Port assignments for FC switches

ONTAP MetroCluster

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You need to verify that you are using the specified port assignments when you cable the FC switches.

You can reconfigure ports that are not used for attaching initiator ports, FC-VI ports, or ISLs to act as storage ports. However, if you are using the supported RCFs, you must change the zoning accordingly.

If you use the supported RCFs, ISL ports might not connect to the same ports shown and might need to be reconfigured manually.

If you configured your switches using the port assignments for ONTAP 9, you can continue to use the older assignments. However, new configurations running ONTAP 9.1 or later should use the port assignments shown here.

Overall cabling guidelines

You should be aware of the following guidelines when using the cabling tables:

- The Brocade and Cisco switches use different port numbering:
  - On Brocade switches, the first port is numbered 0.
  - On Cisco switches, the first port is numbered 1.
- The cabling is the same for each FC switch in the switch fabric.
- You can order AFF A300 and FAS8200 storage systems with one of two options for FC-VI connectivity:
  - Onboard ports 0e and 0f configured in FC-VI mode.
  - Ports 1a and 1b on an FC-VI card in slot 1.
- AFF A700 and FAS9000 storage systems require four FC-VI ports. The following tables show cabling for the FC switches with four FC-VI ports on each controller except for the Cisco 9250i switch.

  For other storage systems, use the cabling shown in the tables but ignore the cabling for FC-VI ports c and d.

  You can leave those ports empty.
- AFF A400 and FAS8300 storage systems use ports 2a and 2b for FC-VI connectivity.
- If you have two MetroCluster configurations sharing ISLs, use the same port assignments as that for an eight-node MetroCluster cabling.
- The number of ISLs you cable can vary depending on site's requirements.
- See the section on ISL considerations.

  Considerations for ISLs

AFF A900 and FAS9500 cabling guidelines

- AFF A900 or FAS9500 storage systems require eight FC-VI ports. If you are using an AFF A900 or

FAS9500, you need to use the eight port configuration. If the configuration includes the other storage system models, use the cabling shown in the tables but ignore the cabling for unneeded FC-VI ports.

Port assignments for systems using two initiator ports

You can configure FAS8200 and AFF A300 systems using a single initiator port for each fabric and two initiator ports for each controller.

You can follow the cabling for the FibreBridge 7600N bridge using only one FC port (FC1 or FC2). Instead of using four initiators, connect only two initiators and leave the other two that are connected to the switch port empty.

If zoning is performed manually, then follow the zoning used for a FibreBridge 7600N bridge using one FC port (FC1 or FC2). In this scenario, one initiator port rather than two is added to each zone member per fabric.

You can change the zoning or perform an upgrade from a FibreBridge 6500N to a FibreBridge 7500N using the procedure in Hot-swapping a FibreBridge 6500N bridge with a FibreBridge 7600N or 7500N bridge.

The following table shows port assignments for Brocade FC switches when using a single initiator port for each fabric and two initiator ports for each controller.

Configurations using FibreBridge 7500N or 7600N using one FC port (FC1 or FC2) only			
MetroCluster 1 or DR Group 1			
Component	**Port**	**6505, 6510, 6520, 7840, G620, G630, G610, G710, G720, G730 and DCX 8510-8**	
		Connects to FC switch…	**Connects to switch port…**
controller_x_1	FC-VI port a	1	0
	FC-VI port b	2	0
	FC-VI port c	1	1
	FC-VI port d	2	1
	HBA port a	1	2
	HBA port b	2	2
	HBA port c	-	-
	HBA port d	-	-

Configurations using FibreBridge 7500N or 7600N using one FC port (FC1 or FC2) only			
Stack 1	bridge_x_1a	1	8
	bridge_x_1b	2	8
Stack y	bridge_x_ya	1	11
	bridge_x_yb	2	11

Brocade port usage for controllers in a MetroCluster FC configuration

Learn about the port assignments required to cable Brocade FC switches to your controllers.

The following tables show the maximum supported configuration, with four controller modules per DR group. For smaller configurations, ignore the rows for the additional controller modules. Note that eight ISLs are supported only on the Brocade 6510, Brocade DCX 8510-8, G620, G630, G620-1, G630-1, G720, and G730 switches.

Review the following information before using these tables:

- Port usage for the Brocade 6505, G610, and G710 switches in an eight-node MetroCluster configuration is not shown. Due to the limited number of ports, port assignments must be made on a site-by-site basis depending on the controller module model and the number of ISLs and bridge pairs in use.
- The Brocade DCX 8510-8 switch can use the same port layout as the 6510 switch ***or*** the 7840 switch.
- Brocade 6520, 7810, and 7840 switches aren’t supported on systems that use eight FC-VI ports (AFF A900 and FAS9500 systems).
- Brocade 7810 switches only support one DR group.

MetroCluster 1 or DR group 1

The following table shows the supported controller configurations in MetroCluster 1 or DR group 1 on Brocade switches.

