DG7000 configurations and diagrams

Block diagram, storage configurations, clustering, and cabling

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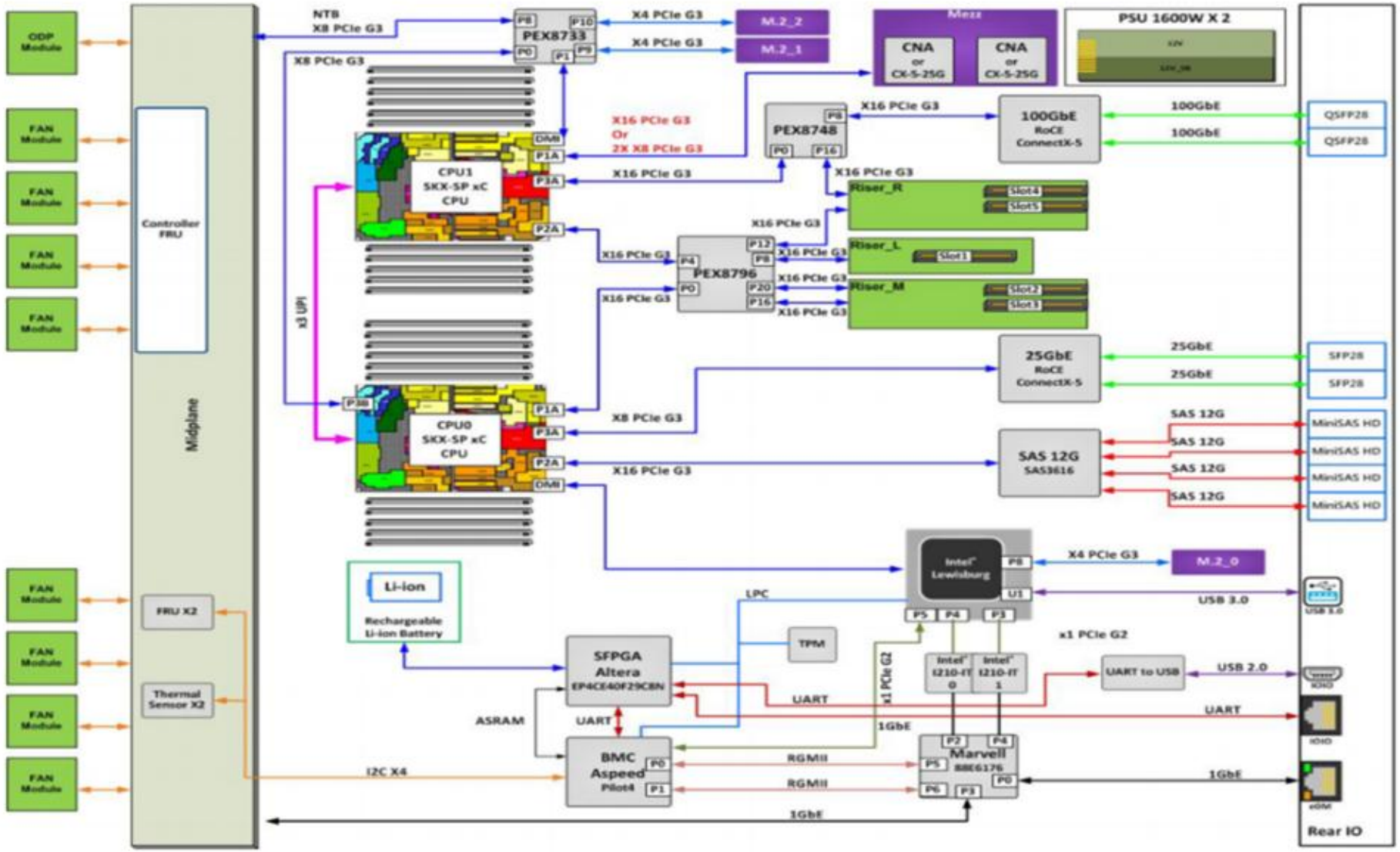
DG7000 controller block diagram



DG7000 controller adapter cards -1

- A maximum of 10 adapters are allowed in the system.
- All adapters must be installed in pairs on two controllers.
- The system supports a combination of Fiber Channel and Ethernet adapters.

