Port assignments for FC switches when using AFF A900 systems

ONTAP MetroCluster

NetApp
November 21, 2022

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Port assignments for FC switches when using AFF A900 or FAS9500 systems

You need to verify that you are using the specified port assignments when you cable the FC switches when using ONTAP 9.10.1 and later.

Ports that are not used for attaching initiator ports, FC-VI ports, or ISLs can be reconfigured to act as storage ports. However, if the supported RCFs are being used, the zoning must be changed accordingly.

If the supported RCFs are used, 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 releases should use the port assignments shown here.

Overall cabling guidelines

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

- 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.
- 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 may vary depending on site's requirements.
- See the section on ISL considerations.

  Considerations for ISLs

Brocade port usage for AFF A900 or FAS9500 controllers in a MetroCluster configuration running ONTAP 9.10.1 or later

The following tables show port usage on Brocade switches. The tables show the maximum supported configuration, with eight controller modules in four DR groups. AFF A900 and FAS9500 systems have eight FC-VI ports (a, b, c, and d for FC-VI-1 and FC-VI-2)

Configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)							
MetroCluster 1 or DR Group 1							
Component	Port	Brocade switch model					
		Connects to FC_switch…	6510	6505, G610	G620, G620-1	G630, G630-1	G720

controller_x_1	FC-VI-1 port a	1	0	0	0	0	0
	FC-VI-1 port b	2	0	0	0	0	0
	FC-VI-1 port c	1	1	1	1	1	1
	FC-VI-1 port d	2	1	1	1	1	1
	FC-VI-2 port a	1	20	16	16	16	2
	FC-VI-2 port b	2	20	16	16	16	2
	FC-VI-2 port c	1	21	17	17	17	3
	FC-VI-2 port d	2	21	17	17	17	3
	HBA port a	1	2	2	2	2	8
	HBA port b	2	2	2	2	2	8
	HBA port c	1	3	3	3	3	9
	HBA port d	2	3	3	3	3	9
controller_x_2	FC-VI-1 port a	1	4	4	4	4	4
	FC-VI-1 port b	2	4	4	4	4	4
	FC-VI-1 port c	1	5	5	5	5	5
	FC-VI-1 port d	2	5	5	5	5	5
	FC-VI-2 port a	1	22	18	20	20	6
	FC-VI-2 port b	2	22	18	20	20	6
	FC-VI-2 port c	1	23	19	21	21	7
	FC-VI-2 port d	2	23	19	21	21	7
	HBA port a	1	6	6	6	6	12
	HBA port b	2	6	6	6	6	12
	HBA port c	1	7	7	7	7	13
	HBA port d	2	7	7	7	7	13

Stack 1	bridge_x_1a	FC1	1	8	8	8	8	10
		FC2	2	8	8	8	8	10
	bridge_x_1b	FC1	1	9	9	9	9	11
		FC2	2	9	9	9	9	11
Stack 2	bridge_x_2a	FC1	1	10	10	10	10	14
		FC2	2	10	10	10	10	14
	bridge_x_2b	FC1	1	11	11	11	11	15
		FC2	2	11	11	11	11	15
Stack 3	bridge_x_3a	FC1	1	12	12	12	12	16
		FC2	2	12	12	12	12	16
	bridge_x_3b	FC1	1	13	13	13	13	17
		FC2	2	13	13	13	13	17
Stack y	bridge_x_ya	FC1	1	14	14	14	14	20
		FC2	2	14	14	14	14	20
	bridge_x_yb	FC1	1	15	15	15	15	21
		FC2	2	15	15	15	15	21

Additional bridges can be cabled to ports 16-19 in 6510 switches.

Configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)							
MetroCluster 2 or DR Group 2							
Component	**Port**	**Brocade switch model**					
		Connects to FC_switch…	**6510**	**6505, G610**	**G620, G620-1**	**G630, G630-1**	**G720**

controller_x_3	FC-VI-1 port a	1	24	-	18	18	18
	FC-VI-1 port b	2	24	-	18	18	18
	FC-VI-1 port c	1	25	-	19	19	19
	FC-VI-1 port d	2	25	-	19	19	19
	FC-VI-2 port a	1	36	-	36	36	24
	FC-VI-2 port b	2	36	-	36	36	24
	FC-VI-2 port c	1	37	-	37	37	25
	FC-VI-2 port d	2	37	-	37	37	25
	HBA port a	1	26	-	24	24	26
	HBA port b	2	26	-	24	24	26
	HBA port c	1	27	-	25	25	27
	HBA port d	2	27	-	25	25	27
controller_x_4	FC-VI-1 port a	1	28	-	22	22	22
	FC-VI-1 port b	2	28	-	22	22	22
	FC-VI-1 port c	1	29	-	23	23	23
	FC-VI-1 port d	2	29	-	23	23	23
	FC-VI-2 port a	1	38	-	38	38	28
	FC-VI-2 port b	2	38	-	38	38	28
	FC-VI-2 port c	1	39	-	39	39	29
	FC-VI-2 port d	2	39	-	39	39	29
	HBA port a	1	30	-	28	28	30
	HBA port b	2	30	-	28	28	30
	HBA port c	1	31	-	29	29	31
	HBA port d	2	31	-	29	29	31

