



Cable the MetroCluster IP switches

ONTAP MetroCluster

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Table of Contents

- Cable the MetroCluster IP switches 1
 - Using the port tables with the RcfFileGenerator tool or multiple MetroCluster configurations. 1
 - Platform port assignments for Cisco 3132Q-V switches 1
 - Platform port assignments for Cisco 3232C or Cisco 9336C switches 4
 - Platform port assignments for a Cisco 9336C-FX2 shared switch. 8
 - Platform port assignments for Broadcom supported BES-53248 IP switches 13
 - Platform port assignments for NVIDIA supported SN2100 IP switches 16

Cable the MetroCluster IP switches

Using the port tables with the RcfFileGenerator tool or multiple MetroCluster configurations

You must understand how to use the information in the port tables to correctly generate your RCF files.

Before you begin

Review these considerations before using the tables:

- The following tables show the port usage for site A. The same cabling is used for site B.
- The switches cannot be configured with ports of different speeds (for example, a mix of 100 Gbps ports and 40 Gbps ports).
- Keep track of the MetroCluster port group (MetroCluster 1, MetroCluster 2, etc.). You will need this information when using the RcfFileGenerator tool as described later in this configuration procedure.
- The [RcfFileGenerator for MetroCluster IP](#) also provides a per-port cabling overview for each switch. Use this cabling overview to verify your cabling.

Cabling eight-node MetroCluster configurations

For MetroCluster configuration running ONTAP 9.8 and earlier, some procedures that are performed to transition an upgrade require the addition of a second four-node DR group to the configuration to create a temporary eight-node configuration. Beginning with ONTAP 9.9.1, permanent eight-node MetroCluster configurations are supported.

About this task

For such configurations, you use the same method as described above. Instead of a second MetroCluster, you are cabling an additional four-node DR group.

For example, your configuration includes the following:

- Cisco 3132Q-V switches
- MetroCluster 1: FAS2750 platforms
- MetroCluster 2: AFF A700 platforms (these platforms are being added as a second four-node DR group)

Steps

1. For MetroCluster 1, cable the Cisco 3132Q-V switches using the table for the FAS2750 platform and the rows for MetroCluster 1 interfaces.
2. For MetroCluster 2 (the second DR group), cable the Cisco 3132Q-V switches using the table for the AFF A700 platform and the rows for MetroCluster 2 interfaces.

Platform port assignments for Cisco 3132Q-V switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

Review these guidelines before using the tables:

- If you configure the switch for MetroCluster FC to IP transition, port 5, port 6, port 13, or port 14 can be used to connect the local cluster interfaces of the MetroCluster FC node. Refer to the [RcfFileGenerator](#) and the generated cabling files for more details on cabling this configuration. For all other connections, you can use the port usage assignments listed in the tables.

Port usage for FAS2750 or AFF A220 systems and a Cisco 3132Q-V switch

Cabling a FAS2750 or AFF A220 to a Cisco 3132Q-V switch			
Switch Port	Port use	FAS2750 AFF A220	
		IP_Switch_x_1	IP_Switch_x_2
1 - 6	Unused	disabled	
7	ISL, Local Cluster native speed / 40G / 100G	ISL, Local Cluster	
8			
9/1	MetroCluster 1, Shared Cluster and MetroCluster interface	e0a	e0b
9/2-4		disabled	
10/1		e0a	e0b
10/2-4		disabled	
11/1	MetroCluster 2, Shared Cluster and MetroCluster interface	e0a	e0b
11/2-4		disabled	
12/1		e0a	e0b
12/2-4		disabled	
13/1	MetroCluster 3, Shared Cluster and MetroCluster interface	e0a	e0b
13/2-4		disabled	
14/1		e0a	e0b
14/2-4		disabled	
15	ISL, MetroCluster native speed 40G	ISL, MetroCluster	
16			
17			
18			
19			
20			
21/1-4	ISL, MetroCluster breakout mode 10G	ISL, MetroCluster	
22/1-4			
23/1-4			
24/1-4			
25 - 32	Unused	disabled	

