(Mbps)
Node    Port   Role          Link  MTU   Admin/Oper  Admin/Oper
Admin/Oper
------  ------ ------------  ----- ----- ----------- ----------
------------
node1
        e1a    clus1          up    9000  true/true   full/full
auto/10000
        e2a    clus2          up    9000  true/true   full/full
auto/10000
node2
        e1a    clus1          up    9000  true/true   full/full
auto/10000
        e2a    clus2          up    9000  true/true   full/full
auto/10000

4 entries were displayed.
```

8. Set the `-auto-revert` parameter to `false` on cluster LIFs clus1 and clus2 on both nodes:

`network interface modify`

Show example

```
cluster::*> network interface modify -vserver node1 -lif clus1 -auto
-revert false
cluster::*> network interface modify -vserver node1 -lif clus2 -auto
-revert false
cluster::*> network interface modify -vserver node2 -lif clus1 -auto
-revert false
cluster::*> network interface modify -vserver node2 -lif clus2 -auto
-revert false
```

ⓘ   For release 8.3 and later, use the following command: `network interface modify -vserver Cluster -lif * -auto-revert false`

9. Verify the connectivity of the remote cluster interfaces:

ONTAP 9.9.1 and later

You can use the `network interface check cluster-connectivity` command to start an accessibility check for cluster connectivity and then display the details:

`network interface check cluster-connectivity start` and `network interface check cluster-connectivity show`

```
cluster1::*> network interface check cluster-connectivity start
```

NOTE: Wait for a number of seconds before running the `show` command to display the details.

```
cluster1::*> network interface check cluster-connectivity show
                                   Source          Destination
Packet
Node    Date                       LIF             LIF
Loss
------  -------------------------- --------------- ----------------
-----------
node1
        3/5/2022 19:21:18 -06:00   node1_clus2     node2-clus1
none
        3/5/2022 19:21:20 -06:00   node1_clus2     node2_clus2
none
node2
        3/5/2022 19:21:18 -06:00   node2_clus2     node1_clus1
none
        3/5/2022 19:21:20 -06:00   node2_clus2     node1_clus2
none
```

All ONTAP releases

For all ONTAP releases, you can also use the `cluster ping-cluster -node <name>` command to check the connectivity:

`cluster ping-cluster -node <name>`

```
cluster1::*> cluster ping-cluster -node local
Host is node2
Getting addresses from network interface table...
Cluster node1_clus1 169.254.209.69 node1 e0a
Cluster node1_clus2 169.254.49.125 node1 e0b
Cluster node2_clus1 169.254.47.194 node2 e0a
Cluster node2_clus2 169.254.19.183 node2 e0b
Local = 169.254.47.194 169.254.19.183
Remote = 169.254.209.69 169.254.49.125
Cluster Vserver Id = 4294967293
Ping status:
....
Basic connectivity succeeds on 4 path(s)
Basic connectivity fails on 0 path(s)
...............
Detected 9000 byte MTU on 4 path(s):
Local 169.254.47.194 to Remote 169.254.209.69
Local 169.254.47.194 to Remote 169.254.49.125
Local 169.254.19.183 to Remote 169.254.209.69
Local 169.254.19.183 to Remote 169.254.49.125
Larger than PMTU communication succeeds on 4 path(s)
RPC status:
2 paths up, 0 paths down (tcp check)
2 paths up, 0 paths down (udp check)
```

10. Migrate clus1 to port e2a on the console of each node:

```
network interface migrate
```

Show example

The following example shows the process for migrating clus1 to port e2a on node1 and node2:

```
cluster::*> network interface migrate -vserver node1 -lif clus1
-source-node node1 -dest-node node1 -dest-port e2a
cluster::*> network interface migrate -vserver node2 -lif clus1
-source-node node2 -dest-node node2 -dest-port e2a
```

(i) For release 8.3 and later, use the following command: `network interface migrate -vserver Cluster -lif clus1 -destination-node node1 -destination -port e2a`

11. Verify that the migration took place:

