Dell EMC PowerEdge XE7100

Installation and Service Manual

Regulatory Model: B22S Series, B24S Series
Regulatory Type: B22S001, B24S001
December 2021
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DELL Technologies

Notes, cautions, and warnings

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

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

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

Contents

1

About this document

This document provides an overview about the system, information about installing and replacing components, diagnostic tools, and guidelines to be followed while installing certain components.

2

PowerEdge XE7100 system overview

The PowerEdgeXE7100 is an ultradense 5U enclosure that supports up to two independent two-socket (2S) sleds and 100 x 3.5-inch drives. The PowerEdge XE7100 enclosure supports the following:

- Up to two server sleds and up to two expander modules
- Six rear accessible system fans
- Two 2400 W redundant power supply units
- Up to 16 DDR4 RDIMM/LRDIMM with maximum capacity up to 2048 GB per sled
- Up to 100 x 3.5-inch SAS or SATA drives
- Up to 8 x 7 mm SATA SSD (4 supported for NVMe SSD)

  NOTE: For more information about how to hot swap NVMe PCIe SSD U.2 device, see the *Dell Express Flash NVMe PCIe SSD User's Guide* at https://www.dell.com/support**> Browse all Products** > **Data Center Infrastructure** > **Storage Adapters & Controllers** > **Dell PowerEdge Express Flash NVMe PCIe SSD** > **Documentation** > **Manuals and Documents**.

  NOTE: All instances of SAS, SATA drives are seen as drives in this document, unless specified otherwise.

  For more information about supported drives, see the Drive specifications section.

Topics:

Supported configurations

The PowerEdge XE7100 chassis is available in two versions:

- PowerEdge XE7100 chassis with two XE7420 sleds:

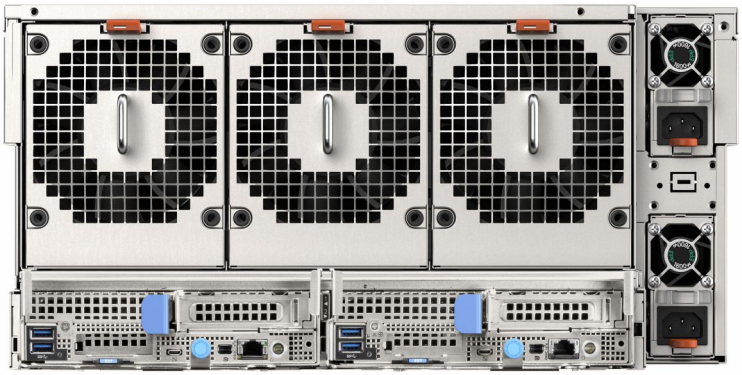

Figure 1. PowerEdge XE chassis with XE7420 sleds

- PowerEdge XE7100 chassis with XE7440 sled:

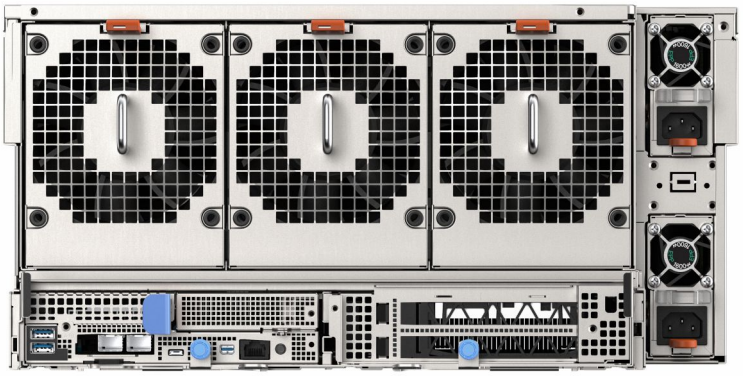

Figure 2. PowerEdge XE chassis with XE7440 sled

Front view of the System

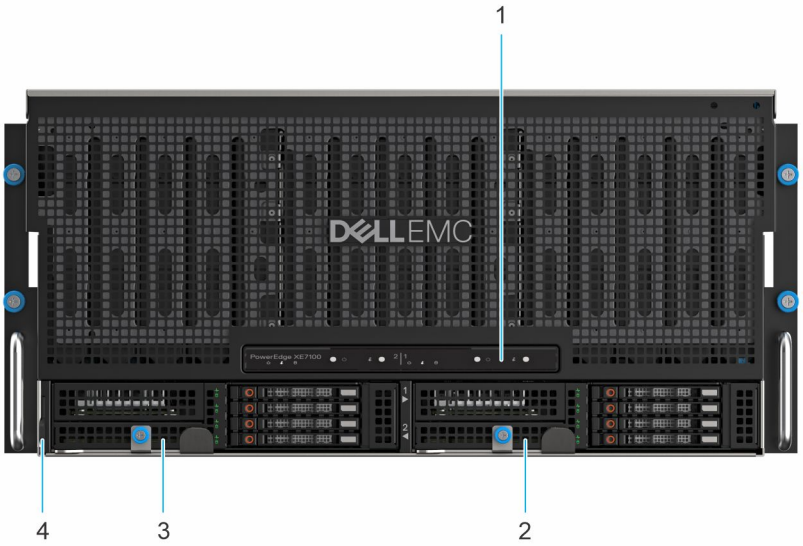

Figure 3. Front view of XE7100

1. Control panel
2. Expander module 1
3. Expander module 2
4. Service tag

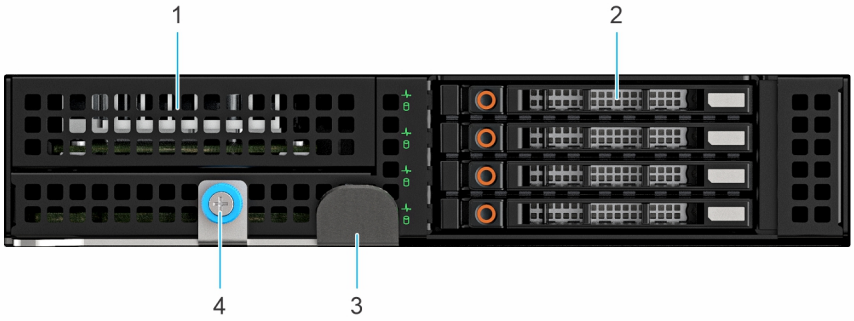

Figure 4. Front view of expander module

1. PERC slot
2. 2.5-inch SSDs
3. Pull out lever
4. Captive screw

Front view of the control panel

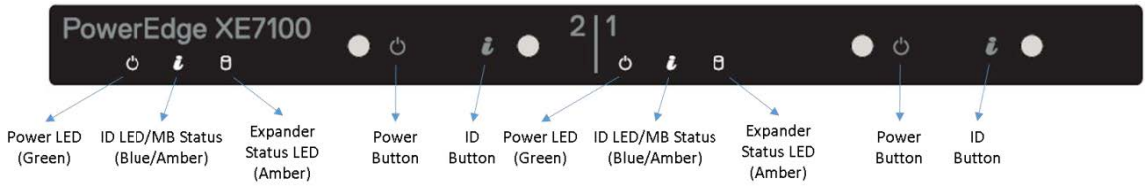

Figure 5. Front view of the control panel

Rear view of the system

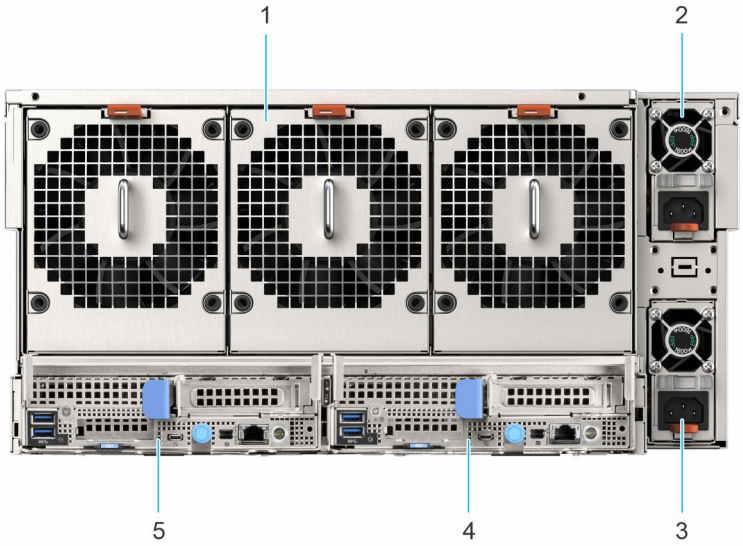

Figure 6. Rear view of the XE7100 system with HW sleds

1. Cooling fan
2. Power supply unit 1
3. Power supply unit 2
4. Half-width sled 2
5. Half-width sled 1

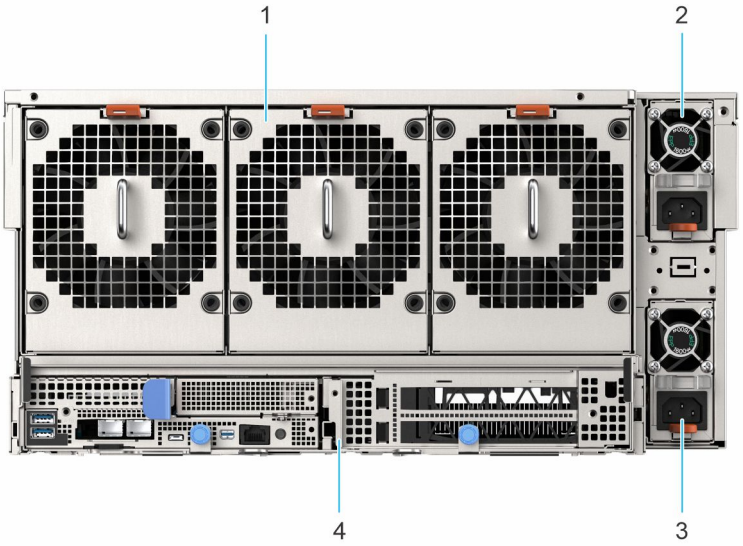

Figure 7. Rear view of the system with FW sled

1. Cooling fan
2. Power supply unit 1
3. Power supply unit 2
4. Full-width sled

Inside the enclosure

CAUTION: This system must be operated with the system cover installed to ensure proper cooling.

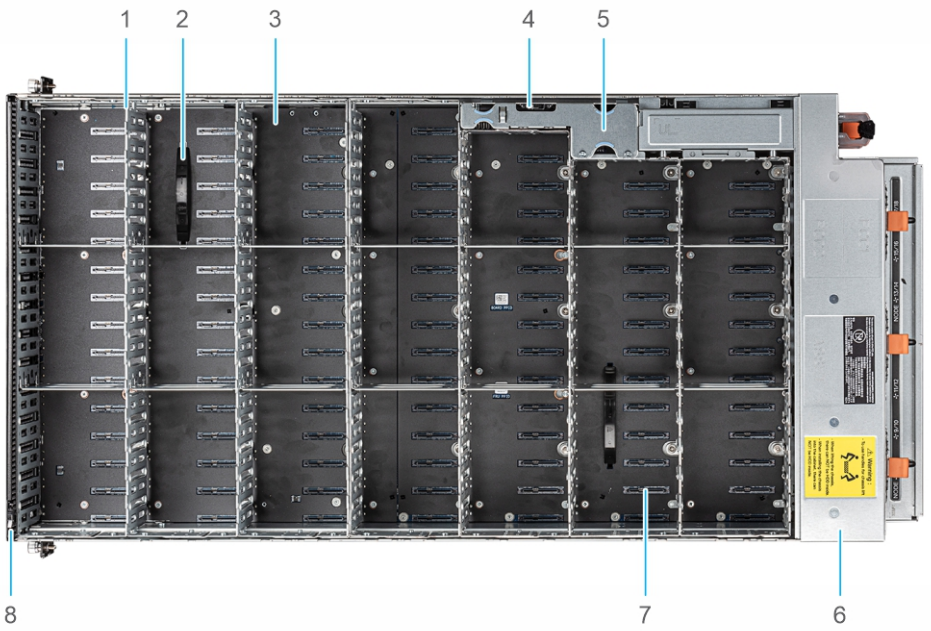

Figure 8. Inside the PowerEdge XE7100 enclosure

1. Hard drive cage
2. Plastic handle
3. Hard drive backplane and midplane assembly board
4. Rear intrusion switch
5. Power distribution board module / Chassis manager board module
6. Fan cage
7. 3.5-inch HDD slot
8. Front intrusion switch

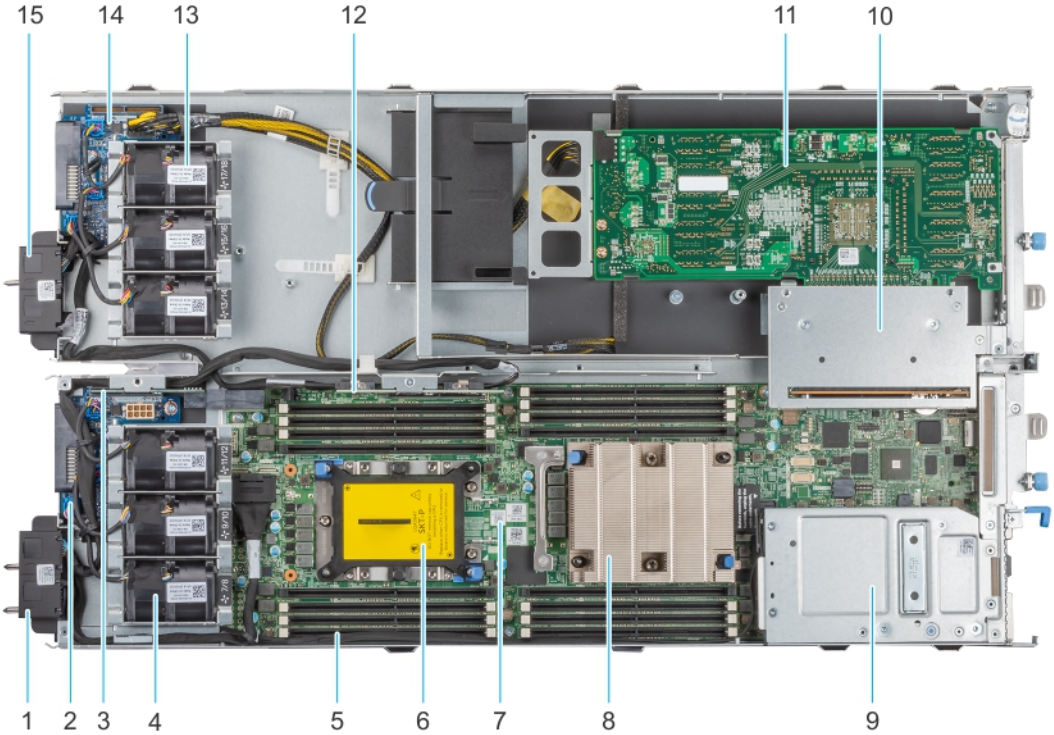

Figure 9. Inside the PowerEdge XE7440 sled

1. Sled cable kit (1)
2. Motherboard bridge board (1)
3. Motherboard interposer board
4. Cooling fan
5. Memory sockets
6. Dust cover for processor 2

7. System board
8. Heat sink for processor 1
9. Mini PERC card module
10. FH riser module
11. FE1 card
12. M.2 riser card
13. Cooling fan (For FE1 card)
14. Motherboard bridge board (2)
15. Sled cable kit (2)

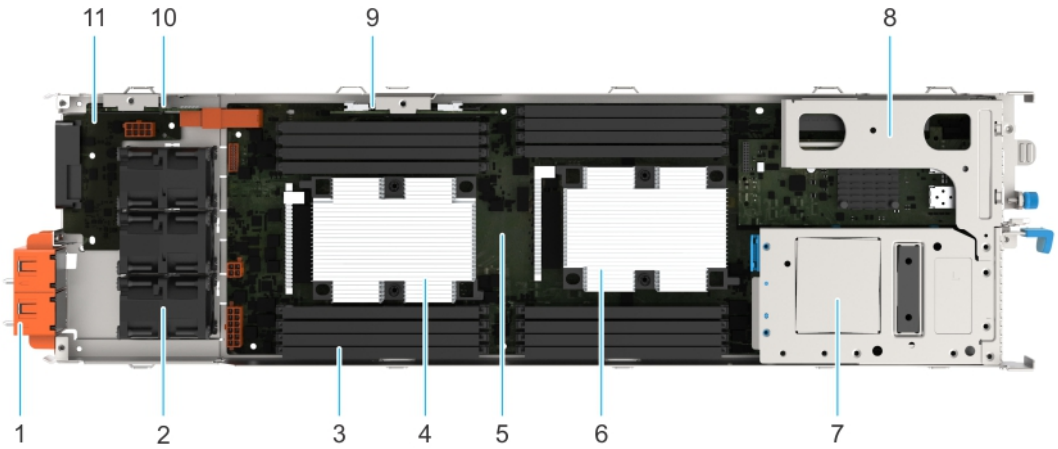

Figure 10. Inside the PowerEdge XE7420 sled

1. Sled cable kit
2. Cooling fans
3. Memory sockets
4. Heat sink for processor 1
5. System board
6. Heat sink for processor 2
7. Mini PERC card module
8. PCIe card module
9. M.2 riser card
10. Motherboard interposer board
11. Motherboard bridge board

Locating the service Tag of your system

Your system is identified by a unique Express Service Code and Service Tag number. The Express Service Code and Service Tag are found on the front of the enclosure by pulling out the EST tag. This information is used by Dell to route support calls to the appropriate personnel.

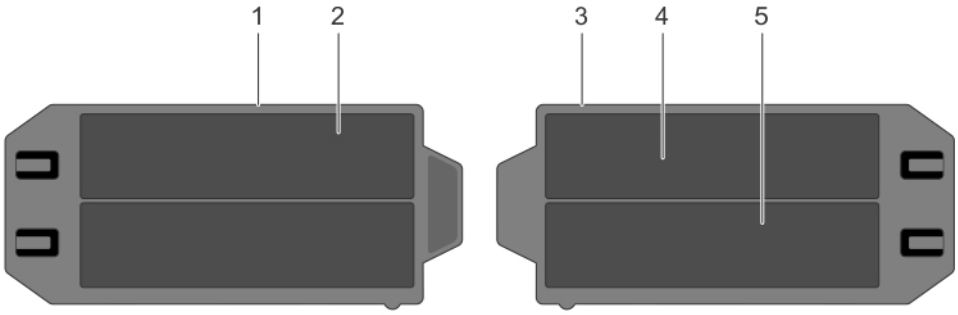

Figure 11. Locating the Service Tag of your system

1. Information tag (top view)
2. Express Service Tag label
3. Information tag (bottom view)
4. Network MAC address information label
5. iDRAC MAC address information label