Stack 1	bridge_x_51a	FC1	1	32	-	26	26	32
		FC2	2	32	-	26	26	32
	bridge_x_51b	FC1	1	33	-	27	27	33
		FC2	2	33	-	27	27	33
Stack 2	bridge_x_52a	FC1	1	34	-	30	30	34
		FC2	2	34	-	30	30	34
	bridge_x_52b	FC1	1	35	-	31	31	35
		FC2	2	35	-	31	31	35
Stack 3	bridge_x_53a	FC1	1	-	-	32	32	36
		FC2	2	-	-	32	32	36
	bridge_x_53b	FC1	1	-	-	33	33	37
		FC2	2	-	-	33	33	37
Stack y	bridge_x_5ya	FC1	1	-	-	34	34	38
		FC2	2	-	-	34	34	38
	bridge_x_5yb	FC1	1	-	-	35	35	39
		FC2	2	-	-	35	35	39

MetroCluster 2 or DR 2 only supports two (2) bridge stacks with 6510 switches.

MetroCluster 2 or DR 2 is not supported with 6505, G610 switches.

Configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)			
MetroCluster 3 or DR Group 3			
Component	**Port**	**Brocade switch model**	
		Connects to FC_switch…	**G630, G630-1**

controller_x_5		FC-VI-1 port a	1	48
		FC-VI-1 port b	2	48
		FC-VI-1 port c	1	49
		FC-VI-1 port d	2	49
		FC-VI-2 port a	1	64
		FC-VI-2 port b	2	64
		FC-VI-2 port c	1	65
		FC-VI-2 port d	2	65
		HBA port a	1	50
		HBA port b	2	50
		HBA port c	1	51
		HBA port d	2	51
controller_x_6		FC-VI-1 port a	1	52
		FC-VI-1 port b	2	52
		FC-VI-1 port c	1	53
		FC-VI-1 port d	2	53
		FC-VI-2 port a	1	68
		FC-VI-2 port b	2	68
		FC-VI-2 port c	1	69
		FC-VI-2 port d	2	69
		HBA port a	1	54
		HBA port b	2	54
		HBA port c	1	55
		HBA port d	2	55
Stack 1	bridge_x_1a	FC1	1	56
		FC2	2	56
	bridge_x_1b	FC1	1	57
		FC2	2	57
Stack 2	bridge_x_2a	FC1	1	58
		FC2	2	58
	bridge_x_2b	FC1	1	59
		FC2	2	59

Stack 3	bridge_x_3a	FC1	1	60
		FC2	2	60
	bridge_x_3b	FC1	1	61
		FC2	2	61
Stack y	bridge_x_ya	FC1	1	62
		FC2	2	62
	bridge_x_yb	FC1	1	63
		FC2	2	63

Configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)			
MetroCluster 4 or DR Group 4			
Component	**Port**	**Brocade switch model**	
		Connects to FC_switch…	**G630, G630-1**
controller_x_7	FC-VI-1 port a	1	66
	FC-VI-1 port b	2	66
	FC-VI-1 port c	1	67
	FC-VI-1 port d	2	67
	FC-VI-2 port a	1	84
	FC-VI-2 port b	2	84
	FC-VI-2 port c	1	85
	FC-VI-2 port d	2	85
	HBA port a	1	72
	HBA port b	2	72
	HBA port c	1	73
	HBA port d	2	73

controller_x_8		FC-VI-1 port a	1	70
		FC-VI-1 port b	2	70
		FC-VI-1 port c	1	71
		FC-VI-1 port d	2	71
		FC-VI-2 port a	1	86
		FC-VI-2 port b	2	86
		FC-VI-2 port c	1	87
		FC-VI-2 port d	2	87
		HBA port a	1	76
		HBA port b	2	76
		HBA port c	1	77
		HBA port d	2	77
Stack 1	bridge_x_51a	FC1	1	74
		FC2	2	74
	bridge_x_51b	FC1	1	75
		FC2	2	75
Stack 2	bridge_x_52a	FC1	1	78
		FC2	2	78
	bridge_x_52b	FC1	1	79
		FC2	2	79
Stack 3	bridge_x_53a	FC1	1	80
		FC2	2	80
	bridge_x_53b	FC1	1	81
		FC2	2	81
Stack y	bridge_x_5ya	FC1	1	82
		FC2	2	82
	bridge_x_5yb	FC1	1	83
		FC2	2	83

AFF A900 or FAS9500 - Brocade port usage for ISLs in an MetroCluster configuration running ONTAP 9.10.1 or later

The following table shows ISL port usage for the Brocade switches in a AFF A900 or FAS9500 system.

