

Dell EMC PowerVault ME5 Series

Setting Up Your Storage System



Dell.com/QRL/Storage/ME5series

1 Before you begin

WARNING: Review the safety instructions that came with the ME5 Series storage system before setting it up.

Develop a configuration plan

Before installing the storage hardware, develop a configuration plan where you can record host server information, switch information, and network information.

Consider plans for multipath/failover

Multipathing is recommended to increase the availability and redundancy of volumes on the storage system. If a path to a volume or any component along the path fails, the host server selects another available path when multipathing is enabled on a host server. The process of detecting a failed path and switching to another path is called path failover.

2 Mount the enclosures

WARNING: Potential injury: chassis is heavy.

- Use at least two people to mount a 2U chassis.
- Use a mechanical lift to mount a 5U chassis.
- The rack may fall over if it is allowed to become top-heavy. Load the rack from the bottom up with the heaviest chassis at the bottom.

Unpack storage system equipment

An ME5 Series storage system includes:

- Documentation
- 2U or 5U enclosure
- Rack rail kit
- Power cables (2)
- Enclosure bezel with key (1 per 2U enclosure)
- Controller module blank (2U single-controller storage system only)
- Blank drive carrier modules (if 2U storage system has empty drive slots)
- Separately packaged disk drives (5U enclosure only)

Notes, cautions, and warnings

NOTE: Indicates important information that helps you make better use of your product.

CAUTION: Indicates potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: Indicates a potential for property damage, personal injury, or death.

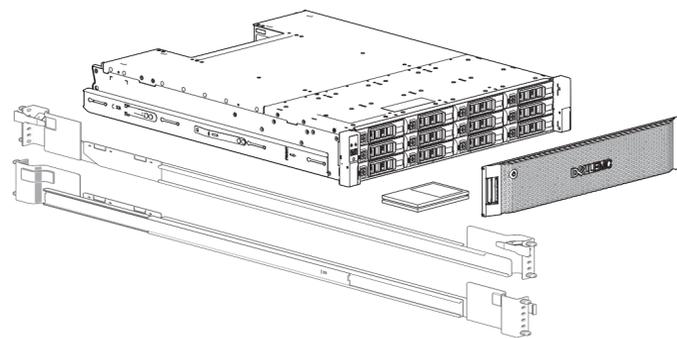


Figure 1. 2U enclosure

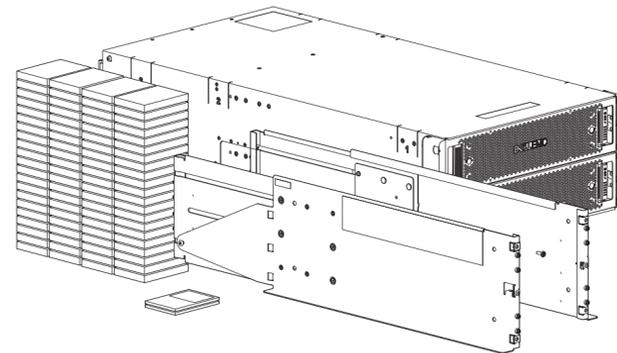


Figure 2. 5U enclosure

2U enclosure

- Install the rails in the rack:
 - Identify the rack holes to use when installing the rails in the racks.
 - Insert the rail pins on the rear of the left rail into the rack holes of the rear rack post. Ensure that the snap latch locks into place on the rear rack post.
 - Extend the left rail to fit between the front and rear rack posts.
 - Insert the rail pins on the rear of the left rail into the rack holes of the rear rack post. Ensure that the snap latch locks into place on the front rack post.
 - Repeat the previous steps to install the right rail in the rack.

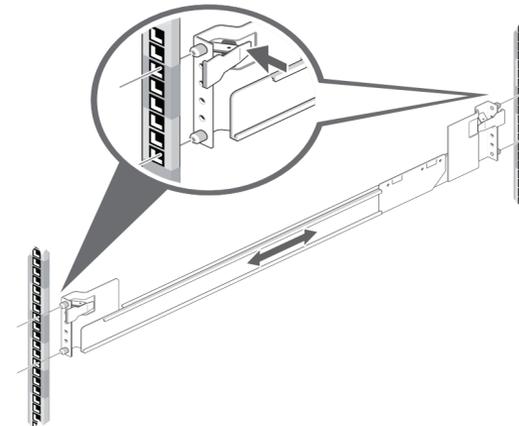


Figure 3. 2U rack mount

- Install the enclosure into the rack:
 - Use two people to lift the enclosure and align it with the installed rails.
 - Insert the inner rails on each side of the enclosure into the rack rails. Ensure that the enclosure remains level while inserting it in the rack.
 - Push the enclosure fully into the rack.
 - Secure the enclosure to the rack using the enclosure fastening screws in the rack mount ears on the left and right side of the enclosure.

