

PowerEdge C6600

Installation and Service Manual

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.

Chapter 1: About this document.....	6
Chapter 2: PowerEdge C6600 system overview.....	7
Front view of the system.....	7
Left control panel view.....	9
Right control panel view.....	10
Rear view of the system.....	11
Inside the system	13
Power supply unit indicator codes.....	15
Drive indicator codes.....	17
Locating the Express Service Code and Service Tag.....	18
System information label.....	19
Chapter 3: Installing and removing system components	23
Safety instructions.....	23
Before working inside your system	24
After working inside your system.....	24
Recommended tools.....	24
C6600 chassis.....	25
Sled installation guidelines.....	25
Installing a sled	26
Removing a sled	28
System cover.....	30
Removing the system cover.....	30
Installing the system cover.....	31
Mid top cover.....	31
Removing the mid top cover.....	31
Installing the mid top cover.....	32
Cooling fans.....	33
Removing a 80 mm fan.....	33
Installing a 80 mm fan.....	34
Removing the diskless 80 mm fan cage.....	35
Installing the diskless 80 mm fan cage.....	36
Removing the 60 mm cooling fan cage.....	37
Installing the 60 mm cooling fan cage.....	38
Removing a 60 mm cooling fan.....	39
Installing a 60 mm cooling fan.....	40
Removing the 40 mm fan cage.....	41
Installing the 40 mm fan cage.....	42
Removing the 40 mm fan cage holder.....	43
Installing the 40 mm fan cage holder.....	44
Thermal sensor board.....	45
Removing the thermal sensor board	45
Installing the thermal sensor board.....	46

Midplane.....	47
Removing the right midplane.....	47
Installing the right midplane.....	49
Removing the left midplane.....	50
Installing the left midplane.....	52
Power supply unit.....	53
Removing a power supply unit.....	53
Installing a power supply unit.....	54
Power distribution board.....	55
Removing the power distribution board.....	55
Installing the power distribution board.....	57
Chassis management board.....	59
Removing the chassis management board.....	59
Installing the chassis management board.....	60
Control panel.....	62
Removing the left control panel.....	62
Installing the left control panel.....	63
Removing the right control panel.....	64
Installing the right control panel.....	65
Drives.....	66
Removing a drive blank.....	66
Removing an E3.s drive blank.....	67
Installing a drive blank.....	68
Installing an E3.s drive blank.....	69
Removing the drive carrier.....	69
Removing the E3.s drive carrier.....	70
Installing the drive carrier.....	71
Installing the E3.s drive carrier.....	72
Removing the drive from the drive carrier.....	73
Removing the E3.s drive from the drive carrier.....	74
Installing the drive into the drive carrier.....	75
Installing the E3.s drive into the drive carrier.....	76
Examax connector.....	77
Removing the left examax connector.....	77
Installing the left examax connector.....	78
Removing the right examax connector.....	79
.....	80
Drive cage.....	81
Removing the drive cage.....	81
Installing the drive cage.....	82
Drive backplane.....	83
Backplane.....	83
Removing the backplane.....	89
Installing the backplane.....	90
Chapter 4: Technical specifications.....	92
Chassis dimensions	92
System weight.....	93
Drives.....	93
PSU specifications.....	93

Environmental specifications.....	94
Thermal air restrictions.....	95
Thermal restriction matrix.....	95
Chapter 5: Getting help.....	96
Recycling or End-of-Life service information.....	96
Contacting Dell Technologies.....	96
Accessing system information by using QRL.....	97
Quick Resource Locator for PowerEdge C6600 system.....	97
Receiving automated support with Secure Connect Gateway (SCG).....	97
Chapter 6: Documentation resources.....	98

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.

PowerEdge C6600 system overview

The PowerEdge C6600 system is a ultra-dense 2U enclosure that can support up to four independent two-socket (2S) C6620 sleds and supports:

- Two redundant AC or DC power supply units
- Up to 16 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) drives
- Up to 8 x E3.s NVMe SSD drives
- Diskless configuration

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 referred to as drives in this document, unless specified otherwise.

Topics:

- [Front view of the system](#)
- [Rear view of the system](#)
- [Inside the system](#)
- [Power supply unit indicator codes](#)
- [Drive indicator codes](#)
- [Locating the Express Service Code and Service Tag](#)
- [System information label](#)

Front view of the system

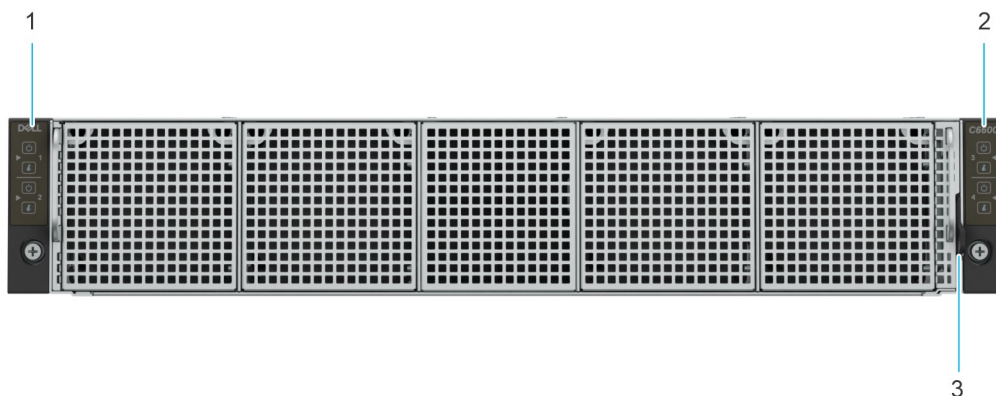


Figure 1. Front view of diskless system

Table 1. Features available on the front of the system

Item	Ports, panels, and slots	Description
1	Left control panel	Contains the power button and system ID indicator for Sled 1 and Sled 2.
2	Right control panel	Contains the power button and system ID indicator for Sled 3 and Sled 4.
3	Express service tag	The Express Service Tag is a slide-out label panel that contains system information such as Service Tag, and so on.

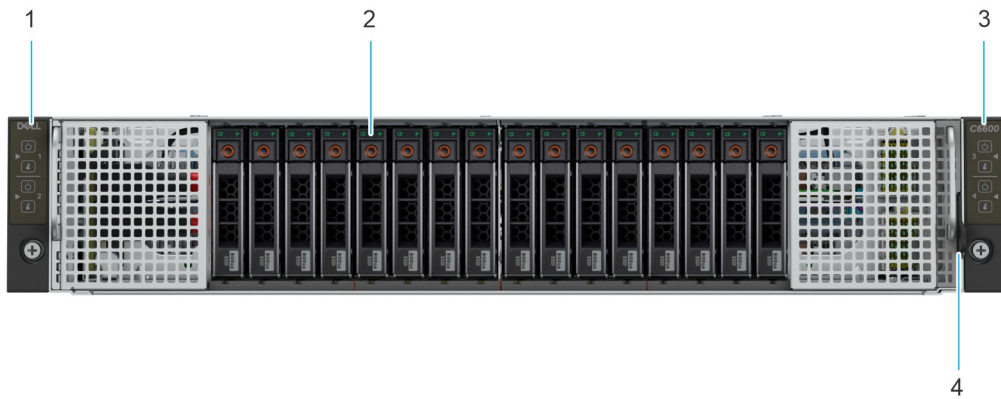


Figure 2. Front view of the 16 x 2.5-inch drive system

Table 2. Features available on the front of the system

Item	Ports, panels, and slots	Description
1	Left control panel	Contains the power button and system ID indicator for Sled 1 and Sled 2.
2	Drive bay	Drive bays for 2.5-inch SAS/SATA/NVMe drives
3	Right control panel	Contains the power button and system ID indicator for Sled 3 and Sled 4.
4	Express service tag	The Express Service Tag is a slide-out label panel that contains system information such as Service Tag, and so on.

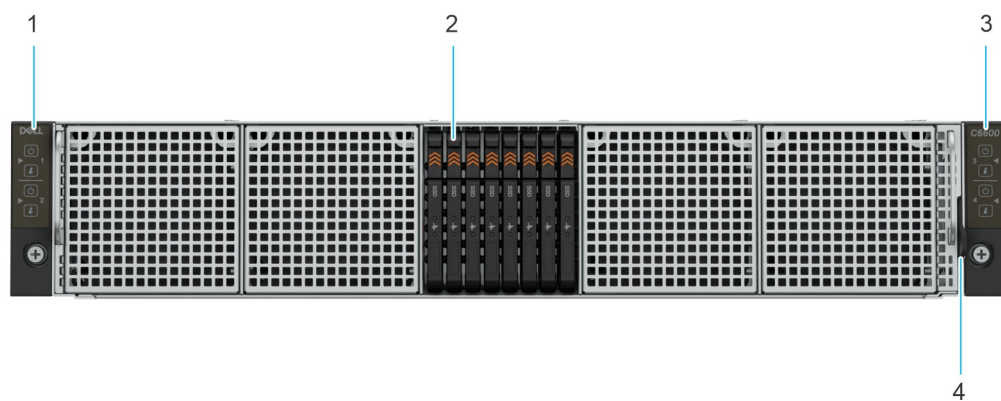


Figure 3. Front view of the 8 x E3.s drive system

Table 3. Features available on the front of the system

Item	Ports, panels, and slots	Description
1	Left control panel	Contains the power button and system ID indicator for Sled 1 and Sled 2.
2	Drive bay	Drive bays for E3.s drives
3	Right control panel	Contains the power button and system ID indicator for Sled 3 and Sled 4.

Table 3. Features available on the front of the system (continued)

Item	Ports, panels, and slots	Description
4	Express service tag	The Express Service Tag is a slide-out label panel that contains system information such as Service Tag, and so on.

Left control panel view

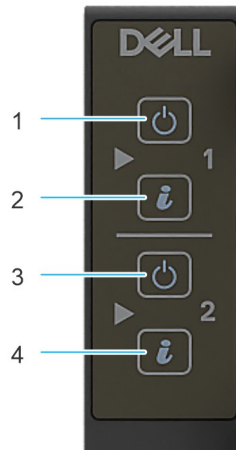


Figure 4. Left control panel

Table 4. Left control panel

Item	Indicator, button, or connector	Icon	Description
1	Power button for Sled 1		Indicates if the system is powered on or off. Press the power button to manually power on or off the system. The power-on indicator turns amber when a critical system event occurs. NOTE: Press the power button to gracefully shut down the ACPI-compliant operating system.
2	System health and system ID indicator (Sled 1)		Indicates the status of the system for Sled 1. Press the system ID button: <ul style="list-style-type: none"> To locate a particular sled within the enclosure. To turn the system ID on or off. NOTE: If the sled stops responding during POST, press and hold the system ID button (for more than five seconds) to enter the BIOS progress mode.
3	Power button for Sled 2		Indicates if the system is powered on or off. Press the power button to manually power on or off the system. The power-on indicator turns amber when a critical system event occurs. NOTE: Press the power button to gracefully shut down the ACPI-compliant operating system.
4	System health and system ID indicator (Sled 2)		Indicates the status of the system for Sled 2. Press the system ID button: <ul style="list-style-type: none"> To locate a particular sled within the enclosure. To turn the system ID on or off.

Table 4. Left control panel (continued)

Item	Indicator, button, or connector	Icon	Description
			<p>i NOTE: If the sled stops responding during POST, press and hold the system ID button (for more than five seconds) to enter the BIOS progress mode.</p>

Right control panel view

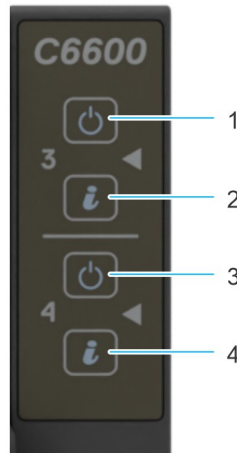


Figure 5. Right control panel

Table 5. Right control panel

Item	Indicator, button, or connector	Icon	Description
1	Power button for Sled 3		<p>Indicates if the system is powered on or off. Press the power button to manually power on or off the system. The power-on indicator turns amber when a critical system event occurs.</p> <p>i NOTE: Press the power button to gracefully shut down the ACPI-compliant operating system.</p>
2	System health and system ID indicator (Sled 3)		<p>Indicates the status of the system for Sled 3. Press the system ID button:</p> <ul style="list-style-type: none"> To locate a particular sled within the enclosure. To turn the system ID on or off. <p>i NOTE: If the sled stops responding during POST, press and hold the system ID button (for more than five seconds) to enter the BIOS progress mode.</p>
3	Power button for Sled 4		<p>Indicates if the system is powered on or off. Press the power button to manually power on or off the system. The power-on indicator turns amber when a critical system event occurs.</p> <p>i NOTE: Press the power button to gracefully shut down the ACPI-compliant operating system.</p>
4	System health and system ID indicator (Sled 4)		<p>Indicates the status of the system for Sled 4. Press the system ID button:</p> <ul style="list-style-type: none"> To locate a particular sled within the enclosure. To turn the system ID on or off.

Table 5. Right control panel (continued)

Item	Indicator, button, or connector	Icon	Description
			i NOTE: If the sled stops responding during POST, press and hold the system ID button (for more than five seconds) to enter the BIOS progress mode.

Rear view of the system

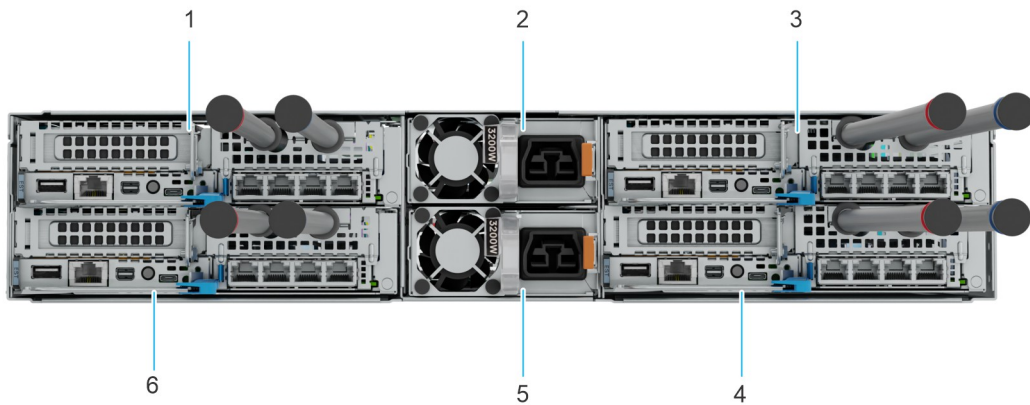




Figure 6. Rear view of the system (liquid cooling configuration)

Table 6. Rear view of the system (liquid cooling configuration)

Item	Ports, panels, or slots	Icon	Description
1	Sled 3	N/A	Indicates Sled 3.
2	Power supply unit 1		Indicates the PSU 1.
3	Sled 1	N/A	Indicates Sled 1.
4	Sled 2	N/A	Indicates Sled 2.
5	Power supply unit 2		Indicates the PSU 2.
6	Sled 4	N/A	Indicates Sled 4.

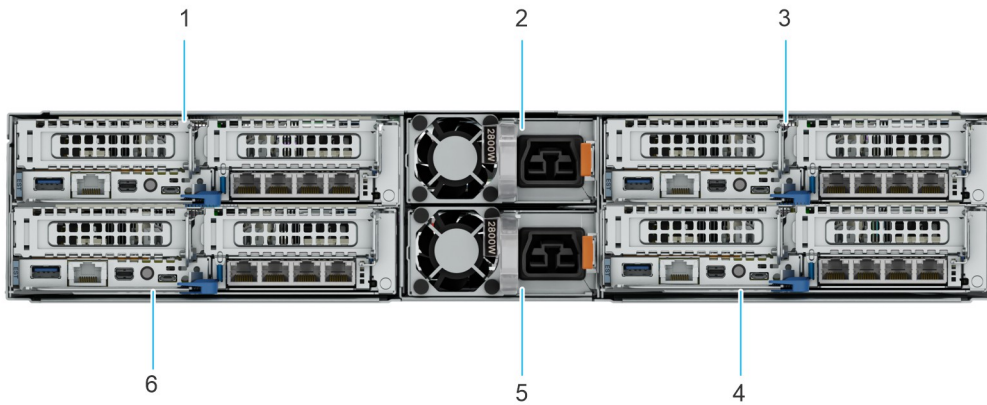


Figure 7. Rear view of the system (air cooled configuration)

Table 7. Rear view of the system (air cooled ocnfiguration)

Item	Ports, panels, or slots	Icon	Description
1	Sled 3	N/A	Indicates Sled 3.
2	Power supply unit 1		Indicates the PSU 1.
3	Sled 1	N/A	Indicates Sled 1.
4	Sled 2	N/A	Indicates Sled 2.
5	Power supply unit 2		Indicates the PSU 2.
6	Sled 4	N/A	Indicates Sled 4.

Inside the system

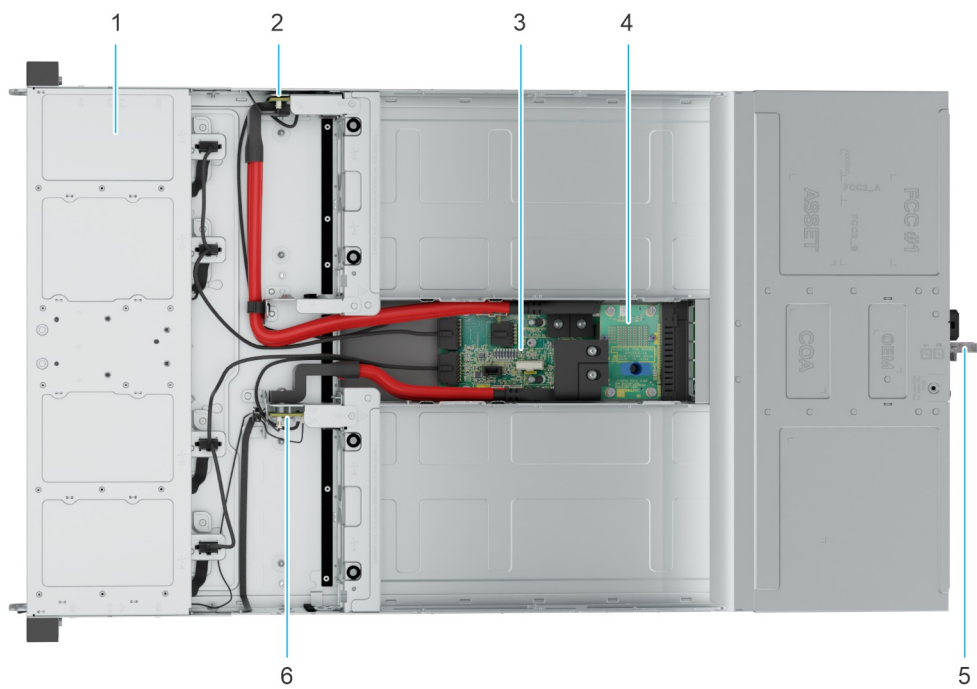


Figure 8. Inside the system for diskless configuration

- | | |
|-----------------------------|-----------------------------------|
| 1. 80 mm fan cage | 2. Left midplane |
| 3. Chassis management board | 4. Power distribution board (PDB) |
| 5. Power supply unit (PSU) | 6. Right midplane |

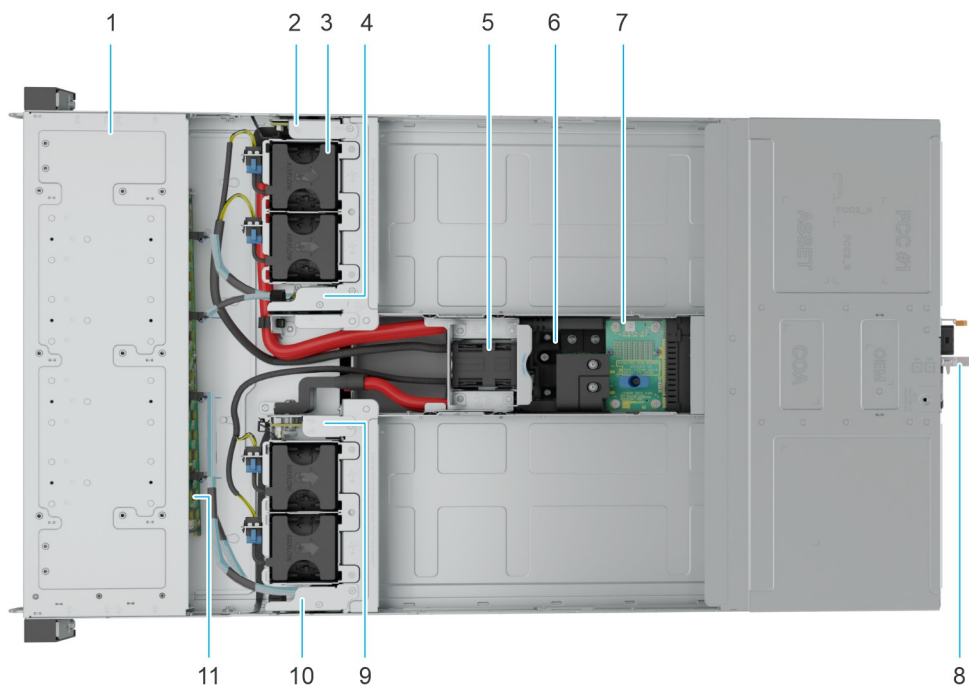


Figure 9. Inside the system for 16 x 2.5-inch configuration

1. 80 mm fan with drive cage
2. Left midplane
3. 60 mm cooling fan
4. Examax connector
5. 40 mm cooling fan
6. Chassis management board
7. Power distribution board (PDB)
8. Power supply unit (PSU)
9. Right midplane
10. Examax connector
11. Backplane

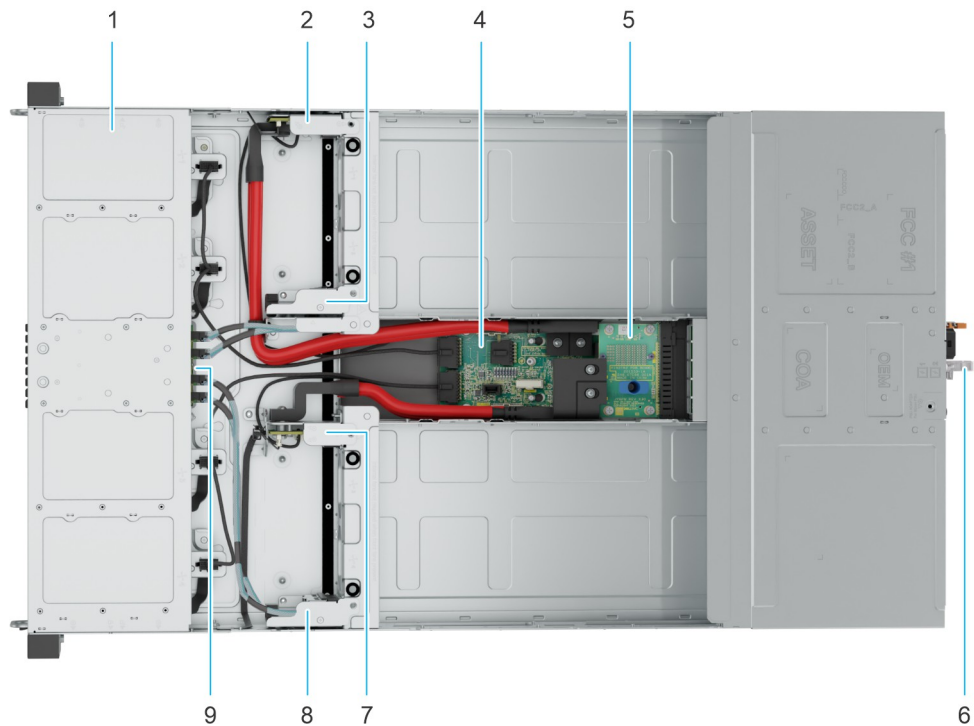


Figure 10. Inside the system for 8 x E3.s configuration

1. 80 mm fan with drive cage
2. Left midplane
3. Examax connector
4. Chassis management board
5. Power distribution board (PDB)
6. Power supply unit (PSU)
7. Right midplane
8. Examax connector
9. Backplane

Power supply unit indicator codes

AC and DC 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.

i **NOTE:** 3200 W PSUs use the APP Saf-D-Grid series inlet Socket and power cord.

i **NOTE:** 2800 W PSUs use the C22 inlet socket and C21 power cord.

i **NOTE:** 2400 W PSUs use the C20 inlet socket and C19 power cord.

i **NOTE:** 1800 W PSUs use the C16 inlet socket and C15 power cord.

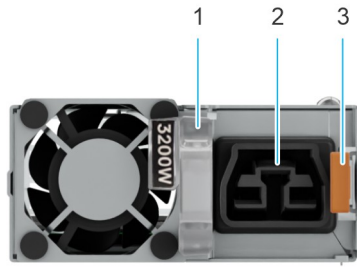


Figure 11. AC PSU status indicator

1. AC PSU handle
2. Socket
3. Release latch

Table 8. 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 will 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: The 3200 W PSU operation input voltage is 277 V AC. The 3200 W PSU will not power on with 240 V or 120 V AC.

Table 9. 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	<p>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.</p> <p>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.</p> <p>CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.</p>

CAUTION: The 3200 W PSU operation input voltage is 336 V DC. The 3200 W PSU will not power on with 240 V DC.

Drive indicator codes

The LEDs on the drive carrier indicate the state of each drive. Each drive carrier has two LEDs: an activity LED (green) and a status LED (bicolor, green/amber). The activity LED blinks whenever the drive is accessed.



Figure 12. Drive indicators on the drive and the mid drive tray backplane

1. Drive activity LED indicator
2. Drive status LED indicator
3. Drive capacity label

NOTE: If the drive is in the Advanced Host Controller Interface (AHCI) mode, the status LED indicator does not power on.

NOTE: Drive status indicator behavior is managed by Storage Spaces Direct. Not all drive status indicators may be used.

Table 10. Drive indicator codes

Drive status indicator code	Condition
Blinks green twice per second	Indicates that the drive is being identified or preparing for removal.
Not powered on	Indicates that the drive is ready for removal. i NOTE: The drive status indicator remains off until all drives are initialized after the system is powered on. Drives are not ready for removal during this time.
Blinks green, amber, and then powers off	Indicates that there is an unexpected drive failure.
Blinks amber four times per second	Indicates that the drive has failed.
Blinks green slowly	Indicates that the drive is rebuilding.
Solid green	Indicates that the drive is online.
Blinks green for three seconds, amber for three seconds, and then powers off after six seconds	Indicates that the rebuild has stopped.

Locating the Express Service Code and Service Tag

The unique Express Service Code and Service Tag are used to identify the system.

The information tag is located on the front of the enclosure that includes system information such as the Service Tag, Express Service Code, Manufacture date, QRL label, and so on.



Figure 13. Locating the Service Tag of your system

1. Information tag (top view)
2. QR code label
3. Express Service Tag label

System information label

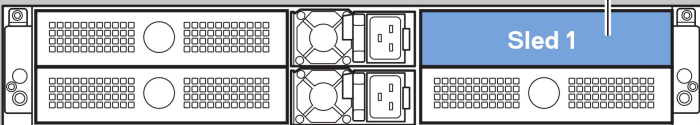
Sled service information

Sled Service Information

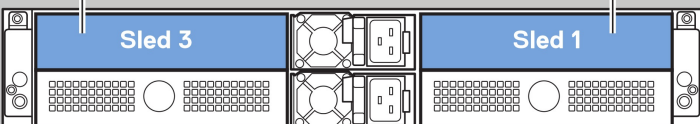
Sled Installation Guidelines

Rear View

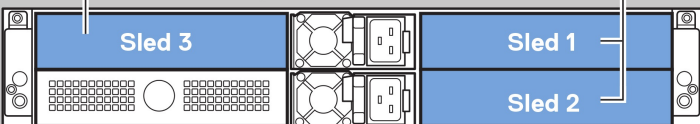
Populate only one sled



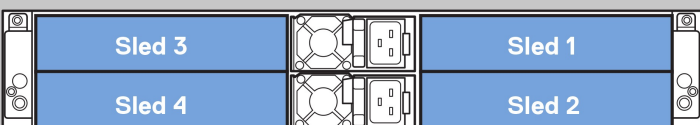
Populate two sleds



Populate three sleds



Populate four sleds




Note:
All sleds that share one enclosure must be identical and match the chassis type. Installing a sled in the PowerEdge C6600 chassis that does not match the chassis type or other sleds results in:

- The enclosure fans running to 100% speed. An “Unable to control the fan speed because a sled mismatch or hardware incompatibility is detected” entry being logged in the System Event Log (SEL) of the sled.
- The sled System ID blinking amber.


