Dell PowerEdge R7715

Installation and Service Manual

Regulatory Model: E114S
Regulatory Type: E114S001
November 2025
Rev. A06

DELL Technologies

Notes, cautions, and warnings

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

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

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

Contents

1

Introduction

This document provides a system overview, information about installing and replacing components, diagnostic tools, and guidelines for installing certain components.

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, go to How to Recycle and select the relevant country or region.

Automated support with secure connect gateway

Secure connect gateway is an optional Services offering that automates technical support for your server, storage, and networking devices. A secure connect gateway in your IT environment provides the following benefits:

- Automated issue detection: Monitors your devices and detects hardware issues.
- Automated case creation: Detects issues and opens a support case with Technical Support.
- Automated diagnostic collection: Collects system state information and uploads it securely to Dell Support. This information is used by Technical Support to troubleshoot the issue.
- Proactive contact: Technical Support agents contacts you about the support case.

The available benefits vary depending on the Service entitlement that is purchased for your device. For more information about secure connect gateway, go to secureconnectgateway.

2

PowerEdge R7715 system configurations and features

The PowerEdge R7715 system is a 2U server that supports:

- One 5th Generation AMD EPYC 9005 Series processor with up to 160 Zen5 cores per processor
- Twenty-four DIMM slots
- Two redundant AC or DC power supply units
- No backplane configuration
- Up to 2 x U.2 drives
- Up to 8 x 2.5-inch Universal drives
- Up to 8 x EDSFF E3.S Gen5 NVMe drives
- Up to 12 x 3.5-inch SAS/SATA drives
- Up to 16 x 2.5-inch SAS/SATA + 8 x U.2 drives
- Up to 16 x 2.5-inch SAS/SATA SSD drives
- Up to 16 x EDSFF E3.S Gen5 NVMe drives
- Up to 24 x 2.5-inch SAS/SATA drives
- Up to 32 x EDSFF E3.S Gen5 NVMe drives
- Up to 40 x EDSFF E3.S Gen5 NVMe drives

NOTE: The system board is known as the Host Processor Module (HPM) board in this document.

NOTE: For more information about how to hot swap NVMe PCIe SSD device, see the *Dell Express Flash NVMe PCIe SSD User's Guide* at Dell Support page **> Browse all products** > **Infrastructure** > **Data Center Infrastructure** > **Storage Adapters & Controllers** > **Dell PowerEdge Express Flash NVMe PCIe SSD** > **Select This Product** > **Documentation** > **Manuals and Documents**.

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

CAUTION: Do not install GPUs, network cards, or other PCIe devices on your system that are not validated and tested by Dell. Damage caused by unauthorized and invalidated hardware installation will null and void the system warranty.

Topics:

System configurations - front view for PowerEdge R7715 system

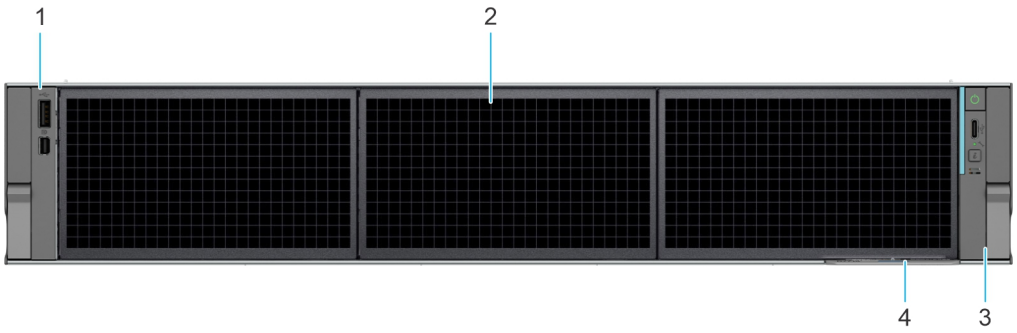

Figure 1. Front view of no backplane drive system

Table 1. Features are available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
3	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
4	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

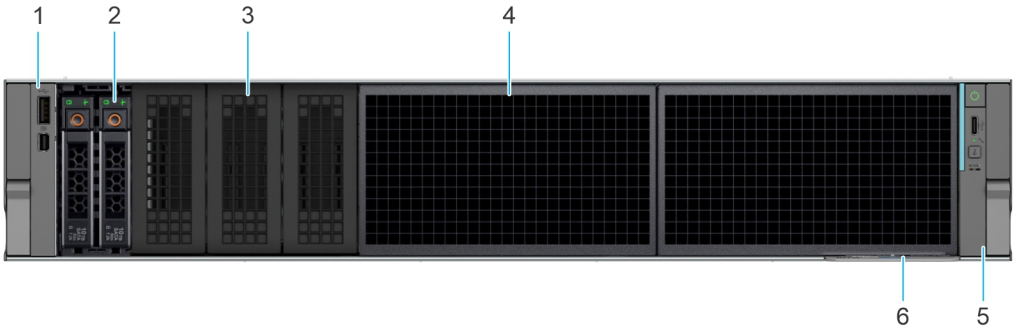

Figure 2. Front view of 2 x U.2 system

Table 2. Features are available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3 and 4	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
5	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
6	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

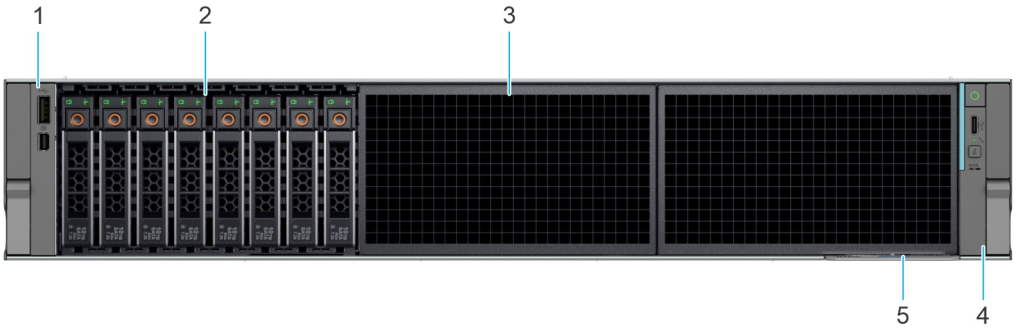

Figure 3. Front view of 8 x 2.5-inch Universal drives system

Table 3. Features are available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.

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

Item	Ports, panels, and slots	Icon	Description
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
4	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
5	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

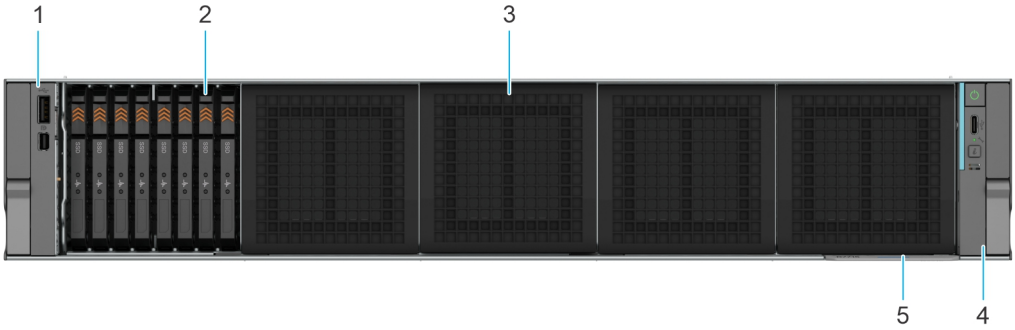

Figure 4. Front view of 8 x EDSFF E3.S Gen5 NVMe drives system

Table 4. Features are available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
4	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
5	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

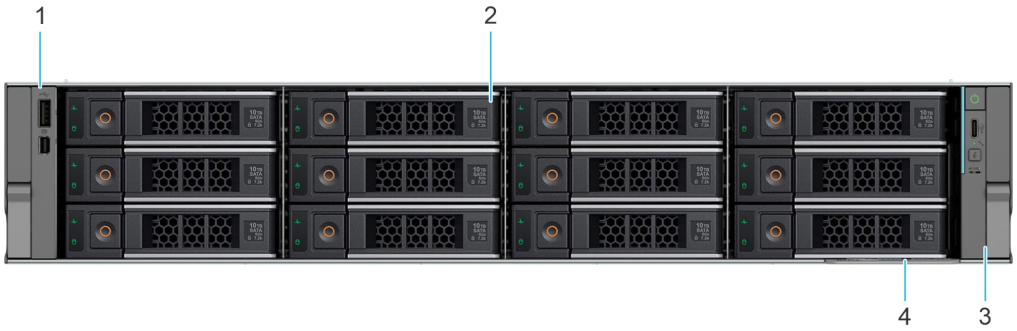

Figure 5. Front view of 12 x 3.5-inch SAS/SATA drives system

Table 5. Features are available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
4	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

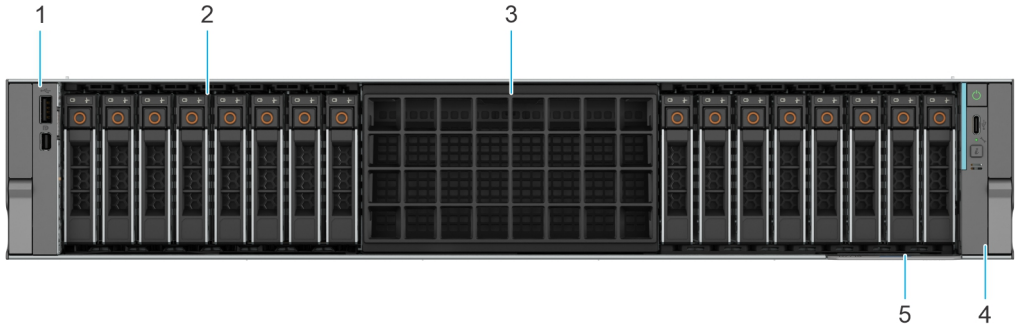

Figure 6. Front view of 16x 2.5-inch drives system

Table 6. Features are available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM).

Table 6. Features are available on the front of the system (continued)

Item	Ports, panels, and slots	Icon	Description
			• USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
4	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
5	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

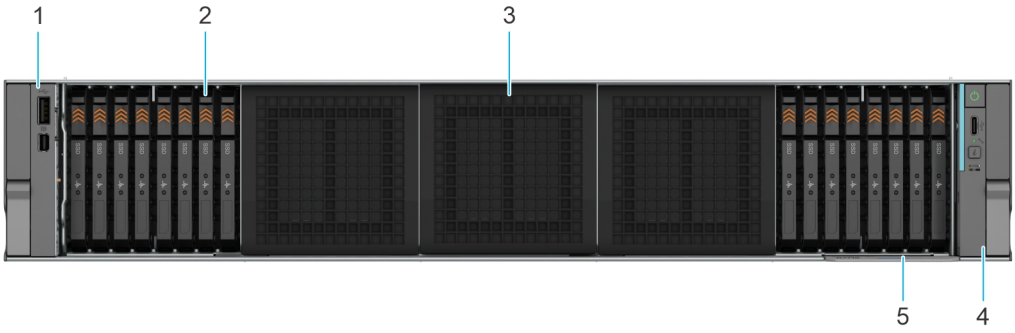

Figure 7. Front view of 16 x EDSFF Gen5 E3.s NVMe system

Table 7. Features available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.

Table 7. Features available on the front of the system (continued)

Item	Ports, panels, and slots	Icon	Description
3	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
4	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
5	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

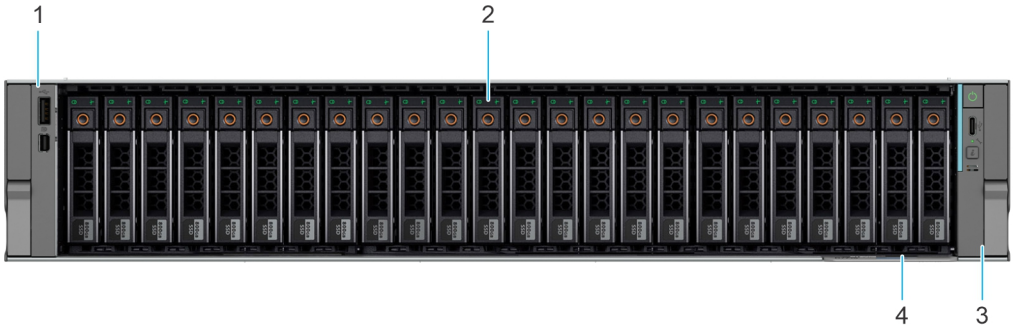

Figure 8. Front view of 16 x 2.5-inch SAS4/SATA + 8 x 2.5-inch U.2 NVMe system

Table 8. Features avaiable on the front of system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort. • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. • **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED
4	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

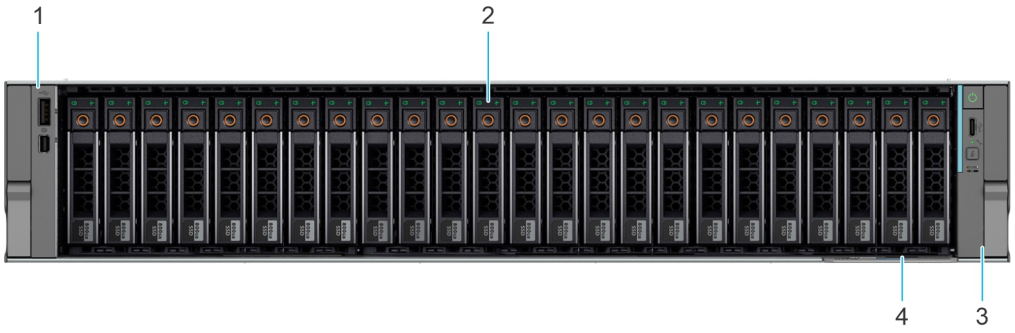

Figure 9. Front view of 24 x 2.5-inch SAS/SATA drives system

Table 9. Features available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
4	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

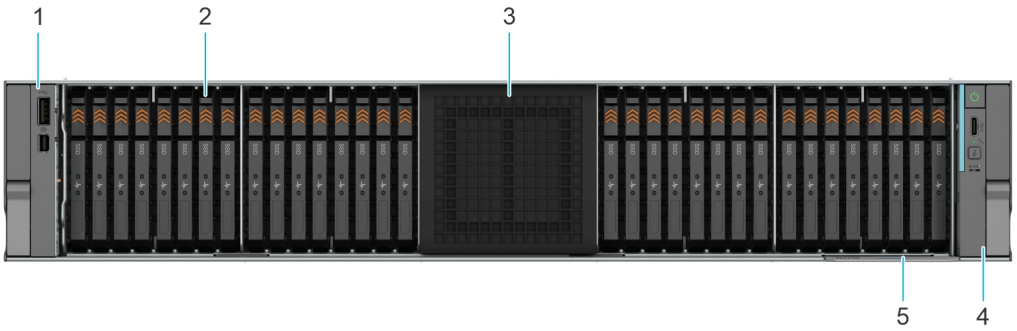

Figure 10. Front view of 32 x EDSFF Gen5 E3.s NVMe SSD system

Table 10. Features available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM).

Table 10. Features available on the front of the system (continued)

Item	Ports, panels, and slots	Icon	Description
			• USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Blank panel	N/A	Blank panel to allow air flow for thermal efficiency.
4	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
5	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

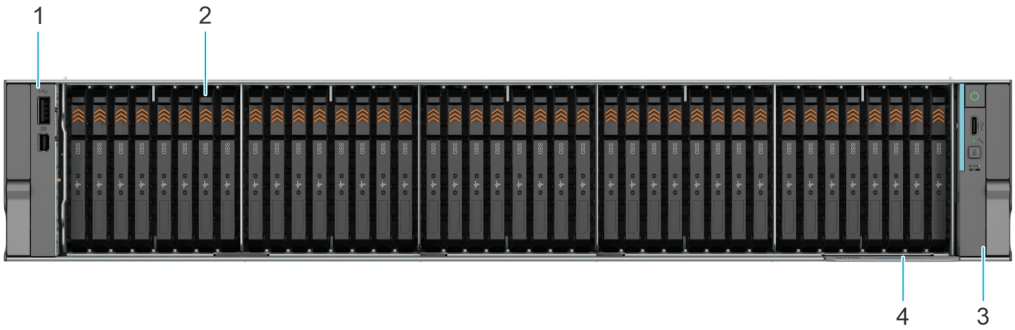

Figure 11. Front view of 40 x EDSFF E3.S Gen5 NVMe drives system

Table 11. Features available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP)- Secondary	N/A	Contains the USB 2.0 Type-A port (optional LCP KVM) and the Mini DisplayPort (optional LCP KVM). • USB 2.0 Type-A port (optional LCP KVM): This port is USB 2.0-compliant with optional LCP KVM functions. • Mini DisplayPort: Enables you to connect a display device to the system. **NOTE:** Use a certified Mini DisplayPort to DisplayPort cable complying with VESA DisplayPort standards for video output with a monitor. **NOTE:** Mini DisplayPort to VGA or Mini DisplayPort to HDMI adapters are not recommended.
2	Drive	N/A	Enables you to install drives that are supported on your system.

Table 11. Features available on the front of the system (continued)

Item	Ports, panels, and slots	Icon	Description
3	Right Control Panel (RCP) - Primary	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
4	Express service tag	N/A	The express service tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.