Component	Port	Connects to FC switch…	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
controller_x_1	FC-VI port a	1	0	0	0	0	0	0	0
	FC-VI port b	2	0	0	0	0	0	0	0
	FC-VI port c	1	1	1	1	1	1	1	1
	FC-VI port d	2	1	1	1	1	1	1	1
	FC-VI-2 port a	1	16	20	n/a	n/a	n/a	16	2
	FC-VI-2 port b	2	16	20	n/a	n/a	n/a	16	2
	FC-VI-2 port c	1	17	21	n/a	n/a	n/a	17	3
	FC-VI-2 port d	2	17	21	n/a	n/a	n/a	17	3
	HBA port a	1	2	2	2	2	2	2	8
	HBA port b	2	2	2	2	2	2	2	8
	HBA port c	1	3	3	3	3	3	3	9
	HBA port d	2	3	3	3	3	3	3	9

Component	Port	Connects to FC switch…	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
controller_x_2	FC-VI port a	1	4	4	4	4	4	4	4
	FC-VI port b	2	4	4	4	4	4	4	4
	FC-VI port c	1	5	5	5	5	5	5	5
	FC-VI port d	2	5	5	5	5	5	5	5
	FC-VI-2 port a	1	18	22	n/a	n/a	n/a	20	6
	FC-VI-2 port b	2	18	22	n/a	n/a	n/a	20	6
	FC-VI-2 port c	1	19	23	n/a	n/a	n/a	21	7
	FC-VI-2 port d	2	19	23	n/a	n/a	n/a	21	7
	HBA port a	1	6	6	6	6	6	6	12
	HBA port b	2	6	6	6	6	6	6	12
	HBA port c	1	7	7	7	7	7	7	13
	HBA port d	2	7	7	7	7	7	7	13

MetroCluster 2 or DR group 2

The following table shows the supported controller configurations in MetroCluster 2 or DR group 2 on Brocade switches.

Component	Port	Connects to FC switch…	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
controller_x_3	FC-VI port a	1	n/a	24	48	n/a	12	18	18
	FC-VI port b	2	n/a	24	48	n/a	12	18	18
	FC-VI port c	1	n/a	25	49	n/a	13	19	19
	FC-VI port d	2	n/a	25	49	n/a	13	19	19
	FC-VI-2 port a	1	n/a	36	n/a	n/a	n/a	36	24
	FC-VI-2 port b	2	n/a	36	n/a	n/a	n/a	36	24
	FC-VI-2 port c	1	n/a	37	n/a	n/a	n/a	37	25
	FC-VI-2 port d	2	n/a	37	n/a	n/a	n/a	37	25
	HBA port a	1	n/a	26	50	n/a	14	24	26
	HBA port b	2	n/a	26	50	n/a	14	24	26
	HBA port c	1	n/a	27	51	n/a	15	25	27
	HBA port d	2	n/a	27	51	n/a	15	25	27

Component	Port	Connects to FC switch…	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
controller_x_4	FC-VI port a	1	n/a	28	52	n/a	16	22	22
	FC-VI port b	2	n/a	28	52	n/a	16	22	22
	FC-VI port c	1	n/a	29	53	n/a	17	23	23
	FC-VI port d	2	n/a	29	53	n/a	17	23	23
	FC-VI-2 port a	1	n/a	38	n/a	n/a	n/a	38	28
	FC-VI-2 port b	2	n/a	38	n/a	n/a	n/a	38	28
	FC-VI-2 port c	1	n/a	39	n/a	n/a	n/a	39	29
	FC-VI-2 port d	2	n/a	39	n/a	n/a	n/a	39	29
	HBA port a	1	n/a	30	54	n/a	18	28	30
	HBA port b	2	n/a	30	54	n/a	18	28	30
	HBA port c	1	n/a	31	55	n/a	19	29	31
	HBA port d	2	n/a	31	55	n/a	19	29	31

MetroCluster 3 or DR group 3

The following table shows the supported controller configurations in MetroCluster 3 or DR group 3 on Brocade switches.

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
controller_x_5	FC-VI port a	1	48	48
	FC-VI port b	2	48	48
	FC-VI port c	1	49	49
	FC-VI port d	2	49	49
	FC-VI-2 port a	1	64	50
	FC-VI-2 port b	2	64	50
	FC-VI-2 port c	1	65	51
	FC-VI-2 port d	2	65	51
	HBA port a	1	50	56
	HBA port b	2	50	56
	HBA port c	1	51	57
	HBA port d	2	51	57

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
controller_x_6	FC-VI port a	1	52	52
	FC-VI port b	2	52	52
	FC-VI port c	1	53	53
	FC-VI port d	2	53	53
	FC-VI-2 port a	1	68	54
	FC-VI-2 port b	2	68	54
	FC-VI-2 port c	1	69	55
	FC-VI-2 port d	2	69	55
	HBA port a	1	54	60
	HBA port b	2	54	60
	HBA port c	1	55	61
	HBA port d	2	55	61

MetroCluster 4 or DR group 4

The following table shows the supported controller configurations in MetroCluster 4 or DR group 4 on Brocade switches.