5U enclosure

The 5U enclosure is shipped without disk drives installed to reduce the weight of the enclosure. You can also remove the controller modules, power supply units, and fan cooling modules to reduce the enclosure weight.

- Install the rails in the rack:
 - Loosen the position locking screws on the rail.
 - Identify the rack holes for installing the rails in the rack and insert the rail pins into the rear rack post.
 - Extend the rail to fit between the front and rear rack posts and insert the rail pins into the front rack post. Ensure that the rail pins are fully inserted in the rack holes in the front and rear rack post.
 - Use the clamping screws to secure the rail to the rack posts and tighten the position locking screws on the rail.

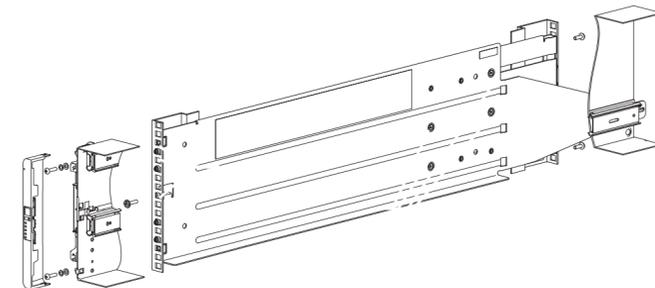


Figure 4. 5U rack mount

- Repeat the previous steps to install the other rail in the rack.
- Install the enclosure into the rack:
 - Use a mechanical lift to lift the enclosure and align it with the rack rails.
 - Slide the enclosure until it is fully seated on the rack rails.
 - Secure the front and rear of the enclosure using the enclosure fastening screws.
 - If the controller modules, power supply units, and fan cooling modules were removed to reduce the enclosure weight, reinstall them into the enclosure.
 - Insert the disk drives into the drawers as described in the *Dell EMC PowerVault ME5 Series Storage System Deployment Guide*.

Connect optional expansion enclosures

The SAS expansion ports on the controller enclosure connect to the SAS expansion ports on the expansion enclosures. Each expansion enclosure contains two expansion modules with three SAS ports. However, the middle SAS ports are not used when an expansion enclosure is connected to the controller enclosure.

Figure 5 shows the reverse cabling of a 2U controller enclosure connected to multiple 2U expansion enclosures. A 2U controller enclosure can be connected to a maximum of nine 2U expansion enclosures, or a maximum of three 5U enclosures.

Figure 6 shows the reverse cabling of a 5U controller enclosure connected to multiple 5U expansion enclosures. A 5U controller enclosure can be attached to a maximum of three 5U expansion enclosures.

Reverse cabling allows an expansion enclosure to be added or removed while maintaining access to other the enclosures.