Left Control Panel (LCP)- Secondary

The LCP provides support for at-the-box-management or system health at a glance. The system health and system ID indicator are on the LCP of the system.

The LCP is offered in three SKUs:

- Blank
- KVM module
- Quick Sync 2.0

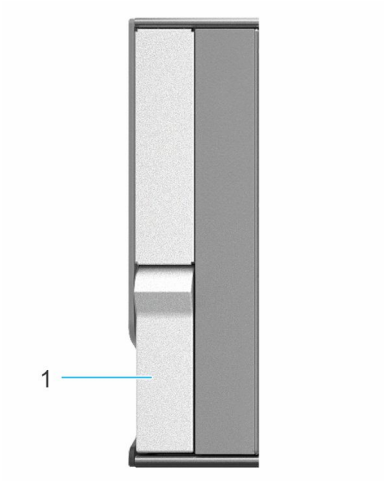

Figure 12. LCP blank

1. Blank control panel

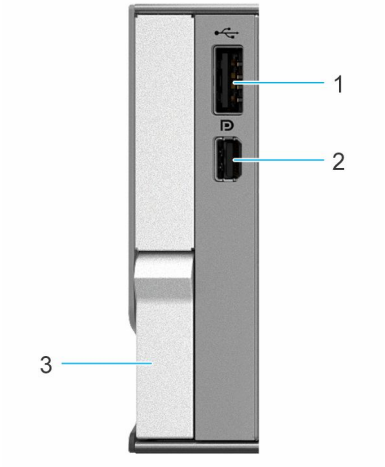

Figure 13. LCP with optional KVM

1. USB 2.0 (LCP/KVM)
2. Mini DisplayPort
3. Slam latch (NEBS Screw Underneath)

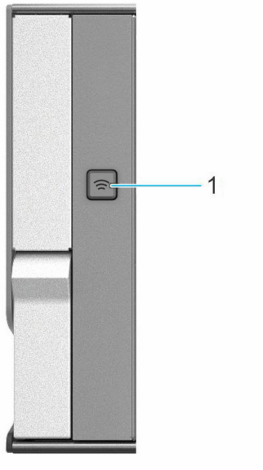

Figure 14. Left Control Panel (LCP) - Secondary with optional Quick Sync 2.0

1. Quick Sync 2.0 button

Right Control Panel (RCP) - Primary (RCP)

The Right Control Panel (RCP) - Primary encompasses many of the features no longer supported by the left control panel.

Features of the Right Control Panel (RCP) - Primary include:

1. Slam latch (NEBS screw underneath)
2. System ID Button
3. USB 2.0 Type-C port
4. Status led for host
5. Power Button

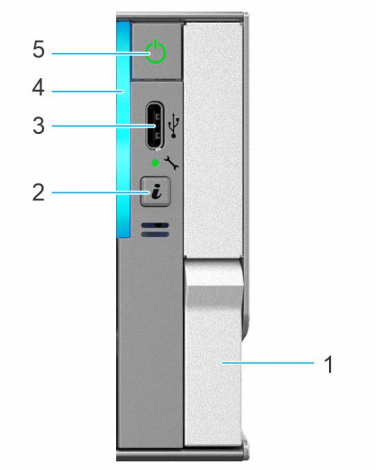

Figure 15. Right Control Panel (RCP) - Primary of R7715

Table 12. System health and system ID indicator codes

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is powered on, is healthy, and system ID mode is not active. Press the system ID button to switch to system ID mode.

Table 12. System health and system ID indicator codes (continued)

System health and system ID indicator code	Condition
Blinking blue	Indicates that the system ID mode is active. Press the system ID button to switch to system health mode.
Blinking amber	Indicates that the system is experiencing a fault. Check the System Event Log for specific error messages. EEMI guide

System configurations - rear view for PowerEdge R7715 system

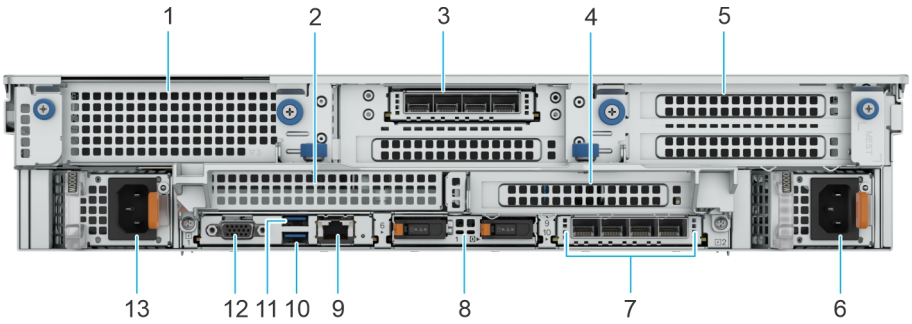

Figure 16. Rear view of the system

Table 13. Rear view of the system

Item	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1	N/A	Enables you to connect PCI Express expansion cards.
2	PCIe expansion card riser 2	N/A	Enables you to connect PCI Express expansion cards.
3	OCP NIC ports	N/A	This port supports OCP 3.0.
4	PCIe expansion card riser 4	N/A	Enables you to connect PCI Express expansion cards.
5	PCIe expansion card riser 5	N/A	Enables you to connect PCI Express expansion cards.
6	Power supply unit (PSU 2)		Indicates the PSU 2.
7	OCP NIC port	N/A	This port supports OCP 3.0.
8	BOSS-N1 DC-MHS	N/A	Enables you to install the BOSS-N1 DC-MHS.
9	Dedicated BMC Ethernet port	N/A	Enables you to remotely access Open Server Manager.
10	USB 3.1 port		The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
11	USB 3.1 port		The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
12	VGA port		Enables you to connect a display device to the system.
13	Power supply unit (PSU 1)		Indicates the PSU 1.

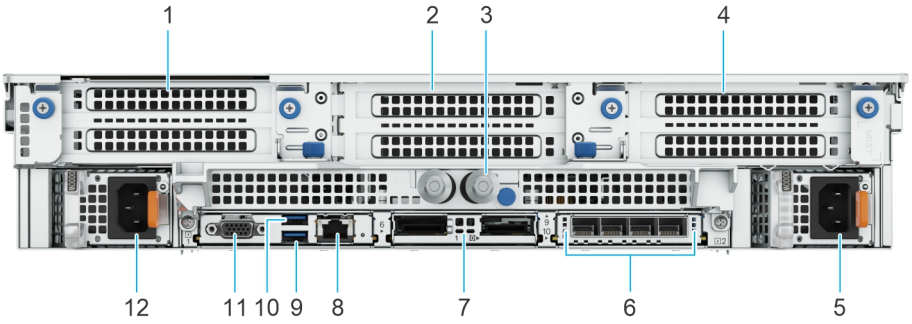

Figure 17. Rear view of the liquid cooling system

Table 14. Rear view of the system

Item	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1	N/A	Enables you to connect PCI Express expansion cards.
2	PCIe expansion card riser 3	N/A	Enables you to connect PCI Express expansion cards.
3	Liquid cooling module tubes	N/A	Cold coolant flows into the system from one tube and hot coolant leaves the system from another tube.
4	PCIe expansion card riser 5	N/A	Enables you to connect PCI Express expansion cards.
5	Power supply unit (PSU 2)		Indicates the PSU 2.
6	OCP NIC port	N/A	This port supports OCP 3.0.
7	BOSS-N1 DC-MHS	N/A	Enables you to install the BOSS-N1 DC-MHS.
8	Dedicated BMC Ethernet port	N/A	Enables you to remotely access Open Server Manager.
9	USB 3.1 port		The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
10	USB 3.1 port		The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
11	VGA port		Enables you to connect a display device to the system.
12	Power supply unit (PSU 1)		Indicates the PSU 1.

Inside the system

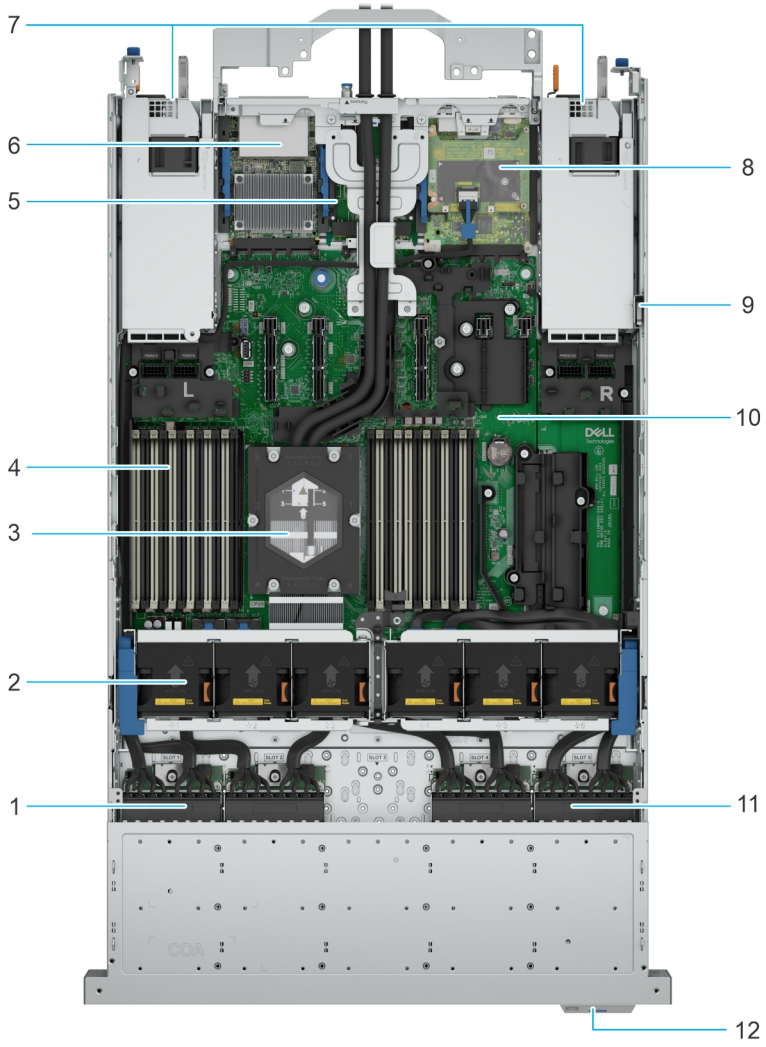

Figure 18. Inside the liquid cooling configuration system

1. Backplane
2. Cooling fans
3. Liquid cooling module
4. Memory module slots
5. BOSS-N1 DC-MHS
6. OCP 3.0 NIC card
7. Power supplies
8. DC-SCM card
9. Intrusion switch
10. HPM board
11. Backplane
12. Express service tag

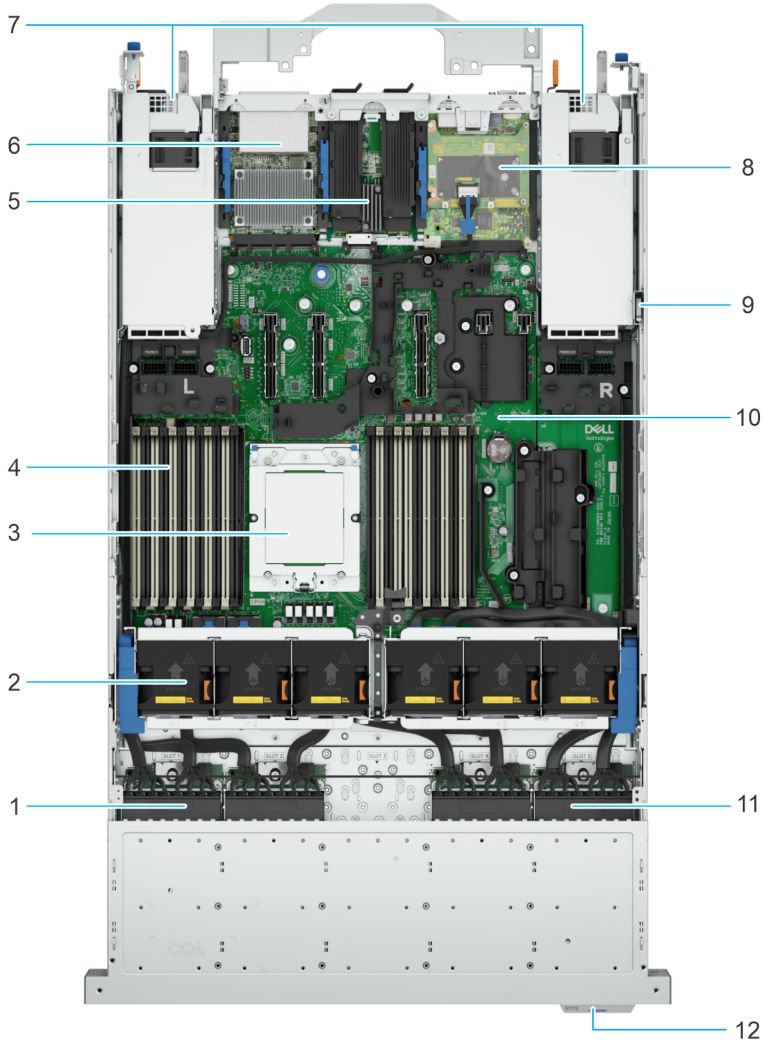

Figure 19. Inside the system

1. Backplane
2. Cooling fans
3. CPU
4. Memory module slots
5. BOSS-N1 DC-MHS
6. OCP 3.0 NIC card
7. Power supplies
8. DC-SCM card
9. Intrusion switch
10. HPM board
11. Backplane
12. Express service tag

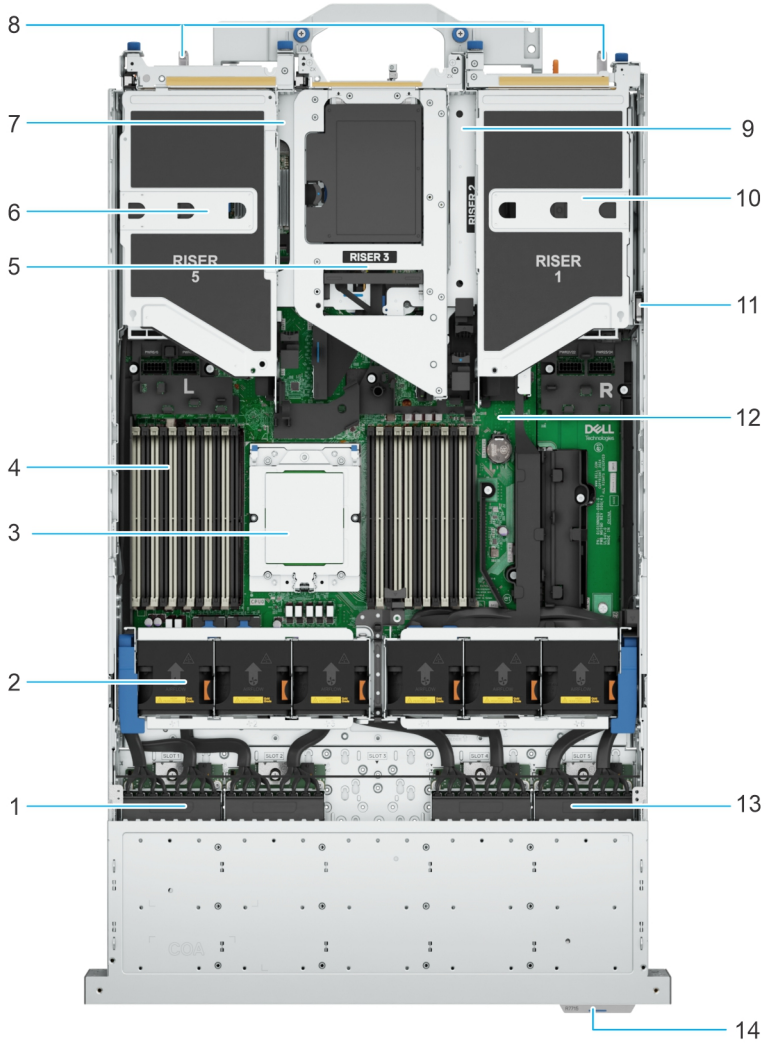

Figure 20. Inside the system with all risers

1. Backplane
2. Cooling fans
3. CPU
4. Memory module slots
5. Riser 3
6. Riser 5
7. Riser 4
8. Power supplies
9. Riser 2
10. Riser 1
11. Intrusion switch
12. HPM board
13. Backplane
14. Express service tag

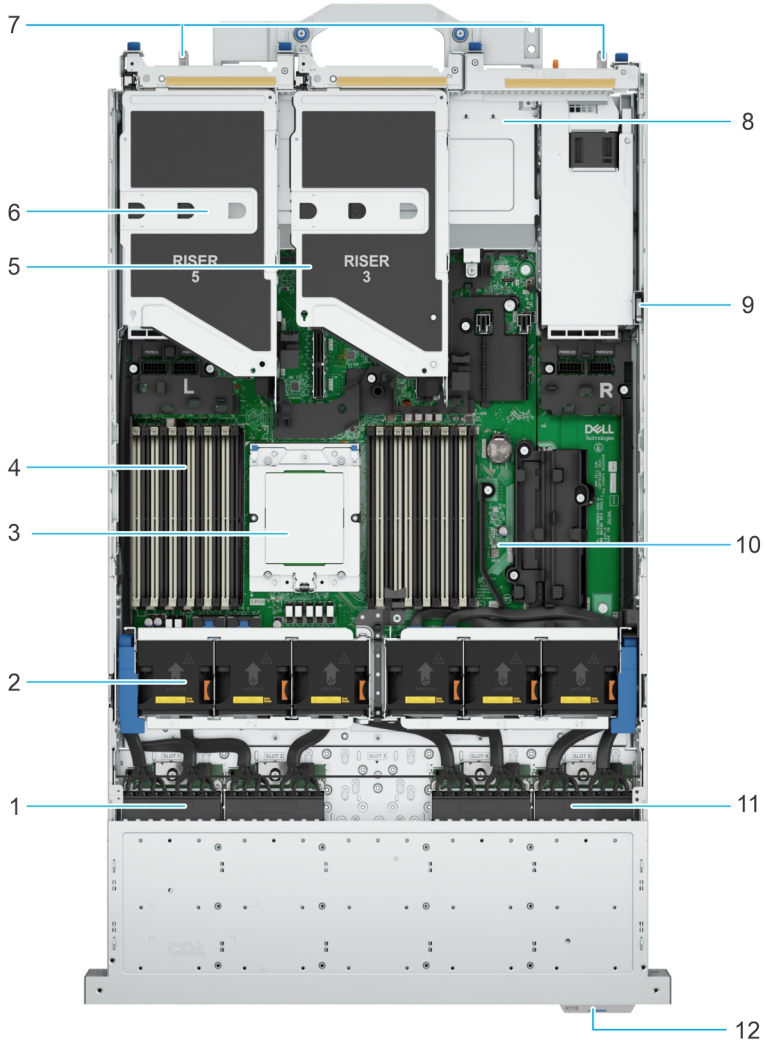

Figure 21. Inside the system with all the riser 3 and 5

1. Backplane
2. Cooling fans
3. CPU
4. Memory module slots
5. Riser 3
6. Riser 5
7. Power supplies
8. Riser2 and Riser4 FH blank
9. Intrusion switch
10. HPM board
11. Backplane
12. Express service tag

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 on the front of the system that includes system information such as the Service Tag, Express Service Code, Manufacture date, NIC, MAC address, QRL label, and so on.

