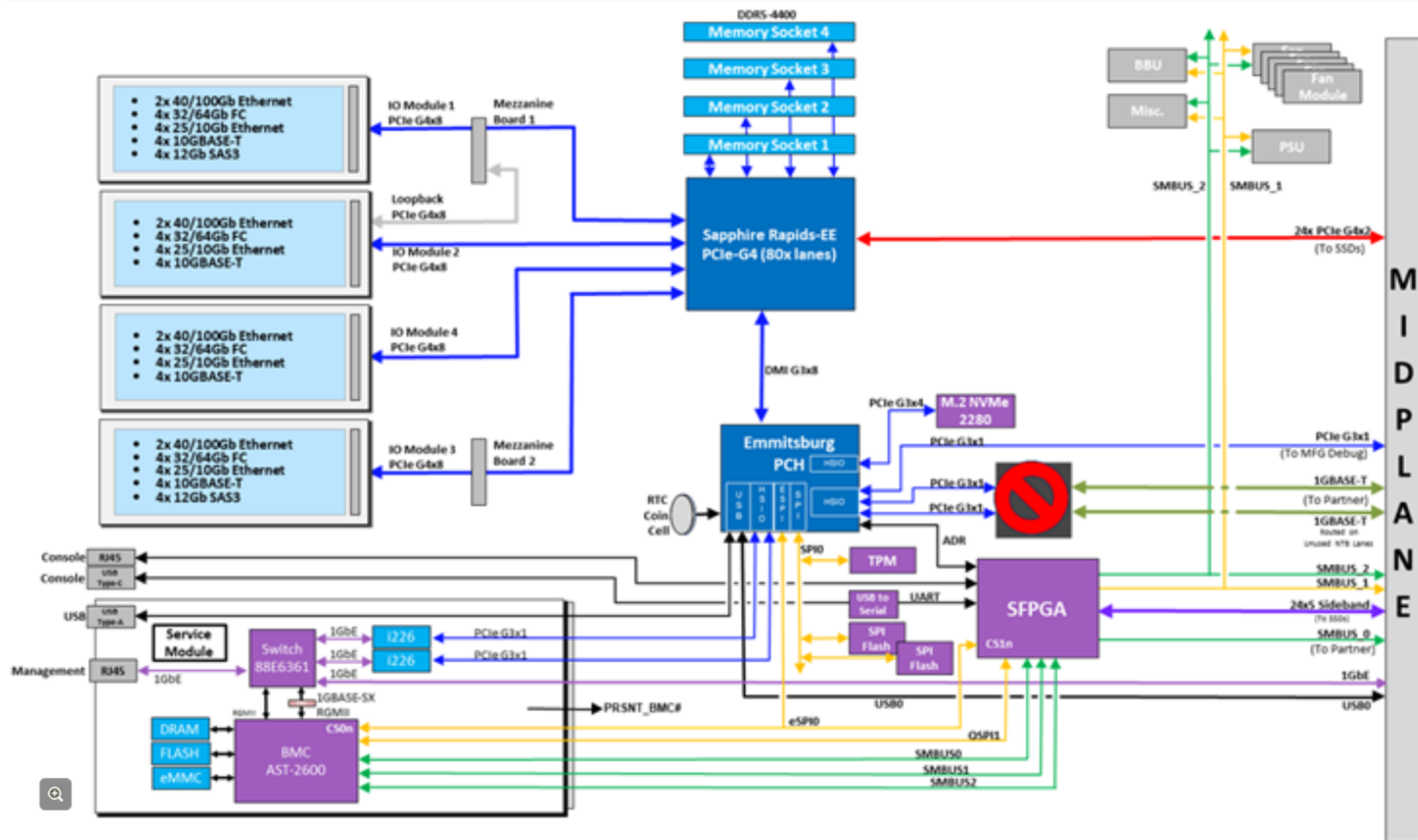


System configurations and diagrams: DM3200F, DM5200F, DM5200H, and DM7200F

Block diagram, storage configurations, clustering, and cabling

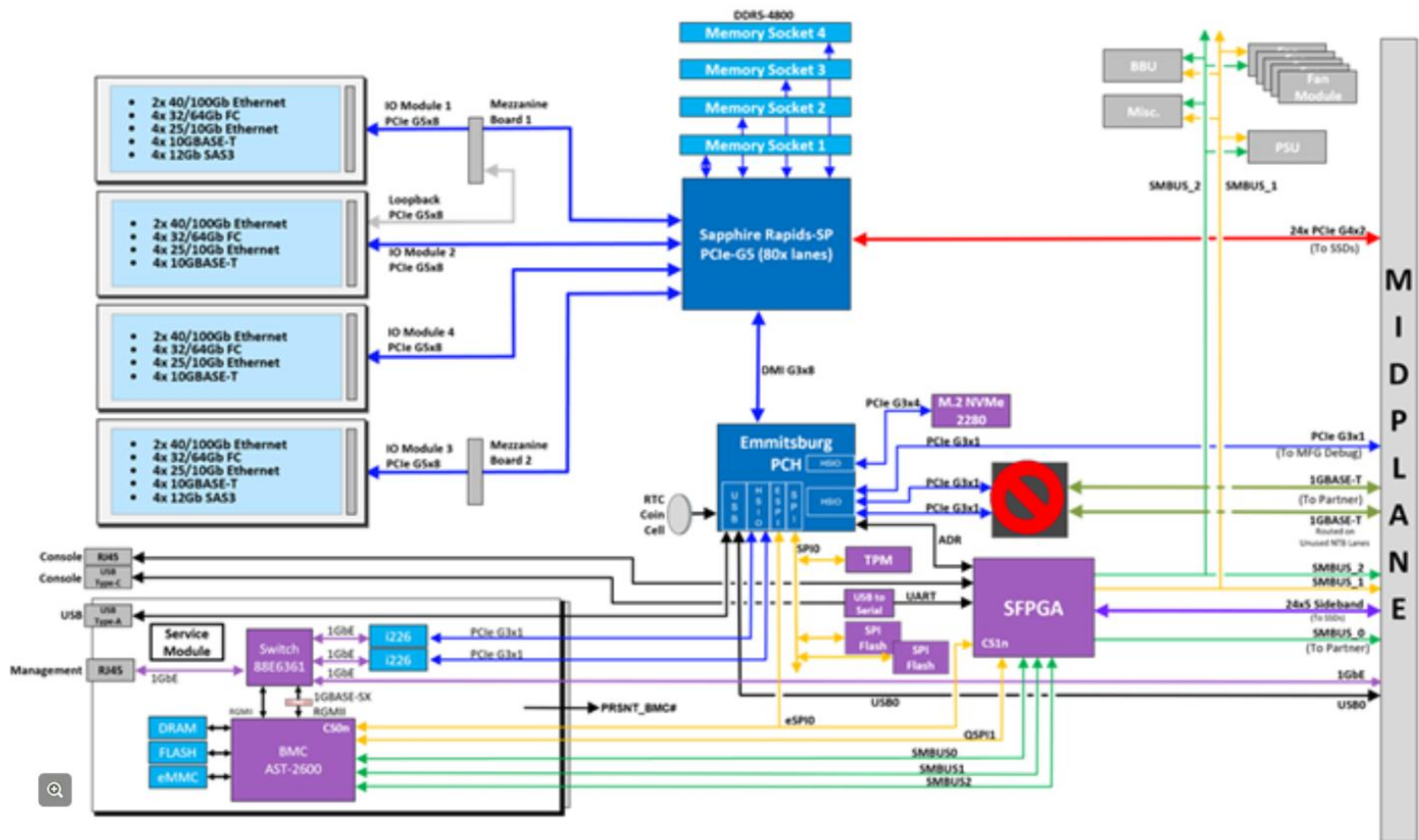
Lenovo

DM3200F controller block diagram



System configurations and diagrams: DM3200F, DM5200F, DM5200H, and DM7200F

DM5200F, DM5200H, and DM7200F controller block diagram



Supported I/O modules

Card description	Connectivity	Slot priority	Image
Two-port, 40/100 Gb Ethernet, QSFP28 (RoCEv2)	Cluster, HA Storage Host	4, 2 3, 1 4, 2, 1, 3	
Two-port, 10/25 Gb Ethernet, SFP28 ¹	Host	2, 1, 3	
Four-port, 10/25 Gb Ethernet, SFP28 (IPSec support)	Cluster, HA Host	4, 2 2, 1, 3	
Four-port, 10GBASE-T, RJ45	Host	2, 1, 3	
Four-port, 64 Gb Fiber Channel, SFP+ (initiator/target) ²	Host	2, 1, 3	
Four-port, 12 Gb SAS, mini-SAS HD	Storage, Tape	3, 1	
Two-port, 40/100 Gb Ethernet, QSFP28	MetroCluster	4, 2	

¹ The two-port 25 GbE I/O module can also be used for a cluster and HA, but it must be set up in the configurator for host I/O only

