

Replace switches

Cluster and storage switches

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Replace switches

Replace a Cisco Nexus 3232C cluster switch

Follow these steps to replace a defective Cisco Nexus 3232C switch in a cluster. This is a non-disruptive procedure.

Review requirements

What you'll need

Make sure that the existing cluster and network configuration has the following characteristics:

• The Nexus 3232C cluster infrastructure are redundant and fully functional on both switches.

The Cisco Ethernet Switches 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) are in the up state and are not migrated.

The replacement Cisco Nexus 3232C switch has the following characteristics:

- · Management network connectivity is functional.
- · Console access to the replacement switch is in place.
- The appropriate RCF and NX-OS operating system image is loaded onto the switch.
- Initial customization of the switch is complete.

For more information

See the following:

- · Cisco Ethernet Switch description page
- Hardware Universe

Replace the switch

About this task

This replacement procedure describes the following scenario:

- The cluster initially has four nodes connected to two Nexus 3232C cluster switches, CL1 and CL2.
- You plan to replace cluster switch CL2 with C2 (steps 1 to 21):
 - On each node, you migrate the cluster LIFs connected to cluster switch CL2 to cluster ports connected to cluster switch CL1.
 - You disconnect the cabling from all ports on cluster switch CL2 and reconnect the cabling to the same ports on the replacement cluster switch C2.
 - You revert the migrated cluster LIFs on each node.

About the examples

This replacement procedure replaces the second Nexus 3232C cluster switch CL2 with the new 3232C switch C2.

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

- The four nodes are n1, n2, n3, and n4.
- 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 examples in this replacement procedure use four nodes. Two of the 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 to verify the correct cluster ports for your platform.

Step 1: Display and migrate the cluster ports to switch

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.



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-discover	y show	
	Local	Discovered		
Node 	Port	Device	Interface	Platform
 n1	 /cdp			
11	e0a	CL1	Ethernet1/1/1	N3K-C3232C
	e0b		Ethernet1/1/1	
	e0c	CL2	Ethernet1/1/2	
	e0d	CL1	Ethernet1/1/2	N3K-C3232C
n2	/cdp			
	e0a	CL1	Ethernet1/1/3	N3K-C3232C
	e0b	CL2	Ethernet1/1/3	N3K-C3232C
	e0c	CL2	Ethernet1/1/4	N3K-C3232C
	e0d	CL1	Ethernet1/1/4	N3K-C3232C
n3	/cdp			
	e4a	CL1	Ethernet1/7	N3K-C3232C
	e4e	CL2	Ethernet1/7	N3K-C3232C
n4	/cdp			
	e4a	CL1	Ethernet1/8	N3K-C3232C
	e4e	CL2	Ethernet1/8	N3K-C3232C

- 3. Determine the administrative or operational status for each cluster interface.
 - a. Display the network port attributes:

network port show -role cluster

	<pre>::*> network p k port show)</pre>	port snow -re	ore cin	ster			
Node: n	_						
Ignore						Quant 1 (Miles -)	
Health	Health					Speed(Mbps)	
	IPspace	Broadcast	Domain	Link	MTU	Admin/Oper	
Status	Status						
	Cluster			-		auto/10000	
	Cluster			_		auto/10000	
	Cluster			_		auto/10000	
e0d -	Cluster	Cluster		up	9000	auto/10000	_
Node: n Ignore	2						
Health	Health					Speed(Mbps)	
	IPspace	Broadcast	Domain	Link	МТП	Admin/Oper	
	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: n	3						
nouc. II							
Ignore						Speed (Mbps)	
Ignore Health	Health	Duos de se	D	T 2 1	MITT		
Ignore Health Port	IPspace	Broadcast	Domain	Link	MTU		
Ignore Health Port		Broadcast	Domain	Link	MTU		
Ignore Health Port Status	IPspace	Broadcast Cluster	Domain	Link			_
Ignore Health Port	IPspace Status 		Domain			Admin/Oper	_

b. Display information about the logical interfaces (LIFs):

network interface show -role cluster

			w -role cluster Network	Current
Curren Vserve Port	r Interface	Admin/Oper	Address/Mask	Node
 Cluste				
Cluste		מנו/מנו	10.10.0.1/24	n1
e0a	true	ω _P , ω _P		
	n1_clus2	up/up	10.10.0.2/24	n1
e0b	true			
	-	up/up	10.10.0.3/24	n1
e0c	true	,	10 10 0 4/04	1
e0d	nl_clus4 true	up/up	10.10.0.4/24	n1
euu		gu/gu	10.10.0.5/24	n2
e0a	true	~F, ~F		
	n2_clus2	up/up	10.10.0.6/24	n2
e0b	true			
	_	up/up	10.10.0.7/24	n2
e0c	true	/	10 10 0 0 /04	2
e0d	n2_clus4 true	up/up	10.10.0.8/24	n2
Coa		מנו/מנו	10.10.0.9/24	n3
e0a	true	~F, ~F		
	n3_clus2	up/up	10.10.0.10/24	n3
e0e	true			
	n4_clus1	up/up	10.10.0.11/24	n4
e0a	true	,	10 10 0 10 /0 /	4
e0e	n4_clus2 true	up/up	10.10.0.12/24	n4