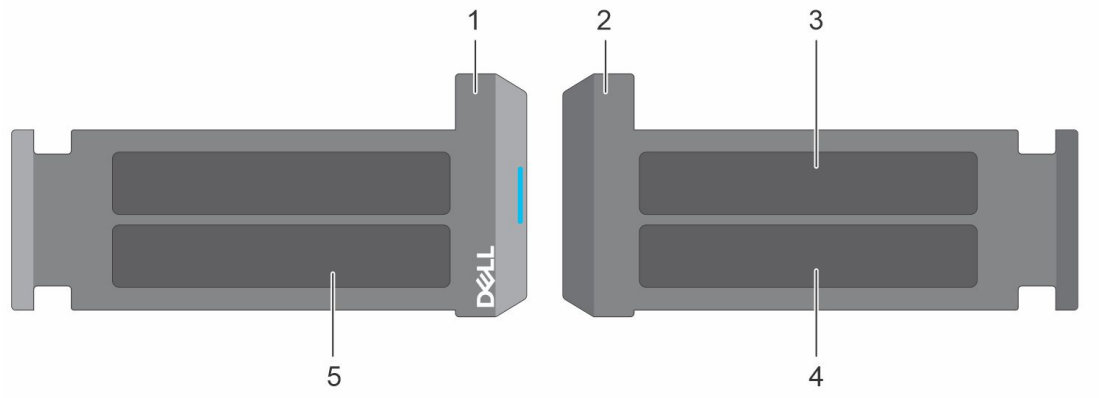

Figure 22. Locating the Express Service Code and Service tag

1. Express Service Tag (front view)
2. Express Service Tag (rear view)
3. OMM (not applicable)
4. Password MAC address
5. Service Tag, Express Service Code, My Dell QRL label

System information label

The system information label is located on the back side of the system cover.

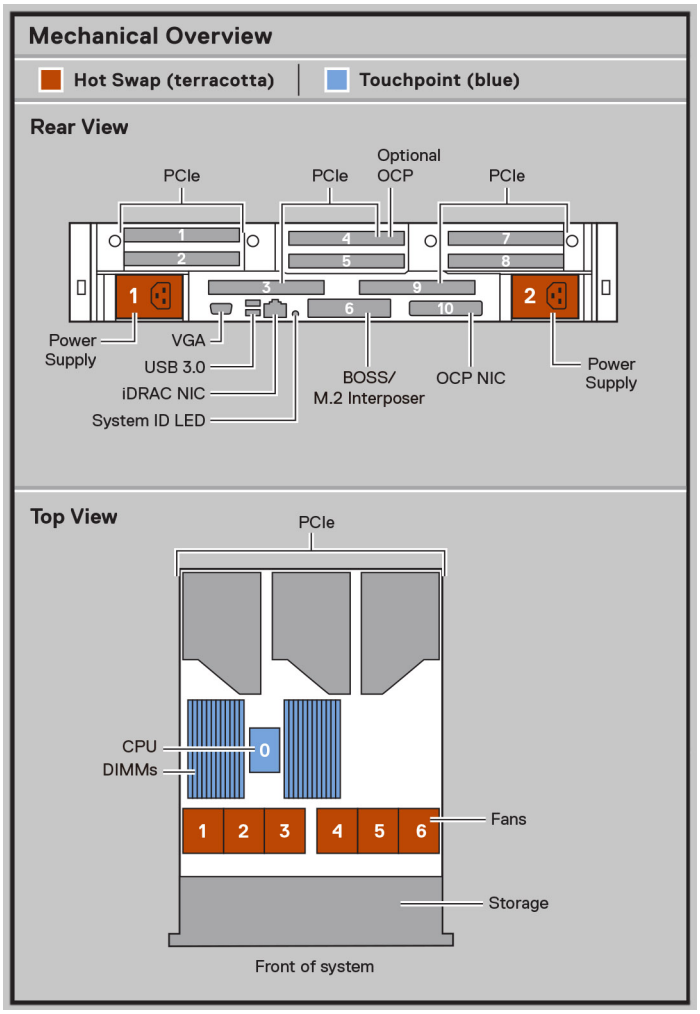

Figure 23. Service information—Mechanical Overview

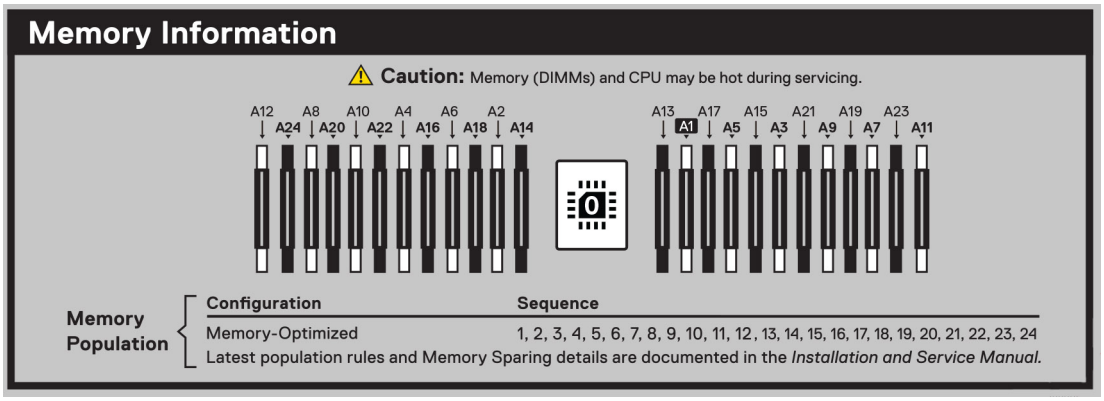

Figure 24. Memory information

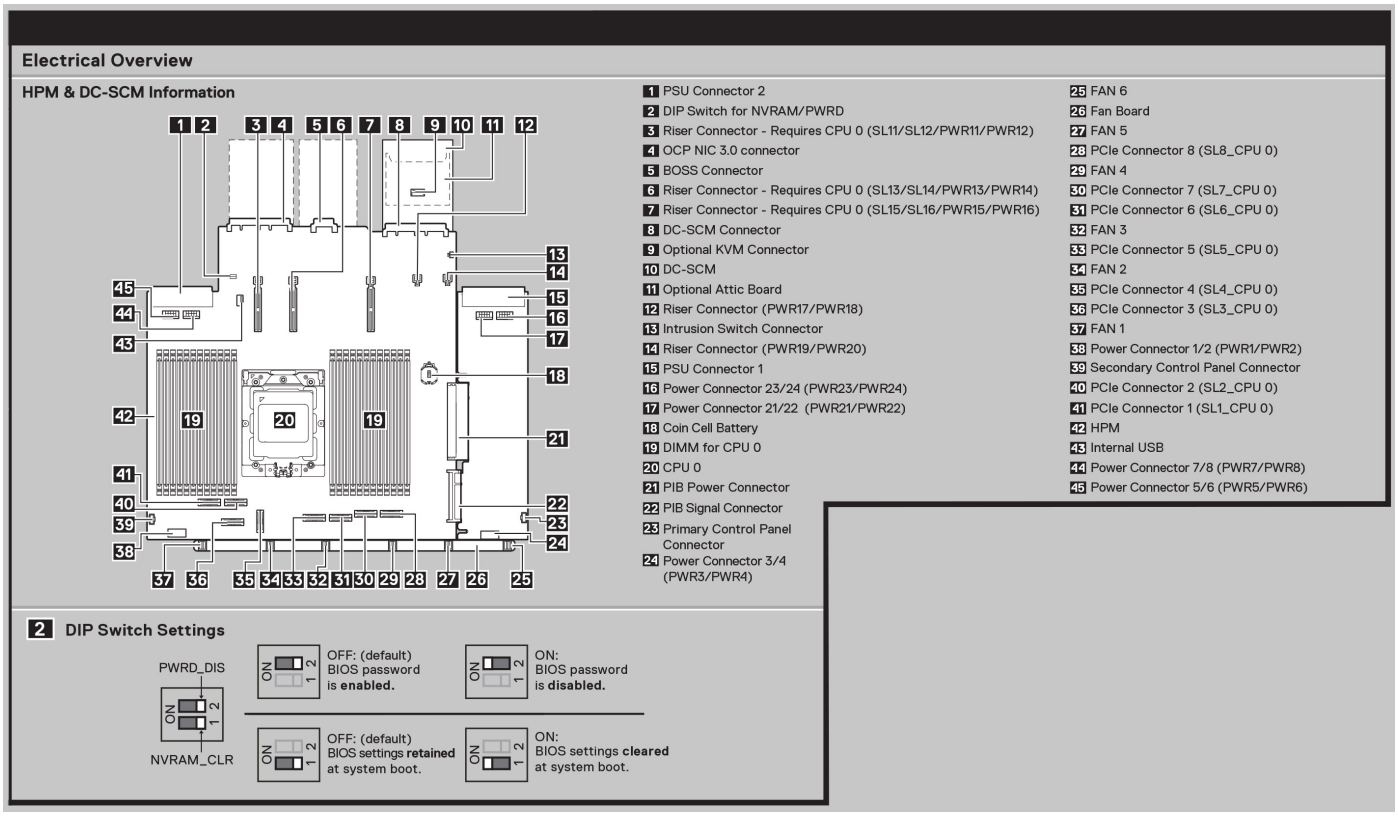

Figure 25. Electrical overview

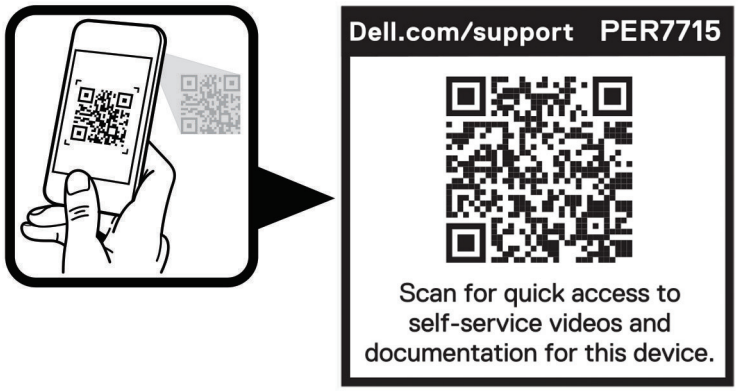

Figure 26. Quick access

Rail sizing and rack compatibility matrix

For specific information about the rail solutions compatible with your system, see the *Dell Enterprise Systems Rail Sizing and Rack Compatibility Matrix* available at rail-rack-matrix.

The document provides the information that is listed below:

- Specific details about rail types and their functionalities.
- Rail adjustability range for various types of rack mounting flanges.
- Rail depth with and without cable management accessories.
- Types of racks that are supported for various types of rack mounting flanges.

3

Technical specifications

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

Topics:

Chassis dimensions

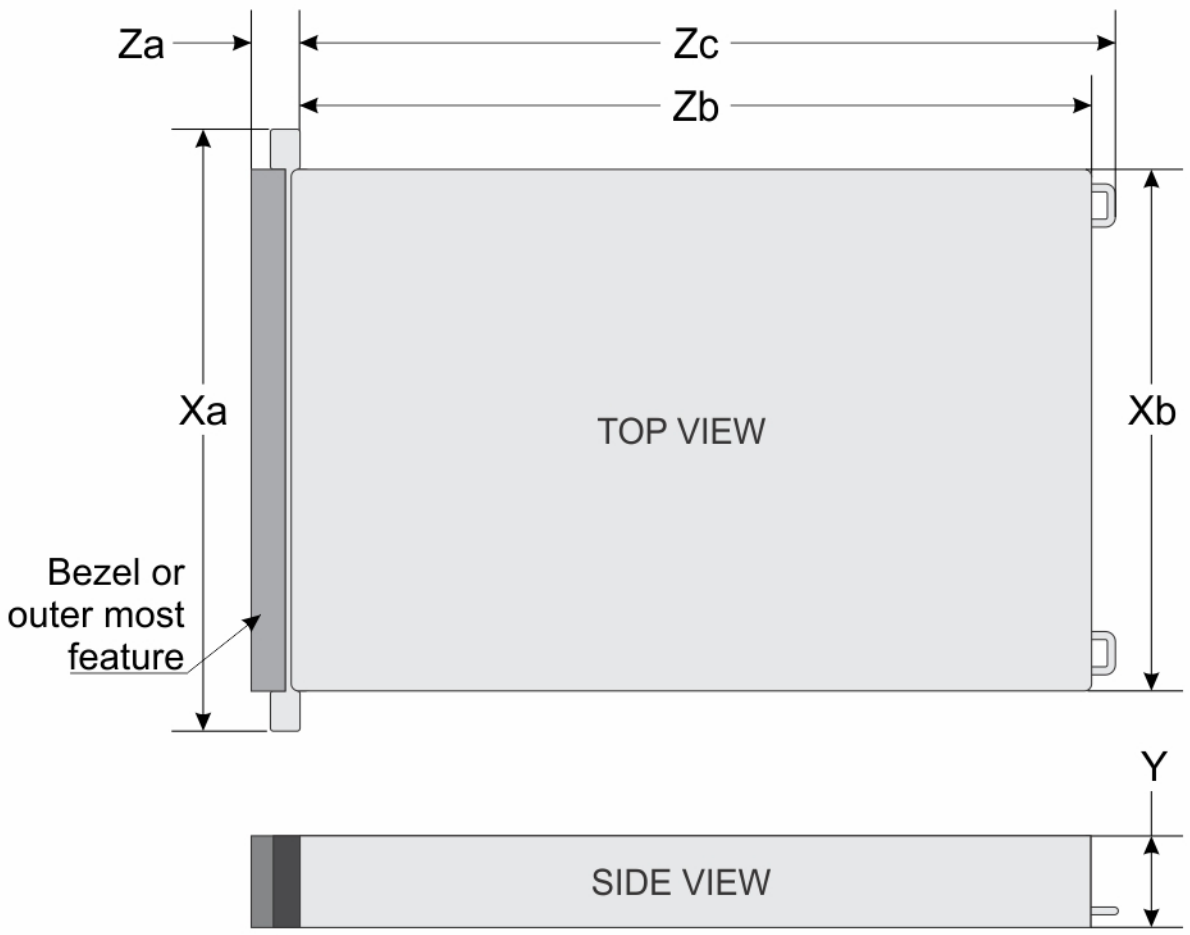

Figure 27. Chassis dimensions

Table 15. PowerEdge R7715 chassis dimensions

Drives	Xa	Xb	Y	Za	Zb	Zc
All drive configurations	482.0 mm (18.97 inches)	434.0 mm (17.08 inches)	86.8 mm (3.41 inches)	30.78 mm (1.21 inches)With bezel 29.89mm (1.18 inches)Without bezel	700.7 mm (27.58 inches) Ear to rear wall	771.62 mm (30.38 inches) Ear to PSU handle

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

System weight

Table 16. PowerEdge R7715 system weight

System configuration	Maximum weight (with all drives/SSDs)
No backplane configuration	22.93 kg (50.55 pounds)
2 x U.2 SSD	20.24 kg (44.62 pounds)

Table 16. PowerEdge R7715 system weight (continued)

System configuration	Maximum weight (with all drives/SSDs)
8 x 2.5-inch Universal drives	26.26 kg (57.89 pounds)
8 x EDSFF E3.S Gen5 NVMe drives	27.33 kg (60.25 pounds)
12 x 3.5-inch SAS/SATA drives	26.85 kg (59.19 pounds)
16 x 2.5-inch SAS/SATA + 8 x U.2 drives	26.58 kg (58.59 pounds)
16 x 2.5-inch SAS/SATA drives	26.81 kg (59.10 pounds)
16 x EDSFF E3.S Gen5 NVMe drives	28.68 kg (63.22 pounds)
24 x 2.5-inch SAS/SATA drives	27.67 kg (61.00 pounds)
32 x EDSFF E3.S Gen5 NVMe drives	26.68 kg (58.81 pounds)
40 x EDSFF E3.S Gen5 NVMe drives	28.38 kg (62.56 pounds)

Table 17. PowerEdge R7715 weight handling recommendations

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

Memory specifications

The PowerEdge R7715 system supports the following memory specifications for optimized operation.