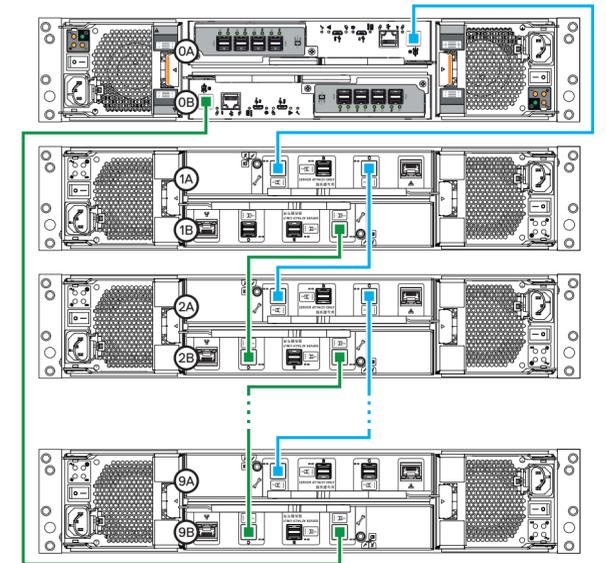


Figure 5. Cabling a 2U controller enclosure to 2U expansion enclosures

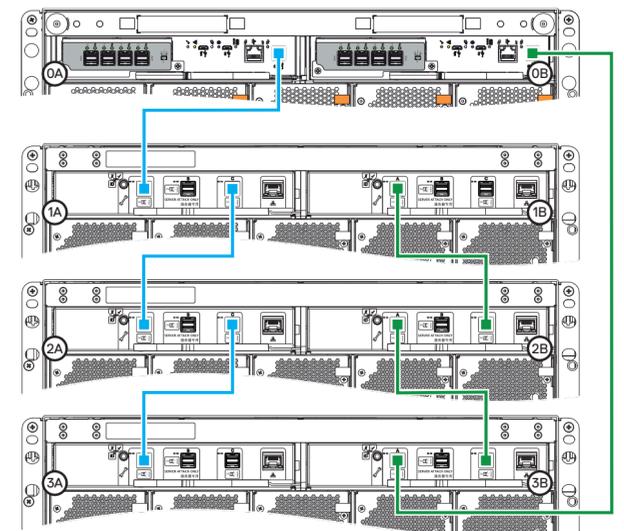


Figure 6. Cabling a 5U controller enclosure to 5U expansion enclosures

3 Connect to the management network

The network port on each controller module must be connected to a management network, as shown in figures 7 and 8. The network port provides access to management interfaces and is used to send notifications, SNMP traps, and support data.

1. Connect an Ethernet cable to the network ports on each controller module.
2. Connect the other end of each Ethernet cable to a network that your management host can access, preferably on the same subnet.

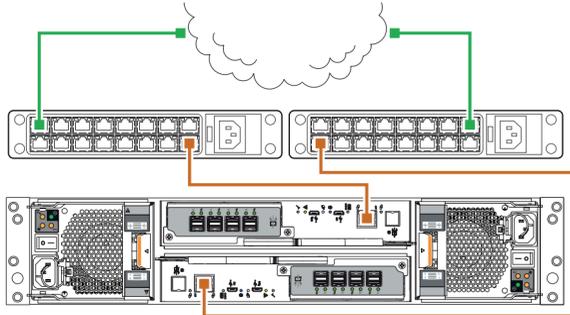


Figure 7. 2U management network connection

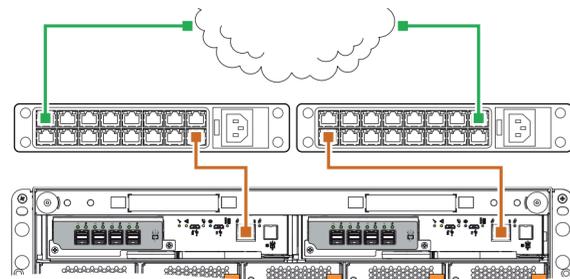


Figure 8. 5U management network connection

4 Cable host servers to the storage system

For information about cabling host servers, see the *Dell EMC PowerVault ME5 Series Storage System Deployment Guide*. For a list of supported HBAs or iSCSI network adapters, see the *Dell EMC PowerVault ME5 Series Storage System Support Matrix*.

32 Gbps Fibre Channel

Host servers with Fibre Channel HBAs can attach directly to the host ports on a storage system with 32 Gbps Fibre Channel controller modules, as shown in figures 9 and 10.

Host servers with Fibre Channel HBAs can also be connected to the host ports on a storage system with 32 Gbps Fibre Channel controller modules using a SAN switch, as shown in figures 11 and 12.

25 Gbps iSCSI

Host servers with iSCSI HBAs can attach directly to the host ports on a storage system with 25 Gbps iSCSI controller modules, as shown in figures 9 and 10.

Host servers with iSCSI HBAs can also be connected to the host ports on a storage system with 25 Gbps iSCSI controller modules using a SAN switch, as shown in figures 11 and 12.

12 Gbps SAS

Host servers with SAS HBAs attach directly to the host ports on a storage system with 12 Gbps SAS controller modules, as shown in figures 9 and 10.

10GBase-T iSCSI

Host servers with 10 GbE iSCSI HBAs or network adapters connect to the host ports on a storage system with 10GBase-T iSCSI controller modules using a SAN switch, as shown in figures 11 and 12.

