



Replacing a Brocade FC switch

ONTAP MetroCluster

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You must use this Brocade-specific procedure to replace a failed switch.

You need the admin password and access to an FTP or SCP server.

In the following examples, FC_switch_A_1 is the healthy switch and FC_switch_B_1 is the impaired switch. The switch port usage in the examples is shown in the following table:

Port connections	Ports
FC-VI connections	0, 3
HBA connections	1, 2, 4, 5
FC-to-SAS bridge connections	6, 7
ISL connections	10, 11

The examples show two FC-to-SAS bridges. If you have more, you must disable and subsequently enable the additional ports.



This procedure is nondisruptive and takes approximately two hours to complete.

Your switch port usage should follow the recommended assignments.

- [Port assignments for FC switches when using ONTAP 9.0](#)
- [Port assignments for FC switches when using ONTAP 9.1 and later](#)

Steps

1. Fence off the switch undergoing replacement by disabling the ISL ports on the healthy switch in the fabric and the FC-VI and HBA ports on the impaired switch (if the impaired switch is still operating):

a. Disable the ISL ports on the healthy switch for each port:

portcfgpersistentdisable *port-number*

```
FC_switch_A_1:admin> portcfgpersistentdisable 10  
FC_switch_A_1:admin> portcfgpersistentdisable 11
```

b. If the impaired switch is still operational, disable the FC-VI and HBA ports on that switch for each port:

portcfgpersistentdisable *port-number*

```
FC_switch_B_1:admin> portcfgpersistentdisable 0
FC_switch_B_1:admin> portcfgpersistentdisable 1
FC_switch_B_1:admin> portcfgpersistentdisable 2
FC_switch_B_1:admin> portcfgpersistentdisable 3
FC_switch_B_1:admin> portcfgpersistentdisable 4
FC_switch_B_1:admin> portcfgpersistentdisable 5
```

2. If the impaired switch is still operational, gather the output from the **switchshow** command.

```
FC_switch_B_1:admin> switchshow
  switchName: FC_switch_B_1
  switchType: 71.2
  switchState:Online
  switchMode: Native
  switchRole: Subordinate
  switchDomain:      2
  switchId:   fffc01
  switchWwn:  10:00:00:05:33:86:89:cb
  zoning:           OFF
  switchBeacon:     OFF
```

3. Boot and preconfigure the new switch prior to physically installing it:
 - a. Power up the new switch and let it boot up.
 - b. Check the firmware version on the switch to confirm that it matches the version of the other FC switches:
firmwareShow
 - c. Configure the new switch as described in the *MetroCluster Installation and Configuration Guide*, but skipping the “Configuring zoning on Brocade FC switches” section.

[Fabric-attached MetroCluster installation and configuration](#)

You configure zoning later in this procedure.



At this point, the new switch is not cabled to the MetroCluster configuration.

- d. Disable the FC-VI, HBA, and storage ports on the new switch, and the ports connected to the FC-SAS bridges.

```
FC_switch_B_1:admin> portcfgpersistentdisable 0
FC_switch_B_1:admin> portcfgpersistentdisable 1
FC_switch_B_1:admin> portcfgpersistentdisable 2
FC_switch_B_1:admin> portcfgpersistentdisable 3
FC_switch_B_1:admin> portcfgpersistentdisable 4
FC_switch_B_1:admin> portcfgpersistentdisable 5

FC_switch_B_1:admin> portcfgpersistentdisable 6
FC_switch_B_1:admin> portcfgpersistentdisable 7
```

4. Physically replace the switch:

- a. Power off the impaired FC switch.
- b. Power off the replacement FC switch.
- c. Uncable and remove the impaired switch, carefully noting which cables connected to which ports.
- d. Install the replacement switch in the rack.
- e. Cable the replacement switch exactly as the old switch was cabled.
- f. Power on the new FC switch.

5. If you want to enable ISL encryption, complete the applicable tasks in the [Fabric-attached MetroCluster Installation and Configuration Guide](#).

If you are enabling ISL encryption, you need to complete the following tasks:

- Disabling the virtual fabric
- Setting the payload
- Setting the authentication policy
- Enabling ISL encryption on Brocade switches

6. Complete the configuration of the new switch:

- a. Enable the ISLs:

portcfgpersistentenable *port-number*

```
FC_switch_B_1:admin> portcfgpersistentenable 10
FC_switch_B_1:admin> portcfgpersistentenable 11
```

- b. On the replacement switch (FC_switch_B_1 in the example), verify that the ISLs are online:
switchshow

```

FC_switch_B_1:admin> switchshow
switchName: FC_switch_B_1
switchType: 71.2
switchState:Online
switchMode: Native
switchRole: Principal
switchDomain:      4
switchId:   fffc03
switchWwn:  10:00:00:05:33:8c:2e:9a
zoning:      OFF
switchBeacon: OFF

Index Port Address Media Speed State  Proto
=====
...
10  10   030A00 id   16G   Online FC E-Port
10:00:00:05:33:86:89:cb "FC_switch_A_1"
11  11   030B00 id   16G   Online FC E-Port
10:00:00:05:33:86:89:cb "FC_switch_A_1" (downstream)
...

```

- c. Enable the storage ports that connect to the FC bridges.

```

FC_switch_B_1:admin> portcfgpersistentenable 6
FC_switch_B_1:admin> portcfgpersistentenable 7

```

- d. Enable the storage, HBA, and FC-VI ports.

The following example shows the commands used to enable the ports connecting HBA adapters:

```

FC_switch_B_1:admin> portcfgpersistentenable 1
FC_switch_B_1:admin> portcfgpersistentenable 2
FC_switch_B_1:admin> portcfgpersistentenable 4
FC_switch_B_1:admin> portcfgpersistentenable 5

```

The following example shows the commands used to enable the ports connecting the FC-VI adapters:

```

FC_switch_B_1:admin> portcfgpersistentenable 0
FC_switch_B_1:admin> portcfgpersistentenable 3

```

7. Verify that the ports are online:

switchshow

8. Verify the operation of the MetroCluster configuration in ONTAP:

a. Check whether the system is multipathed:

```
node run -node node-name sysconfig -a
```

b. Check for any health alerts on both clusters:

```
system health alert show
```

c. Confirm the MetroCluster configuration and that the operational mode is normal:

```
metrocluster show
```

d. Perform a MetroCluster check:

```
metrocluster check run
```

e. Display the results of the MetroCluster check:

```
metrocluster check show
```

f. Check for any health alerts on the switches (if present):

```
storage switch show
```

g. Run Config Advisor.

[NetApp Downloads: Config Advisor](#)

h. After running Config Advisor, review the tool's output and follow the recommendations in the output to address any issues discovered.

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