Table 18. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Dual processor	
			Minimum system capacity	Maximum system capacity
RDIMM	Single rank	16 GB	16 GB	384 GB
	Dual rank	32 GB	32 GB	768 GB
		64 GB	64 GB	1.5 TB
		96 GB	96 GB	2.3 TB
		128 GB	128 GB	3 TB
	Eight rank	256 GB	256 GB	6 TB

Table 19. Memory module sockets

Memory module sockets	Speed
24 DDR5 DIMM slots	5200 MT/s, 4000 MT/s

NOTE: Memory DIMM slots are not hot pluggable.

NOTE: The processor may reduce the performance of the rated DIMM speed.

Processor specifications

Table 20. PowerEdge R7715 processor specifications

Supported processor	Number of processors supported
5th Generation AMD EPYC 9005 Series processor	One

PSU specifications

The PowerEdge R7715 system supports up to two AC or DC power supply units (PSUs).

Table 21. PSU specifications

PSU	Class	Heat dissipation (maximum) (BTU/hr)	Frequency (Hz)	Input voltage	Current (A)
3200 W Titanium	Titanium	12000	50/60	200-240 Vac	16
	N/A	12000	N/A	240 Vdc	14.5
3200 W 277 Vac and HVDC	Titanium	12000	50/60Hz	277 Vac	12.9
	N/A	12000	N/A	366 Vdc	10.47
2400 W Titanium	Titanium	9000	50/60Hz	100-240 Vac	9.8-8.2
	N/A	9000	N/A	240 Vdc	8.2
1800 W Titanium *	Titanium	6750	50/60	200-240 Vac	9.8-8.2
	N/A	6750	N/A	240 Vdc	8.2
1500 W Titanium	Titanium	5625	50/60	100-240 Vac	12-8.2
	N/A	5625	N/A	240 Vdc	6.8
1500 W 277 Vac and HVDC	Titanium	5621	50/60	277 Vac	6.1
	N/A	5621	N/A	336 Vdc	4.91
1400 W -48 Vdc	Telco	5310	N/A	(-48) - (-60) Vdc	33
1100 W Titanium	Titanium	4125	50/60	100-240 Vac	12-6.1
	N/A	4125	N/A	240 Vdc	5.1
1100 W Platinum	Platinum	4125	50/60	100-240 Vac	12-6.1
	N/A	4125	N/A	240 Vdc	5.1
800 W Titanium	Titanium	3000	50/60	100-240 Vac	9.2-4.5
	N/A	3000	N/A	240 Vdc	3.7
800 W Platinum	Platinum	3000	50/60	100-240 Vac	9.2-4.5
	N/A	3000	N/A	240 Vdc	3.7

NOTE: This document provides a comprehensive list of product features. However, features marked with an asterisk (*) may not be available at launch but introduced in future updates. Please note that this document does not confirm the availability or release timeline of any feature. For the most accurate and up-to-date information on feature availability, please refer to the product configurator page on dell.com.

NOTE: *Feature not available at product launch in November,2025. Please refer to the product configurator page on Dell.com to confirm feature availability.

NOTE: If a system with AC 1500 W and 1100 W PSUs operates at low line 100-120 Vac, then the power rating per PSU is d e-rated to 1050 W.

Figure 28. C13 power cord

Figure 29. C19 Power cord

Figure 30. C16 Power Cord

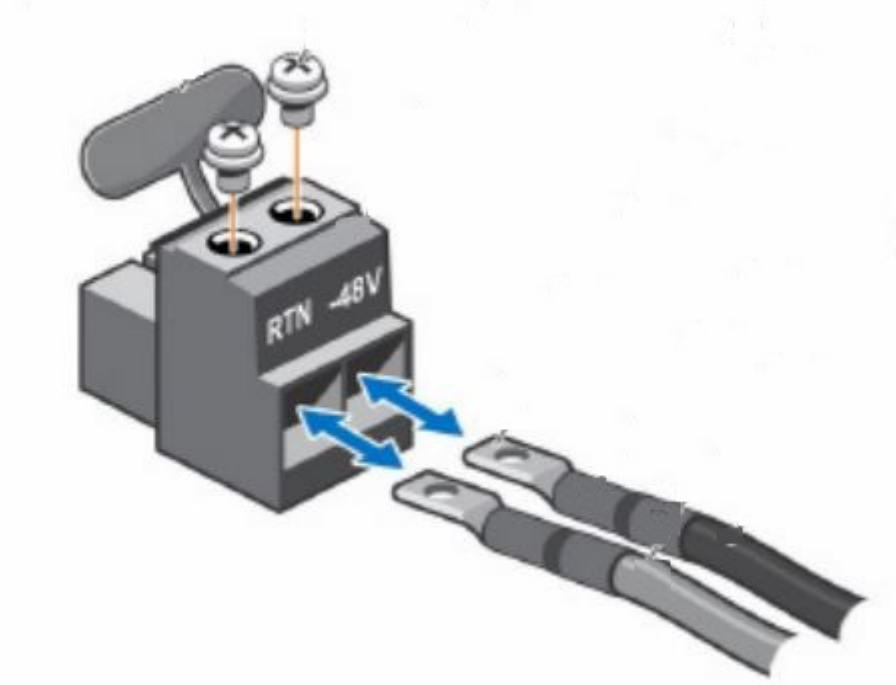

Figure 31. DC PSU power cord*

Table 22. PSU power cables

Form factor	Output	Power cable
Redundant 73.5 mm	3200 W Titanium mixed mode	C19
Redundant 73.5 mm	3200 W 277 Vac and HVDC	APP/Saf-D-Grid
Redundant 73.5 mm	2400 W Titanium mixed mode	C19
Redundant 60 mm	1800 W Titanium mixed mode*	C16
Redundant 60 mm	1500 W Titanium mixed mode	C13
Redundant 60 mm	1500 W 277 Vac and HVDC	APP/Saf-D-Grid
Redundant 60 mm	1400 W Telco	DC power cable
Redundant 60 mm	1100 W Titanium mixed mode	C13
Redundant 60 mm	1100 W Platinum mixed mode	C13
Redundant 60 mm	800 W Titanium mixed mode	C13
Redundant 60 mm	800 W Platinum mixed mode	C13

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NOTE: *Feature not available at product launch in November,2025. Please refer to the product configurator page on Dell.com to confirm feature availability.

Cooling fan specifications

The PowerEdge R7715 supports up to 6 standard (STD) cooling fans.

Table 23. Cooling fan specifications

Fan type	Abbreviation	Also known as	Label color	Label image
High performance (HPR) silver fans	HPR SLVR	Silver	Silver	
Very high performance (VHP) fans	HPR GOLD	Gold	Gold	
High Performance Platinum (HPR Pltm) fans	HPR PLTM	Platinum	Platinum	

NOTE: Cooling fans rotate at slower speed, even while the system is in standby mode, and the fan speed varies in response to changes in the ambient temperature.

Expansion card riser specifications

The PowerEdge R7715 system supports up two PCI express (PCIe) slots (Gen5 slots), dual OCP NIC, and BOSS on the HPM board.

Table 24. Expansion card slots supported on the HPM board

PCIe slot	Expansion card riser	Processor connection	Height	Length	Slot width
Slot 1	R1d	Processor 1	Full Height	Half Length	x8
Slot 2	R1d, R1e, R1e_DW	Processor 1	Full Height	Half Length,Full Length	x8, x16
Slot 3	R2n, R2m	Processor 1	Low Profile , Full Height	Full Length	x16
Slot 4	R3a, R3b, R3b_DW, R3e (OCP)	Processor 1	Full Height,	Half Lenght,Full Length	x8, x16
Slot 5	R3a	Processor 1	Full Height	Half Length	x8
Slot 6	BOSS	Processor 1	N/A	N/A	x4
Slot 7	R5b_DW, R5b, R5f, R5a	Processor 1	Full Height	Half Length , Full Lenght	x8, x16
Slot 8	R5f, R5a	Processor 1	Full Height	Half Length	x8, x16
Slot 9	R4a, R4b	Processor 1	Low Profile, Full Height	Half Length	x16
Slot 10	OCP	Processor 1	N/A	N/A	x16

Storage controller specifications

The PowerEdge R7715 system supports the following controller cards:

Table 25. Storage controller cards

Supported storage controller cards
Internal controllers • PERC H365i • PERC H965i • PERC H975i • HBA465e • H965e
Internal Boot • Boot Optimized Storage Subsystem (BOSS-N1 DC-MHS)
Software RAID • N/A

NOTE: For the ESXi operating system, H975i is supported on 9.0 or later versions.

Drives

The PowerEdge R7715 system supports:

- No backplane configuration
- 2 x U.2 SSDs

- 8 x 2.5-inch SAS/SATA/NVME drives
- 8 x EDSFF E3.S Gen5 NVMe drives
- 12 x 3.5-inch SAS/SATA drives
- 16 x 2.5-inch SAS/SATA SSD + 8 x U.2 NVMe drives
- 16 x 2.5-inch SAS/SATA drives
- 16 x EDSFF E3.S Gen5 NVMe drives
- 24 x 2.5-inch SAS/SATA drives
- 32 x EDSFF E3.S Gen5 NVMe drives
- 40 x EDSFF E3.S Gen5 NVMe drives

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 Dell Support page >**Browse all Products** > **Data Center Infrastructure** > **Storage Adapters & Controllers** > **Dell PowerEdge Express Flash NVMe PCIe SSD** > **Documentation** > **Manuals and Documents**.

GPU Specifications

The PowerEdge R7715 system supports the following GPU configurations:

- Up to three 450 W Double wide or six 75 W single wide GPUs

DPU Specifications

The PowerEdge R7715 platform accommodates Data Processing Units (DPUs). These units are system-on-chip solutions that combine ARM cores, high-performance NICs, and programmable acceleration engines to offload and accelerate data center infrastructure services.

Table 26. Supported Data Processing Units(DPU) Cards

Feature	NVIDIA BlueField-3 2x200 GbE B3220	NVIDIA BlueField-3 1x400 GbE B3140H *
Type	Data Processing Units (DPU)	Data Processing Units (DPU)
Networking	2 x 200 GbE	1x400 GbE
Form Factor	FHHL	FHHL
Interface	PCIe Gen5 x16	PCIe Gen5 x16
Power Consumption	150 W	75 W
Compatible Risers	RC 1(Slot 7), RC 2(Slot 7), RC 3(Slots 2,7), RC 4(Slots 2,7), RC 5(Slots 2,7), RC 8(Slots 2,7)	TBD

NOTE: This document provides a comprehensive list of product features. However, features marked with an asterisk (*) may not be available at launch but introduced in future updates. Please note that this document does not confirm the availability or release timeline of any feature. For the most accurate and up-to-date information on feature availability, please refer to the product configurator page on dell.com.

NOTE: * Feature not available at product launch in November,2025. Please refer to the product configurator page on Dell.com to confirm feature availability.

System battery specifications

The PowerEdge R7715 system uses one CR 2032 3.0-V lithium coin cell battery.

Supported operating systems

The PowerEdge R7715 system supports the following operating systems:

- Canonical Ubuntu Server LTS
- Microsoft Windows Server with Hyper-V
- RedHat Enterprise Linux
- SUSE Linux Enterprise Server
- VMware ESXi

For more information, go to Operating System Manuals.

Ports and connectors specifications

NIC port specifications

The PowerEdge R7715 system supports one 10/100/1000 Mbps BMC Ethernet, up to eight PCIe Add-in cards, up to two fibre channel HBA cards, and two optional Open Compute Project (OCP) cards.

Table 27. NIC port specification for the system

Feature	Specifications
Datacenter-Secure Control Module (DC-SCM)	1 Gb Dedicated BMC Ethernet port x1
OCP NIC 3.0 card	200GbE x 2 (configurable to 400GbE x1), 100 GbE x 2, 25 GbE x 2, 25 GbE x 4 , 10 GbE x 4, 10 GbE x 2, 1 GbE x 4
PCIe Add-in Card (AIC) NIC	400 GbE x 1, 100 Gbe x 2
Fibre channel HBA	FC32, FC64

USB ports specifications

Table 28. PowerEdge R7715 USB specifications

Front		Rear		Internal (Optional)	
USB port type	**No. of ports**	**USB port type**	**No. of ports**	**USB port type**	**No. of ports**
USB 2.0-Type A compliant port	One (optional-LCP KVM)	USB 3.1-Type A compliant port	Two	Internal USB 3.1-Type A compliant port	One
USB Type C dual-mode host/iDRAC Direct Port	One				

VGA ports specifications

The PowerEdge R7715 system supports DB-15 VGA port on the rear DC-SCM.

Video specifications

Table 29. Supported video resolution options

Resolution	Refresh Rate	Color depth (bits)
1024 x 768	60	8, 16, 32

Table 29. Supported video resolution options (continued)

Resolution	Refresh Rate	Color depth (bits)
1280 x 800	60	8, 16, 32
1280 x 1024	60	8, 16, 32
1360 x 768	60	8, 16, 32
1440 x 900	60	8, 16, 32
1600 x 900	60	8, 16, 32
1600 x 1200	60	8, 16, 32
1680 x 1050	60	8, 16, 32
1920 x 1080	60	8, 16, 32
1920 x 1200	60	8, 16, 32

Environmental specifications

NOTE: For additional information about environmental certifications, refer to the **Product Environmental Datasheet** located with the **Manuals & Documents** on Dell Support.

Table 30. Continuous Operation Specifications for ASHRAE A2

Temperature	Specifications
Allowable continuous operations	
Temperature range for altitudes <= 900 m (<= 2953 ft)	10–35°C (50–95°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 80% RH with 21°C (69.8°F) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1°C/300 m (1.8°F/984 Ft) above 900 m (2953 Ft)

Table 31. Continuous Operation Specifications for ASHRAE A3

Temperature	Specifications
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 (1.8°F/574 Ft) above 900 m (2953 Ft)

Table 32. Continuous Operation Specifications for ASHRAE A4

Temperature	Specifications
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 (1.8°F/410 Ft) above 900 m (2953 Ft)

Table 33. Continuous Operation Specifications for Rugged Environment

Temperature	Specifications
Allowable continuous operations	
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–55°C (41–131°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 (1.8°F/410 Ft) above 900 m (2953 Ft)

Table 34. Common Environmental Specifications for ASHRAE A2, A3, A4 and Rugged

Temperature	Specifications
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 (9°F in 15 minutes), 5°C in an hour* (9°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°C to 65°C (-40°F to 149°F) applicable for air cooling configuration • -40°C to -5°C (-40°F to 23°F**) applicable for DLC configuration **NOTE:** ** Liquid filled components, or systems/solutions containing liquid filled components are limited to approximately 5°C above their freeze point. At this time the only authorized liquid coolant is Recohem PG25 with a freeze point between -9°C and -13°C, therefore the lower non-operational temperature limit is -5°C. Components and systems/solutions that can contain liquid but do not at the time of testing shall be tested to the -40°C lower non-operational temperature limit.
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 35. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.21 G_{rms} at 5 Hz to 500 Hz (all operation orientations)
Storage	1.38 G_{rms} at 7 Hz to 250 Hz for 15 minutes (all six sides tested)

Table 36. 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.
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.

Particulate and gaseous contamination specifications

The following table defines the limitations that help avoid any equipment damage or failure from particulates and gaseous contamination. If the levels of particulates or gaseous pollution exceed the specified limitations and result in equipment damage or failure, you must rectify the environmental conditions. Remediation of environmental conditions is the responsibility of the customer.

Table 37. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration: Conventional Data Center only	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit **NOTE:** Filtering room air with a MERV8 filter, as specified in ANSI/ASHRAE Standard 127, is a recommended method for achieving the necessary environmental conditions. **NOTE:** Air entering the data center must have MERV11 or MERV13 filtration. **NOTE:** This condition applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.
Walk-Up Edge Data Center or Cabinet (sealed, closed loop environment)	Filtration is not required for cabinets that are anticipated to be opened six times or less per year. Class 8 per ISO 1466-1 filtration as defined above is required otherwise. **NOTE:** In environments commonly above ISA-71 Class G1 or that may have known challenges, special filters may be required.
Conductive dust: data center and non-data center environments	Air must be free of conductive dust, zinc whiskers, or other conductive particles. **NOTE:** Conductive dust, which can interfere with equipment operation, can originate from various sources, including manufacturing processes and zinc whiskers that may develop on the plating of raised floor tiles. **NOTE:** This condition applies to data center and non-data center environments.
Corrosive dust: data center and non-data center environments	• Air must be free of corrosive dust. • Residual dust present in the air must have a deliquescent point less than 60% relative humidity. **NOTE:** This condition applies to data center and non-data center environments.