System information label

Express service tag

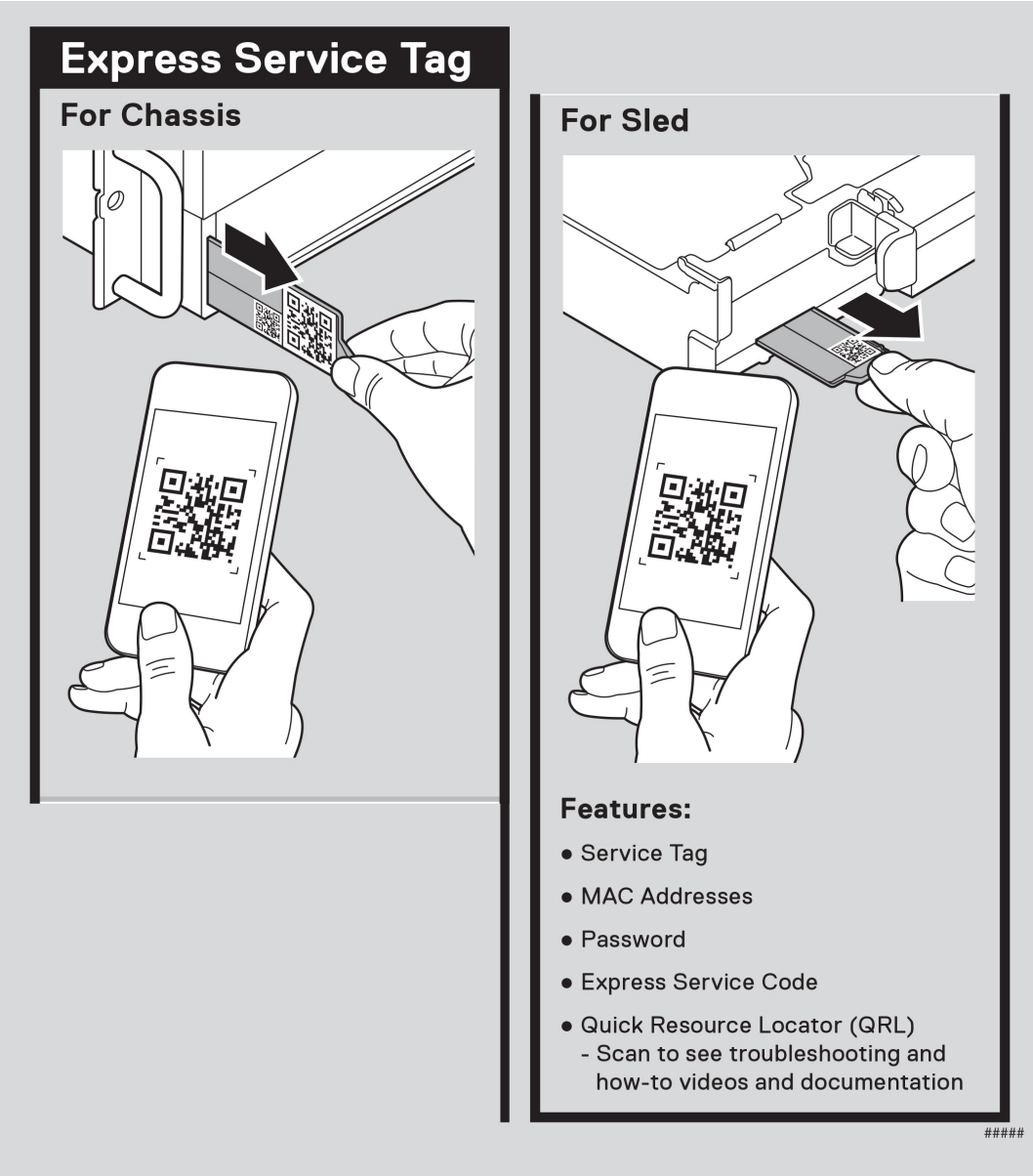

Figure 12. Express service tag

Service information

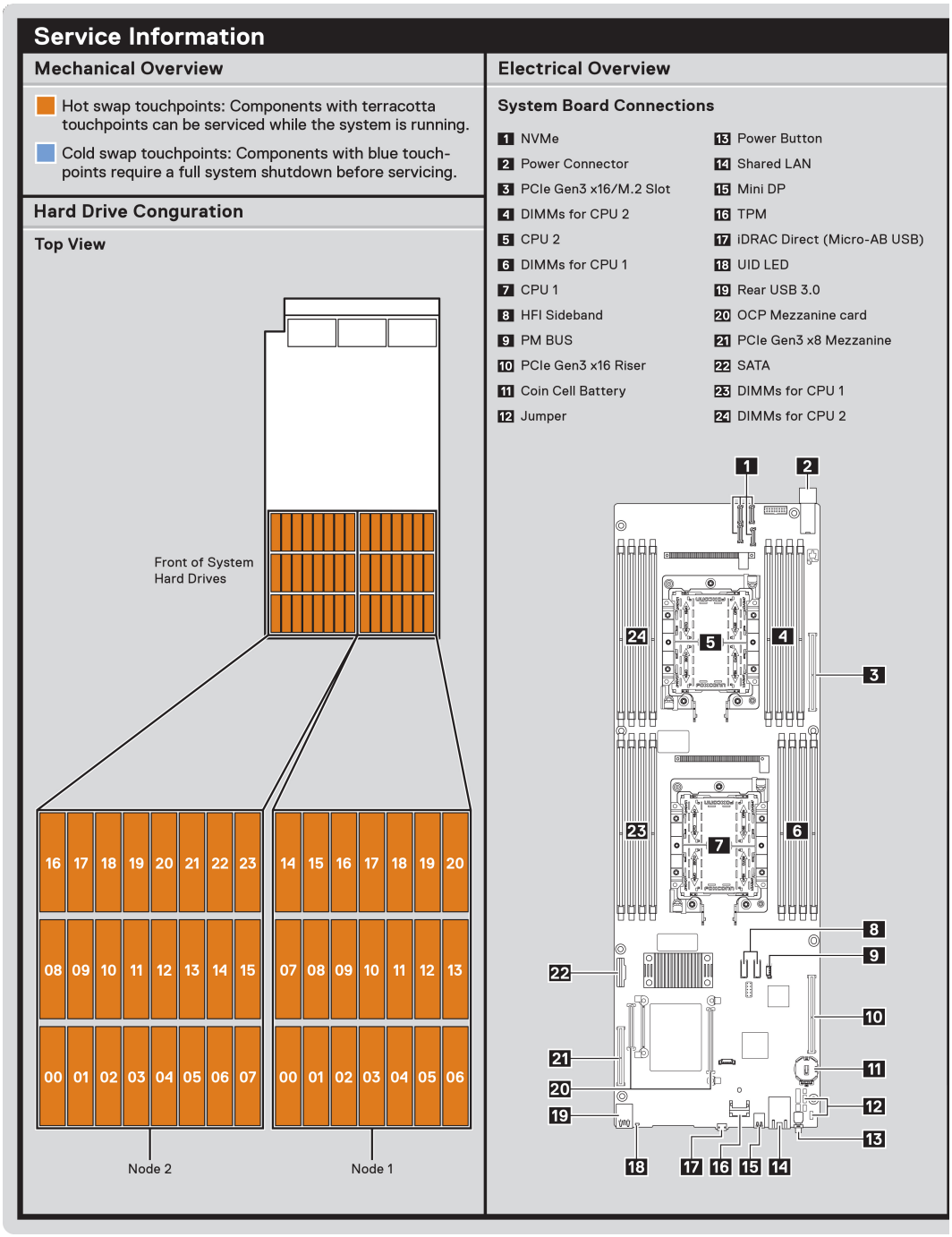

Figure 13. Service information

Service information on the rear

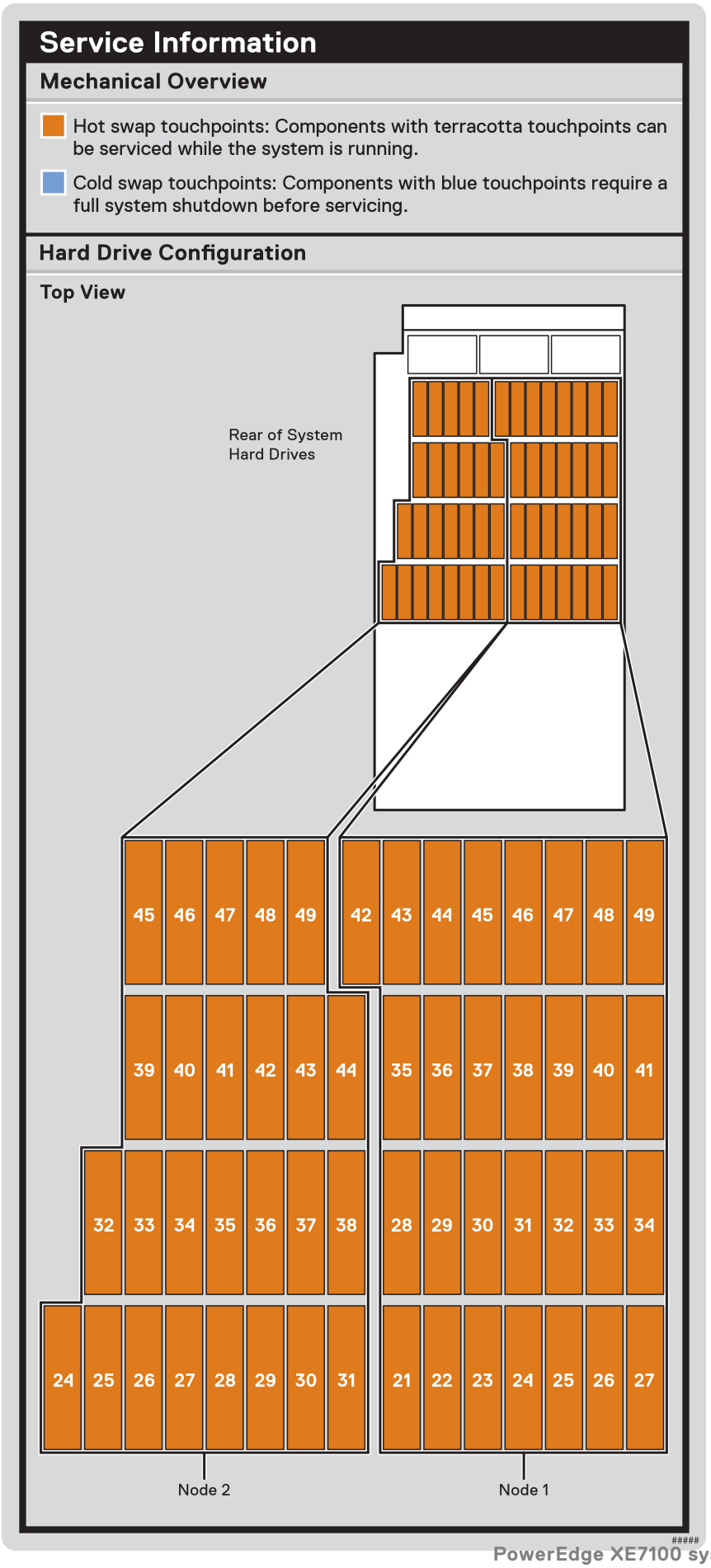

Figure 14. Service information on the rear

Configuration and layout

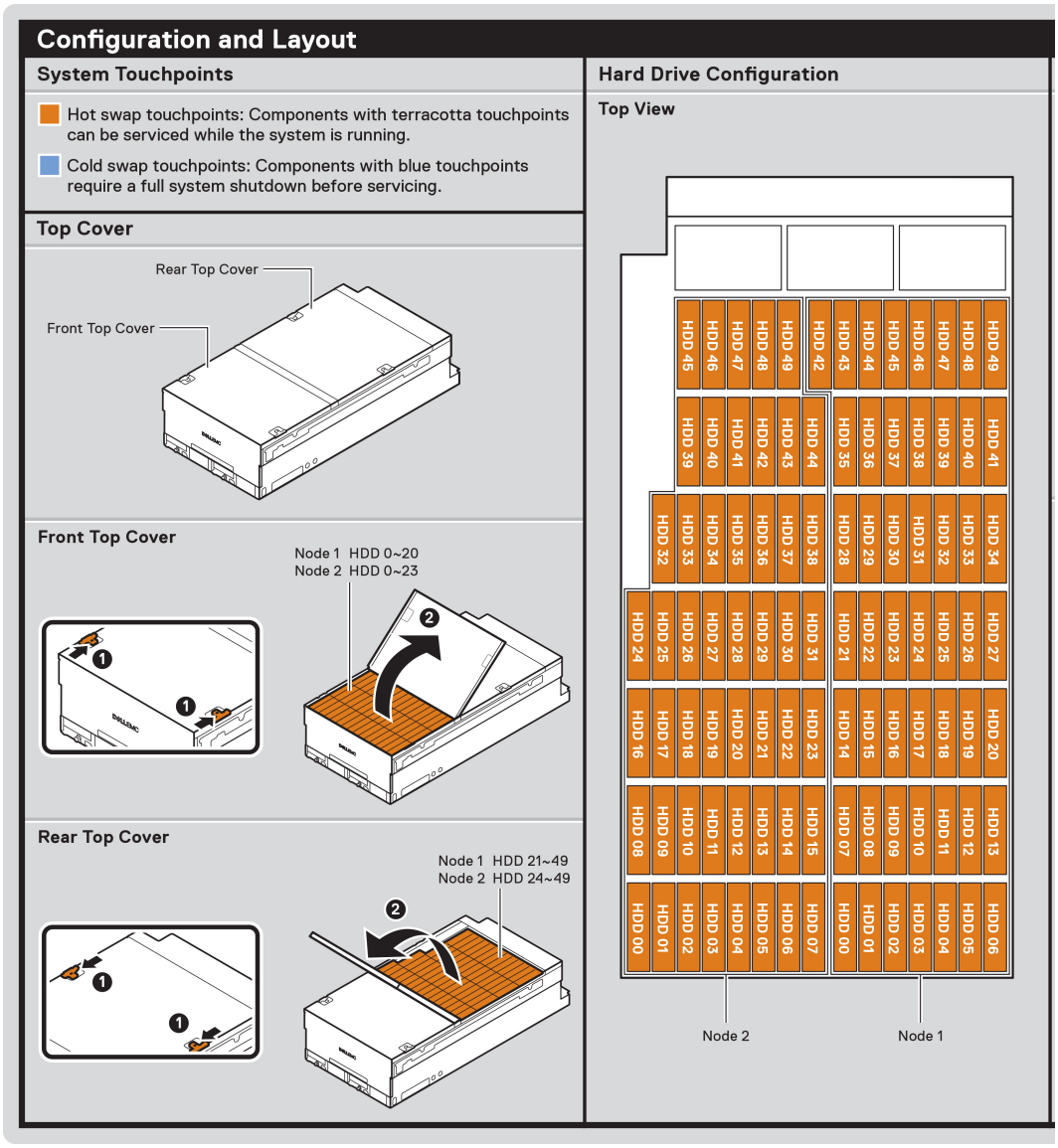

Figure 15. Configuration and layout

System touchpoints

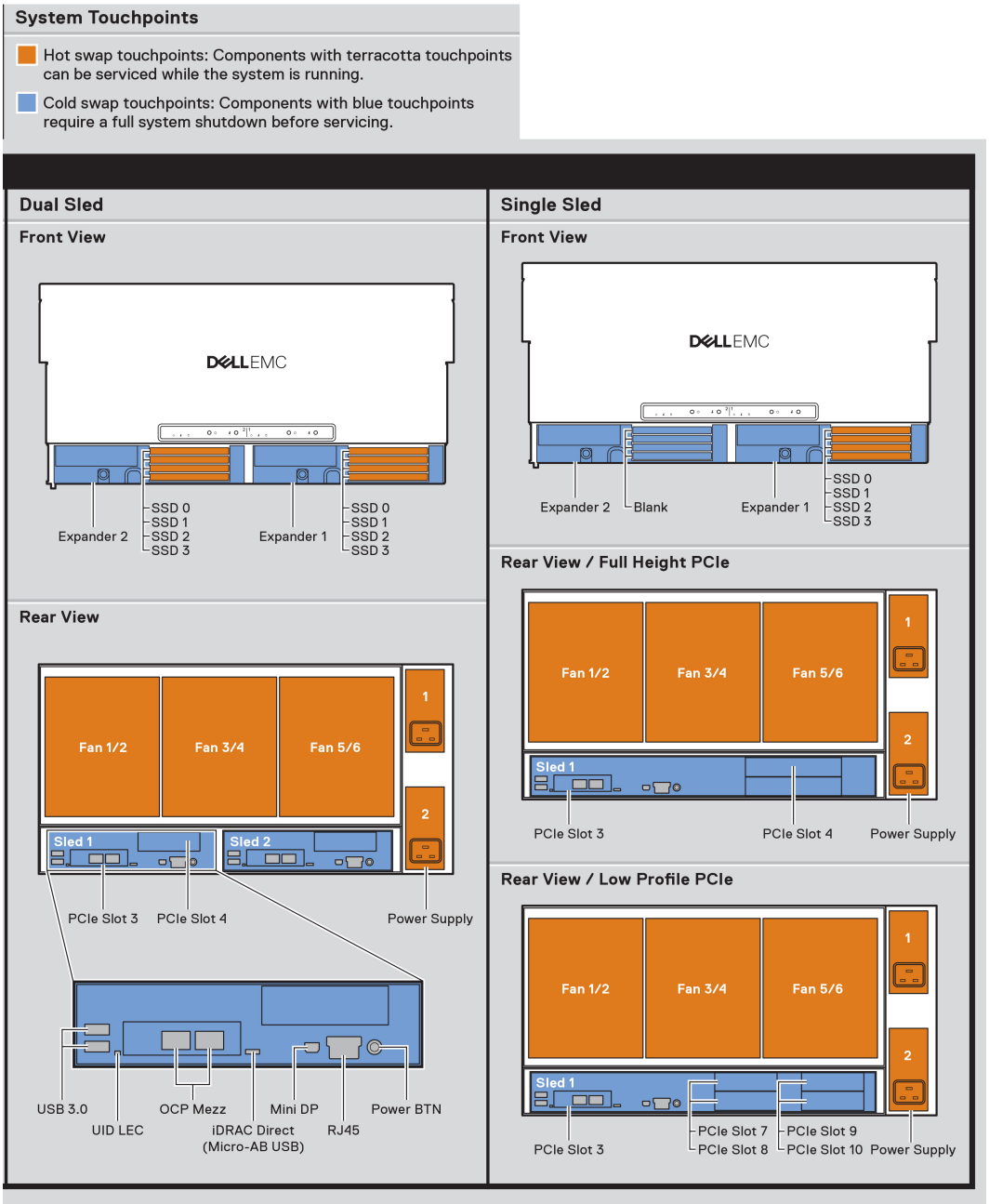

Figure 16. System touchpoints

Jumper settings

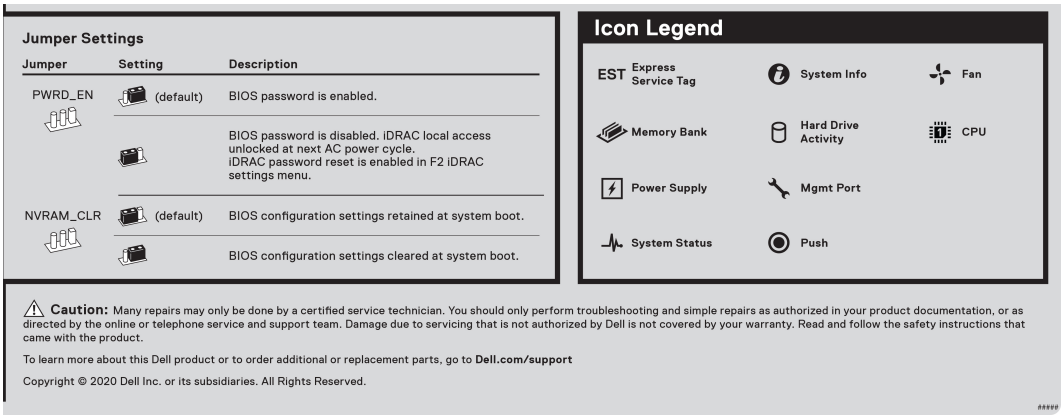

Figure 17. Jumper settings

System tasks

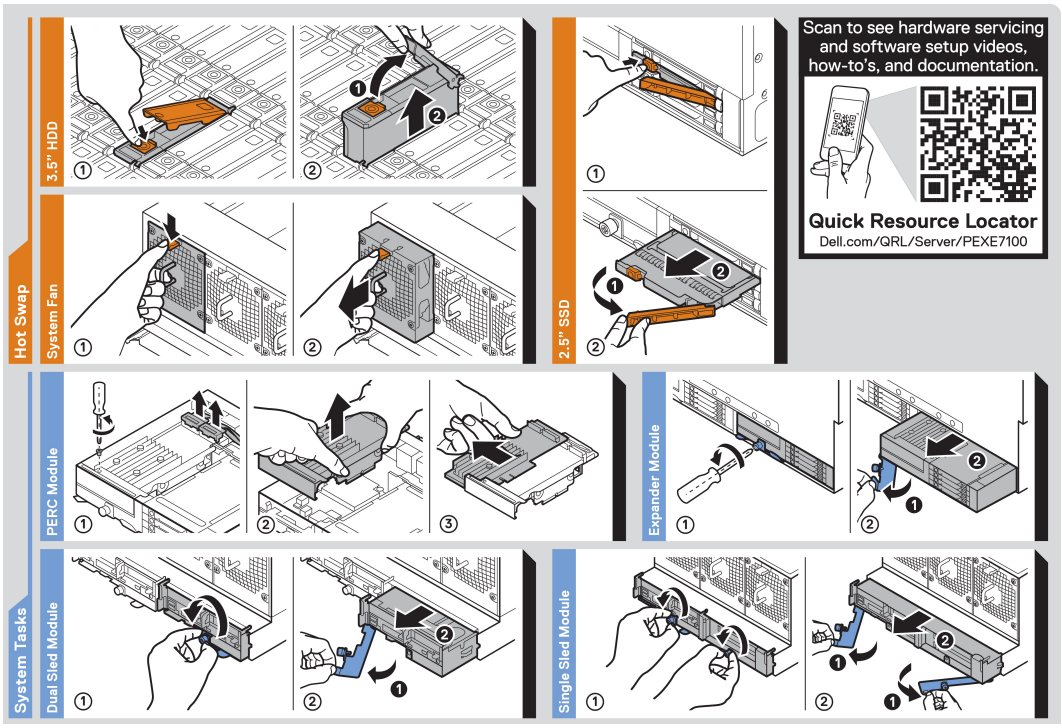

Figure 18. System tasks

Rail sizing and rack compatibility matrix

For specific information about the rail solutions compatible with your system, see the *Dell EMC Enterprise Systems Rail Sizing and Rack Compatibility Matrix* available at https://i.dell.com/sites/csdocuments/Business_solutions_engineering-Docs_Documents/en/rail-rack-matrix.pdf.

The document provides the information that is listed below:

- Specific details about rail types and their functionalities
- Rail adjustability ranges for various rack mounting flange types
- Rail depth with and without cable management accessories
- Rack types that are supported for various rack mounting flange types

For more information about rack installation, see relevant rack installation guide at www.dell.com/xemanuals.

3

Initial system setup and configuration

This section describes the tasks for initial setup and configuration of the Dell EMC system. The sections provide general steps that you must complete to set up the system and the reference guides for detailed information.

Topics:

Setting up the system

Perform the following steps to set up the system:

Steps

1. Unpack the system.
2. Install the system into the rack. For more information see the rail installation and cable management accessory guides relevant to your rail and cable management solution at www.dell.com/xemanuals.
3. Connect the peripherals to the system and the system to the electrical outlet.
4. Power on the system by pressing the power button.

   For more information about setting up the system, see the *Getting Started Guide* that is shipped with your system.

iDRAC configuration

The Integrated Dell Remote Access Controller (iDRAC) is designed to make you more productive as a system administrator and improve the overall availability of Dell EMC servers. iDRAC alerts you to system issues, helps you to perform remote management, and reduces the need for physical access to the system.

Options to set up iDRAC IP address

To enable communication between your system and iDRAC, you must first configure the network settings based on your network infrastructure. The network settings option is set to **DHCP**, by default.

NOTE: For static IP configuration, you must request for the setting at the time of purchase.

You can set up the iDRAC IP address using one of the following interfaces. For information about how to set up iDRAC IP address, see the documentation links provided in the table.

Table 1. Interfaces to set up iDRAC IP address

Interface	Documentation links
iDRAC Settings utility	*Integrated Dell Remote Access Controller User's Guide* at https://www.dell.com/idracmanuals or for system specific *Integrated Dell Remote Access Controller User's Guide*, go to https://www.dell.com/poweredgemanuals > **Product Support** page of your system > **Manuals & documents**. **NOTE:** To determine the most recent iDRAC release for your platform and for latest documentation version, see KB article https://www.dell.com/support/article/sln308699.

Table 1. Interfaces to set up iDRAC IP address (continued)

Interface	Documentation links
OpenManage Deployment Toolkit	*OpenManage Deployment Toolkit User's Guide* at www.dell.com/openmanagemanuals > OpenManage Deployment Toolkit.
Lifecycle Controller	*Lifecycle Controller User's Guide* at https://www.dell.com/idracmanuals or for system-specific *Lifecycle Controller User's Guide*, go to https://www.dell.com/poweredgemanuals > **Product Support** page of your system > **Manuals & documents**. **NOTE:** To determine the most recent iDRAC release for your platform and for latest documentation version, see KB article https://www.dell.com/support/article/sln308699.
iDRAC Direct and Quick Sync 2 (optional)	*Integrated Dell Remote Access Controller User's Guide* at https://www.dell.com/idracmanuals or for system specific *Integrated Dell Remote Access Controller User's Guide*, go to https://www.dell.com/poweredgemanuals > **Product Support** page of your system > **Manuals & documents**. **NOTE:** To determine the most recent iDRAC release for your platform and for latest documentation version, see KB article https://www.dell.com/support/article/sln308699.

NOTE: To access iDRAC, ensure that you connect the ethernet cable to the iDRAC9 dedicated network port or use iDRAC Direct port by using the USB cable. You can also access iDRAC through the shared LOM mode, if you have opted for a system that has the shared LOM mode enabled.

Options to log in to iDRAC

To log in to the iDRAC Web User Interface, open a browser and enter the IP address.

You can log in to iDRAC as:

- iDRAC user
- Microsoft Active Directory user
- Lightweight Directory Access Protocol (LDAP) user

In the log in screen displayed, if you have opted for secure default access to iDRAC, enter the iDRAC secure default password available on back side of the Information Tag. If you have not opted for secure default access to iDRAC, enter the default user name and password – `root` and `calvin`. You can also log in by using your Single Sign-On or Smart Card.

NOTE: Ensure that you change the default username and password after setting up the iDRAC IP address.

For more information about logging in to the iDRAC and iDRAC licenses, see the latest *Integrated Dell Remote Access Controller User's Guide* at www.dell.com/idracmanuals.

NOTE: To determine the most recent iDRAC release for your platform and for latest documentation version, see KB article https://www.dell.com/support/article/sln308699.

You can also access iDRAC using command-line protocol - RACADM. For more information, see the *iDRAC with Lifecycle Controller RACADM CLI Guide* available at www.dell.com/idracmanuals.

You can also access iDRAC using automation tool - Redfish API. For more information, see the *iDRAC9 with Lifecycle Controller Redfish API Guide* available at https://www.dell.com/idracmanuals.

Resources to install operating system

If the system is shipped without an operating system, you can install a supported operating system by using one of the resources that are provided in the table. For information about how to install the operating system, see the documentation links provided in the table.

Table 2. Resources to install the operating system

Resource	Documentation links
iDRAC	*Integrated Dell Remote Access Controller User's Guide* at https://www.dell.com/idracmanuals
Lifecycle Controller	*Lifecycle Controller User's Guide* at https://www.dell.com/idracmanuals **NOTE:** To determine the most recent iDRAC release for your platform and for latest documentation version, see KB article at https://www.dell.com/support/article/sln308699.
OpenManage Deployment Toolkit	www.dell.com/openmanagemanuals > OpenManage Deployment Toolkit
Dell certified VMware ESXi	www.dell.com/virtualizationsolutions

NOTE: For more information about Installation and How-to videos for supported operating systems on PowerEdge system see, Supported Operating Systems for Dell EMC PowerEdge systems.

Options to download firmware

You can download firmware from the Dell support site. For information, see the Downloading drivers and firmware section.

You can also choose any one of the following options to download the firmware. For information about how to download the firmware, see the documentation links provided in the table.

Table 3. Options to download firmware

Option	Documentation link
Using Dell Remote Access Controller Lifecycle Controller (iDRAC with LC)	www.dell.com/idracmanuals
Using Dell Repository Manager (DRM)	www.dell.com/openmanagemanuals > Repository Manager
Using Dell Server Update Utility (SUU)	www.dell.com/openmanagemanuals > Server Update Utility
Using Dell OpenManage Deployment Toolkit (DTK)	www.dell.com/openmanagemanuals > OpenManage Deployment Toolkit
Using iDRAC virtual media	www.dell.com/idracmanuals

Options to download and install OS drivers

You can choose any one of the following options to download and install OS drivers. For information about how to download or install OS drivers, see the documentation links provided in the table.

Table 4. Options to download and install OS drivers

Option	Documentation
Dell EMC support site	Downloading drivers and firmware section.
iDRAC virtual media	*Integrated Dell Remote Access Controller User's Guide* at https://www.dell.com/idracmanuals or for system specific *Integrated Dell Remote Access Controller User's Guide*, go to https://www.dell.com/poweredgemanuals > **Product Support** page of your system > **Manuals & documents**.