AFF A900 and FAS9500 systems support eight ISLs. Eight ISLs are supported on the Brocade 6510, G620, G620-1, and G720 switches.

Switch model	ISL port	Switch port
6510, G620, G620-1, G720	ISL1	40
	ISL2	41
	ISL3	42
	ISL4	43
	ISL5	44
	ISL6	45
	ISL7	46
	ISL8	47
6505,G610	ISL1	20
	ISL2	21
	ISL3	22
	ISL4	23

Cisco port usage for AFF A900 or FAS9500 controllers in a MetroCluster configuration running ONTAP 9.10.1 or later

The tables show the maximum supported configurations, with eight AFF A900 or FAS9500 controller modules in a DR group.

- The following table shows systems with eight FC-VI ports. AFF A900 and FAS9500 have eight FC-VI ports (a, b, c, and d for FC-VI-1 and FC-VI-2).
- MetroCluster 2 or DR 2 is not supported with 9132T switches.

Configurations using FibreBridge 7500N or 7600N using both FC ports (FC1 and FC2)				
MetroCluster 1 or DR Group 1				
Component	Port	Cisco switch model		
		Connects to FC_switch…	9132T (1x LEM)	9132T (2x LEM)

controller_x_1		FC-VI-1 port a	1	LEM1-1	LEM1-1
		FC-VI-1 port b	2	LEM1-1	LEM1-1
		FC-VI-1 port c	1	LEM1-2	LEM1-2
		FC-VI-1 port d	2	LEM1-2	LEM1-2
		FC-VI-2 port a	1	LEM1-3	LEM1-3
		FC-VI-2 port b	2	LEM1-3	LEM1-3
		FC-VI-2 port c	1	LEM1-4	LEM1-4
		FC-VI-2 port d	2	LEM1-4	LEM1-4
		HBA port a	1	LEM1-5	LEM1-5
		HBA port b	2	LEM1-5	LEM1-5
		HBA port c	1	LEM1-6	LEM1-6
		HBA port d	2	LEM1-6	LEM1-6
controller_x_2		FC-VI-1 port a	1	LEM1-7	LEM1-7
		FC-VI-1 port b	2	LEM1-7	LEM1-7
		FC-VI-1 port c	1	LEM1-8	LEM1-8
		FC-VI-1 port d	2	LEM1-8	LEM1-8
		FC-VI-2 port a	1	LEM1-9	LEM1-9
		FC-VI-2 port b	2	LEM1-9	LEM1-9
		FC-VI-2 port c	1	LEM1-10	LEM1-10
		FC-VI-2 port d	2	LEM1-10	LEM1-10
		HBA port a	1	LEM1-11	LEM1-11
		HBA port b	2	LEM1-11	LEM1-11
		HBA port c	1	LEM1-12	LEM1-12
		HBA port d	2	LEM1-12	LEM1-12
Stack 1	bridge_x_1a	FC1	1	LEM1-13	LEM1-13
		FC2	2	LEM1-13	LEM1-13
	bridge_x_1b	FC1	1	LEM1-14	LEM1-14
		FC2	2	LEM1-14	LEM1-14
Stack 2	bridge_x_2a	FC1	1	-	LEM1-15
		FC2	2	-	LEM1-15
	bridge_x_2b	FC1	1	-	LEM1-16
		FC2	2	-	LEM1-16

Stack 3	bridge_x_3a	FC1	1	-	LEM2-1
		FC2	2	-	LEM2-1
	bridge_x_3b	FC1	1	-	LEM2-2
		FC2	2	-	LEM2-2
Stack y	bridge_x_ya	FC1	1	-	LEM2-3
		FC2	2	-	LEM2-3
	bridge_x_yb	FC1	1	-	LEM2-4
		FC2	2	-	LEM2-4

- Additional bridges can be cabled to ports LEM2-5 through LEM2-8 in 9132T switches with 2x LEM Modules.
- Only one (1) bridge stack is supported using 9132T switches with 1x LEM Module.

AFF A900 or FAS9500 - Cisco port usage for ISLs in an eight-node configuration in a MetroCluster configuration running ONTAP 9.10.1 or later

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

Switch model	ISL port	Switch port
Cisco 9132T with 1x LEM	ISL1	LEM1-15
	ISL2	LEM1-16
Cisco 9132T with 2x LEM	ISL1	LEM2-9
	ISL2	LEM2-10
	ISL3	LEM2-11
	ISL4	LEM2-12
	ISL5	LEM2-13
	ISL6	LEM2-14
	ISL7	LEM2-15
	ISL8	LEM2-16

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