Table 38. Gaseous contamination specifications

Gaseous contamination	Specifications	Notes
Copper coupon corrosion rate	ISA-71 Class G1: <300 Å/month	Per ANSI/ISA71.04
Silver coupon corrosion rate	ISA-71 Class G1: <200 Å/month	Per ANSI/ISA71.04

Thermal restriction matrix

Table 39. Label reference

Label	Description
STD	Standard
HPR (Silver)	High performance Silver (HPR SLVR) fan
HPR (Gold)	High performance Gold (HPR GOLD) fan
HSK	Heat sink
LP	Low profile
FH	Full height

Table 39. Label reference (continued)

Label	Description
DLC	Direct Liquid Cooling

Table 40. Processor and heat sink matrix

Heat sink	Processor TDP
2U-Ext	Regular cooling

NOTE: The configuration's ambient temperature is dictated by its critical component. For example, if the processor's ambient temperature is 35°C, the DIMM is 35°C, and the GPU is 30°C, the configuration's ambient temperature can only be 30°C.

Table 41. CPU thermal restriction matrix for Air cooling Non-GPU configuration

CPU thermal restriction matrix for Air cooling Non-GPU configuration									
2U-Ext HSK (5XD0R) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF) , HPR P Fan (5337J)									
CPU	cTDP	Max cTDP	Core Count	24 x 2.5-inch	16 x 2.5-inch	16 x EDSFF E3.S NVMe	32 x EDSFF E3.S NVMe	No Backplane/ 2 x U.2	16 x EDSFF E3.S NVMe
				Regular Air shroud					
				Supported at 35°C					
9015	125	155	8	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9115	125	155	16	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9135	200	240	16	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9255	200	240	24	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9335	280	300	32	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9355P	280	300	32	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9455	300	300	48	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan
9535	300	300	64	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan	2U-Ext HSK Silver Fan

Table 41. CPU thermal restriction matrix for Air cooling Non-GPU configuration (continued)

CPU thermal restriction matrix for Air cooling Non-GPU configuration									
2U-Ext HSK (5XD0R) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF) , HPR P Fan (5337J)									
CPU	**cTDP**	**Max cTDP**	**Core Count**	**24 x 2.5-inch**	**16 x 2.5-inch**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**No Backplane/ 2 x U.2**	**16 x EDSFF E3.S NVMe**
				Regular Air shroud					
				Supported at 35°C					
9175F	320	400	16	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9275F	320	400	24	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9375F	320	400	32	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9475F	400	400	48	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9555P	360	400	64	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9575F	400	400	64	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9655P	320	400	96	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9745	400	400	128	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan
9825	390	400	144	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan

Table 41. CPU thermal restriction matrix for Air cooling Non-GPU configuration (continued)

CPU thermal restriction matrix for Air cooling Non-GPU configuration									
2U-Ext HSK (5XD0R) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF) , HPR P Fan (5337J)									
CPU	**cTDP**	**Max cTDP**	**Core Count**	**24 x 2.5-inch**	**16 x 2.5-inch**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**No Backplane/ 2 x U.2**	**16 x EDSFF E3.S NVMe**
				Regular Air shroud					
				Supported at 35°C					
9845	390	400	160	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan	2U-Ext HSK HPR Gold Fan

Table 42. Memory thermal restriction matrix for Air Cooling Non-GPU configuration

Memory thermal restriction matrix for Air Cooling Non-GPU configuration						
2U-Ext HSK (5XD0R) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF) , HPR P Fan (5337J)						
memory	**24 x 2.5-inch**	**16 x 2.5-inch**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**No Backplane/ 2 x U.2**	**16 x EDSFF E3.S NVMe**
	Regular Air shroud					
	Supported at 35°C					
16 GB RDIMM	Silver Fan	Silver Fan	Silver Fan	Silver Fan	Silver Fan	Silver Fan
32 GB RDIMM	Silver Fan	Silver Fan	Silver Fan	Silver Fan	Silver Fan	Silver Fan
64 GB RDIMM	Silver Fan	Silver Fan	Silver Fan	Silver Fan	Silver Fan	Silver Fan
96 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
128 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
256 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan

Table 43. GPU thermal restriction matrix for Air Cooling Non-GPU configuration

GPU thermal restriction matrix for Air Cooling Non-GPU configuration						
2U-Ext HSK (5XD0R) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF) , HPR P Fan (5337J)						
GPU	**24 x 2.5-inch**	**16 x 2.5-inch**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**No Backplane/ 2 x U.2**	**16 x EDSFF E3.S NVMe**
	Regular Air shroud					
	NOTE: ** Components that support max 30°C. **NOTE:** Components without ** support max 35°C.					
L4 24 GB	HPR Gold Fan**	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan

Table 44. CPU thermal restriction matrix for Air cooling GPU configuration

CPU thermal restriction matrix for Air cooling GPU configuration						
1U GPU HSK (2K16D) , HPR P Fan (5337J)						
CPU	cTDP	Max cTDP	Core Count	16 x 2.5-inch	8 x 2.5-inch	8 x EDSFF E3.S NVMe
				GPU Air shroud		
				Supported at 35°C		
9015	125	155	8	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9115	125	155	16	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9135	200	240	16	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9255	200	240	24	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9335	280	300	32	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9355P	280	300	32	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9455	300	300	48	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9535	300	300	64	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9175F	320	400	16	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9275F	320	400	24	Not Support	Not Support	Not Support
9375F	320	400	32	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9475F	400	400	48	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9555P	360	400	64	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9575F	400	400	64	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9655P	320	400	96	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9745	400	400	128	1U GPU HSK	1U GPU HSK	1U GPU HSK

Table 44. CPU thermal restriction matrix for Air cooling GPU configuration (continued)

CPU thermal restriction matrix for Air cooling GPU configuration						
1U GPU HSK (2K16D) , HPR P Fan (5337J)						
CPU	cTDP	Max cTDP	Core Count	16 x 2.5-inch	8 x 2.5-inch	8 x EDSFF E3.S NVMe
				GPU Air shroud		
				Supported at 35°C		
				HPR P Fan	HPR P Fan	HPR P Fan
9825	390	400	144	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan
9845	390	400	160	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan	1U GPU HSK HPR P Fan

Table 45. Memory thermal restriction matrix for Air Cooling GPU configuration

Memory thermal restriction matrix for Air Cooling GPU configuration			
2U-Ext HSK (5XD0R) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF) , HPR P Fan (5337J)			
memory	16 x 2.5-inch	8 x 2.5-inch	8 x EDSFF E3.S NVMe
	Regular Air shroud		
	Supported at 35°C		
16 GB RDIMM	HPR P Fan	HPR P Fan	HPR P Fan
32 GB RDIMM	HPR P Fan	HPR P Fan	HPR P Fan
64 GB RDIMM	HPR P Fan	HPR P Fan	HPR P Fan
96 GB RDIMM	HPR P Fan	HPR P Fan	HPR P Fan
128 GB RDIMM	HPR P Fan	HPR P Fan	HPR P Fan
256 GB RDIMM	HPR P Fan	HPR P Fan	HPR P Fan

Table 46. CPU thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration

CPU thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration							
DLC Module (4JWWY) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF)							
CPU	cTDP	Max cTDP	Core Count	24 x U.2	8 x 2.5-inch	16 x 2.5-inch	8 x EDSFF E3.S NVMe
				Regular Air shroud			
				NOTE: Components support max 35°C.			
9015	125	155	8	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9115	125	155	16	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9135	200	240	16	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9255	200	240	24	DLC Module	DLC Module	DLC Module	DLC Module

Table 46. CPU thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration (continued)

CPU thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration							
DLC Module (4JWWY) ; Silver Fan (6R09C) ; HPR Gold Fan (7F0CF)							
CPU	cTDP	Max cTDP	Core Count	24 x U.2	8 x 2.5-inch	16 x 2.5-inch	8 x EDSFF E3.S NVMe
				Regular Air shroud			
				NOTE: Components support max 35°C.			
				Silver Fan	Silver Fan	Silver Fan	Silver Fan
9335	280	300	32	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9355P	280	300	32	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9455	300	300	48	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9535	300	300	64	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9175F	320	400	16	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9275F	320	400	24	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9375F	320	400	32	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9475F	400	400	48	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9555P	360	400	64	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9575F	400	400	64	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9655P	320	400	96	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9745	400	400	128	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9825	390	400	144	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan
9845	390	400	160	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan	DLC Module Silver Fan

Table 47. Memory thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration

Memory thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration				
DLC Module (4JWWY) ; Silver Fan (6R09C), HPR Gold Fan (7F0CF)				
Memory	**24 x U.2**	**8 x 2.5-inch**	**16 x 2.5-inch**	**8 x EDSFF E3.S NVMe**
	Regular Air shroud			
	NOTE: Components support max 35°C.			
16 GB RDIMM	Silver Fan	Silver Fan	Silver Fan	Silver Fan
32 GB RDIMM	Silver Fan	Silver Fan	Silver Fan	Silver Fan
64 GB RDIMM	Silver Fan	Silver Fan	Silver Fan	Silver Fan
96 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
128 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
256 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan

Table 48. GPU thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration

GPU thermal restriction matrix for Direct Liquid Cooling Non-GPU configuration				
DLC Module (4JWWY) ; Silver Fan (6R09C), HPR Gold Fan (7F0CF)				
GPU	**24 x U.2**	**8 x 2.5-inch**	**16 x 2.5-inch**	**8 x EDSFF E3.S NVMe**
	Regular Air shroud			
	NOTE: ** Components that support max 30°C. **NOTE:** Components without ** support max 35°C.			
L4 24 GB	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan

Table 49. CPU thermal restriction matrix for Direct Liquid Cooling GPU configuration

CPU thermal restriction matrix for Direct Liquid Cooling GPU configuration						
DLC Module(4JWWY), HPR Gold Fan (7F0CF)						
CPU	**cTDP**	**Max cTDP**	**Core Count**	**8 x 2.5-inch**	**16 x 2.5-inch**	**8 x EDSFF E3.S NVMe**
				GPU Air shroud		
				Supported at 35°C		
9015	125	155	8	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9115	125	155	16	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9135	200	240	16	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9255	200	240	24	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9335	280	300	32	DLC Module	DLC Module	DLC Module

Table 49. CPU thermal restriction matrix for Direct Liquid Cooling GPU configuration (continued)

CPU thermal restriction matrix for Direct Liquid Cooling GPU configuration						
DLC Module(4JWWY), HPR Gold Fan (7F0CF)						
CPU	cTDP	Max cTDP	Core Count	8 x 2.5-inch	16 x 2.5-inch	8 x EDSFF E3.S NVMe
				GPU Air shroud		
				Supported at 35°C		
				HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
9355P	280	300	32	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9455	300	300	48	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9535	300	300	64	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9175F	320	400	16	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9275F	320	400	24	TBD	TBD	TBD
9375F	320	400	32	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9475F	400	400	48	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9555P	360	400	64	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9575F	400	400	64	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9655P	320	400	96	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9745	400	400	128	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9825	390	400	144	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan
9845	390	400	160	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan	DLC Module HPR Gold Fan

Table 50. Memory thermal restriction matrix for Liquid Cooling GPU configuration

Memory thermal restriction matrix for Liquid Cooling GPU configuration			
DLC Module(4JWWY), HPR Gold Fan (7F0CF)			
memory	**16 x 2.5-inch**	**8 x 2.5-inch**	**8 x EDSFF E3.S NVMe**
	GPU Air shroud		
	Supported at 35°C		
16 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
32 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
64 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
96 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
128 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan
256 GB RDIMM	HPR Gold Fan	HPR Gold Fan	HPR Gold Fan

Thermal air restrictions

Fresh air environment

- Two PSUs are required in redundant mode, however a single PSU failure is not supported.
- PCIe SSD is not supported.
- 128 GB or greater capacity DIMMs are not supported.
- GPU and FPGA are not supported.
- CPU TDP equal or greater than 180 W are not supported.
- Rear drives are not supported.
- Non-Dell qualified peripheral cards and/or peripheral cards greater than 25 W are not supported.

Table 51. Air cooling configuration thermal restriction for AHSRAE A3 and A4

ASHRAE	A3/40°C (104°F)	A4/45°C (113°F)
Front storage	12 x 3.5” SAS is not supported	
Fan type	HPR Sliver Fan 6R09C is required	
CPU	CPU TDP ≥ 165W are not supported	CPU TDP ≥ 125 W are not supported
Memory	128 GB and higher capacity RDIMMS are not supported.	
PCIe card	Non-Dell qualified peripheral cards and consuming power greater than 25 W are not supported.	
GPU	GPU cards are not supported.	
Rear storage	Not supported	
OCP	Supported with 85°C (185°F) active optic cable.	Supported with 85°C (185°F) active optic cable and card Tier <4
PSU	Two PSUs are required in redundant mode. System performance may be reduced in the event of a PSU failure.	
BOSS	Support BOSS-N1	

Table 52. Liquid cooling configuration thermal restriction for AHSRAE A3 and A4

ASHRAE	A3/40°C (104°F)	A4/45°C (113°F)
Front storage	3.5'' / E.3 config is not supported	
Fan type	HPR Gold Fan (7F0CF) or up are required	

Table 52. Liquid cooling configuration thermal restriction for AHSRAE A3 and A4 (continued)

ASHRAE	A3/40°C (104°F)	A4/45°C (113°F)
PCISSD	Not Supported	
Memory	128GB and higher Capacity RDIMMS are not supported.	
PCIe card	Non-Dell qualified peripheral cards and consuming power greater than 25 W are not supported.	
GPU	GPU cards are not supported.	
Rear storage	Not supported	
OCP	Supported with 85°C (185°F) active optic cable.	Not supported
PSU	Two PSUs are required in redundant mode. System performance may be reduced in the event of a PSU failure.	
BOSS	Supported	Not supported

4

Initial system setup and configuration

This section describes the tasks for initial setup and configuration of the Dell system. The section also provides general steps to set up the system and the reference guides for detailed information.

Topics:

Setting up the system

Perform the following steps to set up the system:

Steps

1. Unpack the system.
2. Install the system into the rack. For more information, see the rail installation and cable management accessory guides relevant to your rail and cable management solution at PowerEdge manuals.
3. Connect the peripherals to the system and the system to the electrical outlet.
4. Power on the system.

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

iDRAC configuration

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

Set up iDRAC IP address

To communicate with iDRAC, configure the network settings based on your network infrastructure. The network settings option is set to **DHCP**, by default.

For static IP configuration, request for the settings at the time of purchase.

For information about setting up an iDRAC IP address, see the links provided in the table:

Table 53. Interfaces to set up iDRAC IP address

Interface	Documentation links
iDRAC Direct	See the Integrated Dell Remote Access Controller User's Guide or for system-specific iDRAC guide, go to PowerEdge Manuals > **Product Support** page of your system > **Documentation**. To determine the most recent iDRAC release for your platform and for the latest documentation version, see KB 305325.
OpenManage Deployment Toolkit	Dell OpenManage Deployment Toolkit User's Guide > Open Manage Deployment Toolkit.

To access iDRAC, ensure that you connect the Ethernet cable to the iDRAC dedicated network port or use the BMC Direct port by using the USB (type C) cable.

Log in to iDRAC

To log in to iDRAC, open a browser, enter the IP address and log in as an:

- iDRAC user
- Microsoft AD user
- LDAP user

Forr secure default access to iDRAC, the default username is `root`. Enter the iDRAC secure default password on the back of the Service Tag. For a legacy password, use `root/calvin`, the iDRAC default password is blank on the express service tag. Create a password before proceeding. You can also log in using VMware SSO or Smart Card.

Do not change the default username and password after setting up the iDRAC IP address.

For more information about logging in to the iDRAC and iDRAC licenses, see Integrated Dell Remote Access Controller User's Guide.

See KB78115 to determine the most recent iDRAC release for your platform and the latest documentation version.

You can also access iDRAC using RACADM. For more information, see the Integrated Dell Remote Access Controller RACADM CLI Guide.

You can also access iDRAC using automation tool - Redfish API. For more information, see the Integrated Dell Remote Access Controller User's Guide Redfish API Guide.

Install an operating system

You can install an operating system on a system shipped without one using the information provided.

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

Table 54. Resources to install the operating system

Interface	Documentation links
iDRAC	See the Integrated Dell Remote Access Controller User's Guide or for system-specific iDRAC guide, go to PowerEdge Manuals > **Product Support** page of your system > **Documentation**. To determine the most recent iDRAC release for your platform and for the latest documentation version, see KB 305325.
OpenManage Deployment Toolkit	Dell OpenManage Deployment Toolkit User's Guide > Open Manage Deployment Toolkit.
Dell certified VMware ESXi	Virtualization solutionsVirtualization solutions

For more information about installation and how-to videos for operating systems that are supported on PowerEdge systems, see Supported Operating Systems for Dell PowerEdge systems.