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
controller_x_7	FC-VI port a	1	66	66
	FC-VI port b	2	66	66
	FC-VI port c	1	67	67
	FC-VI port d	2	67	67
	FC-VI-2 port a	1	84	72
	FC-VI-2 port b	2	84	72
	FC-VI-2 port c	1	85	73
	FC-VI-2 port d	2	85	73
	HBA port a	1	72	74
	HBA port b	2	72	74
	HBA port c	1	73	75
	HBA port d	2	73	75

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
controller_x_8	FC-VI port a	1	70	70
	FC-VI port b	2	70	70
	FC-VI port c	1	71	71
	FC-VI port d	2	71	71
	FC-VI-2 port a	1	86	76
	FC-VI-2 port b	2	86	76
	FC-VI-2 port c	1	87	77
	FC-VI-2 port d	2	87	77
	HBA port a	1	76	78
	HBA port b	2	76	78
	HBA port c	1	77	79
	HBA port d	2	77	79

Brocade port usage for FC-to-SAS bridges in a MetroCluster FC configuration

Learn about the port assignments required to cable Brocade FC switches to FC-to-SAS bridges. The port assignments vary depending on whether the bridges use one or two FC ports.

Brocade 7810 switches only support one DR group.

Shelf configurations using FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2)

MetroCluster 1 or DR group 1

The following table shows the supported shelf configurations in MetroCluster 1 or DR group 1 for FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade 6505, G610, G710, G620, G620-1, G630, and G630-1 switches, you can cable additional

bridges to ports 12-15.

- On Brocade 6510 and DCX 8510-8 switches, you can cable additional bridges to ports 12-19.
- On Brocade 6520 switches, you can cable additional bridges to ports 12-21 and 24-45.
- On Brocade 7810 and 7840 switches, MetroCluster 1 or DR group 1 only supports two bridge stacks.
- On Brocade G720 and G730 switches, you can cable additional bridges to ports 16-21.

Component		Port	Connects to FC switch …	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
Stack 1	bridge_x_1a	FC1	1	8	8	8	8	8	8	10
		FC2	2	8	8	8	8	8	8	10
	bridge_x_1b	FC1	1	9	9	9	9	9	9	11
		FC2	2	9	9	9	9	9	9	11
Stack 2	bridge_x_2a	FC1	1	10	10	10	10	10	10	14
		FC2	2	10	10	10	10	10	10	14
	bridge_x_2b	FC1	1	11	11	11	11	11	11	15
		FC2	2	11	11	11	11	11	11	15

MetroCluster 2 or DR group 2

The following table shows the supported shelf configurations in MetroCluster 2 or DR group 2 for FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade 6510, DCX 8510-8, and 7840 switches, MetroCluster 2 or DR group 2 only supports two bridge stacks.
- On Brocade 6520 switches, you can cable additional bridges to ports 60-69 and 72-93.
- On Brocade G620, G620-1, G630, and G630-1 switches, you can cable additional bridges to ports 32-35.
- On Brocade G720 and G730 switches, you can cable additional bridges to ports 36-39.
- Port usage for the Brocade 6505, G610, and G710 switches in an eight-node MetroCluster configuration is not shown. Due to the limited number of ports, you assign ports on a site-by-site basis depending on the controller model and the number of ISLs and bridge pairs that you’re using.

Component		Port	Connects to FC switch …	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
Stack 1	bridge_x_1a	FC1	1	n/a	32	56	n/a	20	26	32
		FC2	2	n/a	32	56	n/a	20	26	32
	bridge_x_1b	FC1	1	n/a	33	57	n/a	21	27	33
		FC2	2	n/a	33	57	n/a	21	27	33
Stack 2	bridge_x_2a	FC1	1	n/a	34	58	n/a	22	30	34
		FC2	2	n/a	34	58	n/a	22	30	34
	bridge_x_2b	FC1	1	n/a	35	59	n/a	23	31	35
		FC2	2	n/a	35	59	n/a	23	31	35

MetroCluster 3 or DR group 3

The following table shows the supported shelf configurations in MetroCluster 3 or DR group 3 for FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade G630 and G630-1 switches, you can cable additional bridges to ports 60-63.
- On Brocade G730 switches, you can cable additional bridges to ports 64, 65, 68, and 69.

Component		Port	Connects to FC switch…	G630, G630-1 port	G730 port
Stack 1	bridge_x_1a	FC1	1	56	58
		FC2	2	56	58
	bridge_x_1b	FC1	1	57	59
		FC2	2	57	59

Component		Port	Connects to FC switch…	G630, G630-1 port	G730 port
Stack 2	bridge_x_2a	FC1	1	58	62
		FC2	2	58	62
	bridge_x_2b	FC1	1	59	63
		FC2	2	59	63

MetroCluster 4 or DR group 4

The following table shows the supported shelf configurations in MetroCluster 4 or DR group 4 for FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade G630 and G630-1 switches, you can cable additional bridges to ports 80-83.
- On Brocade G730 switches, you can cable additional bridges to ports 84-95.