Table 4. Options to download and install OS drivers (continued)

Option	Documentation
	NOTE: To determine the most recent iDRAC release for your platform and for latest documentation version, see https://www.dell.com/support/article/sln308699.

Downloading drivers and firmware

It is recommended that you download and install the latest BIOS, drivers, and systems management firmware on the system.

Prerequisites

Ensure that you clear the web browser cache before downloading the drivers and firmware.

Steps

1. Go to www.dell.com/support/drivers.
2. Enter the Service Tag of the system in the **Enter a Dell Service Tag, Dell EMC Product ID or Model** field, and then press Enter.

   NOTE: If you do not have the Service Tag, select **Detect PC** to automatically detect the Service Tag, or click **Browse all products**, and navigate to your product.

3. On the displayed product page, click **Drivers & Downloads**.
   On the **Drivers & Downloads** page, all drivers that are applicable to the system are displayed.
4. Download the drivers to a USB drive, CD, DVD or local machine.

4

Installing and removing enclosure components

Topics:

Safety instructions

NOTE: To avoid injury, do not lift the system on your own, get others to assist you.

WARNING: Opening or removing the system cover while the system is turned on may expose you to a risk of electric shock.

CAUTION: Do not operate the system without the cover for a duration exceeding five minutes. Operating the system without the system cover can result in component damage.

CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that are shipped with your product.

CAUTION: To ensure proper operation and cooling, all bays in the system and system fans must be always populated with a component or a blank.

NOTE: It is recommended that you always use an antistatic mat and antistatic strap while working on components inside the system.

NOTE: While replacing the hot swappable PSU, after next server boot; the new PSU automatically updates to the same firmware and configuration of the replaced one. For more information about the Part replacement configuration, see the *Lifecycle Controller User's Guide* at https://www.dell.com/idracmanuals

NOTE: While replacing faulty storage controller/FC/NIC card with the same type of card, after you power on the system; the new card automatically updates to the same firmware and configuration of the faulty one. For more information about the Part replacement configuration, see the *Lifecycle Controller User's Guide* at https://www.dell.com/idracmanuals

Before working inside your system

Prerequisites

Follow the safety guidelines listed in Safety instruction.

Steps

1. Power off the system and all attached peripherals.
2. Disconnect the system from the electrical outlet, and disconnect the peripherals.
3. If applicable, remove the system from the rack.
   For more information, see the *Rail Installation Guide* relevant to your rail solutions at www.dell.com/xemanuals.
4. Remove the system cover.

After working inside your system

Prerequisites

Follow the safety guidelines listed in Safety instruction.

Steps

1. Replace the system cover.
2. If applicable, install the system into the rack.
   For more information, see the *Rail Installation Guide* relevant to your rail solutions at www.dell.com/xemanuals.
3. Reconnect the peripherals, and connect the system to the electrical outlet, and then power on the system.

Recommended tools

You need the following tools to perform the removal and installation procedures:

- Phillips #1 screwdriver
- Phillips #2 screwdriver
- Torx #T30 screwdriver
- 5mm hex nut screwdriver
- Plastic scribe
- 1/4 inch flat blade screwdriver
- Wrist grounding strap connected to the ground
- ESD mat

Dell EMC PowerEdge XE7440 and XE7420 sleds

Removing the sled (FWFH configuration)

Prerequisites

1. Follow the safety guidelines listed in Safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Loosen the captive screw.
2. Pull the sled lever from under the sled.
3. Using sled handle, slide the sled out of the enclosure.

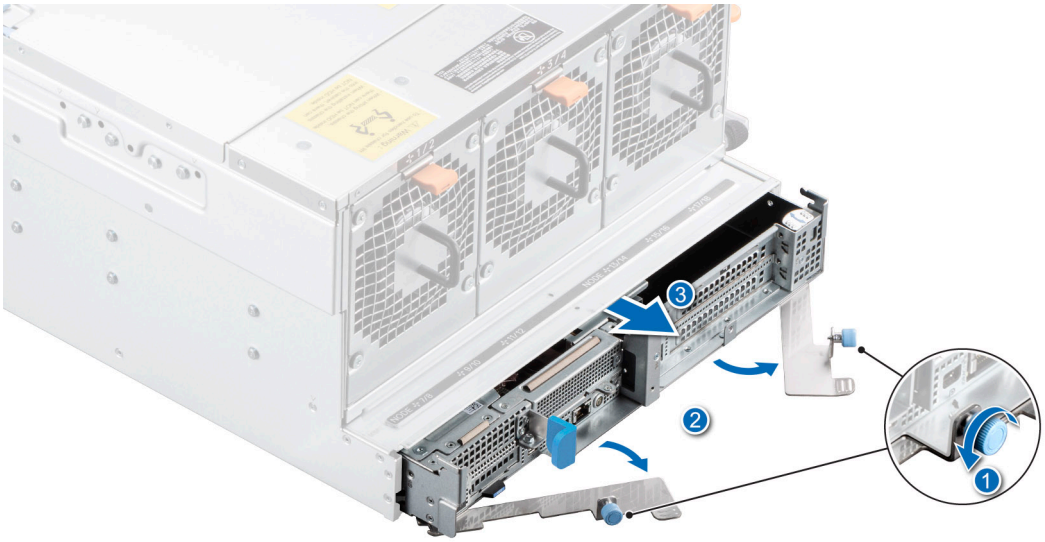

Figure 19. Removing the sled

NOTE: The procedure to remove the sled with FWLP configuration is same as the sled with FWFH configuration.

Next steps

1. Install the sled.

Installing the sled (FWFH configuration)

Prerequisites

Follow the safety guidelines listed in Safety instructions.

Steps

1. Hold the sled on both sides and slide the sled into the enclosure until the sled is locked to the enclosure.
2. Push the sled lever under the sled and tighten the captive screws.

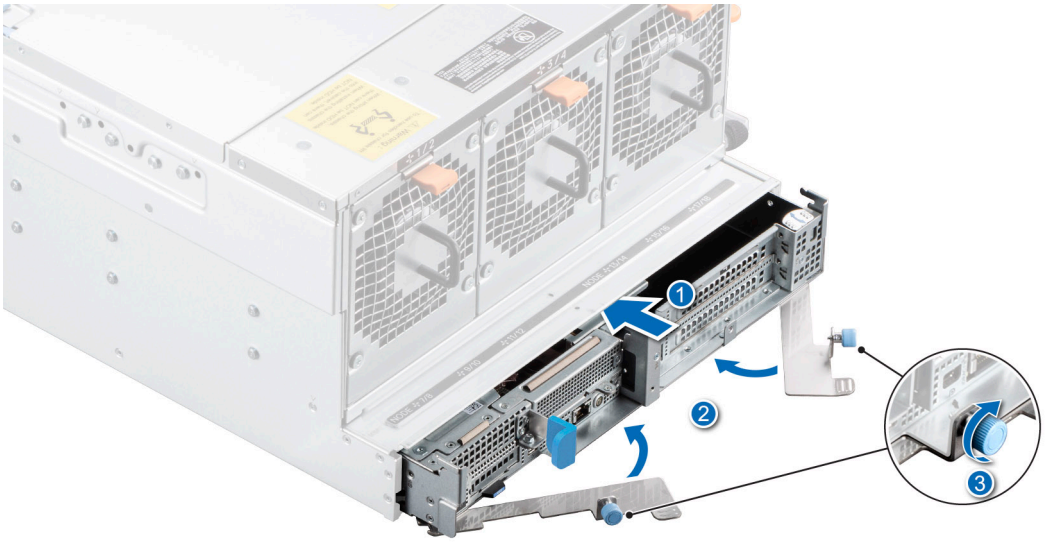

Figure 20. Installing the sled

NOTE: The procedure to install the sled with FWLP configuration is same as the sled with FWFH configuration.

Next steps

1. Follow the procedure listed in After working inside the system.

Power supply units

CAUTION: The PSUs must have the Extended Power Performance (EPP) label. Mixing PSUs (even the PSUs that have the same power rating) from previous generations of PowerEdge servers is not supported. Mixing PSUs results in a PSU mismatch condition or failure to turn the system on.

Your system supports two 2400 W AC PSUs.

NOTE: For more information, see the PowerEdge T440 Technical Specs at www.dell.com/poweredgemanuals.

Fault tolerant redundancy

Policy Budgeting

Fault Tolerant Redundancy is a hybrid redundancy mode which uses the power capacity limits of a single Power Supply Unit for Power Budget Checks, similar to Grid Redundancy, but enforces added performance limiting after redundancy is lost. Previous generation modular sleds will still work with Fault Tolerant Redundancy enabled, but they treat it identically to Grid Redundancy.

When the maximum potential power needs of installed chassis components exceeds the capacity of a single Power Supply, the Chassis Management Controller (CMC) will deny power on to further chassis components. The Power Budget Checks for Fault Tolerant Redundancy ensure that the Shared Infrastructure Chassis will remain operational in the event of maximum potential workload conditions at the time of an AC Grid or PSU Supply failure. Using the maximum potential is a conservative target that ensures continued operation across the wide range of potential customer workloads for a given configuration.

Policy philosophy

Similar to Grid Redundancy, Fault Tolerant Redundancy is a conservative redundancy policy that ensures that the Shared Infrastructure Chassis and all installed components remain operational with no risk of shutdown in the event of an AC Grid or Power Supply failure even when all installed components are simultaneously running at their worst case power consumption. New for Fault Tolerant Redundancy is a limit on peak performance that occurs when redundancy is lost. Fault Tolerant Redundancy can maintain the same conservative standards of redundancy as traditional Grid Redundancy by limiting peak power after redundancy is lost to levels which fit within the surviving Power Supply.

Policy control

As with all Redundancy Policies, while the two Power Supplies remain healthy, load is shared evenly between them and the capacity of both Power Supplies is made available for use. In the event of an AC Grid or Power Supply failure, Power Controls will rapidly engage to restrict the power consumption of the chassis and ensure that consumption is restricted to what a single Power Supply can support. Besides the controls used with all Redundancy Policies, Fault Tolerant Redundancy also implements more performance limiting functionality which restricts the peak power after redundancy loss.

For a fully loaded chassis running at maximum potential power this can result in some observed performance reduction as the chassis Power Control limits are enforced. In practice, customer workloads are often not at the maximum potential power and so practical performance reduction during an AC Grid or Power Supply failure is often minor or even unnoticeable.

Power on behavior after fault

In the event of an AC Grid or Power Supply failure, new chassis components are enabled to power on as long as the maximum potential power of the newly installed chassis components does not exceed the capacity of a single Power Supply when evaluated by the chassis Power Budget Checks. This means that, while customers will note a chassis "Critical" state due to the loss of redundancy, they will observe no difference in which chassis components are enabled to power on (both before and after

a redundancy fault). This is because in both cases, the chassis Power Budget Checks use the capacity of only a single Power Supply. This is a key difference from the other Shared Infrastructure Chassis Redundancy Policies.

Logging behavior

As with all Redundancy Policies, when a Power Supply Unit fails, a log message is generated. For the Fault Tolerant Redundancy policy, a log message will also be recorded to note a "Loss of Redundancy". This message indicates that the system is continuing to operate in a Non-Redundant state, and action is necessary to either restore power to a failed AC Grid or replace a failed Power Supply Unit. Details in log messages make it possible to distinguish between these two cases. Finally, in case power-on of a chassis component is denied due to a Power Budget Check, the denial is logged both in CMC logs and iDRAC logs (in the case of compute sleds).

Removing a power supply unit

Prerequisites

1. Follow the safety guidelines listed in Safety instructions.
2. Disconnect the power cable from the power source and from the PSU you intend to remove, and then remove the cable from the strap on the PSU handle.

CAUTION: The power supply is only hot-swappable if you have a redundant system with two power supplies installed

Steps

1. Press and hold the release latch.
2. Slide the PSU out of the system using the PSU handle.

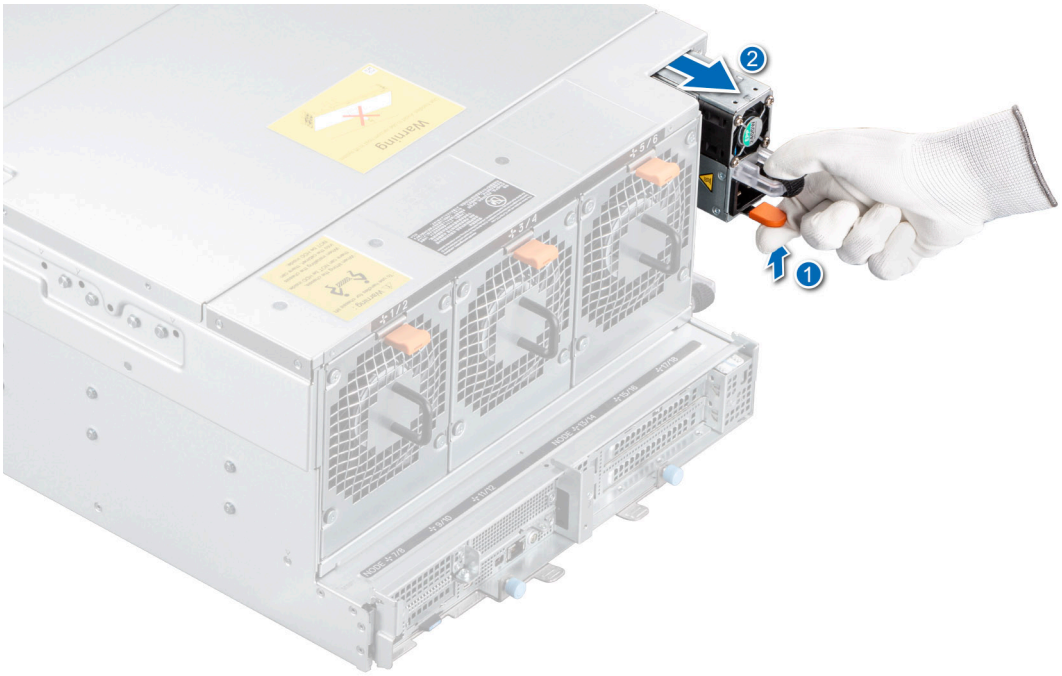

Figure 21. Removing a power supply unit

Next steps

Install the PSU

Installing a power supply unit

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. For systems that support redundant PSU, ensure that both the PSUs are of the same type and have the same maximum output power.

   NOTE: The maximum output power (shown in watts) is listed on the PSU label.

Steps

Slide the PSU into the system until the PSU is fully seated and the release latch snaps into place.

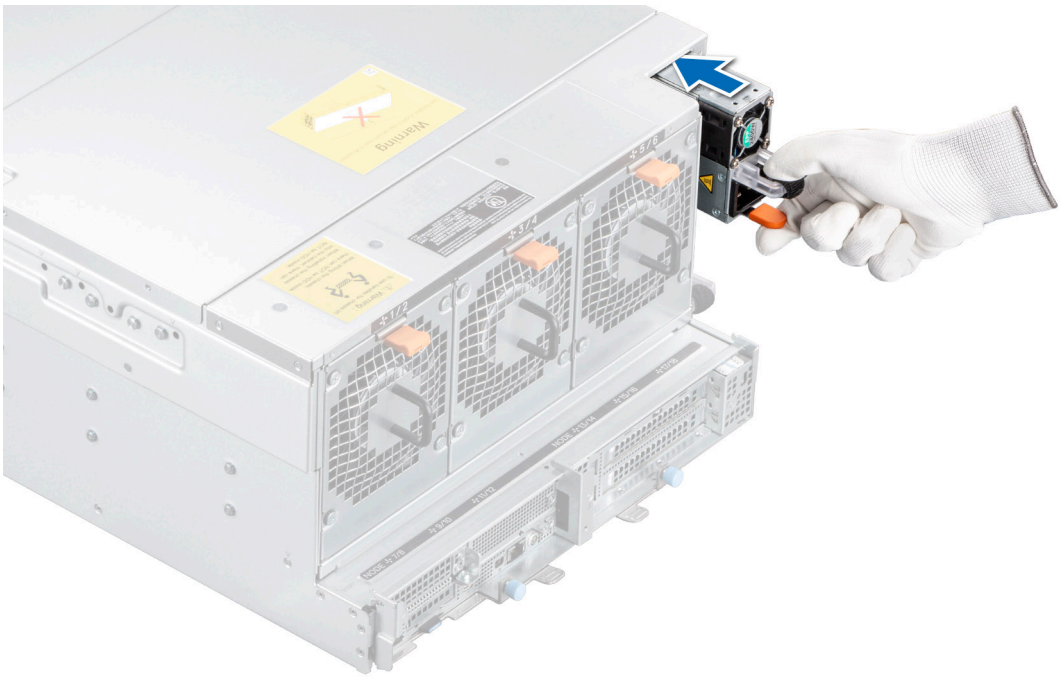

Figure 22. Installing a power supply unit

Next steps

1. Connect the power cable to the PSU, and plug the cable into a power outlet.

   CAUTION: Secure the power cable to the PSU with the strap provided on the PSU handle.

   NOTE: When installing, hot swapping, or hot adding a new PSU, wait for 15 seconds for the system to recognize the PSU and determine its status. The PSU redundancy may not occur until discovery is complete. Wait until the new PSU is discovered and enabled before you remove the other PSU. The PSU status indicator turns green to signify that the PSU is functioning properly.

Cooling fans

Removing a cooling fan

Prerequisites

WARNING: Do not attempt to operate the system without the cooling fans.

WARNING: The cooling fan spins for some time after the system is powered off. Allow the fan to stop spinning before removing it from the system.

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Press and hold the release latch.
2. Slide the fan out of the system using the fan handle.

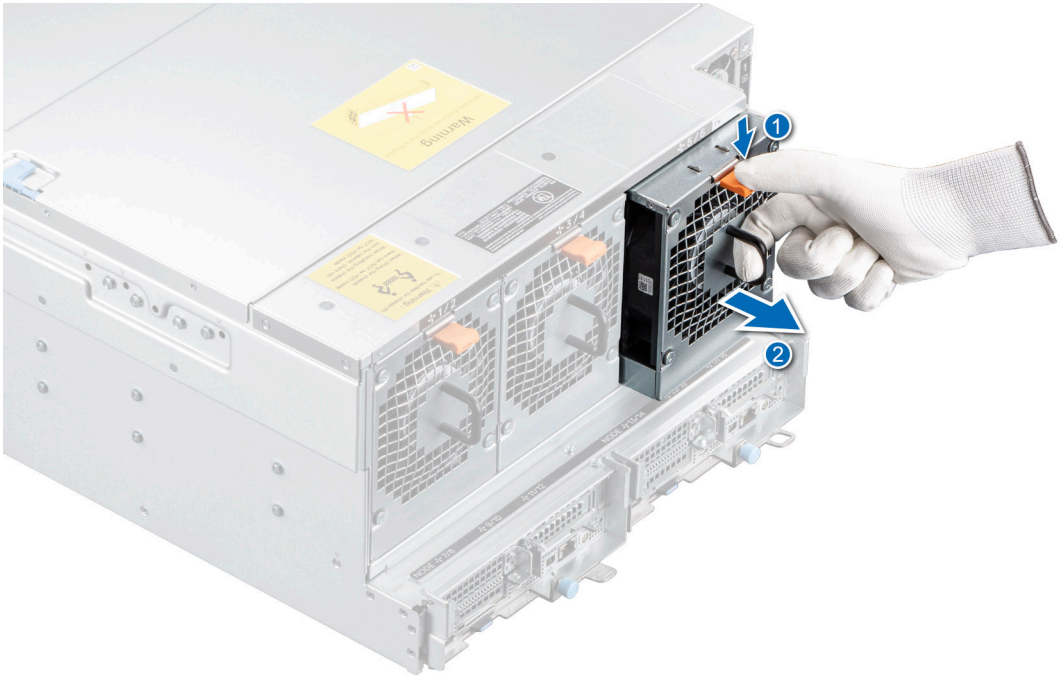

Figure 23. Removing a cooling fan

Next steps

1. Install a cooling fan.
2. For more information about the fan status, see the management software.

Installing a cooling fan

Prerequisites

1. Follow the safety guidelines listed in safety instructions.

Steps

Align the cooling fan with the fan slot on the cooling fan cage, and push the cooling fan until it clicks into place.

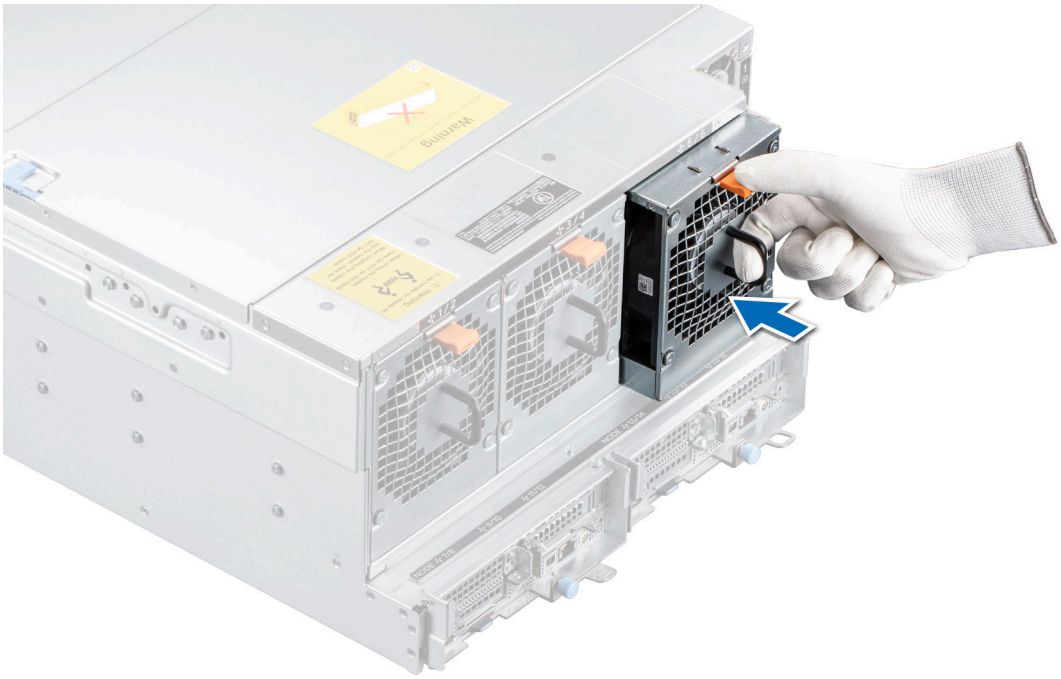

Figure 24. Installing a cooling fan

Next steps

1. Follow the procedure listed in After working inside the system.
2. Check the management software to see if the fan is rotating at the optimal speed.

Removing the cooling fan cage

Prerequisites

WARNING: Do not attempt to operate the system without the cooling fans.

WARNING: The cooling fan spins for some time after the system is powered down. Allow the fan to stop spinning before removing it from the system.

NOTE: Observe the routing of the cables when removing them from the system. Route these cables properly when you replace them to prevent the cables from being pinched or crimped.

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the cooling fans.

Steps

1. Remove the five screws securing the fan cage.
2. Lift the cooling fan cage out of the chassis.

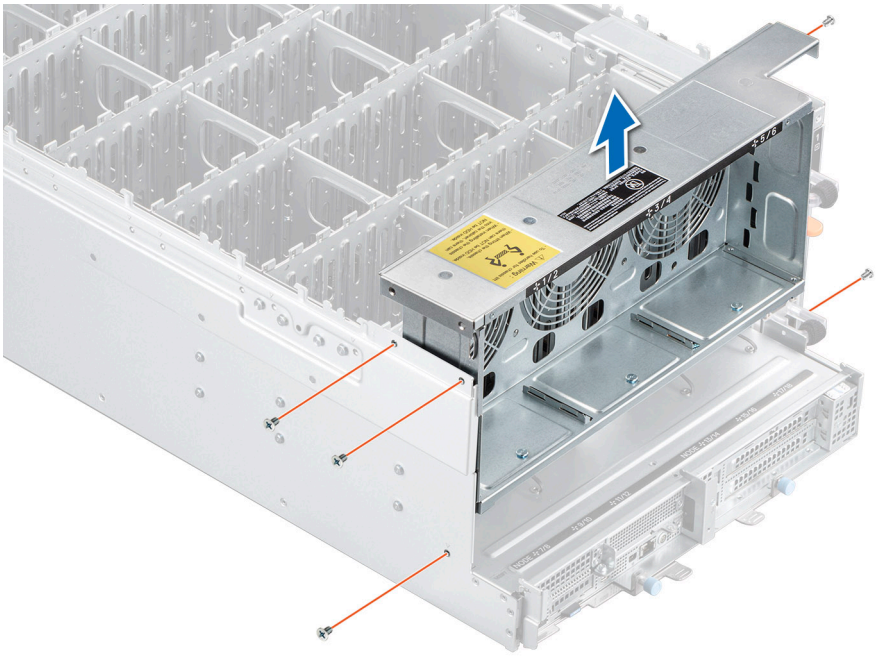

Figure 25. Removing the cooling fan cage

Next steps

1. Install the cooling fan cage.

Installing the cooling fan cage

Prerequisites

WARNING: Do not attempt to operate the system without the cooling fans.

