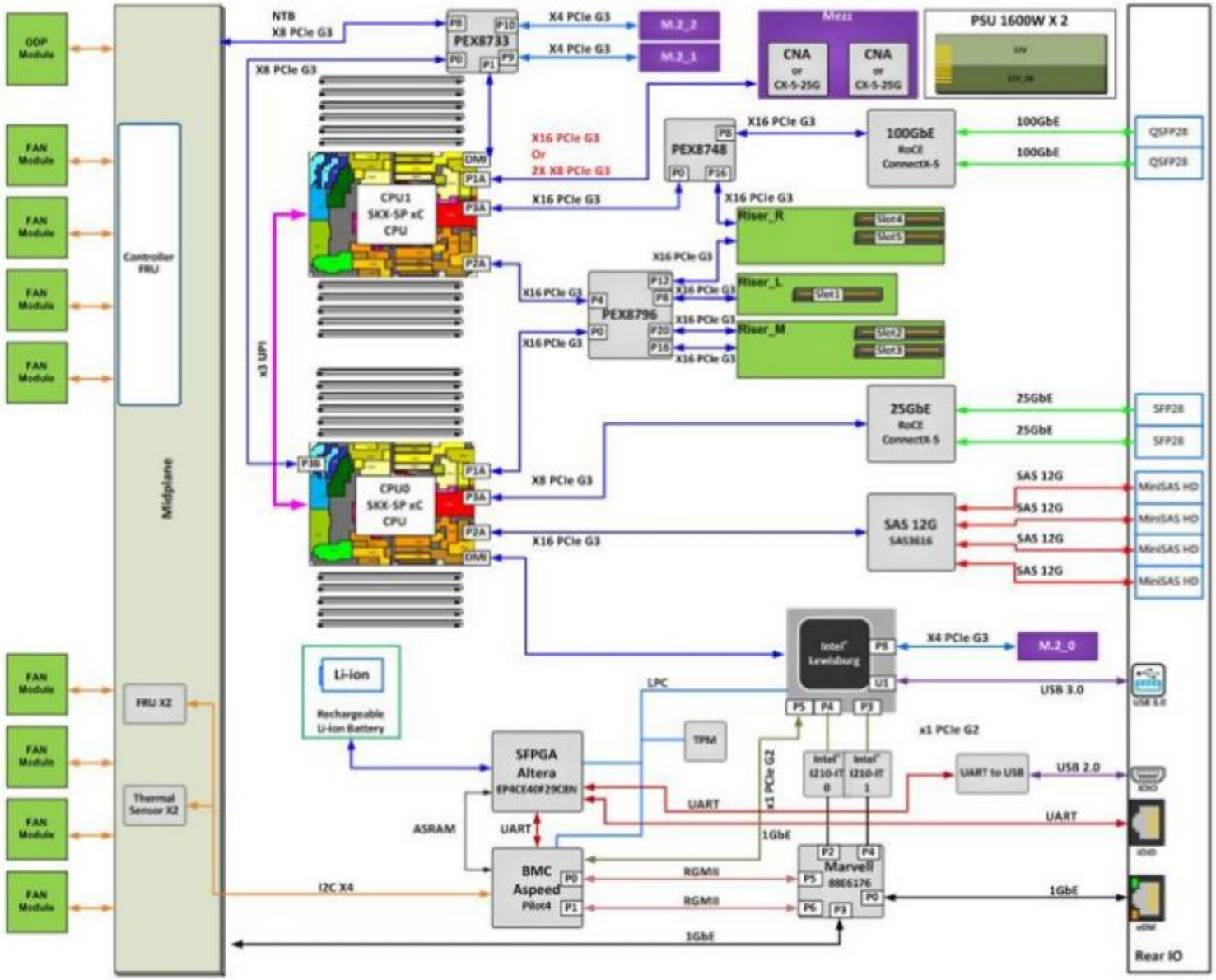
System configurations and diagrams

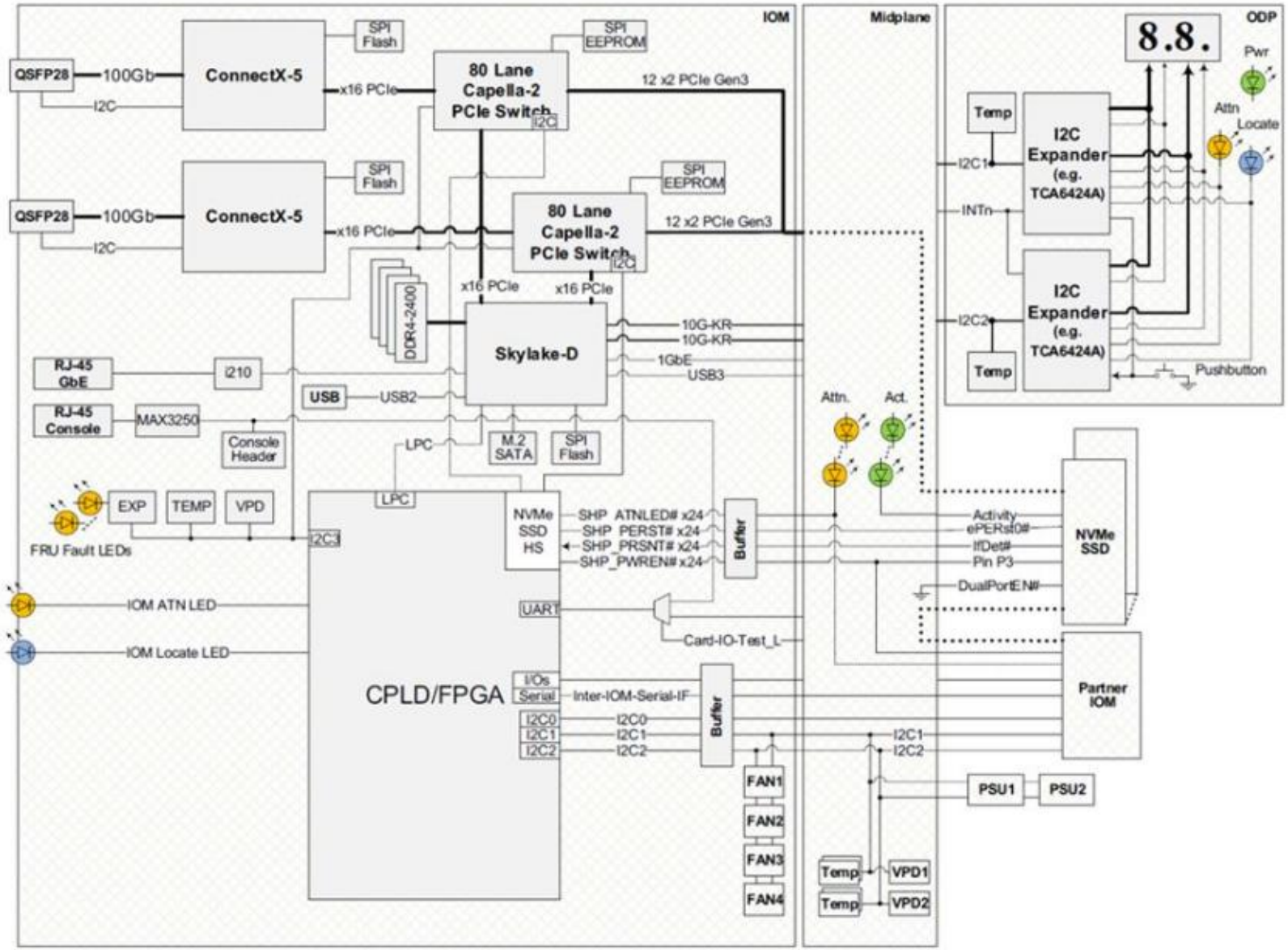
Controller block diagrams and cable connections

