Cable the MetroCluster IP switches

ONTAP MetroCluster

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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 8-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.

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

Cabling an AFF A220 or FAS2750 to a Cisco 3132Q-V switch			
Port use	FAS2750. AFF A220		Switch Port
	IP_switch_x_1	IP_switch_x_2	
Unused	-		1
			2
			3
			4
			5
			6
ISL, Local Cluster native speed / 40G / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, Shared Cluster and MetroCluster interface	e0a	e0b	9/1
	disabled		9/2-4
	e0a	e0b	10/1
	disabled		10/2-4
MetroCluster 2, Shared Cluster and MetroCluster interface	e0a	e0b	11/1
	disabled		11/2-4
	e0a	e0b	12/1
	disabled		12/2-4
MetroCluster 3, Shared Cluster and MetroCluster interface	e0a	e0b	13/1
	disabled		13/2-4
	e0a	e0b	14/1
	disabled		14/2-4
ISL, MetroCluster native speed 40G	ISL, MetroCluster		15 - 20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25 - 32

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

Cabling an AFF A700 or FAS9000 to a Cisco 3132Q-V switch			
Port use	FAS9000, AFF A700		Switch port
	IP_switch_x_1	IP_switch_x_2	Port
MetroCluster 1 Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2 Local Cluster interface			3
			4
MetroCluster 3 Local Cluster interface			5
			6
ISL, Local Cluster native speed / 40G / 100G	ISL, Local Cluster		7
			8
MetroCluster 1 MetroCluster interface	e5a	e5b	9
	e5a	e5b	10
MetroCluster 2 MetroCluster interface	e5a	e5b	11
	e5a	e5b	12
MetroCluster 3 MetroCluster interface	e5a	e5b	13
	e5a	e5b	14
ISL, MetroCluster native speed 40G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25 - 32

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

Cabling an AFF A800 to a Cisco 3132Q-V switch			
Port use	AFF A800		Switch Port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1 Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2 Local Cluster interface			3
			4
MetroCluster 3 Local Cluster interface			5
			6
ISL, Local Cluster native speed / 40G / 100G	ISL, Local Cluster		7
			8
MetroCluster 1 MetroCluster interface	e0b	e1b	9
	e0b	e1b	10
MetroCluster 2 MetroCluster interface	e0b	e1b	11
	e0b	e1b	12
MetroCluster 3 MetroCluster interface	e0b	e1b	13
	e0b	e1b	14
ISL, MetroCluster native speed 40G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25 - 32

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, or MetroCluster 3). 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.

Cabling two MetroCluster configurations to the switches

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

Cabling a FAS2750 or AFF A220 system to a Cisco 3232C or Cisco 9336C switch

Cabling an AFF A220 or FAS2750 to a Cisco 3232C or Cisco 9336C switch			
Port use	FAS2750, AFF A220		Switch port
	IP_switch_x_1	IP_switch_x_2	
Unused	-		1 - 6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, Shared Cluster and MetroCluster interface	e0a	e0b	9/1
	disabled		9/2-4
	e0a	e0b	10/1
	disabled		10/2-4
MetroCluster 2, Shared Cluster and MetroCluster interface	e0a	e0b	11/1
	disabled		11/2-4
	e0a	e0b	12/1
	disabled		12/2-4
MetroCluster 3, Shared Cluster and MetroCluster interface	e0a	e0b	13/1
	disabled		13/2-4
	e0a	e0b	14/1
	disabled		14/2-4
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25 - 32

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

Cabling a AFF A300 or FAS8200 to a Cisco 3232C or Cisco 9336C switch			
Port use	FAS8200, AFF A300		Switch port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1 Local Cluster interface	See Hardware Universe for available ports		1/1
			1/2 - 4
			2/1
			2/2 - 4
MetroCluster 2 Local Cluster interface			3/1
			3/2 - 4
			4/1
			4/2 - 4
MetroCluster 3 Local Cluster interface			5/1
			5/2 - 4
			6/1
			6/2 - 4
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1 MetroCluster interface	e1a	e1b	9/1
	disabled		9/2-4
	e1a	e1b	10/1
	disabled		10/2-4
MetroCluster 2 MetroCluster interface	e1a	e1b	11/1
	disabled		11/2-4
	e1a	e1b	12/1
	disabled		12/2-4
MetroCluster 3 MetroCluster interface	e1a	e1b	13/1
	disabled		13/2-4
	e1a	e1b	14/1
	disabled		14/2-4
ISL, MetroCluster	ISL, MetroCluster		15 - 20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
MetroCluster 4 MetroCluster interface	e1a	e1b	25/1
	disabled		25/2-4
	e1a	e1b	26/1
	disabled		26/2-4
Unused	-		27 - 28
MetroCluster 4 Local Cluster interface	See Hardware Universe		29/1
	disabled		29/2-4
	See Hardware Universe		30/1
	disabled		30/2-4
Unused	-		31 - 32