* For more information, please refer to the *Installation and Service Manual*.

Jumper Settings


NVRAM_CLR



Pin 1





BIOS configuration settings **retained** at system boot. (default)



BIOS configuration settings **cleared** at system boot.


PWRD_EN





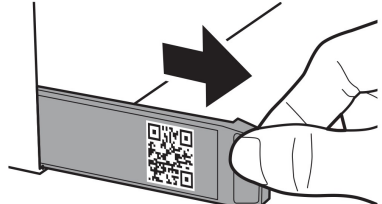
BIOS password is **disabled**.

Scan to see hardware servicing and software setup videos, how-to's, and documentation.



Quick Resource Locator
Dell.com/QRL/Server/PEC6600Series

Locating Service Tag




Pull out the Express Service Tag from the rear of sled. Scan the QR code to access sled System Information Label.

To learn more about this Dell product or to order additional or replacement parts, go to Dell.com/support

⚠ Caution: Memory (DIMMs) and CPUs may be hot during servicing.

⚠ 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 came with the product.

⚠ Caution: Certain hardware configurations require reduced inlet ambient temperature for proper system cooling. The maximum supported inlet ambient temperature is dependent on the installed processor TDP and system HDD and I/O card configuration. For more information on the maximum ambient temperature, see the Owner's Manual at Dell.com/poweredgemanuals.



CAUTION
Heavy chassis. Three person lift required.

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Rev A01. Label Part No. G8J3Y

Figure 14. Sled service information

Cable routing

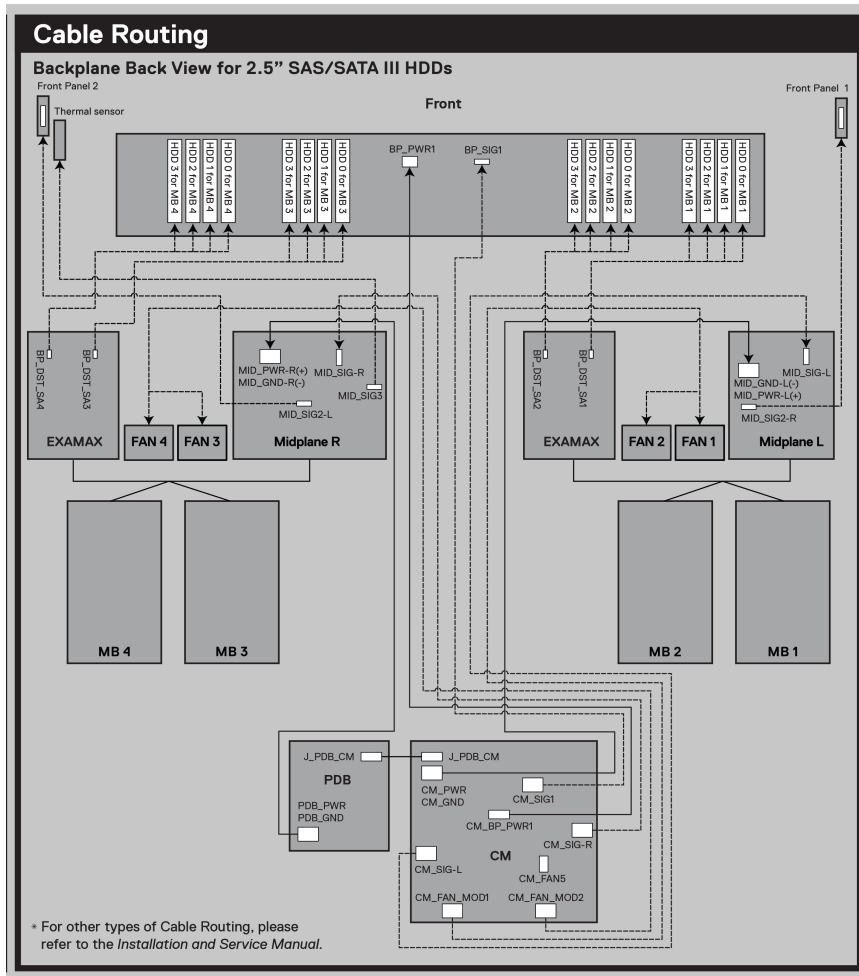


Figure 15. Cable routing

Enclosure service information

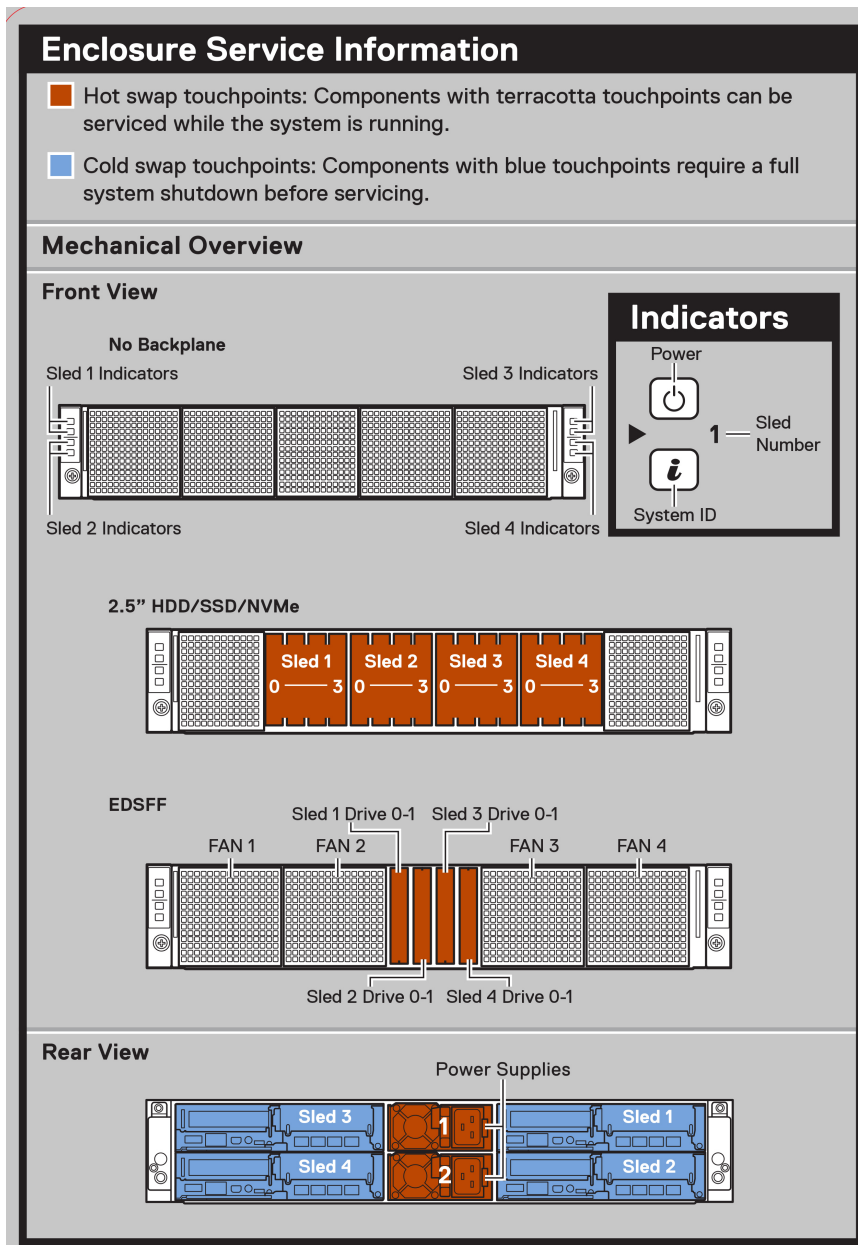


Figure 16. Enclosure service information

Midplane bracket and 2.5-inch drive cage

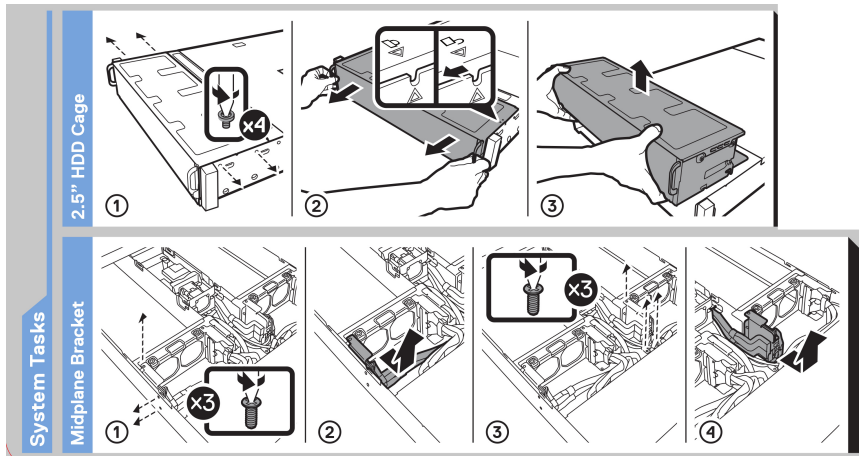


Figure 17. Midplane bracket and 2.5-inch drive cage

Sled removal

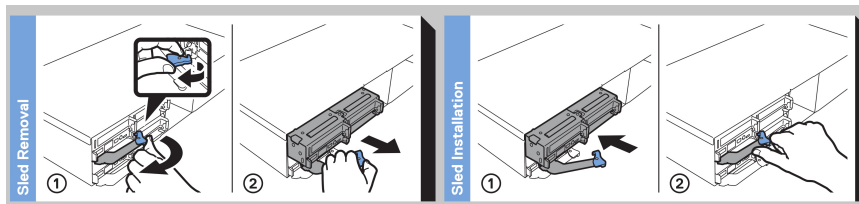


Figure 18. Sled removal

Fans and EXAMAX brackets

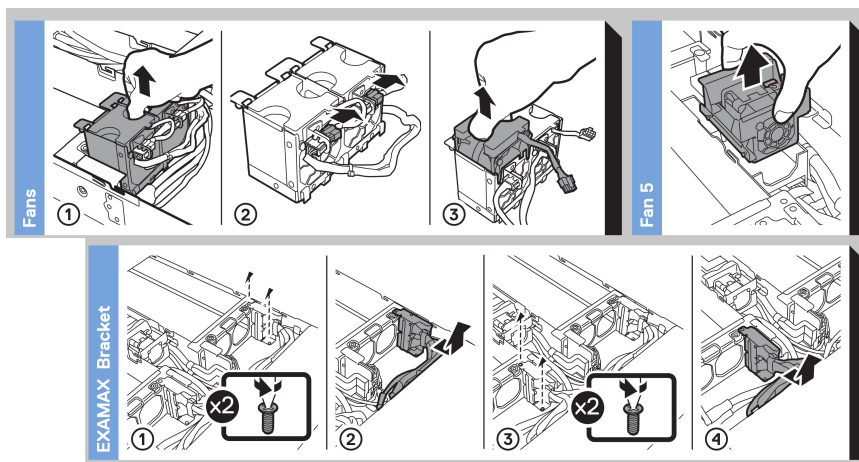



Figure 19. Fans and EXAMAX brackets


Installing and removing system components

Topics:

- Safety instructions
- Before working inside your system
- After working inside your system
- Recommended tools
- C6600 chassis
- System cover
- Mid top cover
- Cooling fans
- Thermal sensor board
- Midplane
- Power supply unit
- Power distribution board
- Chassis management board
- Control panel
- Drives
- Examax connector
- Drive cage
- Drive backplane


Safety instructions


 **NOTE:** Whenever you need to lift the system, get others to assist you. To avoid injury, do not attempt to lift the system by yourself.


 **CAUTION:** Ensure that two or more people lift the system horizontally from the box and place it on a flat surface, rack lift, or into the rails.


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

 **WARNING:** 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.

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

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

 **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 updating to the latest firmware and changing the configuration, see the *Lifecycle Controller User's Guide* at <https://www.dell.com/idracmanuals>.

NOTE: While replacing faulty storage controller, FC, or 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 updating to the latest firmware and changing the 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 the [Safety instructions](#).

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/poweredgemanuals.
4. Remove the system cover.

After working inside your system

Prerequisites

Follow the safety guidelines listed in [Safety instructions](#).

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 system at www.dell.com/poweredgemanuals.
3. Reconnect the peripherals and connect the system to the electrical outlet, and then power on the system.

Recommended tools

You may need some or all of the following tools to perform the removal and installation procedures:

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

You need the following tools to assemble the cables for a DC power supply unit:

- AMP 90871-1 hand-crimping tool or equivalent
- Tyco Electronics 58433-3 or equivalent
- Wire-stripper pliers to remove insulation from size 10 AWG solid or stranded, insulated copper wire

NOTE: Use alpha wire part number 3080 or equivalent (65/30 stranding).

C6600 chassis

Sled installation guidelines

CAUTION: Ensure that the chassis does not have a mixed architecture of PowerEdge C6420, PowerEdge C6525 and PowerEdge C6600 sled configurations.

Mixing of sleds are not supported. When chassis or sled mismatch is detected, follow the procedures below:

Table 11. Actions taken when chassis or sled mismatch is detected

Indicators and solution	Description
Common indications of chassis or sled mismatch	Status LED Blinking Amber (Status ID LEDs on chassis ears & SLED rear I/O).
	System generate SEL log in the mismatched Sled in iDRAC.
	Chassis fan runs full speed to maintain sleds operation.
Common indications of chassis or sled mismatch in BIOS	BIOS blocks booting and shows warning message - "Unable to boot because a mismatch is detected in node <Node Number> installed in the chassis. The installed node is <Installed Sled>, but this <Chassis Model> chassis is configured to support 1-4 Nodes of type <Supported Sled>."
Solution	<ol style="list-style-type: none">1. Install same type sleds to the chassis.2. Set up the correct Sticky Bit in Chassis Manager.

- NOTE:** Ensure to install a sled blank in all the empty slots. Operating the enclosure without a blank results in overheating.
- NOTE:** For optimized thermal operation, do not mix single processor and dual processor sleds within the same chassis.
- NOTE:** For optimized thermal operation, ensure to follow the sled population sequence shown in the image below:

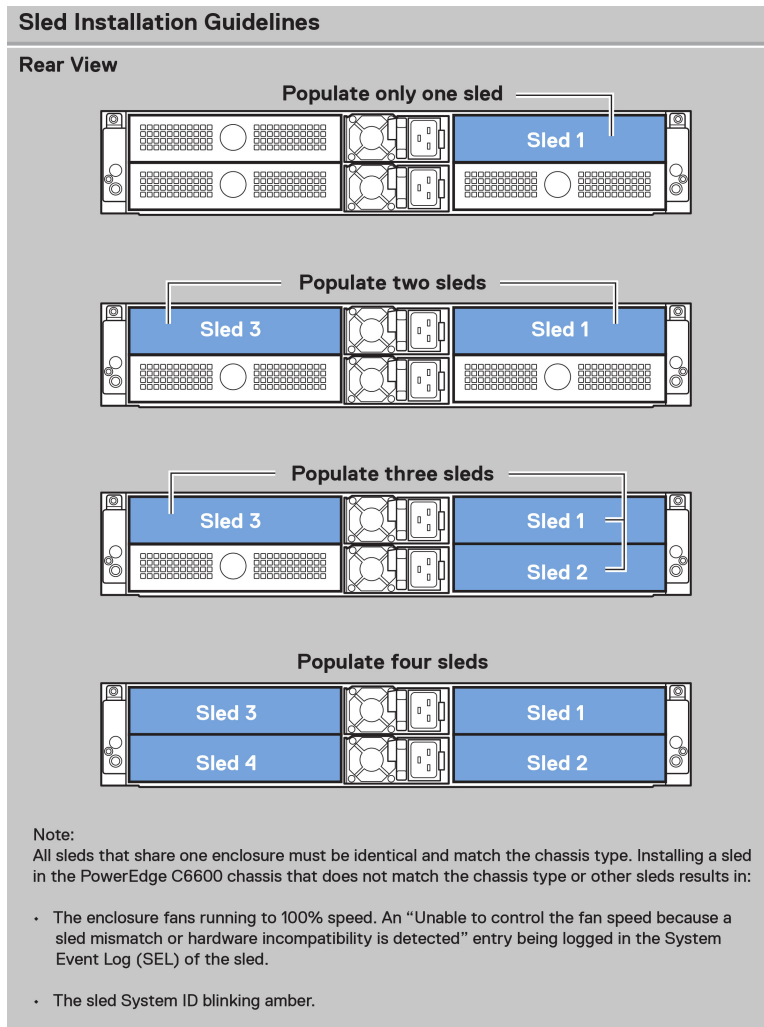


Figure 20. Sled Installation Guidelines

Installing a sled

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).

Steps

1. Release the sled handle by pressing the blue latch to disengage it from the metal hook.
2. Pull the handle until it rotates to the end of its travel.
3. Holding the sled with both hands, align the sled with the sled-bay in the enclosure.

NOTE: The numbers on the image do not depict the exact steps. The numbers are for representation of sequence.

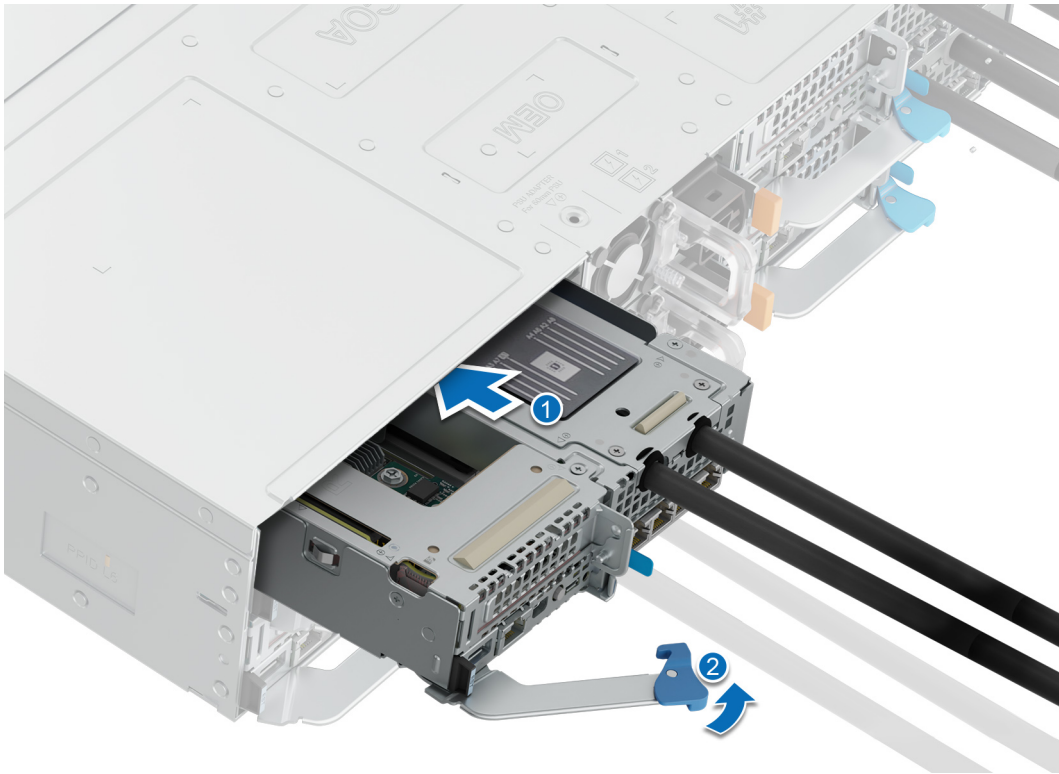


Figure 21. Installing a sled

4. Insert the sled into the enclosure until the edge of the sled handle touches the edge of the enclosure chassis.

CAUTION: To avoid any damage to the pins on the sled, do not force the sled into the enclosure. Follow the two-position insertion and gently slide the sled into the enclosure.

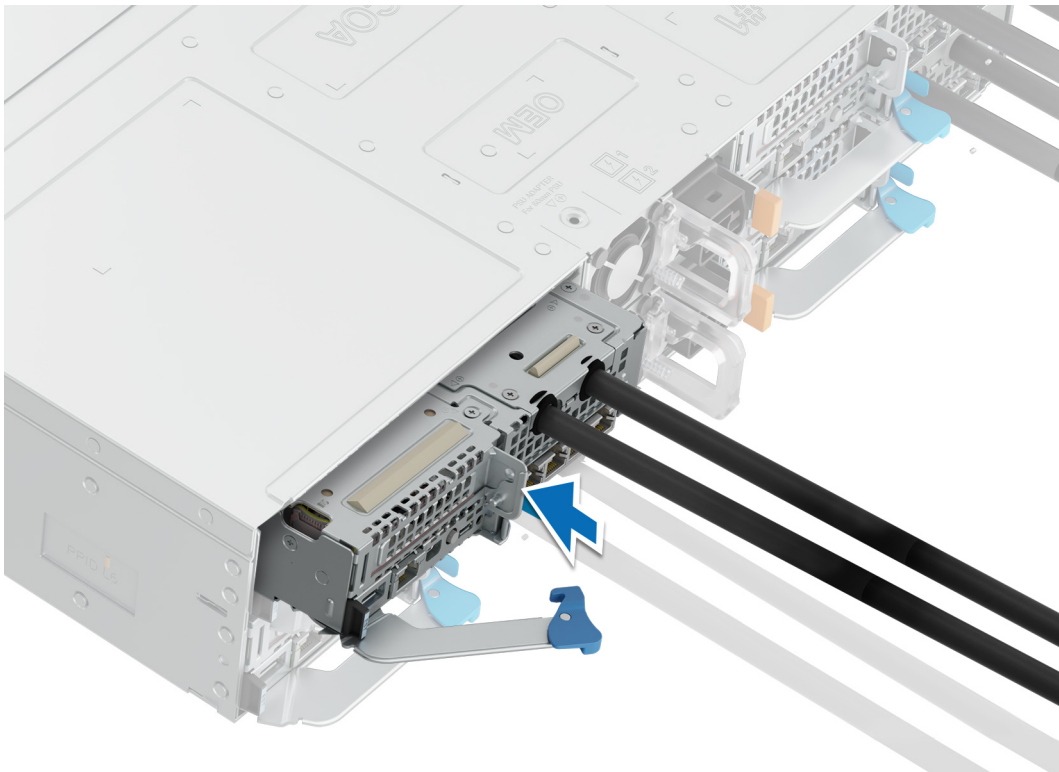


Figure 22. Insert the sled until the edge of the sled handle touches the edge of the enclosure chassis

5. Push inward on the handle until it rotates and locks the sled into place.
6. To install a sled blank, slide it into the enclosure until the retention latch locks it into place.

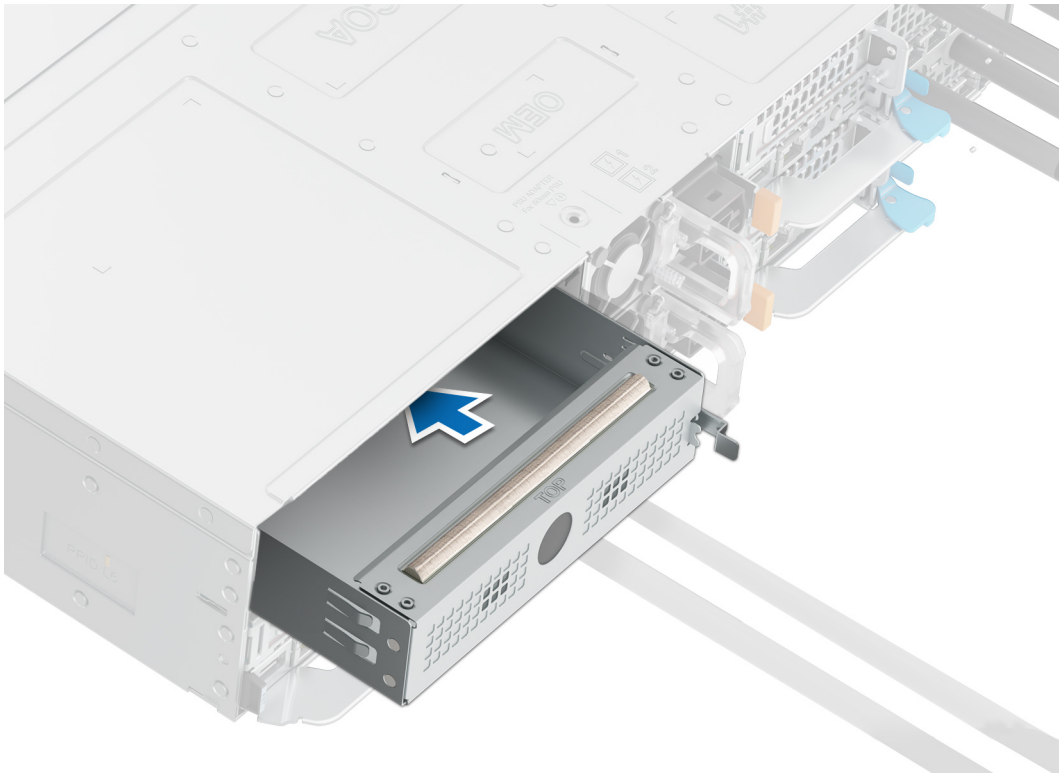


Figure 23. Installing a sled blank

Removing a sled

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).

Steps

1. Release the sled handle by pressing the blue latch to disengage it from the metal hook.
2. Pull outward on the handle until it rotates to the end of its travel and fully disengages the internal sled electrical connectors.
3. Holding the sled handle with one hand, pull the sled out of the enclosure while supporting the sled underside with the other hand.

CAUTION: Support the sled with both hands while sliding it out of the enclosure.

NOTE: The numbers on the image do not depict the exact steps. The numbers are for representation of sequence.

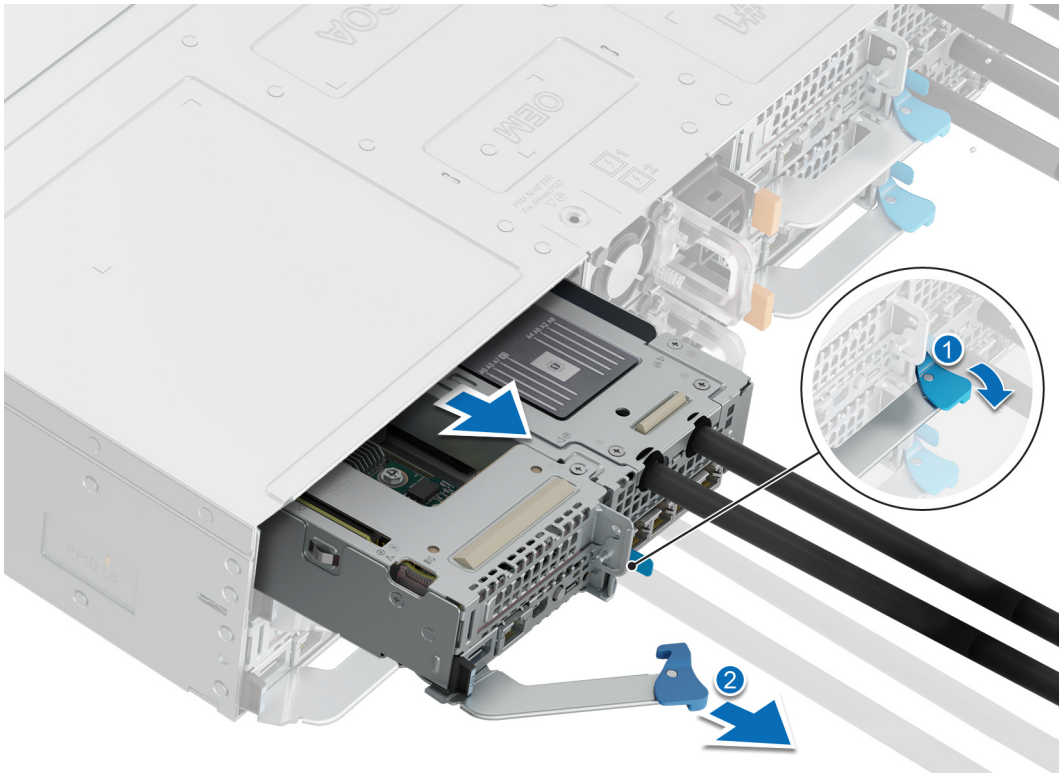


Figure 24. Removing a sled

4. To release the sled blank, press the retention latch on the sled to release the sled.
5. Slide the sled blank out of the enclosure.