Port usage for FAS9000 or AFF A700 systems and a Cisco 3132Q-V switch

Cabling a FAS9000 or AFF A700 to a Cisco 3132Q-V switch			
Switch Port	Port use	FAS9000 AFF A700	
		IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e4a	e4e / e8a
2			
3	MetroCluster 2, Local Cluster interface	e4a	e4e / e8a
4			
5	MetroCluster 3, Local Cluster interface	e4a	e4e / e8a
6			
7	ISL, Local Cluster native speed 40G	ISL, Local Cluster	
8			
9	MetroCluster 1, MetroCluster interface	e5a	e5b
10			
11	MetroCluster 2, MetroCluster interface	e5a	e5b
12			
13	MetroCluster 3, MetroCluster interface	e5a	e5b
14			
15	ISL, MetroCluster native speed 40G	ISL, MetroCluster	
16			
17			
18			
19			
20			
21/1-4	ISL, MetroCluster breakout mode 10G	ISL, MetroCluster	
22/1-4			
23/1-4			
24/1-4			
25 - 32	Unused	disabled	

Port usage for AFF A800 or ASA A800 systems and a Cisco 3132Q-V switch

Cabling an AFF A800 or ASA A800 to a Cisco 3132Q-V switch			
Switch Port	Port use	AFF A800 ASA A800	
		IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e0a	e1a
2			
3	MetroCluster 2, Local Cluster interface	e0a	e1a
4			
5	MetroCluster 3, Local Cluster interface	e0a	e1a
6			
7	ISL, Local Cluster native speed 40G	ISL, Local Cluster	
8			
9	MetroCluster 1, MetroCluster interface	e0b	e1b
10			
11	MetroCluster 2, MetroCluster interface	e0b	e1b
12			
13	MetroCluster 3, MetroCluster interface	e0b	e1b
14			
15	ISL, MetroCluster native speed 40G	ISL, MetroCluster	
16			
17			
18			
19			
20			
21/1-4	ISL, MetroCluster breakout mode 10G	ISL, MetroCluster	
22/1-4			
23/1-4			
24/1-4			
25 - 32	Unused	disabled	

Platform port assignments for Cisco 3232C or Cisco 9336C switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

Review these considerations before using the tables:

- The following tables show the port usage for site A. The same cabling is used for site B.
- The switches cannot be configured with ports of different speeds (for example, a mix of 100 Gbps ports and 40 Gbps ports).
- If you are configuring a single MetroCluster with the switches, use the **MetroCluster 1** port group.

Keep track of the MetroCluster port group (MetroCluster 1, MetroCluster 2, MetroCluster 3, or MetroCluster 4). You will need it when using the RcfFileGenerator tool as described later in this configuration procedure.

- The RcfFileGenerator for MetroCluster IP also provides a per-port cabling overview for each switch.

Use this cabling overview to verify your cabling.

- RCF file version v2.10 or later is required for 25G breakout mode for MetroCluster ISLs.
- ONTAP 9.13.1 or later and RCF file version 2.00 are required to use a platform other than FAS8200 or AFF A300 in the "MetroCluster 4" group.

Cabling two MetroCluster configurations to the switches

When cabling more than one MetroCluster configuration to a Cisco 3132Q-V switch, you must cable each MetroCluster according to the appropriate table. For example, if cabling a FAS2750 and an AFF A700 to the same Cisco 3132Q-V switch. Then you cable the FAS2750 as per "MetroCluster 1" in Table 1, and the AFF A700 as per "MetroCluster 2" or "MetroCluster 3" in Table 2. You cannot physically cable both the FAS2750 and the AFF A700 as "MetroCluster 1".