c. Display the discovered cluster switches:

system cluster-switch show

The following output example displays the cluster switches:

```
cluster::> system cluster-switch show
Switch
                            Type
                                               Address
Model
                        cluster-network 10.10.1.101
CL1
NX3232C
        Serial Number: FOX000001
         Is Monitored: true
               Reason: None
     Software Version: Cisco Nexus Operating System (NX-OS)
Software, Version 7.0(3)I6(1)
      Version Source: CDP
CL2
                            cluster-network 10.10.1.102
NX3232C
        Serial Number: FOX000002
         Is Monitored: true
               Reason: None
     Software Version: Cisco Nexus Operating System (NX-OS)
Software, Version 7.0(3) I6(1)
      Version Source: CDP
```

- 4. Verify that the appropriate RCF and image are installed on the new Nexus 3232C switch and make any necessary site customizations.
 - a. Go to the NetApp Support Site.

mysupport.netapp.com

b. Go to the Cisco Ethernet Switches page and note the required software versions in the table.

Cisco Ethernet Switches

- c. Download the appropriate version of the RCF.
- d. Click **CONTINUE** on the **Description** page, accept the license agreement, and then navigate to the **Download** page.
- e. Download the correct version of the image software from the Cisco® Cluster and Management Network Switch Reference Configuration File Download page.
 - Cisco® Cluster and Management Network Switch Reference Configuration File Download

5. Migrate the cluster LIFs to the physical node ports connected to the replacement switch C2:

network interface migrate -vserver vserver-name -lif lif-name -source-node node-name -destination-node node-name -destination-port port-name

Show example

You must migrate all the cluster LIFs individually as shown in the following example:

```
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 the status of the cluster ports and their home designations:

network interface show -role cluster

(networ			Status	Network	Current
Current	Is	1091041		1100110111	Carrenc
Vserver Port			Admin/Oper	Address/Mask	Node
		_			
Cluster					
•		-	up/up	10.10.0.1/24	n1
e0a	true		110/110	10.10.0.2/24	n1
e0a	fals	_	ар/ ар	10.10.0.2/24	111
		n1_clus3	up/up	10.10.0.3/24	n1
e0d					
0.1		_	up/up	10.10.0.4/24	n1
e0d	true		un/un	10.10.0.5/24	n2
e0a	true	-	ар, ар	10.10.0.3/21	112
		n2_clus2	up/up	10.10.0.6/24	n2
e0a	fals				
- 0 d	fals	_	up/up	10.10.0.7/24	n2
e0d			מנו/מנו	10.10.0.8/24	n2
e0d		_	F / ~ L		
		n3_clus1	up/up	10.10.0.9/24	n3
e4a	true		,	10 10 0 10 10	
e4a	fals	_	up/up	10.10.0.10/24	n3
Cia	тат		up/up	10.10.0.11/24	n4
e4a	true	-	1. 1	·	
		n4_clus2	up/up	10.10.0.12/24	n4

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

network port modify -node node-name -port port-name -up-admin false

The following example shows the cluster interconnect ports are 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 -node node-name
```

The following example shows node n1 being pinged and the RPC status indicated afterward:

```
cluster::*> cluster ping-cluster -node n1
Host is n1 Getting addresses from network interface table...
Cluster n1 clus1 n1
                                10.10.0.1
                     e0a
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
                       e0b 10.10.0.6
e0c 10.10.0.7
Cluster n2 clus2 n2
Cluster n2 clus3 n2
                      e0d
e0a
Cluster n2 clus4 n2
                                10.10.0.8
Cluster n3 clus1 n4
                                10.10.0.9
                                10.10.0.10
Cluster n3 clus2 n3
                        e0e
                        e0a 10.10.0.11
Cluster n4 clus1 n4
Cluster n4 clus2 n4
                                10.10.0.12
                         e0e
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 9000 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)
```

Step 2: Migrate ISLs to switch CL1 and C2

1. Shut down the ports 1/31 and 1/32 on cluster switch CL1.

For more information on Cisco commands, see the guides listed in the Cisco Nexus 3000 Series NX-OS Command References.

Show example

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

- 2. Remove all the cables attached to the cluster switch CL2 and reconnect them to the replacement switch C2 for all the nodes.
- 3. Remove the inter-switch link (ISL) cables from ports e1/31 and e1/32 on cluster switch CL2 and reconnect them to the same ports on the replacement switch C2.
- 4. Bring up ISL ports 1/31 and 1/32 on the cluster switch CL1.

For more information on Cisco commands, see the guides listed in the Cisco Nexus 3000 Series NX-OS Command References.

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

5. Verify that the ISLs are up on CL1.

For more information on Cisco commands, see the guides listed in the Cisco Nexus 3000 Series NX-OS Command References.

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

Show example

6. Verify that the ISLs are up on cluster switch C2.

For more information on Cisco commands, see the guides listed in the Cisco Nexus 3000 Series NX-OS Command References.