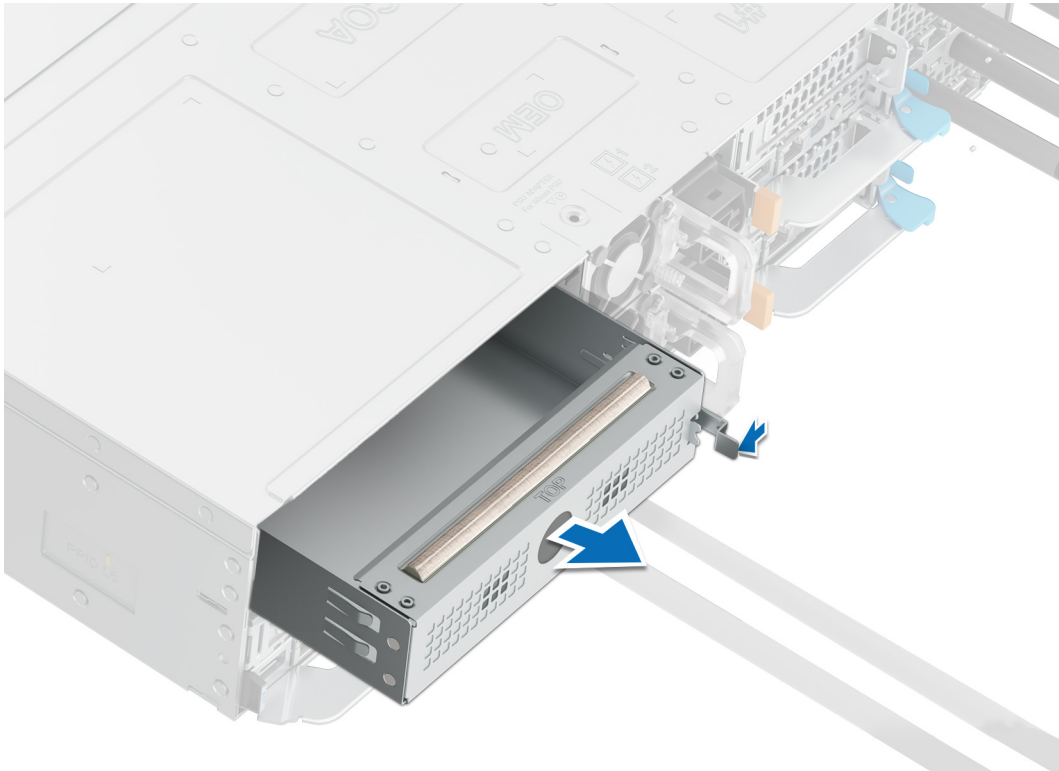


Figure 25. Removing a sled blank

Next steps

Replace the sled.

i **NOTE:** If the sled is not being replaced immediately, a sled blank must be installed to ensure proper cooling of the system.

System cover

Removing the system cover

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. Power off the system and all attached peripherals.
4. Disconnect the system from the electrical outlet and disconnect the peripherals.

Steps

1. Press and hold the cover release latch lock down.
2. With your palm on one of the traction pads, slide the system cover toward the rear of the system.
3. Lift the cover from the system.



Figure 26. Removing the system cover

Next steps

Replace the system cover.

Installing the system cover

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. Ensure that all internal cables are connected and routed properly, and no tools or extra parts are left inside the system.

Steps

Align the tabs on the system cover with the guide slots on the system and slide the system cover toward the front of the chassis until it locks into place.



Figure 27. Installing the system cover

Next steps

1. Reconnect the peripherals, and connect the system to the electrical outlet.
2. Power on the system, and all attached peripherals.
3. Follow the procedure listed in [After working inside your system](#).

Mid top cover

Removing the mid top cover

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).

Steps

1. Using the Phillips 1 screwdriver, remove the screws securing the mid top cover.

2. Slide and lift the mid top cover from the system.

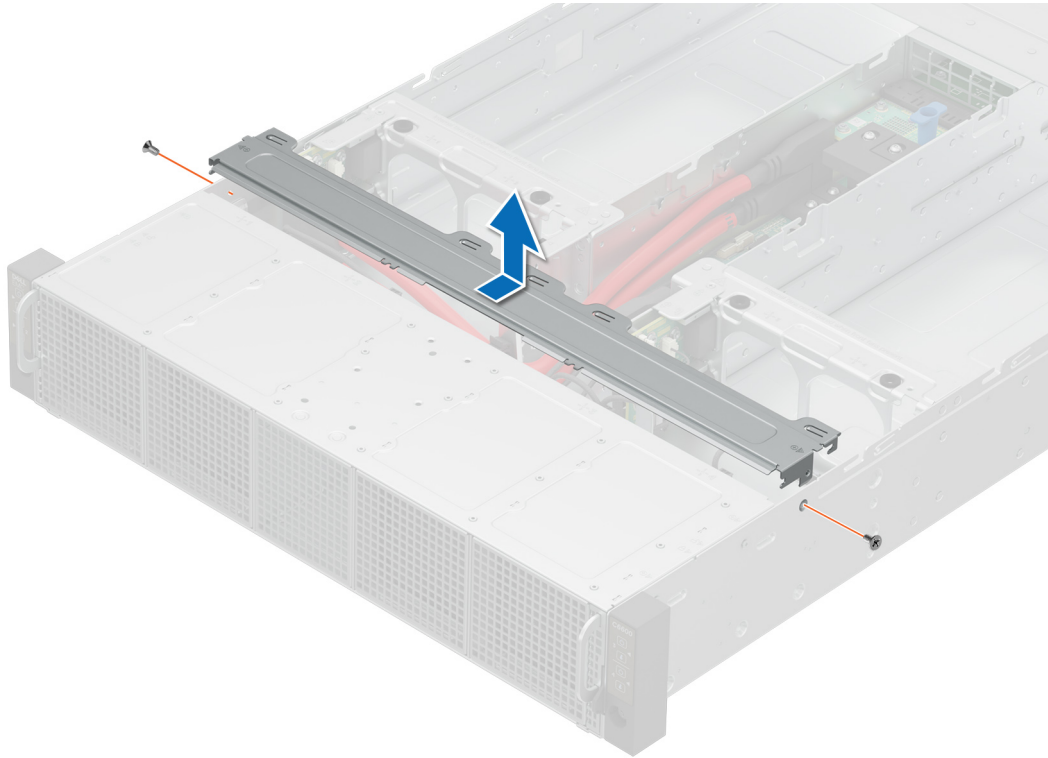


Figure 28. Removing the mid top cover

Next steps

Replace the mid top cover.

Installing the mid top cover

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).

Steps

1. Align the tabs on the mid top cover with the guide slots on the system and slide the mid top cover toward the front of the chassis until it locks into place.
2. Using the Phillips 1 screwdriver, secure the mid top cover to the system with screws.

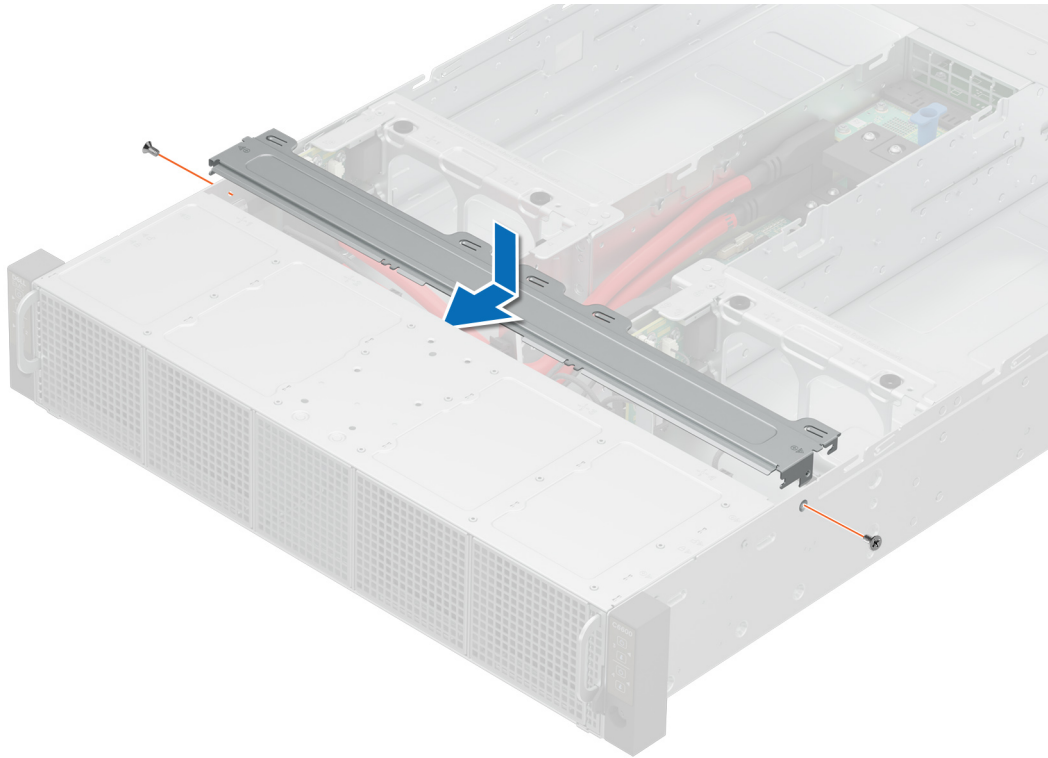


Figure 29. Installing the mid top cover

Next steps

Follow the procedure listed in [After working inside your system](#).

Cooling fans

Removing a 80 mm fan

Prerequisites

⚠ WARNING: Do not attempt to operate the system without the 80 mm fans.

⚠ WARNING: The 80 mm fan spins for some time after the system is powered off. Allow the 80 mm 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 [Before working inside your system](#).

Steps

1. Using the Phillips 2 screwdriver, remove the screw securing the 80 mm fan to the system.

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

2. Disconnect the fan cable from the connector on the fan cage and pull the fan out of the fan cage.

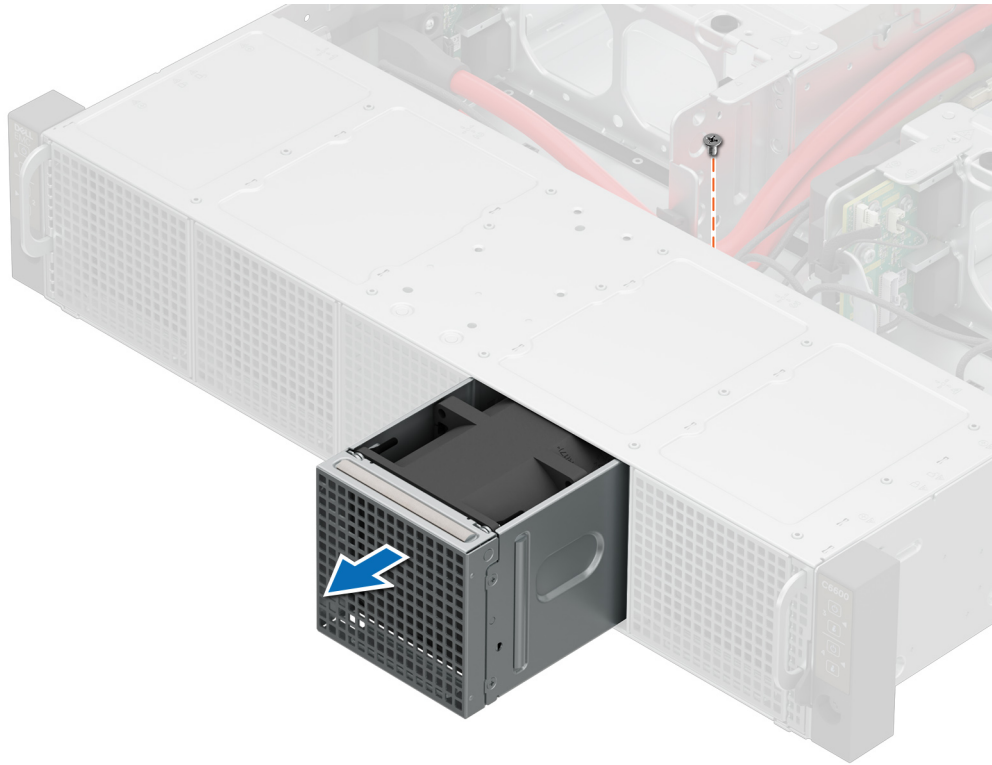


Figure 30. Removing a 80 mm fan

Next steps

1. [Replace a 80 mm fan.](#)
2. For more information about the 80 mm fan status, see the management software.

Installing a 80 mm fan

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions.](#)
2. Follow the procedure listed in [Before working inside your system.](#)

Steps

1. Align the fan with the fan slot on the fan cage, and push the fan until it is firmly seated.
2. Using the Phillips 2 screwdriver, tighten the screw to secure the 80 mm fan to the system.
3. Reconnect the fan cable to the connector on the 80 mm fan.

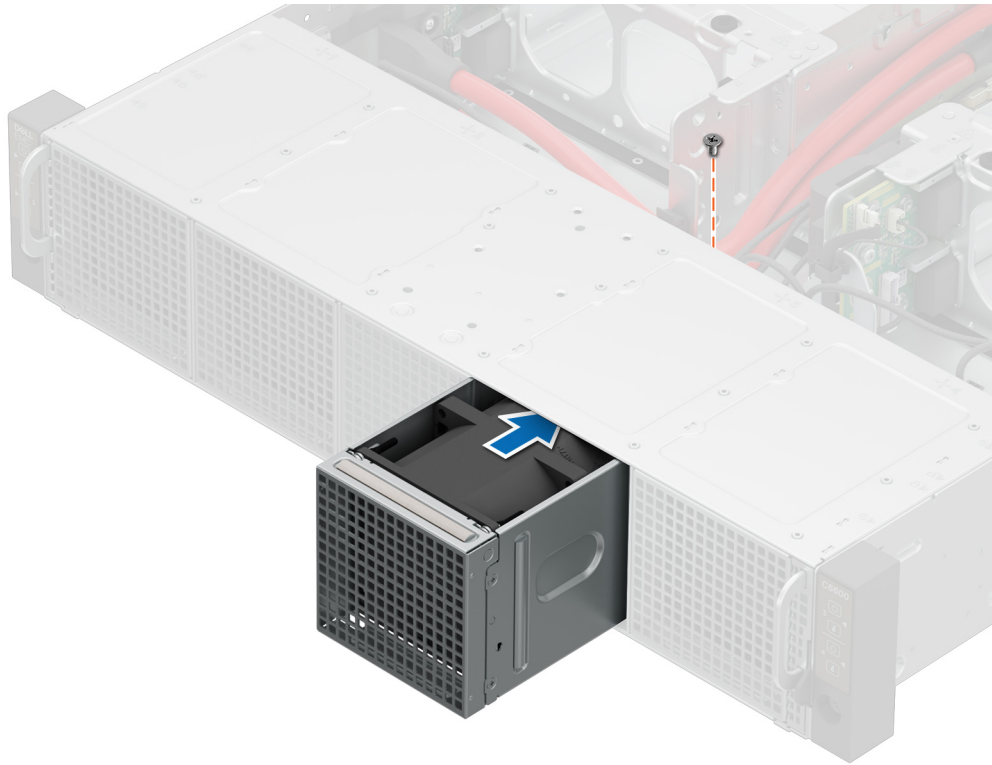


Figure 31. Installing a 80 mm fan

Next steps

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

Removing the diskless 80 mm fan cage

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions.](#)
2. Follow the procedure listed in [Before working inside your system.](#)

Steps

1. Using the Phillips 1 screwdriver, remove the screws securing the fan cage to the chassis.
2. Slide the fan cage to the front of the system and lift the fan cage from the chassis.

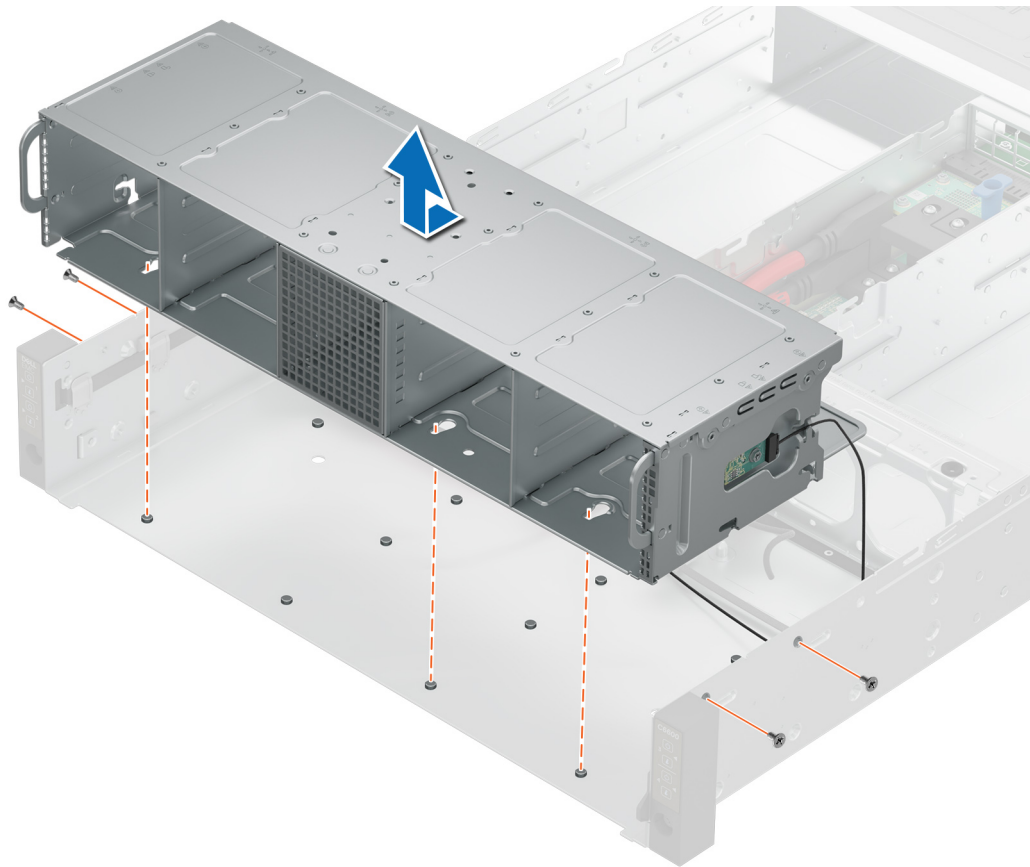


Figure 32. Removing the diskless 80 mm fan cage

Next steps

Replace the diskless 80 mm fan cage.

Installing the diskless 80 mm fan cage

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).

Steps

1. Align and insert the fan cage with the standoffs into the system.
2. Slide the fan cage toward rear of the system.
3. Using the Phillips 1 screwdriver, tighten the screw to secure the fan cage to the system.

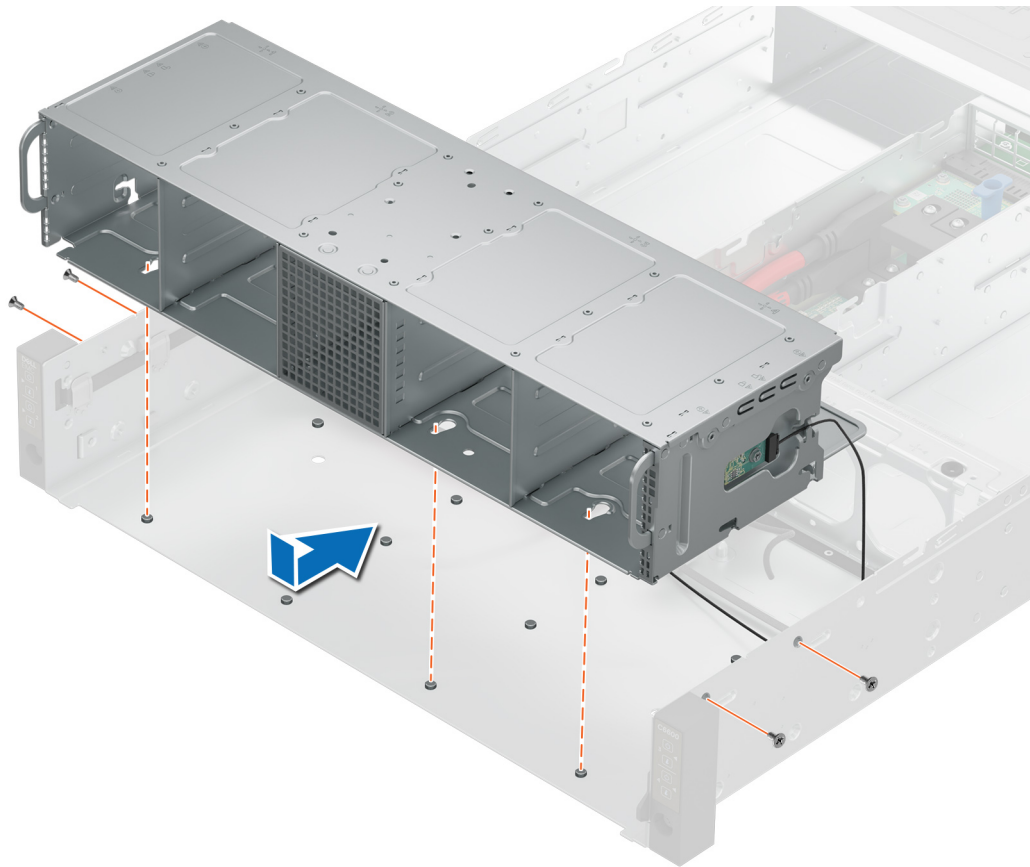


Figure 33. Installing the diskless 80 mm fan cage

Next steps

Follow the procedure listed in [After working inside your system](#).

Removing the 60 mm 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.

i 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 [Before working inside your system](#).
3. [Remove the system cover](#).
4. [Remove the mid top cover](#).

Steps

1. Disconnect the fan power cable from the chassis management board.
2. Lift the cooling fan cage out of the chassis.

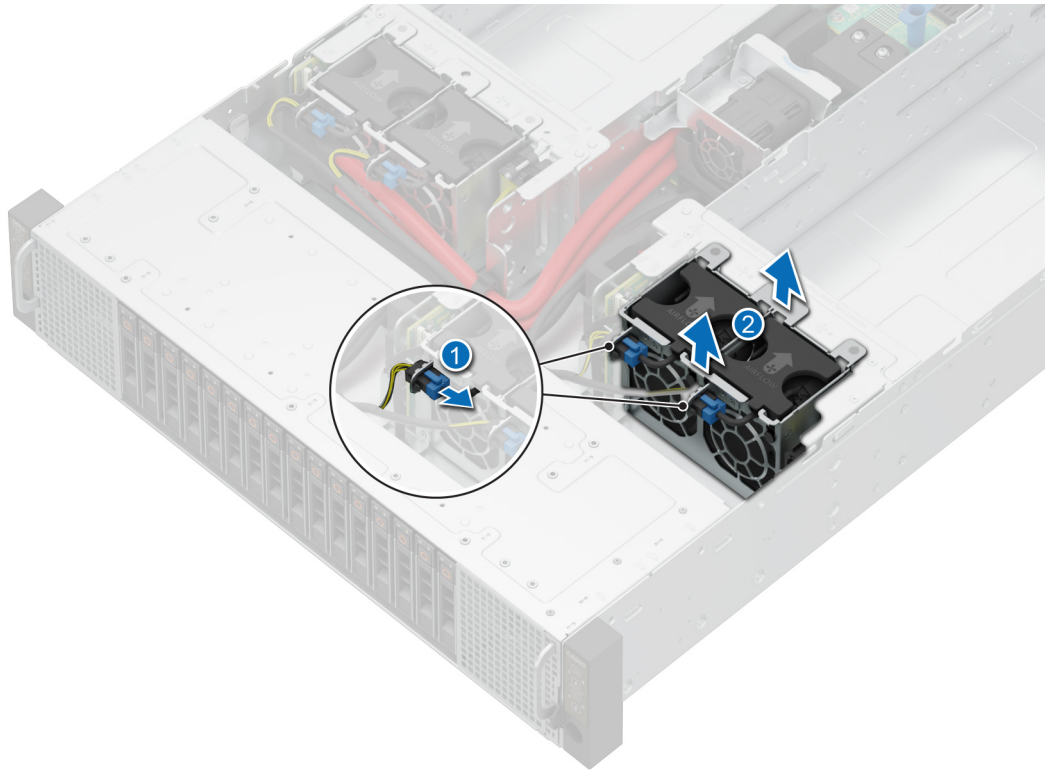


Figure 34. Removing the 60 mm cooling fan cage

Next steps

1. [Install the cooling fan cage.](#)

Installing the 60 mm cooling fan cage

Prerequisites

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

i 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 procedures listed in [Before working inside your system](#).
3. [Remove the system cover.](#)
4. [Remove the mid top cover.](#)

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. Connect the fan power cable to the connector on the chassis management board.

i NOTE: To prevent the cable from being damaged, route this cable properly.

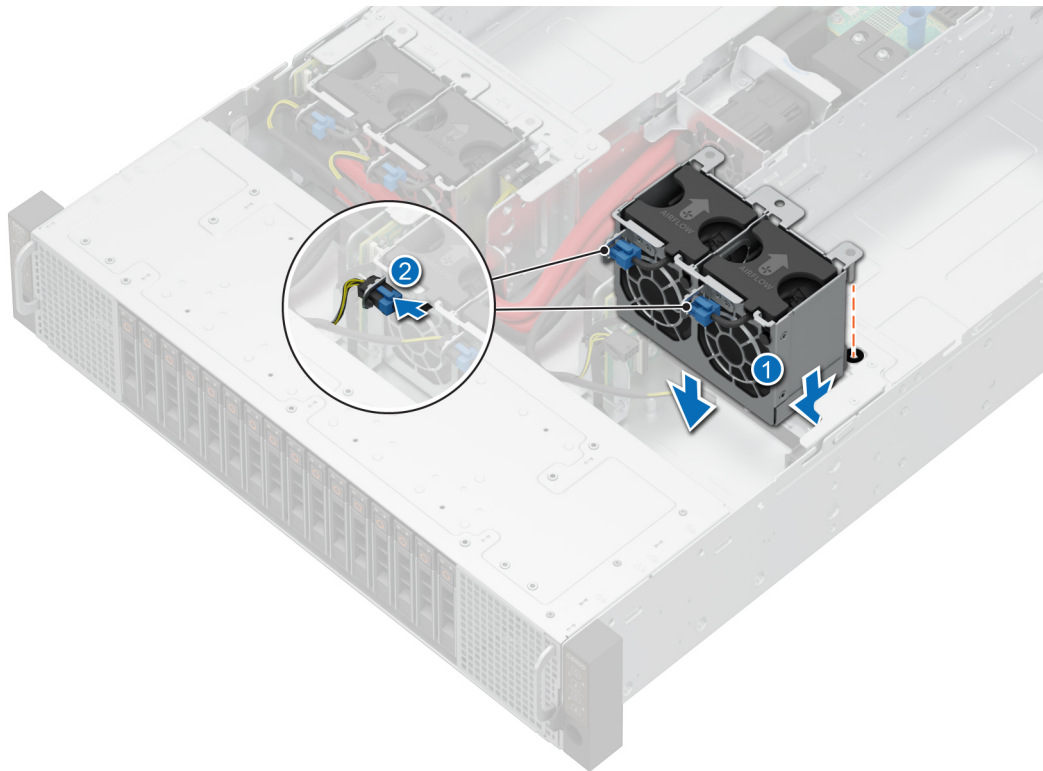


Figure 35. Installing the 60 mm cooling fan cage

Next steps

1. Install the system cover [Install the mid top cover.](#)
2. Install the mid top cover [Install the system cover.](#)
3. Follow the procedure listed in [After working inside your system.](#)
4. Check the management software to see if all the fans are rotating at the optimal speed.

Removing a 60 mm 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 [Before working inside your system.](#)
3. [Remove the 60 mm cooling fan cage.](#)

Steps

Lift the cooling fan upward away from the cooling fan cage.

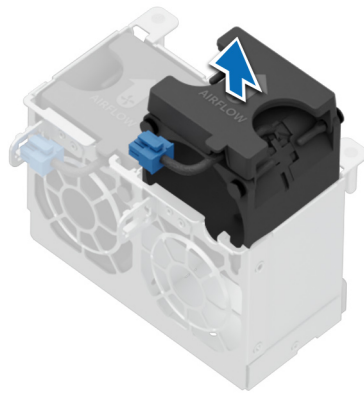


Figure 36. Removing a 60 mm cooling fan

Next steps

1. [Install a cooling fan.](#)
2. For more information about the fan status, see the management software.