Cabling an AFF A150, ASA A150, FAS2750, AFF A220, FAS500f, AFF C250, ASA C250, AFF A250, or ASA A250 system to a Cisco 3232C or Cisco 9336-FX2C switch

Cabling an AFF A150, ASA A150, FAS2750, AFF A220, FAS500f, AFF C250, ASA C250, AFF A250 or ASA A250 to a Cisco 3232C or Cisco 9336-FX2C switch					
Switch Port	Port use	AFF A150 ASA A150 FAS2750 AFF A220		FAS500f AFF C250 ASA C250 AFF A250 ASA A250	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1 - 6	Unused	disabled		disabled	
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster	
8					
9/1	MetroCluster 1, Shared Cluster and MetroCluster interface	e0a	e0b	e0c	e0d
9/2-4		disabled		disabled	
10/1		e0a	e0b	e0c	e0d
10/2-4		disabled		disabled	
11/1	MetroCluster 2, Shared Cluster and MetroCluster interface	e0a	e0b	e0c	e0d
11/2-4		disabled		disabled	
12/1		e0a	e0b	e0c	e0d
12/2-4		disabled		disabled	
13/1	MetroCluster 3, Shared Cluster and MetroCluster interface	e0a	e0b	e0c	e0d
13/2-4		disabled		disabled	
14/1		e0a	e0b	e0c	e0d
14/2-4		disabled		disabled	
15	ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		ISL, MetroCluster	
16					
17					
18					
19					
20					
21/1-4	ISL, MetroCluster breakout mode 10G / 25G	ISL, MetroCluster		ISL, MetroCluster	
22/1-4					
23/1-4					
24/1-4					
25/1	MetroCluster 1, Shared Cluster and MetroCluster interface	e0a	e0b	e0c	e0d
25/2-4		disabled		disabled	
26/1		e0a	e0b	e0c	e0d
26/2-4		disabled		disabled	
27 - 32	Unused	disabled		disabled	
33 - 34	Unused (Cisco 9336C-FX2 only)	disabled		disabled	

Cabling a FAS8200 or an AFF A300 system to a Cisco 3232C or Cisco 9336C switch

Cabling a FAS8200 or AFF A300 to a Cisco 3232C or Cisco 9336C-FX2 switch

Switch Port	Port use	FAS8200 AFF A300	
		IP_Switch_x_1	IP_Switch_x_2
1/1	MetroCluster 1, Local Cluster interface	e0a	e0b
1/2-4		disabled	
2/1		e0a	e0b
2/2-4		disabled	
3/1	MetroCluster 2, Local Cluster interface	e0a	e0b
3/2-4		disabled	
4/1		e0a	e0b
4/2-4		disabled	
5/1	MetroCluster 3, MetroCluster interface	e0a	e0b
5/2-4		disabled	
6/1		e0a	e0b
6/2-4		disabled	
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster	
8			
9/1	MetroCluster 1, MetroCluster interface	e1a	e1b
9/2-4		disabled	
10/1		e1a	e1b
10/2-4		disabled	
11/1	MetroCluster 2, MetroCluster interface	e1a	e1b
11/2-4		disabled	
12/1		e1a	e1b
12/2-4		disabled	
13/1	MetroCluster 3, MetroCluster interface	e1a	e1b
13/2-4		disabled	
14/1		e1a	e1b
14/2-4		disabled	
15	ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster	
16			
17			
18			
19			
20			
21/1-4	ISL, MetroCluster breakout mode 10G / 25G	ISL, MetroCluster	
22/1-4			
23/1-4			
24/1-4			
25/1	MetroCluster 4, MetroCluster interface	e1a	e1b
25/2-4		disabled	
26/1		e1a	e1b
26/2-4		disabled	
27 - 28	Unused	disabled	
29/1	MetroCluster 4, Local Cluster interface	e0a	e0b
29/2-4		disabled	
30/1		e0a	e0b
30/2-4		disabled	
25 - 32	Unused	disabled	
33 - 34	Unused (Cisco 9336C-FX2 only)	disabled	

If you are upgrading from older RCF files, the cabling configuration might be using ports in the "MetroCluster 4" group (ports 25/26 and 29/30).