Host interface	PN	Plug type	Support protocols	Per controller	Slot priority
10 Gb BaseT two-port Ethernet card	4XC7A60794	RJ45	Ethernet 1/10 Gb	4	1,2,3,5
10 Gb four-port Ethernet card	4XC7A38329	SFP+	Ethernet 10 Gb	4	1,2,3,5
25 Gb two-port Ethernet card	4XC7A38328	SFP28	Ethernet 10/25Gb	4	1,2,3,5
32 Gb four-port Fibre Channel card	4XC7A38326	SFP+	Fibre Channel 8/16/32 Gb NVMe/FC 16/32 Gb	4	1,2,3,5
100 Gb two-port Ethernet card	4XC7A38327	QSFP28	Ethernet 40/100 Gb	5	1,2,3,4,5

Note: The 100 Gb two-port Ethernet card can serve as both a host interface and an expansion adapter. Slot 4 is dedicated to the 1st expansion, and slot 5 can be used for the 2nd expansion or host connection.

When using the Ethernet card as a host interface, it is recommended to populate slots 1 to 3 first, and then proceed to populate slot 5.

DG7000 controller adapter cards -2

Expansion	PN	Plug type	Support protocols	Per controller	Slot priority
100 Gb two-port Ethernet card	4XC7A38327	QSFP28	Ethernet 40/100 Gb	2	4,5

MetroCluster	PN	Plug type	Support protocols	Per controller	Slot priority
100 Gb iWARP two-port Ethernet card	4XC7A60795	QSFP28	Ethernet 100 Gb	1	1

DG7000 switchless clustering

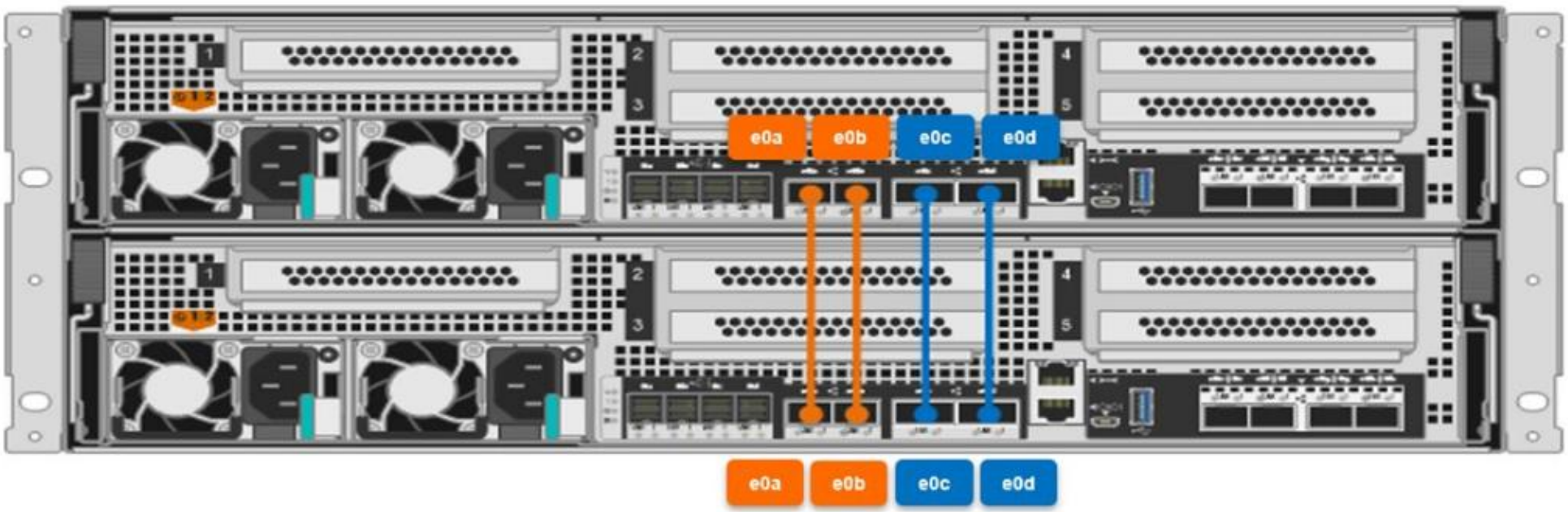
DG7000 systems for switchless clustering require two 100 GbE interconnections and two 25 GbE HA interconnections.

