Cabling the FC-VI and HBA ports in a MetroCluster configuration with array LUNs

ONTAP MetroCluster

NetApp
September 24, 2021

Table of Contents

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For a fabric-attached MetroCluster configuration with array LUNs, you must connect the controllers in a MetroCluster configuration to the storage arrays through FC switches.

Cabling the FC-VI and HBA ports in a two-node fabric-attached MetroCluster configuration with array LUNs

If you are setting up a two-node fabric-attached MetroCluster configuration with array LUNs, you must cable the FC-VI ports and the HBA ports to the switch ports.

About this task

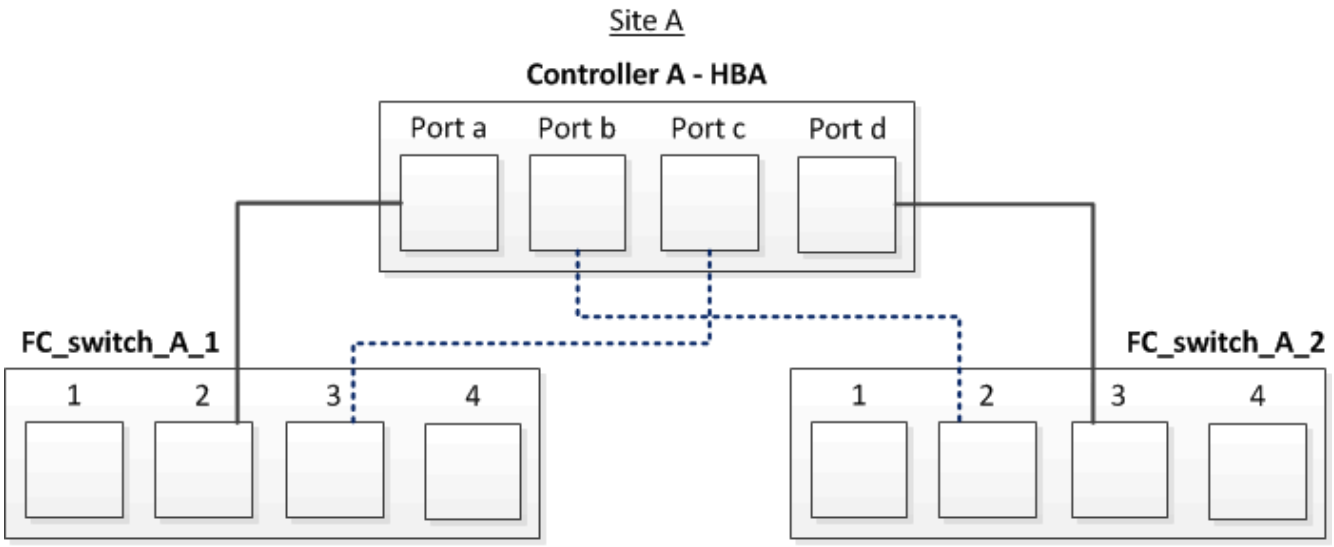
- You must repeat this task for each controller at both of the MetroCluster sites.
- If you plan to use disks in addition to array LUNs in your MetroCluster configuration, you must use the HBA ports and switch ports specified for configuration with disks.
  - Port assignments for FC switches when using ONTAP 9.1 and later
  - Port assignments for FC switches when using ONTAP 9.0

Steps

1. Cable the FC-VI ports from the controller to alternate switch ports.
2. Perform the controller-to-switch cabling at both of the MetroCluster sites.

   You must ensure redundancy in connections from the controller to the switches. Therefore, for each controller at a site, you must ensure that both of the HBA ports in the same port pair are connected to alternate FC switches.

   The following example shows the connections between the HBA ports on Controller A and ports on FC_switch_A_1 and FC_switch_A_2:



   The following table lists the connections between the HBA ports and the FC switch ports in the illustration:

HBA ports	Switch ports
Port pair	
Port a	FC_switch_A_1, Port 2
Port d	FC_switch_A_2, Port 3
Port pair	
Port b	FC_switch_A_2, Port 2
Port c	FC_switch_A_1, Port 3

After you finish

You should cable the ISLs between the FC switches across the MetroCluster sites.