Cabling an AFF A320, FAS8300, AFF C400, ASA C400, AFF A400, ASA A400, FAS8700, FAS9000, AFF A700, AFF C800, ASA C800, AFF A800, ASA A800, FAS9500, AFF A900, or ASA A900 system to a Cisco 3232C or Cisco 9336C-FX2 switch

Cabling a AFF A320, FAS8300, AFF C400, ASA C400, AFF A400, ASA A400 FAS8700, FAS9000, AFF A700, AFF C800, ASA C800, AFF A800, ASA A800, FAS9500, AFF A900 or ASA A900 to a Cisco 3232C or Cisco 9336C-FX2 switch													
Switch Port	Port use	AFF A320		FAS8300 AFF C400 ASA C400 FAS8700		AFF A400 ASA A400		FAS9000 AFF A700		AFF C800 ASA C800 AFF A800 ASA A800		FAS9500 AFF A900 ASA A900	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
2	MetroCluster 2, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
3	MetroCluster 3, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
4	MetroCluster 3, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
5	ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster	
6	MetroCluster 1, MetroCluster interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
7	MetroCluster 2, MetroCluster interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
8	MetroCluster 3, MetroCluster interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
9	MetroCluster 3, MetroCluster interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
10	ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster	
11	ISL, MetroCluster breakout mode 10G / 25G	ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster	
12	MetroCluster 4, MetroCluster interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
13	Unused	disabled		disabled		disabled		disabled		disabled		disabled	
14	MetroCluster 4, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
15	Unused	disabled		disabled		disabled		disabled		disabled		disabled	
16	Unused (Cisco 9336C-FX2 only)	disabled		disabled		disabled		disabled		disabled		disabled	

Note 1: If you are using an X91440A adapter (40Gbps), then use either ports e4a and e4e or e4a and e8a. If you are using an X91153A adapter (100Gbps), then use either ports e4a and e4b or e4a and e8a.



Using ports in the "MetroCluster 4" group requires ONTAP 9.13.1 or later.

Platform port assignments for a Cisco 9336C-FX2 shared switch

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

Review these considerations before using the tables:

- At least one MetroCluster configuration or DR group must support switch attached NS224 shelves.
- Platforms that do not support switch-attached NS224 shelves can only be connected as a second MetroCluster configuration or as a second DR group.
- The RcfFileGenerator only shows eligible platforms when the first platform is selected.
- Connecting one eight-node or two four-node MetroCluster configurations requires ONTAP 9.14.1 or later.

Cabling an AFF A320, AFF C400, ASA C400, AFF A400, ASA A400, AFF A700, AFF C800, ASA C800, AFF A800 , AFF A900, or ASA A900 system to a Cisco 9336C-FX2 shared switch

Cabling an AFF A320, AFF C400, ASA C400, AFF A400, ASA A400, AFF A700, AFF C800, ASA C800, AFF A800 , AFF A900, or ASA A900 to a Cisco 9336C-FX2 shared switch													
Switch Port	Port Use	AFF A320		AFF C400 ASA C400		AFF A400 ASA A400		AFF A700		AFF C800 ASA C800 AFF A800		AFF A900 ASA A900	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
2	MetroCluster 2, Local Cluster interface	e0a	e0d	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
3													
4													
5	Storage shelf 1 (9)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
6		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster	
8													
9	MetroCluster 1, Ethernet Storage Interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
10													
11	MetroCluster 2, Ethernet Storage Interface	e0g	e0h	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
12													
13	ISL MetroCluster, native speed 40G / 100G breakout mode 10G / 25G	ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster	
14													
15													
16													
17	MetroCluster 1, Ethernet Storage Interface	e0c	e0f	e4a	e4b / e5b	e0c	e0d / e5b	e3a	e3b / e7b	e5a	e5b / e3b	e3a (option 1) e2a (option 2) e1a (option 3)	e3b (option 1) e10b (option 2) e11b (option 3)
18													
19	MetroCluster 2, Ethernet Storage Interface	e0c	e0f	e4a	e4b / e5b	e0c	e0d / e5b	e3a	e3b / e7b	e5a	e5b / e3b	e3a (option 1) e2a (option 2) e1a (option 3)	e3b (option 1) e10b (option 2) e11b (option 3)
20													
21	Storage shelf 2 (8)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
22		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
23	Storage shelf 3 (7)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
24		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
25	Storage shelf 4 (6)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
26		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
27	Storage shelf 5 (5)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
28		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
29	Storage shelf 6 (4)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
30		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
31	Storage shelf 7 (3)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
32		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
33	Storage shelf 8 (2)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
34		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b
35	Storage shelf 9 (1)	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b	NSM-1, e0a	NSM-1, e0b
36		NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b	NSM-2, e0a	NSM-2, e0b