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

7. On all nodes, bring up all the cluster interconnect ports connected to the replacement switch C2:

```
network port modify -node node-name -port port-name -up-admin true
```

Show example

```
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 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
```

Step 3: Revert all LIFs to originally assigned ports

1. Revert all the migrated cluster interconnect LIFs on all the nodes:

```
network interface revert -vserver cluster -lif lif-name
```

You must revert all the cluster interconnect LIFs individually as shown in the following example:

```
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_clus2
Cluster::*> network interface revert -vserver cluster -lif n3_clus2
Cluster::*> network interface revert -vserver cluster -lif n4_clus2
```

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

network interface show

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

	Logica	al Status	Network	Current	
Current					
		face Admin/Op	per Address/Mask	Node	
Port	Home				_
Cluster	•				
	-	lus1 up/up	10.10.0.1/24	n1	
e0a	true	lus2 up/up	10.10.0.2/24	n1	
e0b	true	rusz up/up	10.10.0.2/24	111	
	n1_c	lus3 up/up	10.10.0.3/24	n1	
e0c	true				
e0d	n1_cl true	lus4 up/up	10.10.0.4/24	n1	
euu		lus1 up/up	10.10.0.5/24	n2	
e0a	true				
	_	lus2 up/up	10.10.0.6/24	n2	
e0b	true	lue3 un/un	10.10.0.7/24	n2	
e0c	true	russ up/up	10.10.0.7/24	112	
	n2_c	lus4 up/up	10.10.0.8/24	n2	
e0d	true			_	
e4a	n3_cl true	lus1 up/up	10.10.0.9/24	n3	
era		lus2 up/up	10.10.0.10/24	n3	
e4e	true				
	_	lus1 up/up	10.10.0.11/24	n4	
e4a	true	lus2 up/up	10.10.0.12/24	n4	

3. Verify that the cluster ports are connected:

network port show -role cluster

```
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
_____
                            up 9000 auto/10000 -
e0a
      Cluster Cluster
e0b
      Cluster
                            up 9000 auto/10000 -
                Cluster
               Cluster
      Cluster
                            up 9000 auto/10000 -
e0c
e0d Cluster
                            up 9000 auto/10000 -
               Cluster
Node: n2
Ignore
                                     Speed (Mbps) Health
Health
Port IPspace Broadcast Domain Link MTU Admin/Oper Status
Status
_____
      Cluster Cluster
                            up 9000 auto/10000 -
e0a
                            up 9000 auto/10000 -
e0b
                Cluster
      Cluster
e0c
                            up 9000 auto/10000 -
               Cluster
      Cluster
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 -
                            up 9000 auto/40000 -
e4e
      Cluster Cluster
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 -
```

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

cluster ping-cluster -node node-name

The following example shows node n1 being pinged and the RPC status indicated afterward:

```
cluster::*> cluster ping-cluster -node n1
Host is n1 Getting addresses from network interface table...
Cluster n1 clus1 n1
                                10.10.0.1
                       e0a
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
                        e0c
Cluster n2 clus3 n2
                               10.10.0.7
                      e0d
e0a
Cluster n2 clus4 n2
                               10.10.0.8
Cluster n3 clus1 n3
                               10.10.0.9
                                10.10.0.10
Cluster n3 clus2 n3
                        e0e
                        e0a 10.10.0.11
Cluster n4 clus1 n4
Cluster n4 clus2 n4
                               10.10.0.12
                         e0e
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 10.10.0.10

Local 10.10.0.4 to Remote 10.10.0.11

Local 10.10.0.4 to Remote 30.10.0.12

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)
```

Step 4: Verify all ports and LIF are correctly migrated

1. Display the information about the devices in your configuration by entering the following commands:

You can execute the following commands in any order:

```
    network device-discovery show
    network port show -role cluster
    network interface show -role cluster
    system cluster-switch show
```