Component		Port	Connects to FC switch…	G630, G630-1 port	G730 port
Stack 1	bridge_x_1a	FC1	1	74	80
		FC2	2	74	80
	bridge_x_1b	FC1	1	75	81
		FC2	2	75	81
Stack 2	bridge_x_2a	FC1	1	78	82
		FC2	2	78	82
	bridge_x_2b	FC1	1	79	83
		FC2	2	79	83

Shelf configurations using FibreBridge 7500N or 7600N using one FC port (FC1 or FC2) only

MetroCluster 1 or DR group 1

The following table shows the supported shelf configurations in MetroCluster 1 or DR group 1 using FibreBridge 7500N or 7600N and only one FC port (FC1 or FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade 6505, G610, G710, G620, G620-1, G630, and G630-1 switches, additional bridges ports 12-15.
- On Brocade 6510 and DCX 8510-8 switches, you can cable additional bridges to ports 12-19.
- On Brocade 6520 switches, you can cable additional bridges to ports 16-21 and 24-45.
- On Brocade G720 and G730 switches, you can cable additional bridges to ports 16-21.

Component	Port	Connects to FC switch…	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
Stack 1	bridge_x_1a	1	8	8	8	8	8	8	10
	bridge_x_1b	2	8	8	8	8	8	8	10
Stack 2	bridge_x_2a	1	9	9	9	9	9	9	11
	bridge_x_2b	2	9	9	9	9	9	9	11
Stack 3	bridge_x_3a	1	10	10	10	10	10	10	14
	bridge_x_3b	2	10	10	10	10	10	10	14
Stack 4	bridge_x_4a	1	11	11	11	11	11	11	15
	bridge_x_4b	2	11	11	11	11	11	11	15

MetroCluster 2 or DR group 2

The following table shows the supported shelf configurations in MetroCluster 2 or DR group 2 for FibreBridge 7500N or 7600N bridges using one FC port (FC1 or FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade 6520 switches, you can cable additional bridges to ports 60-69 and 72-93.
- On Brocade G620, G620-1, G630, G630-1 switches, you can cable additional bridges to ports 32-35.
- On Brocade G720 and G730 switches, you can cable additional bridges to ports 36-39.
- Port usage for the Brocade 6505, G610, and G710 switches in an eight-node MetroCluster configuration is not shown. Due to the limited number of ports, you assign ports on a site-by-site basis depending on the controller model and the number of ISLs and bridge pairs that you're using.

Component	Port	Connects to FC switch…	6505, G610, G710 port	6510, DCX 8510-8 port	6520 port	7810 port	7840 port	G620, G620-1, G630, G630-1 port	G720, G730 port
Stack 1	bridge_x_1a	1	n/a	32	56	n/a	20	26	32
	bridge_x_1b	2	n/a	32	56	n/a	20	26	32
Stack 2	bridge_x_2a	1	n/a	33	57	n/a	21	27	33
	bridge_x_2b	2	n/a	33	57	n/a	21	27	33
Stack 3	bridge_x_3a	1	n/a	34	58	n/a	22	30	34
	bridge_x_3b	2	n/a	34	58	n/a	22	30	34
Stack 4	bridge_x_4a	1	n/a	35	59	n/a	23	31	35
	bridge_x_4b	2	n/a	35	59	n/a	23	31	35

MetroCluster 3 or DR group 3

The following table shows the supported shelf configurations in MetroCluster 3 or DR group 3 for FibreBridge 7500N or 7600N bridges using one FC port (FC1 or FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade G630 and G630-1 switches, you can cable additional bridges to ports 60-63.
- On Brocade G730 switches, you can cable additional bridges to ports 64, 65, 68, 69.

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
Stack 1	bridge_x_1a	1	56	58
	bridge_x_1b	2	56	58

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
Stack 2	bridge_x_2a	1	57	59
	bridge_x_2b	2	57	59
Stack 3	bridge_x_3a	1	58	62
	bridge_x_3b	2	58	62
Stack 4	bridge_x_4a	1	59	63
	bridge_x_4b	2	59	63

MetroCluster 4 or DR group 4

The following table shows the supported shelf configurations in MetroCluster 4 or DR group 4 for FibreBridge 7500N or 7600N bridges using one FC port (FC1 or FC2) on Brocade switches. You should be aware of the following when using this configuration table:

- On Brocade G630 and G630-1 switches, you can cable additional bridges to ports 80-83.
- On Brocade G730 switches, you can cable additional bridges to ports 84-95.

Component	Port	Connects to FC switch…	G630, G630-1 port	G730 port
Stack 1	bridge_x_1a	1	74	80
	bridge_x_1b	2	74	80
Stack 2	bridge_x_2a	1	75	81
	bridge_x_2b	2	75	81
Stack 3	bridge_x_3a	1	78	82
	bridge_x_3b	2	78	82
Stack 4	bridge_x_4a	1	79	83
	bridge_x_4b	2	79	83

Brocade port usage for ISLs in a MetroCluster FC configuration

Learn about the port assignments required to cable Brocade FC switches to ISLs.

- AFF A900 and FAS9500 systems support eight ISLs. Eight ISLs are supported on the Brocade 6510, G620, G620-1, G630, G630-1, G720, and G730 switches.
- Brocade 6520 switches supports eight ISLs, but do not support AFF A900 and FAS9500 systems.