Installing a 60 mm cooling fan

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedures listed in [Before working inside your system](#).
3. [Remove the 60 mm cooling fan cage.](#)

Steps

Align the cooling fan with the fan slot on the cooling fan cage, and push the cooling fan until it is firmly seated.

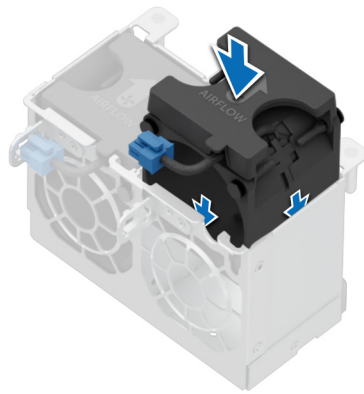


Figure 37. Installing a 60 mm cooling fan

Next steps

1. [Install the 60 mm cooling fan cage.](#)
2. Follow the procedure listed in [After working inside your system.](#)
3. Check the management software to see if the fan is rotating at the optimal speed.

Removing the 40 mm 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.

ℹ 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 [Before working inside your system.](#)
3. [Remove the system cover.](#)

Steps

By holding the blue tab on the fan cage, lift up the fan cage from the fan cage holder.

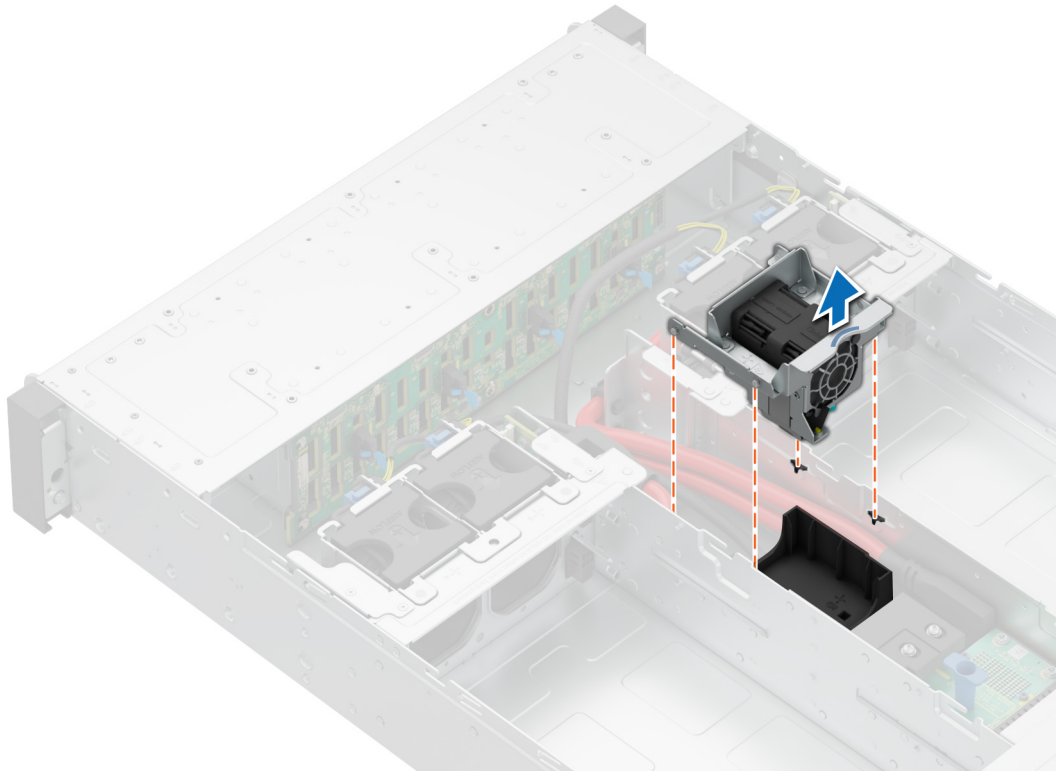


Figure 38. Removing the 40 mm fan cage

Next steps

1. [Installing the 40 mm fan cage.](#)

Installing the 40 mm fan cage

Prerequisites

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

i 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 procedures listed in [Before working inside your system](#).
3. [Remove the system cover](#)

Steps

Align the fan cage pins with the pin holders on the fan cage holder. Lower down the fan cage until all four pins are secured in place on the holder.

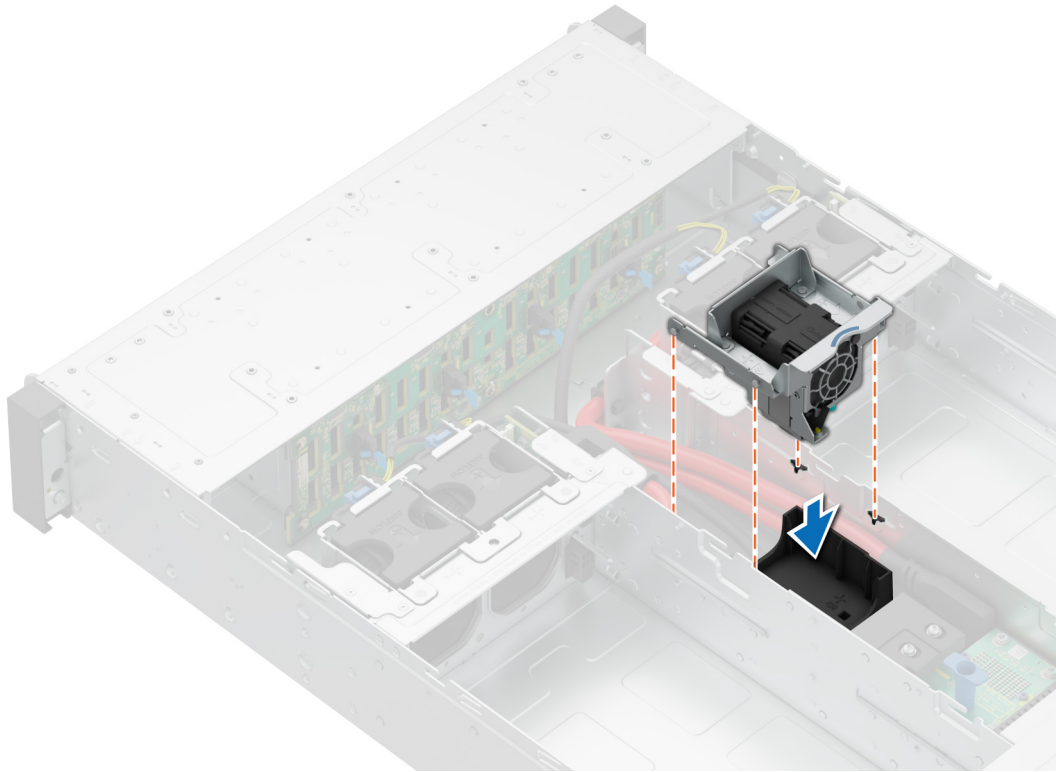


Figure 39. Installing the 40 mm fan cage

Next steps

1. [Install the system cover.](#)
2. Follow the procedure listed in [After working inside your system.](#)
3. Check the management software to see if all the fans are rotating at the optimal speed.

Removing the 40 mm fan cage holder

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions.](#)
2. Follow the procedure listed in [Before working inside your system.](#)
3. [Remove the 40 mm fan cage.](#)

Steps

1. Using the Phillips 1 screwdriver, remove the screw that secures the cage holder.
2. Lift up the cage holder to remove it from the chassis.

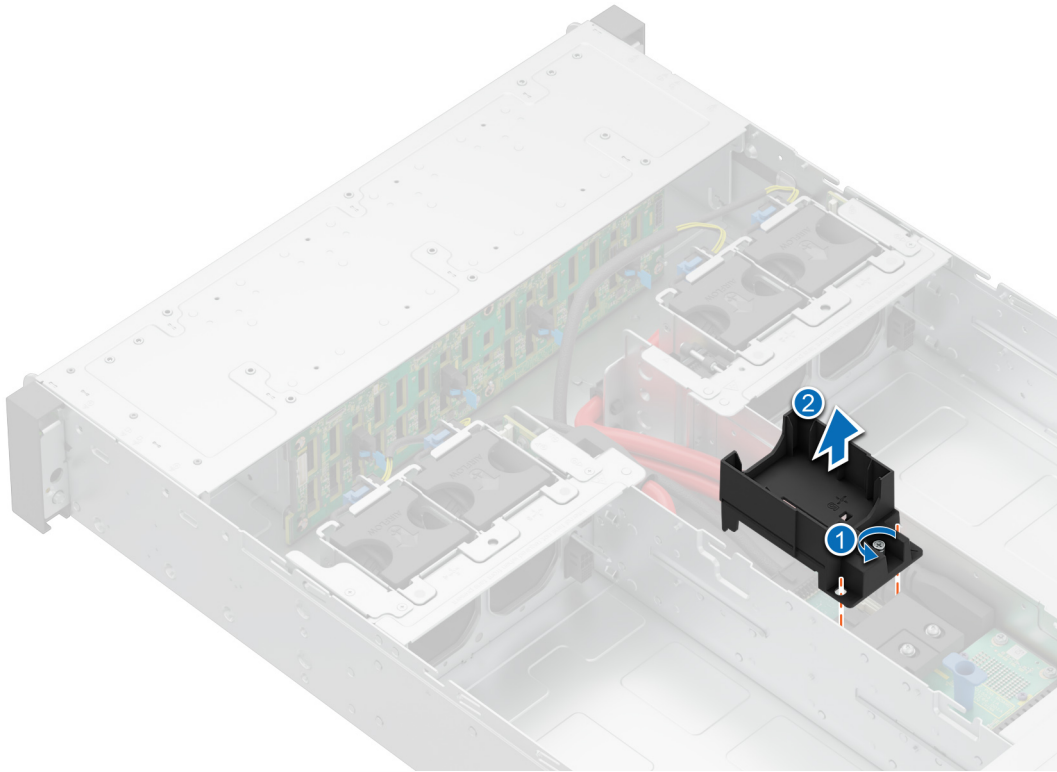


Figure 40. Removing the 40 mm fan cage holder

Next steps

1. [Installing the 40 mm fan cage holder.](#)

Installing the 40 mm fan cage holder

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedures listed in [Before working inside your system](#).
3. [Remove the 40 mm fan cage.](#)

Steps

1. Align the fan cage holder with the two guided pins. Lower down the cage holder on to the guided pins.
2. Using a Phillips #1 screwdriver, tighten the screw to secure the cage holder in place.

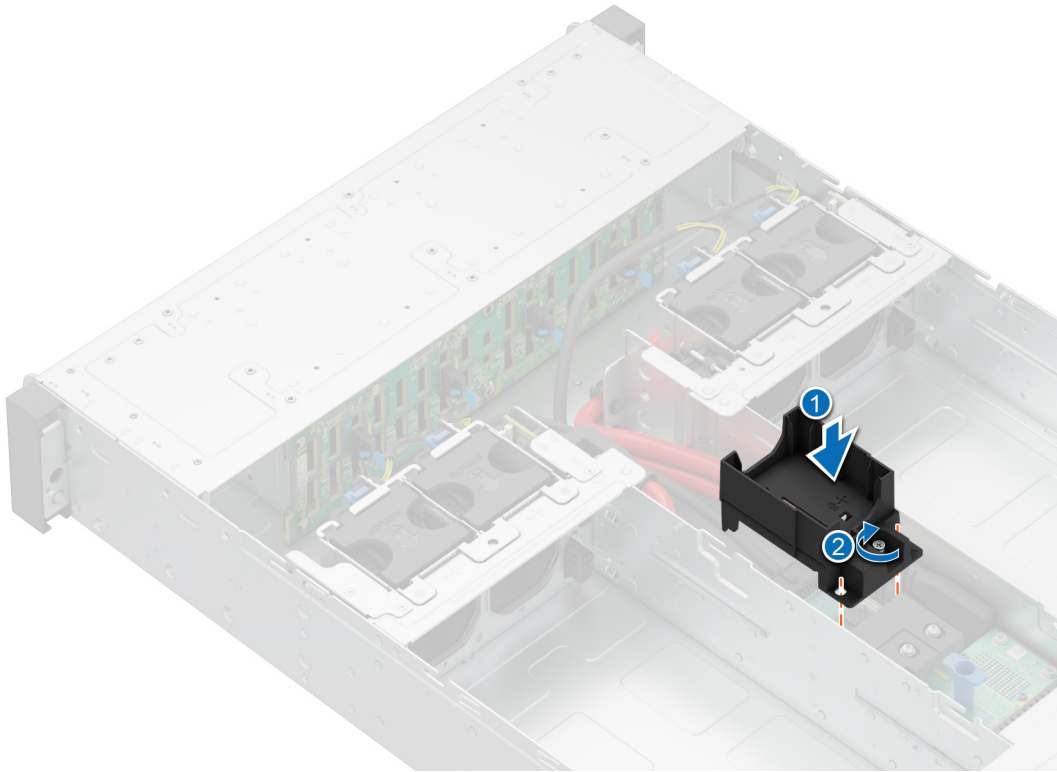


Figure 41. Installation of the 40 mm fan cage holder

Next steps

1. [Install the 40 mm fan cage.](#)
2. [Install the system cover.](#)
3. Follow the procedure listed in [After working inside your system.](#)
4. Check the management software to see if all the fans are rotating at the optimal speed.

Thermal sensor board

This is a service technician replaceable part only.

Removing the thermal sensor board

Prerequisites

NOTE: Observe the routing of the cables on the chassis as you remove 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 [Before working inside your system.](#)
3. [Remove the system cover.](#)
4. [Remove the mid top cover.](#)
5. [Remove all the 80 mm fans.](#)
6. [Remove the diskless 80 mm fan cage.](#)

Steps

1. Using the Phillips 2 screwdriver, remove the screw securing the thermal sensor board to the diskless 80 mm fan cage.
2. Disconnect the sensor cable from the right midplane.

3. Disengage the sensor board from the fan cage and lift the board from the cage.

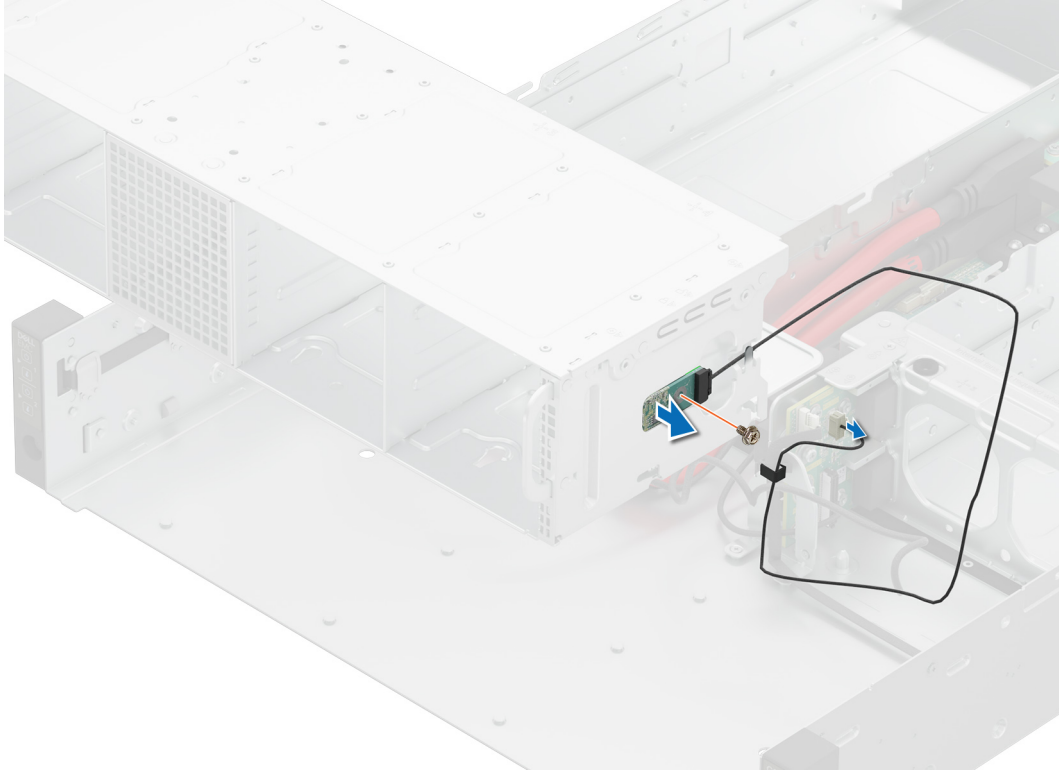


Figure 42. Removing the thermal sensor board

Next steps

Replace the thermal sensor board.

Installing the thermal sensor board

Prerequisites

i **NOTE:** Observe the routing of the cables on the chassis as you remove them from the system.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove all the 80 mm fans](#).
4. Disconnect the right control panel cable from the midplane.
5. [Remove the mid top cover](#).
6. [Remove the diskless 80 mm fan cage from the chassis](#).

Steps

1. Align and install the thermal sensor board into the sensor board holder.
2. Using the Phillips 2 screwdriver, tighten the screw to secure the sensor board to the fan cage.
3. Connect the sensor board cable to the right midplane.

i **NOTE:** You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

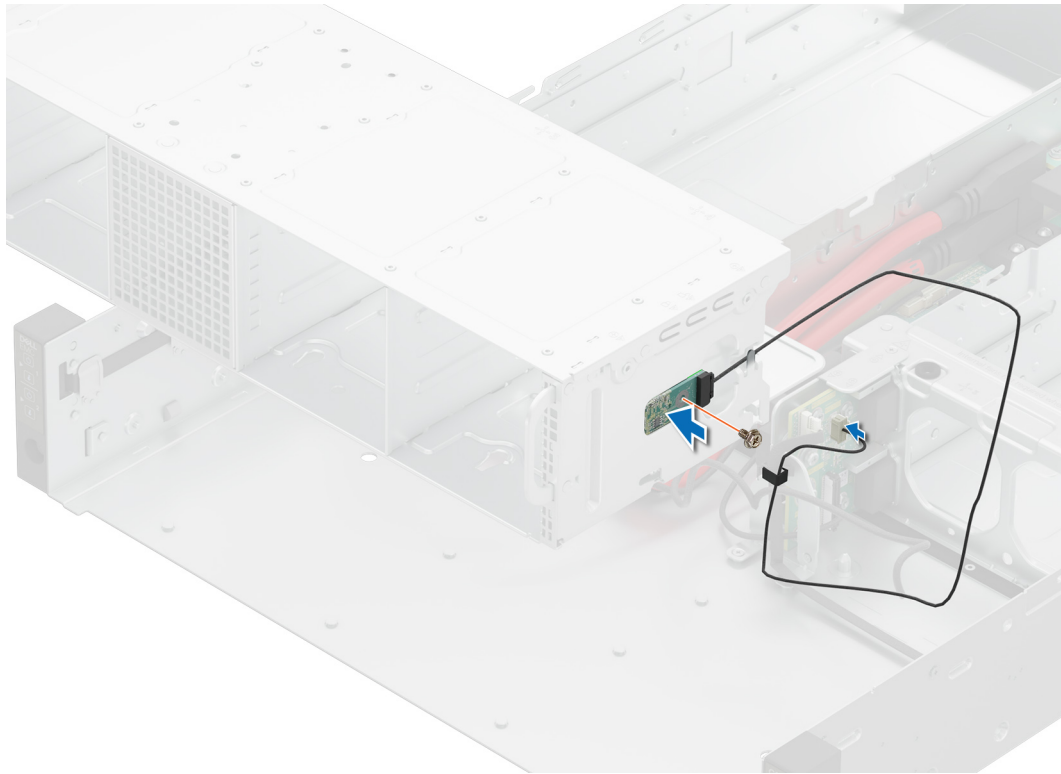


Figure 43. Installing the thermal sensor board

Next steps

1. Install the diskless 80 mm fan cage.
2. Install all the 80 mm fans.
3. Install the mid top cover.
4. Install the system cover.
5. Follow the procedure listed in [After working inside your system](#).

Midplane

This is a service technician replaceable part only.

Removing the right midplane

Prerequisites

i **NOTE:** Observe the routing of the cables on the chassis as you remove 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 [Before working inside your system](#).
3. [Remove all the sleds from the enclosure](#).
4. Disconnect all the cables, except the power cables.

Steps

1. Using the Phillips 1 screwdriver, remove the screws securing the midplane to the chassis.
2. Using the Phillips 2 screwdriver, remove the screws securing the right power cables to the chassis management board.
3. Pull the midplane to the front of the enclosure and lift the midplane out of the chassis.

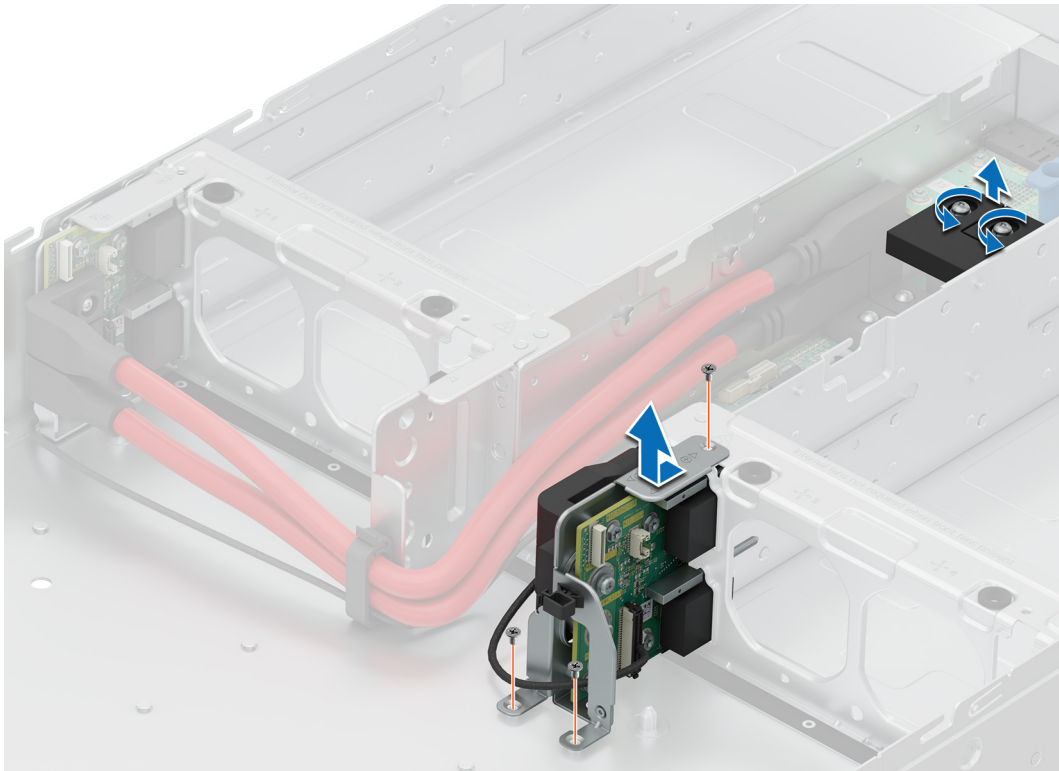


Figure 44. Removing the right midplane

4. Using the Phillips 2 screwdriver, remove the screws securing the right signal cables to the midplane.

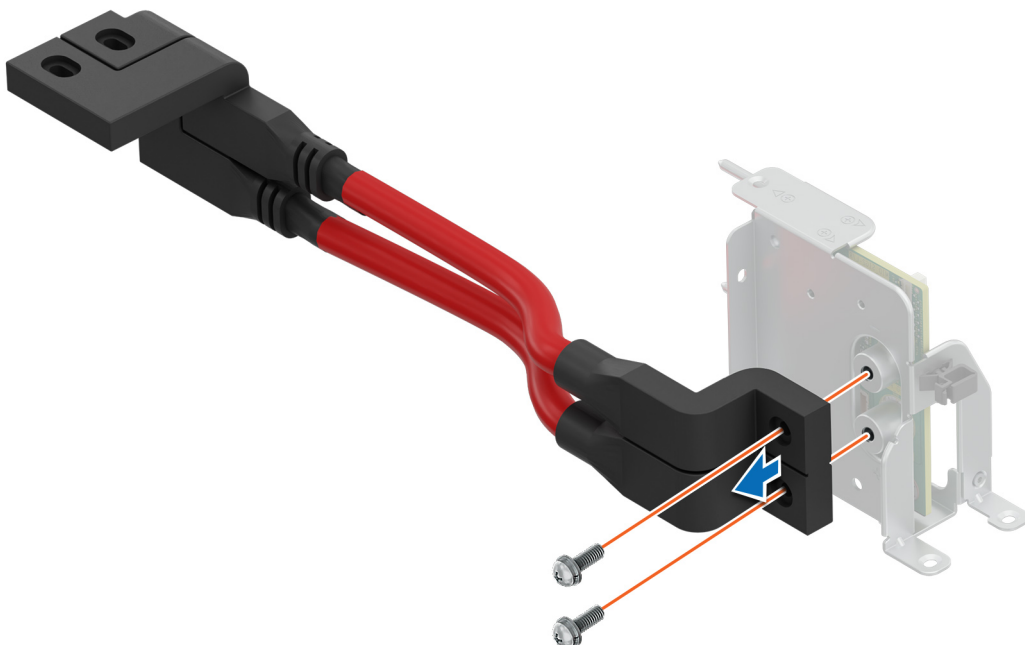


Figure 45. Removing the right midplane power cables

Next steps

Replace the right midplane.

Installing the right midplane

Prerequisites

NOTE: You must route the cables properly on the chassis to prevent them from being pinched or crimped.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove all the sleds from the enclosure](#).
4. Disconnect all the cables, except the power cables.

Steps

1. Using the Phillips 2 screwdriver, connect and secure the right power cables to the midplane.

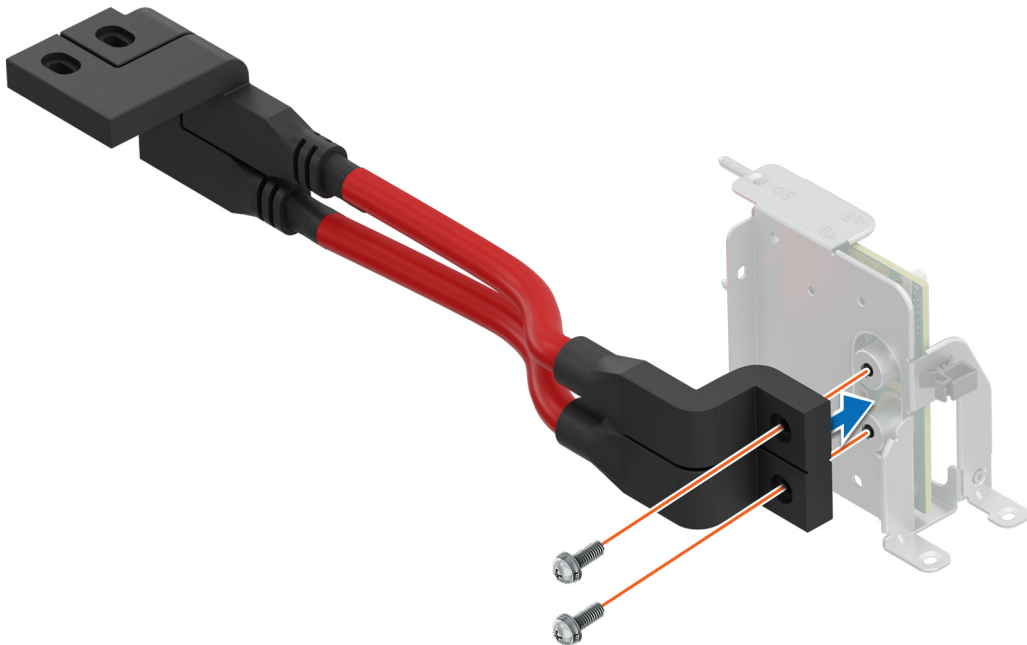


Figure 46. Connect the right midplane power cables to the midplane

2. Align and slide the midplane to the chassis by hooking the right bracket.
3. Using the Phillips 1 screwdriver, install the screws securing the midplane to the chassis.
4. Using the Phillips 2 screwdriver, connect and secure the right power cables to the chassis management board.