Note 1: If you are using an X91440A adapter (40Gbps), then use either ports e4a and e4e or e4a and e8a. If you are using an X91153A adapter (100Gbps), then use either ports e4a and e4b or e4a and e8a.

Cabling an AFF A150, ASA A150, FAS2750 or AFF A220 system to a Cisco 9336C-FX2 shared switch

Cabling an AFF A150, ASA A150, FAS2750 or AFF A220 to a Cisco 9336C-FX2 shared switch

Switch Port	Port Use	AFF A150 ASA A150 FAS2750 AFF A220	
		IP_Switch_x_1	IP_Switch_x_2
1 - 6	Unused	disabled	
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster	
8			
9/1	MetroCluster 1, Shared Cluster and MetroCluster interface	e0a	e0b
9/2-4		disabled	
10/1		e0a	e0b
10/2-4		disabled	
11/1	MetroCluster 2, Shared Cluster and MetroCluster interface	e0a	e0b
11/2-4		disabled	
12/1		e0a	e0b
12/2-4		disabled	
13	ISL MetroCluster, native speed 40G / 100G breakout mode 10G / 25G	ISL, MetroCluster	
14			
15			
16			
17-36	Unused	disabled	

Cabling a FAS500f, AFF C250, ASA C250, AFF A250, or ASA A250 system to a Cisco 9336C-FX2 shared switch

Cabling a FAS500f, AFF C250, ASA C250, AFF A250, ASA A250 to a Cisco 9336C-FX2 shared switch			
Switch Port	Port Use	FAS500f AFF C250 ASA C250 AFF A250 ASA A250	
		IP_Switch_x_1	IP_Switch_x_2
1 - 6	Unused	disabled	
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster	
8			
9/1	MetroCluster 1, Shared Cluster and MetroCluster interface	e0c	e0d
9/2-4		disabled	
10/1		e0c	e0d
10/2-4		disabled	
11/1	MetroCluster 2, Shared Cluster and MetroCluster interface	e0c	e0d
11/2-4		disabled	
12/1		e0c	e0d
12/2-4		disabled	
13	ISL MetroCluster, native speed 40G / 100G breakout mode 10G / 25G	ISL, MetroCluster	
14			
15			
16			
17-36	Unused	disabled	

Cabling a FAS8200 or AFF A300 system to a Cisco 9336C-FX2 shared switch

Cabling a FAS8200 or AFF A300 to a Cisco 9336C-FX2 shared switch			
Switch Port	Port Use	FAS8200 AFF A300	
		IP_Switch_x_1	IP_Switch_x_2
1/1	MetroCluster 1, Local Cluster interface	e0a	e0b
1/2-4		disabled	
2/1		e0a	e0b
2/2-4		disabled	
3/1	MetroCluster 2, Local Cluster interface	e0a	e0b
3/2-4		disabled	
4/1		e0a	e0b
4/2-4		disabled	
5-6	Unused	disabled	
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster	
8			
9/1	MetroCluster 1, MetroCluster interface	e1a	e1b
9/2-4		disabled	
10/1		e1a	e1b
10/2-4		disabled	
11/1	MetroCluster 2, MetroCluster interface	e1a	e1b
11/2-4		disabled	
12/1		e1a	e1b
12/2-4		disabled	
13	ISL MetroCluster, native speed 40G / 100G breakout mode 10G / 25G	ISL, MetroCluster	
14			
15			
16			
17-36	Unused	disabled	

Cabling a FAS8300, FAS8700, FAS9000, or FAS9500 system to a Cisco 9336C-FX2 shared switch