Lenovo

DM7100 Series controller block diagram



DM240N block diagram



DM7100H switchless clustering

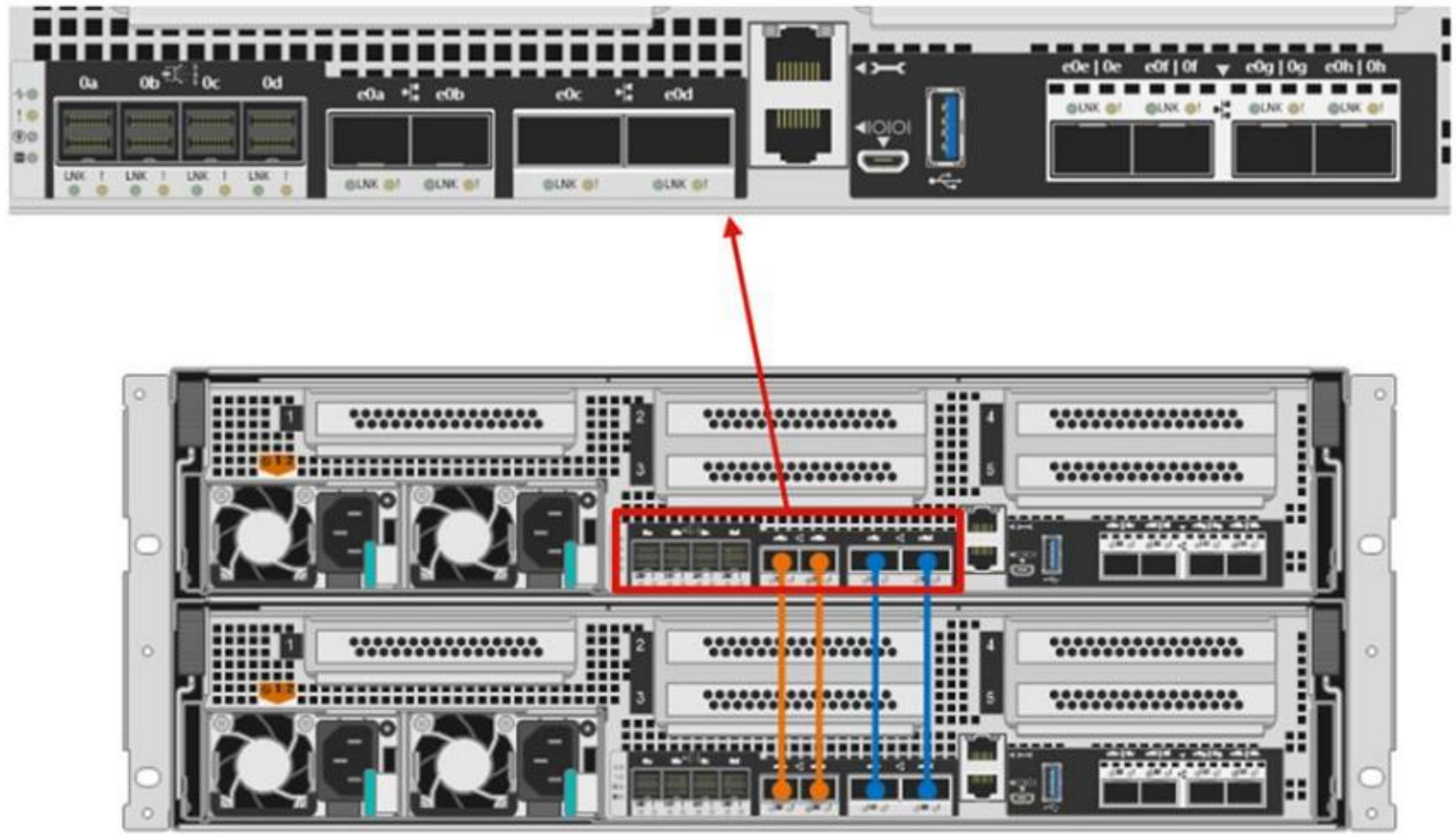
DM7100H systems require two 100 GbE cluster interconnections and two 25 GbE HA interconnections.

Cluster interconnections (blue lines)

- Connect ports e0c and e0c
- Connect ports e0d and e0d