Cabling the FC-VI and HBA ports in a four-node fabric-attached MetroCluster configuration with array LUNs

If you are setting up a four-node fabric-attached MetroCluster configuration with array LUNs, you must cable the FC-VI ports and the HBA ports to the switch ports.

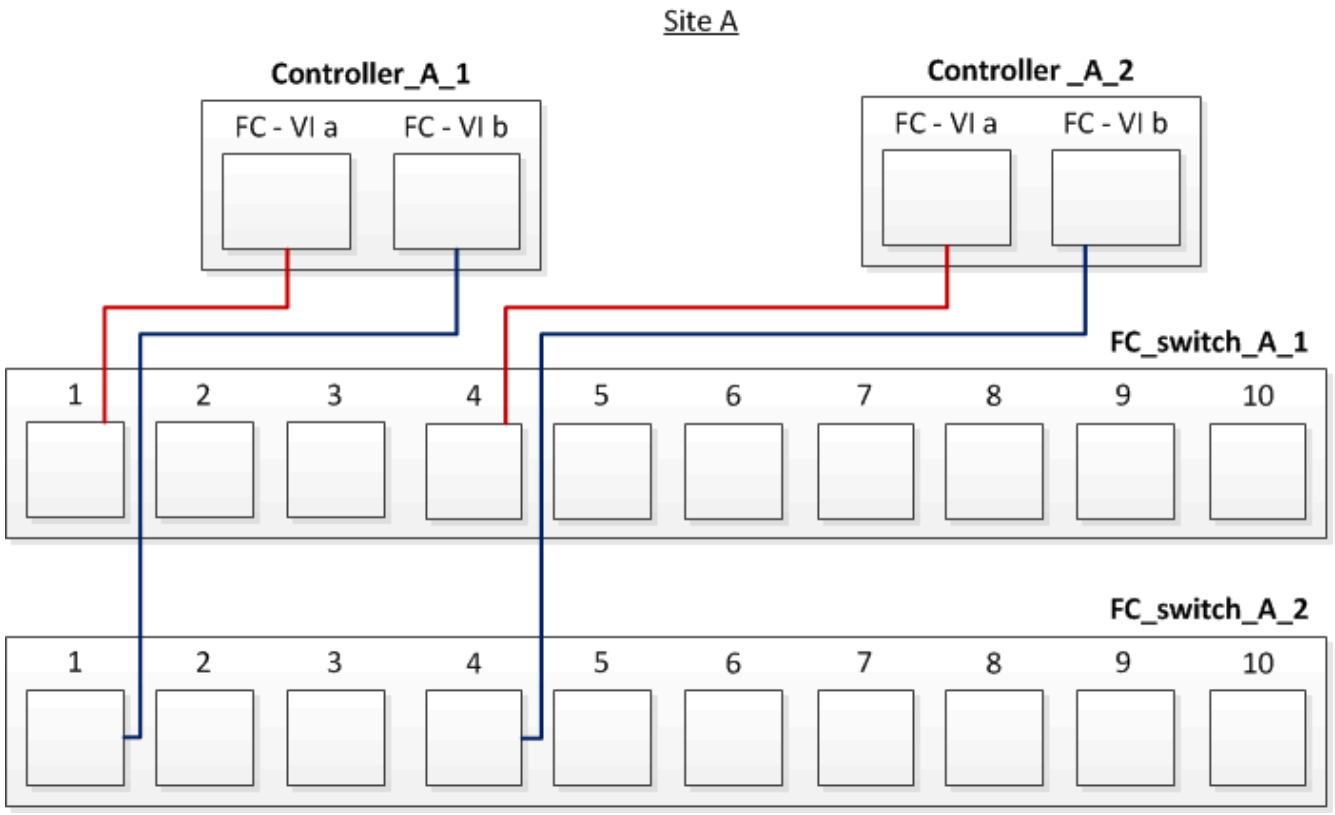
About this task

- You must repeat this task for each controller at both of the MetroCluster sites.
- If you plan to use disks in addition to array LUNs in your MetroCluster configuration, you must use the HBA ports and switch ports specified for configuration with disks.
  - Port assignments for FC switches when using ONTAP 9.1 and later
  - Port assignments for FC switches when using ONTAP 9.0