Cabling a FAS8300, FAS8700, FAS9000, or FAS9500 to a Cisco 9336C-FX2 shared switch							
Switch Port	Port Use	FAS8300 FAS8700		FAS9000		FAS9500	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e0c	e0d	e4a	e4e / e8a	e4a	e4b(e) / e8a Note 1
2							
3	MetroCluster 2, Local Cluster interface	e0c	e0d	e4a	e4e / e8a	e4a	e4b(e) / e8a Note 1
4							
5-6	Unused	disabled		disabled		disabled	
7	ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster	
8							
9	MetroCluster 1, MetroCluster interface	e1a	e1b	e5a	e5b	e5b	e7b
10							
11	MetroCluster 2, MetroCluster interface	e1a	e1b	e5a	e5b	e5b	e7b
12							
13	ISL MetroCluster, native speed 40G / 100G breakout mode 10G / 25G	ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster	
14							
15							
16							
17-36	Unused	disabled		disabled		disabled	

Note 1: If you are using an X91440A adapter (40Gbps), then use either ports e4a and e4e or e4a and e8a. If you are using an X91153A adapter (100Gbps), then use either ports e4a and e4b or e4a and e8a.

Platform port assignments for Broadcom supported BES-53248 IP switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

The switches cannot be used with remote ISL ports of different speeds (for example, a 25 Gbps port connected to a 10 Gbps ISL port).

Review this information before using the tables:

- If you configure the switch for MetroCluster FC to IP Transition, the following ports are used depending on the target platform that you choose:

Target platform	Port
FAS500f, AFF C250, ASA C250, AFF A250, ASA A250, FAS8300, AFF C400, ASA C400, AFF A400, ASA A400, or FAS8700 platforms	ports 1 - 6, 10Gbps
FAS8200 or AFF A300 platforms	ports 3 - 4 and 9 - 12, 10Gbps

- AFF A320 systems configured with Broadcom BES-53248 switches might not support all features.

Any configuration or feature that requires that the local cluster connections are connected to a switch is not supported. For example, the following configurations and procedures are not supported:

- Eight-node MetroCluster configurations
- Transitioning from MetroCluster FC to MetroCluster IP configurations
- Refreshing a four-node MetroCluster IP configuration (ONTAP 9.8 and later)

Notes referenced in the tables:

- Note 1:** Using these ports requires an additional license.

- **Note 2:** Only a single four-node MetroCluster using AFF A320 systems can be connected to the switch.

Features that require a switched cluster are not supported in this configuration, including the MetroCluster FC to IP transition and tech refresh procedures.

- **Note 3:** The BES-53248 switch requires all ports in a four-port group to operate at the same speed. To connect a mix of AFF 150, ASA A150, FAS2750, AFF A220 and FAS500f, AFF C250, ASA C250, AFF A250, and ASA A250 platforms, switch ports that are located in separate four-port groups must be used. If you require this type of configuration, the following applies:
 - In the [RcfFileGenerator for MetroCluster IP](#), drop-down fields for "MetroCluster 1" and "MetroCluster 2" are only populated after you select a platform for MetroCluster 3 or "MetroCluster 4". Refer to [Using the port tables with the RcfFileGenerator tool or multiple MetroCluster configurations](#) for more information on how to use the port tables.
 - If both MetroCluster configurations are using the same the platform, NetApp recommends that you select the group "MetroCluster 3" for one configuration and the group "MetroCluster 4" for the other configuration. If the platforms are different, then you must select "MetroCluster 3" or "MetroCluster 4" for the first configuration, and select "MetroCluster 1" or "MetroCluster 2" for the second configuration.

