



Cisco® Nexus Switches

Migrating from a Cisco Switch to a Cisco Nexus 92300YC Switch

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Migrating from a Cisco switch to a Cisco Nexus 92300YC switch

You must be aware of certain configuration information, port connections and cabling requirements when you are replacing some older Cisco Nexus cluster switches with Cisco Nexus 92300YC cluster switches.

- The following cluster switches are supported:
 - Nexus 92300YC
 - Nexus 5596UP
 - Nexus 5020
 - Nexus 5010
- The cluster switches use the following ports for connections to nodes:
 - Ports e1/1-48 (10/25 GbE), e1/49-64 (40/100 GbE): Nexus 92300YC
 - Ports e1/1-40 (10 GbE): Nexus 5596UP
 - Ports e1/1-32 (10 GbE): Nexus 5020
 - Ports e1/1-12, e2/1-6 (10 GbE): Nexus 5010 with expansion module
- The cluster switches use the following Inter-Switch Link (ISL) ports:
 - Ports e1/65-66 (100 GbE): Nexus 92300YC
 - Ports e1/41-48 (10 GbE): Nexus 5596UP
 - Ports e1/33-40 (10 GbE): Nexus 5020
 - Ports e1/13-20 (10 GbE): Nexus 5010
- The *Hardware Universe* contains information about supported cabling for all cluster switches.
- You have configured some of the ports on Nexus 92300YC switches to run at 10 GbE or 40 GbE.
- You have planned, migrated, and documented 10 GbE and 40 GbE connectivity from nodes to Nexus 92300YC cluster switches.
- The ONTAP and NX-OS versions supported in this procedure are on the *Cisco Ethernet Switches* page.
[Cisco Ethernet Switches](#)

Note: After your migration completes, you might need to install the required configuration file to support the Cluster Switch Health Monitor (CSHM) for 92300YC cluster switches. See *Installing the Cluster Switch Health Monitor (CSHM) configuration file for 92300YC switches* in the [Setting up](#) guide.

How to migrate from a Cisco switch to a Cisco Nexus 92300YC switch

You can migrate nondisruptively older Cisco cluster switches for an ONTAP cluster to Cisco Nexus 92300YC cluster network switches.

Before you begin

- The existing cluster must be properly set up and functioning.
- All cluster ports must be in the **up** state to ensure nondisruptive operations.
- The Nexus 92300YC cluster switches must be configured and operating under the proper version of NX-OS installed and reference configuration file (RCF) applied.
- The existing cluster network configuration must have the following:
 - A redundant and fully functional NetApp cluster using both older Cisco switches.
 - Management connectivity and console access to both the older Cisco switches and the new switches.
 - All cluster LIFs in the **up** state with the cluster LIFs are on their home ports.
 - ISL ports enabled and cabled between the older Cisco switches and between the new switches.

About this task

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

- The existing Cisco Nexus 5596UP cluster switches are *c1* and *c2*.
- The new Nexus 92300YC cluster switches are *cs1* and *cs2*.
- The nodes are *node1* and *node2*.
- The cluster LIFs are *node1_clus1* and *node1_clus2* on node 1, and *node2_clus1* and *node2_clus2* on node 2 respectively.
- Switch *c2* is replaced by switch *cs2* first and then switch *c1* is replaced by switch *cs1*.
 - A temporary ISL is built on *cs1* connecting *c1* to *cs1*.
 - Cabling between the nodes and *c2* are then disconnected from *c2* and reconnected to *cs2*.
 - Cabling between the nodes and *c1* are then disconnected from *c1* and reconnected to *cs1*.
 - The temporary ISL between *c1* and *cs1* is then removed.