			i ce-discov covered	ery Sho	W				
NT1 -					T +	C		D1-+6	
Node 	Port		.ce					Platf	orm
n1	/cdp								
	e0a	C1		E	therne	et1/1,	/1	N3K-C3	232C
	e0b	C2		E	therne	et1/1,	/1	N3K-C3	232C
	e0c	C2		E	therne	et1/1,	/2	N3K-C3	232C
	e0d	C1		E	therne	et1/1,	/2	N3K-C3	232C
n2	/cdp								
	e0a	C1		E	therne	et1/1,	/3	N3K-C3	232C
	e0b	C2		E	therne	et1/1,	/3	N3K-C3	232C
	e0c	C2		E	therne	et1/1,	/4	N3K-C3	232C
	e0d	C1		E	therne	et1/1,	/4	N3K-C3	232C
n3	/cdp								
	e4a	C1		E	therne	et1/7		N3K-C3	232C
	e4e	C2		E	therne	et1/7		N3K-C3	232C
n4	/cdp								
	e4a	C1		E	therne	et1/8		N3K-C3	232C
		k po:	rt show -re					N3K-C3	
(networ) Node: n1		k po:	rt show -ro					N3K-C3	
(network Node: n1 Ignore	*> networ	k po:	rt show -re						232C
(network Node: n1 Ignore Health	*> networ ! k port sho	k po:		ole clu	ster	et1/8	Speed	l(Mbps)	232C Health
(network Node: n1 Ignore Health Port	*> networ ! k port sho	k po:	rt show -ro	ole clu	ster	et1/8	Speed	l(Mbps)	232C Health
(network Node: n1 Ignore Health Port	*> networ ! k port sho	k po:		ole clu	ster	et1/8	Speed	l(Mbps)	232C Health
(network Node: n1 Ignore Health Port	*> networ ! k port sho	k po:		ole clu	ster	et1/8	Speed	l(Mbps)	232C Health
(network Node: n1 Ignore Health Port Status	*> network k port sho	k po:	Broadcast	ole clu	ster Link	MTU	Speed Admin	(Mbps) /Oper	232C Health
(network Node: n1 Ignore Health Port Status	*> network * port sho	k po:	BroadcastCluster	ole clu	ster Link up	MTU 9000	Speed Admin	(Mbps) /Oper	232C Health
(network Node: n1 Ignore Health Port Status e0a e0b	*> network <pre> port sho IPspace Cluster Cluster</pre>	k po:	Broadcast Cluster Cluster	ole clu	Link up up	MTU 9000 9000	Speed Admin	(Mbps) /Oper 	232C Health
(network Node: n1 Ignore Health Port Status e0a e0b e0c	*> network * port show IPspace Cluster Cluster Cluster Cluster	k po:	Broadcast Cluster Cluster Cluster Cluster	ole clu	Link up up up	MTU 9000 9000 9000	Speed Admin auto/ auto/	(Mbps) /Oper 10000 10000	232C Health
(network Node: n1 Ignore Health Port Status e0a e0b e0c	*> network * port show IPspace Cluster Cluster Cluster Cluster	k po:	Broadcast Cluster Cluster	ole clu	Link up up	MTU 9000 9000 9000	Speed Admin auto/ auto/	(Mbps) /Oper 	232C Health
(network Node: n1 Ignore Health Port Status e0a e0b e0c e0d	*> network * port show IPspace Cluster Cluster Cluster Cluster	k po:	Broadcast Cluster Cluster Cluster Cluster	ole clu	Link up up up	MTU 9000 9000 9000	Speed Admin auto/ auto/	(Mbps) /Oper 10000 10000	232C Health
(network Node: n1 Ignore Health Port Status e0a e0b	*> network * port show IPspace Cluster Cluster Cluster Cluster	k po:	Broadcast Cluster Cluster Cluster Cluster	ole clu	Link up up up	MTU 9000 9000 9000	Speed Admin auto/ auto/ auto/	(Mbps) /Oper 10000 10000 10000	232C Health

Port Status	ΙI	Pspace	Broadcast 1	Domain	Link	MTU	Admin/Oper	Status
e0a	C	luster	Cluster		up	9000	auto/10000	-
e0b	C	luster	Cluster		up	9000	auto/10000	-
e0c	C	luster	Cluster		up	9000	auto/10000	-
e0d	C	luster	Cluster		up	9000	auto/10000	-
Node: n3	3							
Ignore							Speed(Mbps)	Hoalth
Health							speed (mpps)	nearth
Port Status	ΙI	Pspace	Broadcast 1	Domain	Link	MTU	Admin/Oper	Status
e4a	C	luster	Cluster		up	9000	auto/40000	_
e4e	C	luster	Cluster		_		auto/40000	
Node: n	4							
Ignore							Speed (Mbps)	Health
Health							speed (Hope)	11041011
Port	II	Pspace	Broadcast 1	Domain	Link	MTU	Admin/Oper	Status
Status		_					-	
e4a	C	luster	Cluster		up	9000	auto/40000	_
e4e	C	luster	Cluster		up	9000	auto/40000	-
cluster	::*>	network in	terface show	w -role	e clus	ster		
Current	Τα	Logical	Status	Netwo	rk		Current	
			Admin/Oper	Addres	ss/Mas	sk	Node	
	Home	9						
Port								
	 	-						
Port		-						
Port		nm1_clus1	up/up	10.10	.0.1/2	24	n1	
Port		_	up/up	10.10	.0.1/2	24	n1	
Port Cluster		_ e	up/up up/up					