HA interconnects

- Connect ports e0a to e0a
- Connect ports e0b to e0b

Cluster interconnects

- Connect ports e0c to e0c
- Connect ports e0d to e0d



DG7000 switched clustering

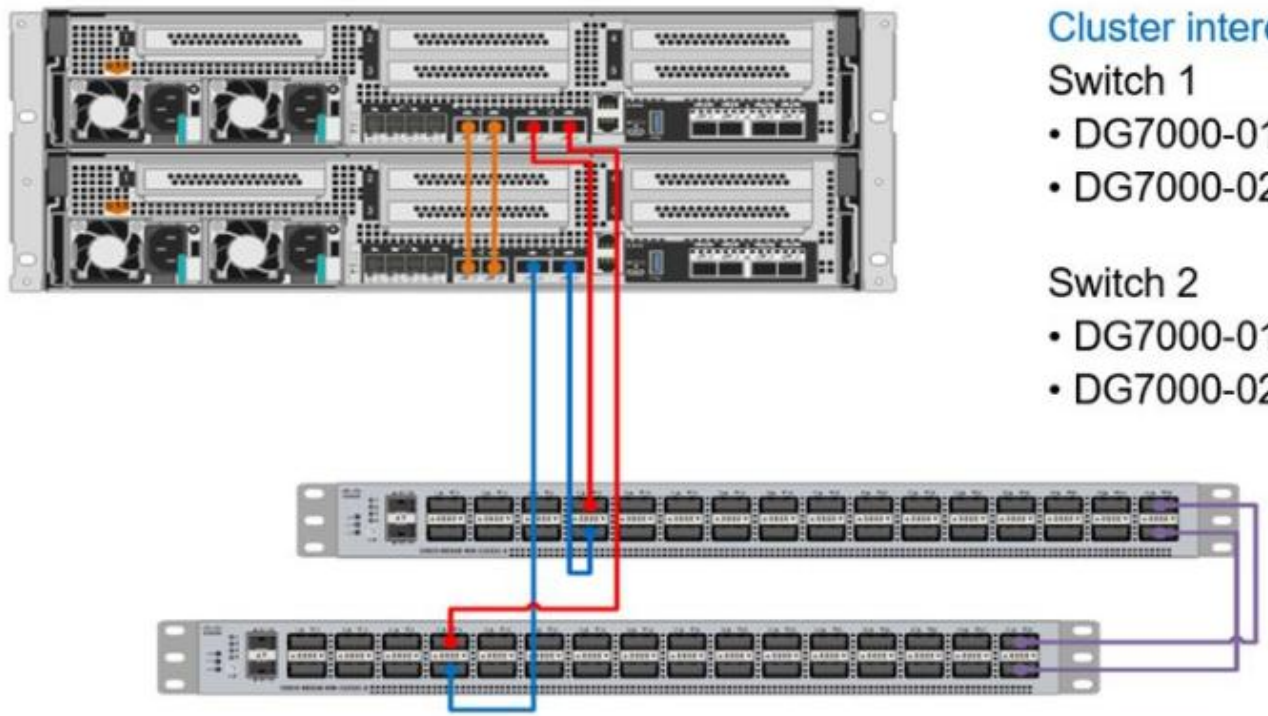
DG7000 systems for switched clustering require two 100 GbE cluster interconnections and two 25 GbE HA interconnections.

- Connect the 100 GbE cables to the QSFP 28 switch ports.
- Each controller in the DG7000 has a redundant path to the switch.

- Switch cluster shown with Cisco 100 GbE switches.
- If 10 GbE switches are used for clustering, an additional 10 GbE adapter will be needed.