Options to download drivers and firmware

You can download drivers and firmware from the FTP site. For more information about username and password, contact your TAM (Tech Account Manager).

Options to download and install OS drivers

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

Table 55. Options to download and install OS drivers

Option	Documentation
Dell support site	Downloading drivers and firmware section.

Table 55. Options to download and install OS drivers (continued)

Option	Documentation
iDRAC virtual media	Integrated Dell Remote Access Controller User's Guide or for system specific, go to Integrated Dell Remote Access Controller User's Guide > **Product Support** page of your system > **Documentation** . **NOTE:** To determine the most recent iDRAC release for your platform and for the latest documentation version, see TBD.

Downloading drivers and firmware

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

Prerequisites

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

Steps

1. Go to Drivers.
2. Enter the Service Tag of the system in the **Enter a Dell Service Tag, Dell Product ID or Model** field, and then press Enter.

   NOTE: If you do not have the Service Tag, click **Browse all products**, and navigate to your product.

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

5

Pre-operating system management applications

You can manage basic settings and features of a system without booting to the operating system by using the system firmware.

Options to manage the pre-operating system applications

You can use any one of the following options to manage the pre-operating system applications:

- System Setup
- Boot Manager
- Preboot Execution Environment (PXE)

Topics:

System Setup

Using the **System Setup** option, you can configure the BIOS settings, iDRAC settings, and device settings of the system.

You can access system setup by using any one of the following interfaces:

- Graphical User interface — To access go to iDRAC Dashboard, click **Configurations** > **BIOS Settings**.
- Text browser — To enable the text browser, use the Console Redirection.

To view
System Setup, power on the system, press F2, and click **System Setup Main Menu**.

NOTE: If the operating system begins to load before you press F2, wait for the system to finish booting, and then restart the system and try again.

The options on the
System Setup Main Menu screen are described in the following table:

Table 56. System Setup Main Menu

Option	Description
System BIOS	Enables you to configure the BIOS settings.
iDRAC Settings	Enables you to configure the iDRAC settings. The iDRAC utility is an interface to set up and configure the iDRAC parameters . You can enable or disable various iDRAC parameters by using the iDRAC utility. For more information about this utility, *Integrated Dell Remote Access Controller User's Guide* at PowerEdge Manuals.
Device Settings	Enables you to configure device settings for devices such as storage controllers or network cards.
Service Tag Settings	Enables you to configure the System Service Tag.

System BIOS

See the common options of the System BIOS here: Support for General Solution Resources | Documentation | Dell US > **Manuals and Documents** > **Set up BIOS on 17th Generation Dell PowerEdge Servers.**

Dell Open Server Manager Settings

The OSM settings is an interface to set up and configure the OSM parameters by using UEFI. You can enable or disable various OSM parameters by using the OSM settings. For more information about using OSM, see the latest Dell Open Server Manager built on OpenBMC™ User's Guide Support for Open Server Manager | Documentation | Dell India.

Device Settings

Device Settings enables you to configure device parameters such as storage controllers or network cards.

Boot Manager

The **Boot Manager** option enables you to select boot options and diagnostic utilities.

To enter **Boot Manager**, power on the system and press F11.

Table 57. Boot Manager details

Option	Description
Continue Normal Boot	The system attempts to boot to devices starting with the first item in the boot order. If the boot attempt fails, the system continues with the next item in the boot order until the boot is successful or no more boot options are found.
One-shot UEFI Boot Menu	Enables you to access the boot menu, where you can select a one-time boot device to boot from.
Launch System Setup	Enables you to access System Setup.
System Utilities	Enables you to launch the System Utilities menu such as Launch Diagnostics, BIOS update File Explorer, Reboot System.

PXE boot

You can use the Preboot Execution Environment (PXE) option to boot and configure the networked systems remotely.

To access the **PXE boot** option, boot the system and then press F12 during POST instead of using standard Boot Sequence from BIOS Setup. It does not pull any menu or allows managing of network devices.

6

Minimum to POST and system management configuration validation

This section describes the minimum to POST system requirement and system management configuration validation of the Dell system.

Topics:

Minimum configuration to POST

The components listed below are the minimum configuration to POST:

- One processor CPU0 location
- One memory module (DIMM) in slot A1
- One power supply unit
- Host Processor Module (HPM)* + Data Center Secured Control Module (DC-SCM)

NOTE: *HPM is also known as System board.

7

Configuration validation

The new generation of Dell systems have added interconnect flexibility and iDRAC management features to collect precise system configuration information and report configuration errors.

When the system is powered on, information about installed cables, risers, backplanes, power supplies, floating card (fPERC, adapter PERC, BOSS), and processor is obtained from the CPLD and backplane memory maps are analyzed. This information forms a unique configuration, which is compared with one of the qualified configurations that are stored in a table that is maintained by iDRAC.

One or more sensors are assigned to each of the configuration elements. During POST, any configuration validation error is logged in the System event log (SEL). The reported events are categorized in the configuration validation error table.

Table 58. Configuration validation error

Error	Description	Possible cause and recommendations	Example
Config Error	A configuration element within the closest match contains something that is unexpected and does not match any Dell qualified configuration.	Wrong configuration	Config Error: Backplane Cable PLANAR_SL1 and BP_DST_SA1
		The element reported in HWC8010 errors are assembled incorrectly. Verify element (cable, riser, etc) placement in the system.	Config Error : Backplane Cable PLANAR_SL3 and BP_DST_PA1
Config Missing	iDRAC found a configuration element missing within the closest match detected.	Missing element or cable is reported in HWC8010 error logs. Install the missing element (cable, riser, etc).	Config Missing : Backplane Cable PLANAR_SL3 and BP_DST_SA1
Comm Error	A configuration element is not responding to iDRAC using the management interface while running an inventory check.	System management sideband communication	Comm Error: Backplane 0
		Unplug AC Power, reseat the element and replace the element if the problem persists.	

8

Disassembly and reassembly

Topics:

Safety instructions

CAUTION: 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: Only use certified Optical Fiber Transceiver Class I Laser Products.

CAUTION: Do not install GPUs, network cards, or other PCIe devices on your system that are not validated and tested by Dell. Damage caused by unauthorized and invalidated hardware installation will null and void the system warranty.

NOTE: Maximum operation pressure specified by the manufacturer is 43 PSI.

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 PowerEdge manuals.
4. Remove the system cover.
   NOTE: While removing the hot-swappable components from the front or rear of the system, do not remove the system cover.

After working inside your system

Prerequisites

Follow the safety guidelines listed in Safety instructions.

Steps

1. Replace the system covers.
2. If applicable, install the system into the rack.
   For more information, see the *Rail Installation Guide* relevant to your system at PowerEdge manuals.
3. Reconnect the peripherals and connect the 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 T20 screwdriver
- 5 mm hex nut screwdriver
- Plastic scribe
- 1/4-inch flat blade screwdriver

- Wrist grounding strap that is connected to the ground
- ESD mat

Optional front metal bezel

Removing the front bezel

The procedure to remove the front bezel.

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Keep the bezel key handy.

Steps

1. Unlock the bezel.
2. Press the release button, and disengage the left end of the bezel.
3. Unhook the right end, and remove the bezel.

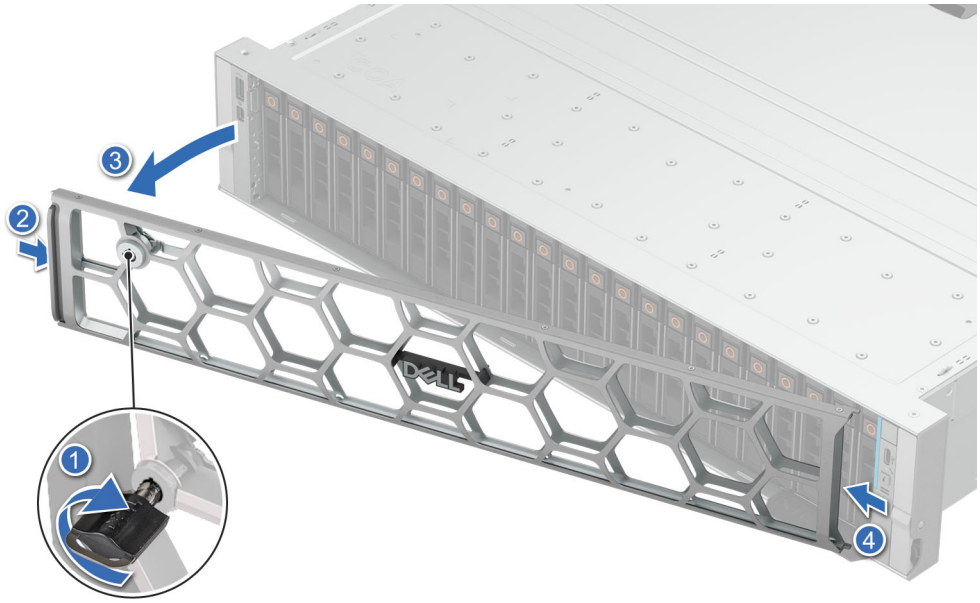


Figure 32. Removing the front bezel

Next steps

Replace front bezel.

Installing the front bezel

The procedure to install the front bezel.

Prerequisites

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

2. Locate and remove the bezel key.

Steps

1. Align and insert the tabs on the bezel into the slots on the system.
2. Press the bezel until the release button clicks in place.
3. Lock the bezel.

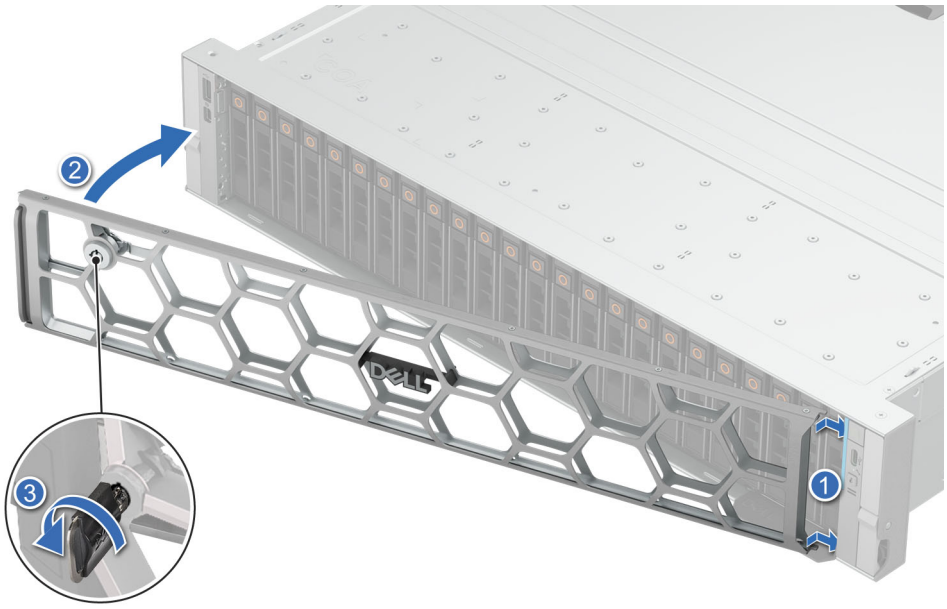


Figure 33. Installing the front bezel

System cover

Removing the system cover

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Power off the system, and any attached peripherals.
3. Disconnect the system from the electrical outlet and peripherals.

Steps

1. Using a Phillips 2 screwdriver, rotate the lock counterclockwise to the unlock position.
2. Lift the release latch until the system cover slides back.
3. Lift the cover from the system.

Figure 34. Removing the system cover

Next steps

Replace the system cover.

Installing the system cover

Prerequisites

1. Follow the safety guidelines listed in the 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

1. Align the tabs on the system cover with the guide slots on the system and slide the system cover.
2. Close the system cover release latch.
3. Using a Phillips 2 screwdriver, rotate the lock clockwise to the lock position.

Figure 35. Installing the system cover

Next steps

Follow the procedure listed in After working inside your system.

Air shroud

Removing the air shroud

Prerequisites

CAUTION: Never operate your system with the air shroud removed. The system may get overheated quickly, resulting in shutdown of the system and loss of data.

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

Steps

Hold the edges of the air shroud, lift the air shroud out of the system.

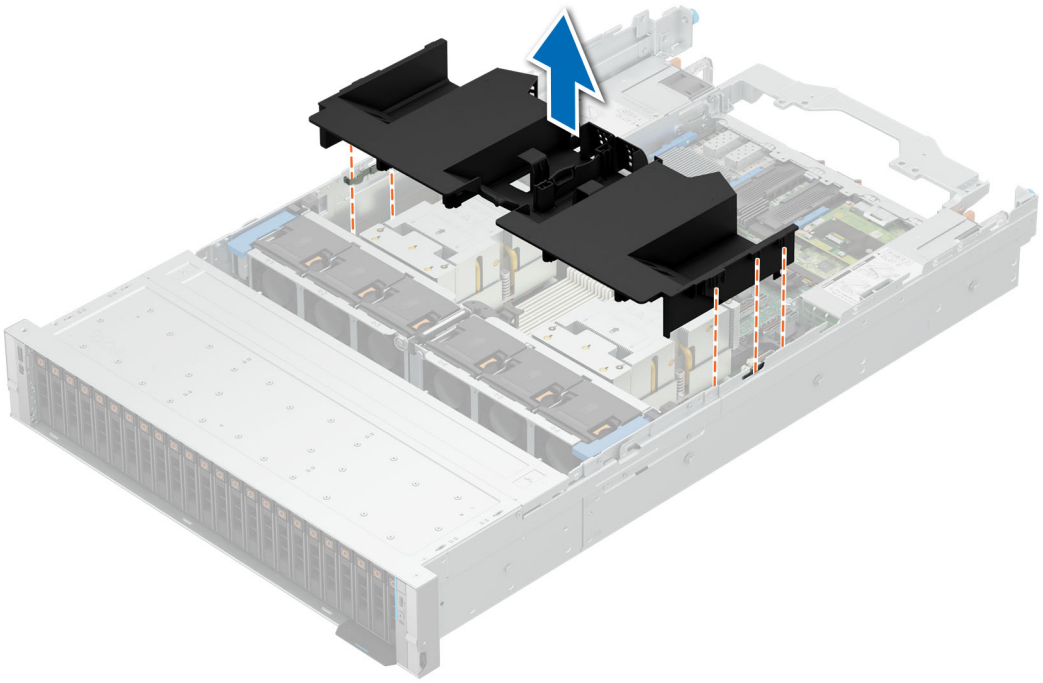


Figure 36. Removing the air shroud

Next steps

1. Replace the air shroud.

Installing the air shroud

Prerequisites

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

Steps

1. Align the slot on the air shroud with system.
2. Lower the air shroud into the system until it is firmly seated.

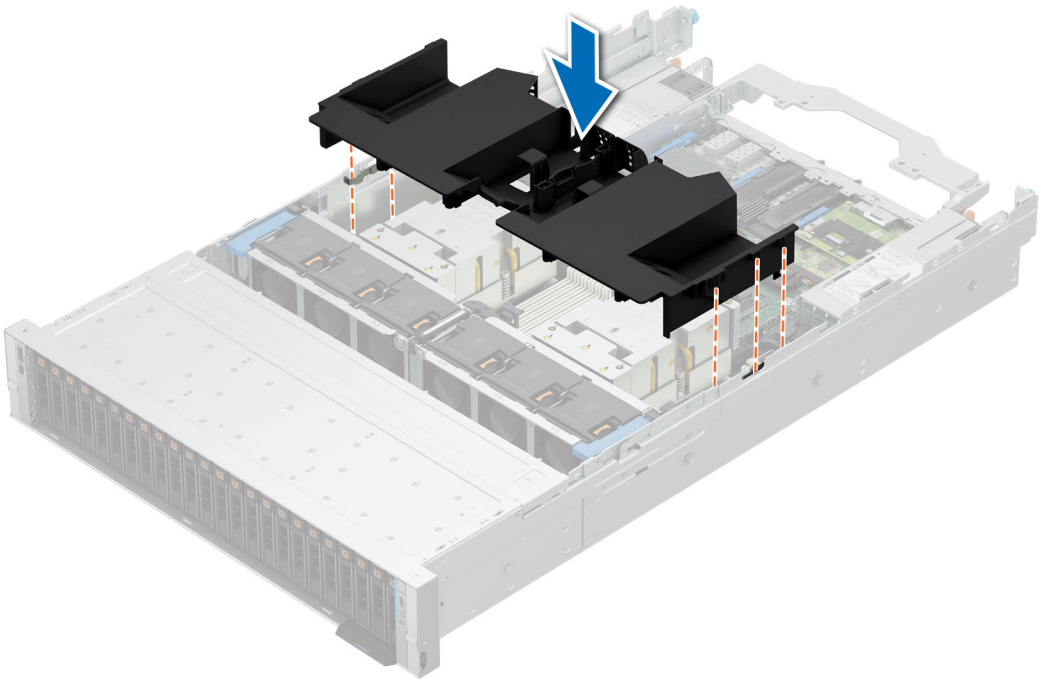


Figure 37. Installing the air shroud

Next steps

1. Route the cables along the air shroud notch.
2. Follow the procedure listed in After working inside your system.

Installing the GPU shroud

Prerequisites

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

Steps

1. Align the slot on the GPU shroud with system.
2. Lower the air shroud into the system until it is firmly seated.

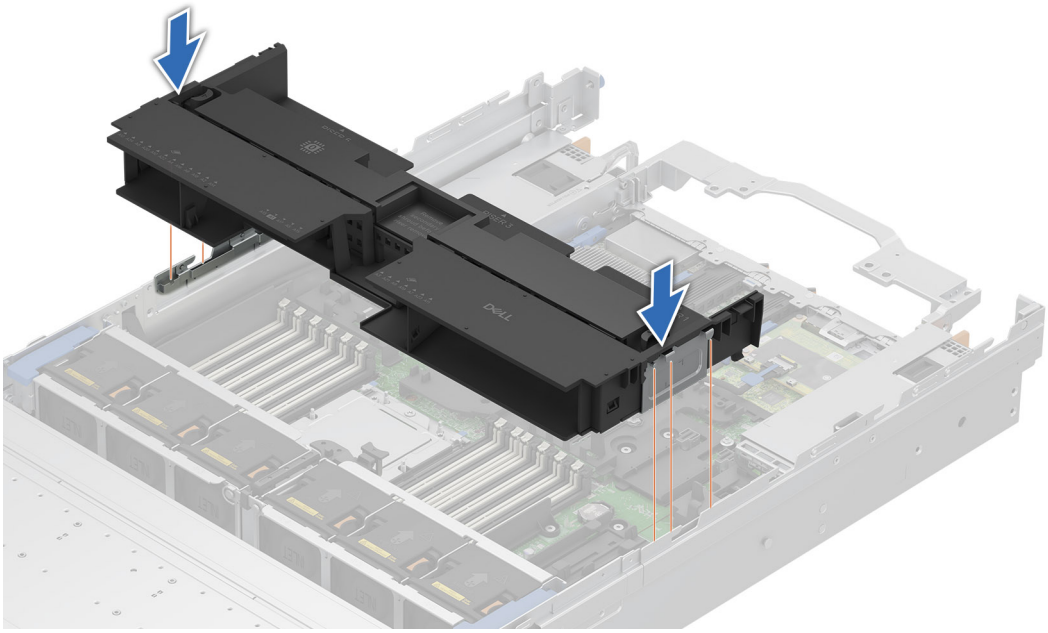


Figure 38. Installing the GPU shroud

Next steps

1. Route the cables along the air shroud notch.
2. Follow the procedure listed in After working inside your system.

Removing the air shroud

Prerequisites

CAUTION: Never operate your system with the air shroud removed. The system may get overheated quickly, resulting in shutdown of the system and loss of data.