HA interconnections (orange lines)

- Connect ports e0a and e0a
- Connect ports e0b and e0b



DM7100H switched clustering

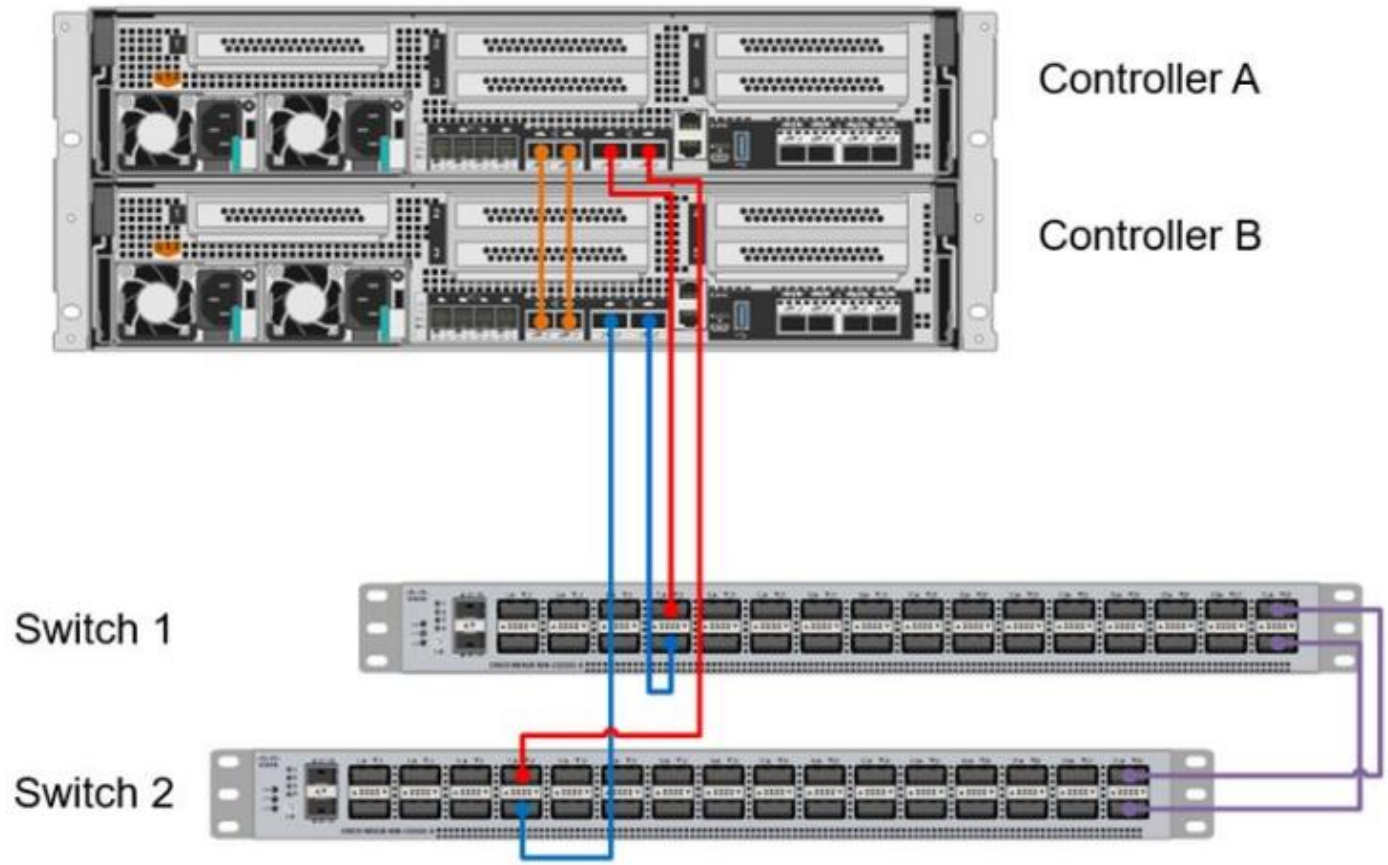
DM7100H systems require two 100 GbE cluster interconnections and two 25 GbE HA interconnections. Make one connection from each controller to each switch.