² The 64 Gb FC I/O module will only operate at 32 Gb FC in the DM3200F

Supported drives

Category	DM3200F DM5200F DM7200F	DM5200H
NVMe SSDs • 1.92 TB SED • 3.84 TB SED • 3.84 TB FIPS • 7.68 TB SED • 15.36 TB SED	Yes	No
SAS SSDs • 3.84 TB • 7.68 TB • 15.36 TB	Yes	Yes
NLSAS SSDs • 4 TB • 10 TB • 24 TB	No	Yes
• All drives will be sold in two-drive packs • The 24 TB NLSAS HDD will not ship with the initial launch		

DM/DG Series storage cluster node limits

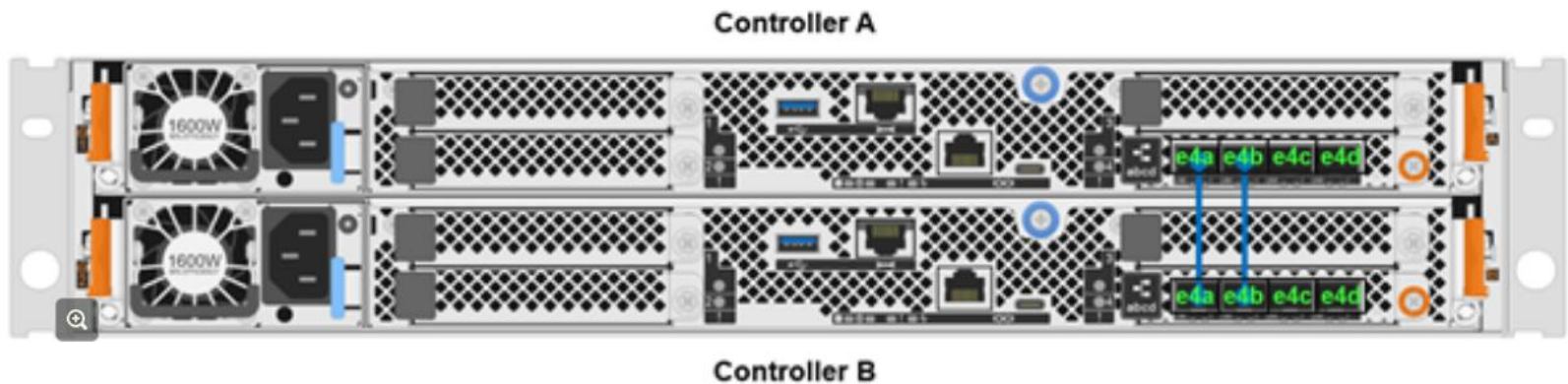
Maximum cluster nodes	NAS	SAN
DM3200F, DM5000F, DM7200F DG5200, DG7200 DM5200H	24	12

Maximum cluster nodes (mixed)	NAS	SAN
DM3200F, DM5000F, DM7200F DG5200, DG7200 DM5200H DM5000F, DM5100F, DM7000F, DM7100F DM3000H, DM3010H, DM5000H, DM7000H, DM7100H DG5000, DG7000	24	12

DM3200F clustering overview

- The DM3200F with 25 GbE I/O modules provides both HA and clustering connectivity, supporting both switchless and switched cluster configurations.
- The default configuration is a single four-port 25 GbE I/O module installed in I/O slot 4 in both controllers.
The four-port card uses ports e4a and e4b for HA and clustering connectivity, with the remaining ports (e4c and e4d) used for host connectivity.
- There is also an optional configuration of two four-port 25 GbE I/O modules installed in I/O slot 4 and slot 2 in both controllers.
The four-port cards use ports e2a and e4a for HA and clustering connectivity, with the remaining ports (e2b, e2c, e2d, e4b, e4c and e4d) used for host connectivity.

DM3200F switchless clustering



For switchless clustering, the system requires two 25 GbE cluster interconnections, and a four-port 25 GbE I/O module card should be installed in slot 4.