NOTE: Observe the routing of the cables when removing them from the system. Route these cables properly when you replace them to prevent the cables from being pinched or crimped.

1. Follow the safety guidelines listed in safety instructions.

Steps

1. Align the guide pins on the cooling fan cage with the guide holes on the chassis.
2. Install the fan cage onto the chassis, and push until it is firmly seated on the guide holes.
3. Secure the fan cage using the five screws.

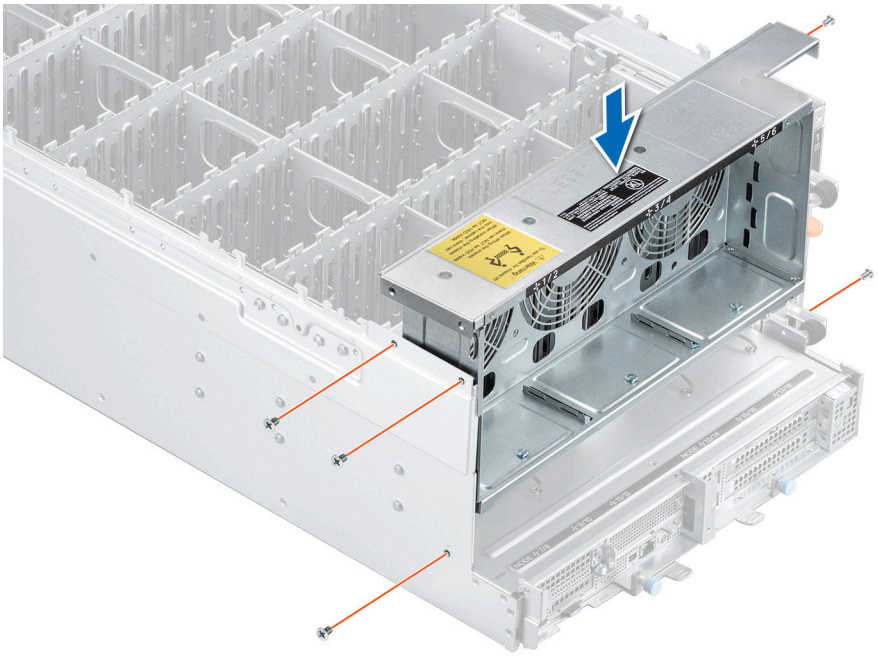

Figure 26. Installing the cooling fan cage

Next steps

1. Install the cooling fans.
2. Follow the procedure listed in After working inside the system.
3. Check the management software to see if all the fans are rotating at the optimal speed.

Removing the cooling fan board

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the cooling fans.
4. Remove the cooling fan cage.

Steps

1. Remove the two screws securing the fan board bracket.
2. Lift the fan board module from the hard disk drive back plane board.

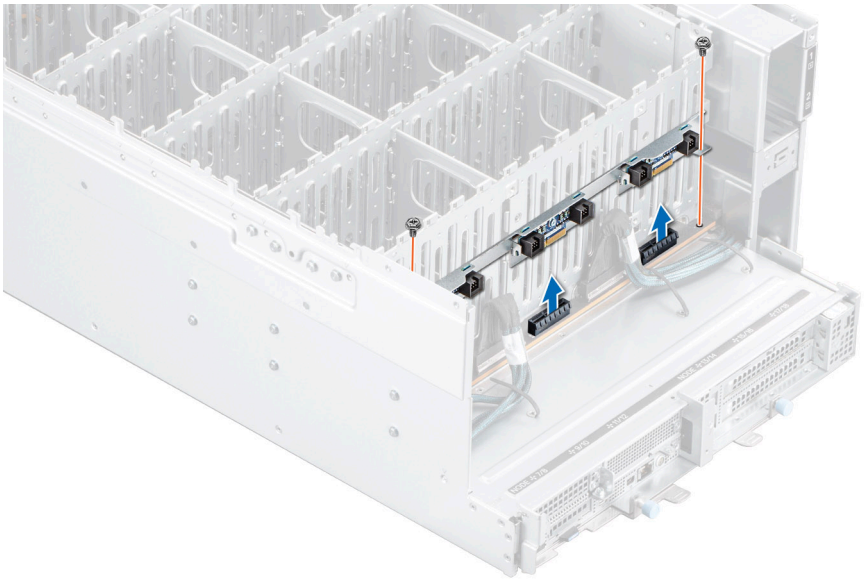

Figure 27. Removing the cooling fan board bracket

3. Remove the screw securing the fan board.
4. Remove the cooling fan board out of the bracket.

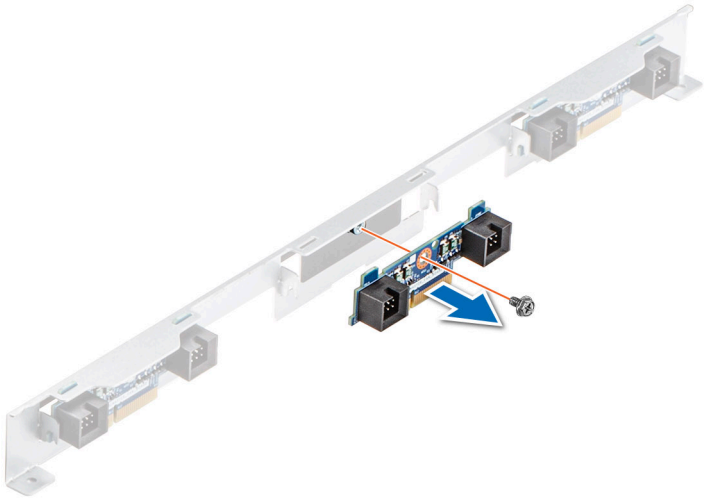

Figure 28. Removing the cooling fan board

Next steps

1. Replace the cooling fan board.

Installing the cooling fan board

Prerequisites

WARNING: Do not attempt to operate the system without the cooling fans.

NOTE: Observe the routing of the cables when removing them from the system. Route these cables properly when you replace them to prevent the cables from being pinched or crimped.

1. Follow the safety guidelines listed in safety instructions.

Steps

1. Insert the fan board into bracket and secure the fan board using a screw.

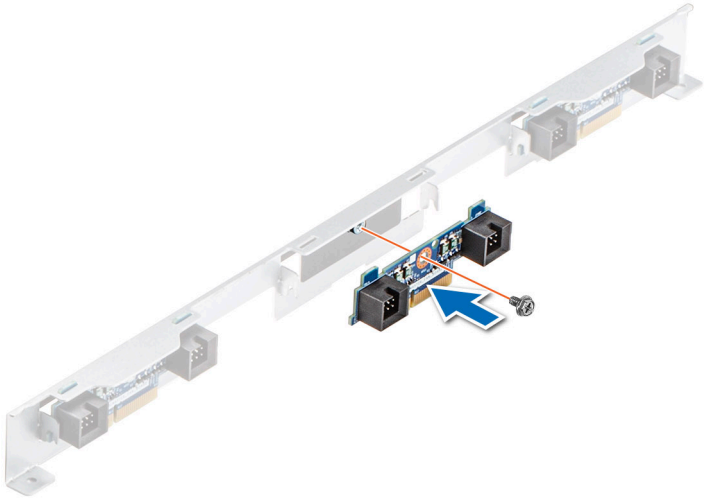

Figure 29. Installing the cooling fan board

2. Align and insert the fan board bracket into the hard disk drive back plane board.
3. Secure the fan board bracket using the two screws.

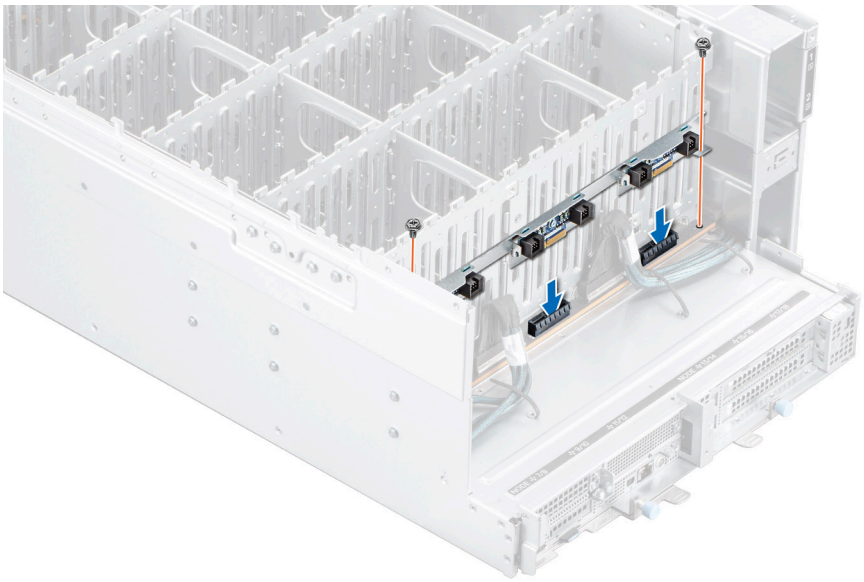

Figure 30. Installing the cooling fan board bracket

Next steps

1. Install the cooling fan cage.
2. Install the cooling fans.
3. Follow the procedure listed in After working inside the system.
4. Check the management software to see if all the fans are rotating at the optimal speed.

Expander module

Removing the expander module

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Loosen the captive screw.
2. Pull the expander module handle from under the expander module.
3. Using expander module pull handle, slide the expander module out of the enclosure horizontally.

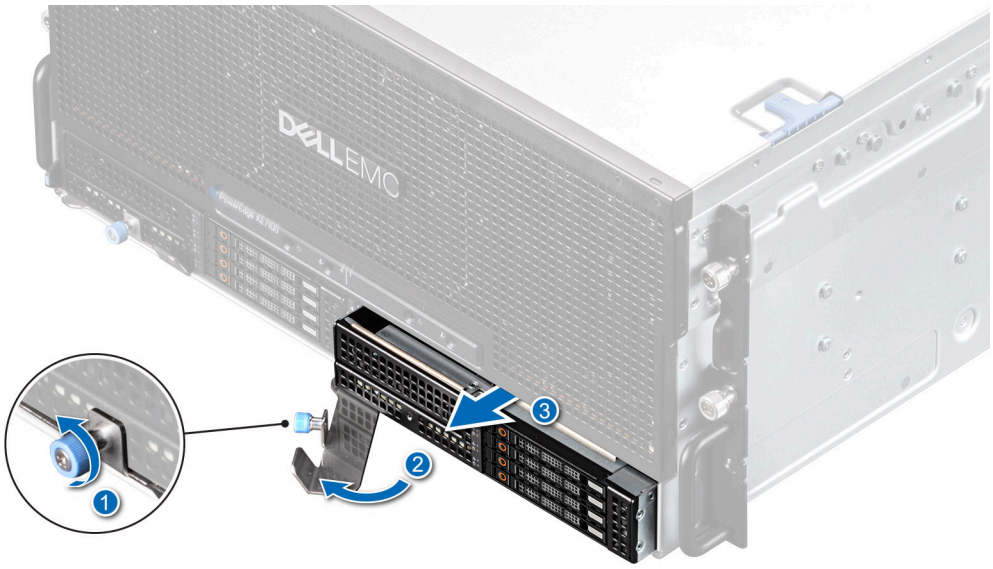

Figure 31. Removing the expander module

Next steps

1. Install the expnader module.

Installing the expander module

Prerequisites

1. Follow the safety guidelines listed in safety instructions.

Steps

1. Align and slide the expander module into the chassis.
2. Push the expander module pull handle.
3. Tighten the captive screw.

NOTE: Ensure both the expander modules are installed completely before powering up the chassis.

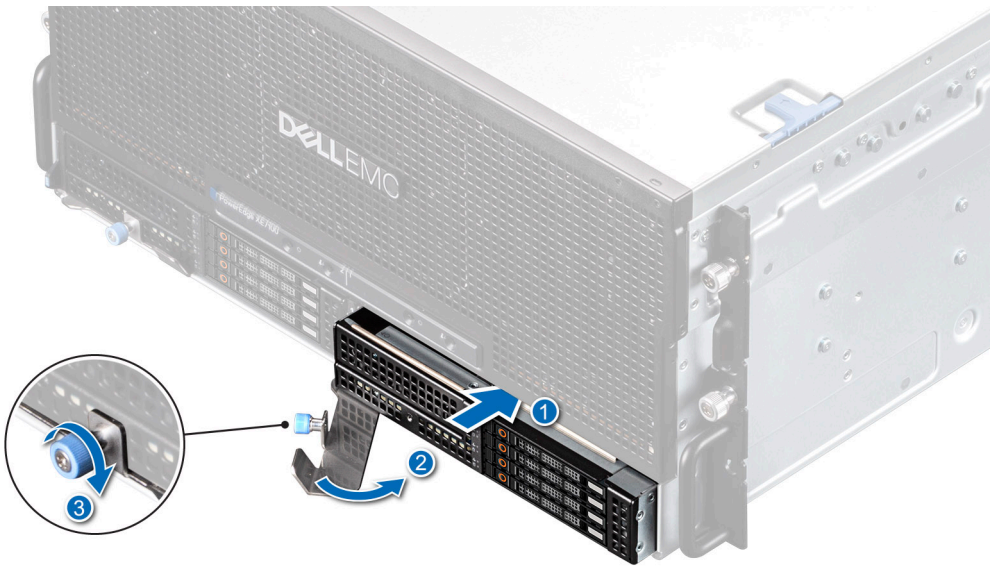

Figure 32. Installing the expander module

Next steps

1. Follow the procedure listed in After working inside the system.

Removing the expander board

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the expander module.
4. If applicable, remove the 2.5-inch HDDs.
5. Remove the 2.5-inch HDD backplane.
6. Remove the PERC riser.
7. Disconnect all the cables from the expander board.

   NOTE: Observe the routing of the cable as you remove it from the system.

Steps

1. Using the Phillips #2 screwdriver, remove the two screws that secure the bracket to the expander module.
2. Lift the bracket from the expander module.

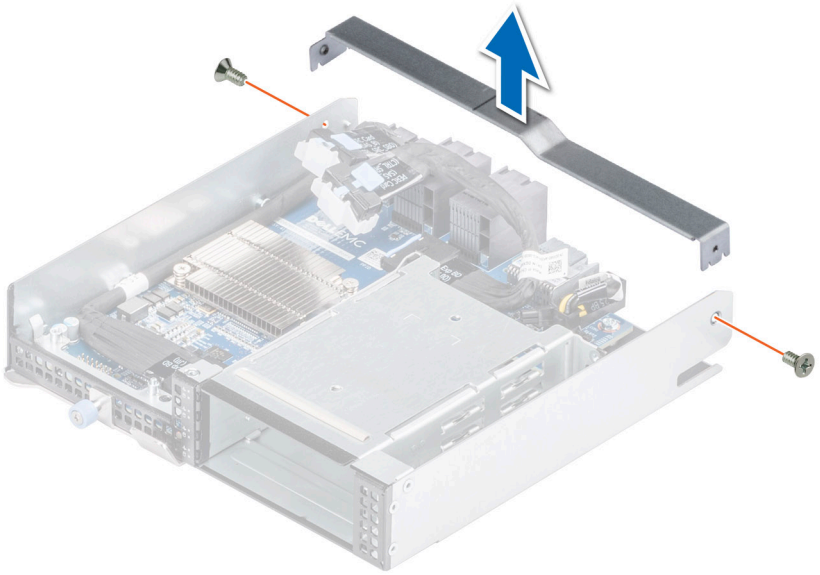

Figure 33. Removing the bracket

3. Using the Phillips #2 screwdriver, remove the two screws that secure the expander board to the expander module.
4. Slide and lift the expander board from the expander module.

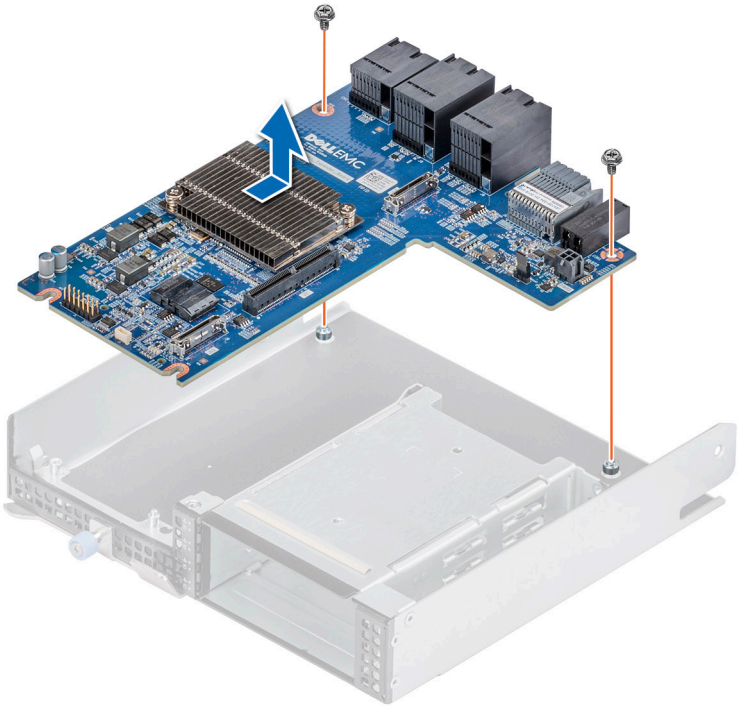

Figure 34. Removing the expander board

Next steps

Replace the expander board.

Installing the expander board

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Align and insert the expander board into the expander module.
2. Tighten the two screws to secure the expander board to the module.

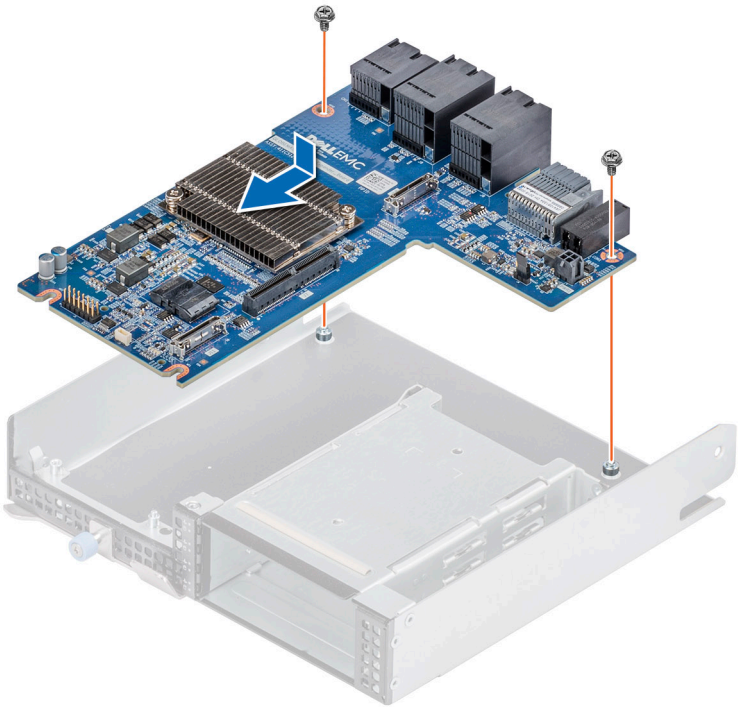

Figure 35. Installing the expander board

3. Align and insert the bracket into the expander module
4. Tighten the two screws to secure the bracket to the module.

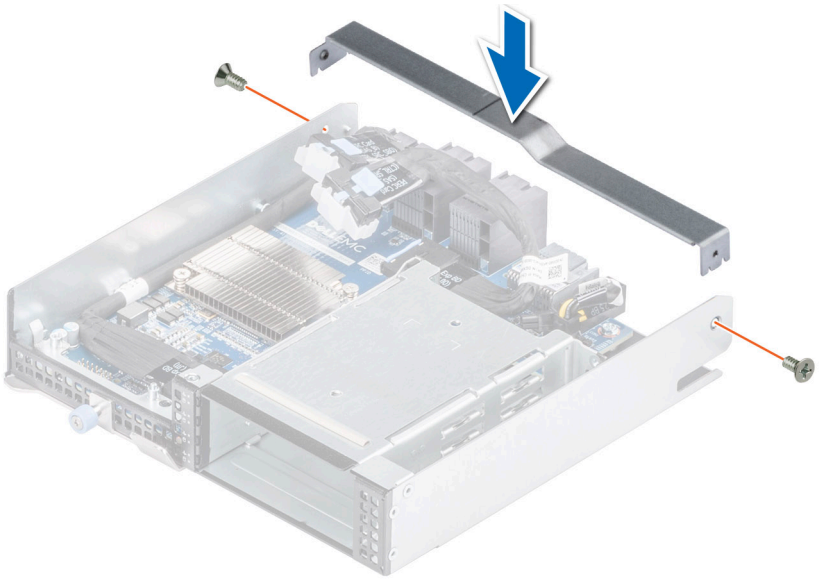

Figure 36. Installing the bracket

Next steps

1. Connect all the the cables to the expander board.
2. Install the PERC riser.
3. install the 2.5-inch HDD backplane.
4. If applicable, install the 2.5-inch HDDs.
5. Install the expander module.
6. Follow the procedure listed in After working inside the system.

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System cover

Removing the front system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

1. Slide the two latches.
2. Lift the front cover.

Figure 37. Removing the front system cover

Next steps

Replace the system cover.

Installing the front system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

Lower the front cover until the latches clicks into place.

Figure 38. Front system cover installation

Removing the rear system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

1. Slide the two latches.
2. Lift the front cover.

Figure 39. Removing the rear system cover

Next steps

Replace the rear system cover.

Installing the rear system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

Lower the rear cover until the latches clicks into place.

Figure 40. Rear system cover installation

Removing the system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

1. Slide the four latches and lift the front and rear system covers halfway.
2. Holding front and rear system covers, lift the cover away from the system .

Figure 41. Removing the system cover

Next steps

Replace the system cover.

Installing the system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

1. Align and place the system cover onto the chassis.
2. Lower the front and rear covers until the latches clicks into place.

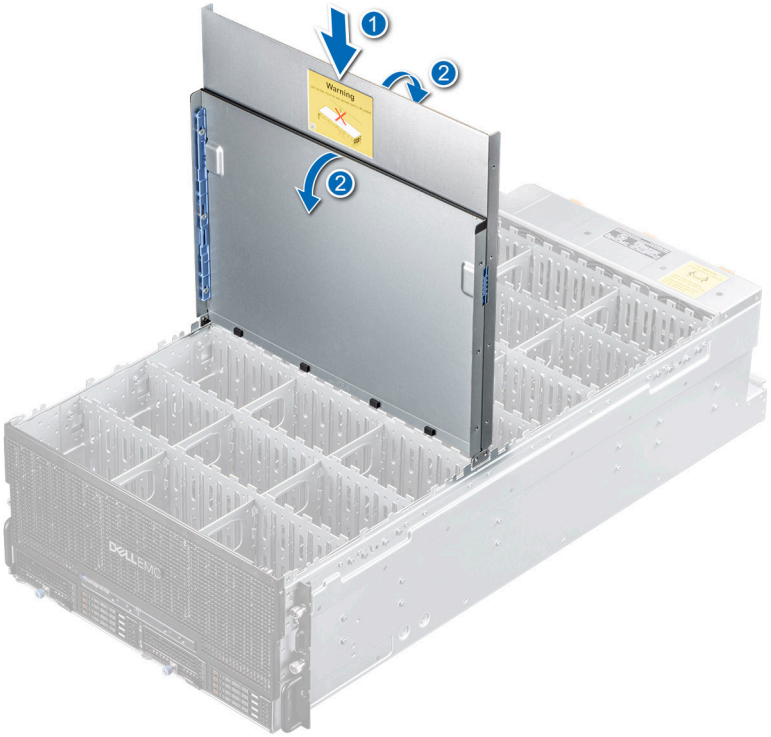

Figure 42. System cover installation

Drives

CAUTION: Before attempting to remove or install a drive while the system is running, see the documentation for the storage controller card to ensure that the host adapter is configured correctly.