	n1_clus3	up/up	10.10.0.3/24	n1
e0c t	rue			
e0d t	n1_clus4 crue	up/up	10.10.0.4/24	n1
coa	n2_clus1	up/up	10.10.0.5/24	n2
e0a t	rue	,	10 10 0 6/04	^
e0b t	n2_clus2 crue	up/up	10.10.0.6/24	n2
	n2_clus3	up/up	10.10.0.7/24	n2
e0c t	rue n2 clus4	ווח/ווח	10.10.0.8/24	n2
e0d t	rue	αρ/ αρ	10.10.0.0, 21	
- 1 -	n3_clus1	up/up	10.10.0.9/24	n3
e4a t	rue n3 clus2	up/up	10.10.0.10/24	n3
e4e t	rue	1 1		
e4a t	n4_clus1 rue	up/up	10.10.0.11/24	n4
e4a t		up/up	10.10.0.12/24	n4
e4e t	rue			
A / T = -1 7				
 		cli	uster-network 10	.10.1.101
		mber: FOX(000001	.10.1.101
	Is Monit	mber: FOX(000001 e	.10.1.101
	Is Monit Re	mber: FOX(ored: true	000001 e e	
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CL2	Is Monit Re Software Ver Version 7.0(mber: FOX(ored: true ason: None sion: Cisc 3) 16(1) urce: CDP	000001 e e	System (NX-OS)
CL2	Is Monit Re Software Ver Version 7.0(Version So	mber: FOX(ored: true ason: None sion: Cisc 3) 16(1) urce: CDP	000001 e e co Nexus Operating uster-network 10	System (NX-OS)
CL1 NX3232C Software,	Is Monit Re Software Ver Version 7.0(Version So	mber: FOX(ored: true ason: None sion: Cisc 3) 16(1) urce: CDP	000001 e c c o Nexus Operating uster-network 10	System (NX-OS)
CL1 NX3232C Software,	Is Monit Re Software Ver Version 7.0(Version So Serial Nu Is Monit Re	mber: FOX(ored: true ason: None sion: Cise 3) I6(1) urce: CDP clu mber: FOX(ored: true ason: None	000001 e co Nexus Operating uster-network 10	System (NX-OS) .10.1.102
CL1 NX3232C Software, CL2 NX3232C	Is Monit Re Software Ver Version 7.0(Version So Serial Nu Is Monit Re Software Ver	mber: FOX(ored: true ason: None sion: Cisc 3) I6(1) urce: CDP	000001 e co Nexus Operating uster-network 10	System (NX-OS) .10.1.102
CL1 NX3232C Software, CL2 NX3232C	Is Monit Re Software Ver Version 7.0(Version So Serial Nu Is Monit Re Software Ver Version 7.0(mber: FOX(ored: true ason: None sion: Cise 3) I6(1) urce: CDP	000001 e co Nexus Operating uster-network 10	System (NX-OS) .10.1.102
CL1 NX3232C Software, CL2 NX3232C	Is Monit Re Software Ver Version 7.0(Version So Serial Nu Is Monit Re Software Ver	mber: FOX(ored: true ason: None sion: Cise 3) I6(1) urce: CDP	000001 e co Nexus Operating uster-network 10	System (NX-OS) .10.1.102
CL1 NX3232C Software, CL2 NX3232C	Is Monit Re Software Ver Version 7.0(Version So Serial Nu Is Monit Re Software Ver Version 7.0(mber: FOX(ored: true ason: None sion: Cisc 3) I6(1) urce: CDP clu mber: FOX(ored: true ason: None sion: Cisc 3) I6(1) urce: CDP	000001 e co Nexus Operating uster-network 10	System (NX-OS) .10.1.102 System (NX-OS)
CL2 NX3232C	Is Monit Re Software Ver Version 7.0(Version So Serial Nu Is Monit Re Software Ver Version 7.0(Version So	mber: FOX(ored: true ason: None sion: Cisc 3) I6(1) urce: CDP clu mber: FOX(ored: true ason: None sion: Cisc 3) I6(1) urce: CDP	000001 e e co Nexus Operating uster-network 10 000002 e co Nexus Operating	System (NX-OS) .10.1.102 System (NX-OS)

Is Monitored: true

Reason: None

Software Version: Cisco Nexus Operating System (NX-OS)

Software, Version 7.0(3)I6(1)

Version Source: CDP 3 entries were displayed.

2. Delete the replaced cluster switch CL2 if it has not been removed automatically:

system cluster-switch delete -device cluster-switch-name

3. Verify that the proper cluster switches are monitored:

system cluster-switch show

Show example

The following example shows the cluster switches are monitored because the Is Monitored state is true.

cluster::> system cluster-switch show Switch Type Address Model CL1 cluster-network 10.10.1.101 NX3232C Serial Number: FOX000001 Is Monitored: true Reason: None Software Version: Cisco Nexus Operating System (NX-OS) Software, Version 7.0(3)I6(1) Version Source: CDP C2 cluster-network 10.10.1.103 NX3232C Serial Number: FOX000002 Is Monitored: true Reason: None Software Version: Cisco Nexus Operating System (NX-OS) Software, Version 7.0(3)I6(1) Version Source: CDP

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

system cluster-switch log setup-password

```
cluster::*> system cluster-switch log setup-password
Enter the switch name: <return>
The switch name entered is not recognized.
Choose from the following list:
CL1
C2
cluster::*> system cluster-switch log setup-password
Enter the switch name: CL1
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.

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

Replace a Cisco Nexus 3232C storage switch

Follow these steps to replace a defective Cisco Nexus 3232C storage switch. This is a non-disruptive procedure.

Review requirements

The existing network configuration must have the following characteristics:

- The Cisco Ethernet Switches page has the latest RCF and NX-OS versions on your switches.
- · Management connectivity must exist on both switches.



Make sure that all troubleshooting steps have been completed to confirm that your switch needs replacing.

The replacement Cisco Nexus 3232C switch must have the following characteristics:

- Management network connectivity must be functional.
- · Console access to the replacement switch must be in place.
- The appropriate RCF and NX-OS operating system image must be loaded onto the switch.
- Initial customization of the switch must be complete.

Replace the switch

This procedure replaces the second Nexus 3232C storage switch S2 with the new 3232C switch NS2. The two nodes are node1 and node2.

Step 1: Confirm the switch to be replaced is S2

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.



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

2. Check on the health status of the storage node ports to make sure that there is connection to storage switch S1:

```
storage port show -port-type ENET
```

				Speed			VLAN
Node	Port	Type	Mode	(Gb/s)	State	Status	ID
 node1							
	e3a	ENET	storage	100	enabled	online	30
	e3b	ENET	storage	0	enabled	offline	30
	e7a	ENET	storage	0	enabled	offline	30
	e7b	ENET	storage	0	enabled	offline	30
node2							
	e3a	ENET	storage	100	enabled	online	30
	e3b	ENET	storage	0	enabled	offline	30
	e7a	ENET	storage	0	enabled	offline	30
	e7b	ENET	storage	0	enabled	offline	30

3. Verify that storage switch S1 is available:

network device-discovery show

storage::*>	networ	k device-discovery show		
Node/	Local	Discovered		
Protocol	Port	Device (LLDP: ChassisID)	Interface	
Platform				
node1/cdp				
_	e3a	S1	Ethernet1/1	
NX3232C				
	e4a	node2	e4a	AFF-
A700				
	e4e	node2	e4e	AFF-
A700				
node1/lldp				
	e3a	S1	Ethernet1/1	-
	e4a	node2	e4a	-
	e4e	node2	e4e	-
node2/cdp				
	e3a	S1	Ethernet1/2	
NX3232C				
	e4a	node1	e4a	AFF-
A700				
	e4e	node1	e4e	AFF-
A700				
node2/11dp				
	e3a		Ethernet1/2	_
		node1	e4a	-
	e4e	node1	e4e	-

4. Run the show lldp neighbors command on the working switch to confirm that you can see both nodes and all shelves:

show lldp neighbors

```
S1# show lldp neighbors
Capability codes:
  (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
  (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID
                       Local Intf Hold-time Capability Port
ID
                       Eth1/1
node1
                                       121
                                                  S
                                                              e3a
                                                  S
node2
                       Eth1/2
                                       121
                                                              e3a
                       Eth1/5
SHFGD2008000011
                                       121
                                                  S
                                                              e0a
SHFGD2008000011
                       Eth1/6
                                       120
                                                  S
                                                              e0a
SHFGD2008000022
                       Eth1/7
                                       120
                                                  S
                                                              e0a
SHFGD2008000022
                       Eth1/8
                                                  S
                                       120
                                                              e0a
```

Step 2: Configure cabling

1. Verify the shelf ports in the storage system:

storage shelf port show -fields remote-device, remote-port

Show example

- 2. Remove all cables attached to storage switch S2.
- 3. Reconnect all cables to the replacement switch NS2.

Step 3: Verify all device configurations on switch NS2

1. Verify the health status of the storage node ports:

storage::*> stora g	e por	C SHOW	port t	Speed	•	
VLAN				bpeed		
Node	Port	Type	Mode	(Gb/s)	State	Status
ID						
node1						
30	еЗа	ENET	storage	100	enabled	online
30	۵3h	ENET	storage	Ω	enabled	offline
30	COD		Scorage	O	CHADICA	OTTTINE
	e7a	ENET	storage	0	enabled	offline
30			_			
	e7b	ENET	storage	100	enabled	online
30						
node2						
30	e3a	ENET	storage	100	enabled	online
30	e3h	ENET	storage	0	enabled	offline
30	630	EINET	scorage	O	enabled	OTITINE
	e7a	ENET	storage	0	enabled	offline
30			,			
	e7b	ENET	storage	100	enabled	online

2. Verify that both switches are available:

network device-discovery show

_		k device-discovery show Discovered		
		Device (LLDP: ChassisID)	Interface	
Platform				
node1/cdp				
	e3a	S1	Ethernet1/1	
NX3232C				
	e4a	node2	e4a	AFF-
A700				
	e4e	node2	e4e	AFF-
A700				
	e7b	NS2	Ethernet1/1	
NX3232C				
node1/lldp	2	0.1	D.1 .1/1	
	e3a		Ethernet1/1	_
		node2	e4a e4e	_
	e4e e7b		Ethernet1/1	
node2/cdp	e / D	NS Z	Echerneci/i	
1104627 645	e3a	S1	Ethernet1/2	
NX3232C	cou		Editoriio et / 2	
	e4a	node1	e4a	AFF-
A700				
	e4e	node1	e4e	AFF-
A700				
	e7b	NS2	Ethernet1/2	
NX3232C				
node2/11dp				
	e3a	S1	Ethernet1/2	-
	e4a	node1	e4a	-
	e4e	node1	e4e	-
	e7b	NS2	Ethernet1/2	-

3. Verify the shelf ports in the storage system:

storage shelf port show -fields remote-device, remote-port

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

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

Replace Cisco Nexus 3232C cluster switches with switchless connections

You can migrate from a cluster with a switched cluster network to one where two nodes are directly connected for ONTAP 9.3 and later.

Review requirements

Guidelines

Review the following guidelines:

- Migrating to a two-node switchless cluster configuration is a nondisruptive operation. Most systems have two dedicated cluster interconnect ports on each node, but you can also use this procedure for systems with a larger number of dedicated cluster interconnect ports on each node, such as four, six or eight.
- You cannot use the switchless cluster interconnect feature with more than two nodes.
- If you have an existing two-node cluster that uses cluster interconnect switches and is running ONTAP 9.3 or later, you can replace the switches with direct, back-to-back connections between the nodes.

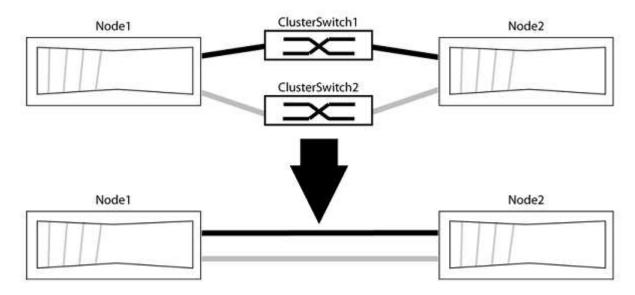
What you'll need

- A healthy cluster that consists of two nodes connected by cluster switches. The nodes must be running the same ONTAP release.
- Each node with the required number of dedicated cluster ports, which provide redundant cluster interconnect connections to support your system configuration. For example, there are two redundant ports for a system with two dedicated cluster interconnect ports on each node.

Migrate the switches

About this task

The following procedure removes the cluster switches in a two-node cluster and replaces each connection to the switch with a direct connection to the partner node.



About the examples

The examples in the following procedure show nodes that are using "e0a" and "e0b" as cluster ports. Your nodes might be using different cluster ports as they vary by system.

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. ONTAP 9.3 and later supports automatic detection of switchless clusters, which is enabled by default.

You can verify that detection of switchless clusters is enabled by running the advanced privilege command:

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

Show example

The following example output shows if the option is enabled.