Cabling a AFF A250 or FAS500f to a Cisco 3232C or Cisco 9336C switch

Cabling an AFF A250 or FAS500f to a Cisco 3232C or Cisco 9336C switch			
Port use	FAS500f, AFF A250		Switch port
	IP_switch_x_1	IP_switch_x_2	
Unused	-		1 - 6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, Shared Cluster and MetroCluster interface	e0c	e0d	9/1
	disabled		9/2-4
	e0c	e0d	10/1
	disabled		10/2-4
MetroCluster 2, Shared Cluster and MetroCluster interface	e0c	e0d	11/1
	disabled		11/2-4
	e0c	e0d	12/1
	disabled		12/2-4
MetroCluster 3, Shared Cluster and MetroCluster interface	e0c	e0d	13/1
	disabled		13/2-4
	e0c	e0d	14/1
	disabled		14/2-4
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25 - 32

Cabling a AFF A320 to a Cisco 3232C or Cisco 9336C switch

Cabling a AFF A320 to a Cisco 3232C or Cisco 9336C switch			
Port use	AFF A320		Switch port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1, Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster interface			3
			4
MetroCluster 3, Local Cluster interface			5
			6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, MetroCluster interface	e0g	e0h	9
	e0g	e0h	10
MetroCluster 2, MetroCluster interface	e0g	e0h	11
	e0g	e0h	12
MetroCluster 3, MetroCluster interface	e0g	e0h	13
	e0g	e0h	14
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25
			26
			27
			28
			29
			30
			31
			32

Cabling an AFF A400, FAS8300 or FAS8700 to a Cisco 3232C or Cisco 9336C switch

Cabling a AFF A400, FAS8300 or FAS8700 to a Cisco 3232C or Cisco 9336C switch			
Port use	FAS8300, FAS8700, AFF A400		Switch port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1, Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster interface			3
			4
MetroCluster 3, Local Cluster interface			5
			6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, MetroCluster interface	e1a	e1b	9
	e1a	e1b	10
MetroCluster 2, MetroCluster interface	e1a	e1b	11
	e1a	e1b	12
MetroCluster 3, MetroCluster interface	e1a	e1b	13
	e1a	e1b	14
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25
			26
			27
			28
			29
			30
			31
			32

Cabling a AFF A700 or FAS9000 to a Cisco 3232C or Cisco 9336C switch

Cabling a AFF A700 or FAS9000 to a Cisco 3232C or Cisco 9336C switch			
Port use	FAS9000, AFF A700		Switch port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1, Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster interface			3
			4
MetroCluster 3, Local Cluster interface			5
			6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, MetroCluster interface	e5a	e5b	9
	e5a	e5b	10
MetroCluster 2, MetroCluster interface	e5a	e5b	11
	e5a	e5b	12
MetroCluster 3, MetroCluster interface	e5a	e5b	13
	e5a	e5b	14
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25
			26
			27
			28
			29
			30
			31
			32

Cabling a AFF A800 to a Cisco 3232C or Cisco 9336C switch

Cabling an AFF A800 to a Cisco 3232C or Cisco 9336C switch			
Port use	AFF A800		Switch port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1, Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster interface			3
			4
MetroCluster 3, Local Cluster interface			5
			6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, MetroCluster interface	e0b	e1b	9
	e0b	e1b	10
MetroCluster 2, MetroCluster interface	e0b	e1b	11
	e0b	e1b	12
MetroCluster 3, MetroCluster interface	e0b	e1b	13
	e0b	e1b	14
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	-		25
			26
			27
			28
			29
			30
			31
			32

Cabling an AFF A900 or FAS9500 to a Cisco 3232C or Cisco 9336C switch

You have the option to use ports e5a and e7a as intercluster LIFs in a MetroCluster IP configuration.