CAUTION: Do not turn off or restart your system while a drive is being formatted. Doing so can cause a drive failure.

When you format a drive, allow enough time for the formatting to complete. Be aware that high-capacity drives can take a long time to format.

Removing a drive carrier

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. For drives inside the chassis, remove the system cover
4. Using the management software, prepare the drive for removal.

   If the drive is online, the green activity or fault indicator flashes while the drive is turning off. When the drive indicators are off, the drive is ready for removal. For more information, see the documentation for the storage controller.

   CAUTION: Before attempting to remove or install a drive while the system is running, see the documentation for the storage controller card to ensure that the host adapter is configured correctly to support drive removal and insertion.

   CAUTION: Mixing drives from previous generations of PowerEdge servers is not supported.

   CAUTION: To prevent data loss, ensure that your operating system supports drive installation. See the documentation supplied with your operating system.

Steps

1. Locate the hard drive to be removed and press the release button to open the drive carrier release handle.
2. Holding the handle, slide the drive carrier out of the drive slot.

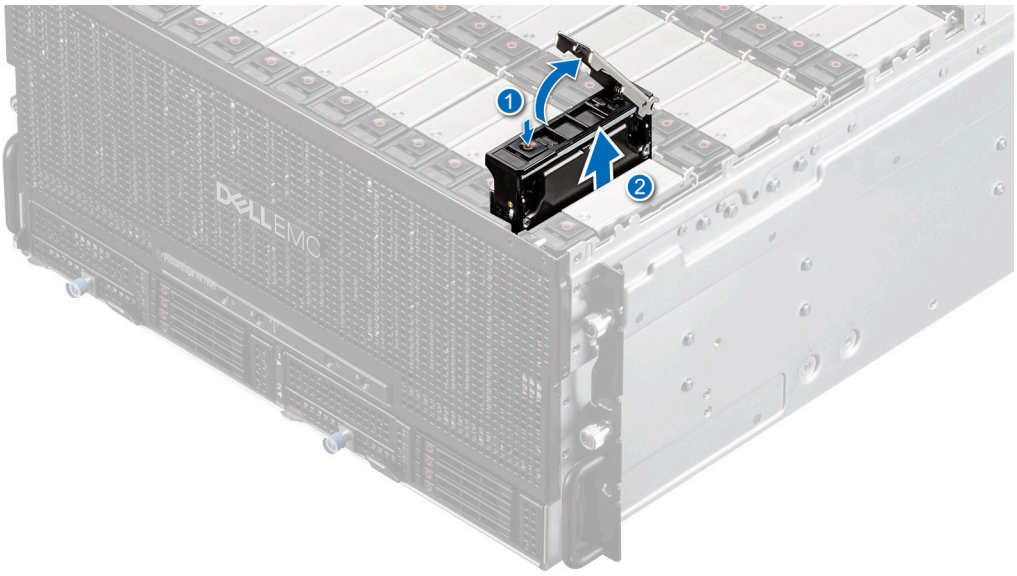

Figure 43. Removing a 3.5-inch drive carrier

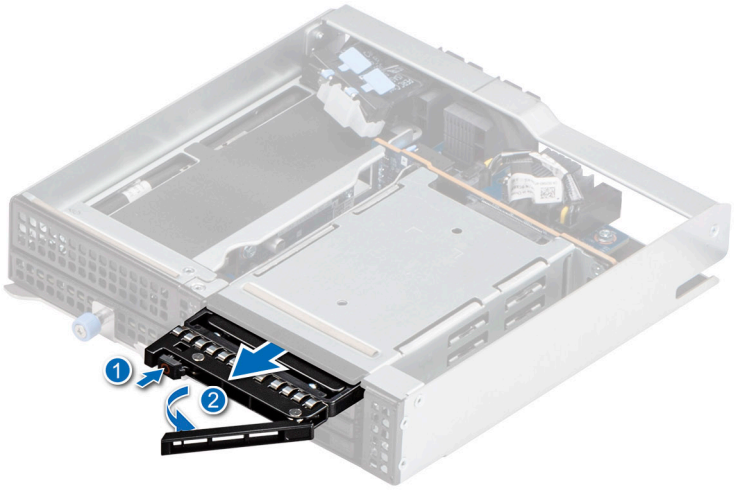

Figure 44. Removing a 2.5-inch drive carrier from expander module

Next steps

1. Follow the procedure listed in After working inside the system.
2. Install a drive carrier.
3. If you are not replacing the drive immediately, insert a drive blank in the empty drive slot to maintain proper system cooling.

Installing a drive carrier

Prerequisites

CAUTION: Before attempting to remove or install a drive while the system is running, see the documentation for the storage controller card to ensure that the host adapter is configured correctly to support drive removal and insertion.

CAUTION: Mixing drives from previous generations of PowerEdge servers is not supported.

CAUTION: Combining SAS and SATA drives in the same RAID volume is not supported.

CAUTION: When installing a drive, ensure that the adjacent drives are fully installed. Inserting a drive carrier and attempting to lock its handle next to a partially installed carrier can damage the partially installed carrier's shield spring and make it unusable.

CAUTION: To prevent data loss, ensure that your operating system supports hot-swap drive installation. See the documentation supplied with your operating system.

CAUTION: When a replacement hot swappable drive is installed and the system is powered on, the drive automatically begins to rebuild. Ensure that the replacement drive is blank or contains data that you wish to overwrite. Any data on the replacement drive is immediately lost after the drive is installed.

1. Follow the safety guidelines listed in safety instructions.
2. If applicable, remove the drive blank.

Steps

1. Press the release button on the front of the drive carrier to open the release handle.
2. Insert and slide the drive carrier into the drive slot.
3. Close the drive carrier release handle until it clicks in place.

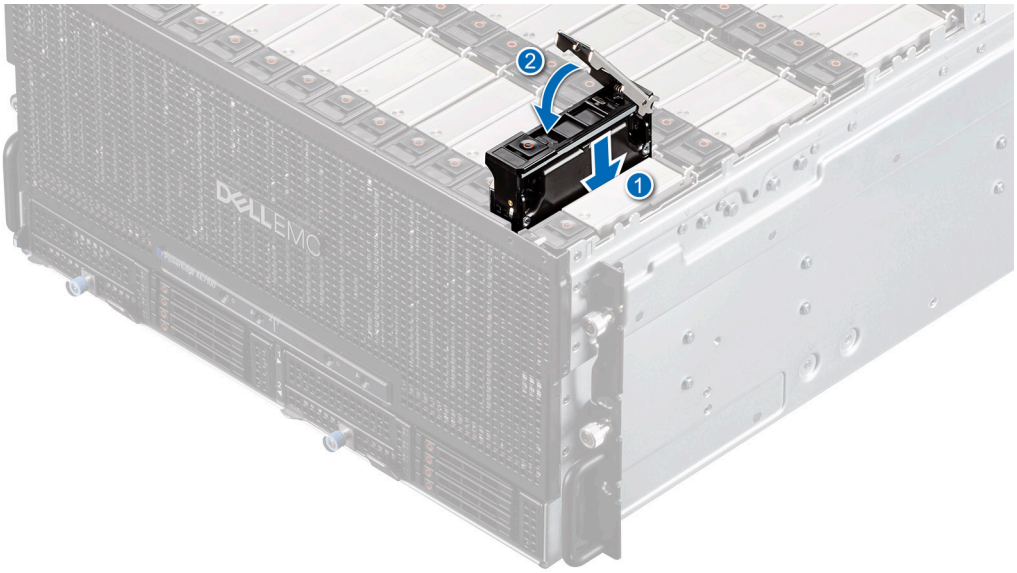

Figure 45. Installing a 3.5-inch drive carrier

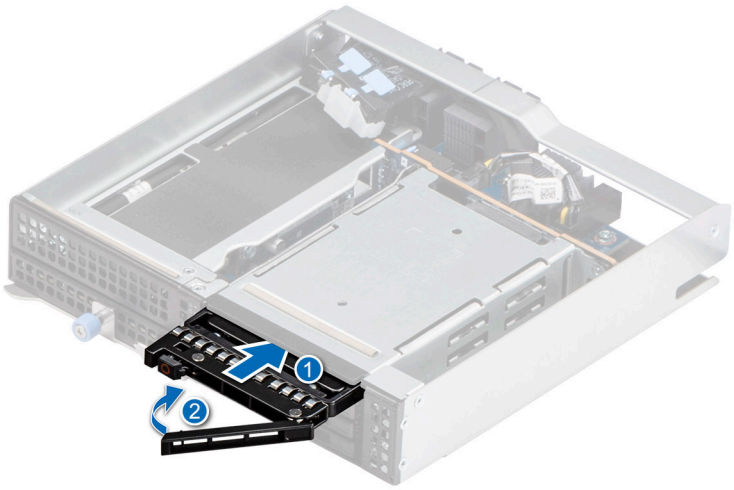

Figure 46. Installing a 2.5-inch drive carrier into the expander module

Removing the drive from the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the Safety instruction.

Steps

1. Flex the drive carrier bracket outwards.
2. Lift the drive out of the drive carrier.

Figure 47. Removing the 3.5-inch drive from the drive carrier

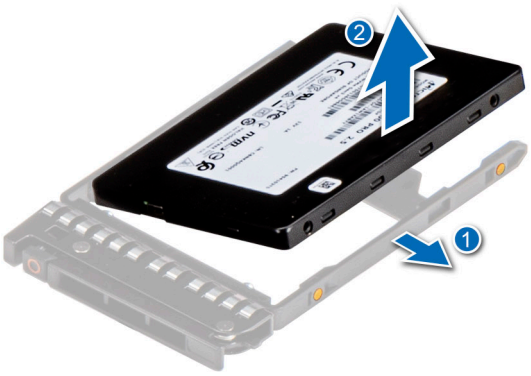

Figure 48. Removing the 2.5-inch drive from the drive carrier

Next steps

Install the drive into the drive carrier.

Installing the drive into the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. If installed, remove the drive blank.

Steps

1. Flex the drive carrier outwards.
2. Align the screw holes on the drive with the two pins on the drive carrier, and install the drive into the carrier.

Figure 49. Installing a 3.5-inch drive into the drive carrier

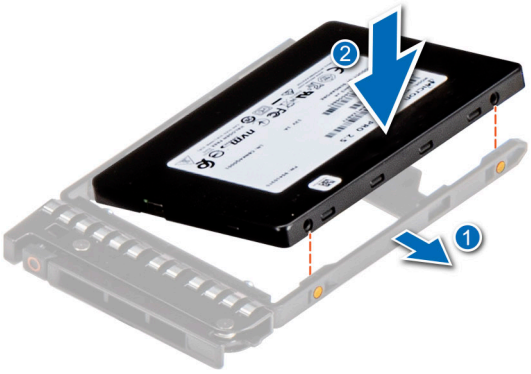

Figure 50. Installing a 2.5-inch drive into the drive carrier

Next steps

1. Install the drive carrier.

Removing a 2.5-inch drive blank

Prerequisites

1. Follow the safety guidelines listed in safety instructions.

CAUTION: To maintain proper system cooling, all empty drive slots must have drive blanks installed.

CAUTION: To maintain proper system cooling, drive blanks must be installed in all empty drive slots.

CAUTION: Mixing drive blanks from previous generations of PowerEdge servers is not supported.

Steps

1. Press the release button to open the drive carrier release handle.
2. Holding the handle, slide the drive blank out of the drive slot.

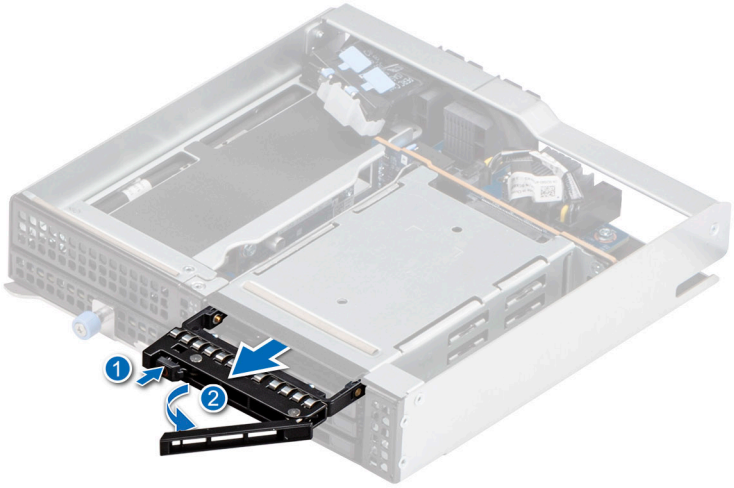

Figure 51. Removing a drive blank

Next steps

1. Follow the safety guidelines listed in safety instructions.
2. Install a drive or a drive blank.

Installing a 2.5-inch drive blank

Prerequisites

1. Follow the safety guidelines listed in safety instructions.

CAUTION: To maintain proper system cooling, all empty drive slots must have drive blanks installed.

CAUTION: To maintain proper system cooling, drive blanks must be installed in all empty drive slots.

CAUTION: Mixing drive blanks from previous generations of PowerEdge servers is not supported.

Steps

1. Press the release button on the front of the drive blank to open the release handle.
2. Insert the drive blank into the drive slot, and push the blank until the release button clicks into place.

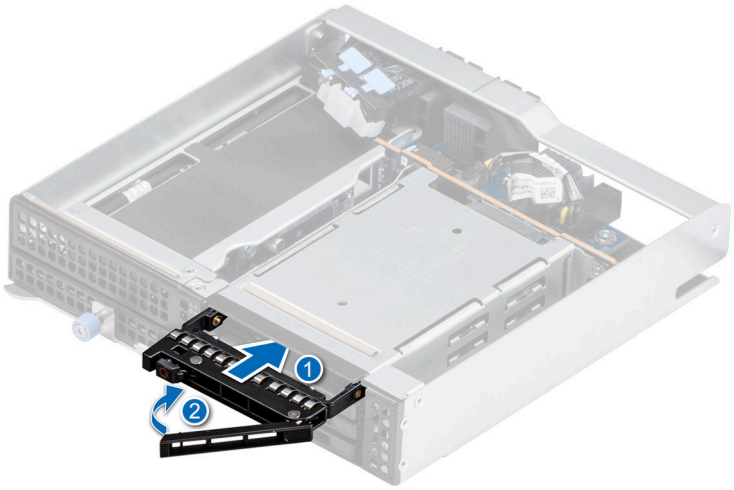

Figure 52. Installing a 2.5-inch drive blank

Power distribution board

Power distribution board is also Chassis Manager Board

Removing the power distribution board

Prerequisites

WARNING: Allow the power distribution board (PDB) to discharge after you power off the system. Handle the PDB by the edges and avoid touching the contact surfaces of the connectors.

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the power supply units.
4. Open the rear system cover.

Steps

1. Remove the two screws securing the power distribution board (PDB) module.
2. Lift the PDB module and disconnect the intrusion cable.

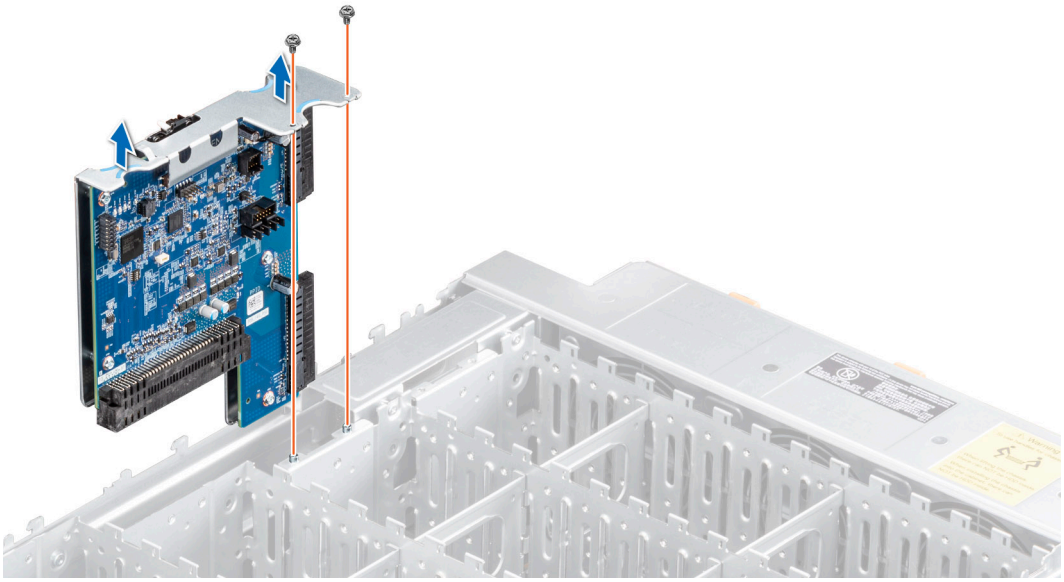

Figure 53. Removing the PDB module

3. Remove the screws securing the PDB.
4. Move the PDB away from the bracket.

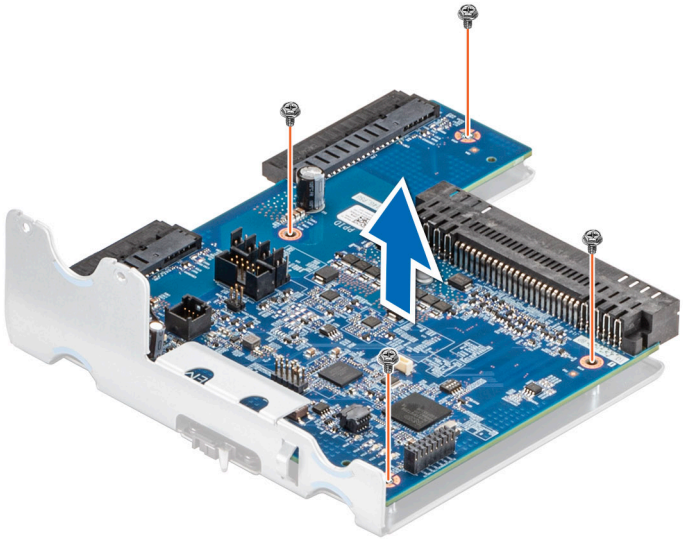

Figure 54. Removing the PDB

Next steps

1. Install the PDB.

Installing the power distribution board

Prerequisites

WARNING: Allow the power distribution board (PDB) to discharge after you power off the system. Handle the PDB by the edges and avoid touching the contact surfaces of the connectors.

1. Follow the safety guidelines listed in safety instructions.

Steps

1. Align the power distribution board (PDB) screw holes with bracket screw holes and insert the power distribution board into the bracket.
2. Secure the PDB with the five screws.
3. Connect the intrusion cable to the PDB.

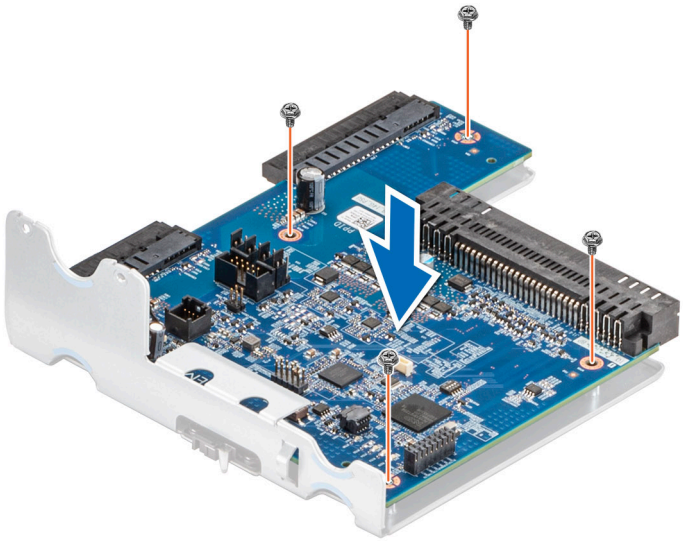

Figure 55. Installing the PDB

4. Align and lower the PDB module into the chassis.
5. Replace the two screws to secure the PDB module.

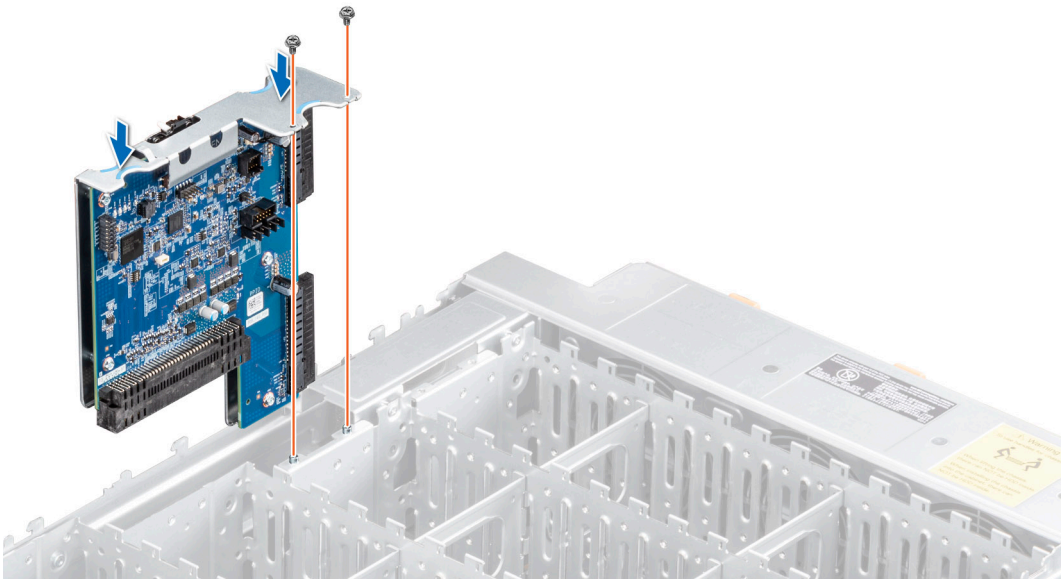

Figure 56. Installing the PDB module

Next steps

1. close the rear system cover.
2. Install the power supply units.
3. Follow the procedure listed in After working inside the system.

PERC

Removing the PERC riser

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the expander module.

Steps

1. Using the Phillips #2 screwdriver, remove the screw that secure the PERC riser to the expander module.
2. Lift the PERC riser from the expander module.

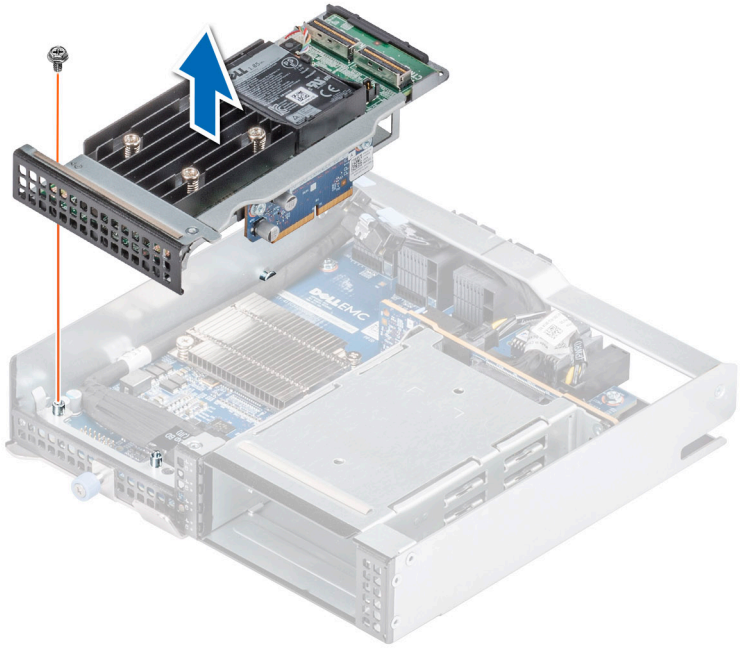

Figure 57. Removing the PERC riser

Next steps

Replace the PERC riser.