ISL port	6505, G610, G710 port	6520 port	7810 port	7840 (10-Gbps) port	7840 (40-Gbps) port	6510, G620, G620-1, G630, G630-1, G720, G730 port
ISL port 1	20	22	ge2	ge2	ge0	40
ISL port 2	21	23	ge3	ge3	ge1	41
ISL port 3	22	46	ge4	ge10	n/a	42
ISL port 4	23	47	ge5	ge11	n/a	43
ISL port 5	n/a	70	ge6	n/a	n/a	44
ISL port 6	n/a	71	ge7	n/a	n/a	45
ISL port 7	n/a	94	n/a	n/a	n/a	46
ISL port 8	n/a	95	n/a	n/a	n/a	47

Cisco port usage for controllers in a MetroCluster FC configuration

Learn about the port assignments required to cable Cisco 9124V, 9148S, 9148V, 9250i, and 9396S FC switches to your controllers.

The tables show the maximum supported configurations, with eight controller modules in two DR groups. For smaller configurations, ignore the rows for the additional controller modules.

- For Cisco 9132T, see Cisco 9132T port usage for controllers in a MetroCluster FC configuration.
- Cisco 9124V and 9250i switches are not supported in eight-node MetroCluster configurations.

MetroCluster 1 or DR group 1

The following table shows the supported controller configurations in MetroCluster 1 or DR group 1 on Cisco switches (excluding 9132T).

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
controller_x_1	FC-VI port a	1	1	1	1	1	1
	FC-VI port b	2	1	1	1	1	1
	FC-VI port c	1	2	2	2	2	2
	FC-VI port d	2	2	2	2	2	2
	FC-VI-2 port a	1	3	n/a	3	n/a	n/a
	FC-VI-2 port b	2	3	n/a	3	n/a	n/a
	FC-VI-2 port c	1	4	n/a	4	n/a	n/a
	FC-VI-2 port d	2	4	n/a	4	n/a	n/a
	HBA port a	1	13	3	13	3	3
	HBA port b	2	13	3	13	3	3
	HBA port c	1	14	4	14	4	4
	HBA port d	2	14	4	14	4	4

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
controller_x_2	FC-VI port a	1	5	5	5	5	5
	FC-VI port b	2	5	5	5	5	5
	FC-VI port c	1	6	6	6	6	6
	FC-VI port d	2	6	6	6	6	6
	FC-VI-2 port a	1	7	n/a	7	n/a	n/a
	FC-VI-2 port b	2	7	n/a	7	n/a	n/a
	FC-VI-2 port c	1	8	n/a	8	n/a	n/a
	FC-VI-2 port d	2	8	n/a	8	n/a	n/a
	HBA port a	1	15	7	15	7	7
	HBA port b	2	15	7	15	7	7
	HBA port c	1	16	8	16	8	8
	HBA port d	2	16	8	16	8	8

MetroCluster 2 or DR group 2

The following table shows the supported controller configurations in MetroCluster 2 or DR group 2 on Cisco switches (excluding 9132T).

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
controller_x_3	FC-VI port a	1	n/a	25	25	n/a	49
	FC-VI port b	2	n/a	25	25	n/a	49
	FC-VI port c	1	n/a	26	26	n/a	50
	FC-VI port d	2	n/a	26	26	n/a	50
	FC-VI-2 port a	1	n/a	n/a	27	n/a	n/a
	FC-VI-2 port b	2	n/a	n/a	27	n/a	n/a
	FC-VI-2 port c	1	n/a	n/a	28	n/a	n/a
	FC-VI-2 port d	2	n/a	n/a	28	n/a	n/a
	HBA port a	1	n/a	27	37	n/a	51
	HBA port b	2	n/a	27	37	n/a	51
	HBA port c	1	n/a	28	38	n/a	52
	HBA port d	2	n/a	28	38	n/a	52

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
controller_x_4	FC-VI port a	1	n/a	29	29	n/a	53
	FC-VI port b	2	n/a	29	29	n/a	53
	FC-VI port c	1	n/a	30	30	n/a	54
	FC-VI port d	2	n/a	30	30	n/a	54
	FC-VI-2 port a	1	n/a	n/a	31	n/a	n/a
	FC-VI-2 port b	2	n/a	n/a	31	n/a	n/a
	FC-VI-2 port c	1	n/a	n/a	32	n/a	n/a
	FC-VI-2 port d	2	n/a	n/a	32	n/a	n/a
	HBA port a	1	n/a	31	39	n/a	55
	HBA port b	2	n/a	31	39	n/a	55
	HBA port c	1	n/a	32	40	n/a	56
	HBA port d	1	n/a	32	40	n/a	56

Cisco port usage for FC-to-SAS bridges in a MetroCluster FC configuration

Learn about the port assignments required to cable Cisco 9124V, 9148S, 9148V, 9250i, and 9396S FC switches to FC-to-SAS bridges. The port assignments vary depending on whether the bridges use one or two FC ports.

For Cisco 9132T, see Cisco 9132t port usage for FC-to-SAS bridges in a MetroCluster FC configuration.