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

Steps

Press on the side release tab and hold the edges of the GPU shroud, lift the GPU shroud out of the system.

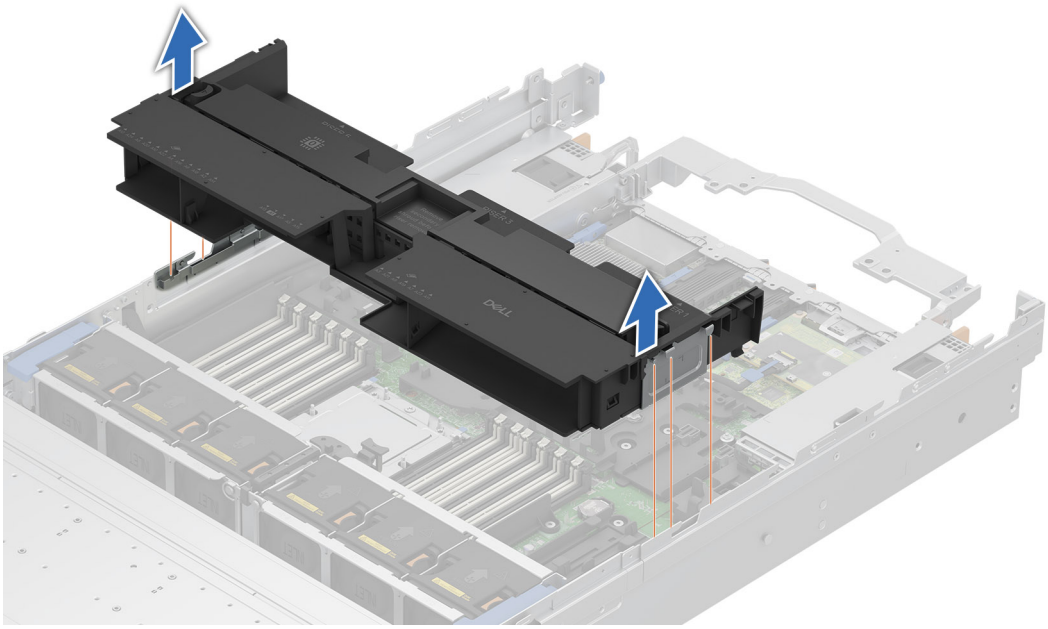


Figure 39. Removing the GPU shroud

Next steps

1. Replace the GPU shroud.

Cooling fans

Removing a cooling fan

Prerequisites

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

Steps

Holding the orange and black edges on the fan module, lift the cooling fan module to disconnect from the connector on the fan board.

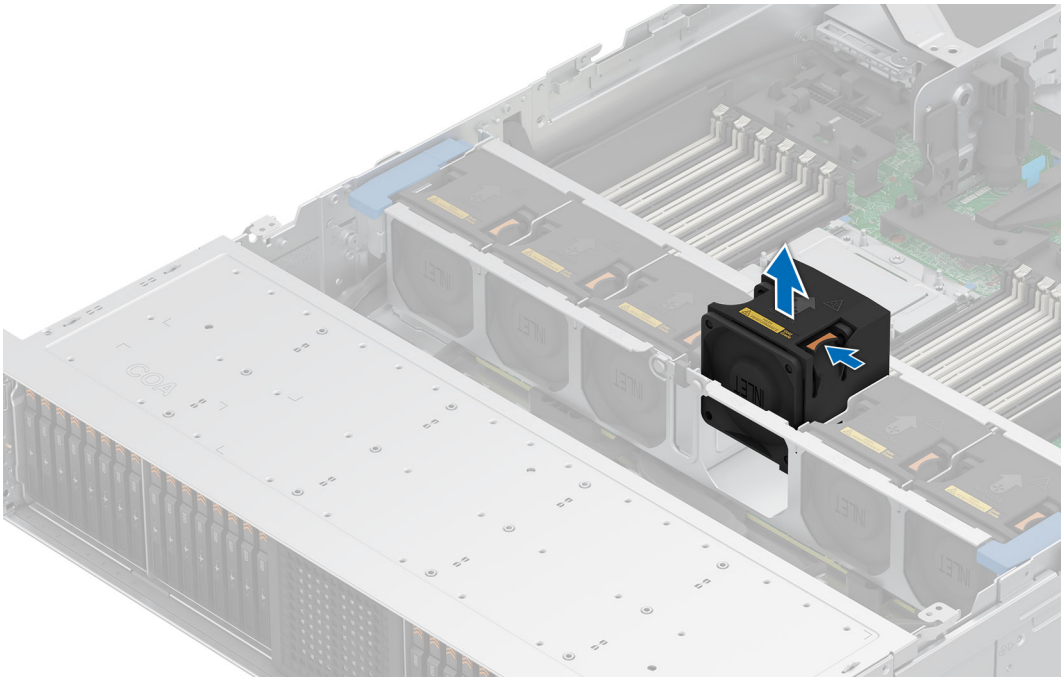


Figure 40. Removing a cooling fan

Next steps

Replace a cooling fan.

Installing a cooling fan

Prerequisites

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

Steps

Align and lower the cooling fan onto the connector on the fan board, then press the orange touch point on the cooling fan module until it is firmly connected.

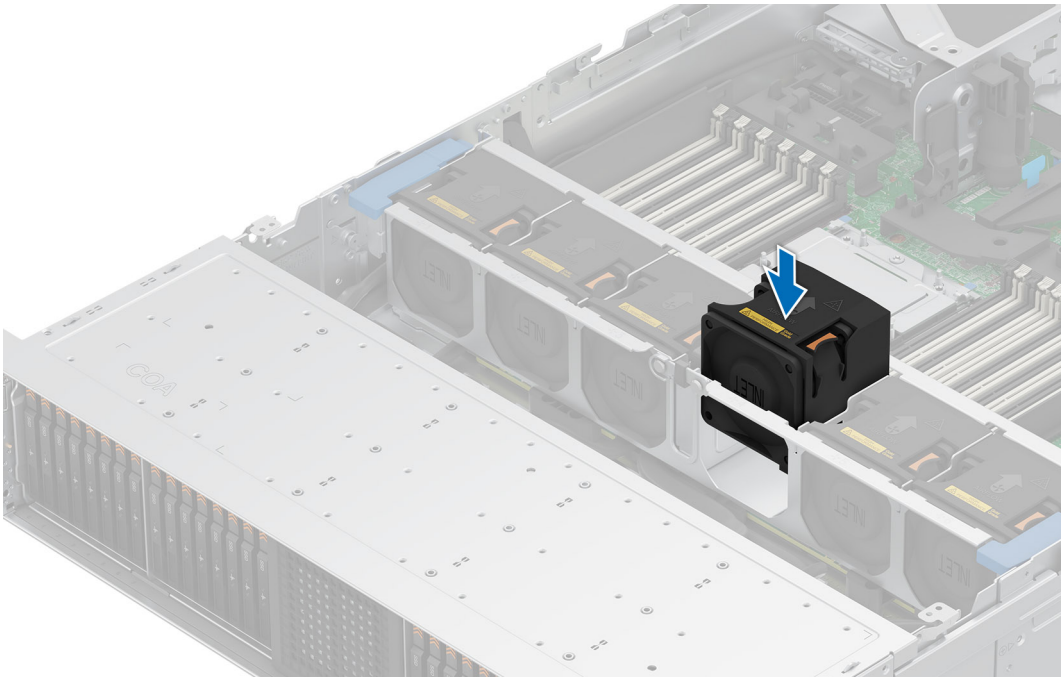


Figure 41. Installing a cooling fan

Next steps

1. Install the air shroud.

Follow the procedure listed in After working inside your system.

Removing the cooling fan cage assembly

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. If required, remove the cables that pass through the cooling fan cage assembly.
4. If required, remove the air shroud.

Steps

1. Lift the blue release levers to unlock the cooling fan cage assembly from the system.
2. Hold the release levers, and lift the cooling fan cage assembly away from the system.

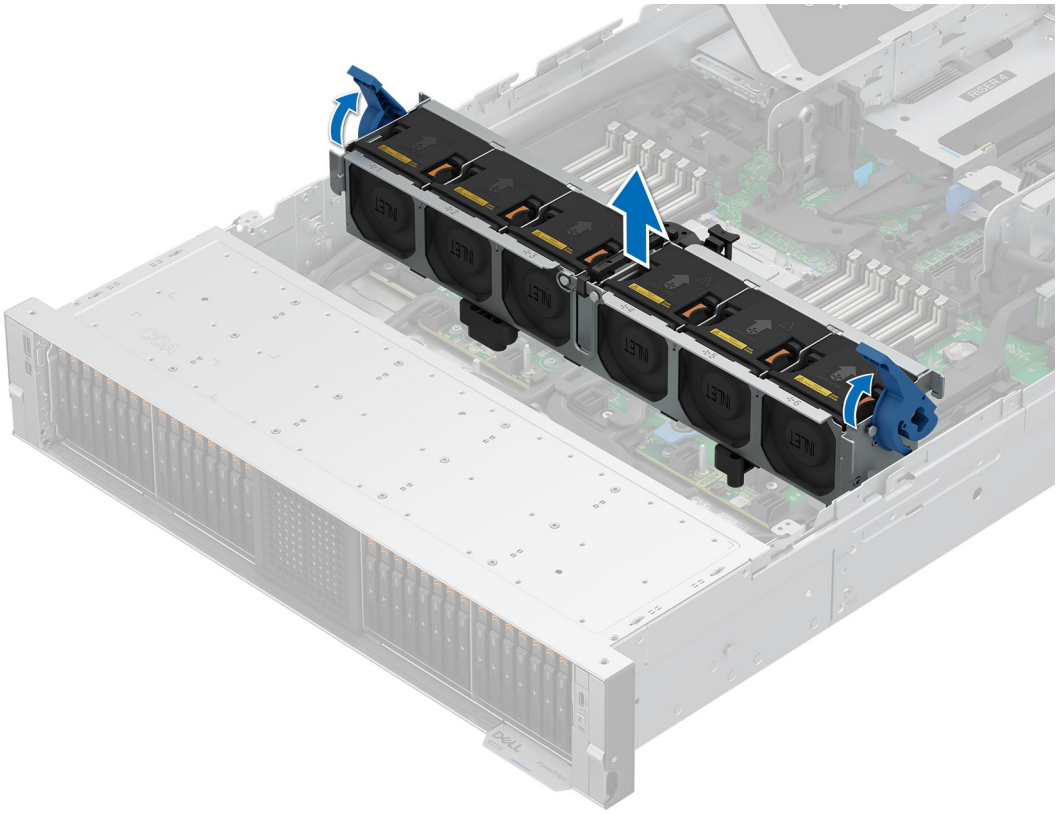


Figure 42. Removing the cooling fan cage assembly

Next steps

1. Replace the cooling fan cage assembly.

Installing the cooling fan cage assembly

Prerequisites

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

   CAUTION: Before installing the cooling fan cage assembly, ensure that the cables inside the system are properly installed and retained by the cable retention brackets. Cables that are not properly installed may be damaged.

2. Follow the procedure listed in Before working inside your system.
3. If required, remove the cables that pass through the cooling fan cage assembly.
4. If installed, remove the air shroud.

Steps

1. Holding the blue release levers of the cooling fan cage, align the guide rails with the guides on the system.
2. Lower the cooling fan cage assembly into the system until seated firmly.
3. Lower the blue release levers and press to lock the cooling fan cage assembly into the system.

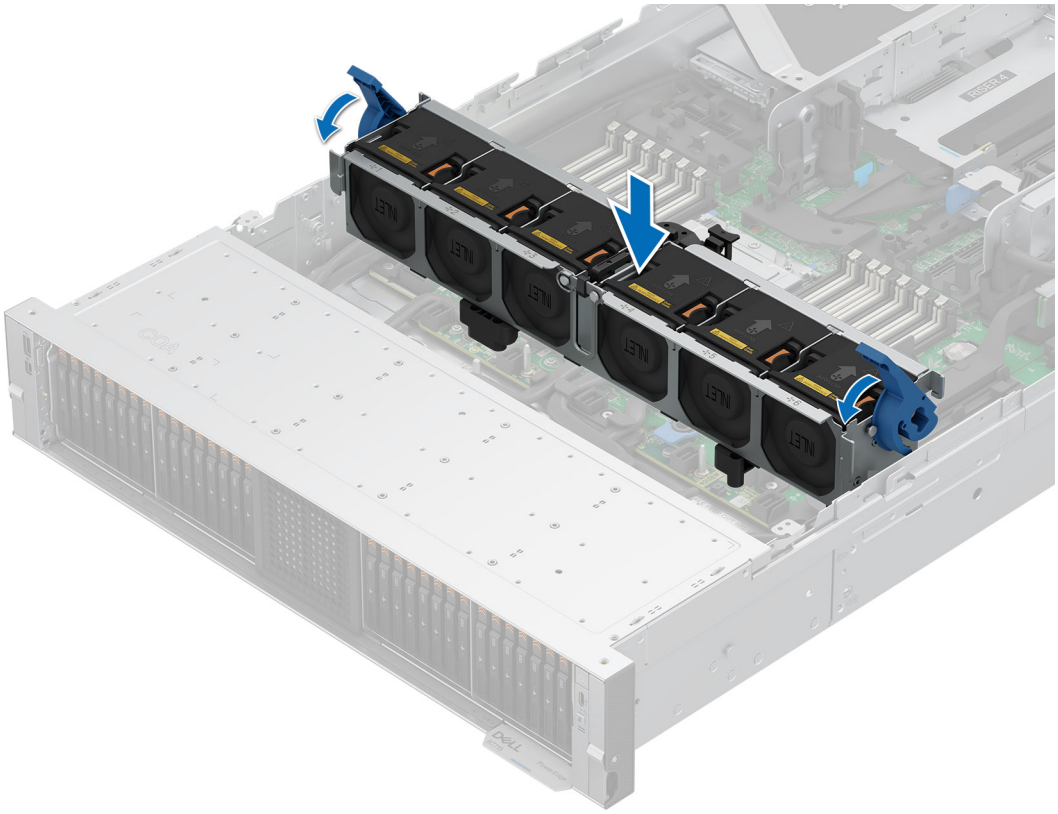


Figure 43. Installing the cooling fan cage assembly

Next steps

1. If removed, install the air shroud.
2. Follow the procedure listed in After working inside your system.

Drive backplane cover

Removing the drive backplane cover

Prerequisites

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

Steps

1. Slide the drive backplane cover in the direction of the arrows marked on the drive backplane cover.
2. Lift the drive backplane cover from the system.