Installing the PERC riser

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Holding the edges or the touch points, align the screw holes on the riser bracket with the screw hole on the expander module.
2. Lower the PERC riser and press until the module clicks into place.
3. Tighten the screw to secure the PERC riser to the expander module.

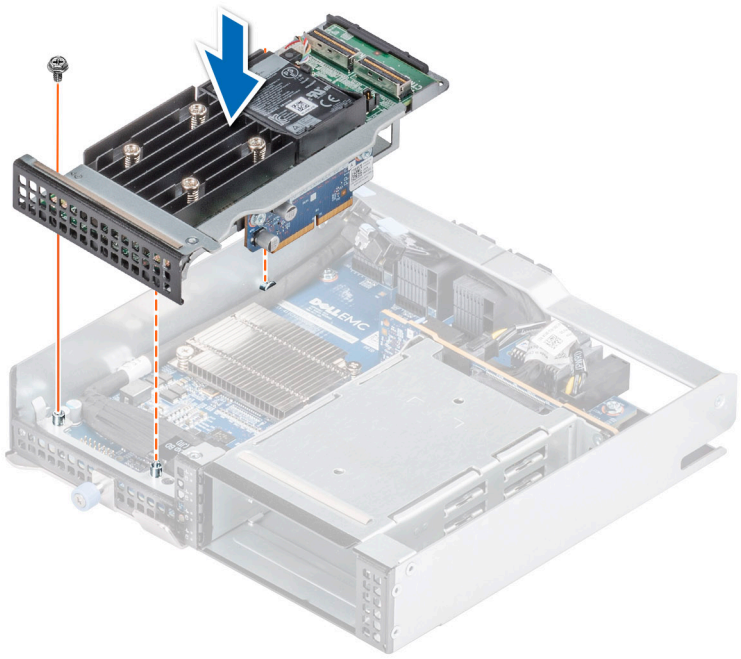

Figure 58. Installing the PERC riser

Next steps

1. Install the expander module.
2. Follow the procedure listed in After working inside the system.

Removing the PERC card

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the expander module.
4. Remove the PERC riser.
5. Disconnect all the cables from the PERC card.

Steps

Hold the PERC card by its edges, and pull the card until the card edge connector disengages from the connector on the PERC riser.

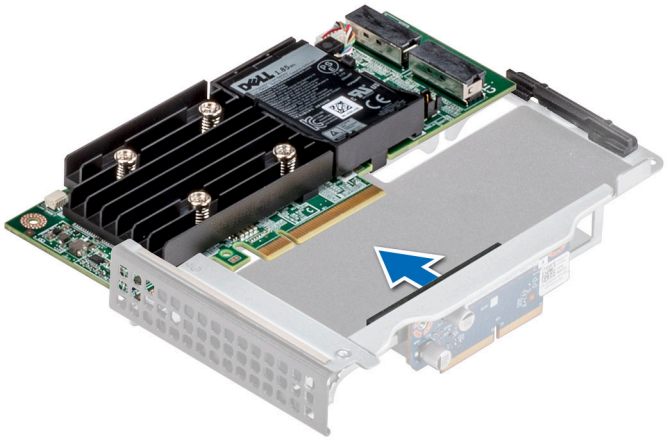

Figure 59. PERC card removal

Next steps

Replace the PERC card.

Installing the PERC card

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. If installing a new PERC card, unpack it and prepare the card for installation.

   NOTE: For instructions, see the documentation accompanying the card.

Steps

1. Hold the card by its edges, and align the card edge connector with the PERC riser connector.

   NOTE: Ensure that the edge of the card guides through the card holder.

2. Insert the card edge connector firmly into the PERC riser connector until the card is fully seated.

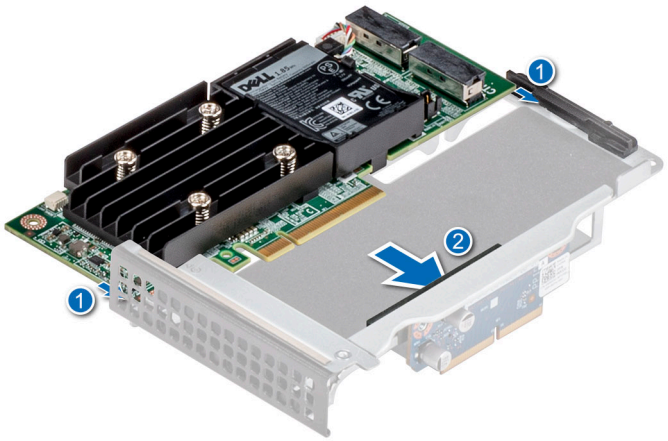

Figure 60. PERC card installation

3. if any, remove the SAS cable protective cover.

Next steps

1. Install the PERC riser.
2. Connect the cables to the connectors on the PERC.
3. Install the expander module.
4. Follow the procedure listed in After working inside the system.

.

Removing the PERC riser board

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the expander module.
4. Remove the PERC card.

Steps

1. Using the Phillips #2 screwdriver, remove the two screws that secure the PERC riser board to the PERC riser.
2. Pull the PERC riser board from the riser.

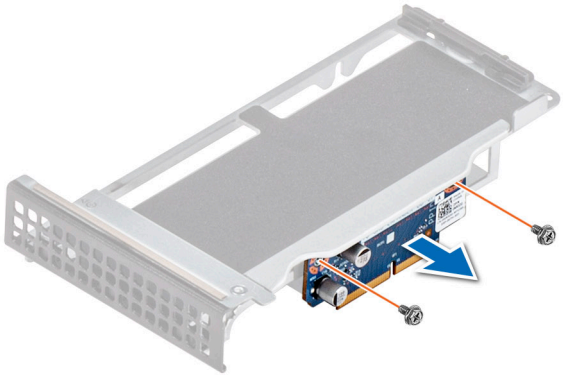

Figure 61. Removing the PERC riser board

Next steps

Replace the PERC riser board.

Installing the PERC riser board

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Align and insert the PERC riser board into the riser bracket.
2. Tighten the two screws to secure the PERC riser board to the riser.

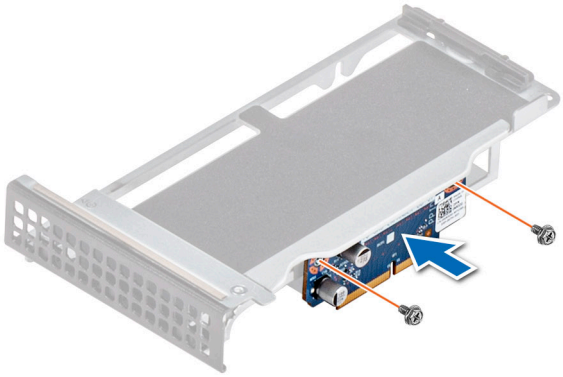

Figure 62. Installing the PERC riser board

Next steps

1. Install te PERC card.
2. Install the expander module.
3. Follow the procedure listed in After working inside the system.

Drive cage

Removing the 3.5 inch drive cage

Prerequisites

CAUTION: To prevent damage to the drives and backplane, you must remove the drives from the system before removing the backplane.

CAUTION: You must note the slot number of each drive and temporarily label them before removal so that you can replace them in the same slots.

NOTE: Observe the routing of the cables on the chassis as you remove them from the system. You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the system cover.
4. Remove all the drives.
5. Remove the power supplies.
6. Remove the power distribution board.

Steps

1. Using the Phillips #1 screwdriver, remove the 24 screws that secure the drive cage to the chassis.
2. Loosen 18 captive screws on the cage.
3. Lift the front/rear drive cage away from the enclosure.

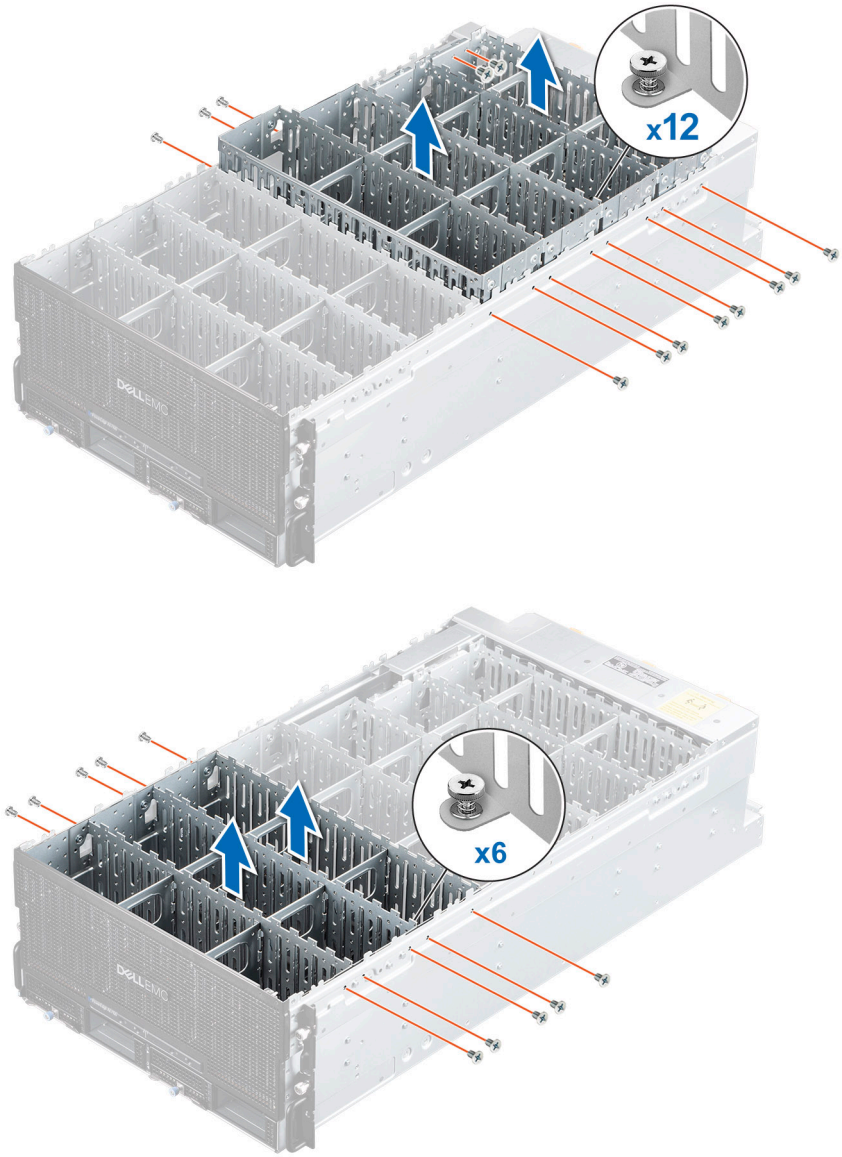

Figure 63. Removing the drive cage

Next steps

1. Install the drive cage.

Installing the drive cage

Prerequisites

CAUTION: To prevent damage to the drives and backplane, you must remove the drives from the system before removing the backplane.

CAUTION: You must note the number of each drive and temporarily label them before removal so that you can replace them in the same locations.

Follow the safety guidelines listed in safety instructions.

Steps

1. Insert the front/rear drive cage into the enclosure, aligning the drive cage with the standoffs on the chassis.

2. Using the Phillips #1 screwdriver, secure the drive cage in place with the 24 screws.
3. Tighten the 18 captive screws.

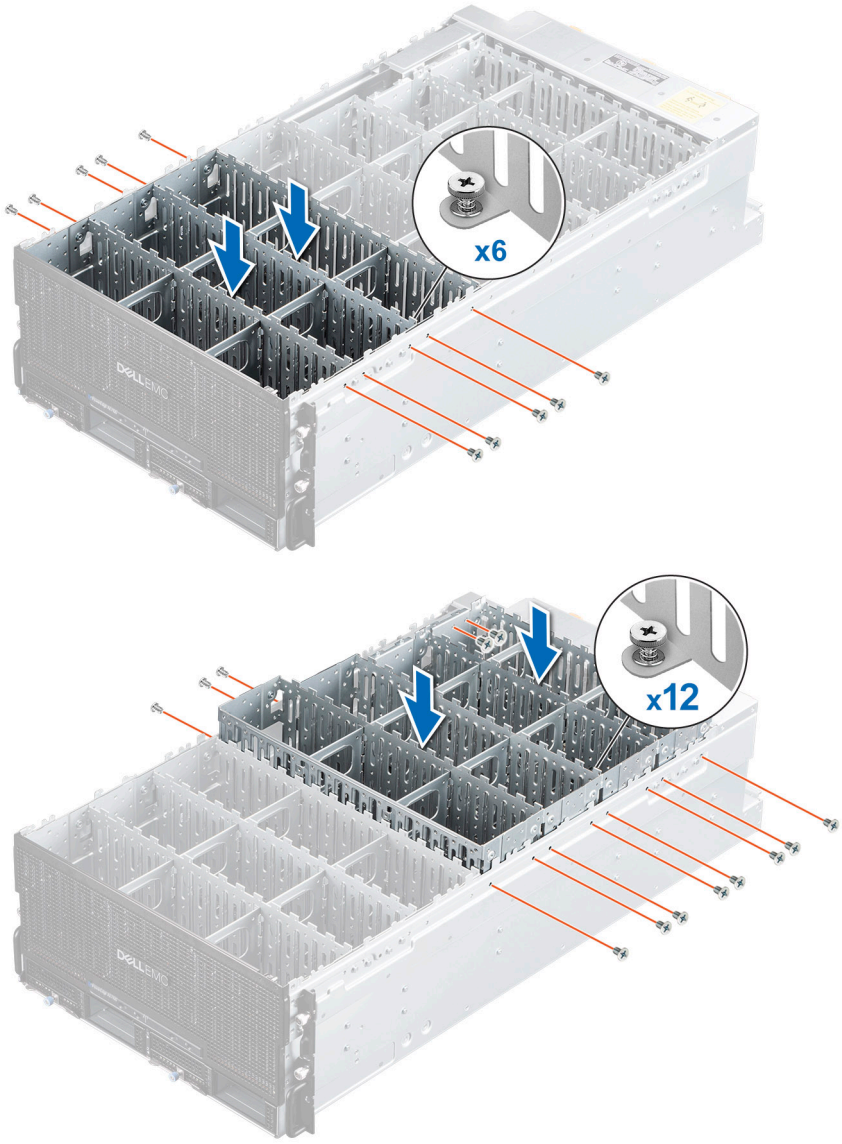

Figure 64. Installing the drive cage

Next steps

1. Install the power distribution board.
2. Install the power supplies.
3. Install all the drives.
4. Install the system cover.
5. Follow the procedure listed in After working inside the system.

Backplanes and expander board

Backplane

The following pages contain information about the backplane and middle plane connectors.

The image below shows the 3.5-inch hard drive backplane board:

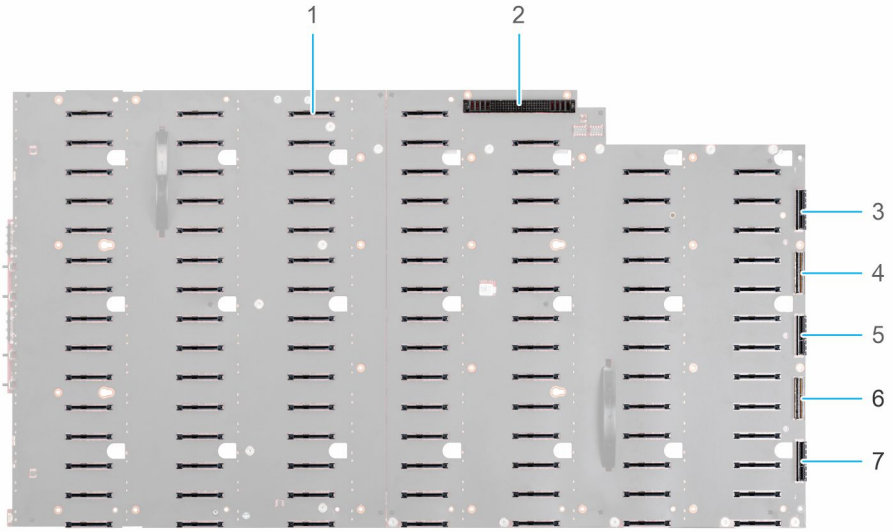

Figure 65. 3.5-inch hard drive backplane

1. 3.5-inch HDD connector
2. PDB/Chassis manager board connector
3. Fan connector 1/2
4. SAS/SATA connector
5. Fan connector 3/4
6. SAS/SATA connector
7. Fan connector 5/6

The image below shows the 2.5-inch hard drive backplane:

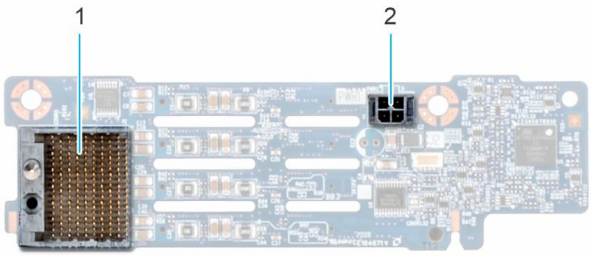

Figure 66. 4 x 2.5-inch hard drive backplane

1. Midplane connector for link x8 PCIE (Gen3) for 2.5 inches NVMe SSD and Link x4 SAS/SATA for 2.5 inches SSD
2. Power connector for link power P12V_25_BP from SAS expander board

SAS Expander board

The image below shows the Expander board:

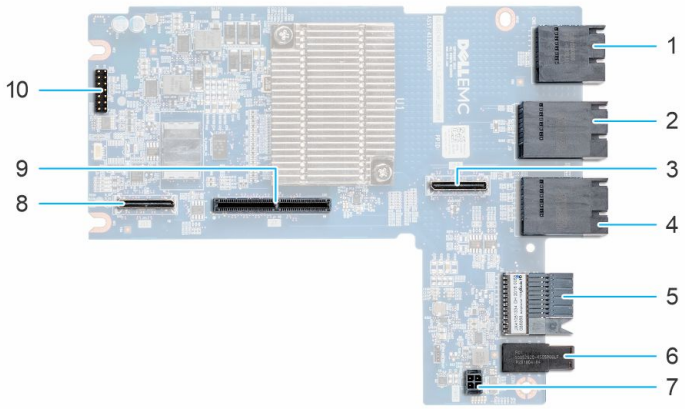

Figure 67. SAS Expander board

1. SAS/SATA connector to 3.5-inch HDD backplane
2. SAS/SATA connector to 3.5-inch HDD backplane
3. SFF standard x8 OCulink connector
4. SAS/SATA connector to 3.5-inch HDD backplane
5. Link x8 PCIe (Gen3) for PERC or raid card
6. Contact power P12V_NODE with mid-plane
7. Power connector for P12V_25_BP to 2.5 inches SSD backplane
8. SFF standard x8 OCulink connector
9. Riser connector for PCIe (Gen3) PERC or raid card
10. JTAG connector

3.5-inch hard drive mapping

The following image contains information about the 3.5-inch hard drive mapping.

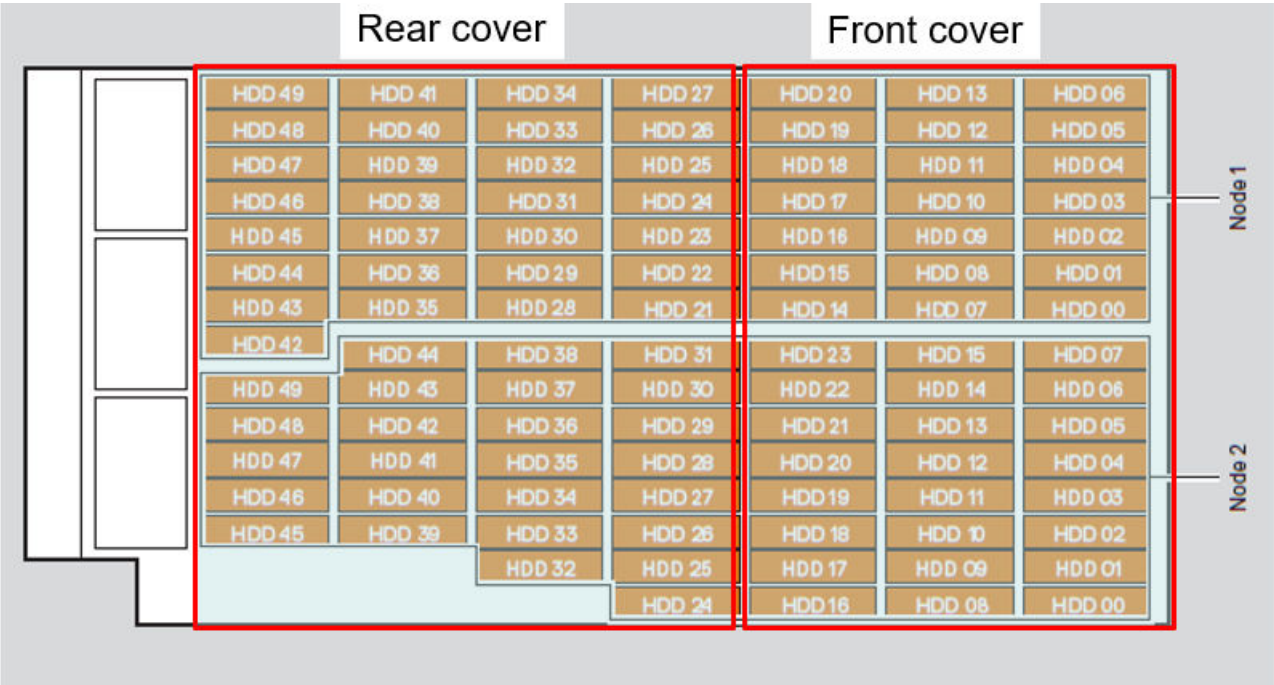

Figure 68. 3.5-inch hard drive mapping

Removing the 2.5-inch hard drive backplane

Prerequisites

CAUTION: To prevent damage to the drives and backplane, you must remove the drives from the system before removing the backplane.

CAUTION: You must note the slot number of each drive and temporarily label them before removal so that you can replace them in the same slots.

NOTE: Observe the routing of the cables on the chassis as you remove them from the system. You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the expander module.
4. Disconnect all the cables from the backplane.

Steps

1. Using the Phillips #2 screwdriver, remove the two screws that secure the backplane to the expander module.
2. Lift the backplane away from the expander module.

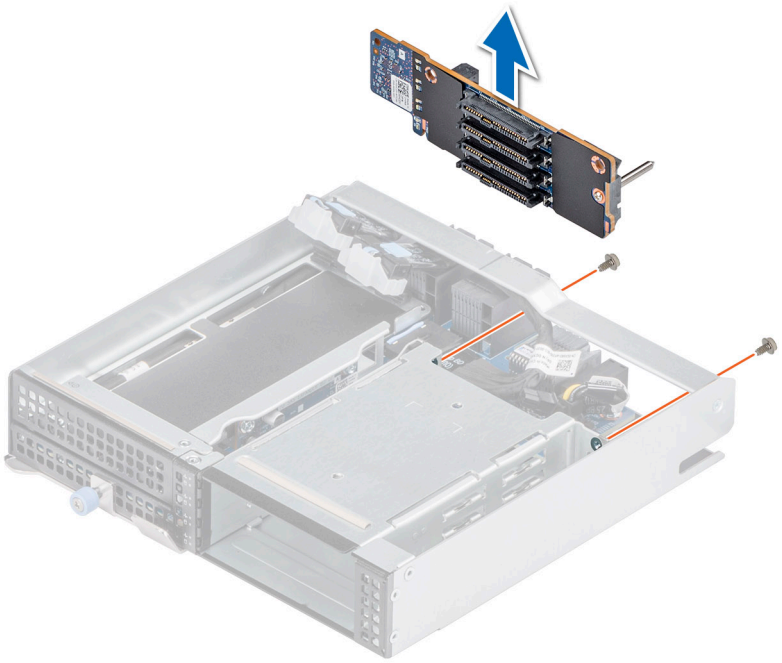

Figure 69. Removing the backplane

Next steps

1. Install the 2.5-inch hard drive backplane.

Installing the backplane

Prerequisites

CAUTION: You must note the slot number of each drive and temporarily label them before removal so that you can replace them in the same slots.

NOTE: Observe the routing of the cables on the chassis as you remove them from the system. You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

Follow the safety guidelines listed in safety instructions.