Cabling a FAS9500 or AFF A900 to a Cisco 3232C or Cisco 9336C-FX2 switch			
Port use	FAS9500 / A900		Switch Port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1, Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster interface			3
			4
MetroCluster 3, Local Cluster interface Ports for Transition (10/40/100Gbps)			5
			6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, MetroCluster interface	e5b	e7b	9
	e5b	e7b	10
MetroCluster 2, MetroCluster interface	e5b	e7b	11
	e5b	e7b	12
MetroCluster 3, MetroCluster interface	e5b	e7b	13
	e5b	e7b	14
ISL, MetroCluster native speed 40G / 100G	ISL, MetroCluster		15
			16
			17
			18
			19
			20
ISL, MetroCluster breakout mode 10G	ISL, MetroCluster		21/1-4
			22/1-4
			23/1-4
			24/1-4
Unused	Unused		25
			26
			27
			28
			29
			30
			31
			32
9336C-FX2 only: Ports disabled	9336C-FX2 only: Ports disabled		33
			34
			35
			36

Cabling an AFF A320, AFF A400, AFF A700 or AFF A800 to a Cisco 9336C-FX2 shared switch

Cabling an AFF A320, A400, A700, and A800 to a Cisco 9336C-FX2 shared switch			
MetroCluster 1, Local Cluster Interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster Interface			3
			4
Storage shelf 1 (9)	NSM-A, e0a	NSM-A, e0b	5
	NSM-B, e0a	NSM-B, e0b	6
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		7
			8
MetroCluster 1, MetroCluster interface	Port 'A'	Port 'B'	9
	Port 'A'	Port 'B'	10
MetroCluster 2, MetroCluster interface	Port 'A'	Port 'B'	11
	Port 'A'	Port 'B'	12
ISL, MetroCluster, native speed 40G / 100G breakout mode 10G	ISL, MetroCluster	ISL, MetroCluster	13
			14
			15
			16
MetroCluster 1, Storage Interface	See Hardware Universe for available ports		17
			18
MetroCluster 2, Storage Interface			19
			20
Storage shelf 2 (8)	NSM-A, e0a	NSM-A, e0b	21
	NSM-B, e0a	NSM-B, e0b	22
Storage shelf 3 (7)	NSM-A, e0a	NSM-A, e0b	23
	NSM-B, e0a	NSM-B, e0b	24
Storage shelf 4 (6)	NSM-A, e0a	NSM-A, e0b	25
	NSM-B, e0a	NSM-B, e0b	26
Storage shelf 5 (5)	NSM-A, e0a	NSM-A, e0b	27
	NSM-B, e0a	NSM-B, e0b	28
Storage shelf 6 (4)	NSM-A, e0a	NSM-A, e0b	29
	NSM-B, e0a	NSM-B, e0b	30
Storage shelf 7 (3)	NSM-A, e0a	NSM-A, e0b	31
	NSM-B, e0a	NSM-B, e0b	32
Storage shelf 8 (2)	NSM-A, e0a	NSM-A, e0b	33
	NSM-B, e0a	NSM-B, e0b	34
Storage shelf 9 (1)	NSM-A, e0a	NSM-A, e0b	35
	NSM-B, e0a	NSM-B, e0b	36

MetroCluster interfaces per platform		
Platform	Port 'A'	Port 'B'
AFF A320	e0g	e0h
AFF A400	e1a	e1b
AFF A700	e5a	e5b
AFF A800	e0b	e1b

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).

Notes for the tables below:

1. For some platforms, you can use ports 49 - 54 for MetroCluster ISLs or MetroCluster interface connections.

   These ports require an additional license.

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

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

3. 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)

4. If you connect two MetroCluster configurations and both use the same controller type, then you must use MetroCluster port groups 3 and 4. If the controllers are different, then you must use either MetroCluster port groups 3 and 4 for one type and MetroCluster port groups 1 and 2 for the other.
   - For example, if you connect:
     - Two MetroCluster configurations consisting of FAS2750/AFF A220 only, or FAS500f/AFF A250 only, you must select MetroCluster port groups 3 and 4.
     - Two MetroCluster configurations where one MetroCluster is type FAS2750/AFF A220 and the other is FAS500f/AFF A250, you must select port groups 3 and 4 for one, and port groups 1 and 2 for the other. In the RcfFileGenerator for MetroCluster IP, drop-down fields 1 and 2 only populate with the supported platform after you select platforms in drop-down fields 3 and 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.

