Setting Up Your Dell PowerVault MD3060e Storage Enclosure

Racking Your Storage Enclosure

Notes, Cautions, and Warnings

A **NOTE** indicates important information that helps you make better use of your system.

⚠ A **CAUTION:** indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

⚠ A **WARNING** indicates a potential for property damage, personal injury, or death.

⚠ **WARNING: Before you set up and operate your Dell PowerVault system, review the safety instructions that shipped with your system.**
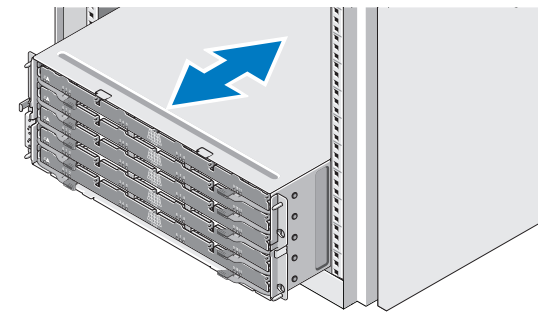
Verify Storage Array Components

Your system is shipped with enclosure management modules, power supplies, and fan components already installed in the enclosure. Make sure that all components are properly seated and are not dislodged and/or damaged during shipping.

Install the Enclosure in a Rack

The storage enclosure requires a compatible rack and a rack installation kit. For information about installing the rails for the storage enclosure, see the rack installation instructions that shipped with your enclosure.
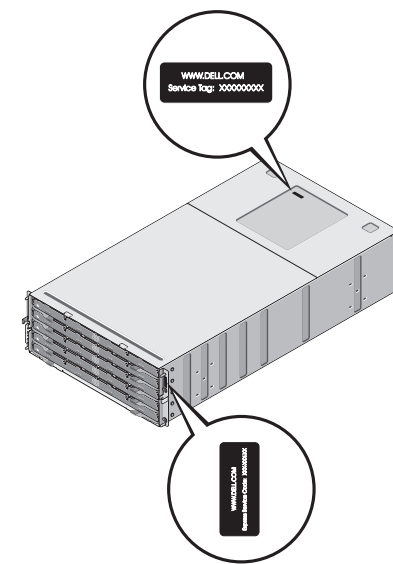
⚠ **WARNING: Do not plug the enclosure into a standard power outlet. Your storage array is shipped with two IEC C19 to C20 jumper cords. Plug the C19 plug into the array's power supplies and the C20 plug into the power distribution unit (PDU) in the rack cabinet. For power redundancy, split the power connections from each enclosure into separate PDUs and connect the PDUs to external power receptacles on different circuits. The enclosure supports only 200 V to 240 V input sources.**

⚠ **WARNING: Do not install physical disks in the enclosure before installing the enclosure in the rack. This adds substantial weight to the enclosure and makes lifting and installing the enclosure in the rack unsafe. For more information, see the rack installation instructions shipped with your enclosure.**
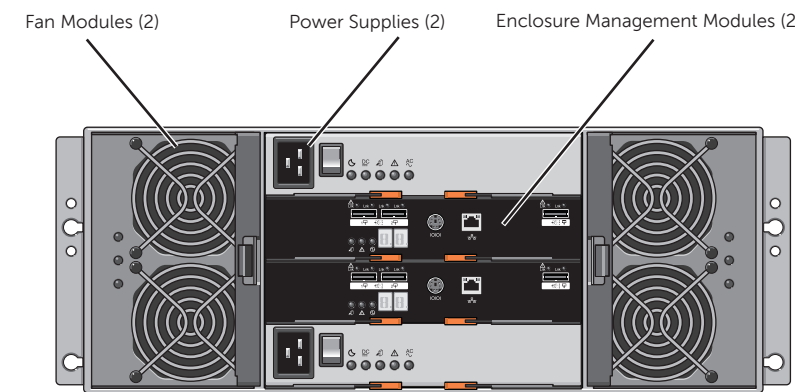
Locate Your System Service Tag

Your system is identified by a unique Express Service Code and Service Tag. This information is used by Dell to route support calls to the appropriate personnel.

About the Storage Enclosure

The MD3060e Dense storage enclosure is a five-drawer, 60-physical disk chassis (4U) managed by two enclosure management modules (EMMs).

Fan Modules (2)   Power Supplies (2)   Enclosure Management Modules (2)

Enclosure Management Modules

Each storage enclosure must contain two EMMs.