Cluster interconnections

- Switch 1
  - Controller A: e0c (red lines)
  - Controller B: e0c (red lines) or e0d (blue lines)
- Switch 2
  - Controller A: e0d (red lines)
  - Controller B: e0d (red lines) or e0c (blue lines)

HA interconnections (orange lines)

- Connect ports e0a and e0a
- Connect ports e0b and e0b



Note: If using a 10 GbE switch for clustering, an additional 10 GbE adapter will need to be used.

DM7100F switchless clustering

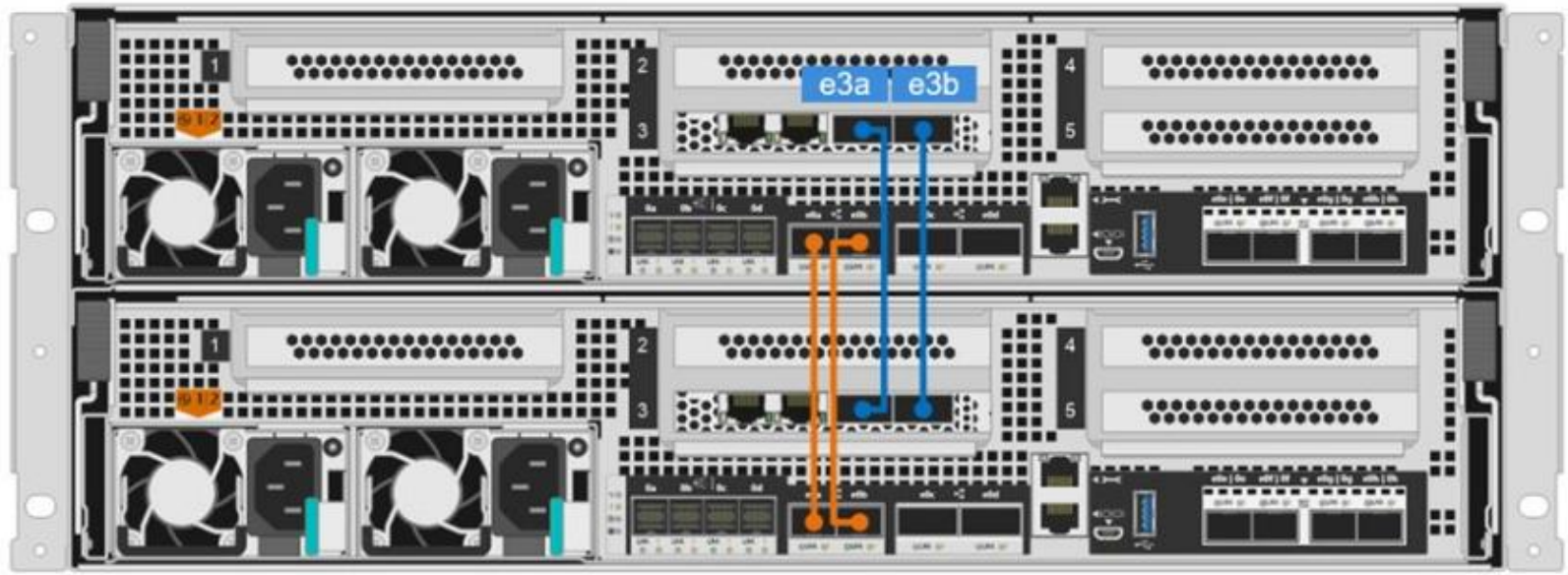
DM7100F systems require two 100 GbE cluster interconnections and two 25 GbE HA interconnections.