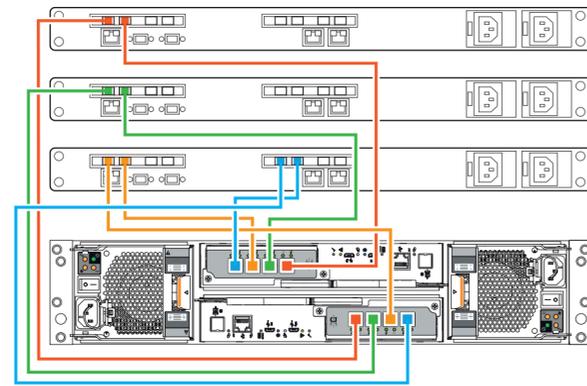


Figure 9. Host servers attached directly to a 2U controller enclosure

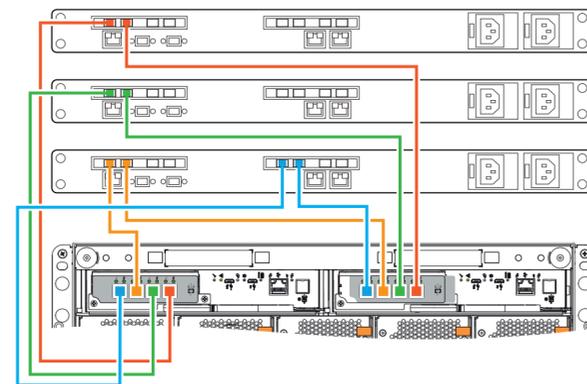


Figure 10. Host servers attached directly to a 5U controller enclosure

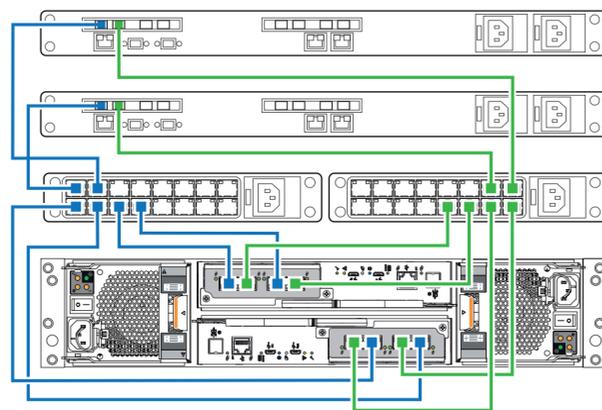


Figure 11. Host servers connected to a 2U controller enclosure using a switch

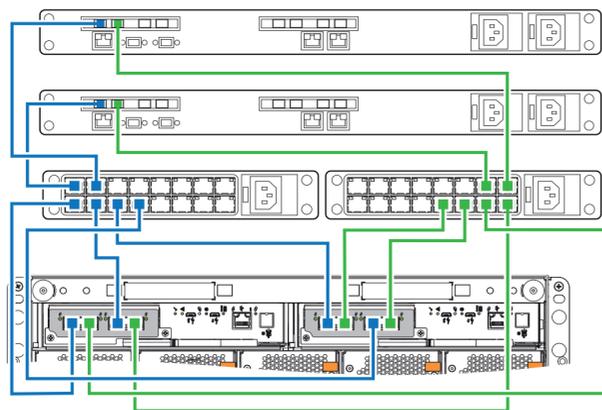


Figure 12. Host servers connected to a 5U controller enclosure using a switch

5 Connect power cables and power on storage system

Ensure that the power switches on the controller enclosure are in the OFF position before connecting the power cables. Then, connect both power cables to the controller enclosure and connect the other end of the power cables into two separate and independent power sources.

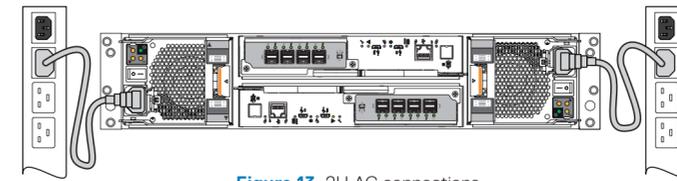


Figure 13. 2U AC connections

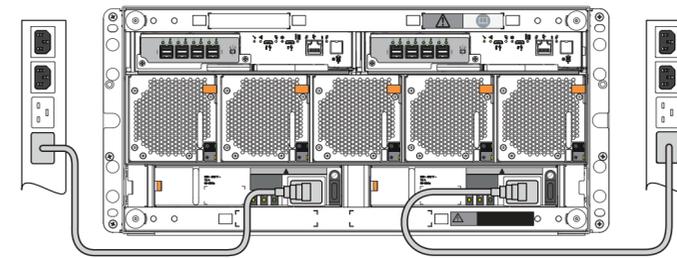


Figure 14. 5U AC connections

Power on the components of the storage system in the following order:

1. Power on any network switches, routers, or other standalone components.
2. Power on any expansion enclosures. Wait until the expansion enclosures are powered up before powering on the controller enclosure.
3. Power on the controller enclosure.
4. If the host servers were powered off for maintenance purposes, power on the host servers.