Enclosure Management Module

⚠ **WARNING: Do not plug the enclosure into a standard power outlet. Your storage array is shipped with two IEC C19 to C20 jumper cords. Plug the C19 plug into the array's power supplies and the C20 plug into the power distribution unit (PDU) in the rack cabinet. For power redundancy, split the power connections from each enclosure into separate PDUs and connect the PDUs to external power receptacles on different circuits. The enclosure supports only 200 V to 240 V input sources.**
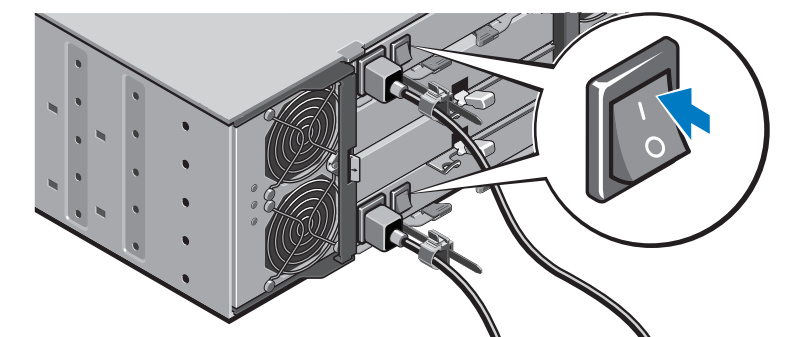
Follow these steps to power on your storage array:

1. Turn on any network switches, routers, or other standalone components.
2. Power on the MD3060e storage enclosure.

   NOTE: Wait for the enclosure status LED to turn blue before proceeding to the next step.

3. Power on the attached MD Series Dense storage array or server.

   NOTE: Wait for the storage array status LED to turn blue before attempting to discover or manage the array.
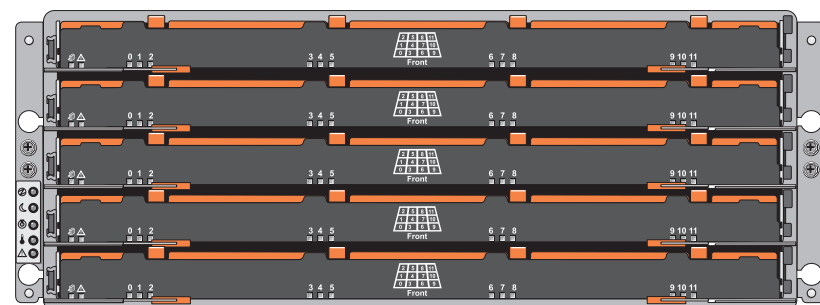

Physical-Disk Drawers

The MD Series Dense storage enclosure contains five physical-disk drawers accessible from the front of the enclosure. Each drawer holds up to 12 physical disks.

To open a drawer:

1. Flip both latches outward.
2. Pull the drawer out.

   NOTE: When a drawer is opened, the enclosure cooling fan RPM increases significantly to ensure optimal airflow. This is normal and does not indicate a problem.

⚠ **CAUTION:** If a drawer is not completely inserted into the enclosure, other drawers will be locked. Do not force a drawer open as it may damage the physical disk or the drawer itself.

To close a drawer:

3. Push the drawer into the enclosure until the release latch clicks into place.
4. Close the latches on each side of the drawer.

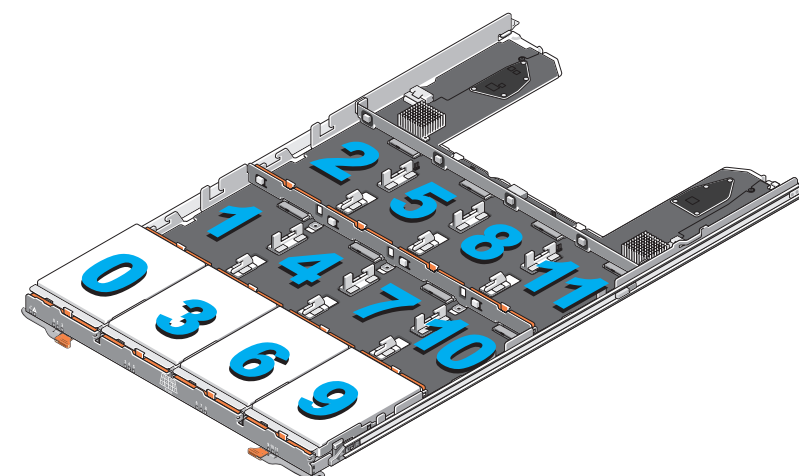   **NOTE:** Ensure that the drawer is pushed in and closed completely.