HA & cluster interconnects

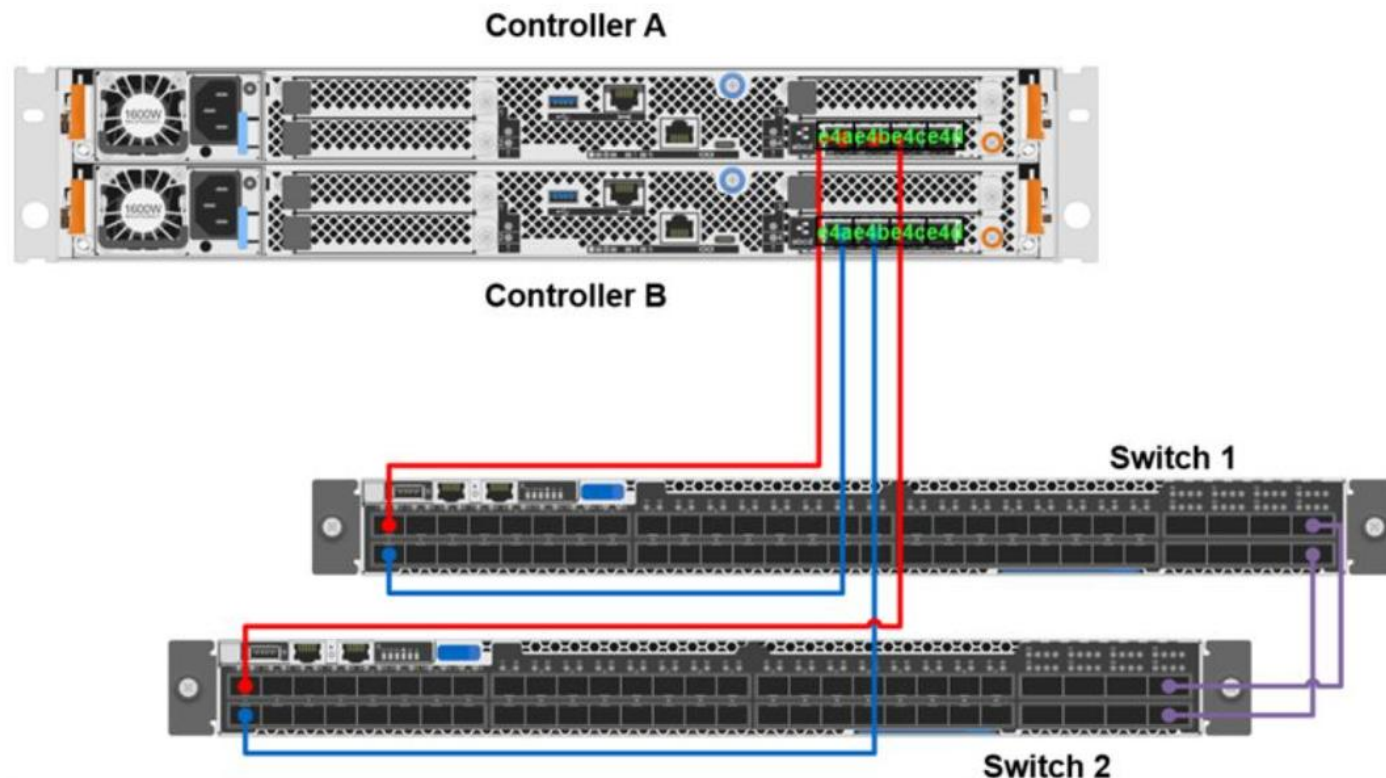
No	From	To
1	Controller A_e4a	controller B_e4a
2	Controller A_e4b	controller B_e4b

DM3200F switched clustering

For switched clustering, two 25 GbE cluster interconnections are required. A four-port 25 GbE I/O module card should be installed in slot 4, and SFP28 cables should be used to connect each controller to each switch.

HA & cluster interconnects

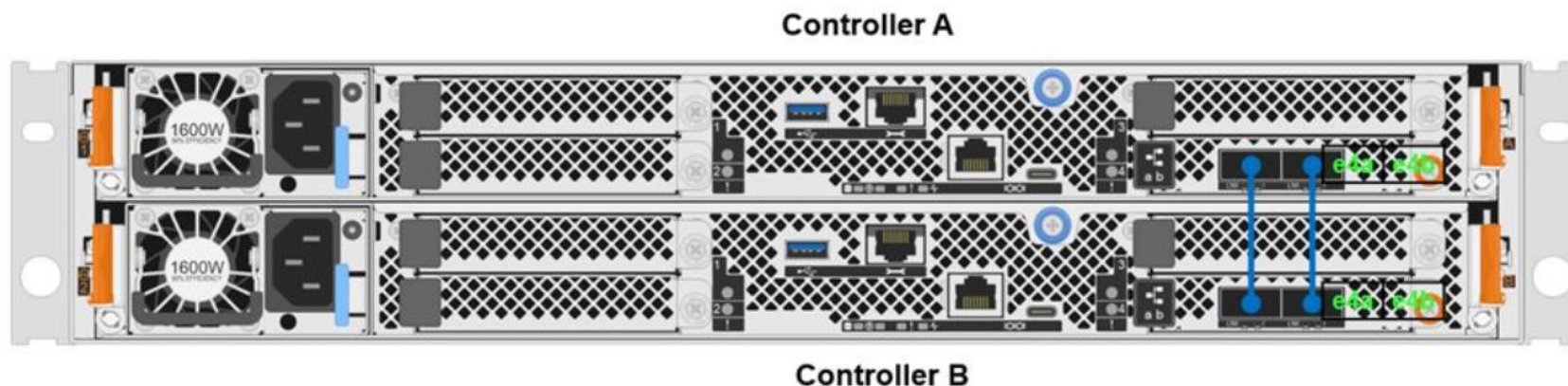
No	From	To
1	Controller A_e4a	Switch 1
2	Controller B_e4a	Switch 1
3	Controller A_e4b	Switch 2
4	Controller B_e4b	Switch 2