Shelf configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)

MetroCluster 1 or DR group 1

The following table shows the supported shelf configurations in MetroCluster 1 or DR group 1 using FibreBridge 7500N or 7600N bridges and both FC ports (FC1 and FC2) on Cisco switches (excluding 9132T). You should be aware of the following when using this configuration table:

- On Cisco 9250i switches, you can cable additional MetroCluster 1 or DR group 1 bridges to ports 17-40.
- On Cisco 9396S switches, you can cable additional MetroCluster 1 or DR group 1 bridges to ports 17-32.

Component		Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
Stack 1	bridge_x_1a	FC1	1	17	9	17	9	9
		FC2	2	17	9	17	9	9
	bridge_x_1b	FC1	1	18	10	18	10	10
		FC2	2	18	10	18	10	10
Stack 2	bridge_x_2a	FC1	1	19	11	19	11	11
		FC2	2	19	11	19	11	11
	bridge_x_2b	FC1	1	20	12	20	12	12
		FC2	2	20	12	20	12	12
Stack 3	bridge_x_3a	FC1	1	21	13	21	13	13
		FC2	2	21	13	21	13	13
	bridge_x_3b	FC1	1	22	14	22	14	14
		FC2	2	22	14	22	14	14
Stack 4	bridge_x_4a	FC1	1	23	15	23	15	15
		FC2	2	23	15	23	15	15
	bridge_x_4b	FC1	1	24	16	24	16	16
		FC2	2	24	16	24	16	16

MetroCluster 2 or DR group 2

The following table shows the supported shelf configurations in MetroCluster 2 or DR group 2 using FibreBridge 7500N or 7600N and both FC ports (FC1 and FC2) on Cisco switches (excluding 9132T). You should be aware of the following when using the cabling tables:

- Cisco 9124V and 9250i switches are not supported for eight-node MetroCluster configurations.
- On Cisco 9396S switches, you can cable additional MetroCluster 2 (DR group 2) bridges to ports 65-80.

Component		Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
Stack 1	bridge_x_1a	FC1	1	n/a	33	41	n/a	57
		FC2	2	n/a	33	41	n/a	57
	bridge_x_1b	FC1	1	n/a	34	42	n/a	58
		FC2	2	n/a	34	42	n/a	58
Stack 2	bridge_x_2a	FC1	1	n/a	35	43	n/a	59
		FC2	2	n/a	35	43	n/a	59
	bridge_x_2b	FC1	1	n/a	36	44	n/a	60
		FC2	2	n/a	36	44	n/a	60
Stack 3	bridge_x_3a	FC1	1	n/a	37	45	n/a	61
		FC2	2	n/a	37	45	n/a	61
	bridge_x_3b	FC1	1	n/a	38	46	n/a	62
		FC2	2	n/a	38	46	n/a	62
Stack 4	bridge_x_4a	FC1	1	n/a	39	47	n/a	63
		FC2	2	n/a	39	47	n/a	63
	bridge_x_4b	FC1	1	n/a	40	48	n/a	64
		FC2	2	n/a	40	48	n/a	64

Shelf configurations using FibreBridge 7500N or 7600N using one FC port (FC1 or FC2) only

MetroCluster 1 or DR group 1

The following table shows the supported shelf configurations in MetroCluster 1 or DR group 1 for FibreBridge 7500N or 7600N bridges using one FC port (FC1 or FC2) on Cisco switches (excluding 9132T). The reference configuration file (RCF) doesn't support one FC port on FibreBridge bridges, so you must configure the back-end fibre channel switches manually.

Configure the Cisco FC switches manually

You should be aware of the following when using the cabling tables:

- On Cisco 9250i switches, you can cable additional MetroCluster 1 or DR group 1 bridges to ports 17-40.
- On Cisco 9396S switches, you can cable additional MetroCluster 1 or DR group 1 bridges to ports 17-32.

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
Stack 1	bridge_x_1a	1	17	9	17	9	9
	bridge_x_1b	2	17	9	17	9	9
Stack 2	bridge_x_2a	1	18	10	18	10	10
	bridge_x_2b	2	18	10	18	10	10
Stack 3	bridge_x_3a	1	19	11	19	11	11
	bridge_x_3b	2	19	11	19	11	11
Stack 4	bridge_x_4a	1	20	12	20	12	12
	bridge_x_4b	2	20	12	20	12	12
Stack 5	bridge_x_5a	1	21	13	21	13	13
	bridge_x_5b	2	21	13	21	13	13
Stack 6	bridge_x_6a	1	22	14	22	14	14
	bridge_x_6b	2	22	14	22	14	14
Stack 7	bridge_x_7a	1	23	15	23	15	15
	bridge_x_7b	2	23	15	23	15	15

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
Stack 8	bridge_x_8a	1	24	16	24	16	16
	bridge_x_8b	2	24	16	24	16	16

MetroCluster 2 or DR group 2

The following table shows the supported shelf configurations in MetroCluster 2 or DR group 2 for FibreBridge 7500N or 7600N bridges using one FC port (FC1 or FC2) on Cisco switches (excluding 9132T). You should be aware of the following when using this configuration table:

- The Cisco 9124V and 9250i switches are not supported for eight-node MetroCluster configurations.
- On Cisco 9396S switches, you can cable additional MetroCluster 2 or DR group 2 bridges to ports 65-80.