Steps

1. Cable the FC-VI ports from each controller to the ports on alternate FC switches.

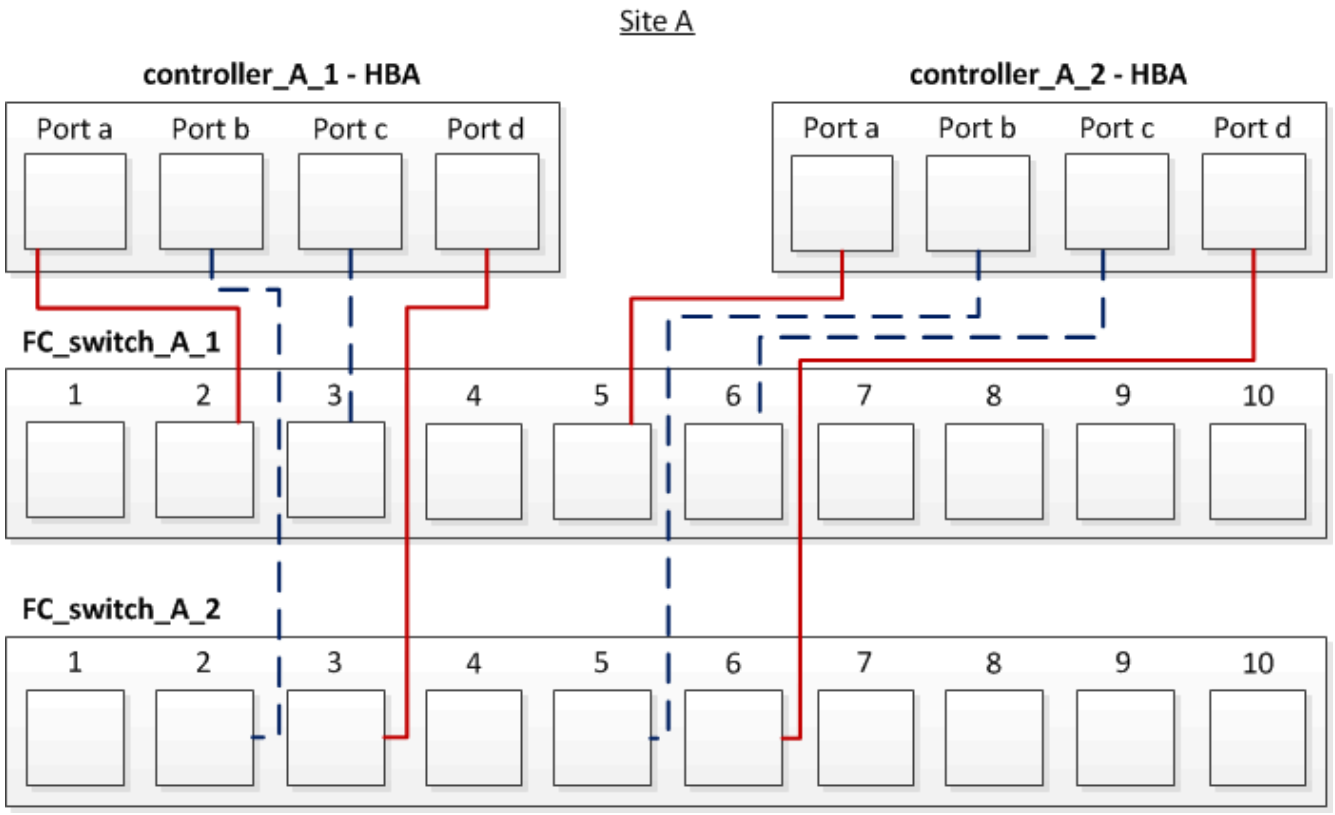
   The following example shows the connections between the FC-VI ports and switch ports at Site A:



2. Perform the controller-to-switch cabling at both of the MetroCluster sites.

   You must ensure redundancy in connections from the controller to the switches. Therefore, for each controller at a site, you must ensure that both of the HBA ports in the same port pair are connected to alternate FC switches.

   The following example shows the connections between the HBA ports and switch ports at Site A:



The following table lists the connections between the HBA ports on controller_A_1 and the FC switch ports in the illustration:

HBA ports	Switch ports
Port pair	
Port a	FC_switch_A_1, Port 2
Port d	FC_switch_A_2, Port 3
Port pair	
Port b	FC_switch_A_2, Port 2
Port c	FC_switch_A_1, Port 3

The following table lists the connections between the HBA ports on controller_A_2 and the FC switch ports in the illustration:

HBA ports	Switch ports
Port pair	
Port a	FC_switch_A_1, Port 5
Port d	FC_switch_A_2, Port 6

Port pair	
Port b	FC_switch_A_2, Port 5
Port c	FC_switch_A_1, Port 6

After you finish

You should cable the ISLs between the FC switches across the MetroCluster sites.