DM5200 and DM7200 clustering overview

- The DM5200 and DM7200 storage systems with 100 GbE I/O modules provide both HA and clustering connectivity to support both switchless and switched cluster configurations.
- The default configuration is a single 100 GbE I/O module installed in I/O slot 4 in both controllers.
The two-port card uses ports e4a and e4b for HA and clustering connectivity.
- There is also an optional configuration of two 100 GbE I/O modules installed in I/O slot 4 and slot 2 in both controllers
The two-port card uses ports e2a and e4a for HA and clustering connectivity, with the remaining ports (e2b and e4b) used for host connectivity.

DM5200 and DM7200 switchless clustering



For switchless clustering, the system requires two 100 GbE cluster interconnections, and a two-port 100 GbE I/O module card should be installed in slot 4.

HA & cluster interconnects

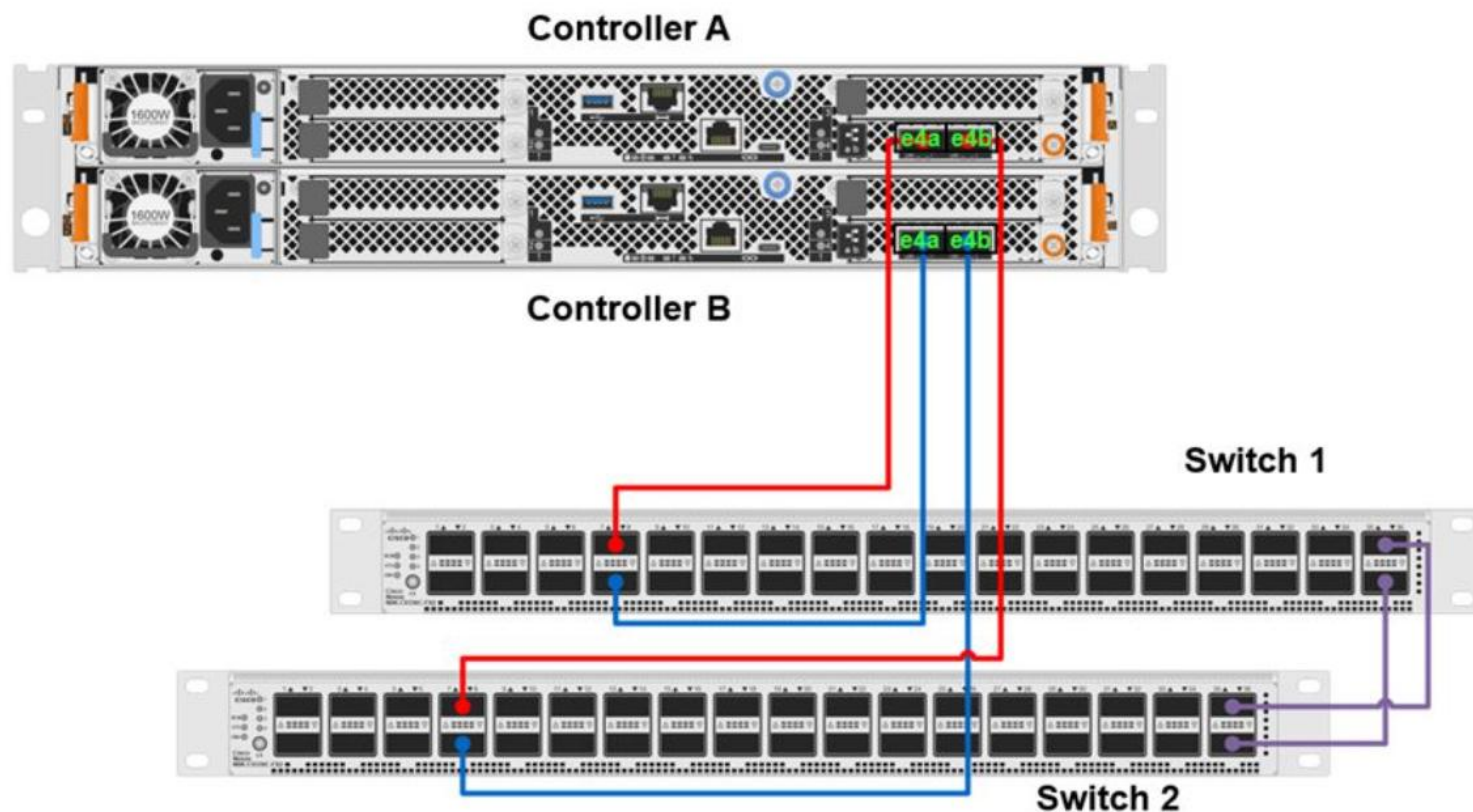
No	From	To
1	Controller A_e4a	controller B_e4a
2	Controller A_e4b	controller B_e4b