Steps

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
```

where *x* is the duration of the maintenance window in hours.

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

Example

The following command suppresses automatic case creation for two hours:

```
cluster1::*> system node autosupport invoke -node * -type all -message MAINT=2h
```

3. Verify that auto-revert is enabled on all cluster LIFs:

network interface show -vserver Cluster -fields auto-revert

Example

```
cluster1::*> network interface show -vserver Cluster -fields auto-revert
```

Vserver	Logical Interface	Auto-revert
Cluster	node1_clus1	true
	node1_clus2	true
	node2_clus1	true
	node2_clus2	true

4 entries were displayed.

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

Each port should display **up** for Link and **healthy** for Health Status.

- a. Display the network port attributes:

network port show -ipSPACE Cluster

Example

```
cluster1::*> network port show -ipSPACE Cluster
```

Node: node1

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

Node: node2

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

4 entries were displayed.

- b. Display information about the logical interfaces and their designated home nodes:

network interface show -vserver Cluster

Each LIF should display **up/up** for Status Admin/Oper and **true** for Is Home.

Example

```
cluster1::*> network interface show -vserver Cluster
```

Vserver	Logical Interface	Status Admin/Oper	Network Address/Mask	Current Node	Current Port	Is Home
Cluster	node1_clus1	up/up	169.254.209.69/16	node1	e0a	true
	node1_clus2	up/up	169.254.49.125/16	node1	e0b	true

```

node2_clus1 up/up 169.254.47.194/16 node2 e0a true
node2_clus2 up/up 169.254.19.183/16 node2 e0b true
4 entries were displayed.

```

- The cluster ports on each node are connected to existing cluster switches in the following way (from the nodes' perspective) using the command:

network device-discovery show -protocol cdp

Example

```

cluster1::*> network device-discovery show -protocol cdp
Node/      Local  Discovered
Protocol   Port   Device (LLDP: ChassisID)  Interface  Platform
-----
node2      /cdp
          e0a   c1                        0/2        N5K-C5596UP
          e0b   c2                        0/2        N5K-C5596UP
node1      /cdp
          e0a   c1                        0/1        N5K-C5596UP
          e0b   c2                        0/1        N5K-C5596UP
4 entries were displayed.

```

- The cluster ports and switches are connected in the following way (from the switches' perspective) using the command:

show cdp neighbors

Example

```

c1# show cdp neighbors
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute

Device-ID          Local Infrfce Hldtme Capability Platform  Port ID
node1              Eth1/1  124    H          FAS2750   e0a
node2              Eth1/2  124    H          FAS2750   e0a
c2(FOX2025GEFC)   Eth1/41 179    S I s      N5K-C5596UP Eth1/41

c2(FOX2025GEFC)   Eth1/42 175    S I s      N5K-C5596UP Eth1/42
c2(FOX2025GEFC)   Eth1/43 179    S I s      N5K-C5596UP Eth1/43
c2(FOX2025GEFC)   Eth1/44 175    S I s      N5K-C5596UP Eth1/44
c2(FOX2025GEFC)   Eth1/45 179    S I s      N5K-C5596UP Eth1/45
c2(FOX2025GEFC)   Eth1/46 179    S I s      N5K-C5596UP Eth1/46
c2(FOX2025GEFC)   Eth1/47 175    S I s      N5K-C5596UP Eth1/47
c2(FOX2025GEFC)   Eth1/48 179    S I s      N5K-C5596UP Eth1/48

Total entries displayed: 10

c2# show cdp neighbors
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute

Device-ID          Local Infrfce Hldtme Capability Platform  Port ID
node1              Eth1/1  124    H          FAS2750   e0b
node2              Eth1/2  124    H          FAS2750   e0b
c1(FOX2025GEEX)   Eth1/41 175    S I s      N5K-C5596UP Eth1/41

c1(FOX2025GEEX)   Eth1/42 175    S I s      N5K-C5596UP Eth1/42
c1(FOX2025GEEX)   Eth1/43 175    S I s      N5K-C5596UP Eth1/43
c1(FOX2025GEEX)   Eth1/44 175    S I s      N5K-C5596UP Eth1/44
c1(FOX2025GEEX)   Eth1/45 175    S I s      N5K-C5596UP Eth1/45

```

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```
c1(FOX2025GEEEX)    Eth1/46    175    S I s    N5K-C5596UP    Eth1/46
c1(FOX2025GEEEX)    Eth1/47    176    S I s    N5K-C5596UP    Eth1/47
c1(FOX2025GEEEX)    Eth1/48    176    S I s    N5K-C5596UP    Eth1/48
```

7. Ensure that the cluster network has full connectivity using the command:

```
cluster ping-cluster -node node-name
```