Cluster interconnections (blue lines)

- Connect ports e3a and e3a
- Connect ports e3b and e3b

HA interconnections (orange lines)

- Connect ports e0a and e0a
- Connect ports e0b and e0b



DM7100F switched clustering

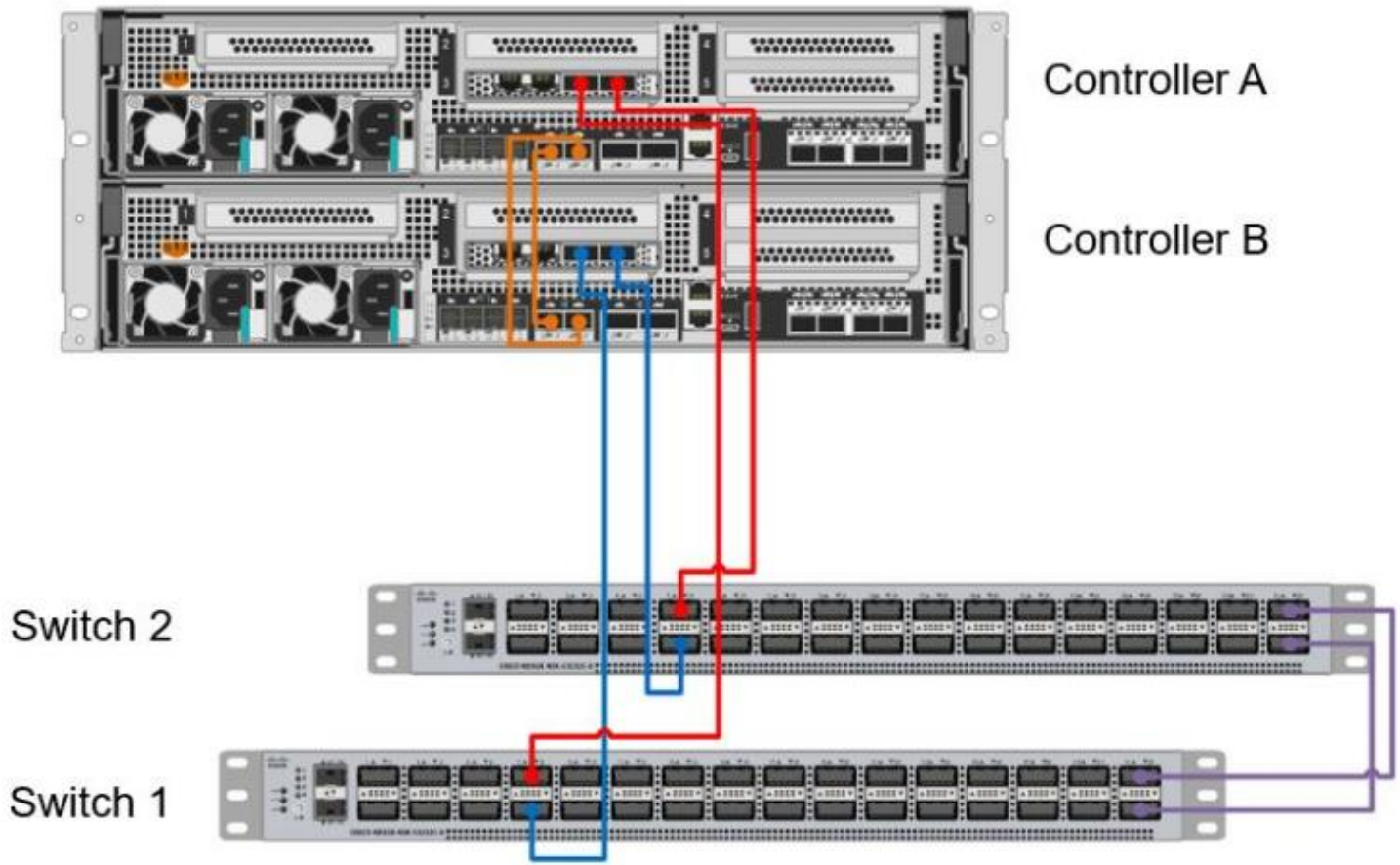
DM7100F systems require two 100 GbE cluster interconnections and two 25 GbE HA interconnections. Make one connection from each controller to each switch.