```
cluster::*> network options detect-switchless-cluster show
     (network options detect-switchless-cluster show)
Enable Switchless Cluster Detection: true
```

If "Enable Switchless Cluster Detection" is false, contact NetApp support.

3. 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=<number of hours>h
```

where h is the duration of the maintenance window in hours. The message notifies technical support of this maintenance task so that they can suppress automatic case creation during the maintenance window.

In the following example, the command suppresses automatic case creation for two hours:

Show example

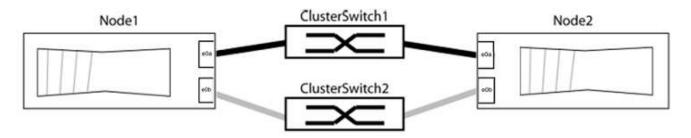
```
cluster::*> system node autosupport invoke -node * -type all -message MAINT=2h
```

Step 2: Configure ports and cabling

- 1. Organize the cluster ports on each switch into groups so that the cluster ports in group1 go to cluster switch1 and the cluster ports in group2 go to cluster switch2. These groups are required later in the procedure.
- 2. Identify the cluster ports and verify link status and health:

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

In the following example for nodes with cluster ports "e0a" and "e0b", one group is identified as "node1:e0a" and "node2:e0a" and the other group as "node1:e0b" and "node2:e0b". Your nodes might be using different cluster ports because they vary by system.



Verify that the ports have a value of up for the "Link" column and a value of healthy for the "Health Status" column.

```
cluster::> network port show -ipspace Cluster
Node: node1
Ignore
                               Speed (Mbps) Health
Health
Port IPspace Broadcast Domain Link MTU Admin/Oper Status
e0a Cluster Cluster up 9000 auto/10000 healthy
false
e0b 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
4 entries were displayed.
```

3. Confirm that all the cluster LIFs are on their home ports.

Verify that the "is-home" column is true for each of the cluster LIFs:

network interface show -vserver Cluster -fields is-home

If there are cluster LIFs that are not on their home ports, revert those LIFs to their home ports:

```
network interface revert -vserver Cluster -lif *
```

4. Disable auto-revert for the cluster LIFs:

```
network interface modify -vserver Cluster -lif * -auto-revert false
```

5. Verify that all ports listed in the previous step are connected to a network switch:

```
network device-discovery show -port cluster port
```

The "Discovered Device" column should be the name of the cluster switch that the port is connected to.

Show example

The following example shows that cluster ports "e0a" and "e0b" are correctly connected to cluster switches "cs1" and "cs2".

```
cluster::> network device-discovery show -port e0a|e0b
  (network device-discovery show)
Node/ Local Discovered
Protocol Port Device (LLDP: ChassisID) Interface Platform
node1/cdp
        e0a cs1
                                      0/11
                                               BES-53248
        e0b cs2
                                      0/12
                                               BES-53248
node2/cdp
         e0a cs1
                                      0/9 BES-53248
                                               BES-53248
         e0b cs2
                                      0/9
4 entries were displayed.
```

6. Verify the cluster connectivity:

cluster ping-cluster -node local

7. Verify that the cluster is healthy:

cluster ring show

All units must be either master or secondary.