Cabling an AFF A150, ASA A150, FAS2750, AFF A220, FAS500f, AFF C250, ASA C250, AFF A250 or ASA A250 to a Broadcom BES-53248 switch

Cabling an AFF A150, ASA A150, FAS2750, AFF A220, FAS500f, AFF C250, ASA C250, AFF A250 or ASA A250 to a Broadcom BES-53248 switch					
Physical Port	Port use	AFF A150 ASA A150 FAS2750 AFF A220		FAS500f AFF C250 ASA C250 AFF A250 ASA A250	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1 - 4	Unused	disabled		disabled	
5	MetroCluster 1, Shared Cluster and MetroCluster interface (note 3)	e0a	e0b	e0c	e0d
6					
7	MetroCluster 2, Shared Cluster and MetroCluster interface (note 3)	e0a	e0b	e0c	e0d
8					
9	MetroCluster 3, Shared Cluster and MetroCluster interface (note 3)	e0a	e0b	e0c	e0d
10					
11	MetroCluster 4, Shared Cluster and MetroCluster interface (note 3)	e0a	e0b	e0c	e0d
12					
13	ISL, MetroCluster native speed 10G / 25G	ISL, MetroCluster		ISL, MetroCluster	
14					
15					
16					
..	Ports not licensed (17 - 54)				
53	ISL, MetroCluster, native speed 40G / 100G (note 1)	ISL, MetroCluster		ISL, MetroCluster	
54					
55	ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster	
56					

Cabling a FAS8200, AFF A300, or AFF A320 system to a Broadcom BES-53248 switch

Cabling a FAS8200 or AFF A300 to a Broadcom BES-53248 switch			
Physical Port	Port use	FAS8200 AFF A300	
		IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e0a	e0b
2			
3	MetroCluster 2, Local Cluster interface Not used during Transition	e0a	e0b
4			
5	MetroCluster 1, MetroCluster interface	e1a	e1b
6			
7	MetroCluster 2, MetroCluster interface	e1a	e1b
8			
9 - 12	Unused	disabled	
13	ISL, MetroCluster native speed 10G / 25G	ISL, MetroCluster	
14			
15			
16			
..	Ports not licensed (17 - 54)		
53	ISL, MetroCluster, native speed 40G / 100G (note 1)	ISL, MetroCluster	
54			
55	ISL, Local Cluster native speed / 100G	ISL, Local Cluster	
56			

Cabling an AFF A320 to a Broadcom BES-53248 switch			
Physical Port	Port use	AFF A320	
		IP_Switch_x_1	IP_Switch_x_2
1 - 12	Ports not used (note 2)	disabled	
13	ISL, MetroCluster native speed 10G / 25G	ISL, MetroCluster	
14			
15			
16			
..	Ports not licensed (17 - 54)		
53	ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster	
54			
55	MetroCluster 1, MetroCluster interface (note 2)	e0g	e0h
56			

Cabling a FAS8300, AFF C400, ASA C400, AFF A400, ASA A400 or FAS8700 system to a Broadcom BES-53248 switch

Cabling a FAS8300, AFF C400, ASA C400, AFF A400, ASA A400 or FAS8700 to a Broadcom BES-53248 switch					
Physical Port	Port use	FAS8300 AFF C400 ASA C400 FAS8700		AFF A400 ASA A400	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1 - 12	Ports not used (see note 2)	disabled		disabled	
13	ISL, MetroCluster native speed 10G / 25G	ISL, MetroCluster		ISL, MetroCluster	
14					
15					
16					
..	Ports not licensed (17 - 48)				
49	MetroCluster 5, Local Cluster interface (note 1)	e0c	e0d	e3a	e3b
50					
51	MetroCluster 5, MetroCluster interface (note 1)	e1a	e1b	e1a	e1b
52					
53	ISL, MetroCluster, native speed 40G / 100G (note 1)	ISL, MetroCluster		ISL, MetroCluster	
54					
55	ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster	
56					

Platform port assignments for NVIDIA supported SN2100 IP switches

The port usage in a MetroCluster IP configuration depends on the switch model and platform type.

Supported configurations

The following configurations are not currently supported:

- MetroCluster FC-to-IP Transition

Review these considerations before using the configuration tables

- Connecting an eight-node or two four-node MetroCluster configurations requires ONTAP 9.14.1 or later and RCF file version 2.00 or later.
- If you cable multiple MetroCluster configurations then follow the respective table. For example:
 - If you cable two four-node MetroCluster configurations of type AFF A700, then connect the first MetroCluster shown as "MetroCluster 1", and the second MetroCluster shown as "MetroCluster 2" in the AFF A700 table.