Switch port usage for AFF A220 or FAS2750 systems

Cabling a AFF A220 or FAS2750 to a Broadcom BES-53248 switch			
Port use	FAS2750, A220		Switch port
	IP_switch_x_1	IP_switch_x_2	
Unused	-		1-6
MetroCluster 3, Shared Cluster and MetroCluster interface	e0a	e0b	9
	e0a	e0b	10
MetroCluster 4, Shared Cluster and MetroCluster interface	e0a	e0b	11
	e0a	e0b	12
ISL, MetroCLuster native speed 10G / 25G	ISL, MetroCluster		13
			14
			15
			16
Unused	-		17 - 52
ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster		53
			54
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		55
			56

Switch port usage for AFF A250 or FAS500f systems

Cabling a AFF A250 or FAS500f to a Broadcom BES-53248 switch			
Port use	FAS500f, A250		Switch port
	IP_switch_x_1	IP_switch_x_2	
Unused	-		1-6
MetroCluster 3, Shared Cluster and MetroCluster interface	e0c	e0d	9
	e0c	e0d	10
MetroCluster 4, Shared Cluster and MetroCluster interface	e0c	e0d	11
	e0c	e0d	12
ISL, MetroCLuster native speed 10G / 25G	ISL, MetroCluster		13
			14
			15
			16
Unused	-		17 - 52
ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster		53
			54
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		55
			56

Switch port usage for combined use of AFF A250 or FAS500f and AFF A220 or FAS2750 systems

Cabling a AFF A220 or FAS2750 and a AFF A250 or FAS500f to a Broadcom BES-53248 switch					
Port use	FAS2750, AFF A220		FAS500f, AFF A250		Switch port
	IP_switch_x_1	IP_switch_x_2	IP_switch_x_1	IP_switch_x_2	
Unused	-		-		1-4
MetroCluster 1, Shared Cluster and	e0a	e0b	e0c	e0d	5
MetroCluster interface (see note 4)	e0a	e0b	e0c	e0d	6
MetroCluster 2, Shared Cluster and	e0a	e0b	e0c	e0d	7
MetroCluster interface (see note 4)	e0a	e0b	e0c	e0d	8
MetroCluster 3, Shared Cluster and	e0a	e0b	e0c	e0d	9
MetroCluster interface (see note 4)	e0a	e0b	e0c	e0d	10
MetroCluster 4, Shared Cluster and	e0a	e0b	e0c	e0d	11
MetroCluster interface (see note 4)	e0a	e0b	e0c	e0d	12
ISL, MetroCLuster native speed 10G / 25G	ISL, MetroCluster		ISL, MetroCluster		13
					14
					15
					16
Unused	-		-		17 - 52
ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster		ISL, MetroCluster		53
					54
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		ISL, Local Cluster		55
					56

Switch port usage for AFF A300 or FAS8200 systems

Cabling a AFF A300 or FAS8200 to a Broadcom BES-53248 switch			
Port use	FAS8200, AFF A300		Switch port
	IP_switch_x_1	IP_switch_x_2	
MetroCluster 1, Local Cluster interface	See Hardware Universe for available ports		1
			2
MetroCluster 2, Local Cluster interface			3
			4
MetroCluster 1, MetroCluster interface	e1a	e1b	5
	e1a	e1b	6
MetroCluster 2, MetroCluster interface	e1a	e1b	7
	e1a	e1b	8
Unused	-		9
			10
			11
			12
ISL, MetroCLuster native speed 10G / 25G	ISL, MetroCluster		13
			14
			15
			16
Unused	-		17 - 52
ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster		53
			54
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		55
			56

Cabling a AFF A320 to a Broadcom BES-53248 switch			
Port use	AFF A320		Switch port
	IP_switch_x_1	IP_switch_x_2	
Ports not used	Ports not used		1 - 12
ISL, MetroCLuster native speed 10G / 25G	ISL, MetroCluster		13
			14
			15
			16
Ports not licensed (17 - 52)			..
ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster		53
			54
MetroCluster 1, MetroCluster interface (see note 2)	e0g	e0h	55
	e0g	e0h	56

Switch port usage for AFF A400, FAS8300 or FAS8700 systems

Cabling a FAS8300, A400 or FAS8700 to a Broadcom BES-53248 switch			
Port use	FAS8300,FAS8700, A400		Switch port
	IP_switch_x_1	IP_switch_x_2	
Unused	-		1 - 12
ISL, MetroCluster native speed 10G / 25G	ISL, MetroCluster		13
			14
			15
			16
Unused	-		17 - 48
MetroCluster 5, Local Cluster interface (see note 1)	See Hardware Universe for available ports		49
			50
MetroCluster 5, MetroCluster interface (see note 1)	e1a	e1b	51
	e1a	e1b	52
ISL, MetroCluster, native speed 40G / 100G (see note 1)	ISL, MetroCluster		53
			54
ISL, Local Cluster native speed / 100G	ISL, Local Cluster		55
			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 platforms are currently supported:

- FAS500f / AFF A250
- FAS8300 / AFF A400
- FAS8700
- FAS9000 / AFF A700
- AFF A800

The following platforms and configurations are not currently supported:

- MetroCluster FC-to-IP Transition
- An eight-node MetroCluster configuration

Review these considerations before using the configuration tables

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 port 13 and 14. If they use breakout mode, either 4 × 25 Gbps or 4 × 10 Gbps, then they are represented as 13s0-3 and 14s0-3.