DM5200 and DM7200 switched clustering

For switched clustering, two 100 GbE cluster interconnections are required. A two-port 100 GbE I/O module card should be installed in slot 4, and SFP28 cables should be used to connect each controller to each switch.

HA & cluster interconnects

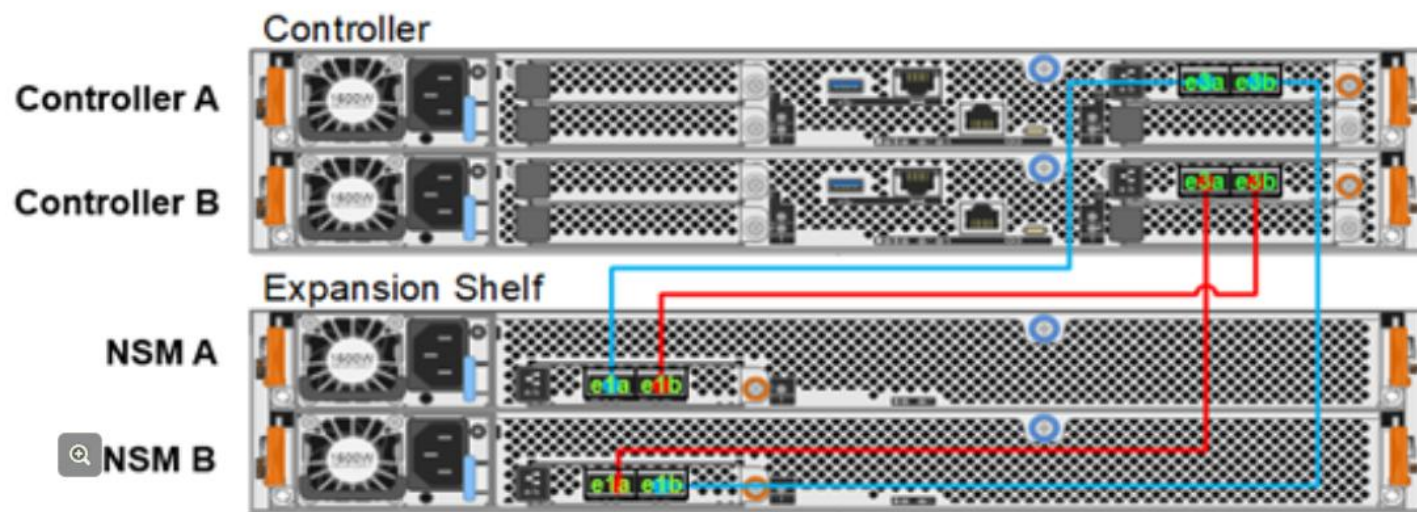
No	From	To
1	Controller A_e4a	Switch 1
2	Controller B_e4a	Switch 1
3	Controller A_e4b	Switch 2
4	Controller B_e4b	Switch 2



Direct connection – single NVMe expansion shelf

A two-port 100 GbE I/O module should be installed in slot 3, and QSFP28 cables should be used to connect each controller to each NSM.