Cluster interconnections

- Switch 1
  - Controller A: e3a (red lines)
  - Controller B: e3a (blue lines)
- Switch 2
  - Controller A: e3b (red lines)
  - Controller B: e3b (blue lines)

HA interconnections (orange lines)

- Connect ports e0a and e0a
- Connect ports e0b and e0b



Note: If using a 10 GbE switch for clustering, an additional 10 GbE adapter will need to be used.

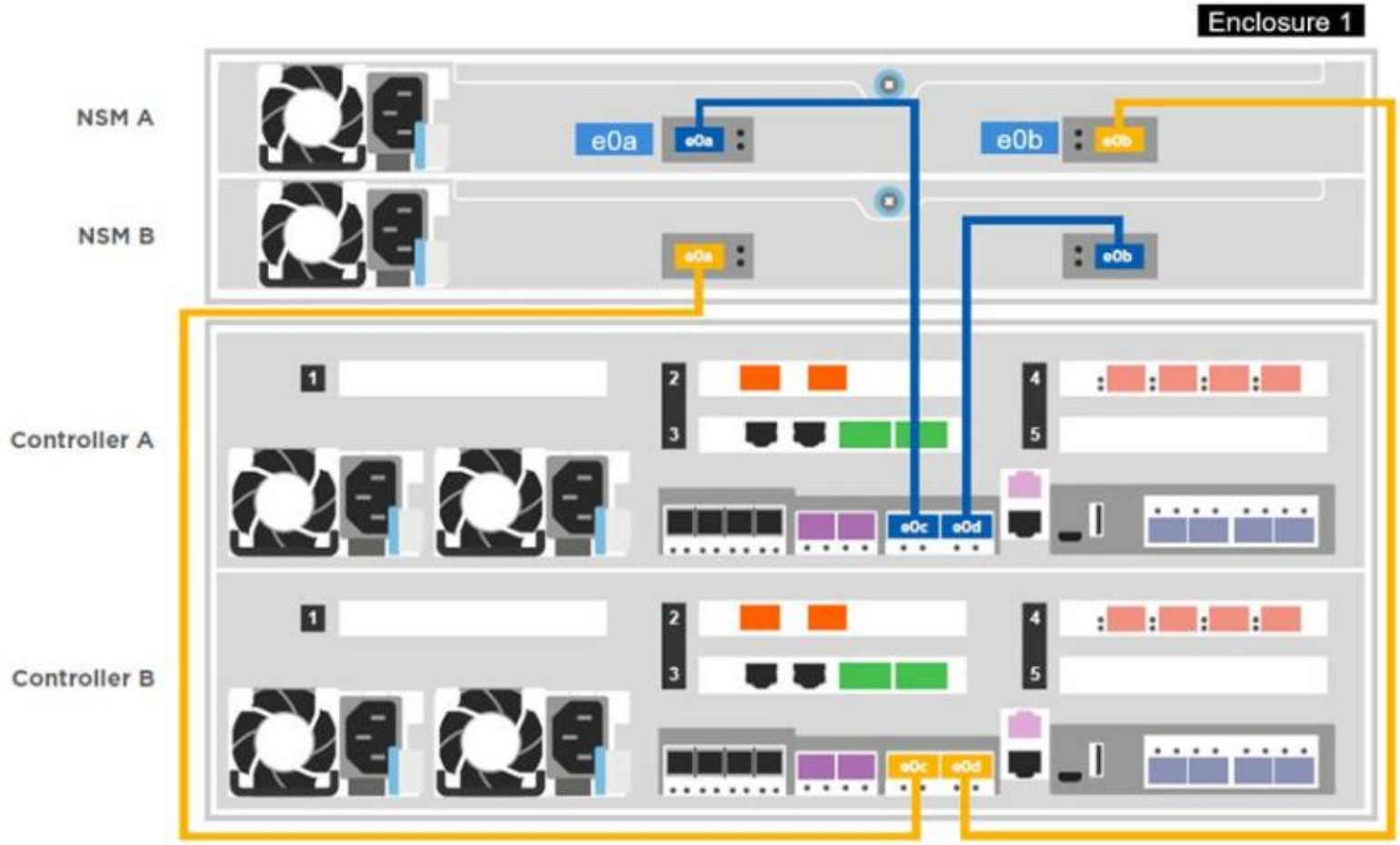
Cabling a DM7100F to one DM240N expansion enclosure

Controller A (blue lines):

- Connect port e0c to port e0a on the NSM A.
- Connect port e0d to port e0b on the NSM B.