Physical-Disk Carriers

Physical disks are preinstalled in their carriers and shipped separately in anti-static packaging. For information on installing and removing the physical disks from the physical-disk carriers, see *Dell PowerVault MD3060e Owner's Manual* at **dell.com/powervaultmanuals**.

Physical Disk Installation Guidelines

- To maintain proper airflow, install physicals disks from left to right and front to back in each drawer.
- A minimum of four disks must be installed in each drawer, filling slots 0, 3, 6, and 9 respectively.
- Keep all drawers closed unless you need to access the physical disks. The storage array operates normally with a drawer open, but it is designed for optimal cooling with all drawers closed.
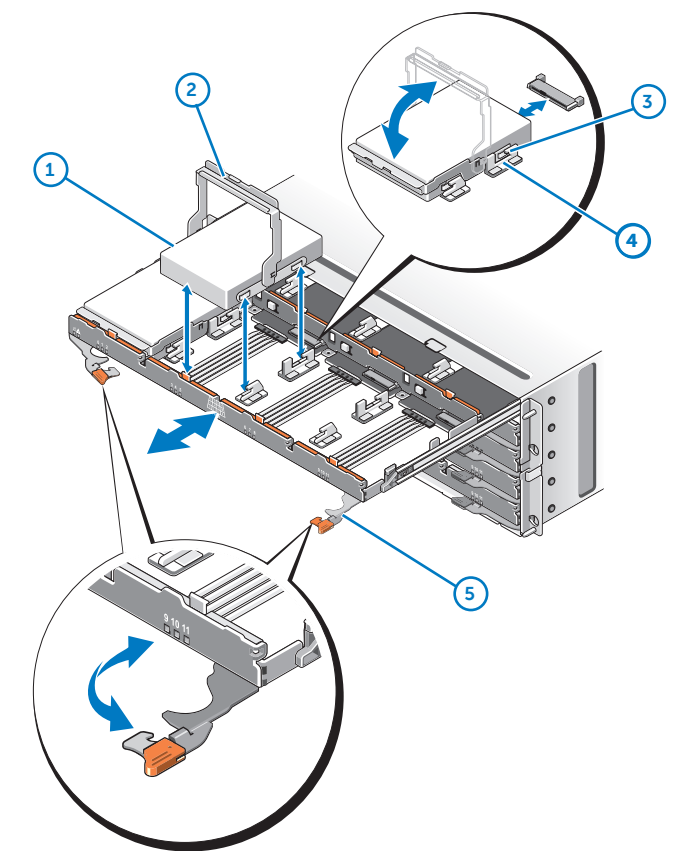

Installing Physical Disks

To install a physical disk into a drawer:

1. Open the physical-disk drawer.
2. Rotate the physical disk carrier handle upward to the vertical position.
3. Align the two raised buttons on the disk carrier with the notches on the physical-disk drawer.

⚠ **CAUTION:** Do not install disks randomly. Fill disk slots 0, 3, 6, and 9 first.

4. Lower the physical disk into the drawer slot.
5. Rotate the physical disk carrier handle downward until the physical disk is properly seated in the connector and the physical-disk carrier handle snaps into place.

⚠ **CAUTION:** Check that the disk is not raised up at the back of the drawer slot, which would indicate that it is not properly seated. Closing the drawer with an improperly seated disk will damage both the drawer and the physical disk.