6 Configure the storage system

If DHCP is not enabled on the management network, temporarily set the IP address of the management host to a 10.0.0.x address to allow communication with the storage system.

If DHCP is enabled on the management network, connect a computer to the USB CLI port on controller module A and run the CLI command **show controllers** to determine the management IP address of controller module A.

NOTE: HTTPS must be used to access the storage system during deployment.

NOTE: Do not turn on more than one unconfigured controller enclosure at a time to avoid IP conflicts.

In a web browser:

1. Open a web browser.
2. If DHCP is not enabled on the management network, type `https://10.0.0.2` and press Enter to access the configuration wizard. If DHCP is enabled on the management network, type the IP address of controller module A and press Enter to access the configuration wizard.
3. Click **Get Started**.
4. Set a new username and password to manage the storage system, and then click **Apply and Continue**.
5. Perform the following steps on the System Configuration Main Page to configure the storage system:
 - System Configuration
 - SupportAssist Configuration
 - Storage Configuration
 - Provisioning

For more detailed deployment information, see the *Dell EMC PowerVault ME5 Series Storage System Deployment Guide* and *Dell EMC PowerVault ME5 Series Storage System Administrator's Guide* at Dell.com/storagemanuals.

7 Perform host setup

For more information about performing host setup, see the *Dell EMC PowerVault ME5 Series Storage System Deployment Guide*. For a list of supported HBAs or iSCSI network adapters, see the *Dell EMC PowerVault ME5 Series Storage System Support Matrix*.

Windows and Linux hosts

Install the HBAs or network adapters and ensure that the latest supported BIOS and drivers are installed.

Attach the hosts to the storage system and install MPIO or DM Multipathing on the hosts before performing the following steps:

NOTE: Configure only one host at a time.

Fibre Channel

1. Find and record the FC WWNs for each HBA.
2. Run the Create Hosts Wizard in PowerVault Manager.
3. Configure MPIO or DM Multipathing for the volumes on the host.

iSCSI

1. Assign IP addresses to each iSCSI port to match the subnets for each redundant path.

CAUTION: Ensure that you assign the correct IP addresses to the ports on the iSCSI HBAs or network adapters. Assigning IPs to the wrong ports can cause connectivity issues.

2. Find and record the IQNs for each iSCSI initiator.
3. If needed, install and configure the iSCSI software initiator on the host.
4. Run the Create Hosts Wizard in PowerVault Manager.
5. Configure MPIO or DM Multipathing for the volumes on the host.

SAS

1. Find and record the SAS WWNs for each HBA.
2. Run the Create Hosts Wizard in PowerVault Manager.
3. Configure MPIO or DM Multipathing for the volumes on the host.

VMware ESXi Hosts

Install the HBAs or network adapters and ensure that the latest supported BIOS and drivers are installed.

Attach the hosts to the storage system before performing the following steps:

NOTE: Configure only one host at a time.

Fibre Channel

1. Find and record the FC WWNs for each HBA.
2. Run the Create Hosts Wizard in PowerVault Manager.

iSCSI

1. If using network adapters, create a VMkernel port for each adapter (one VMkernel per vSwitch).
2. Assign IP addresses for each adapter port to match the subnets for each redundant path.

CAUTION: Ensure that you assign the correct IP addresses to the ports on the iSCSI HBAs or network adapters. Assigning IPs to the wrong ports can cause connectivity issues.

3. If using network adapters, add the VMkernel ports to the iSCSI software initiator.
4. Find and record the IQNs for each iSCSI initiator.
5. Run the Create Hosts Wizard in PowerVault Manager.

SAS

1. Find and record the SAS WWNs for each HBA.
2. Run the Create Hosts Wizard in PowerVault Manager.

For more detailed information, go to Dell.com/support