Related information

When you are connecting ONTAP systems to FC switches for setting up a MetroCluster configuration with array LUNs, you must connect FC-VI and HBA ports from each controller to specific switch ports.

Switch ports required for a MetroCluster configuration with array LUNs

Cabling the FC-VI and HBA ports in an eight-node fabric-attached MetroCluster configuration with array LUNs

If you are setting up an eight-node fabric-attached MetroCluster configuration with array LUNs, you must cable the FC-VI ports and the HBA ports to the switch ports.

About this task

- You must repeat this task for each controller at both of the MetroCluster sites.
- If you plan to use disks in addition to array LUNs in your MetroCluster configuration, you must use the HBA ports and switch ports specified for configuration with disks.
  - Port assignments for FC switches when using ONTAP 9.1 and later
  - Port assignments for FC switches when using ONTAP 9.0

Step

1. Cable the FC-VI ports and HBA ports from each controller to the ports on alternate FC switches. Refer to the following tables:

Cabling configurations for FibreBridge 7500N or 7600N using both FC ports

Configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)				
MetroCluster 1 or DR Group 1				
Component	Port	Brocade switch models 6505, 6510, 6520, 7810, 7840, G610, G620, G620-1, G630, G630-1, and DCX 8510-8		Brocade switch G720
		Connects to FC_switch…	Connects to switch port…	Connects to switch port…

controller_x_1		FC-VI port a	1	0	0
		FC-VI port b	2	0	0
		FC-VI port c	1	1	1
		FC-VI port d	2	1	1
		HBA port a	1	2	8
		HBA port b	2	2	8
		HBA port c	1	3	9
		HBA port d	2	3	9
controller_x_2		FC-VI port a	1	4	4
		FC-VI port b	2	4	4
		FC-VI port c	1	5	5
		FC-VI port d	2	5	5
		HBA port a	1	6	12
		HBA port b	2	6	12
		HBA port c	1	7	13
		HBA port d	2	7	13
Stack 1	bridge_x_1a	FC1	1	8	10
		FC2	2	8	10
	bridge_x_1B	FC1	1	9	11
		FC2	2	9	11

Stack 2	bridge_x_2a	FC1	1	10	14
		FC2	2	10	14
	bridge_x_2B	FC1	1	11	15
		FC2	2	11	15
Stack 3	bridge_x_3a	FC1	1	12*	16
		FC2	2	12*	16
	bridge_x_3B	FC1	1	13*	17
		FC2	2	13*	17
Stack y	bridge_x_ya	FC1	1	14*	20
		FC2	2	14*	20
	bridge_x_yb	FC1	1	15*	21
		FC2	2	15*	21
*** Ports 12 through 15 are reserved for the second MetroCluster or DR group on the Brocade 7840 switch.**					
Note: Additional bridges can be cabled to ports 16, 17, 20 and 21 in G620, G630, G620-1 and G630-1 switches.					

After you finish

You should cable the ISLs between the FC switches across the MetroCluster sites.

Cabling configurations for Cisco 9250i

Cisco 9250i*			
Component	**Port**	**Switch 1**	**Switch 2**

controller_x_1	FC-VI port a	1	-
	FC-VI port b	-	1
	HBA port a	2	-
	HBA port b	-	2
	HBA port c	3	-
	HBA port d	-	3
controller_x_2	FC-VI port a	4	-
	FC-VI port b	-	4
	HBA port a	5	-
	HBA port b	-	5
	HBA port c	6	-
	HBA port d	-	6
controller_x_3	FC-VI port a	7	-
	FC-VI port b	-	7
	HBA port a	8	-
	HBA port b	-	8
	HBA port c	9	-
	HBA port d	-	9

controller_x_4	FC-VI port a	10	-
	FC-VI port b	-	10
	HBA port a	11	-
	HBA port b	-	11
	HBA port c	13	-
	HBA port d	-	13

After you finish

You should cable the ISLs between the FC switches across the MetroCluster sites.