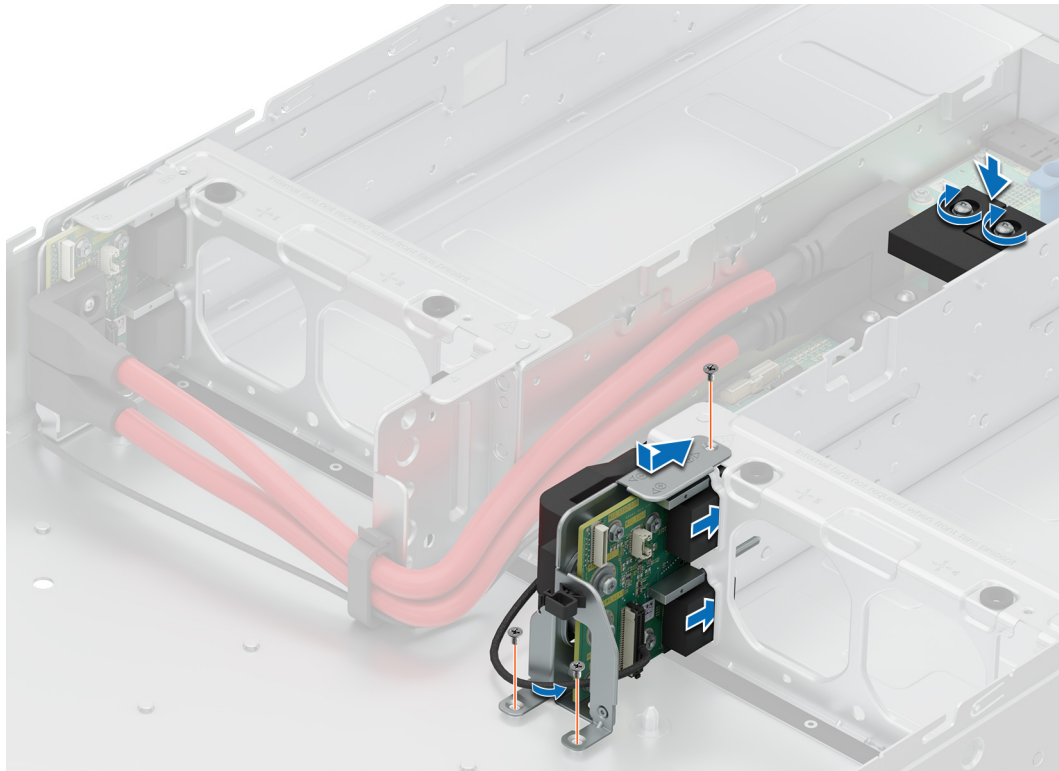


Figure 47. Installing the right midplane

Next steps

1. Reconnect all the disconnected cables.
2. [Install the sleds into the enclosure.](#)
3. Follow the procedure listed in [After working inside your system.](#)

Removing the left midplane

Prerequisites

NOTE: Observe the routing of the cables on the chassis as you remove 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 [Before working inside your system.](#)
3. [Remove all the sleds from the enclosure.](#)
4. Disconnect all the cables, except the power cables.

Steps

1. Using the Phillips 1 screwdriver, remove the screws securing the midplane to the chassis.
2. Using the Phillips 2 screwdriver, remove the screws securing the left power cables to the chassis management board.
3. Open the left power cable clips and pull the midplane to the front of the enclosure and lift the midplane out of the chassis.

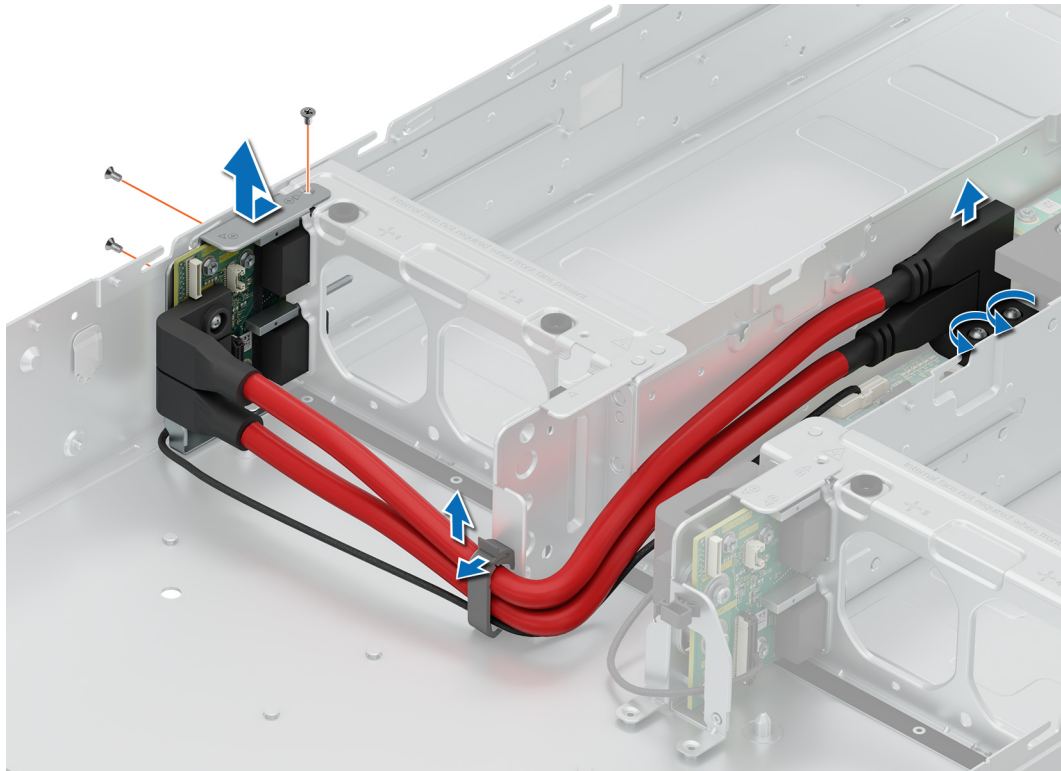


Figure 48. Removing the left midplane

4. Using the Phillips 2 screwdriver, remove the screws securing the left power cables to the midplane.



Figure 49. Removing the left midplane power cables

Next steps

[Replace the left midplane](#)

Installing the left midplane

Prerequisites

NOTE: You must route the cables properly on the chassis to prevent them from being pinched or crimped.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove all the sleds from the enclosure](#).
4. Disconnect all the cables, except the power cables.

Steps

1. Using the Phillips 2 screwdriver, connect and secure the left power cables to the midplane.



Figure 50. Connect the left midplane power cables to the midplane

2. Route the power cable through the cable clip on the chassis, and slide the midplane to the chassis by hooking the left bracket.
3. Using the Phillips 1 screwdriver, install the screws securing the midplane to the chassis.
4. Using the Phillips 2 screwdriver, secure the left power cables to the chassis management board.

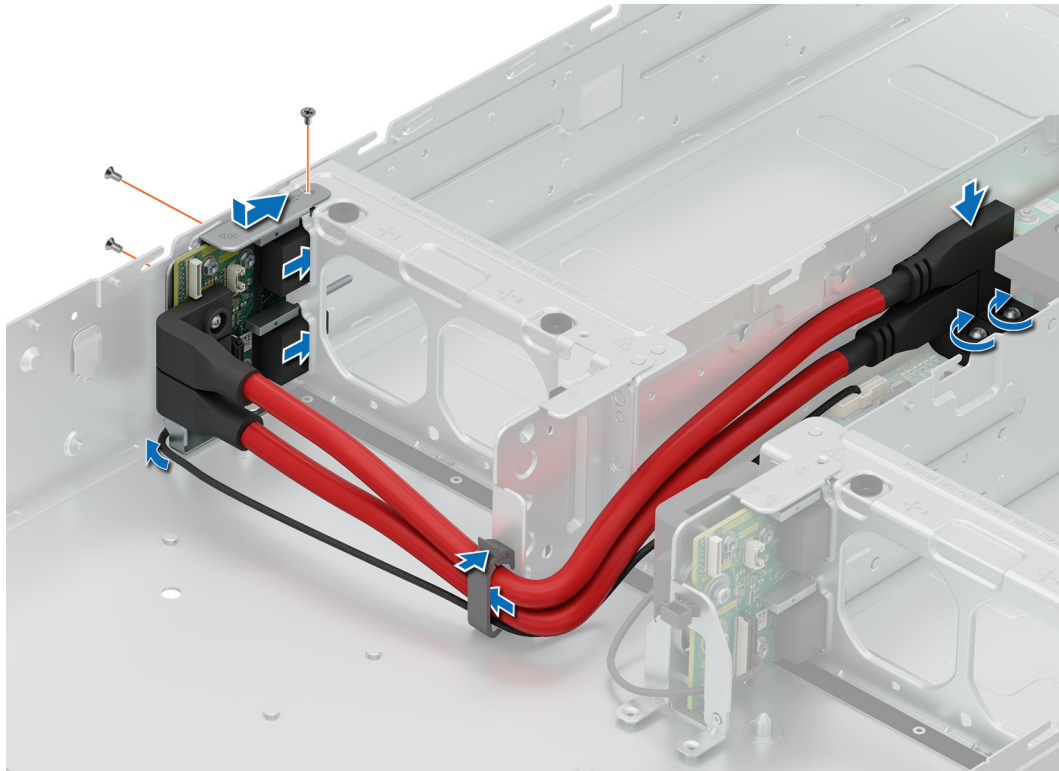


Figure 51. Installing the left midplane

Next steps

1. Reconnect all the disconnected cables.
2. [Install the sleds into the enclosure.](#)
3. Follow the procedure listed in [After working inside your system.](#)

Power supply unit

i **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 updating to the latest firmware and changing the configuration, see the *Lifecycle Controller User's Guide* at <https://www.dell.com/idracmanuals>.

Removing a power supply unit

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Disconnect the power cable from the power outlet and from the PSU that you intend to remove.
3. Remove the cable from the strap on the PSU handle.
4. Unlatch and lift the optional cable management arm if it interferes with the PSU removal.

For information about the cable management arm, see the system's rack documentation at <https://www.dell.com/poweredgemanuals>.

Steps

Press the orange release latch, and holding the PSU handle slide the PSU out of the PSU bay..

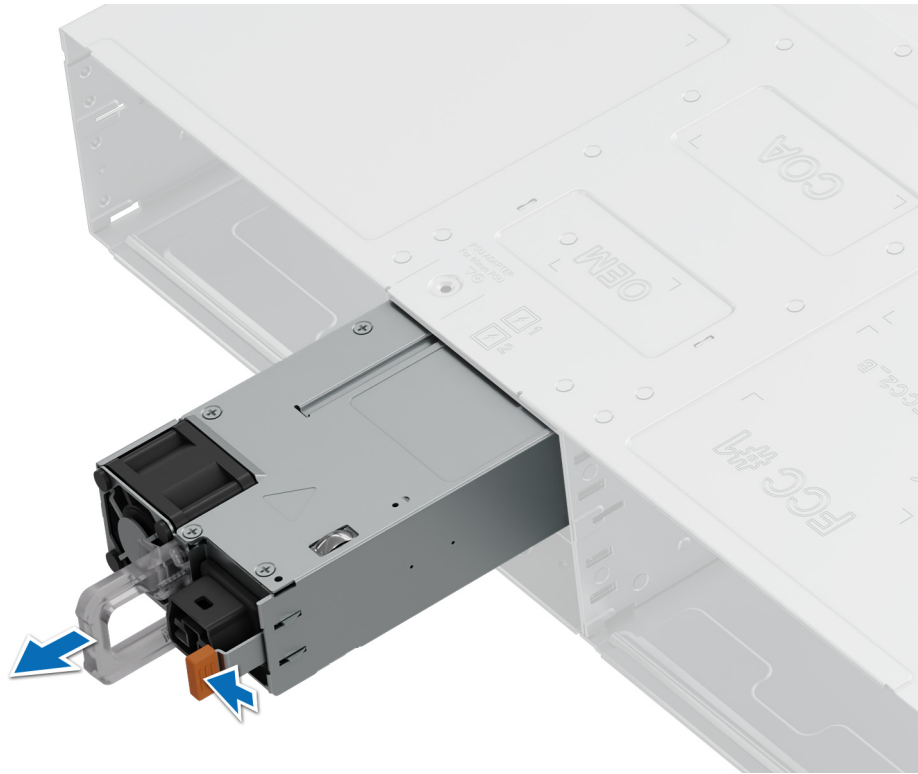


Figure 52. Removing a power supply unit

Next steps

Replace 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 PSU bay until the release latch snaps into place.

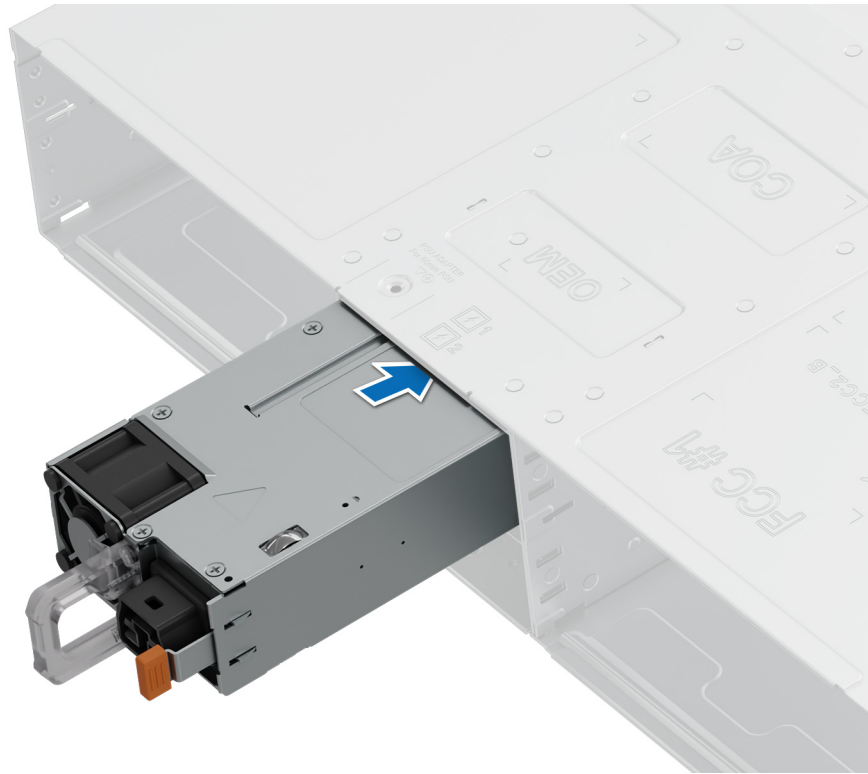


Figure 53. Installing a power supply unit

Next steps

1. If you have unlatched the cable management arm, relatch it. For information about the cable management arm, see the system's rack documentation at <https://www.dell.com/poweredgemanuals>.
 2. Connect the power cable to the PSU, and plug the cable into a power outlet.
- NOTE:** For certain premium configurations with high power consumption, system PSU might stay with 2+0 mode only, 1+1 redundant mode is not available.
- 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.

Power distribution board

This is a service technician replaceable part only.

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 [Before working inside your system](#).
3. [Remove the power supply units](#).
4. Disconnect the cables that are connected to PDB except for the midplane power cables.

Steps

1. Using the Phillips 2 screwdriver, remove the screws securing the midplane power cables to the PDB.

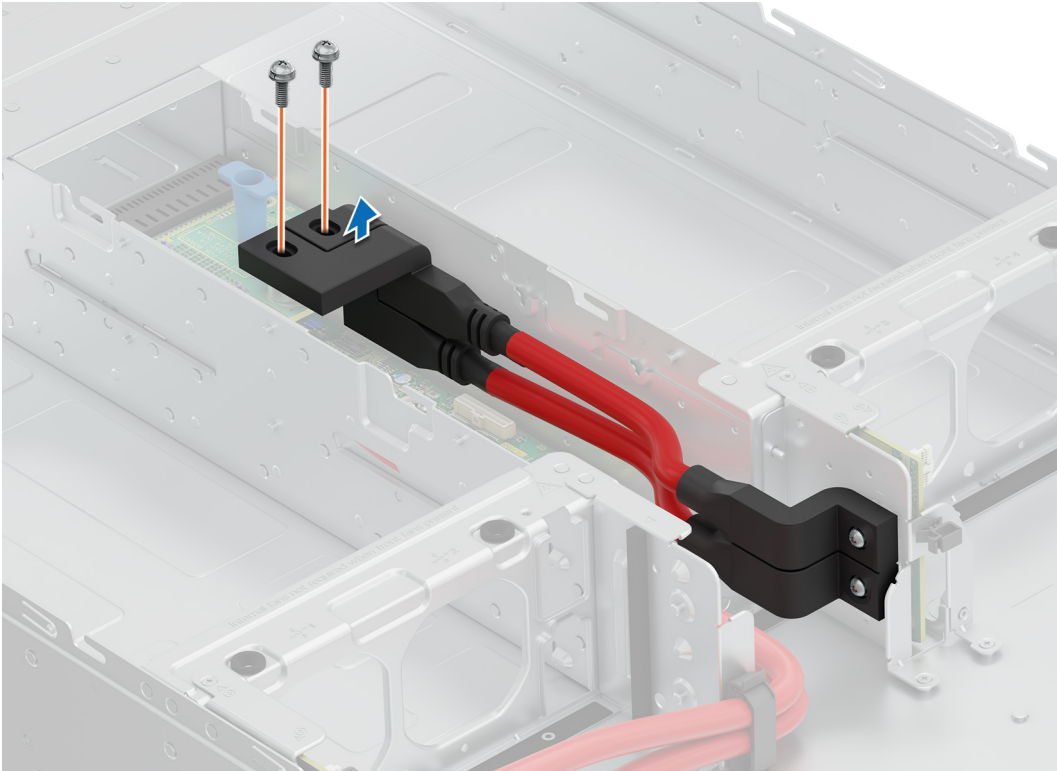


Figure 54. Removing the midplane power cables from the PDB

2. Using the Phillips 2 screwdriver, remove the screws securing the PDB to the chassis.
3. Holding the blue standoff, lift the PDB from the chassis.



Figure 55. Removing the PDB

Next steps

[Replace 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](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the power supply units](#).
4. Disconnect the cables that are connected to PDB expect for the mid-plane power cables.

Steps

1. Align and insert the PDB on the connector on the chassis.
2. Using the Phillips 2 screwdriver, tighten the screws to secure the PDB to the chassis.

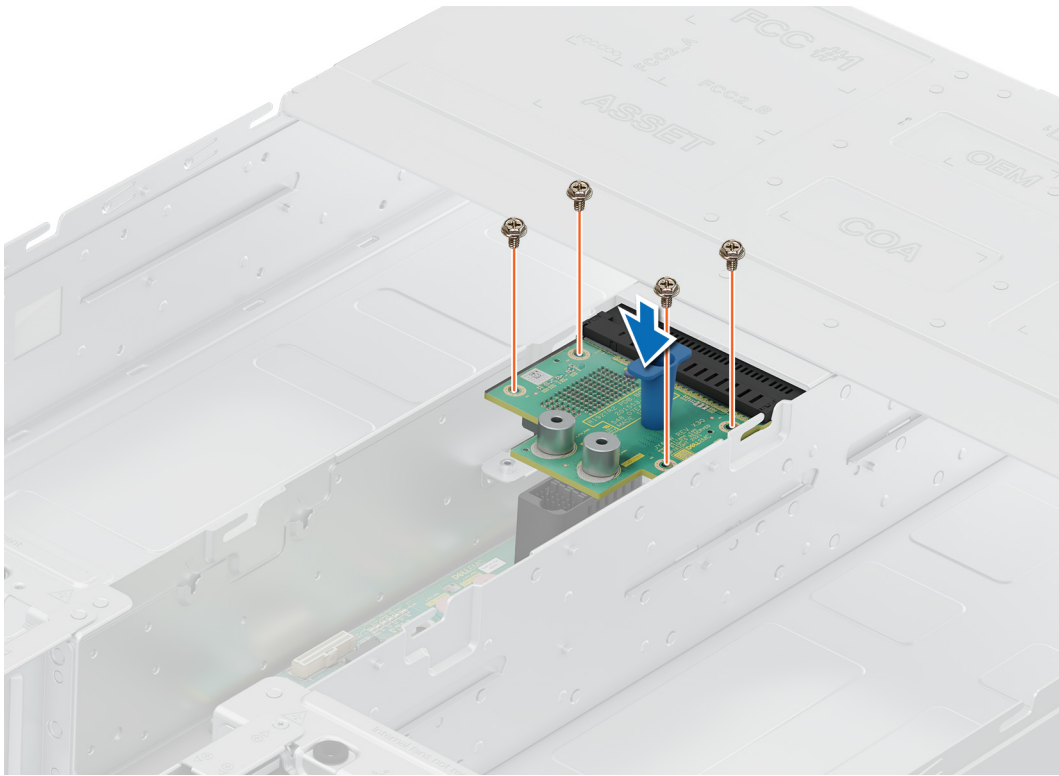


Figure 56. Installing the PDB

3. Using the Phillips 2 screwdriver, tighten the screws to secure the midplane power cable to the PDB.

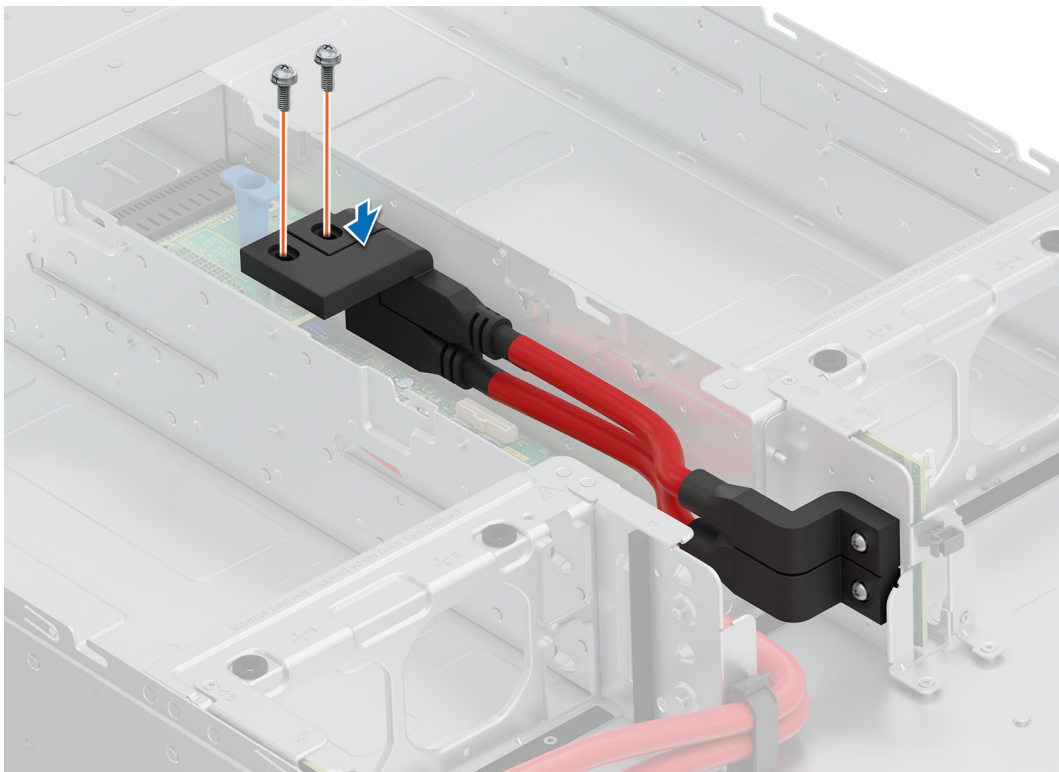


Figure 57. Installing the midplane power cables to the PDB

Next steps

1. [Replace the power supply units.](#)
2. Follow the procedure listed in [After working inside your system](#)

Chassis management board

This is a service technician replaceable part only.

Removing the chassis management board

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the power supply units.](#)
4. [Remove the power interposer board.](#)
5. Disconnect all the cables that are connected to the chassis management board.

Steps

1. Using the Phillips 2 screwdriver, remove the screws securing the midplane power cables to the chassis management board.

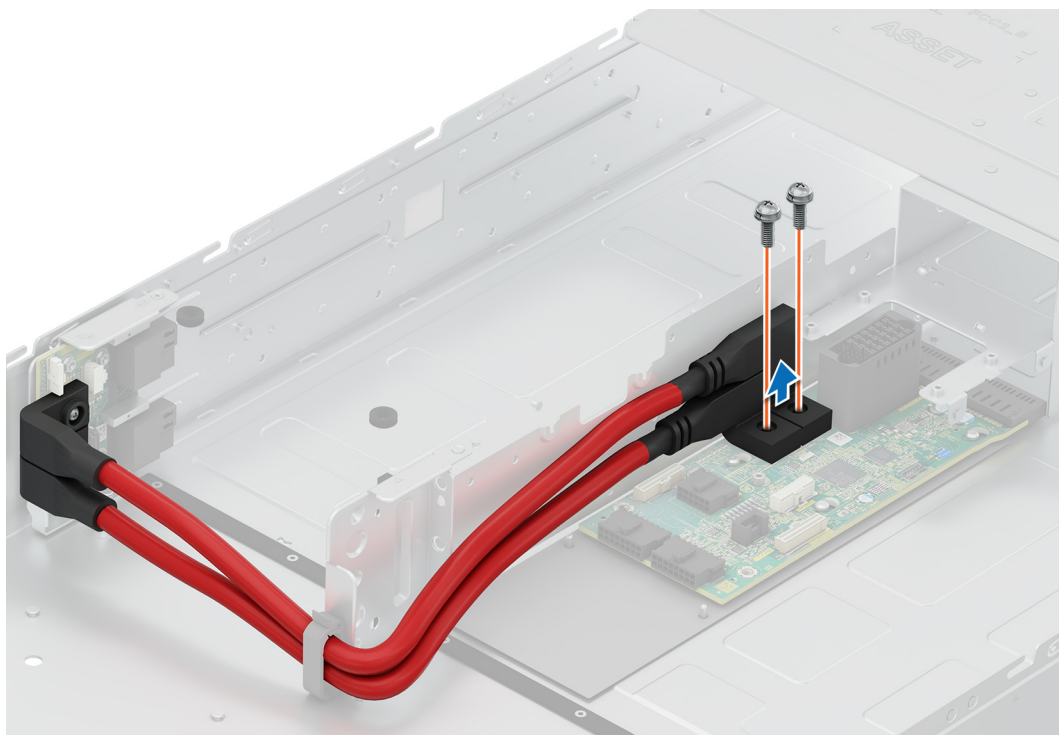


Figure 58. Removing the midplane power cables from the chassis management board

2. Using the Phillips 2 screwdriver, remove the two screws securing the chassis management board to the chassis.
3. Slide the chassis management board toward the front of the system to disengage the board from the connector and lift the board from the system.

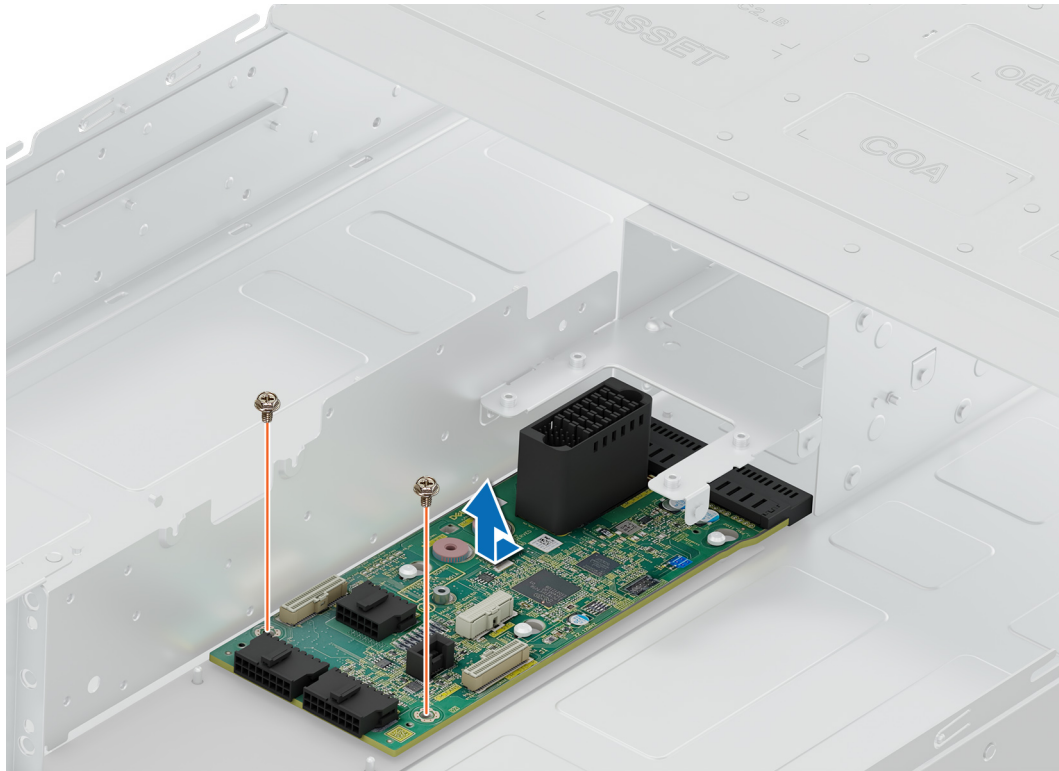


Figure 59. Removing the chassis management board

Next steps

Replace the chassis management board.