Controller B (orange lines):

- Connect port e0c to port e0a on the NSM B.
- Connect port e0d to port e0b on the NSM A.



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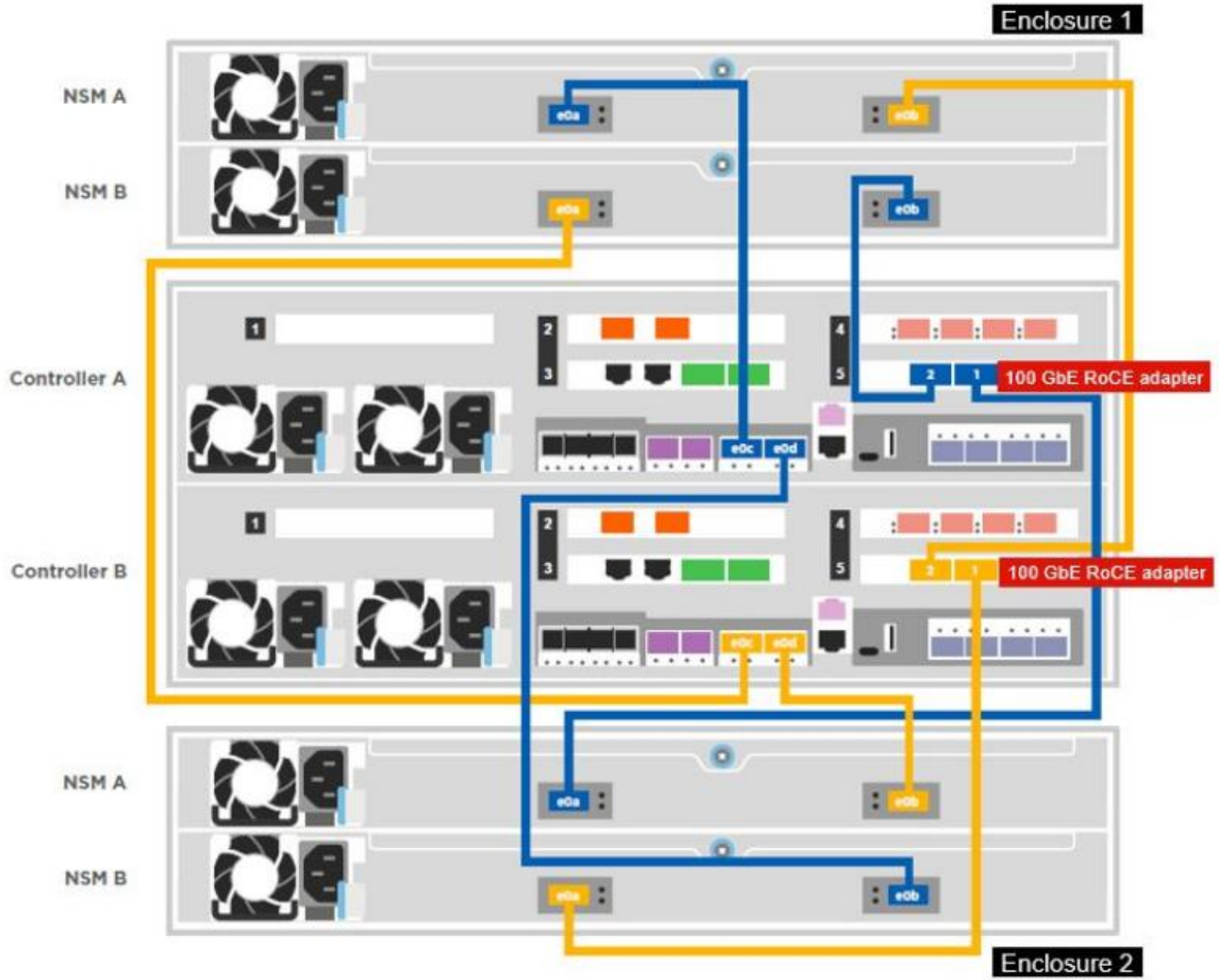
Cabling a DM7100F to two DM240N expansion enclosures

Controller A (blue lines):

- Connect port e0c to port e0a on NSM A in Enclosure 1.
- Connect port e0d to port e0b on NSM B in Enclosure 2.
- Connect port 1 on the 100 GbE RoCE adapter to port e0a on NSM A in Enclosure 2
- Connect port 2 on the 100 GbE RoCE adapter to port e0b in NSM B in Enclosure 1.

Controller B (orange lines):

- Connect port e0c to port e0a on NSM B in Enclosure 1.
- Connect port e0d to port e0b on NSM A in Enclosure 2.
- Connect port 1 on the 100 GbE RoCE adapter to port e0a on NSM B in Enclosure 2
- Connect port 2 on the 100 GbE RoCE adapter to port e0b in NSM A in Enclosure 1.