HA interconnects

- Connect ports e0a to e0a
- Connect ports e0b to e0b



Cluster interconnects

Switch 1
- DG7000-01: e0c
- DG7000-02: e0d

Switch 2
- DG7000-01: e0d
- DG7000-02: e0c

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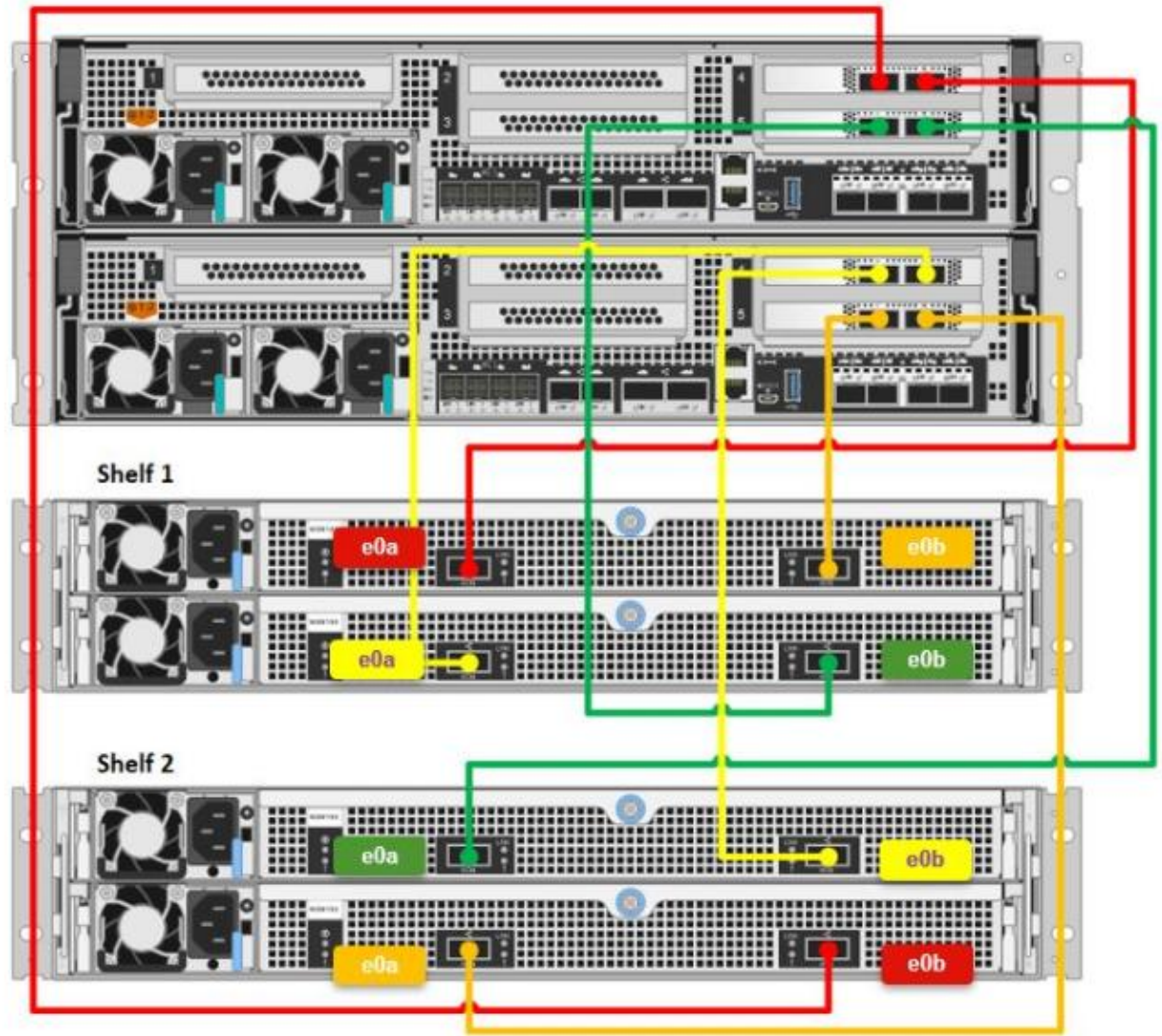
DG7000 expansion cabling

This diagram shows expansion using two 100 Gb two-port Ethernet cards (PN: 4XC7A38327), which are installed in slots 4 and 5.

- Expansion is currently only supported with the DG240N (MT: 7Y62).
- Expansion with the DG240N requires two 100 GbE port connections per controller.
- Only two DG240N expansion enclosures can be directly attached. (This requires four 100 GbE port connections per controller.)



Setting DG240N enclosure IDs

Enclosure IDs must be set for all system drive enclosures. To do this, work through the following procedure:

1. Turn on the drive enclosure, and then remove the left end cap. Locate the small hole to the right of the LEDs.
2. Insert a paper clip or ballpoint pen into the small hole.
3. Press and hold the button until the first digit flashes, and then press the button to advance the first digit (0-9) to the desired number. The first digit will continue to flash.
4. Press and hold the button until the second digit flashes, and then press the button to advance the second digit (0-9) to the desired number. The first digit will stop flashing, and the second digit will continue to flash.

Setting DG240N enclosure IDs - continued

5. Press and hold the button until the second digit stops flashing. It can take up to three seconds for the number to stop flashing.
6. Both numbers on the digital display will start flashing and the amber LED on the ODP will illuminate after about five seconds, alerting you to the fact that the pending enclosure ID has not yet taken effect.
7. Power-cycle the enclosure to put the enclosure ID into effect. You must unplug the power cord from both power supplies on the enclosure, wait for one minute, and then plug the power cords back into the enclosure power supplies to complete the power cycle. A power supply will be powered on as soon as the power cord is plugged in. Its bicolored LED should be illuminated with a green light.

   7a. If ONTAP is not yet running or you are hot-adding an enclosure (that has not yet been cabled to the system), wait for at least 10 seconds.

   7b. If ONTAP is running (controllers are available to serve data), and all drives in the enclosure are unowned, spares, or part of off-lined aggregate(s), wait for at least 70 seconds.

   This time allows ONTAP to properly delete the old enclosure address and update the copy of the new enclosure address.
8. Install the left end cap.