Installing the chassis management board

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the power supply units](#).
4. [Remove the power interposer board](#).
5. Disconnect all the cables that are connected to the chassis management board.

Steps

1. Insert the chassis management board into the system, aligning the guide slots with the standoffs on the chassis.
2. Push the board toward the rear of the system to connect the board to the connector in the system.
3. Using the Phillips 2 screwdriver, tighten the screws to secure the board to the chassis.

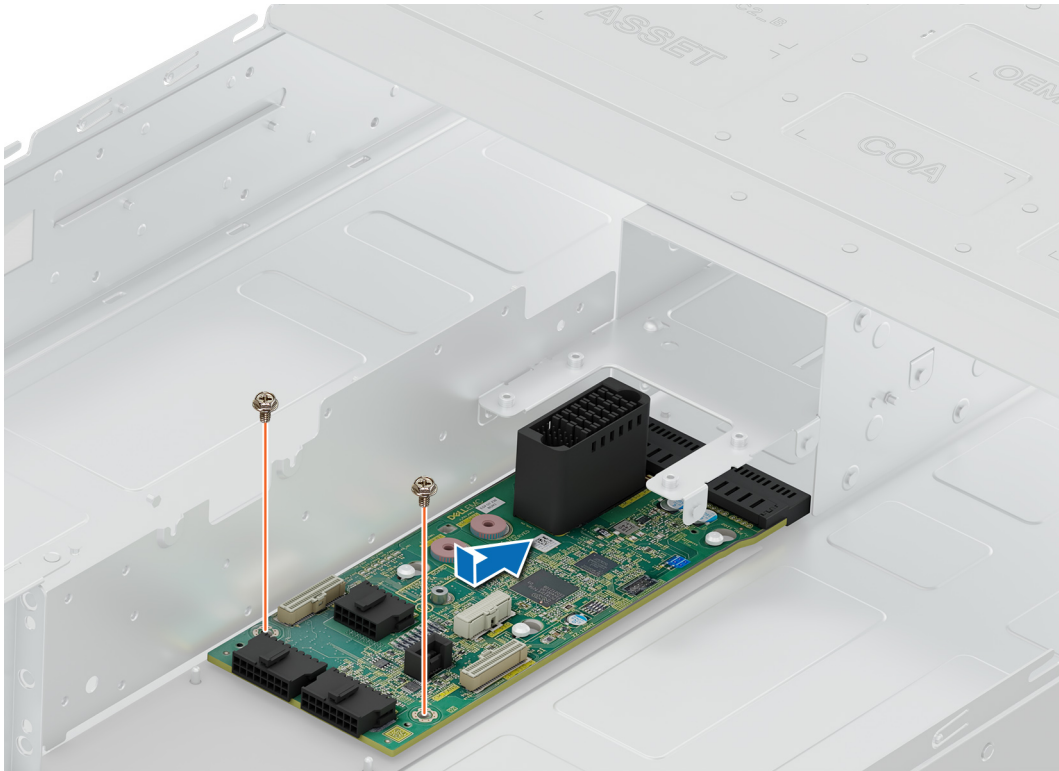


Figure 60. Installing the chassis management board

4. Using the Phillips 2 screwdriver, tighten the screws to secure the midplane power cable to the chassis management board.

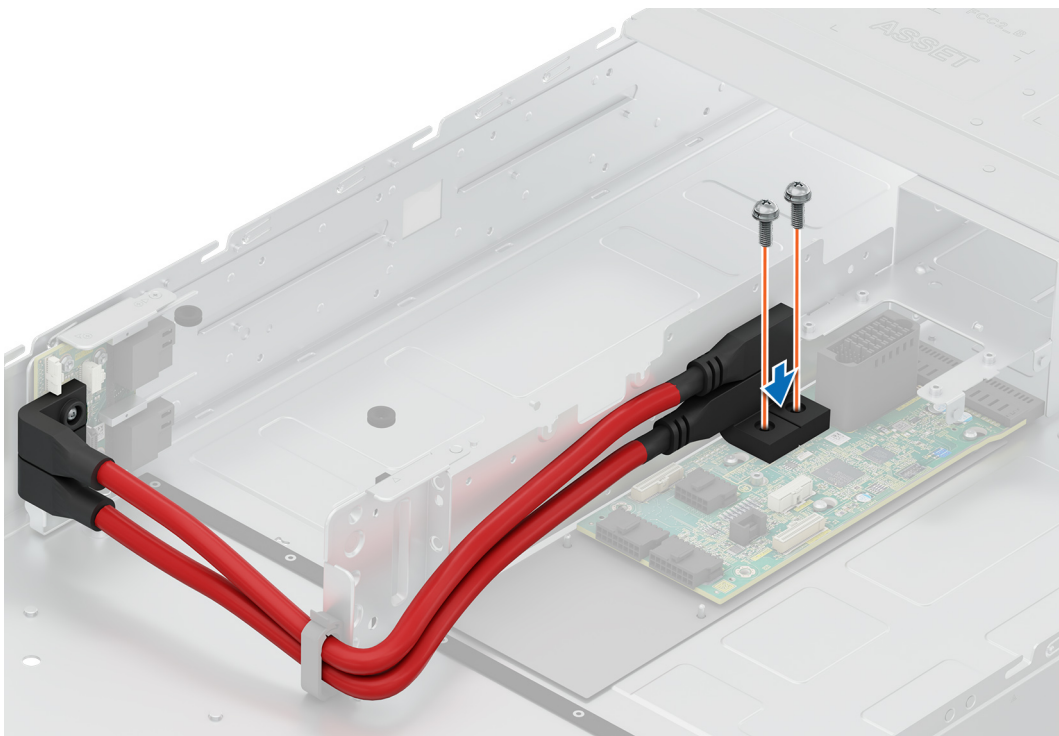


Figure 61. Installing the midplane power cables from the chassis management board

Next steps

1. Reconnect all the disconnected cables.

2. Install the power interposer board.
3. Install the power supply units.
4. Follow the procedure listed in [After working inside your system](#).

Control panel

This is a service technician replaceable part only.

Removing the left control panel

Prerequisites

NOTE: Observe the routing of the cables on the system as you remove them. 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 [Before working inside your system](#).
3. [Remove the mid top cover](#).
4. [Remove the 80 mm fans](#).
5. [Remove the diskless 80 mm fan cage](#).
6. Disconnect control panel cables from the midplane.

Steps

1. Using the Phillips 1 screwdriver, remove the screws securing the left control panel assembly to the chassis.
2. Remove the cable from the cable retention clips.
3. Lift the left control panel assembly from the system.

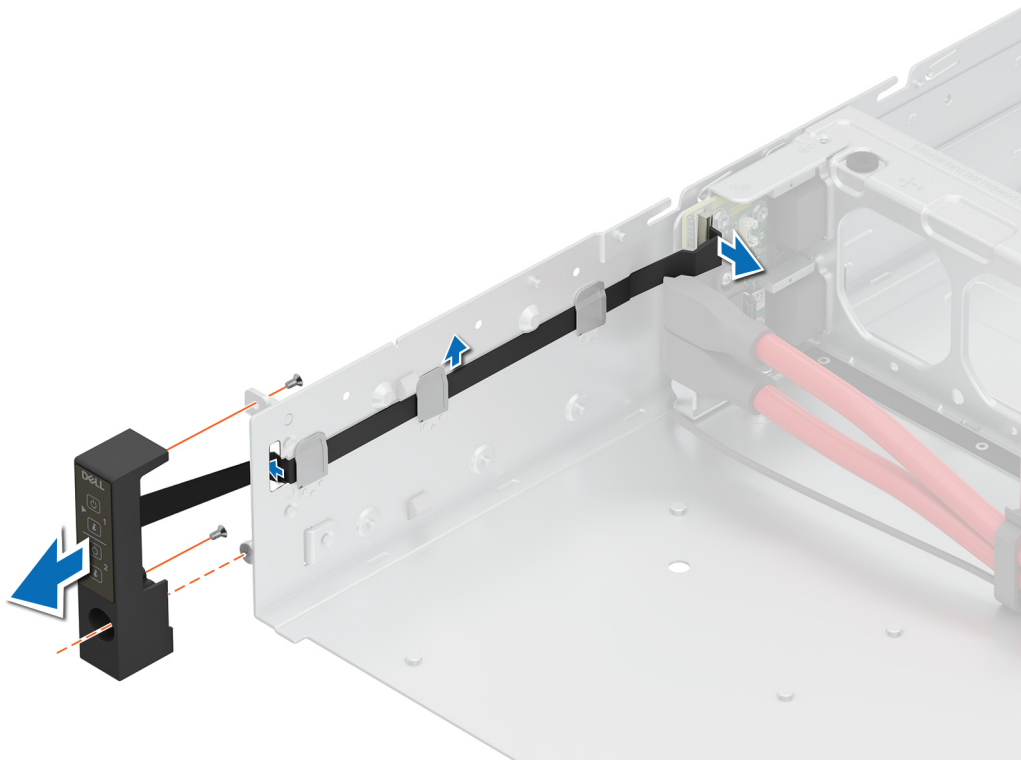


Figure 62. Removing the left control panel assembly

Next steps

Replace the left control panel.

Installing the left control panel

Prerequisites

NOTE: Observe the routing of the cables on the chassis as you remove them from the system.

NOTE: Additional tape may be required to secure the cables.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the mid top cover](#).
4. [Remove the 80 mm fans](#).
5. [Remove the diskless 80 mm fan cage](#).
6. Disconnect control panel cables from the midplane.

Steps

1. Route the left control panel cable through the cable retention clips.
2. Align and install the left control panel assembly.
3. Using the Phillips 1 screwdriver, tighten the screws to secure the control panel to the system.

NOTE: You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

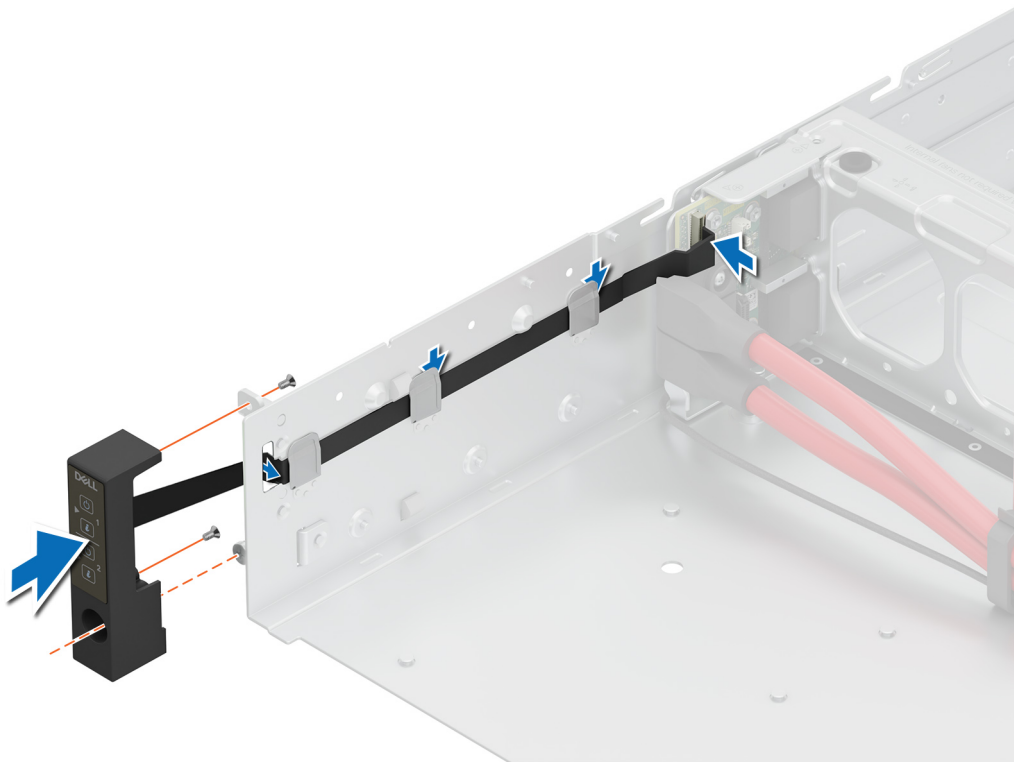


Figure 63. Installing the left control panel assembly

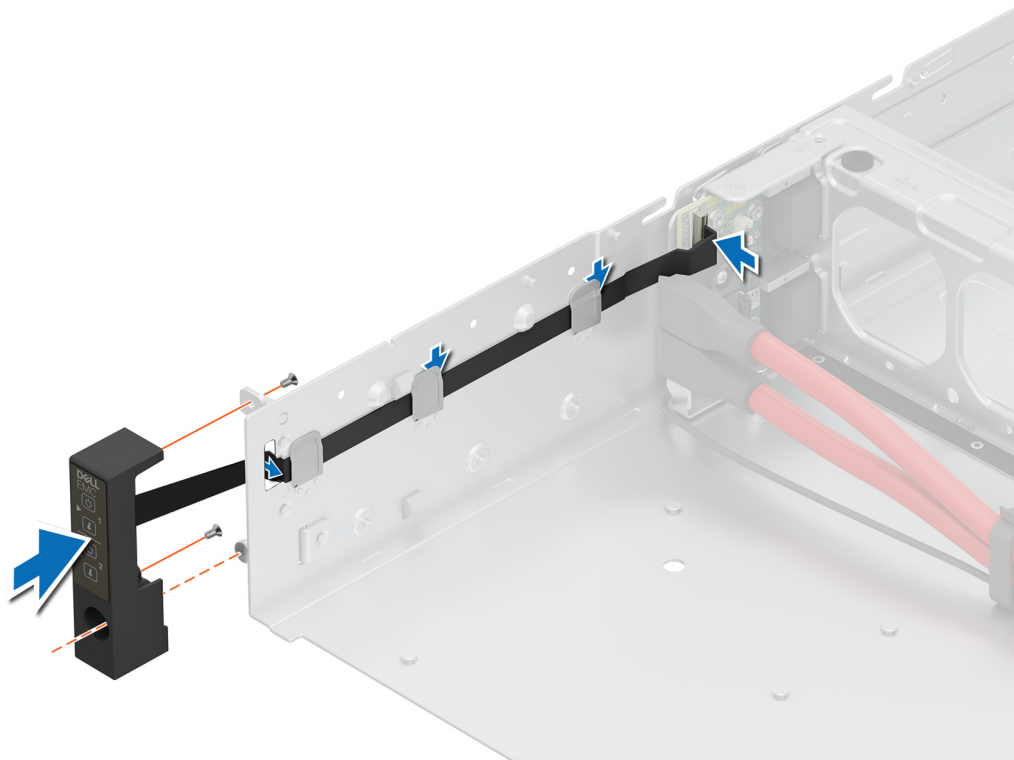


Figure 64. Installing the left control panel assembly

Next steps

1. Reconnect the left control panel cable to the midplane.
2. [Install the diskless 80 mm fan cage.](#)
3. [Install all 80 mm fans.](#)
4. [Install the mid top cover.](#)
5. Follow the procedure listed in [After working inside your system.](#)

Removing the right control panel

Prerequisites

NOTE: Observe the routing of the cables on the system as you remove them.

1. Follow the safety guidelines listed in [Safety instructions.](#)
2. Follow the procedure listed in [Before working inside your system.](#)
3. [Remove the mid top cover.](#)
4. [Remove the 80 mm fans.](#)
5. [Remove the diskless 80 mm fan cage.](#)
6. Disconnect control panel cables from the midplane.

Steps

1. Using the Phillips 1 screwdriver, remove the screws securing the right control panel assembly to the chassis.
2. Remove the cable from the cable retention clips on the chassis and the rubber holder on the right midplane.
3. Lift the right control panel assembly from the system.

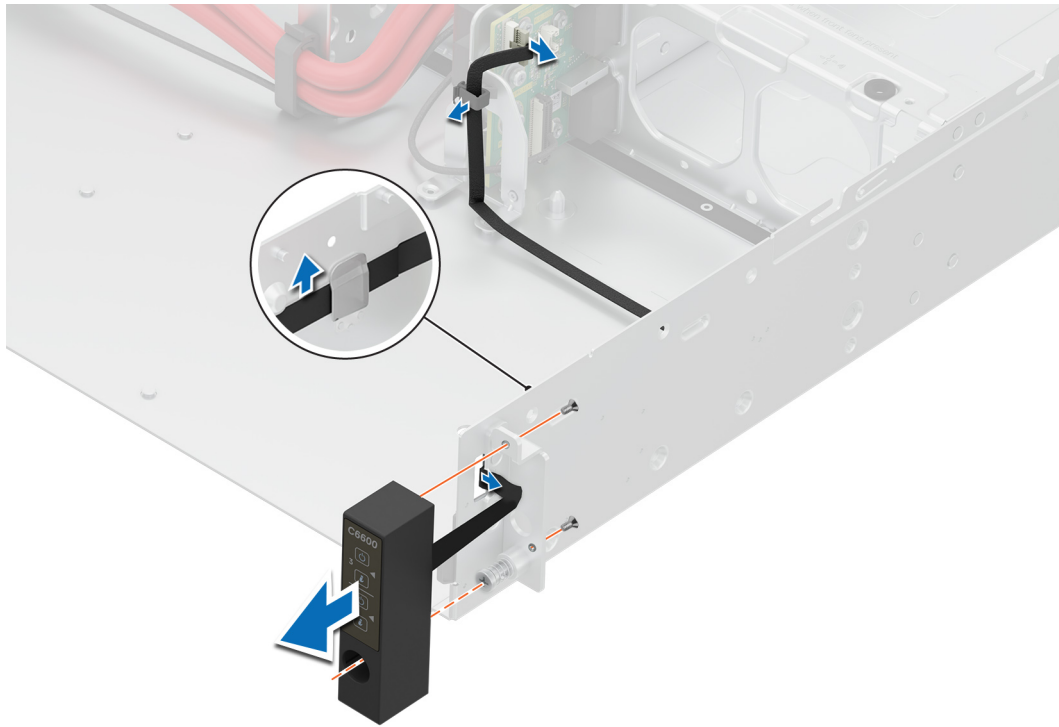


Figure 65. Removing the right control panel assembly

Next steps

Replace the right control panel.

Installing the right control panel

Prerequisites

NOTE: Observe the routing of the cables on the chassis as you remove them from the system.

NOTE: Additional tape maybe required to secure the cables.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the mid top cover](#).
4. [Remove the 80 mm fans](#).
5. [Remove the diskless 80 mm fan cage](#).
6. Disconnect control panel cables from the midplane.

Steps

1. Route the right control panel cable through the cable retention clips and the rubber holder on the right midplane.
2. Align and install the left control panel assembly.
3. Using the Phillips 1 screwdriver, tighten the screws to secure the control panel to the system.

NOTE: You must route these cables properly when you replace them to prevent the cables from being pinched or crimped.

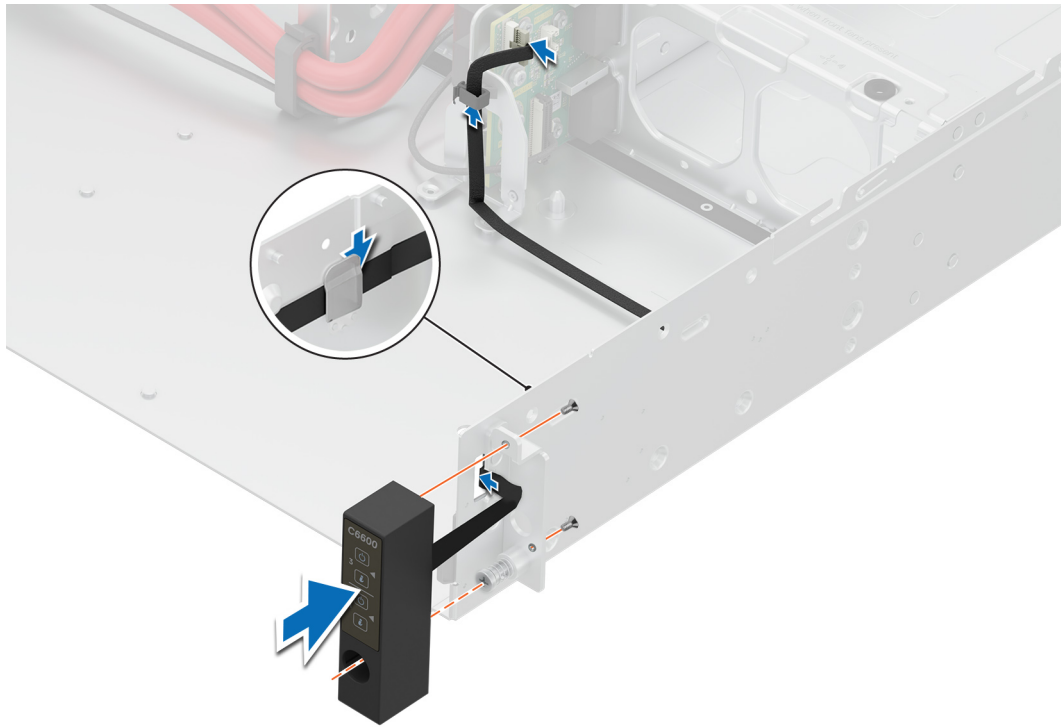


Figure 66. Installing the right control panel assembly

Next steps

1. Reconnect the right control panel cable to the midplane.
2. [Install the diskless 80 mm fan cage.](#)
3. [Install all 80 mm fans.](#)
4. [Install the mid top cover.](#)
5. Follow the procedure listed in [After working inside your system.](#)

Drives

Removing a drive blank

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions.](#)

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

Steps

Press the release button, and slide the drive blank out of the drive slot.

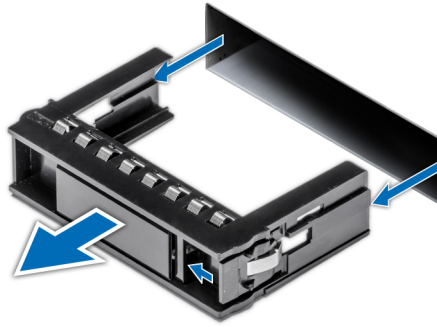


Figure 67. Removing a drive blank

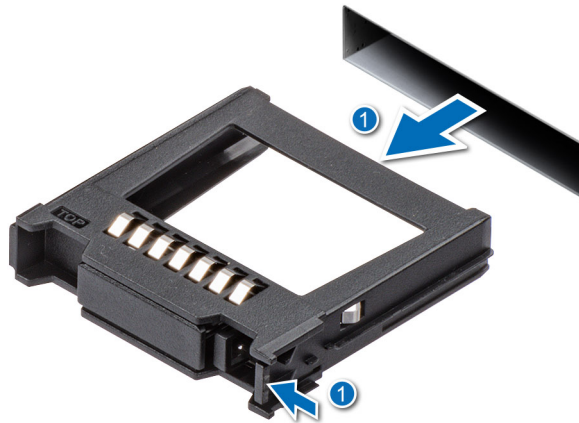


Figure 68. Removing a SSD drive blank

Next steps

1. Replace the drive blank.

Removing an E3.s drive blank

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).

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

Steps

Press the release button at the bottom, and slide the drive blank out of the drive slot.

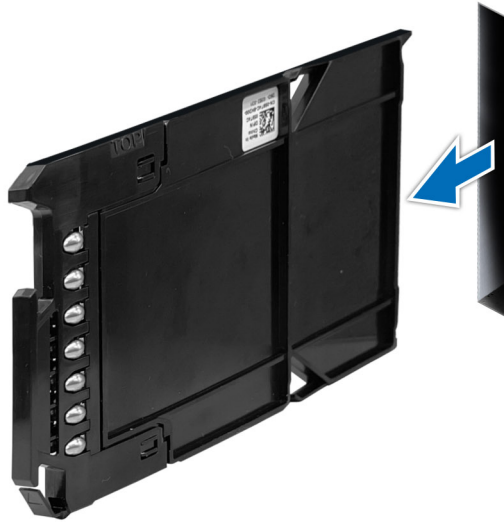


Figure 69. Removing an E3.s drive blank

Next steps

1. Replace the E3.s drive blank.

Installing a drive blank

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).

Steps

Insert the drive blank into the drive slot until the release button clicks into place.

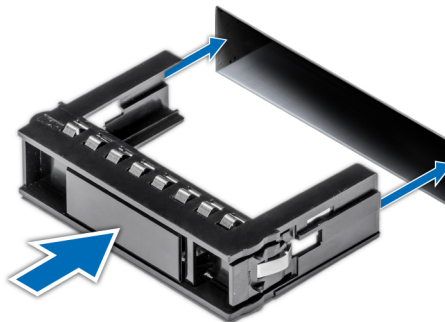


Figure 70. Installing a drive blank

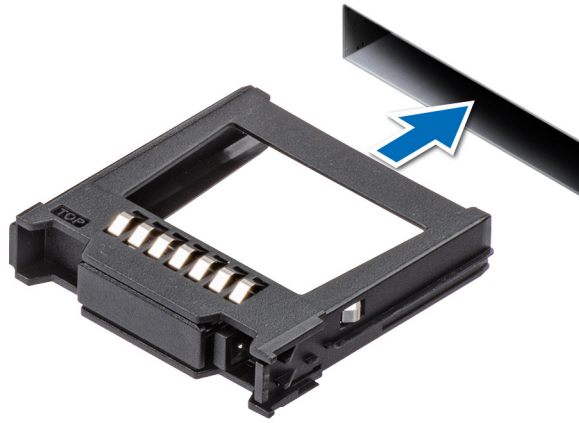


Figure 71. removing a SSD drive blank

Installing an E3.s drive blank

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).

Steps

Insert the drive blank into the drive slot until the release button clicks into place.



Figure 72. Installing the E3.s drive blank

Removing the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).
2. Using the management software, prepare the drive for removal.

If the drive is online, the green activity or fault indicator blinks while the drive is powering 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: To prevent data loss, ensure that your operating system supports drive installation. For more information about the drives installation or uninstallation requirements, see the operating system's user guide.

Steps

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



Figure 73. Removing a drive carrier

Next steps

1. Install a drive carrier or drive blank.

Removing the E3.s drive carrier

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).

Steps

1. Push the release button upwards to pop out the release handle.
2. Holding the drive carrier release handle, slide the drive carrier out of the drive slot.

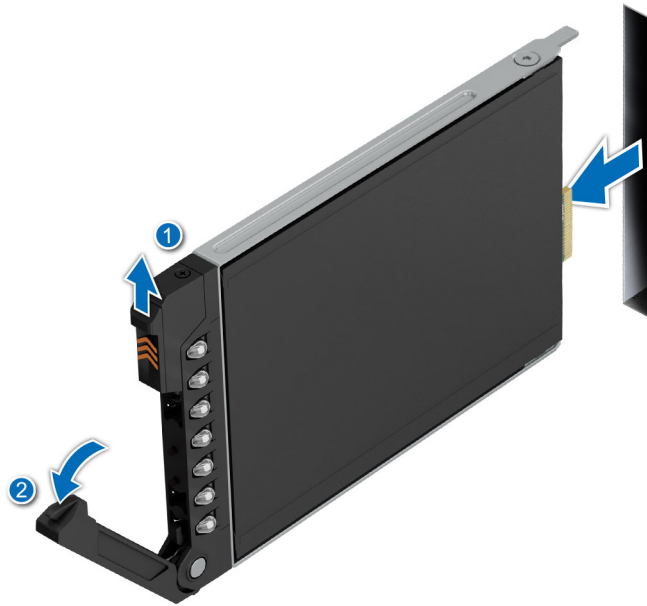


Figure 74. Removing the E3.s drive carrier

Next steps

1. [Installing the E3.s drive carrier.](#)

Installing the drive carrier

Prerequisites

- ⚠ **CAUTION:** Before removing or installing 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:** 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.
 - ℹ **NOTE:** When a replacement hot swappable drive is installed while the system is powered on, the drive automatically begins to rebuild. Ensure that the replacement drive is blank. Any data on the replacement drive is immediately lost once the drive is installed.
 - ℹ **NOTE:** Ensure that the drive carrier's release handle is in the open position before inserting the carrier into the slot.
1. Follow the safety guidelines listed in the [Safety instructions](#).
 2. Remove the drive carrier or remove the drive blank when you want to assemble the drives in to the system.