DM7100 Series cabling with the DM120S/240S/600S

Users must cable the enclosure-to-enclosure connections, and then cable both controllers to the drive enclosures.

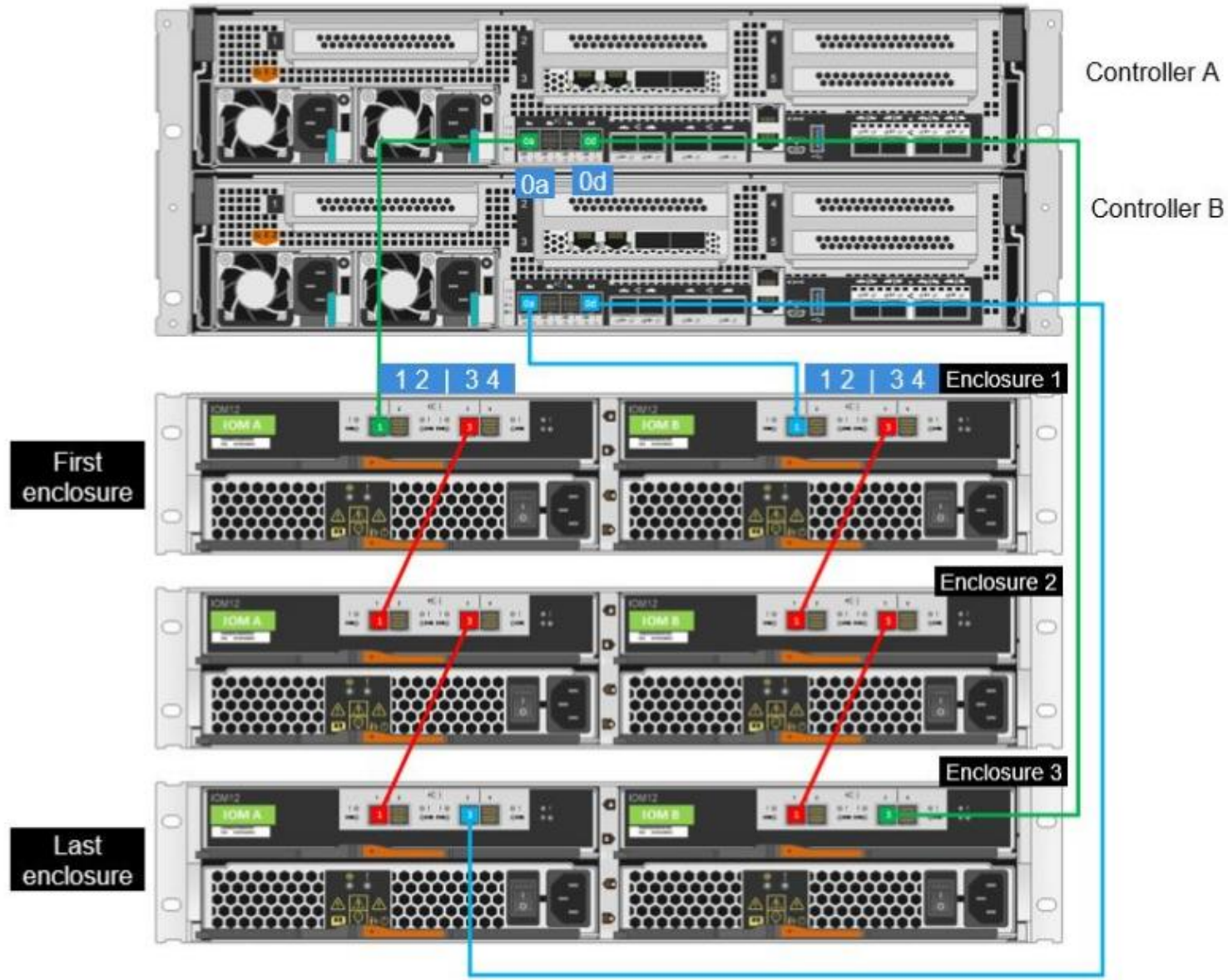
- Cable the enclosure-to-enclosure ports (red lines).

Controller A (green lines):

- Connect port 0a to port 1 on IOM A in the first enclosure.
- Connect port 0d to port 3 on IOM B in the last enclosure.

Controller B (blue lines):

- Connect port 0a to port 1 on IOM B in the first enclosure.
- Connect port 0d to port 3 on IOM A in the last enclosure.



Setting DM240N 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.
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.

Setting DM240N enclosure IDs - continued

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 the appropriate amount of time, 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.
   a. 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.
   b. 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.
   c. 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.