Steps

1. Place the backplane on the expander module, aligning the screw holes on the backplane with the holes on the drive cage.
2. Using the Phillips #2 screwdriver, replace the two screws to secure the backplane to the drive cage of expander module.

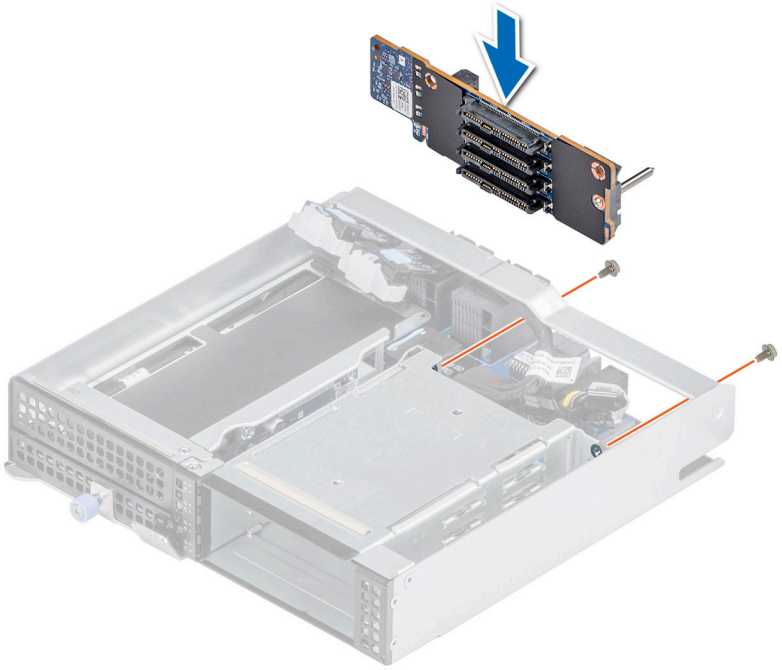

Figure 70. Installing the backplane

Next steps

1. Reconnect all the disconnected cables.
2. Install the expander module.
3. Follow the procedure listed in After working inside the system.

Removing the backplane/midplane assembly

Prerequisites

NOTE: To prevent damage to the drives and backplane, you must remove the drives from the system before removing the backplane.

NOTE: Observe the routing of the cable on the chassis as you remove them from the system. You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3.
4. Remove the system cover.
5. Remove all the drives.
6. Remove the power supplies.
7. Remove all the sleds.
8. Remove the expander module.
9. Remove the power distribution board.

10. Remove all the system fans.
11. Remove the fan cage.
12. Remove the fan control board module.
13. Remove the drive cage.
14. Disconnect all the cables connecting to backplane/midplane assembly board.

Steps

1. Using the Phillips #1 screwdriver, remove the 24 screws on the backplane and the four screws on the sides of the chassis securing the backplane to the chassis.
2. Holding the plastic handle, slide the backplane towards the rear.
3. Holding the plastic handle, lift the backplane/midplane assembly board from the chassis.

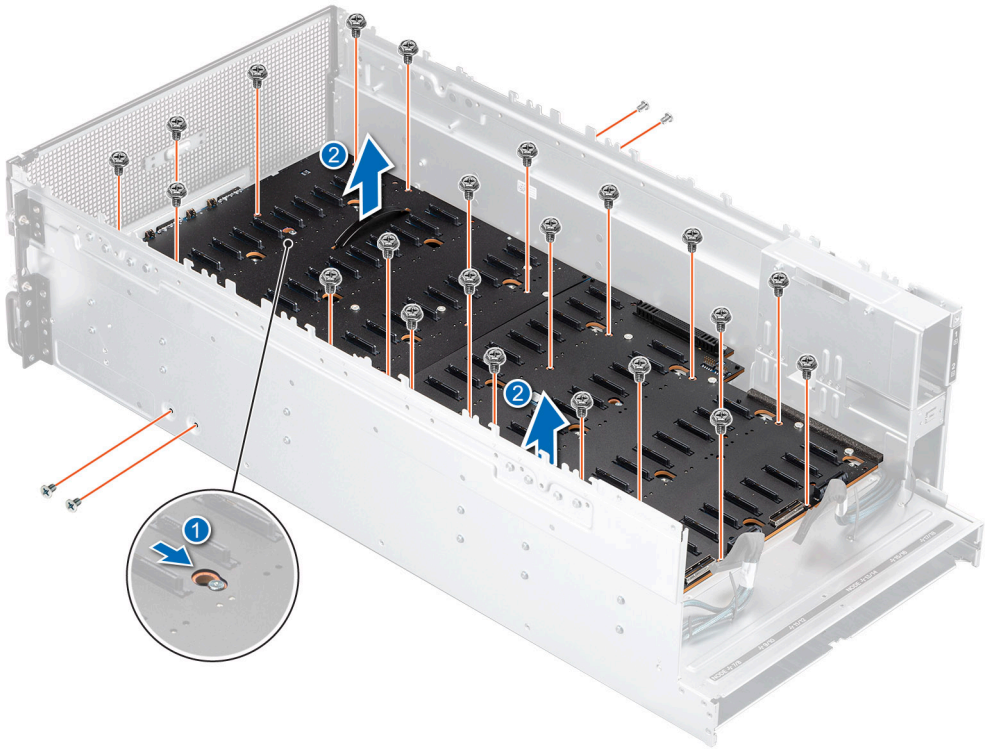

Figure 71. Removing the backplane/midplane assembly

Next steps

1. Install the hard drive backplane module.

Installing the backplane/midplane assembly

Prerequisites

NOTE: Observe the routing of the cable on the chassis as you remove them from the system. You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

NOTE: The backplane expander board is only available with 24 x 2.5-inch drives with NVMe configuration.

1. Follow the safety guidelines listed in safety instructions.

Steps

1. Holding the plastic handle, align and lower the backplane/midplane assembly to the system chassis.

CAUTION: Be careful regarding the control panel LEDs while installing the backplane to the chassis.

2. Holding the plastic handle, slide the backplane towards the front until the chassis guide pins are secure.

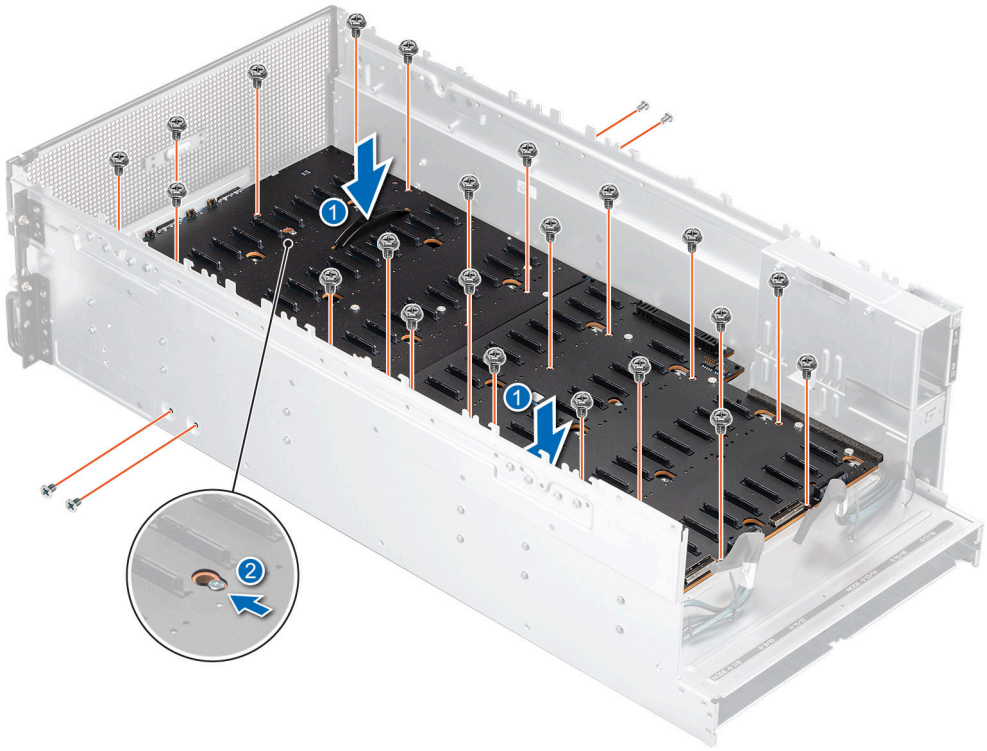

Figure 72. Installing the backplane/midplane assembly

3. Replace the 24 screws on the backplane and four screws on the sides of the chassis to secure the backplane/midplane assembly to the chassis.
4. Connect all the cables to the connectors on the backplane board.

Next steps

1. Install the drive cage.
2. Install the fan control board.
3. Install the fan cage.
4. Install the system fans.
5. Install the power distribution board.
6. Install the power supplies.
7. Install the expander module
8. Install the sleds.
9. Install all the drives.
10. Install the system cover.
11. Follow the procedure listed in After working inside the system.

Intrusion switch module

Removing the front intrusion switch

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

3. Remove the front system cover.
4. Remove the front drive cage .

Steps

1. Disconnect and remove the intrusion switch cable from the connector on the system board.

   Observe the routing of the cable as you remove it from the chassis.

2. Remove the screws securing the switch bracket and move it away from the chassis.
3. Remove the intrusion switch from the chassis.

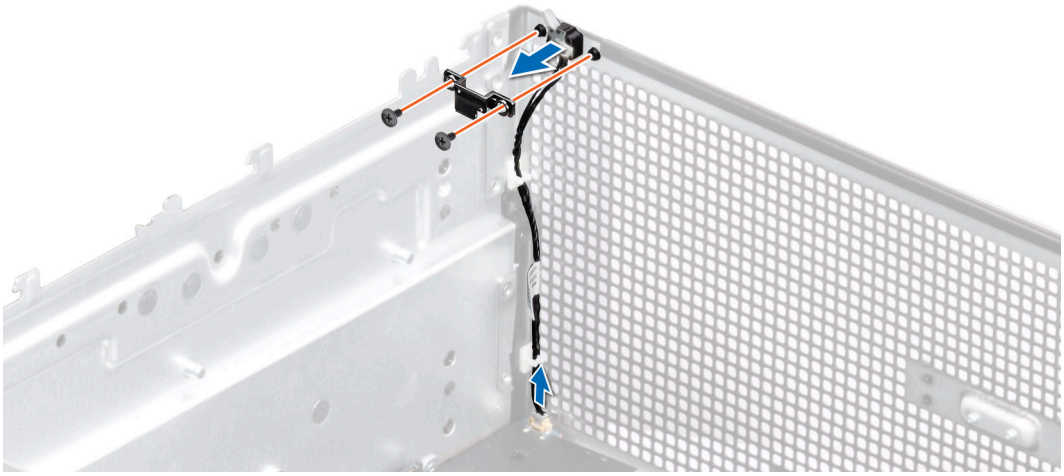

Figure 73. Front intrusion switch removal

Next steps

Replace the front intrusion switch.

Installing the intrusion switch

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the front system cover.
4. Remove the front drive cage .

Steps

1. Align and insert the intrusion switch in the slot until it is firmly seated in the slot on the system.

   NOTE: Route the cable properly when you replace it to prevent the cable from being pinched or crimped.

2. Replace the screws to secure the switch bracket to the chassis.
3. Connect the intrusion switch cable to the connector on the system board.

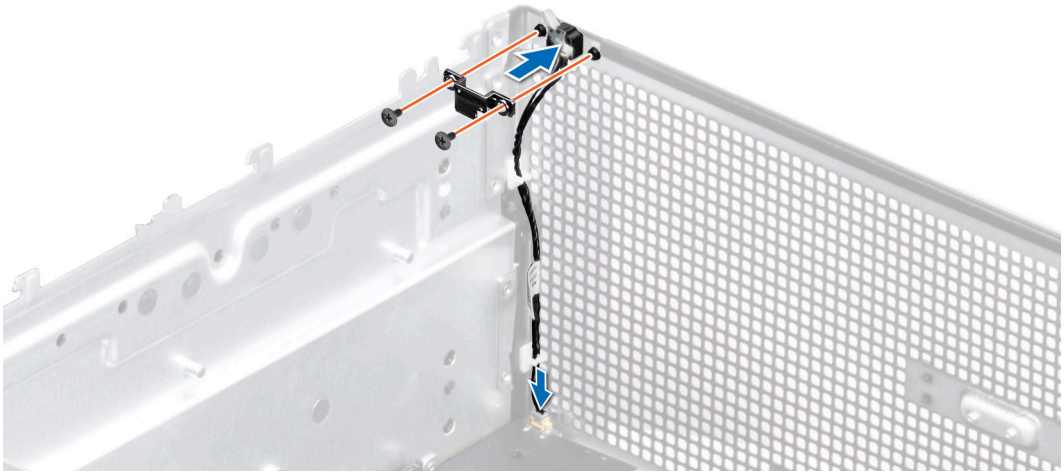

Figure 74. Front intrusion switch installation

Next steps

1. Install the front system cover.
2. Install the front drive cage.
3. Follow the procedure listed in After working inside your system.

Removing the rear intrusion switch

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the rear system cover.
4. Remove the rear drive cage
5. Remove the PDB.

Steps

1. Disconnect and remove the intrusion switch cable from the connector on the system board.

   Observe the routing of the cable as you remove it from the chassis.

2. Remove the screws securing the switch bracket to the PDB module and move it away from the module.
3. Remove the intrusion switch from the chassis.

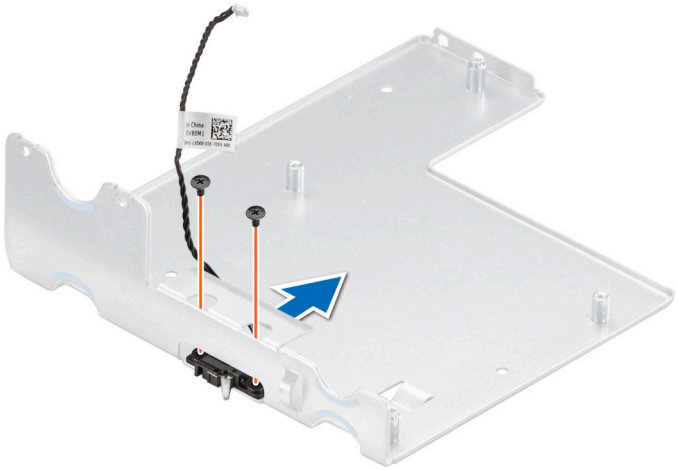

Figure 75. Rear intrusion switch removal

Next steps

Replace the rear intrusion switch.

Installing the rear intrusion switch

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the rear system cover.
4. Remove the rear drive cage
5. Remove the PDB.

Steps

1. Align and slide the intrusion switch in the slot until it is firmly seated in the slot on the system.

   NOTE: Route the cable properly when you replace it to prevent the cable from being pinched or crimped.

2. Replace the screws to secure the switch bracket to the PDB module.
3. Connect the intrusion switch cable to the connector on the system board.

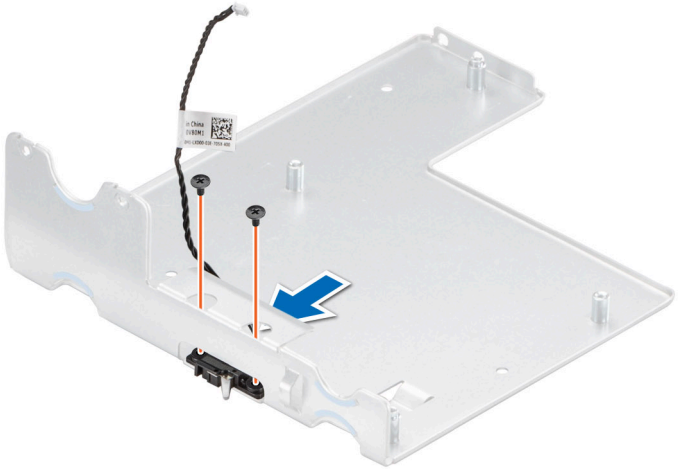

Figure 76. Rear intrusion switch installation

Next steps

1. Install the PDB.
2. Install the rear system cover.
3. Install the rear drive cage.
4. Follow the procedure listed in After working inside your system.

Chassis handle

Removing the handle

Prerequisites

1. Follow the safety guidelines listed in safety instructions.
2. Follow the procedure listed in the Before working inside your system.

Steps

1. Unlock the handle by plunger.
2. Slide the handle downwards and pull the handle away from the chassis.

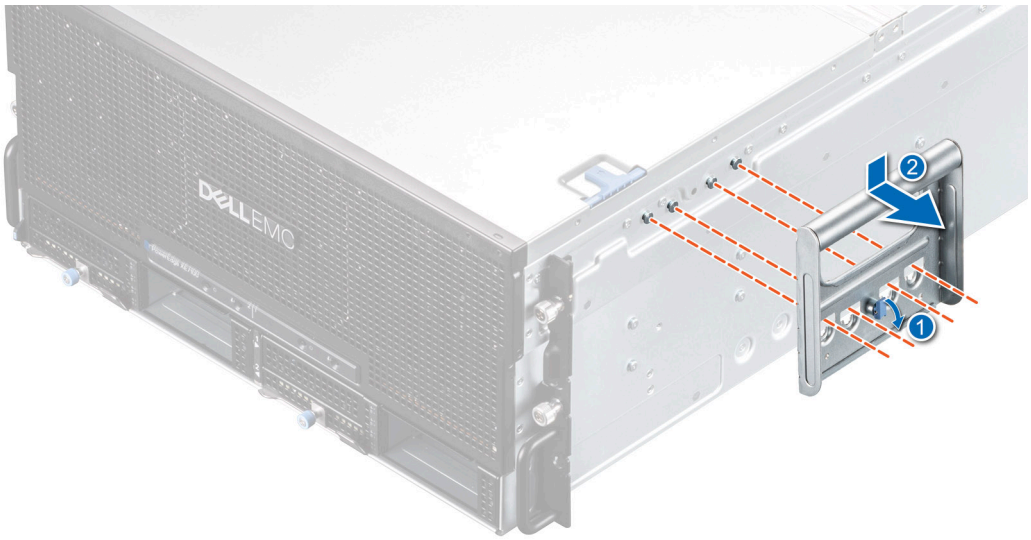

Figure 77. Removing the handle

Next steps

1. Install the handle.

Installing the handle

Prerequisites

1. Follow the safety guidelines listed in safety instructions.

Steps

Align and lift the handle until the click sound is heard when seated properly.

NOTE: Install all the four handles simultaneously on the chassis to lift the system.

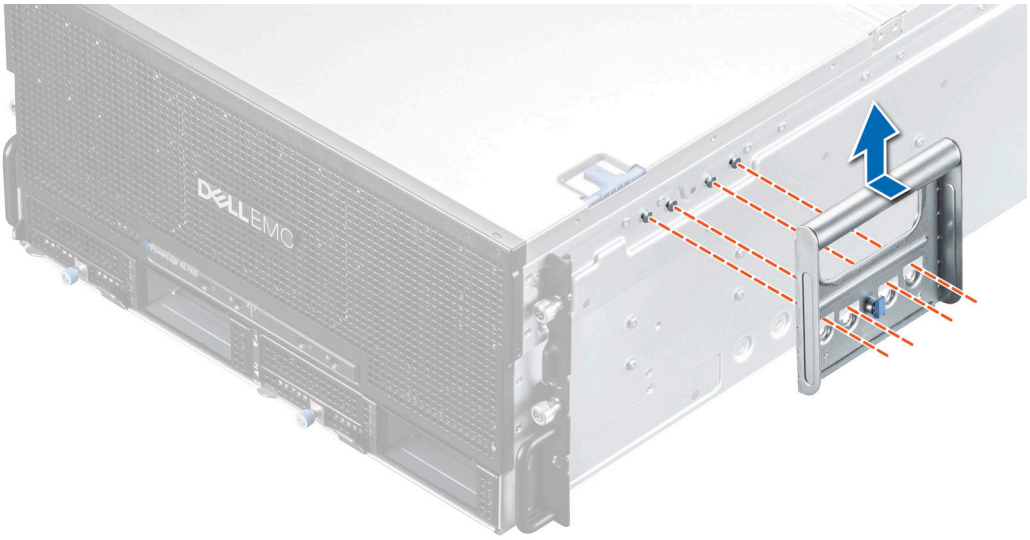

Figure 78. Installing the handle

Next steps

1. Follow the procedure listed in After working inside the system.

5

Technical specifications

The technical and environmental specifications of your system are outlined in this section.

Topics:

Dimensions of the PowerEdge XE7100

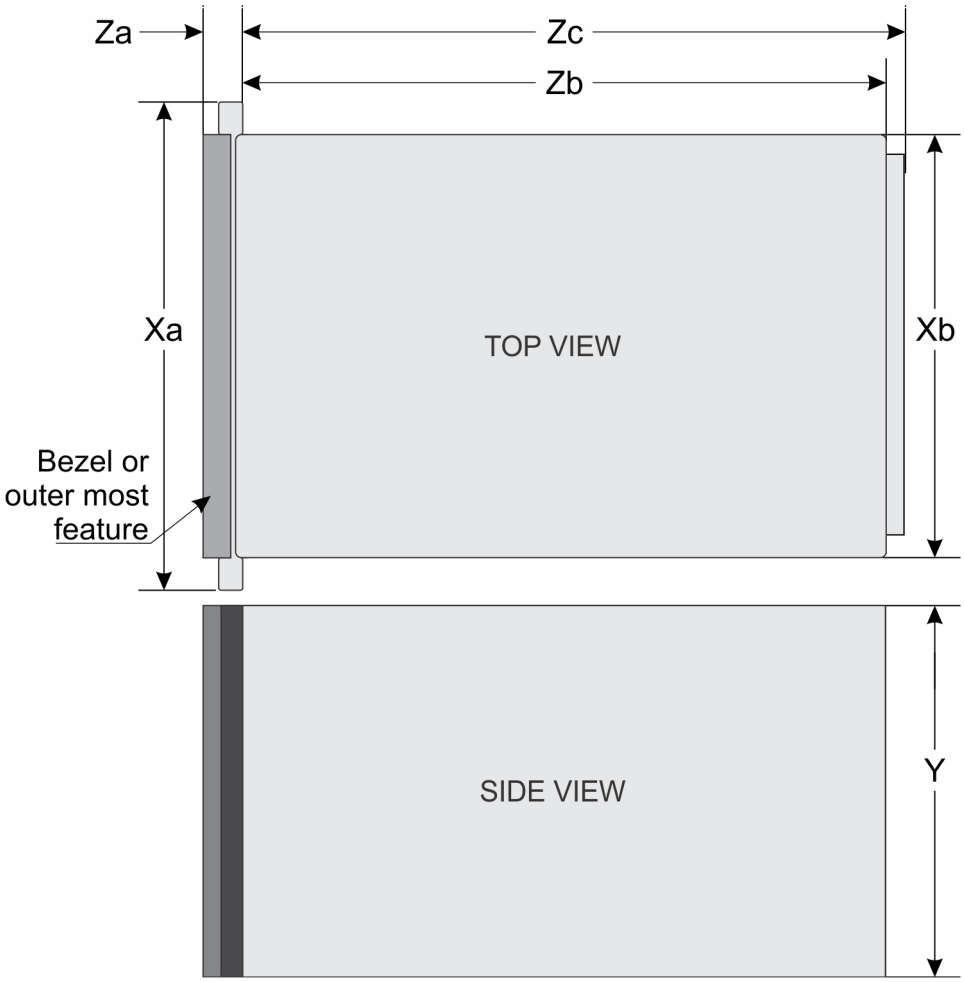

Figure 79. Dimensions of PowerEdge XE7100 enclosure

Table 5. Dimensions of the PowerEdge XE7100 enclosure

Xa	Xb	Y	Za	Zb	Zc
482 mm (18.97 inches)	434 mm (17.08 inches)	219.25 (8.63 inches)	48.5 mm (1.9 inches)	823.5 mm (32.42 inches)	871.5 mm (34.31 inches)

Chassis weight

Table 6. Chassis weight of the PowerEdge XE7100 enclosure with PowerEdge XE7440 and XE7420 sleds

System	Maximum weight (with all sleds and drives)
Chassis weight without sled	132.26 Kg (291.58 lb)
Chassis weight with half-width sled (XE7420)	137.12 Kg (302.29 lb)
Chassis weight with full- width full-height sled (XE7440).	140.93 Kg (310.69 lb)
Chassis weight with full- width low-profile sled (XE7440)	142.81 Kg (341.84 lb)

PSU specifications

The PowerEdgeXE7100 enclosure supports two AC power supply units (PSUs).