Steps

1. Slide the drive carrier into the drive slot.
2. Close the drive carrier release handle to lock the drive in place.



Figure 75. Installing a drive carrier

Installing the E3.s drive carrier

Prerequisites

- ⚠ **CAUTION:** Before removing or installing 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:** 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.
 - ℹ **NOTE:** When a replacement hot swappable drive is installed while the system is powered on, the drive automatically begins to rebuild. Ensure that the replacement drive is blank. Any data on the replacement drive is immediately lost once the drive is installed.
 - ℹ **NOTE:** Ensure that the drive carrier's release handle is in the open position before inserting the carrier into the slot.
1. Follow the safety guidelines listed in the [Safety instructions](#).
 2. Remove the drive carrier or remove the drive blank when you want to assemble the drives in to the system.

Steps

1. Slide the drive carrier into the drive slot.
2. Close the drive carrier release handle to lock the drive in place.

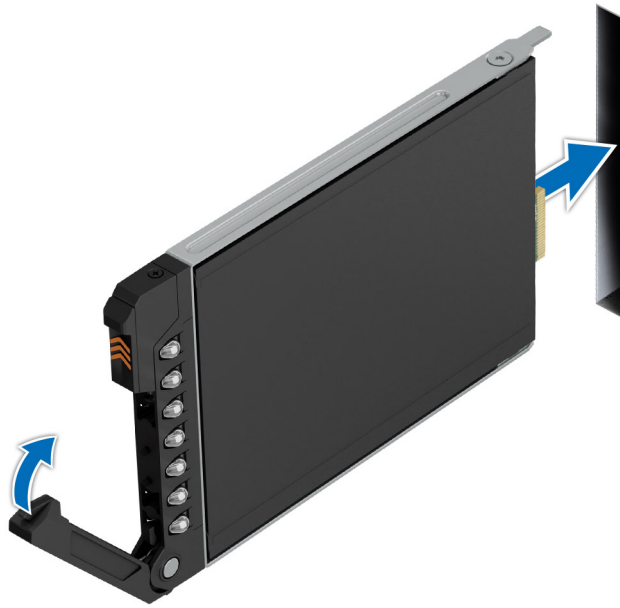


Figure 76. Installing the E3.s drive carrier

Removing the drive from the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).

Steps

1. Using a Phillips 1 screwdriver, remove the screws from the slide rails on the drive carrier.

i **NOTE:** If the hard drive or SSD carrier has Torx screw, use Torx 6 (for 2.5-inch drive) screwdriver to remove the drive.



2. Lift the drive out of the drive carrier.



Figure 77. Removing the drive from the drive carrier

Next steps

1. [Install the drive into the drive carrier](#)

Removing the E3.s drive from the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).
2. Using the management software, prepare the drive for removal.

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

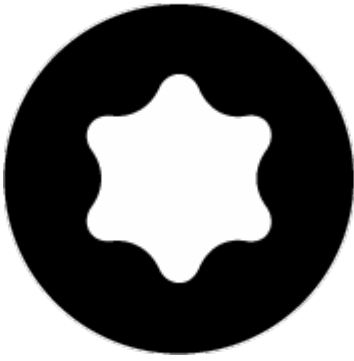
CAUTION: Before attempting to remove or install a drive while the system is running, see the documentation for the storage controller card to ensure that the host adapter is configured correctly to support drive removal and insertion.

CAUTION: To prevent data loss, ensure that your operating system supports drive installation. For more information about the drives installation or uninstallation requirements, see the operating system's user guide.

Steps

1. Using a Phillips 1 screw driver, remove the screws from the slide rails on the drive carrier.

NOTE: If the hard drive or SSD carrier has Torx screw, use Torx 6 (for 2.5-inch drive) screwdriver to remove the drive.



2. Slide the drive out from the drive carrier.

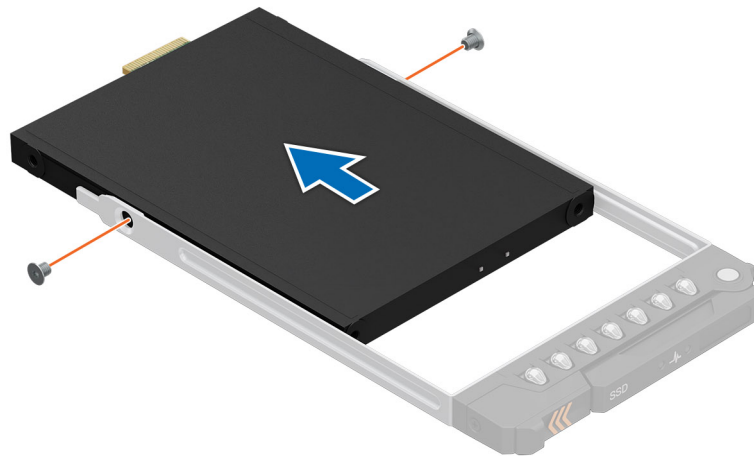


Figure 78. Removing the E3.s drive from the drive carrier

Next steps

1. [Installing an E3.s drive in to the drive carrier.](#)

Installing the drive into the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).
2. [Remove the drive blank.](#)

Steps

1. Insert the drive into the drive carrier with the drive connector facing towards the rear of the carrier.
2. Align the screw holes on the drive with the screws holes on the drive carrier.
3. Using a Phillips 1 screwdriver, secure the drive to the drive carrier with the screws.

NOTE: When installing a drive into the drive carrier, ensure that the screws are torqued to 4 lbf-in.

NOTE: If the hard drive or SSD carrier has Torx screw, use Torx 6 (for 2.5-inch drive) screwdriver to install the drive.



Figure 79. Installing a drive into the drive carrier

Next steps

1. [Install the drive carrier.](#)

Installing the E3.s drive into the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the [Safety instructions](#).
2. [Remove the E3.s drive blank.](#)

Steps

1. Insert the drive into the drive carrier with the drive connector facing towards the rear of the carrier.
2. Align the screw holes on the drive with the screws holes on the drive carrier.
3. Using a Phillips 1 screwdriver, secure the drive to the drive carrier with the screws.

(i) NOTE: When installing a drive into the drive carrier, ensure that the screws are torqued to 4 lbf-in.

(i) NOTE: If the hard drive or SSD carrier has Torx screw, use Torx 6 (for 2.5-inch drive) screwdriver to install the drive.

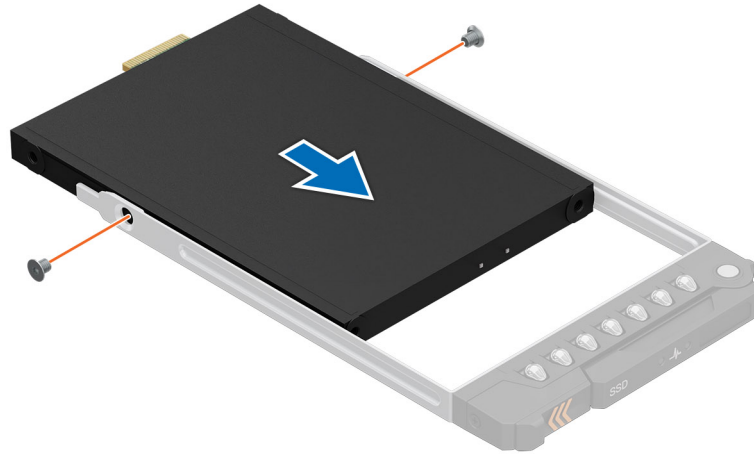


Figure 80. Installing the E3.s drive into the drive carrier

Next steps

1. Install the drive carrier.

Examax connector

Removing the left examax connector

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove all the sleds from the enclosure](#).
4. [Remove the 60 mm fan cage](#).

Steps

1. Disconnect the examax cable from the backplane.
2. Using the Phillips 1 screwdriver, remove the screws that secures the examax connector to the enclosure.
3. Lift the examax connector out of the enclosure.

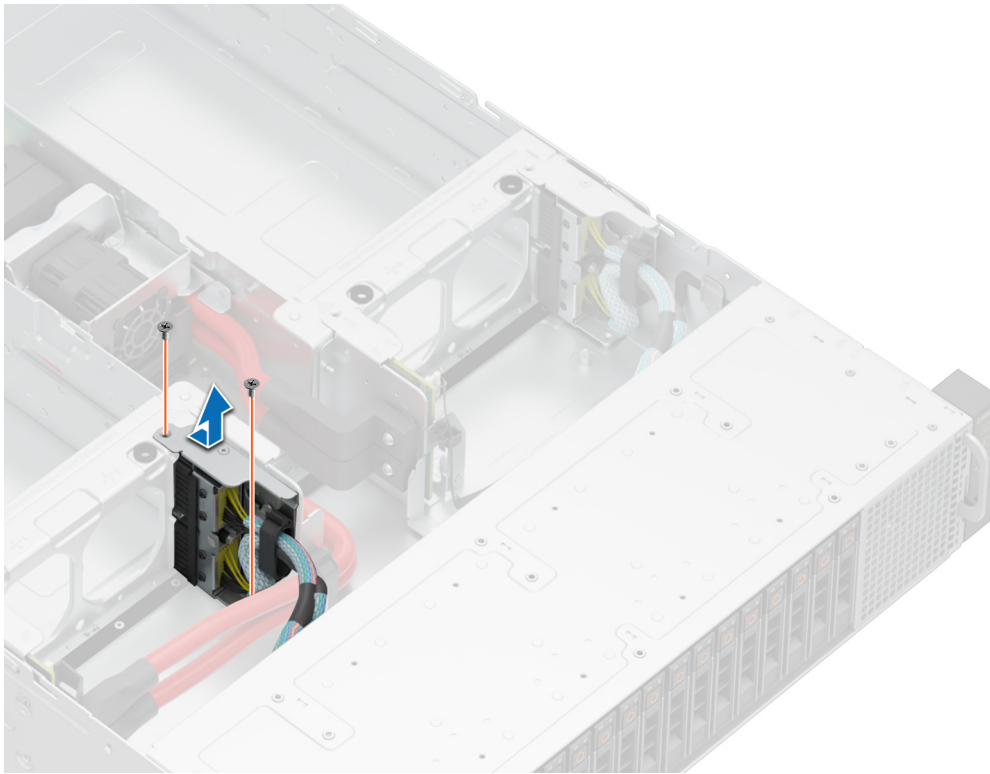


Figure 81. Removing the left examax connector

Next steps

1. [Install the left examax connector.](#)

Installing the left examax connector

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system.](#)
3. [Remove all the sleds from the enclosure.](#)
4. [Remove the 60 mm cooling fan cage.](#)

Steps

1. Align the examax connector with the standoff on the chassis and slide the connector into place.
2. Using a Phillips 1 screwdriver, tighten the screws on the examax connector to secure it in place.
3. Reconnect all the disconnected cables to the backplane.

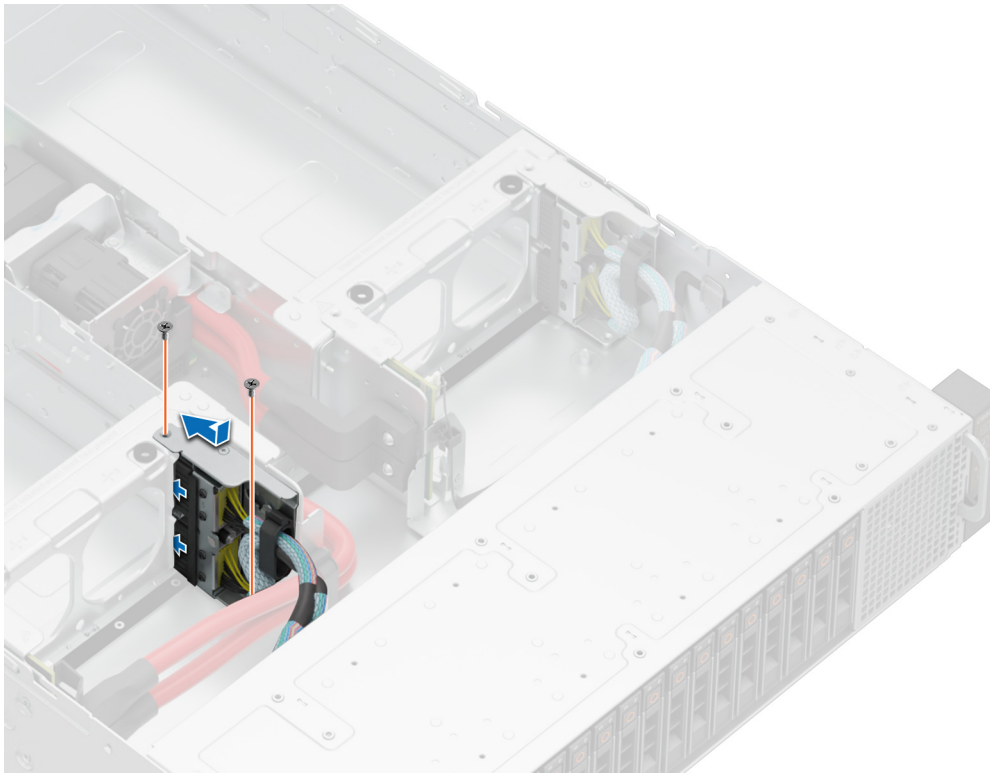


Figure 82. Installing the left examax connector

Next steps

1. [Install the 60 mm cooling fan cage.](#)
2. Follow the procedure listed in [After working inside your system.](#)

Removing the right examax connector

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions.](#)
2. Follow the procedure listed in [Before working inside your system.](#)
3. [Remove all the sleds from the enclosure.](#)
4. [Remove the 60 mm fan cage.](#)

Steps

1. Disconnect the examax cable from the backplane.
2. Using the Phillips 1 screwdriver, remove the screws that secures the examax connector to the enclosure.
3. Lift the examax connector out of the enclosure.

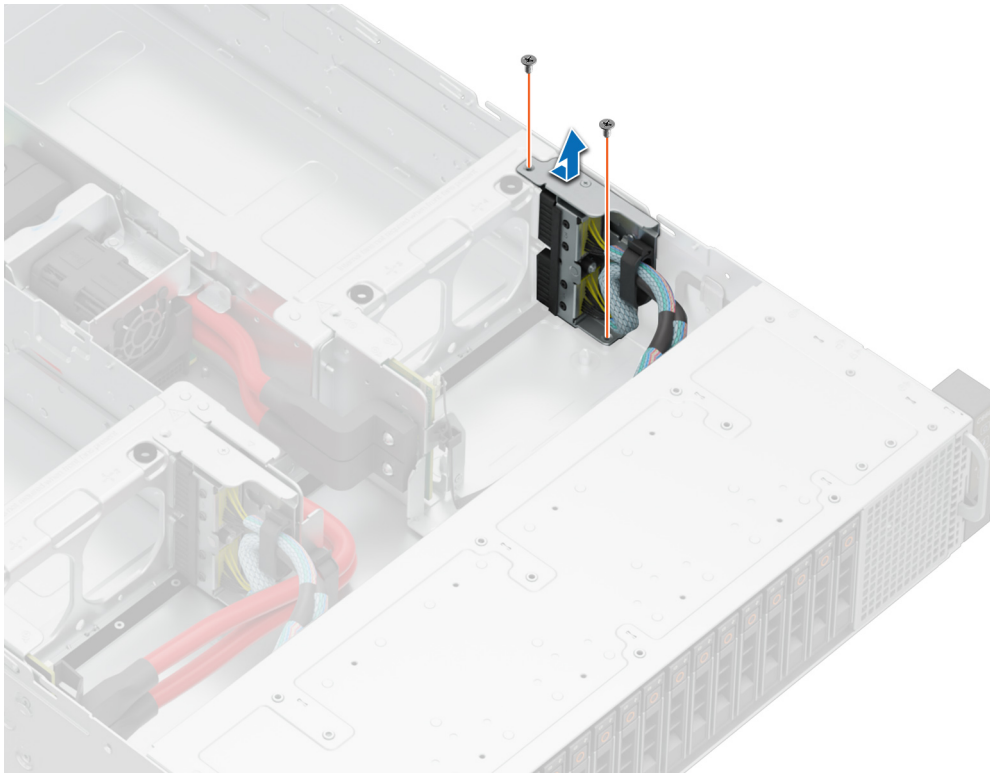


Figure 83. Removing the right examax connector

Next steps

1. [Install the right examax connector.](#)

Prerequisites

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove all the sleds from the enclosure.](#)
4. [Remove the 60 mm cooling fan cage.](#)

Steps

1. Align the examax connector with the standoff on the chassis and slide the connector into place.
2. Using a Phillips 1 screwdriver, tighten the screws on the examax connector to secure it in place.
3. Reconnect all the disconnected cables to the backplane.

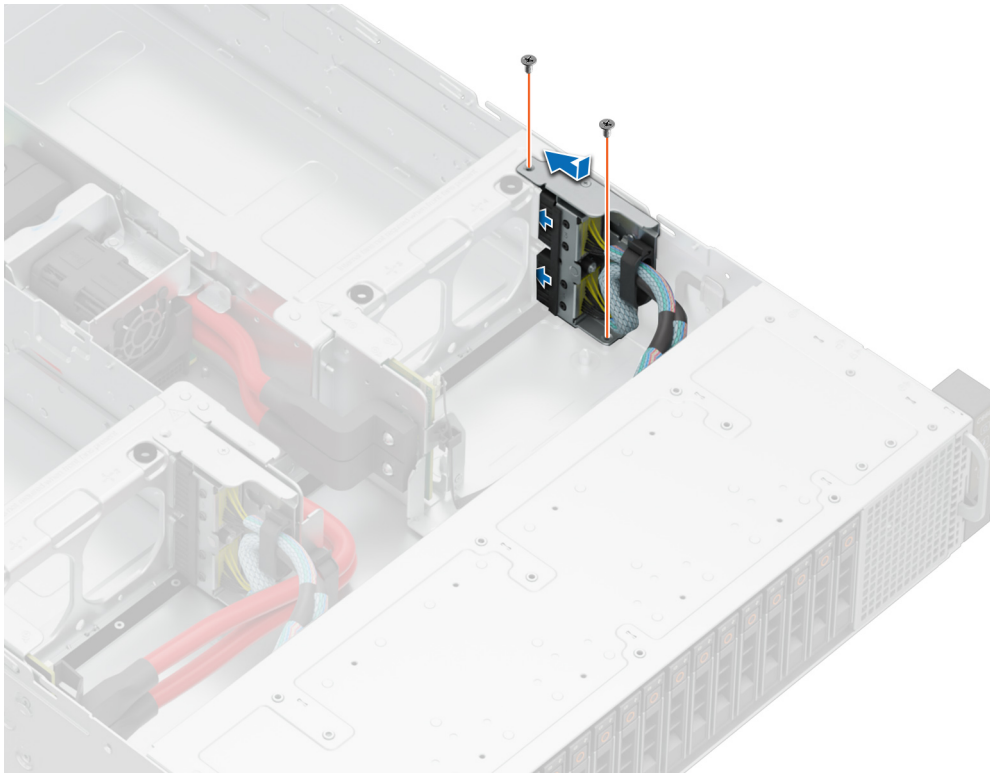


Figure 84. Installing the left examax connector

Next steps

1. [Install the 60 mm cooling fan cage.](#)
2. Follow the procedure listed in [After working inside your system.](#)

Drive cage

This is a service technician replaceable part only.

Removing 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.

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.

NOTE: Drive cage removal steps are the same for all configurations.

1. Follow the safety guidelines listed in [Safety instructions.](#)
2. Follow the procedure listed in
3. [Remove the system cover.](#)
4. [Remove the mid top cover.](#)
5. If applicable, disconnect the backplane and expander board cables from the linking board and chassis management board.
6. [Remove the drive carrier.](#)

Steps

1. Using the Phillips 1 screwdriver, remove the screws that secure the drive cage to the chassis.
2. Slide the drive cage to the unlock position.
3. Lift the drive cage away from the enclosure.

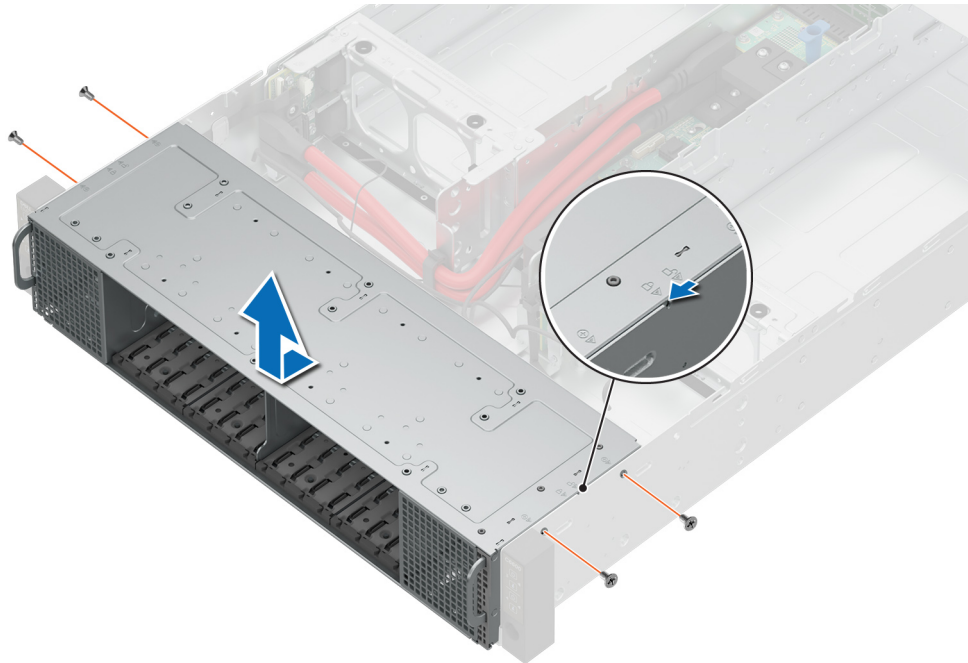


Figure 85. Removing the drive cage

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.

NOTE: Drive cage installation steps are the same for all configurations.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the system cover](#).
4. [Remove the mid top cover](#).

Steps

1. Insert the drive cage into the enclosure, aligning the cage with the standoffs on the chassis.
2. Slide the drive cage toward the lock position.
3. Reconnect all the cables that were disconnected from the backplane.
4. Using the Phillips 1 screwdriver, secure the drive cage in place with screws.

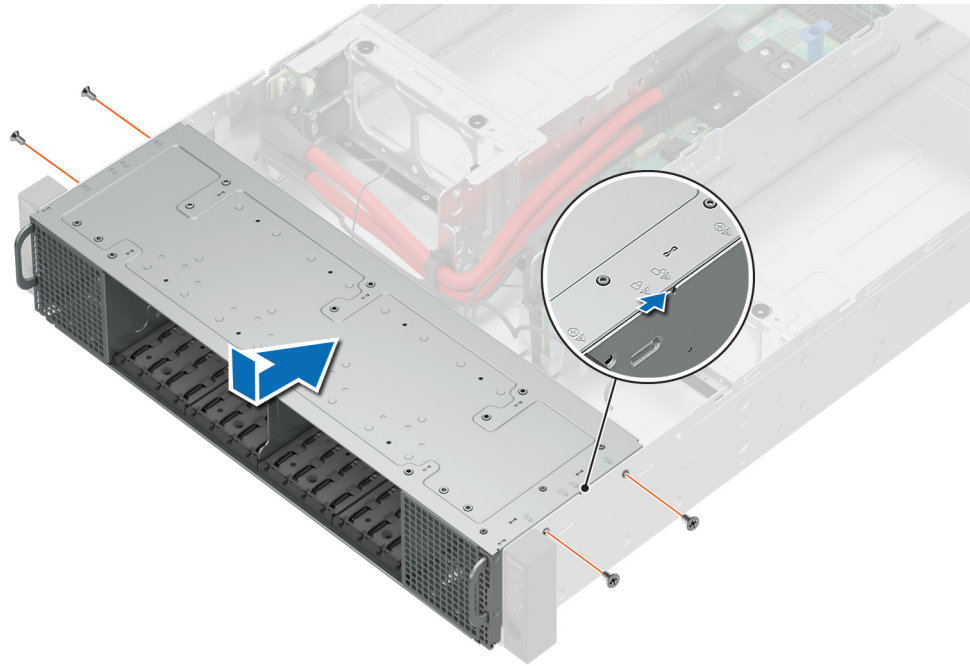


Figure 86. Installing the drive cage

Next steps

1. If applicable, reconnect all the cables that were disconnected from the linking board and chassis management board.
2. [Install all the removed drives.](#)
3. [Install the mid top cover.](#)
4. [Install the system cover.](#)
5. Follow the procedure listed in [After working inside your system.](#)

Drive backplane

This is a service technician replaceable part only.

Backplane

The following pages contain information about the backplane connectors.