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
Stack 1	bridge_x_1a	1	n/a	33	41	n/a	57
	bridge_x_1b	2	n/a	33	41	n/a	57
Stack 2	bridge_x_2a	1	n/a	34	42	n/a	58
	bridge_x_2b	2	n/a	34	42	n/a	58
Stack 3	bridge_x_3a	1	n/a	35	43	n/a	59
	bridge_x_3b	2	n/a	35	43	n/a	59
Stack 4	bridge_x_4a	1	n/a	36	44	n/a	60
	bridge_x_4b	2	n/a	36	44	n/a	60
Stack 5	bridge_x_5a	1	n/a	37	45	n/a	61
	bridge_x_5b	2	n/a	37	45	n/a	61
Stack 6	bridge_x_6a	1	n/a	38	46	n/a	62
	bridge_x_6b	2	n/a	38	46	n/a	62

Component	Port	Connects to FC switch…	9124V port	9148S port	9148V port	9250i port	9396S port
Stack 7	bridge_x_7a	1	n/a	39	47	n/a	63
	bridge_x_7b	2	n/a	39	47	n/a	63
Stack 8	bridge_x_8a	1	n/a	40	48	n/a	64
	bridge_x_8b	2	n/a	40	48	n/a	64

Cisco port usage for ISLs in a MetroCluster FC configuration

Learn about the port assignments required to cable Cisco 9124V, 9148S, 9148V, 9250i, and 9396S FC switches to ISLs.

The following table shows ISL port usage. ISL port usage is the same on all switches in the configuration.

- For Cisco 9132T, see Cisco 9132T port usage for ISLs in a MetroCluster FC configuration.
- The Cisco 9250i switch requires a 24 port license.

ISL port	9124V port	9148S port	9148V port	9250i port	9396S port
ISL port 1	9	20	9	12	44
ISL port 2	10	24	10	16	48
ISL port 3	11	44	11	20	92
ISL port 4	12	48	12	24	96
ISL port 5	n/a	n/a	33	n/a	n/a
ISL port 6	n/a	n/a	34	n/a	n/a
ISL port 7	n/a	n/a	35	n/a	n/a
ISL port 8	n/a	n/a	36	n/a	n/a

Cisco 9132T port usage for controllers in a MetroCluster FC configuration

Learn about the port assignments required to cable Cisco 9132T FC switches to your controllers.

The following table shows controller configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2). The tables show the maximum supported configurations with four and eight controller modules in two DR groups.

For eight-node configurations, you must perform the zoning manually because RCFs are not provided.

MetroCluster 1 or DR group 1

The following table shows the supported controller configurations for MetroCluster 1 or DR group 1 on Cisco 9132T switches. You should be aware of the following when using this configuration table:

- AFF A900 and FAS9500 systems have eight FC-VI ports (a, b, c, and d for FC-VI-1 and FC-VI-2).

Component	Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
controller_x_1	FC-VI port a	1	LEM1-1	LEM1-1	LEM1-1
	FC-VI port b	2	LEM1-1	LEM1-1	LEM1-1
	FC-VI port c	1	LEM1-2	LEM1-2	LEM1-2
	FC-VI port d	2	LEM1-2	LEM1-2	LEM1-2
	FC-VI-2 port a	1	LEM1-3	LEM1-3	n/a
	FC-VI-2 port b	2	LEM1-3	LEM1-3	n/a
	FC-VI-2 port c	1	LEM1-4	LEM1-4	n/a
	FC-VI-2 port d	2	LEM1-4	LEM1-4	n/a
	HBA port a	1	LEM1-5	LEM1-5	LEM1-3
	HBA port b	2	LEM1-5	LEM1-5	LEM1-3
	HBA port c	1	LEM1-6	LEM1-6	LEM1-4
	HBA port d	2	LEM1-6	LEM1-6	LEM1-4

Component	Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
controller_x_2	FC-VI port a	1	LEM1-7	LEM1-7	LEM1-5
	FC-VI port b	2	LEM1-7	LEM1-7	LEM1-5
	FC-VI port c	1	LEM1-8	LEM1-8	LEM1-6
	FC-VI port d	2	LEM1-8	LEM1-8	LEM1-6
	FC-VI-2 port a	1	LEM1-9	LEM1-9	n/a
	FC-VI-2 port b	2	LEM1-9	LEM1-9	n/a
	FC-VI-2 port c	1	LEM1-10	LEM1-10	n/a
	FC-VI-2 port d	2	LEM1-10	LEM1-10	n/a
	HBA port a	1	LEM1-11	LEM1-11	LEM1-7
	HBA port b	2	LEM1-11	LEM1-11	LEM1-7
	HBA port c	1	LEM1-12	LEM1-12	LEM1-8
	HBA port d	2	LEM1-12	LEM1-12	LEM1-8

MetroCluster 2 or DR group 2

The following table shows the supported Cisco 9132T controller configurations for MetroCluster 2 or DR group 2 on Cisco 9132T switches. You should be aware of the following when using this configuration table:

- AFF A900 and FAS9500 systems have eight FC-VI ports (a, b, c, and d for FC-VI-1 and FC-VI-2).
- MetroCluster 2 or DR group 2 is not supported on Cisco 9132T switches for AFF A900 and FAS9500 systems.
- MetroCluster 2 or DR group 2 is only supported in eight-node MetroCluster configurations

Component	Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
controller_x_3	FC-VI port a	1	n/a	n/a	LEM2-1
	FC-VI port b	2	n/a	n/a	LEM2-1
	FC-VI port c	1	n/a	n/a	LEM2-2
	FC-VI port d	2	n/a	n/a	LEM2-2
	FC-VI-2 port a	1	n/a	n/a	n/a
	FC-VI-2 port b	2	n/a	n/a	n/a
	FC-VI-2 port c	1	n/a	n/a	n/a
	FC-VI-2 port d	2	n/a	n/a	n/a
	HBA port a	1	n/a	n/a	LEM2-3
	HBA port b	2	n/a	n/a	LEM2-3
	HBA port c	1	n/a	n/a	LEM2-4
	HBA port d	2	n/a	n/a	LEM2-4

Component	Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
controller_x_4	FC-VI-1 port a	1	n/a	n/a	LEM2-5
	FC-VI-1 port b	2	n/a	n/a	LEM2-5
	FC-VI-1 port c	1	n/a	n/a	LEM2-6
	FC-VI-1 port d	2	n/a	n/a	LEM2-6
	FC-VI-2 port a	1	n/a	n/a	n/a
	FC-VI-2 port b	2	n/a	n/a	n/a
	FC-VI-2 port c	1	n/a	n/a	n/a
	FC-VI-2 port d	2	n/a	n/a	n/a
	HBA port a	1	n/a	n/a	LEM2-7
	HBA port b	2	n/a	n/a	LEM2-7
	HBA port c	1	n/a	n/a	LEM2-8
	HBA port d	2	n/a	n/a	LEM2-8

Cisco 9132T port usage for FC-to-SAS bridges in a MetroCluster FC configuration

Learn about the port assignments required to cable Cisco 9132T FC switches to FC-to-SAS bridges using both FC ports.

Only one (1) bridge stack is supported using Cisco 9132T switches with 1xLEM Module.

MetroCluster 1 or DR group 1

The following table shows the supported shelf configurations in MetroCluster 1 or DR group 1 for FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2) on Cisco 9132T switches. You should be aware of the following when using this configuration table:

- In four-node configurations, you can cable additional bridges to ports LEM2-1 through LEM2-8 on Cisco 9132T switches with 2xLEMs.

Component		Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
Stack 1	bridge_x_1a	FC1	1	LEM1-13	LEM1-13	LEM1-9
		FC2	2	LEM1-13	LEM1-13	LEM1-9
	bridge_x_1b	FC1	1	LEM1-14	LEM1-14	LEM1-10
		FC2	2	LEM1-14	LEM1-14	LEM1-10
Stack 2	bridge_x_2a	FC1	1	n/a	LEM1-15	LEM1-11
		FC2	2	n/a	LEM1-15	LEM1-11
	bridge_x_2b	FC1	1	n/a	LEM1-16	LEM1-12
		FC2	2	n/a	LEM1-16	LEM1-12

MetroCluster 2 or DR group 2

The following table shows the supported shelf configurations in MetroCluster 2 or DR group 2 for FibreBridge 7500N or 7600N bridges using both FC ports (FC1 and FC2) on Cisco 9132T switches. You should be aware of the following when using this configuration table:

- In eight-node configurations, you can cable additional bridges to ports LEM2-13 through LEM2-16 on Cisco 9132T switches with 2x LEMs.

Component		Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
Stack 1	bridge_x_1a	FC1	1	n/a	n/a	LEM1-9
		FC2	2	n/a	n/a	LEM1-9
	bridge_x_1b	FC1	1	n/a	n/a	LEM1-10
		FC2	2	n/a	n/a	LEM1-10

Component		Port	Connects to FC_switch…	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
Stack 2	bridge_x_2a	FC1	1	n/a	n/a	LEM1-11
		FC2	2	n/a	n/a	LEM1-11
	bridge_x_2b	FC1	1	n/a	n/a	LEM1-12
		FC2	2	n/a	n/a	LEM1-12

Cisco 9132T port usage for ISLs in a MetroCluster FC configuration

Learn about the port assignments required to cable Cisco 9132T FC switches to ISLs.

The following table shows ISL port usage for a Cisco 9132T switch.

ISL port	9132T 1x LEM (Four-node)	9132T 2x LEM (Four-node)	9132T 2x LEM (Eight-node)
ISL port 1	LEM1-15	LEM2-9	LEM1-13
ISL port 2	LEM1-16	LEM2-10	LEM1-14
ISL port 3	n/a	LEM2-11	LEM1-15
ISL port 4	n/a	LEM2-12	LEM1-16
ISL port 5	n/a	LEM2-13	n/a
ISL port 6	n/a	LEM2-14	n/a
ISL port 7	n/a	LEM2-15	n/a
ISL port 8	n/a	LEM2-16	n/a

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