The following sections describe the physical cabling outline. You can also refer to the RcfFileGenerator for detailed cabling information.

Switch port usage for AFF A250 or FAS500f systems

Port use	FAS500f, A250		Switch port
	IP_Switch_x_1	IP_Switch_x_2	
Ports not used	-		1 - 6
MetroCluster 1, Shared Cluster and MetroCluster interface	e0c	e0d	7s0
	disabled		7s1-3
	e0c	e0d	8s0
	disabled		8s1-3
MetroCluster 2, Shared Cluster and MetroCluster interface	e0c	e0d	9s0
	disabled		9s1-3
	e0c	e0d	10s0
	disabled		10s1-3
MetroCluster 3, Shared Cluster and MetroCluster interface	e0c	e0d	11s0
	disabled		11s1-3
	e0c	e0d	12s0
	disabled		12s1-3
MetroCluster ISL 40/100G or 4 × 25G or 4 × 10G	ISL, MetroCluster		13/13s0-3
			14/14s0-3
ISL, Local Cluster 100G	ISL, Local Cluster		15
			16

Switch port usage for AFF A400, FAS8300 or FAS8700 systems

Port use	FAS8300, A400, FAS8700		Switch port
	IP_Switch_x_1	IP_Switch_x_2	
MetroCluster 1, Local Cluster interface	Local Cluster ports as per HWU		1 2
MetroCluster 2, Local Cluster interface	Local Cluster ports as per HWU		3 4
MetroCluster 3, Local Cluster interface	Local Cluster ports as per HWU		5 6
MetroCluster 1, MetroCluster interface	e1a e1a	e1b e1b	7 8
MetroCluster 2, MetroCluster interface	e1a e1a	e1b e1b	9 10
MetroCluster 3, MetroCluster interface	e1a e1a	e1b e1b	11 12
MetroCluster ISL 40/100G or 4 × 25G or 4 × 10G	ISL, MetroCluster		13/13s0-3 14/14s0-3
ISL, Local Cluster 100G	ISL, Local Cluster		15 16

Switch port usage for AFF A700 or FAS9000

Port use	FAS9000, A700		Switch port
	IP_Switch_x_1	IP_Switch_x_2	
MetroCluster 1, Local Cluster interface	Local Cluster ports as per HWU		1 2
MetroCluster 2, Local Cluster interface	Local Cluster ports as per HWU		3 4
MetroCluster 3, Local Cluster interface	Local Cluster ports as per HWU		5 6
MetroCluster 1, MetroCluster interface	e5a e5a	e5b e5b	7 8
MetroCluster 2, MetroCluster interface	e5a e5a	e5b e5b	9 10
MetroCluster 3, MetroCluster interface	e5a e5a	e5b e5b	11 12
MetroCluster ISL 40/100G or 4 × 25G or 4 × 10G	ISL, MetroCluster		13/13s0-3 14/14s0-3
ISL, Local Cluster 100G	ISL, Local Cluster		15 16

Switch port usage for AFF A800

Port use	A800		Switch port
	IP_Switch_x_1	IP_Switch_x_2	
MetroCluster 1, Local Cluster interface	Local Cluster ports as per HWU		1
			2
MetroCluster 2, Local Cluster interface	Local Cluster ports as per HWU		3
			4
MetroCluster 3, Local Cluster interface	Local Cluster ports as per HWU		5
			6
MetroCluster 1, MetroCluster interface	e0b	e1b	7
	e0b	e1b	8
MetroCluster 2, MetroCluster interface	e0b	e1b	9
	e0b	e1b	10
MetroCluster 3, MetroCluster interface	e0b	e1b	11
	e0b	e1b	12
MetroCluster ISL 40/100G or 4 × 25G or 4 × 10G	ISL, MetroCluster		13/13s0-3
			14/14s0-3
ISL, Local Cluster 100G	ISL, Local Cluster		15
			16

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