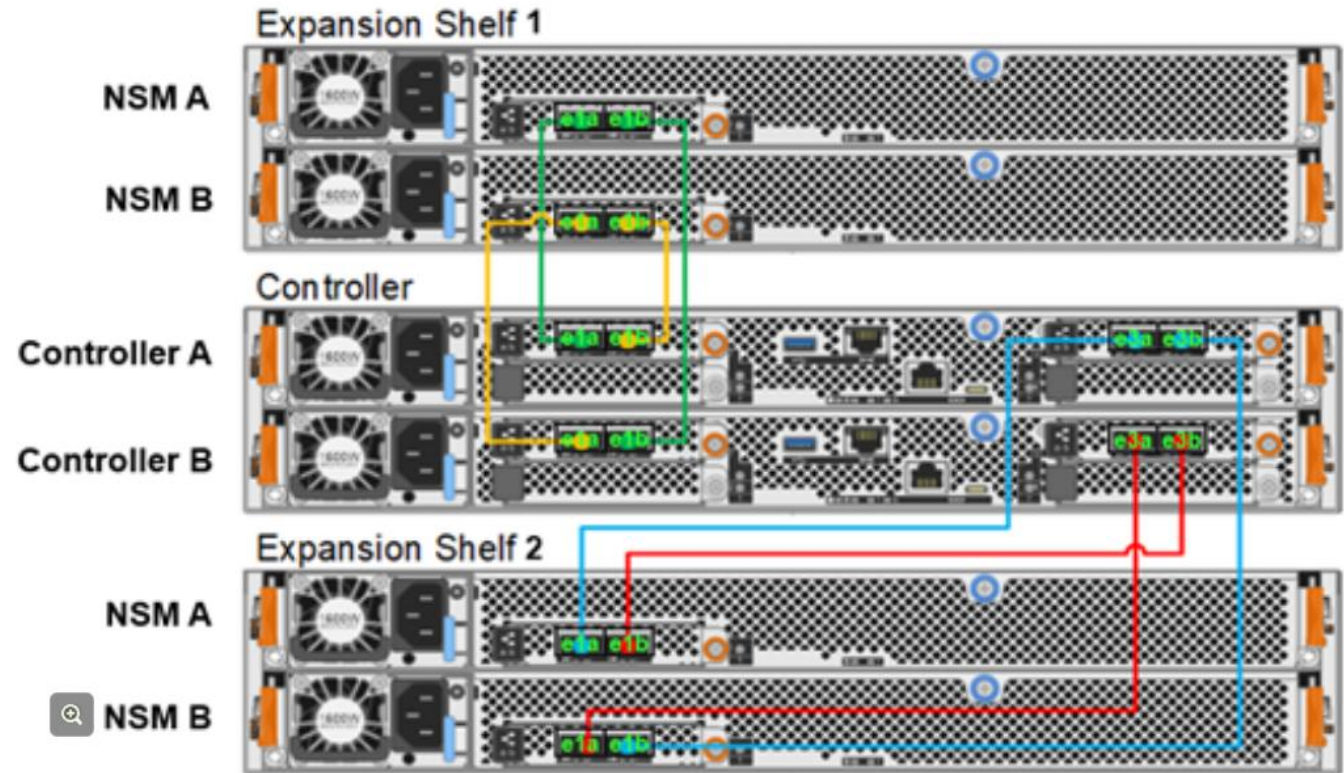
No	From	To
1	Controller A_e3a	NSM A_e1a
2	Controller A_e3b	NSM B_e1b
3	Controller B_e3a	NSM B_e1a
4	Controller B_e3b	NSM A_e1b



Direct connection – dual NVMe expansion shelves

Two-port 100 GbE I/O modules should be installed in slots 1 and 3, and QSFP28 cables should be used to connect each controller to each NSM.