Example

```
cluster1::*> cluster ping-cluster -node node2
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 169.254.19.183 to Remote 169.254.209.69
  Local 169.254.19.183 to Remote 169.254.49.125
  Local 169.254.47.194 to Remote 169.254.209.69
  Local 169.254.47.194 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)
```

8. Configure a temporary ISL on cs1 on ports e1/41-48, between c1 and cs1.

Example

The following example shows how the new ISL is configured on c1 and cs1:

```
cs1# configure
Enter configuration commands, one per line. End with CNTL/Z.
cs1(config)# interface e1/41-48
cs1(config-if-range)# description temporary ISL between Nexus 5596UP and Nexus 92300YC
cs1(config-if-range)# no lldp transmit
cs1(config-if-range)# no lldp receive
cs1(config-if-range)# switchport mode trunk
cs1(config-if-range)# no spanning-tree bpduguard enable
cs1(config-if-range)# channel-group 101 mode active
cs1(config-if-range)# exit
cs1(config)# interface port-channel 101
cs1(config-if)# switchport mode trunk
cs1(config-if)# spanning-tree port type network
cs1(config-if)# exit
cs1(config-if)# exit
cs1(config)# exit
```

9. Remove ISL cables from ports e1/41-48 from c2 and connect the cables to ports e1/41-48 on cs1.
10. Verify that the ISL ports and port-channel are operational connecting c1 and cs1:

```
show port-channel summary
```

Example

The following example shows the Cisco `show port-channel summary` command being used to verify the ISL ports are operational on c1 and cs1:

```
c1# 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
        b - BFD Session Wait
```

```

S - Switched   R - Routed
U - Up (port-channel)
p - Up in delay-lacp mode (member)
M - Not in use. Min-links not met
-----
Group Port-      Type   Protocol  Member Ports
Channel
-----
1     Po1(SU)    Eth    LACP      Eth1/41(P) Eth1/42(P) Eth1/43(P)
                               Eth1/44(P) Eth1/45(P) Eth1/46(P)
                               Eth1/47(P) Eth1/48(P)

cs1# 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
       b - BFD Session Wait
       S - Switched     R - Routed
       U - Up (port-channel)
       p - Up in delay-lacp mode (member)
       M - Not in use. Min-links not met
-----
Group Port-      Type   Protocol  Member Ports
Channel
-----
1     Po1(SU)    Eth    LACP      Eth1/65(P) Eth1/66(P)
101  Po101(SU)   Eth    LACP      Eth1/41(P) Eth1/42(P) Eth1/43(P)
                               Eth1/44(P) Eth1/45(P) Eth1/46(P)
                               Eth1/47(P) Eth1/48(P)

```

11. For node1, disconnect the cable from e1/1 on c2, and then connect the cable to e1/1 on cs2, using appropriate cabling supported by Nexus 92300YC.
12. For node2, disconnect the cable from e1/2 on c2, and then connect the cable to e1/2 on cs2, using appropriate cabling supported by Nexus 92300YC.
13. The cluster ports on each node are now connected to cluster switches in the following way, from the nodes' perspective:

network device-discovery show -protocol cdp

Example

```

cluster1::*> network device-discovery show -protocol cdp
Node/      Local  Discovered
Protocol   Port   Device (LLDP: ChassisID)  Interface      Platform
-----
node2      /cdp
           e0a    c1                        0/2            N5K-C5596UP
           e0b    cs2                       0/2            N9K-C92300YC
node1      /cdp
           e0a    c1                        0/1            N5K-C5596UP
           e0b    cs2                       0/1            N9K-C92300YC

4 entries were displayed.

```

14. For node1, disconnect the cable from e1/1 on c1, and then connect the cable to e1/1 on cs1, using appropriate cabling supported by Nexus 92300YC.
15. For node2, disconnect the cable from e1/2 on c1, and then connect the cable to e1/2 on cs1, using appropriate cabling supported by Nexus 92300YC.
16. The cluster ports on each node are now connected to cluster switches in the following way, from the nodes' perspective:

network device-discovery show -protocol cdp

Example

```

cluster1::*> network device-discovery show -protocol cdp
Node/      Local  Discovered
Protocol   Port   Device (LLDP: ChassisID)  Interface      Platform
-----
node2      /cdp
           e0a    cs1                        0/2            N9K-C92300YC

```

```

node1      e0b   cs2          0/2          N9K-C92300YC
           /cdp
           e0a   cs1          0/1          N9K-C92300YC
           e0b   cs2          0/1          N9K-C92300YC
4 entries were displayed.