6. Close the physical-disk drawer.

1. physical disk
2. physical-disk carrier handle
3. notches on physical-disk drawers
4. buttons on disk carrier
5. drawer latches (2)

Cabling Your Storage Enclosure to a Storage Array

Cabling Your MD3060e Storage Enclosure

To add capacity to your RAID storage array, you can daisy chain up to two 4U enclosures with SAS-based EMMs.
This configuration offers a maximum of 180 physical disks in your storage array with Premium Feature activation.
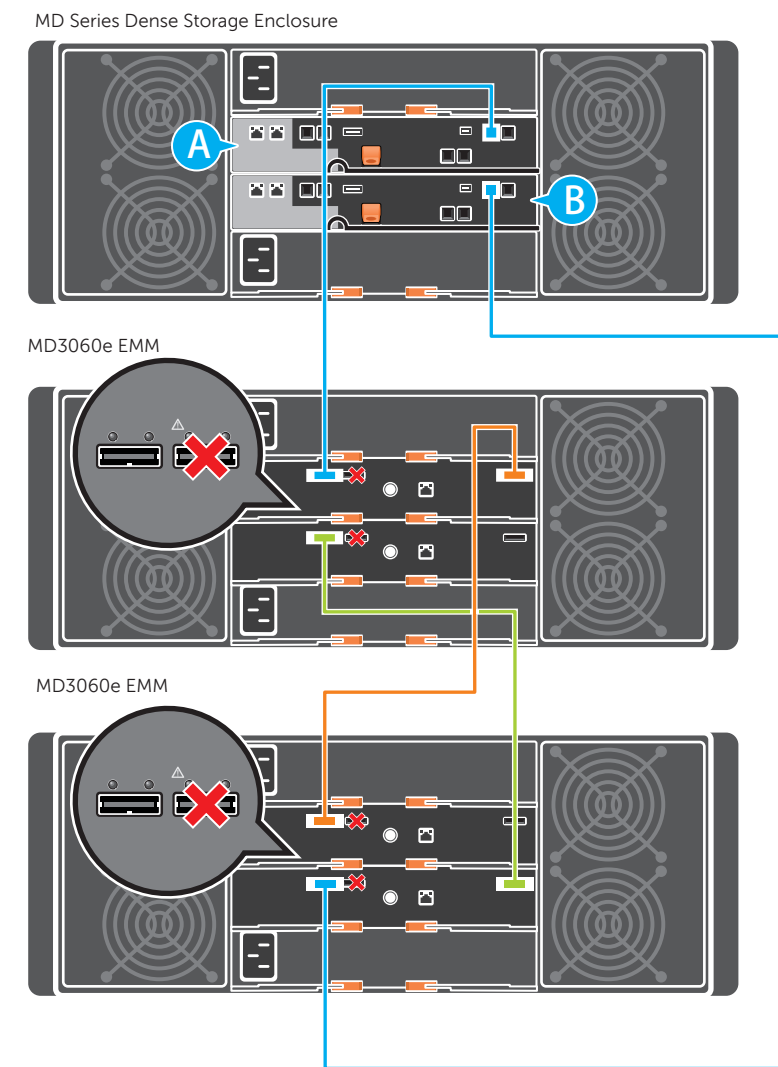
To connect the MD3060e-based storage enclosure to your MD Series Dense RAID storage array:

1. Connect a supported SAS cable to the SAS OUT port on the MD Series Dense storage array.
2. Connect the other end of the SAS cable to SAS port 1 on the MD3060e EMM as shown in the following figure.
3. To add a second MD3060e storage enclosure, daisy chain it to the first expansion enclosure as shown in the figure.

⚠ **CAUTION:** Do not connect the SAS cable to SAS port 2 on the EMM.

⚠ **CAUTION:** Like the RAID storage arrays, physical-disk slots 0, 3, 6, and 9 must be populated first.

NOTE: A maximum of two expansion enclosures are supported for a total of three enclosures.

MD Series Dense Storage Enclosure

MD3060e EMM

MD3060e EMM

Cabling Your Storage Enclosure to a Server

Single Path Configuration

1. Connect a supported SAS cable to the first SAS port on your server's HBA.
2. Connect the other end of the SAS cable to SAS port 1 on EMM 0 of the MD3060e as shown in the following figure.

NOTE: For configurations with additional servers or storage enclosures, see the MD3060e Deployment Guide.

High Availablity Configuration

1. Connect the first supported SAS cable to the first SAS port on your server's HBA.
2. Connect the other end of the SAS cable to SAS port 1 on EMM 0 of the MD3060e as shown in the following figure.
3. Connect a second supported SAS cable to the second SAS port on your server's HBA.
4. Connect the other end of the SAS cable to SAS port 1 on EMM 1 of the MD 3060e as shown in the following figure.
5. Install the appropriate multipath software for your operating system on the attached server. For more information, see your operating system documentation.

NOTE: For configurations with additional servers or storage enclosures, see the MD3060e Deployment Guide.