8. Set up the switchless configuration for the ports in group 1.



To avoid potential networking issues, you must disconnect the ports from group1 and reconnect them back-to-back as quickly as possible, for example, **in less than 20 seconds**.

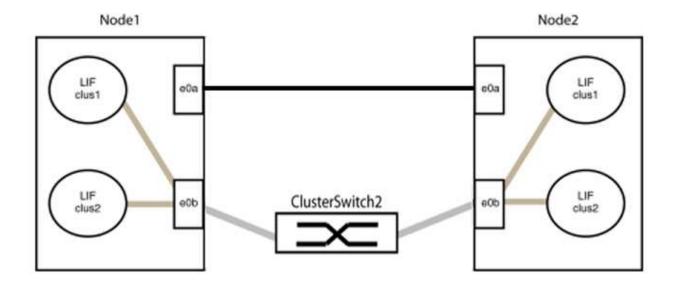
a. Disconnect all the cables from the ports in group1 at the same time.

In the following example, the cables are disconnected from port "e0a" on each node, and cluster traffic continues through the switch and port "e0b" on each node:



b. Cable the ports in group1 back-to-back.

In the following example, "e0a" on node1 is connected to "e0a" on node2:



9. The switchless cluster network option transitions from false to true. This might take up to 45 seconds. Confirm that the switchless option is set to true:

network options switchless-cluster show

The following example shows that the switchless cluster is enabled:

cluster::*> network options switchless-cluster show
Enable Switchless Cluster: true

10. Verify that the cluster network is not disrupted:

cluster ping-cluster -node local



Before proceeding to the next step, you must wait at least two minutes to confirm a working back-to-back connection on group 1.

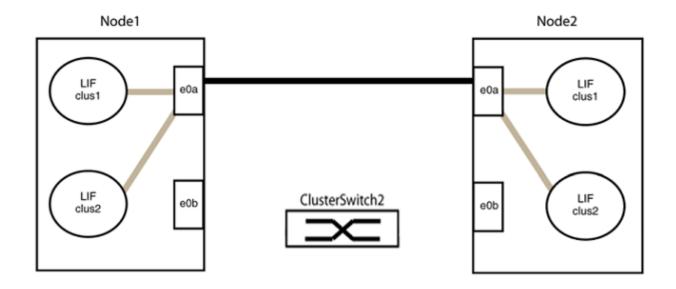
11. Set up the switchless configuration for the ports in group 2.



To avoid potential networking issues, you must disconnect the ports from group2 and reconnect them back-to-back as quickly as possible, for example, **in less than 20 seconds**.

a. Disconnect all the cables from the ports in group2 at the same time.

In the following example, the cables are disconnected from port "e0b" on each node, and cluster traffic continues through the direct connection between the "e0a" ports:



b. Cable the ports in group2 back-to-back.

In the following example, "e0a" on node1 is connected to "e0a" on node2 and "e0b" on node1 is connected to "e0b" on node2:



Step 3: Verify the configuration

1. Verify that the ports on both nodes are correctly connected:

network device-discovery show -port cluster_port

The following example shows that cluster ports "e0a" and "e0b" are correctly connected to the corresponding port on the cluster partner:

```
cluster::> net device-discovery show -port e0a|e0b
  (network device-discovery show)
Node/
        Local Discovered
Protocol Port Device (LLDP: ChassisID) Interface Platform
node1/cdp
               node2
                                        e0a
                                                  AFF-A300
          e0a
          e0b node2
                                        e0b
                                                  AFF-A300
node1/11dp
          e0a node2 (00:a0:98:da:16:44) e0a
          e0b
               node2 (00:a0:98:da:16:44) e0b
node2/cdp
          e0a
               node1
                                        e0a
                                                  AFF-A300
          e0b
               node1
                                        e0b
                                                  AFF-A300
node2/11dp
          e0a
               node1 (00:a0:98:da:87:49) e0a
                node1 (00:a0:98:da:87:49) e0b
          e0b
8 entries were displayed.
```

2. Re-enable auto-revert for the cluster LIFs:

network interface modify -vserver Cluster -lif * -auto-revert true

3. Verify that all LIFs are home. This might take a few seconds.

network interface show -vserver Cluster -lif lif name

The LIFs have been reverted if the "Is Home" column is true, as shown for node1_clus2 and node2_clus2 in the following example:

If any cluster LIFS have not returned to their home ports, revert them manually from the local node:

```
network interface revert -vserver Cluster -lif lif name
```

4. Check the cluster status of the nodes from the system console of either node:

cluster show

Show example

The following example shows epsilon on both nodes to be false:

5. Confirm connectivity between the cluster ports:

```
cluster ping-cluster local
```

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

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

For more information, see NetApp KB Article 1010449: How to suppress automatic case creation during scheduled maintenance windows.

7. Change the privilege level back to admin:

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