Table 7. PSU specifications

PSU wattage	Class	Heat dissipation (maximum)	Frequency	Voltage	Maximum input current
2400 W AC	Platinum	9000 BTU/hr	50/60 Hz	200-240 V AC, autoranging	16 A

NOTE: Heat dissipation is calculated using the PSU wattage rating.

NOTE: This system is also designed to connect to the IT power systems with a phase to phase voltage not exceeding 240 V.

PSU redundancy

The PowerEdge XE7100 supports 1+1 redundancy mode.

- In case of a single PSU failure on a fully loaded configuration in 1+1 redundancy mode, system performance may degrade due to power capping.
- Replace the faulty PSU for optimal performance and to resume the 1+1 redundancy mode.

Cooling specifications

The PowerEdge XE7100 chassis with two PowerEdge XE7420 nodes/sleds or one PowerEdge XE7440 node/sled has 18 fans. These are divided into three fan zones (Chassis, Node_A, and Node_B), and each zone has six fans.

The chassis fans are single rotor fans, and sled fans are dual rotor fans.

For Half-Width (HW) sled, sled 1 is Node 1 and sled 2 is Node 2.

Table 8. Fan numbering

PowerEdge systems	Fan numbering
XE7100 - Chassis	1–6
XE7440 (Single sled)	7–12 , 13-18
XE7420 (Dual sleds)	Node_A: 7–12 , Node_B: 13-18

NOTE: The reading and reporting of fan sensors are in the order of chassis fans, Node_A and Node_B fans, and sensors numbering is 1-6, 7-12 and 13-18 respectively.

- For XE7420, the sled 1/ node 1 reports six chassis fan sensors (1-6) and sled 1 fan sensors (7-12).
- For XE7420, the sled 2/ node 2 reports six chassis fan sensors (1-6) and sled 2 fan sensors (13-18).

Cooling fan-mapping

Table 9. Cooling fan-mapping

Fan name and configuration	iDRAC sensor number
(Chassis) FAN 1	38
FAN 2	39
FAN 3	3A
FAN 4	3B
FAN 5	3C
FAN 6	3D
(Node_A) FAN 7	3E
FAN 8	3F
FAN 9	40
FAN 10	41
FAN 11	42
FAN 12	43
(Node_B) FAN 13	44
FAN 14	45
FAN 15	46
FAN 16	47
FAN 17	E2
FAN 18	E3

NOTE: All the numbering are embossed on each fan.

Thermal recommendations

- After one fan rotor failure, you must estimate the fan service time while the system is under steady state.
- It is recommended to limit the minimum service time under 500 seconds.

NOTE: For PSU and hard drive no limit is required for the service time.

Power distribution board

Power distribution board (PDB) is also the chassis manager board.

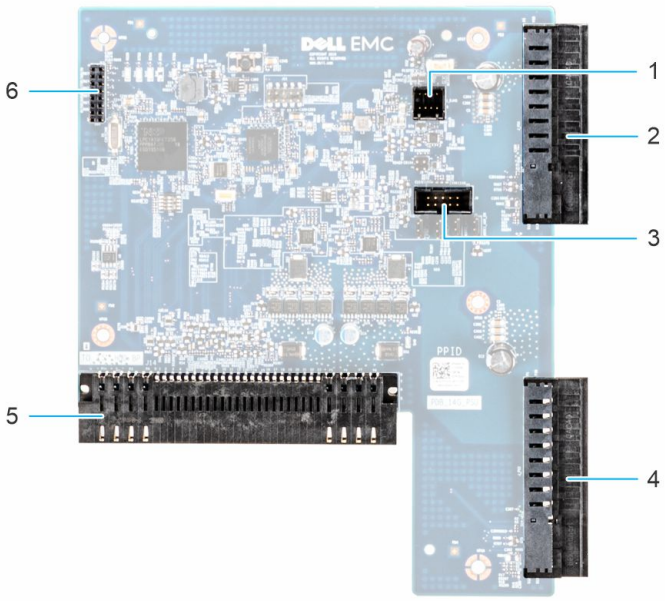

Figure 80. PDB/Chassis management board specifications

1. Intrusion cable connector
2. Power supply unit connector 1
3. Serial console connector
4. Power supply unit connector 2
5. Power connector to the HDD backplane/midplane board
6. JTAG connector

Drives and storage specifications

The PowerEdge XE7100 enclosure supports SAS and SATA hard drives and Solid State Drives (SSDs).

Table 10. Supported drive options for the PowerEdgeXE7100 enclosure

Maximum number of drives in the enclosure	Maximum number of drives assigned per sled
100 x 3.5-inch drive systems	50 SAS or SATA hard drives and SSDs per sled
4 x 2.5-inch drive systems	Four SAS or SATA hard drives and SSDs per sled
4 x 2.5-inch drive systems with NVMe	The NVMe backplane supports either of these configurations: ● Two NVMe drives and two SAS or SATA hard drives or SSDs per sled
M.2 SATA drive (optional)	The supported capacity of the M.2 SATA card is up to 240 GB **NOTE:** The M.2 SATA card can be installed on the x8 (slot 1) mezzanine riser or the x16 riser slot (slot 5).
Micro-SD card (optional) for boot (up to 64 GB)	One on each PCIe riser of each sled

Installation recommendation for 2.5-inch SSD (7mm) in expander module

- Install HDDs on slots 0, 1, 2, 3
- HDD slots 0 and 1 supports only SATA SSD
- HDD slots 2 and 3 support NVMe and SATA SSDs

Expander module

Dell PowerEdge XE7100 supports up to two expander modules.

Each expander module supports:

- One Microsemi PM8056 SAS expander chip
- Two 2.5 inch slim 7 mm SATA SSDs + two 2.5 inch slim 7 mm NVMe SSDs
- Supports PERC H745P and HBA355i

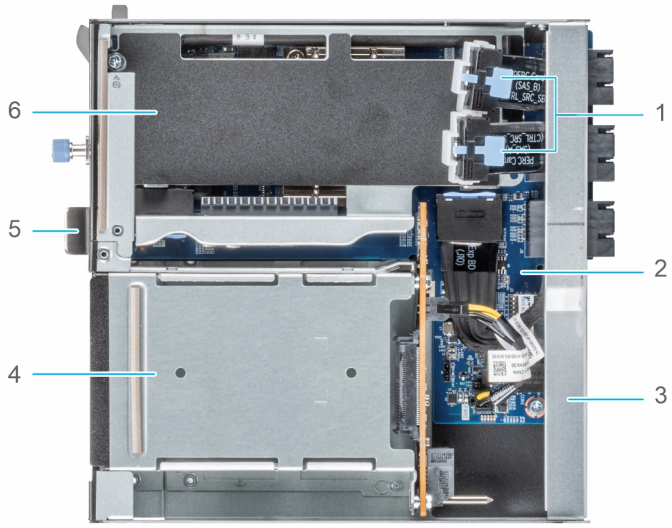

Figure 81. Inside view of Expander module

1. SAS cables
2. Expander board
3. Cross bar bracket
4. SSD cage
5. Pull out lever
6. PERC riser

Environmental specifications

The sections below contains information about the environmental specifications of the system.

NOTE: For additional information about environmental certifications, please refer to the Product Environmental Datasheet located with the Manuals & Documents on www.dell.com/poweredgemanuals

Standard operating temperature specifications

NOTE: All components including the DIMMs, communication cards, M.2 SATA, and PERC cards can be supported with sufficient thermal margin if the ambient temperature is equal to or below to the maximum continuous operating temperature listed in these tables except for the Mellanox DP LP card and Intel Rush Creek card.

Table 11. Standard operating temperature specifications

Standard operating temperature	Specifications
Temperature ranges (for altitude less than 900 m or 2953 ft)	10°C–35°C (50°F–95°F) with no direct sunlight on the equipment.

Expanded operating temperature specifications

NOTE: When operating in the expanded temperature range, system performance may be impacted.

NOTE: When operating in the expanded temperature range, ambient temperature warnings may be reported in the System Event Log.

Operating temperature derating specifications

Table 12. Operating temperature

Operating temperature derating	Specifications
≤ 35°C (95°F)	Maximum temperature is reduced by 1°C/300 m (1.8°F/984 ft) above 900 meters (2953 ft).
35°C–40°C (95°F–104°F)	Maximum temperature is reduced by 1°C/175 m (1.8°F/574 ft) above 900 meters (2953 ft).
40°C–45°C (104°F–113°F)	Maximum temperature is reduced by 1°C/125 m (1.8°F/410 ft) above 900 meters (2953 ft).

Relative humidity specifications

Table 13. Relative humidity specifications

Relative humidity	Specifications
Storage	5% to 95% RH with 27°C (80.6°F) maximum dew point. Atmosphere must be noncondensing always.
Operating	• < 35°C (95°F): 8% RH with -12°C minimum dew point to 80% RH with 21°C (69.8°F) maximum dew point. • 35°C–40°C (95°F–104°F): 8% RH with -12°C minimum dew point to 85% RH with 24°C (75.2°F) maximum dew point. • 40°C- 45°C(104°F–113°F): 8% RH with -12°C minimum dew point to 90% RH with 24°C (75.2°F) maximum dew point

Temperature specifications

Table 14. Temperature specifications

Temperature	Specifications
Storage	–40°C–65°C (–40°F to 149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C–35°C (50°F to 95°F) with no direct sunlight on the equipment.
Expanded operating temperature	For information about expanded operating temperature, see Expanded Operating Temperature section.
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

NOTE: Some configurations require a lower ambient temperature for more information, see the Standard operating temperature specifications.

Particulate and gaseous contamination specifications

Table 15. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.
NOTE: This condition applies only to data center environments. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.	
NOTE: Air entering the data center must have MERV11 or MERV13 filtration.	
Conductive dust	Air must be free of conductive dust, zinc whiskers, or other conductive particles.
NOTE: This condition applies to data center and non-data center environments.	
Corrosive dust	Air must be free of corrosive dust.
Residual dust present in the air must have a deliquescent point less than 60% relative humidity.	
NOTE: This condition applies to data center and non-data center environments.	

Table 16. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ ISA71.04-2013
Silver coupon corrosion rate	<200 Å/month per Class G1 as defined by ANSI/ ISA71.04-2013
NOTE: Maximum corrosive contaminant levels measured at ≤50% relative humidity.	

Maximum vibration specifications

Table 17. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 Grms at 5 Hz to 350 Hz (all operation orientations).
Storage	1.88 Grms at 10 Hz to 500 Hz for 15 min (all six sides tested).

Maximum shock specifications

Table 18. Maximum shock specifications

Maximum shock	Specifications
Operating	24 executed shock pulses 6 G in the positive and negative x, y, z axis for up to 11 ms (four pulses on each side of the system).
Storage	6 consecutively executed shock pulses of 71 G in the positive and negative x, y, z axes for up to 2 ms (one pulse on each side of the system).

Maximum altitude specifications

Table 19. Maximum altitude specifications

Maximum altitude	Specifications
Operating	3048 m (10,000 ft)
Storage	12,000 m (39,370 ft)

6

System diagnostics and indicator codes

This section describes the diagnostic indicators on the system front panel that displays the system status during system startup.

Topics:

Status LED indicators

NOTE: The indicators display solid amber if any error occurs.

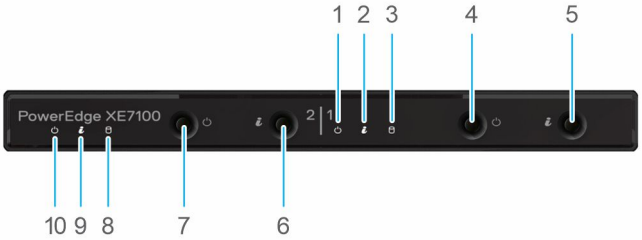

Figure 82. Status LED indicators

1. Power LED
2. ID LED/MB status (Blue/Amber)
3. Expander status LED (Amber)
4. Power button
5. ID button
6. ID button
7. Power button
8. Expander status LED (Amber)
9. ID LED/MB status (Blue/Amber)
10. Power LED

System health and system ID indicator codes

The system health and system ID indicator is located on the left control panel of the system.

Table 20. System health and system ID indicator codes

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is powered on, is healthy, and system ID mode is not active. Press the system health and system ID button to switch to system ID mode.
Blinking blue	Indicates that the system ID mode is active. Press the system health and system ID button to switch to system health mode.
Solid amber	Indicates that the system is in fail-safe mode. If the problem persists, see the Getting help section.
Blinking amber	Indicates that the system is experiencing a fault. Check the System Event Log for specific error messages. For information about the event and error messages

Table 20. System health and system ID indicator codes (continued)

System health and system ID indicator code	Condition
	generated by the system firmware and agents that monitor system components, go to qrl.dell.com > **Look Up** > **Error Code**, type the error code, and then click **Look it up**.

iDRAC Direct LED indicator codes

The iDRAC Direct LED indicator lights up to indicate that the port is connected and is being used as a part of the iDRAC subsystem.

You can configure iDRAC Direct by using a USB to micro USB (type AB) cable, which you can connect to your laptop or tablet. Cable length should not exceed 3 feet (0.91 meters). Performance could be affected by cable quality. The following table describes iDRAC Direct activity when the iDRAC Direct port is active:

Table 21. iDRAC Direct LED indicator codes

iDRAC Direct LED indicator code	Condition
Solid green for two seconds	Indicates that the laptop or tablet is connected.
Blinking green (on for two seconds and off for two seconds)	Indicates that the laptop or tablet connected is recognized.
Powers off	Indicates that the laptop or tablet is unplugged.

NIC indicator codes

Each NIC on the back of the system has indicators that provide information about the activity and link status. The activity LED indicator indicates if data is flowing through the NIC, and the link LED indicator indicates the speed of the connected network.

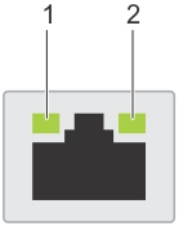

Figure 83. NIC indicator codes

1. Link LED indicator
2. Activity LED indicator

Table 22. NIC indicator codes

NIC indicator codes	Condition
Link and activity indicators are off.	Indicates that the NIC is not connected to the network.
Link indicator is green, and activity indicator is blinking green.	Indicates that the NIC is connected to a valid network at its maximum port speed, and data is being sent or received.
Link indicator is amber, and activity indicator is blinking green.	Indicates that the NIC is connected to a valid network at less than its maximum port speed, and data is being sent or received.
Link indicator is green, and activity indicator is off.	Indicates that the NIC is connected to a valid network at its maximum port speed, and data is not being sent or received.

Table 22. NIC indicator codes (continued)

NIC indicator codes	Condition
Link indicator is amber, and activity indicator is off.	Indicates that the NIC is connected to a valid network at less than its maximum port speed, and data is mot being sent or received.
Link indicator is blinking green, and activity is off.	Indicates that the NIC identify is enabled through the NIC configuration utility.

Power supply unit indicator codes

AC power supply units (PSUs) have an illuminated translucent handle that serves as an indicator. The indicator shows if power is present or if a power fault has occurred.

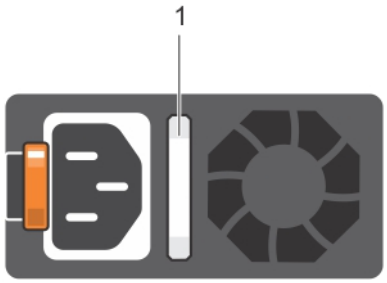

Figure 84. AC PSU status indicator

1. AC PSU status indicator/handle

Table 23. AC PSU status indicator codes

Power indicator codes	Condition
Green	Indicates that a valid power source is connected to the PSU and the PSU is operational.
Blinking amber	Indicates an issue with the PSU.
Not powered on	Indicates that the power is not connected to the PSU.
Blinking green	Indicates that the firmware of the PSU is being updated. **CAUTION: Do not disconnect the power cord or unplug the PSU when updating firmware. If firmware update is interrupted, the PSUs do not function.**
Blinking green and powers off	When hot-plugging a PSU, it blinks green five times at a rate of 4 Hz and powers off. This indicates a PSU mismatch due to efficiency, feature set, health status, or supported voltage. **CAUTION: If two PSUs are installed, both the PSUs must have the same type of label; for example, Extended Power Performance (EPP) label. Mixing PSUs from previous generations of PowerEdge servers is not supported, even if the PSUs have the same power rating. This results in a PSU mismatch condition or failure to power on the system.** **CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** **CAUTION: When correcting a PSU mismatch, replace the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and an unexpected system shutdown. To change from a high output configuration to a low output configuration or vice versa, you must power off the system.** **CAUTION: AC PSUs support both 240 V and 120 V input voltages with the exception of Titanium PSUs, which support only 240 V. When two identical PSUs receive different input voltages, they can output different wattages, and trigger a mismatch.**

Table 24. DC PSU status indicator codes

Power indicator codes	Condition
Green	Indicates that a valid power source is connected to the PSU, and the PSU is operational.
Blinking amber	Indicates an issue with the PSU.
Not powered on	Indicates that the power is not connected to the PSU.
Blinking green	When hot-plugging a PSU, it blinks green five times at a rate of 4 Hz and powers off. This indicates a PSU mismatch due to efficiency, feature set, health status, or supported voltage. **CAUTION: If two PSUs are installed, both the PSUs must have the same type of label; for example, Extended Power Performance (EPP) label. Mixing PSUs from previous generations of PowerEdge servers is not supported, even if the PSUs have the same power rating. This results in a PSU mismatch condition, or failure to power on the system.** **CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** **CAUTION: When correcting a PSU mismatch, replace the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and an unexpected system shutdown. To change from a High Output configuration to a Low Output configuration or conversely, you must power off the system.** **CAUTION: Combining AC and DC PSUs is not supported.**

Using system diagnostics

If you experience an issue with the system, run the system diagnostics before contacting Dell for technical assistance. The purpose of running system diagnostics is to test the system hardware without using additional equipment or risking data loss. If you are unable to fix the issue yourself, service and support personnel can use the diagnostics results to help you solve the issue.

Dell Embedded System Diagnostics

NOTE: The Dell Embedded System Diagnostics is also known as Enhanced Pre-boot System Assessment (ePSA) diagnostics.

The Embedded System Diagnostics provide a set of options for particular device groups or devices allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of issues encountered during testing

Running the Embedded System Diagnostics from the Dell Lifecycle Controller

Steps

1. As the system boots, press F10.
2. Select **Hardware Diagnostics** → **Run Hardware Diagnostics**.
   The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

Running the Embedded System Diagnostics from Boot Manager

Run the Embedded System Diagnostics (ePSA) if your system does not boot.

Steps

1. When the system is booting, press F11.
2. Use the up arrow and down arrow keys to select **System Utilities** > **Launch Diagnostics**.
3. Alternatively, when the system is booting, press F10, select **Hardware Diagnostics** > **Run Hardware Diagnostics**.
   The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

Results

System diagnostic controls

Table 25. System diagnostic controls

Menu	Description
Configuration	Displays the configuration and status information of all detected devices.
Results	Displays the results of all tests that are run.
System health	Provides the current overview of the system performance.
Event log	Displays a time-stamped log of the results of all tests run on the system. This is displayed if at least one event description is recorded.

7

Documentation resources

This section provides information about the documentation resources for your system.

To view the document that is listed in the documentation resources table:

- From the Dell EMC support site:
  1. Click the documentation link that is provided in the Location column in the table.
  2. Click the required product or product version.

     NOTE: To locate the product name and model, see the front of your system.
  3. On the Product Support page, click **Manuals & documents**.
- Using search engines:
  - Type the name and version of the document in the search box.

Table 26. Additional documentation resources for your system

Task	Document	Location
Setting up your system	For more information about installing and securing the system into a rack, see the Rail Installation Guide included with your rail solution. For information about setting up your system, see the *Getting Started Guide* document that is shipped with your system.	www.dell.com/xemanuals
Configuring your system	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your system remotely, see the Integrated Dell Remote Access Controller User's Guide. For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM CLI Guide for iDRAC. For information about Redfish and its protocol, supported schema, and Redfish Eventing implemented in iDRAC, see the Redfish API Guide. For information about iDRAC property database group and object descriptions, see the Attribute Registry Guide. For information about Intel QuickAssist Technology, see the Integrated Dell Remote Access Controller User's Guide.	www.dell.com/poweredgemanuals
	For information about earlier versions of the iDRAC documents. To identify the version of iDRAC available on your system, on the iDRAC web interface, click **?** > **About**.	www.dell.com/idracmanuals

Table 26. Additional documentation resources for your system (continued)

Task	Document	Location
	For information about installing the operating system, see the operating system documentation.	www.dell.com/operatingsystemmanuals
	For information about updating drivers and firmware, see the Methods to download firmware and drivers section in this document.	www.dell.com/support/drivers
Managing your system	For information about systems management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide.	www.dell.com/poweredgemanuals
	For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.	www.dell.com/openmanagemanuals > OpenManage Server Administrator
	For information about installing, using, and troubleshooting Dell OpenManage Enterprise, see the Dell OpenManage Enterprise User's Guide.	https://www.dell.com/openmanagemanuals
	For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide.	https://www.dell.com/serviceabilitytools
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	www.dell.com/openmanagemanuals
Working with the Dell PowerEdge RAID controllers	For information about understanding the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card and deploying the cards, see the Storage controller documentation.	www.dell.com/storagecontrollermanuals
Understanding event and error messages	For information about the event and error messages generated by the system firmware and agents that monitor system components, go to qrl.dell.com > **Look Up** > **Error Code**, type the error code, and then click **Look it up**.	www.dell.com/qrl
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	www.dell.com/poweredgemanuals

8

Getting help

Topics:

Contacting Dell EMC

Dell EMC provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell EMC product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell EMC for sales, technical assistance, or customer service issues:

Steps

1. Go to www.dell.com/support/home.
2. Select your country from the drop-down menu on the lower right corner of the page.
3. For customized support:
   a. Enter your system Service Tag in the **Enter your Service Tag** field.
   b. Click **Submit**.
   The support page that lists the various support categories is displayed.
4. For general support:
   a. Select your product category.
   b. Select your product segment.
   c. Select your product.
   The support page that lists the various support categories is displayed.
5. For contact details of Dell EMC Global Technical Support:
   a. Click Contact Technical Support.
   b. Enter your system Service Tag in the **Enter your Service Tag** field on the Contact Us webpage.

Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.

Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) located on the information tag in the front of the system, to access the information about the PowerEdge system.

Prerequisites

Ensure that your smartphone or tablet has the QR code scanner installed.

The QRL includes the following information about your system:

- How-to videos

- Reference materials, including the Installtion and Service Manual, LCD diagnostics, and mechanical overview
- Your system service tag to quickly access your specific hardware configuration and warranty information
- A direct link to Dell to contact technical assistance and sales teams

Steps

1. Go to www.dell.com/qrl and navigate to your specific product or
2. Use your smartphone or tablet to scan the model-specific Quick Resource (QR) code on your system or in the Quick Resource Locator section.

Quick Resource Locator for XE7100, XE7420 and XE7440 systems

Figure 85. Quick Resource Locator for PowerEdge XE7100, XE7420 and XE7440systems

Receiving automated support with SupportAssist

Dell EMC SupportAssist is an optional Dell EMC Services offering that automates technical support for your Dell EMC server, storage, and networking devices. By installing and setting up a SupportAssist application in your IT environment, you can receive the following benefits:

- **Automated issue detection** — SupportAssist monitors your Dell EMC devices and automatically detects hardware issues, both proactively and predictively.
- **Automated case creation** — When an issue is detected, SupportAssist automatically opens a support case with Dell EMC Technical Support.
- **Automated diagnostic collection** — SupportAssist automatically collects system state information from your devices and uploads it securely to Dell EMC. This information is used by Dell EMC Technical Support to troubleshoot the issue.
- **Proactive contact** — A Dell EMC Technical Support agent contacts you about the support case and helps you resolve the issue.

The available benefits vary depending on the Dell EMC Service entitlement purchased for your device. For more information about SupportAssist, go to www.dell.com/supportassist.

Recycling or End-of-Life service information

Take back and recycling services are offered for this product in certain countries. If you want to dispose of system components, visit www.dell.com/recyclingworldwide and select the relevant country.