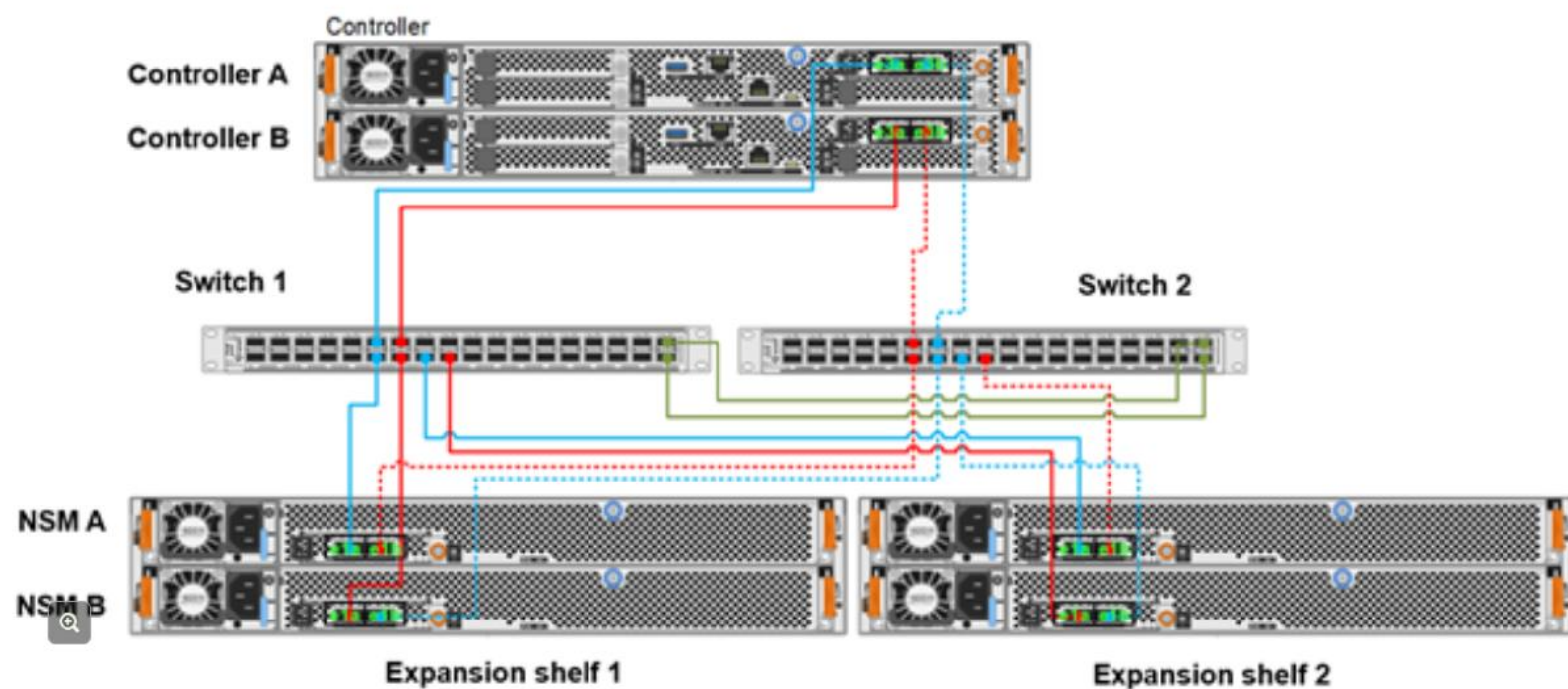
No	From	To
1	Controller A_e1a	Shelf 1 NSM A_e1a
2	Controller A_e1b	Shelf 1 NSM B_e1b
3	Controller B_e1a	Shelf 1 NSM B_e1a
4	Controller B_e1b	Shelf 1 NSM A_e1b
5	Controller A_e3a	Shelf 2 NSM A_e1a
6	Controller A_e3b	Shelf 2 NSM B_e1b
7	Controller B_e3a	Shelf 2 NSM B_e1a
8	Controller B_e3b	Shelf 2 NSM A_e1b



Switch connection – dual NVMe expansion shelves

A two-port 100 GbE I/O module is installed in slot 3, and QSFP28 cables are used to connect the switches to the controllers and NSMs.

No	From	To
1	Controller A_e3a	Switch 1
2	Controller A_e3b	Switch 2
3	Controller B_e3a	Switch 1
4	Controller B_e3b	Switch 2
5	Shelf 1 NSM A_e1a	Switch 1
6	Shelf 1 NSM A_e1b	Switch 2
7	Shelf 1 NSM B_e1a	Switch 1
8	Shelf 1 NSM B_e1b	Switch 2
9	Shelf 2 NSM A_e1a	Switch 1
10	Shelf 2 NSM A_e1b	Switch 2
11	Shelf 2 NSM B_e1a	Switch 1
12	Shelf 2 NSM B_e1b	Switch 2



Direct connection – SAS expansion shelf

A four-port 12 Gb SAS I/O module is installed in slot 3, and mini-SAS HD cables are used to connect the IOMs.

No	From	To
1	Controller A_3a	Shelf 1 IOM A_1
2	Controller A_3d	Shelf 3 IOM B_3
3	Controller B_3a	Shelf 1 IOM B_1
4	Controller B_3d	Shelf 3 IOM A_3
5	Shelf 1 IOM A_3	Shelf 2 IOM A_1
6	Shelf 1 IOM B_3	Shelf 2 IOM B_1
7	Shelf 2 IOM A_3	Shelf 3 IOM A_1
8	Shelf 2 IOM B_3	Shelf 3 IOM B_1