```

17. Delete the temporary ISL between cs1 and c1.

Example

```

cs1(config)# no interface port-channel 101
cs1(config)# interface e1/41-48
cs1(config-if-range)# lldp transmit
cs1(config-if-range)# lldp receive
cs1(config-if-range)# no switchport mode trunk
cs1(config-if-range)# no channel-group
cs1(config-if-range)# description 10GbE Node Port
cs1(config-if-range)# spanning-tree bpduguard enable
cs1(config-if-range)# exit
cs1(config)# exit

```

18. Verify the final configuration of the cluster:

```
network port show -ipSpace Cluster
```

Each port should display **up** for Link and **healthy** for Health Status.

Example

```

cluster1::*> network port show -ipSpace Cluster

Node: node1

Port      IPspace      Broadcast Domain Link MTU      Speed(Mbps) Health      Ignore
-----
e0a       Cluster      Cluster          up  9000     auto/10000 healthy     false
e0b       Cluster      Cluster          up  9000     auto/10000 healthy     false

Node: node2

Port      IPspace      Broadcast Domain Link MTU      Speed(Mbps) Health      Ignore
-----
e0a       Cluster      Cluster          up  9000     auto/10000 healthy     false
e0b       Cluster      Cluster          up  9000     auto/10000 healthy     false

4 entries were displayed.

cluster1::*> network interface show -vserver Cluster

Vserver   Logical      Status      Network      Current      Current Is
-----
Cluster   Interface    Admin/Oper  Address/Mask Node          Port        Home
-----
node1_clus1 up/up       169.254.209.69/16 node1         e0a         true
node1_clus2 up/up       169.254.49.125/16 node1         e0b         true
node2_clus1 up/up       169.254.47.194/16 node2         e0a         true
node2_clus2 up/up       169.254.19.183/16 node2         e0b         true

4 entries were displayed.

cluster1::*> network device-discovery show -protocol cdp

Node/      Local   Discovered
Protocol   Port   Device (LLDP: ChassisID) Interface Platform
-----
node2      /cdp
           e0a    cs1          0/2          N9K-C92300YC
           e0b    cs2          0/2          N9K-C92300YC
node1      /cdp
           e0a    cs1          0/1          N9K-C92300YC
           e0b    cs2          0/1          N9K-C92300YC

4 entries were displayed.

cs1# show cdp neighbors

Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,

```

```

s - Supports-STP-Dispute

Device-ID          Local Intrfce  Hldtme Capability Platform      Port ID
node1              Eth1/1        124    H           FAS2750      e0a
node2              Eth1/2        124    H           FAS2750      e0a
cs2(FDO220329V5)  Eth1/65       179    R S I s     N9K-C92300YC Eth1/65
cs2(FDO220329V5)  Eth1/66       179    R S I s     N9K-C92300YC Eth1/66

cs2# show cdp neighbors

Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute

Device-ID          Local Intrfce  Hldtme Capability Platform      Port ID
node1              Eth1/1        124    H           FAS2750      e0b
node2              Eth1/2        124    H           FAS2750
e0b
cs1(FDO220329KU)  Eth1/65       179    R S I s     N9K-C92300YC Eth1/65
cs1(FDO220329KU)  Eth1/66       179    R S I s     N9K-C92300YC Eth1/66

Total entries displayed: 4

```

19. Ensure that the cluster network has full connectivity:

cluster ping-cluster -node node-name

Example

```

cluster1:~*~> set -priv advanced

Warning: These advanced commands are potentially dangerous; use them only when
         directed to do so by NetApp personnel.
Do you want to continue? {y|n}: y

cluster1:~*~> cluster ping-cluster -node node2
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 169.254.19.183 to Remote 169.254.209.69
  Local 169.254.19.183 to Remote 169.254.49.125
  Local 169.254.47.194 to Remote 169.254.209.69
  Local 169.254.47.194 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)

cluster1:~*~> set -privilege admin
cluster1:~*~>

```

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