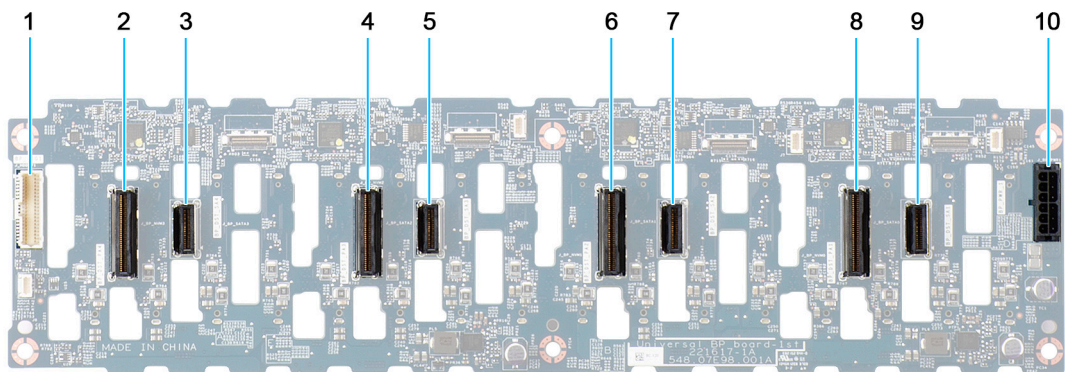


Figure 87. 16 x 2.5-inch universal backplane

1. Backplane signal cable connector

2. Backplane signal cable to sled 4
3. Backplane signal cable to sled 4
4. Backplane signal cable to sled 3
5. Backplane signal cable to sled 3
6. Backplane signal cable to sled 2
7. Backplane signal cable to sled 2
8. Backplane signal cable to sled 1
9. Backplane signal cable to sled 1
10. Backplane power connector

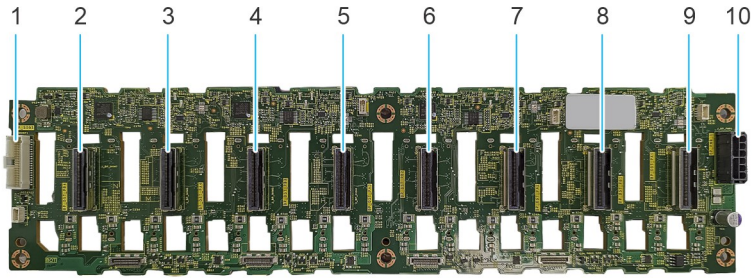


Figure 88. 16 x 2.5-inch NVMe hard drive backplane

1. Backplane signal cable connector
2. Backplane signal cable to sled 4
3. Backplane signal cable to sled 4
4. Backplane signal cable to sled 3
5. Backplane signal cable to sled 3
6. Backplane signal cable to sled 2
7. Backplane signal cable to sled 2
8. Backplane signal cable to sled 1
9. Backplane signal cable to sled 1
10. Backplane power connector

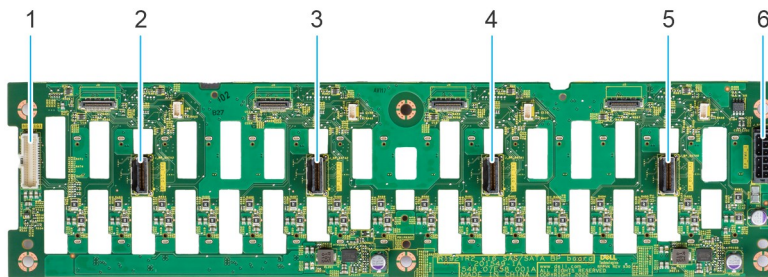


Figure 89. 16 x 2.5-inch SAS/SATA hard drive backplane

1. Backplane signal cable connector
2. Backplane signal cable to sled 4

3. Backplane signal cable to sled 3
4. Backplane signal cable to sled 2
5. Backplane signal cable to sled 1
6. Backplane power connector

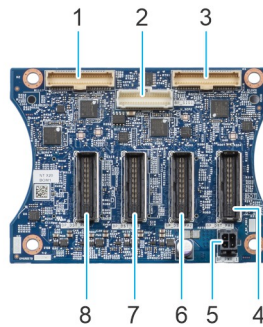


Figure 90. 8 x E3.s SSD backplane

1. Test connector
2. Backplane signal cable
3. Test connector
4. Backplane signal cable to sled 1
5. Backplane power connector
6. Backplane signal cable to sled 2
7. Backplane signal cable to sled 3
8. Backplane signal cable to sled 4

Backplane cable routing

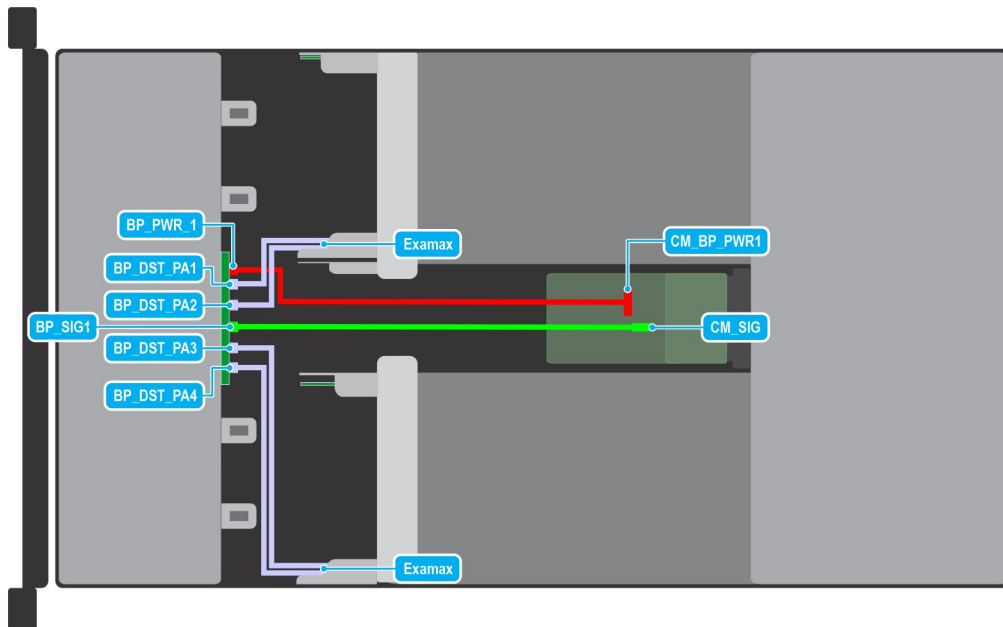


Figure 91. Cabling the 8 x E3.s backplane with E3.s drives

Table 12. Cabling the 8 x E3.s backplane with E3.s drives

From	To
Examax (Examax connector)	BP_DST_PA1, BP_DST_PA2 (backplane signal connector 1 and 2)

Table 12. Cabling the 8 x E3.s backplane with E3.s drives (continued)

From	To
CM_BP_PWR1 (chassis manager board power connector)	BP_PWR_1 (backplane power connector)
CM_SIG (chassis manager board signal connector)	BP_SIG1 (backplane signal connector)
Examax (Examax connector)	BP_DST_PA3, BP_DST_A4 (backplane signal connector 3 and 4)

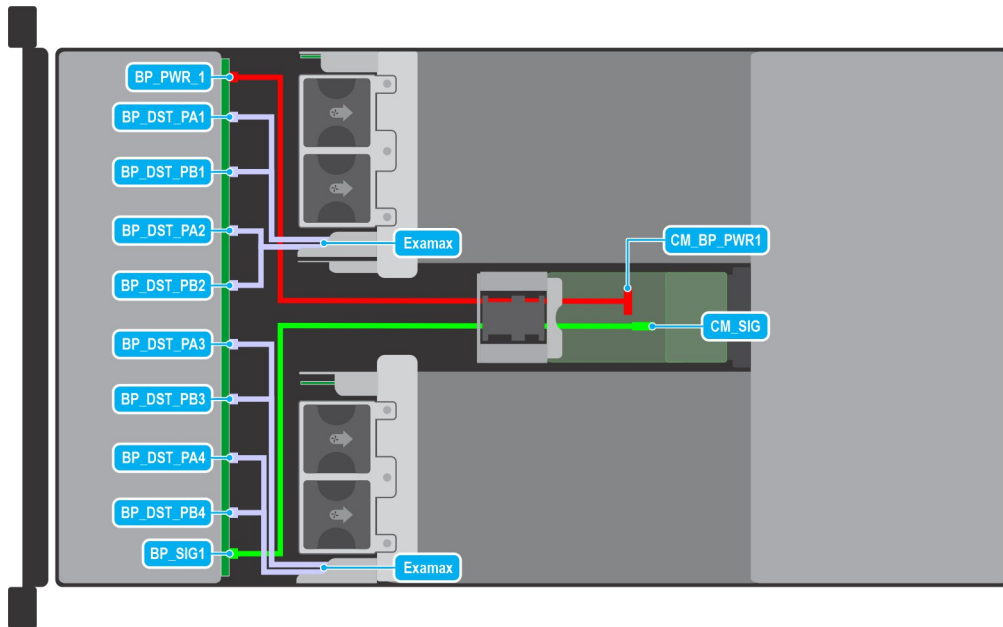


Figure 92. Cabling the 16 x 2.5-inch backplane with NVMe drives

Table 13. Cabling the 16 x 2.5-inch backplane with NVMe drives

From	To
Examax (Examax connector)	BP_DST_PB1, BP_DST_PB1, BP_DST_PB2, BP_DST_PB2 (backplane signal connector 1 and 2)
CM_BP_PWR1 (chassis manager board power connector)	BP_PWR_1 (backplane power connector)
CM_SIG (chassis manager board signal connector)	BP_SIG1 (backplane signal connector)
Examax (Examax connector)	BP_DST_PB3, BP_DST_PB3, BP_DST_PB4, BP_DST_PB4 (backplane signal connector 3 and 4)

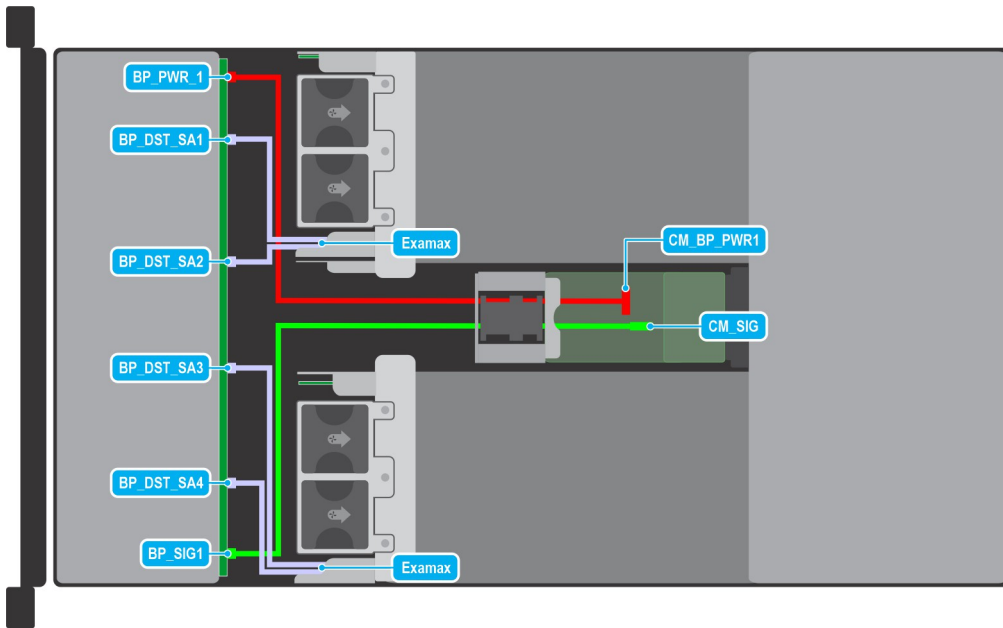


Figure 93. Cabling the 16 x 2.5-inch backplane with SAS/SATA drives

Table 14. Cabling the 16 x 2.5-inch backplane with SAS/SATA drives

From	To
Examax (Examax connector)	BP_DST_SA1, BP_DST_SA2 (backplane signal connector 1 and 2)
CM_BP_PWR1 (chassis manager board power connector)	BP_PWR_1(backplane power connector)
CM_SIG (chassis manager board signal connector)	BP_SIG1 (backplane signal connector)
Examax (Examax connector)	BP_DST_SA3, BP_DST_SA4 (backplane signal connector 3 and 4)

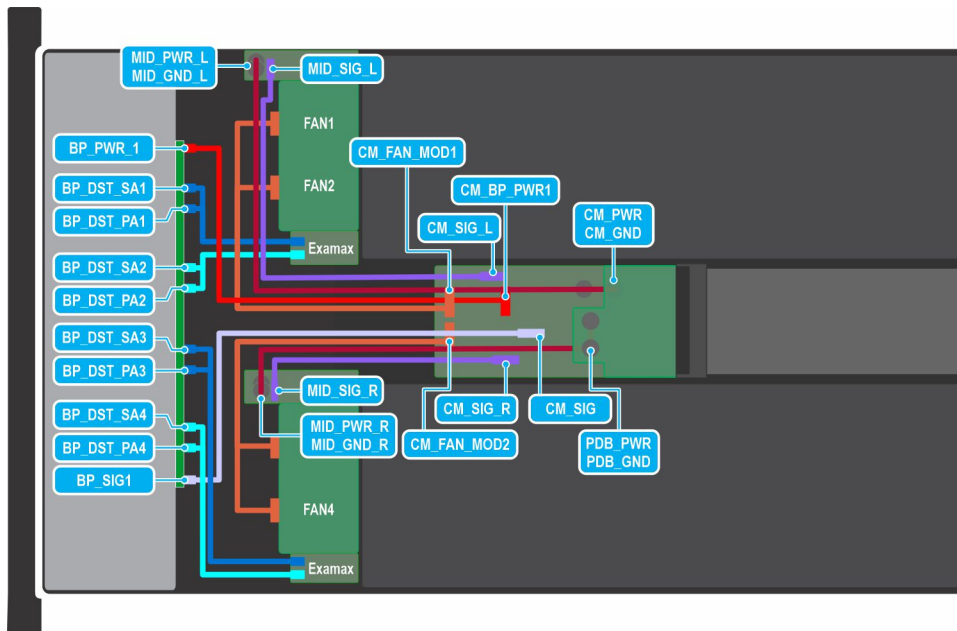


Figure 94. Cabling the 16 x 2.5-inch universal backplane

Table 15. Cabling the 16 x 2.5-inch universal backplane

From	To
Examax (Examax connector)	BP_DST_SA1, BP_DST_PA1 (backplane signal connector 1) BP_DST_SA2, BP_DST_PA2 (backplane signal connector 2)
CM_FAN_MOD1 (fan power connector)	FAN4, FAN5 (fan 1 and 2)
CM_SIG_L (chassis manager left signal connector)	MID_SIG_L (left midplane signal connector)
CM_BP_PWR1 (chassis manager board power connector)	BP_PWR_1(backplane power connector)
CM_PWR, CM_GND (chassis manager power and ground connector)	MID_PWR_L, MID_GND_L (left midplane power and ground connector)
PDB_PWR, PDB_GND (power distribution board power and ground connector)	MID_PWR_R, MID_GND_R (right midplane power and ground connector)
CM_SIG (chassis manager signal connector)	BP_SIG_1 (backplane signal connector)
CM_SIG_R (chassis manager right signal connector)	MID_SIG_R (right midplane signal connector)
CM_FAN_MOD2 (fan power connector)	FAN4, FAN5 (fan 4 and 5)
Examax (Examax connector)	BP_DST_SA3, BP_DST_PA3 (backplane signal connector 3) BP_DST_SA4, BP_DST_PA4 (backplane signal connector 4)

Sled to hard drive mapping

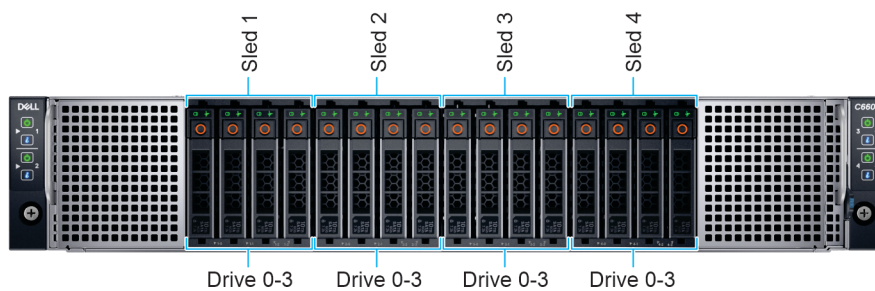


Figure 95. Sled to drive mapping for 16 x 2.5-inch drive configuration

1. Drives 0–3 mapped to sled 1
2. Drives 0-3 mapped to sled 2
3. Drives 0-3 mapped to sled 3
4. Drives 0-3 mapped to sled 4

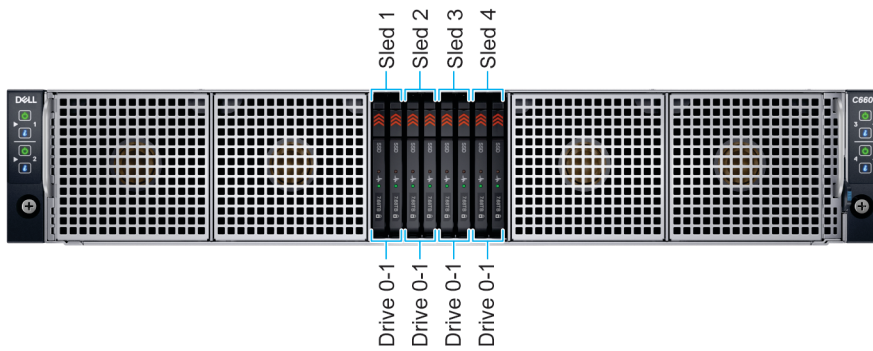


Figure 96. Sled to drive mapping for 8 x E3.s drive configuration

1. Drives 0–1 mapped to sled 1
2. Drives 0–1 mapped to sled 2
3. Drives 0–1 mapped to sled 3
4. Drives 0–1 mapped to sled 4

NOTE: The warranty of the drives are linked to the Service Tag of the corresponding sled.

Removing the 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 [Before working inside your system](#).
3. [Remove the drive cage](#).
4. Disconnect all the cables from the backplane.

Steps

1. Using the Phillips 2 screwdriver, remove the screws that secure the backplane to the drive cage.
2. Lift the backplane away from the drive cage.

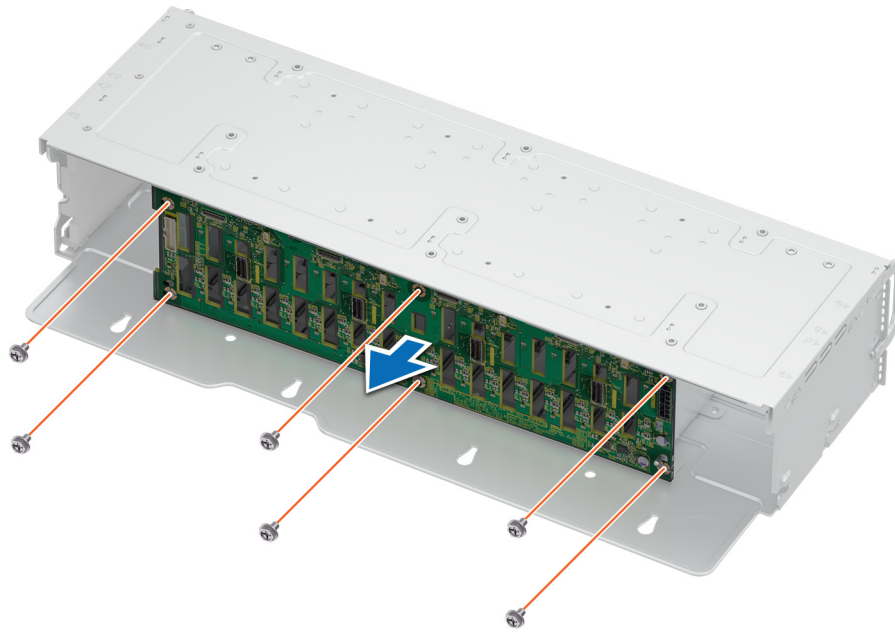


Figure 97. Removing the backplane

Next steps

1. [Install the 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.

1. Follow the safety guidelines listed in [Safety instructions](#).
2. Follow the procedure listed in [Before working inside your system](#).
3. [Remove the drive cage.](#)

Steps

1. Place the backplane on the drive cage, aligning the screw holes on the backplane with the holes on the drive cage.
2. Using the Phillips 2 screwdriver, tighten the screws to secure the backplane to the drive cage.

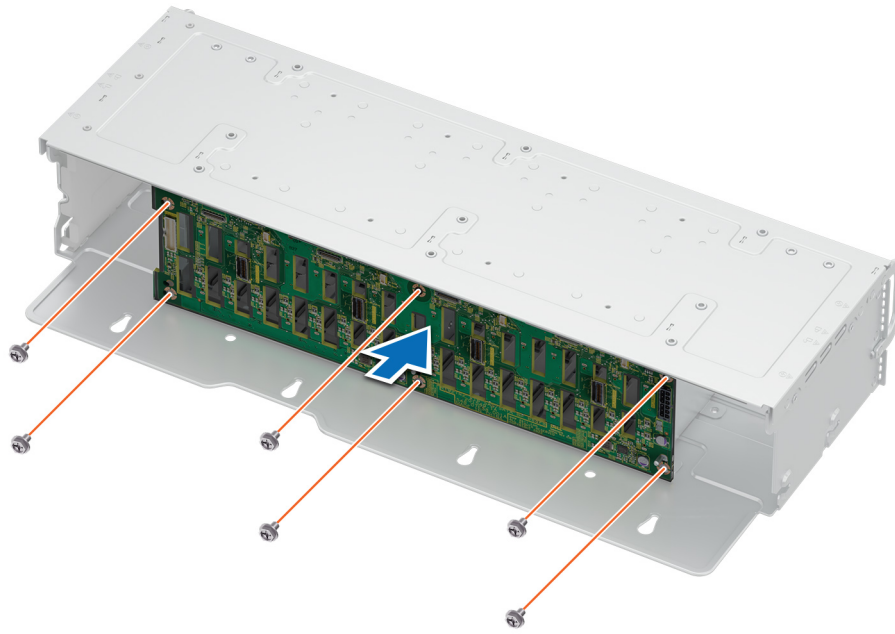


Figure 98. Installing the backplane

Next steps

1. Reconnect all the disconnected cables.
2. [Install the drive cage into the enclosure.](#)
3. Follow the procedure listed in [After working inside your system.](#)

Technical specifications

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

Topics:

- Chassis dimensions
- System weight
- Drives
- PSU specifications
- Environmental specifications

Chassis dimensions

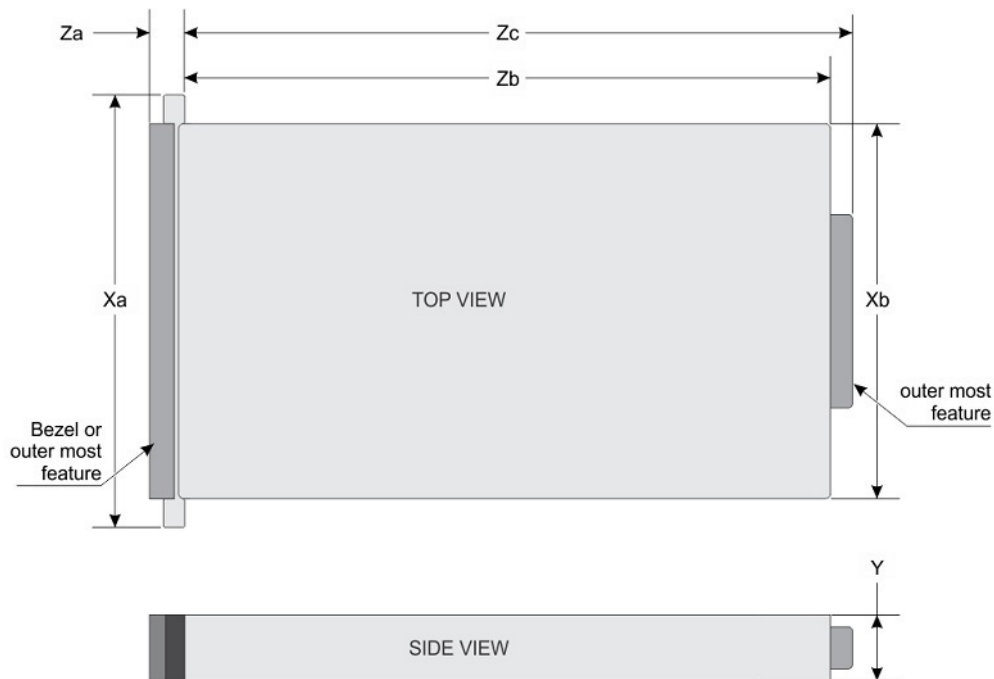


Figure 99. Chassis dimensions

Table 16. PowerEdge C6600 chassis dimensions

Drives	Xa	Xb	Y	Za	Zb	Zc
Diskless/ 8 drives/ 16 drives	489.0 mm (19.25 inches)	448.0 mm (17.63 inches)	86.8 mm (3.41 inches)	42.0 mm (1.65 inches)	763.2 mm (30.04 inches) Ear to rear wall	799.97 mm (31.49 inches) - Ear to PSU handle 802.4 mm (31.60 inches) - Ear to handle velcro

NOTE: Zb is the nominal rear wall external surface where the system board I/O connectors reside.

System weight

Table 17. PowerEdge C6600 system weight

System configuration	Maximum weight (with all drives/SSDs)
8 x E3.s	41.1 kg (90.60 pound)
16 x 2.5-inch SAS/SATA	42.5 kg (93.69 pound)
16 x 2.5-inch NVMe	41.8 kg (92.15 pound)
Diskless	39.2 kg (86.42 pound)

Table 18. PowerEdgesystemweight handling recommendations

Chassis weight	Description
40 pounds - 70 pounds	Recommend two person to lift
70 pounds- 120 pounds	Recommend three person to lift
≥ 121 pounds	Recommend to use a server-lift

Drives

The PowerEdge C6600 system supports:

- 16 x 2.5-inch hot-swappable SAS/SATA/NVMe drives.
- 8 x E3.s NVMe SSD drives.

i **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**.

PSU specifications

The PowerEdge C6600 system supports up to two AC or DC power supply units (PSUs).

Table 19. PSU specifications

PSU	Class	Heat dissipation (maximum) (BTU/hr)	Frequency (Hz)	Voltage	AC		DC	Current (A)
					High line wattage	Low line wattage		
3200 W	N/A	12000 BTU/hr	50/60 Hz	277 V AC	3200 W	N/A	N/A	13.0 A
3200 W	N/A	12000 BTU/hr	N/A	336 V DC	N/A	N/A	3200 W	11.5 A
2800 W	Titanium	10500 BTU/hr	50/60 Hz	200-240 V AC	2800 W	N/A	N/A	15.6 A
2800 W	N/A	10500 BTU/hr	N/A	240 V DC	N/A	N/A	2800 W	13.6 A
2400 W	Platinum	9000 BTU/hr	50/60 Hz	100-240 V AC	2400 W	1400 W	N/A	16-13.5A
2400 W	N/A	9000 BTU/hr	N/A	240 V DC	N/A	N/A	2400 W	11.2 A
1800 W	Titanium	6750 BTU/hr	50/60 Hz	200-240 V AC	1800 W	N/A	N/A	10 A
1800 W	N/A	6750 BTU/hr	N/A	240 V DC	N/A	N/A	1800 W	8.2 A

i **NOTE:** 3200 W AC and DC power supplies are only available in North America.

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

NOTE: When selecting or upgrading the system configuration, to ensure optimum power utilization, verify the system power consumption with the Enterprise Infrastructure Planning Tool available at Dell.com/calc.

Environmental specifications

NOTE: For additional information about environmental certifications, refer to the *Product Environmental Datasheet* located with the *Documentation* on www.dell.com/support/home.

Table 20. Continuous Operation Specifications for ASHRAE A3

Allowable continuous operations	
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–40°C (41–104°F) with no direct sunlight on the equipment
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 85% RH with 24°C (75.2°F) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1°C/175 m (33.8°F/574 Ft) above 900 m (2953 Ft)

Table 21. Continuous Operation Specifications for ASHRAE A4

Allowable continuous operations	
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–45°C (41–113°F) with no direct sunlight on the equipment
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 90% RH with 24°C (75.2°F) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1°C/125 m (33.8°F/410 Ft) above 900 m (2953 Ft)

Table 22. Common Environmental Specifications for ASHRAE A3 and A4

Allowable continuous operations	
Maximum temperature gradient (applies to both operation and non-operation)	20°C in an hour* (36°F in an hour) and 5°C in 15 minutes (41°F in 15 minutes), 5°C in an hour* (41°F in an hour) for tape NOTE: * - Per ASHRAE thermal guidelines for tape hardware, these are not instantaneous rates of temperature change.
Non-operational temperature limits	-40 to 65°C (-104 to 149°F)
Non-operational humidity limits	5% to 95% RH with 27°C (80.6°F) maximum dew point
Maximum non-operational altitude	12,000 meters (39,370 feet)
Maximum operational altitude	3,048 meters (10,000 feet)

Table 23. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.21 G _{rms} at 5 Hz to 500 Hz (all operation orientations)
Storage	1.88 G _{rms} at 10 Hz to 500 Hz for 15 minutes (all six sides tested)

Table 24. Maximum shock pulse specifications

Maximum shock pulse	Specifications
Operating	Six consecutively executed shock pulses in the positive and negative x, y, and z axis of 6 G for up to 11 ms. (4 pulse on each side of system)
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axis (one pulse on each side of the system) of 71 G for up to 2 ms.

Thermal air restrictions

- See the thermal air restrictions information for C6620 [here](#).
- See the thermal air restrictions information for C6615 [here](#).

Thermal restriction matrix

- See the thermal restriction matrix information for C6620 [here](#)
- See the thermal restriction matrix information for C6615 [here](#)

Getting help

You can download drivers, firmware and documents from the FTP site: <https://mft.dell.com/C6600>. For more information about username and password, contact your TAM (Tech Account Manager).

Topics:

- [Recycling or End-of-Life service information](#)
- [Contacting Dell Technologies](#)
- [Accessing system information by using QRL](#)
- [Receiving automated support with Secure Connect Gateway \(SCG\)](#)

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.

Contacting Dell Technologies

Dell provides online and telephone based support and service options. If you do not have an active internet connection, you can find Dell contact information on your purchase invoice, packing slip, bill or Dell product catalog. The availability of services varies depending on the country and product, and some services may not be available in your area. To contact Dell for sales, technical assistance, or customer service issues follow these steps:

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 the system Service Tag in the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field.
 - b. Click **Search**.
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 Global Technical Support:
 - a. Click [Contact Technical Support](#).
 - b. The **Contact Technical Support** page is displayed with details to call, chat, or e-mail the Dell Global Technical Support team.

Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) located on the Express service tag in the front of the C6600 system, to access information about PowerEdge C6600. There is also another QRL for accessing product information located on the back of the system cover.

Prerequisites

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

The QRL includes the following information about your system:

- How-to videos
- Reference materials, including the Installation and Service Manual, and mechanical overview
- The system service tag to quickly access the 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 smart phone 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 PowerEdge C6600 system



Figure 100. Quick Resource Locator for PowerEdge C6600 system

Receiving automated support with Secure Connect Gateway (SCG)

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

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

The available benefits vary depending on the Dell Service entitlement purchased for your device. For more information about Secure Connect Gateway (SCG), go to www.dell.com/secureconnectgateway.

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 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 model number, see the front of your system.
- 3. On the Product Support page, click **Documentation**.
- Using search engines:
 - Type the name and version of the document in the search box.

Table 25. Additional documentation resources for your system

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

Table 25. 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 and using Dell Secure Connect Gateway, see the Dell Secure Connect Gateway 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 (if applicable)	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