```
network interface show -vserver Cluster
```

Show example

The following example verifies that clus1 is migrated to port e2a on node1 and node2:

```
cluster::*> network interface show -vserver Cluster
            Logical     Status      Network          Current
Current Is
Vserver     Interface   Admin/Oper  Address/Mask     Node          Port
Home
----------- ----------  ----------  -------------    -------------
------- ----
node1
            clus1       up/up       10.10.10.1/16    node1         e2a
false
            clus2       up/up       10.10.10.2/16    node1         e2a
true
node2
            clus1       up/up       10.10.11.1/16    node2         e2a
false
            clus2       up/up       10.10.11.2/16    node2         e2a
true

4 entries were displayed.
```

12. Shut down cluster port e1a on both nodes:

```
network port modify
```

Show example

The following example shows how to shut down the port e1a on node1 and node2:

```
cluster::*> network port modify -node node1 -port e1a -up-admin
false
cluster::*> network port modify -node node2 -port e1a -up-admin
false
```

13. Verify the port status:

```
network port show
```

The following example shows that port e1a is `down` on node1 and node2:

```
cluster::*> network port show -role cluster
                                   Auto-Negot  Duplex     Speed
(Mbps)
Node   Port  Role          Link  MTU Admin/Oper  Admin/Oper
Admin/Oper
------ ------ ------------ ---- ----- ----------- ----------
------------
node1
       e1a    clus1          down  9000  true/true  full/full
auto/10000
       e2a    clus2          up    9000  true/true  full/full
auto/10000
node2
       e1a    clus1          down  9000  true/true  full/full
auto/10000
       e2a    clus2          up    9000  true/true  full/full
auto/10000

4 entries were displayed.
```

14. Disconnect the cable from cluster port e1a on node1, and then connect e1a to port 1 on cluster switch cs1, using the appropriate cabling supported by the CN1610 switches.

   The Hardware Universe contains more information about cabling.

15. Disconnect the cable from cluster port e1a on node2, and then connect e1a to port 2 on cluster switch cs1, using the appropriate cabling supported by the CN1610 switches.

16. Enable all of the node-facing ports on cluster switch cs1.

The following example shows that ports 1 through 12 are enabled on switch cs1:

```
(cs1)# configure
(cs1)(Config)# interface 0/1-0/12
(cs1)(Interface 0/1-0/12)# no shutdown
(cs1)(Interface 0/1-0/12)# exit
(cs1)(Config)# exit
```

17. Enable the first cluster port e1a on each node:

```
network port modify
```

Show example

The following example shows how to enable the port e1a on node1 and node2:

```
cluster::*> network port modify -node node1 -port e1a -up-admin true
cluster::*> network port modify -node node2 -port e1a -up-admin true
```

18. Verify that all of the cluster ports are `up`:

```
network port show -ipspace Cluster
```

Show example

The following example shows that all of the cluster ports are `up` on node1 and node2:

```
cluster::*> network port show -ipspace Cluster
                                     Auto-Negot  Duplex     Speed
 (Mbps)
Node    Port   Role          Link   MTU Admin/Oper  Admin/Oper
Admin/Oper
------  ------ ------------ ---- ----- ----------- ----------
------------
node1
        e1a    clus1          up    9000  true/true  full/full
auto/10000
        e2a    clus2          up    9000  true/true  full/full
auto/10000
node2
        e1a    clus1          up    9000  true/true  full/full
auto/10000
        e2a    clus2          up    9000  true/true  full/full
auto/10000

4 entries were displayed.
```

19. Revert clus1 (which was previously migrated) to e1a on both nodes:

```
network interface revert
```

Show example

The following example shows how to revert clus1 to the port e1a on node1 and node2:

```
cluster::*> network interface revert -vserver node1 -lif clus1
cluster::*> network interface revert -vserver node2 -lif clus1
```

(i) For release 8.3 and later, use the following command: `network interface revert -vserver Cluster -lif <nodename_clus<N>>`

20. Verify that all of the cluster LIFs are `up`, operational, and display as `true` in the "Is Home" column:

```
network interface show -vserver Cluster
```

Show example

The following example shows that all of the LIFs are `up` on node1 and node2 and that the "Is Home" column results are `true`:

```
cluster::*> network interface show -vserver Cluster
            Logical    Status     Network         Current
Current Is
Vserver     Interface  Admin/Oper Address/Mask    Node           Port
Home
----------- ---------- ---------- -------------- -------------
------- ----
node1
            clus1      up/up      10.10.10.1/16   node1          e1a
true
            clus2      up/up      10.10.10.2/16   node1          e2a
true
node2
            clus1      up/up      10.10.11.1/16   node2          e1a
true
            clus2      up/up      10.10.11.2/16   node2          e2a
true

4 entries were displayed.
```

21. Display information about the status of the nodes in the cluster:

```
cluster show
```

Show example

> The following example displays information about the health and eligibility of the nodes in the cluster:
>
> ```
> cluster::*> cluster show
> Node                    Health  Eligibility   Epsilon
> --------------------    ------- ------------  ------------
> node1                   true    true          false
> node2                   true    true          false
> ```

22. Migrate clus2 to port e1a on the console of each node:

`network interface migrate`

Show example

> The following example shows the process for migrating clus2 to port e1a on node1 and node2:
>
> ```
> cluster::*> network interface migrate -vserver node1 -lif clus2
> -source-node node1 -dest-node node1 -dest-port e1a
> cluster::*> network interface migrate -vserver node2 -lif clus2
> -source-node node2 -dest-node node2 -dest-port e1a
> ```

> (i) For release 8.3 and later, use the following command: `network interface migrate -vserver Cluster -lif node1_clus2 -dest-node node1 -dest-port e1a`

23. Verify that the migration took place:

`network interface show -vserver Cluster`

Show example

The following example verifies that clus2 is migrated to port e1a on node1 and node2:

```
cluster::*> network interface show -vserver Cluster
            Logical    Status     Network         Current
Current Is
Vserver     Interface  Admin/Oper Address/Mask    Node          Port
Home
----------- ---------- ---------- ------------- -------------
------- ----
node1
            clus1      up/up      10.10.10.1/16   node1          e1a
true
            clus2      up/up      10.10.10.2/16   node1          e1a
false
node2
            clus1      up/up      10.10.11.1/16   node2          e1a
true
            clus2      up/up      10.10.11.2/16   node2          e1a
false

4 entries were displayed.
```

24. Shut down cluster port e2a on both nodes:

```
network port modify
```

Show example

The following example shows how to shut down the port e2a on node1 and node2:

```
cluster::*> network port modify -node node1 -port e2a -up-admin
false
cluster::*> network port modify -node node2 -port e2a -up-admin
false
```

25. Verify the port status:

```
network port show
```

Show example

The following example shows that port e2a is `down` on node1 and node2:

```
cluster::*> network port show -role cluster
                                      Auto-Negot  Duplex     Speed
(Mbps)
Node   Port   Role         Link  MTU Admin/Oper  Admin/Oper
Admin/Oper
------ ------ ------------ ---- ----- ----------- ----------
------------
node1
       e1a    clus1         up    9000  true/true   full/full
auto/10000
       e2a    clus2         down  9000  true/true   full/full
auto/10000
node2
       e1a    clus1         up    9000  true/true   full/full
auto/10000
       e2a    clus2         down  9000  true/true   full/full
auto/10000

4 entries were displayed.
```

26. Disconnect the cable from cluster port e2a on node1, and then connect e2a to port 1 on cluster switch cs2, using the appropriate cabling supported by the CN1610 switches.

27. Disconnect the cable from cluster port e2a on node2, and then connect e2a to port 2 on cluster switch cs2, using the appropriate cabling supported by the CN1610 switches.

28. Enable all of the node-facing ports on cluster switch cs2.

Show example

The following example shows that ports 1 through 12 are enabled on switch cs2:

```
(cs2)# configure
(cs2)(Config)# interface 0/1-0/12
(cs2)(Interface 0/1-0/12)# no shutdown
(cs2)(Interface 0/1-0/12)# exit
(cs2)(Config)# exit
```

29. Enable the second cluster port e2a on each node.

Show example

The following example shows how to enable the port e2a on node1 and node2:

```
cluster::*> network port modify -node node1 -port e2a -up-admin true
cluster::*> network port modify -node node2 -port e2a -up-admin true
```

30. Verify that all of the cluster ports are `up`:

`network port show -ipspace Cluster`

Show example

The following example shows that all of the cluster ports are `up` on node1 and node2:

```
cluster::*> network port show -ipspace Cluster
                                     Auto-Negot   Duplex        Speed
(Mbps)
Node     Port    Role          Link   MTU Admin/Oper  Admin/Oper
Admin/Oper
------   ------  ------------  ----  -----  -----------  ----------
------------
node1
       e1a    clus1          up     9000  true/true   full/full
auto/10000
       e2a    clus2          up     9000  true/true   full/full
auto/10000
node2
       e1a    clus1          up     9000  true/true   full/full
auto/10000
       e2a    clus2          up     9000  true/true   full/full
auto/10000

4 entries were displayed.
```

31. Revert clus2 (which was previously migrated) to e2a on both nodes:

`network interface revert`

Show example

The following example shows how to revert clus2 to the port e2a on node1 and node2:

```
cluster::*> network interface revert -vserver node1 -lif clus2
cluster::*> network interface revert -vserver node2 -lif clus2
```

> (i) For release 8.3 and later, the commands are: `cluster::*> network interface revert -vserver Cluster -lif node1_clus2` and `cluster::*> network interface revert -vserver Cluster -lif node2_clus2`

Step 3: Complete the configuration

1. Verify that all of the interfaces display `true` in the "Is Home" column:

   `network interface show -vserver Cluster`

   Show example

   The following example shows that all of the LIFs are `up` on node1 and node2 and that the "Is Home" column results are `true`:

   ```
   cluster::*> network interface show -vserver Cluster

                 Logical    Status     Network              Current
   Current Is
   Vserver       Interface  Admin/Oper Address/Mask         Node
   Port    Home
   -----------   ---------- ---------- ------------------  -----------
   ------- ----
   node1
                 clus1      up/up      10.10.10.1/16        node1
   e1a     true
                 clus2      up/up      10.10.10.2/16        node1
   e2a     true
   node2
                 clus1      up/up      10.10.11.1/16        node2
   e1a     true
                 clus2      up/up      10.10.11.2/16        node2
   e2a     true
   ```

2. Verify the connectivity of the remote cluster interfaces:

ONTAP 9.9.1 and later

You can use the `network interface check cluster-connectivity` command to start an accessibility check for cluster connectivity and then display the details:

`network interface check cluster-connectivity start` and `network interface check cluster-connectivity show`

```
cluster1::*> network interface check cluster-connectivity start
```

NOTE: Wait for a number of seconds before running the `show` command to display the details.

```
cluster1::*> network interface check cluster-connectivity show
                                  Source          Destination
Packet
Node   Date                       LIF             LIF
Loss
------ -------------------------- --------------- -----------------
-----------
node1
       3/5/2022 19:21:18 -06:00   node1_clus2     node2-clus1
none
       3/5/2022 19:21:20 -06:00   node1_clus2     node2_clus2
none
node2
       3/5/2022 19:21:18 -06:00   node2_clus2     node1_clus1
none
       3/5/2022 19:21:20 -06:00   node2_clus2     node1_clus2
none
```

All ONTAP releases

For all ONTAP releases, you can also use the `cluster ping-cluster -node <name>` command to check the connectivity:

```
cluster ping-cluster -node <name>
```

```
cluster1::*> cluster ping-cluster -node local
Host is node2
Getting addresses from network interface table...
Cluster node1_clus1 169.254.209.69 node1 e0a
Cluster node1_clus2 169.254.49.125 node1 e0b
Cluster node2_clus1 169.254.47.194 node2 e0a
Cluster node2_clus2 169.254.19.183 node2 e0b
Local = 169.254.47.194 169.254.19.183
Remote = 169.254.209.69 169.254.49.125
Cluster Vserver Id = 4294967293
Ping status:
....
Basic connectivity succeeds on 4 path(s)
Basic connectivity fails on 0 path(s)
................
Detected 9000 byte MTU on 4 path(s):
Local 169.254.47.194 to Remote 169.254.209.69
Local 169.254.47.194 to Remote 169.254.49.125
Local 169.254.19.183 to Remote 169.254.209.69
Local 169.254.19.183 to Remote 169.254.49.125
Larger than PMTU communication succeeds on 4 path(s)
RPC status:
2 paths up, 0 paths down (tcp check)
2 paths up, 0 paths down (udp check)
```

3. Verify that both nodes have two connections to each switch:

```
show isdp neighbors
```

Show example

The following example shows the appropriate results for both switches:

```
(cs1)# show isdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route
Bridge,
                  S - Switch, H - Host, I - IGMP, r - Repeater
Device ID               Intf          Holdtime  Capability  Platform
Port ID
---------------------- ------------ --------- ------------ ---------
------------
node1                   0/1           132       H           FAS3270
e1a
node2                   0/2           163       H           FAS3270
e1a
cs2                     0/13          11        S           CN1610
0/13
cs2                     0/14          11        S           CN1610
0/14
cs2                     0/15          11        S           CN1610
0/15
cs2                     0/16          11        S           CN1610
0/16

(cs2)# show isdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route
Bridge,
                  S - Switch, H - Host, I - IGMP, r - Repeater
Device ID               Intf          Holdtime  Capability  Platform
Port ID
---------------------- ------------ --------- ------------ ---------
------------
node1                   0/1           132       H           FAS3270
e2a
node2                   0/2           163       H           FAS3270
e2a
cs1                     0/13          11        S           CN1610
0/13
cs1                     0/14          11        S           CN1610
0/14
cs1                     0/15          11        S           CN1610
0/15
cs1                     0/16          11        S           CN1610
0/16
```

4. Display information about the devices in your configuration:

```
network device discovery show
```

5. Disable the two-node switchless configuration settings on both nodes using the advanced privilege command:

```
network options detect-switchless modify
```

Show example

> The following example shows how to disable the switchless configuration settings:
>
> ```
> cluster::*> network options detect-switchless modify -enabled false
> ```

> (i)   For release 9.2 and later, skip this step since the configuration is automatically converted.

6. Verify that the settings are disabled:

```
network options detect-switchless-cluster show
```

Show example

> The `false` output in the following example shows that the configuration settings are disabled:
>
> ```
> cluster::*> network options detect-switchless-cluster show
> Enable Switchless Cluster Detection: false
> ```

> (i)   For release 9.2 and later, wait until `Enable Switchless Cluster` is set to false. This can take up to three minutes.

7. Configure clusters clus1 and clus2 to auto revert on each node and confirm.

Show example

```
cluster::*> network interface modify -vserver node1 -lif clus1 -auto
-revert true
cluster::*> network interface modify -vserver node1 -lif clus2 -auto
-revert true
cluster::*> network interface modify -vserver node2 -lif clus1 -auto
-revert true
cluster::*> network interface modify -vserver node2 -lif clus2 -auto
-revert true
```

> (i) For release 8.3 and later, use the following command: `network interface modify -vserver Cluster -lif * -auto-revert true` to enable auto-revert on all nodes in the cluster.

8. Verify the status of the node members in the cluster:

`cluster show`

Show example

The following example shows information about the health and eligibility of the nodes in the cluster:

```
cluster::*> cluster show
Node                     Health  Eligibility   Epsilon
--------------------     ------- -----------   ------------
node1                    true    true          false
node2                    true    true          false
```

9. If you suppressed automatic case creation, reenable it by invoking an AutoSupport message:

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

Show example

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

10. Change the privilege level back to admin:

`set -privilege admin`