Ports 13 and 14 can be used in native speed mode supporting 40 Gbps and 100 Gbps, or in breakout mode to support 4 × 25 Gbps or 4 × 10 Gbps. If they use native speed mode they are represented as ports 13 and 14. If they use breakout mode, either 4 × 25 Gbps or 4 × 10 Gbps, then they are represented as ports 13s0-3 and 14s0-3.

The following sections describe the physical cabling outline. You can also refer to the [RcfFileGenerator](#) for detailed cabling information.

Cabling an AFF A150, ASA A150, FAS500f, AFF C250, ASA C250, AFF A250 or ASA A250 system to a NVIDIA SN2100 switch

Cabling a AFF A150, ASA A150, FAS500f, AFF C250, ASA C250, AFF A250 or ASA A250 to a NVIDIA SN2100 switch					
Switch Port	Port use	AFF A150 ASA A150		FAS500F AFF C250 ASA C250 AFF A250 ASA A250	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1 - 6	Unused	disabled		disabled	
7s0	MetroCluster 1, Shared Cluster and MetroCluster interface	e0c	e0d	e0c	e0d
7s1-3		disabled		disabled	
8s0		e0c	e0d	e0c	e0d
8s1-3		disabled		disabled	
9s0	MetroCluster 2, Shared Cluster and MetroCluster interface	e0c	e0d	e0c	e0d
9s1-3		disabled		disabled	
10s0		e0c	e0d	e0c	e0d
10s1-3		disabled		disabled	
11s0	MetroCluster 3, Shared Cluster and MetroCluster interface	e0c	e0d	e0c	e0d
11s1-3		disabled		disabled	
12s0		e0c	e0d	e0c	e0d
12s1-3		disabled		disabled	
13 / 13s0-3 14 / 14s0-3	MetroCluster ISL 40/100G or 4x25G or 4x10G	ISL, MetroCluster		ISL, MetroCluster	
15	ISL, Local Cluster 100G	ISL, Local Cluster		ISL, Local Cluster	
16					

Cabling a FAS8300, AFF C400, ASA C400, AFF A400, ASA A400, FAS8700, FAS9000, AFF A700, AFF C800, ASA C800, AFF A800, ASA A800, FAS9500, AFF A900, or ASA A900 system to a NVIDIA SN2100 switch

Cabling a FAS8300, AFF C400, ASA C400, AFF A400, ASA A400, FAS8700, FAS9000, AFF A700, AFF C800, ASA C800, AFF A800, ASA A800, FAS9500, AFF A900 or ASA A900 to a NVIDIA SN2100 switch											
Switch Port	Port use	FAS8300 AFF C400 ASA C400 FAS8700		AFF A400 ASA A400		FAS9000 AFF A700		AFF C800 ASA C800 AFF A800 ASA A800		FAS9500 AFF A900 ASA A900	
		IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2	IP_Switch_x_1	IP_Switch_x_2
1	MetroCluster 1, Local Cluster interface	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
2											
3	MetroCluster 2, Local Cluster interface	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
4											
5	MetroCluster 3, Local Cluster interface	e0c	e0d	e3a	e3b	e4a	e4e / e8a	e0a	e1a	e4a	e4b(e) / e8a Note 1
6											
7	MetroCluster 1, MetroCluster interface	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
8											
9	MetroCluster 2, MetroCluster interface	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
10											
11	MetroCluster 3, MetroCluster interface	e1a	e1b	e1a	e1b	e5a	e5b	e0b	e1b	e5b	e7b
12											
13 / 13s0-3 14 / 14s0-3	MetroCluster ISL 40/100G or 4x25G or 4x10G	ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster		ISL, MetroCluster	
15	ISL, Local Cluster 100G	ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster		ISL, Local Cluster	
16											

Note 1: If you are using an X91440A adapter (40Gbps), then use either ports e4a and e4e or e4a and e8a. If you are using an X91153A adapter (100Gbps), then use either ports e4a and e4b or e4a and e8a.

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