



Migrate from a switched configuration with DAT storage by adding two new shared switches

ONTAP Systems

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Table of Contents

Migrate from a switched configuration with DAT storage by adding two new shared switches 1

Migrate from a switched configuration with DAT storage by adding two new shared switches

Migrate from a switched configuration with DAT storage

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 9336C-FX2 shared switches.

- The following switches are supported:
 - Nexus 9336C-FX2
 - Nexus 3232C
- The switches use the following ports for connections to nodes:
- Nexus 9336C-FX2:
 - Ports 1- 3: Breakout mode (4x10G) Intra-Cluster Ports, int e1/1/1-4, e1/2/1-4, e1/3/1-4
 - Ports 4- 6: Breakout mode (4x25G) Intra-Cluster/HA Ports, int e1/4/1-4, e1/5/1-4, e1/6/1-4
 - Ports 7-34: 40/100GbE Intra-Cluster/HA Ports, int e1/7-34
- Nexus 3232C:
 - Ports 1-30: 10/40/100 GbE
- The switches use the following Inter-Switch Link (ISL) ports:
 - Ports int e1/35-36: Nexus 9336C-FX2
 - Ports e1/31-32: Nexus 3232C
- The Hardware Universe contains information about supported cabling for all cluster switches.

See [Hardware Universe](#) for more information.

- You have configured some of the ports on Nexus 9336C-FX2 switches to run at 100 GbE.
- You have planned, migrated, and documented 100 GbE connectivity from nodes to Nexus 9336C-FX2 switches.
- The ONTAP and NX-OS versions supported in this procedure are on the Cisco Ethernet Switches page. See [Cisco Ethernet switches](#).
- You can migrate nondisruptively other Cisco cluster switches from an ONTAP cluster to Cisco Nexus 9336C-FX2 network switches.

Before you begin

- The existing switch network must be properly set up and functioning.
- All ports must be in the **up** state to ensure nondisruptive operations.
- The Nexus 9336C-FX2 switches must be configured and operating under the proper version of NX-OS installed and reference configuration file (RCF) applied.
- The existing 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 other 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 3232C cluster switches are *c1* and *c2*.
- The new Nexus 9336C-FX2 switches are *sh1* and *sh2*.
- 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 *sh2* first and then switch *c1* is replaced by switch *sh1*.

Steps

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

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

Where x is the duration of the maintenance window in hours.

2. Check the administrative and operational status of each cluster port.
3. Verify that all the cluster ports are up with a healthy status:

```
network port show -role cluster
```

```
cluster1::*> network port show -role cluster
```

```
Node: node1
```

Port	IPspace	Broadcast Domain	Link	MTU	Speed (Mbps) Admin/Ope	Health Status	Ignore Health Status
e3a	Cluster	Cluster	up	9000	auto/100000	healthy	false
e3b	Cluster	Cluster	up	9000	auto/100000	healthy	false

```
Node: node2
```

Port	IPspace	Broadcast Domain	Link	MTU	Speed (Mbps) Admin/Oper	Health Status	Ignore Health Status
e3a	Cluster	Cluster	up	9000	auto/100000	healthy	false
e3b	Cluster	Cluster	up	9000	auto/100000	healthy	false

```
4 entries were displayed.
```

```
cluster1::*>
```

4. Verify that all the cluster interfaces (LIFs) are on the home port:

```
network interface show -role cluster
```

```
cluster1::*> network interface show -role cluster
```

Vserver	Logical Interface	Status Admin/Oper	Network Address/Mask	Current Node	Current Port	Is Home
Cluster	node1_clus1	up/up	169.254.3.4/23	node1	e3a	true
	node1_clus2	up/up	169.254.3.5/23	node1	e3b	true
	node2_clus1	up/up	169.254.3.8/23	node2	e3a	true
	node2_clus2	up/up	169.254.3.9/23	node2	e3b	true

4 entries were displayed.
cluster1::*>

5. Verify that the cluster displays information for both cluster switches:

```
system cluster-switch show -is-monitoring-enabled-operational true
```

```
cluster1::*> system cluster-switch show -is-monitoring-enabled-operational true
```

Switch	Type	Address	Model
sh1	cluster-network	10.233.205.90	N9K-C9336C
Serial Number: FOCXXXXXXGD			
Is Monitored: true			
Reason: None			
Software Version: Cisco Nexus Operating System (NX-OS) Software, Version 9.3(5)			
Version Source: CDP			
sh2	cluster-network	10.233.205.91	N9K-C9336C
Serial Number: FOCXXXXXXGS			
Is Monitored: true			
Reason: None			
Software Version: Cisco Nexus Operating System (NX-OS) Software, Version 9.3(5)			
Version Source: CDP			

cluster1::*>

6. Disable auto-revert on the cluster LIFs.

```
cluster1::*> network interface modify -vserver Cluster -lif * -auto-revert false
```

7. Shutdown the c2 switch:

```
c2# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
c2(config)# interface ethernet <int range>
c2(config)#shutdown
```

8. Verify that the cluster LIFs have migrated to the ports hosted on cluster switch sh1:

`network interface show -role cluster`
 This might take a few seconds.

```
cluster1::*> network interface show -role cluster
```

Vserver	Logical Interface	Status Admin/Oper	Network Address/Mask	Current Node	Current Port	Is
Home						
Cluster						
true	node1_clus1	up/up	169.254.3.4/23	node1	e3a	
false	node1_clus2	up/up	169.254.3.5/23	node1	e3a	
true	node2_clus1	up/up	169.254.3.8/23	node2	e3a	
false	node2_clus2	up/up	169.254.3.9/23	node2	e3a	

4 entries were displayed.
 cluster1::*>

9. Replace switch c2 with the new switch sh2 and re-cable the new switch.
10. Verify that the ports are back up on sh2. **Note** that the LIFs are still on switch c1.
11. Shutdown the c1 switch:

```
c1# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
c1(config)# interface ethernet <int range>
c1(config)#shutdown
```

12. Verify that the cluster LIFs have migrated to the ports hosted on cluster switch sh2. This might take a few seconds.

```
cluster1::*> network interface show -role cluster
```

Vserver	Logical Interface	Status Admin/Oper	Network Address/Mask	Current Node	Current Port	Is Home
Cluster	node1_clus1	up/up	169.254.3.4/23	node1	e3a	true
	node1_clus2	up/up	169.254.3.5/23	node1	e3a	false
	node2_clus1	up/up	169.254.3.8/23	node2	e3a	true
	node2_clus2	up/up	169.254.3.9/23	node2	e3a	false

4 entries were displayed.
cluster1::*>

13. Replace switch c1 with the new switch sh1 and re-cable the new switch.
14. Verify that the ports are back up on sh1. **Note** that the LIFs are still on switch c2.
15. Enable auto-revert on the cluster LIFs:

```
cluster1::*> network interface modify -vserver Cluster -lif * -auto-revert True
```

16. Verify that the cluster is healthy:

```
cluster show
```

```
cluster1::*> cluster show
```

Node	Health	Eligibility	Epsilon
node1	true	true	false
node2	true	true	false

2 entries were displayed.
cluster1::*>

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