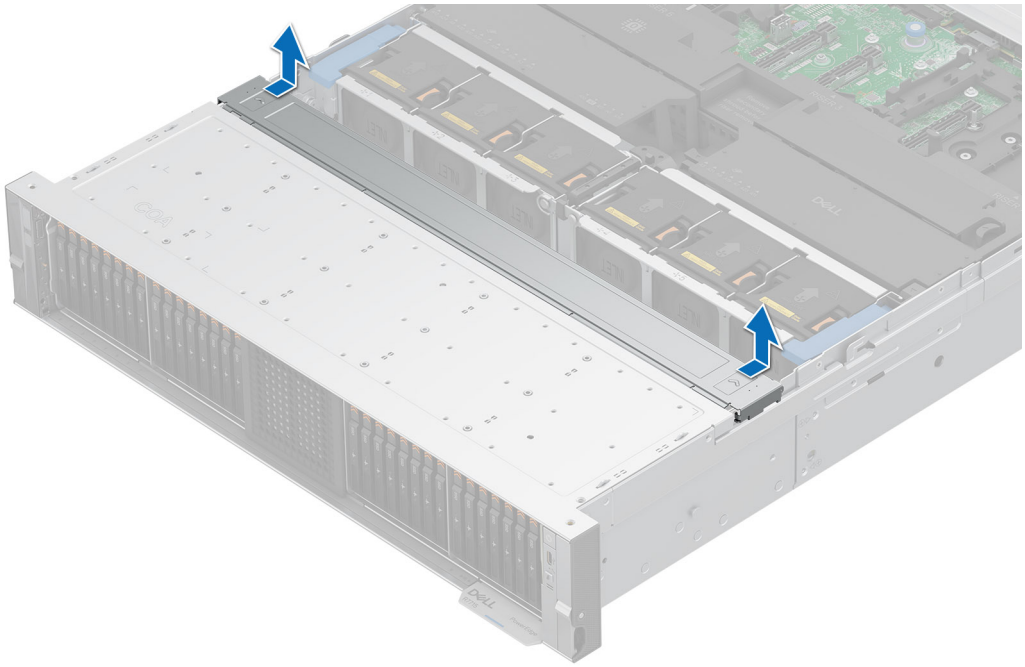


Figure 44. Removing the drive backplane cover

Next steps

1. Replace the drive backplane cover.

Installing the drive backplane cover

Prerequisites

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

Steps

1. Align the drive backplane cover with the guide slots on the system.
2. Slide the drive backplane cover to the front of the system until the drive backplane cover fits into place.

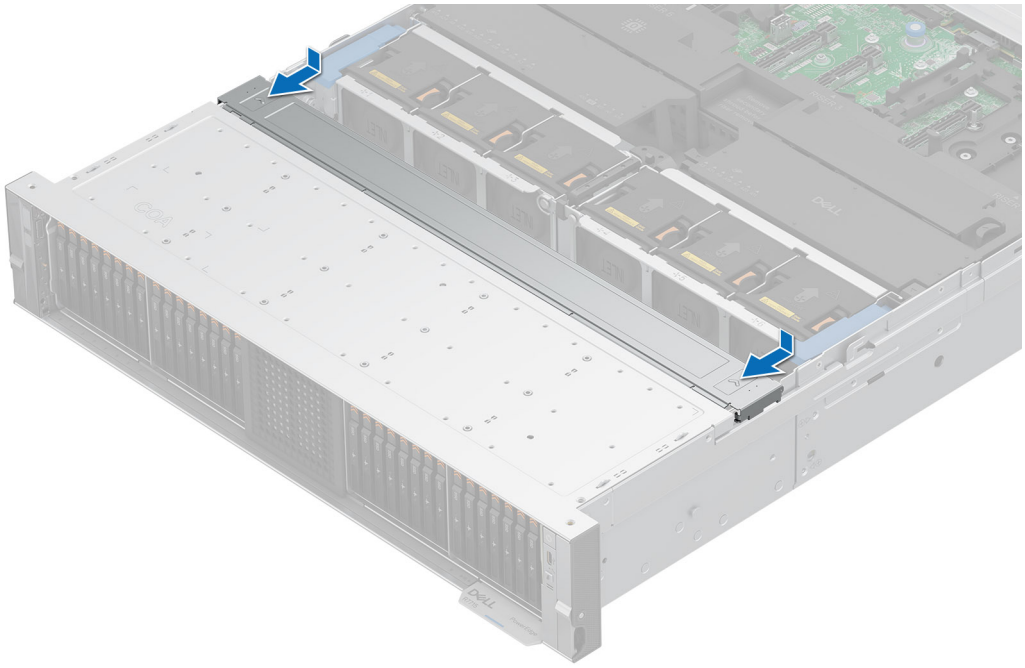


Figure 45. Installing the drive backplane cover

Next steps

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

Drives

Removing an EDSFF Gen5 E3.S NVMe drive and SSD 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

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

Figure 46. Removing an EDSFF Gen5 E3.S NVMe drive blank

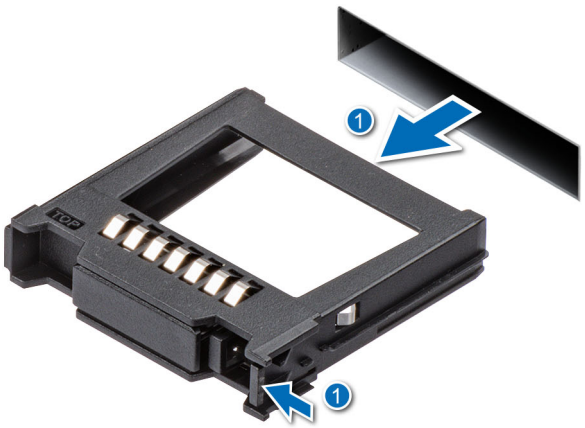


Figure 47. Removing a SSD drive blank

Next steps

1. Replace the EDSFF Gen5 E3.S NVMe and SSD drive blank.

Installing an EDSFF Gen5 E3.S NVMe and SSD drive blank

Prerequisites

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

Steps

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

Figure 48. Installing an EDSFF Gen5 E3.S NVMe drive blank

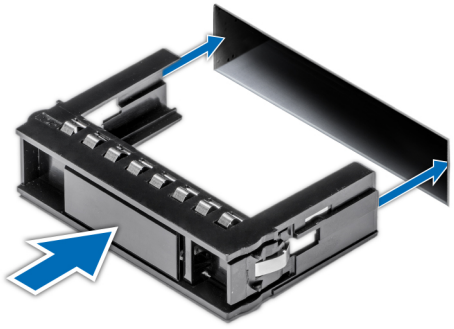


Figure 49. Installing a SSD drive blank

Removing an EDSFF Gen5 E3.S NVMe and SSD drive carrier

Prerequisites

1. Follow the safety guidelines listed in Safety instructions.
2. Using the management software, prepare the drive for removal. If the drive is online, the green activity or fault indicator flashes while the drive is turning off. When the drive indicators are off, the drive is ready for removal. For more information, see the storage controller documentation.

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. See the documentation supplied with your operating system.

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 50. Removing a drive carrier

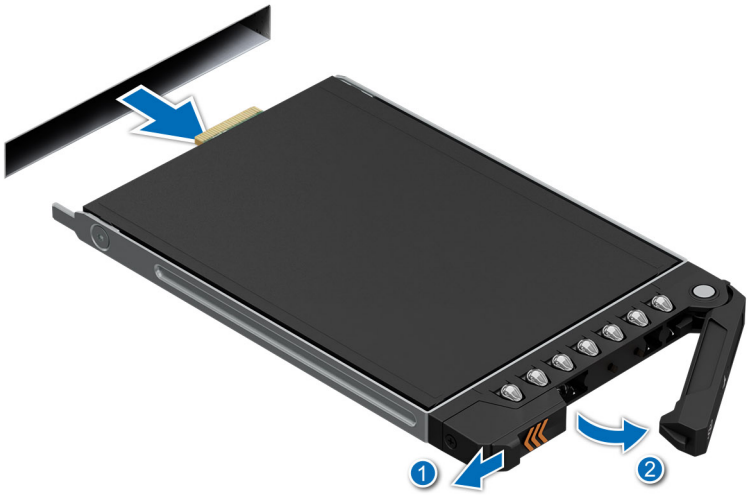


Figure 51. Removing an EDSFF E3.S drive carrier

Next steps

Replace the EDSFF Gen5 E3.S NVMe drive or an EDSFF Gen5 E3.S NVMe drive blank.

Installing an EDSFF Gen5 E3.S NVMe and SSD drive carrier

Prerequisites

CAUTION: Before removing or installing a drive while the system is running, see the Storage Controller Manuals 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.

NOTE: Ensure that the drive carrier's release handle is in the open position before inserting the carrier into the slot.

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

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

1. Follow the safety guidelines listed in Safety instructions.
2. Remove the drive carrier or remove the drive blank when you want to assemble the drive into 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 52. Installing a drive carrier

Figure 53. Installing a E3.S drive

Removing an EDSFF Gen5 E3.S NVMe and SSD drive from the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Remove the drive carrier.

Steps

1. Using a Phillips #1 screwdriver, 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) or Torx 8 (for 3.5-inch drive) screwdriver to remove the drive.

2. Lift the drive out of the drive carrier.

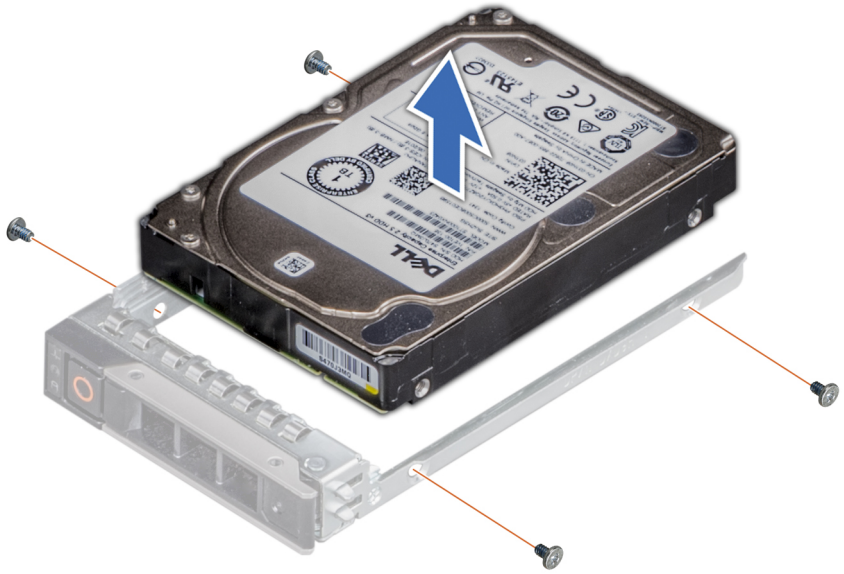


Figure 54. Removing the SSD drive from the drive carrier

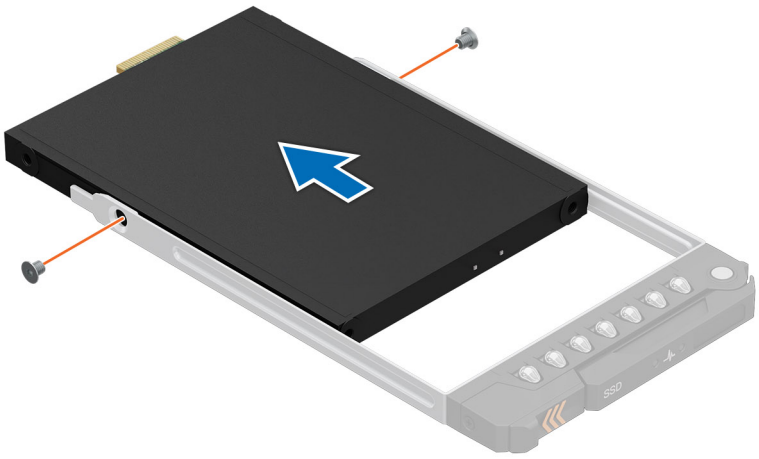


Figure 55. Removing the E3.S drive from the drive carrier

Next steps

Install an EDSFF Gen5 E3.S NVMe and SSD drive into the drive carrier.

Installing an EDSFF Gen5 E3.S NVMe and SSD drive into the drive carrier

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Remove an EDSFF Gen5 E3.S NVMe and SSD drive blank or Remove an EDSFF Gen5 E3.S NVMe and SSD drive carrier.

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) or Torx 8 (for 3.5-inch drive) screwdriver to install the drive.

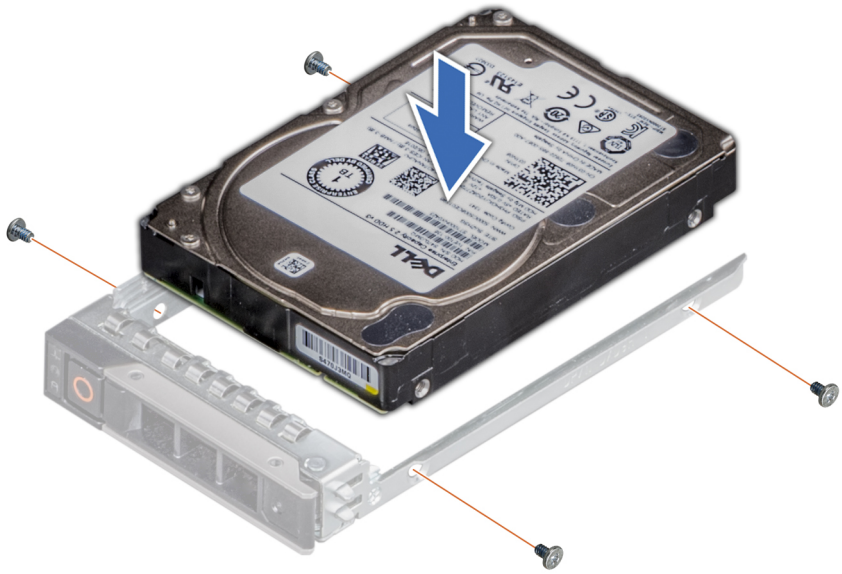


Figure 56. Installing a SSD drive into the drive carrier

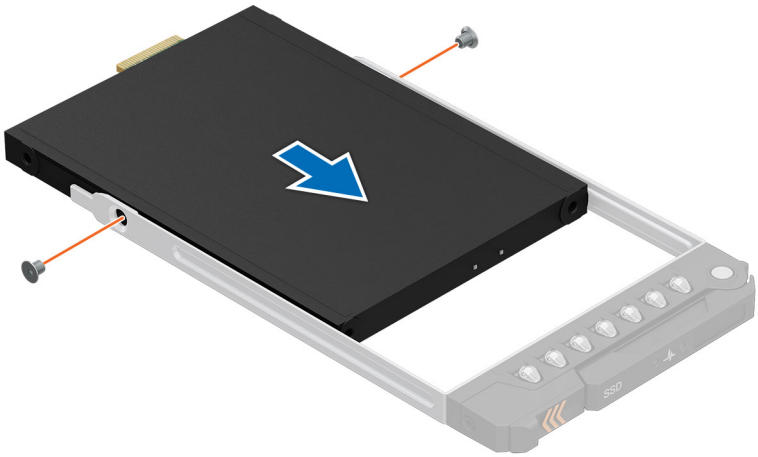


Figure 57. Installing the E3.S drive into the drive carrier

Next steps

1. Install the drive carrier.

Drive backplane

This is a service technician replaceable part only.

Drive backplane

Depending on your system configuration, the drive backplanes that are supported are listed here:

Table 59. Supported backplane options

System	Supported drives options
PowerEdge R7715	2 x U.2
	8 x EDSFF Gen5 E3.S NVMe
	8 x 2.5-inch Universal
	12 x 3.5-inch SAS/SATA
	16 x 2.5-inch + 8 x U.2 NVMe
	16 x EDSFF Gen5 E3.S NVMe
	16 x 2.5-inch SAS/ SATA
	24 x 2.5-inch SAS/SATA
	32 x EDSFF E3.S Gen5 NVMe
	40 x EDSFF E3.S Gen5 NVMe

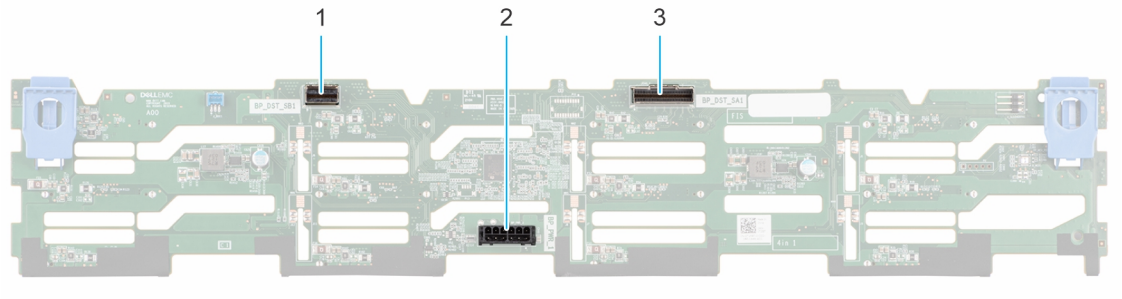


Figure 58. 12 x 3.5-inch SAS/SATA backplane

1. BP_DST_SB1 (PERC to backplane)
2. BP_PWR_1 (backplane power cable to HPM board)
3. BP_DST_SA1 (PERC to backplane)

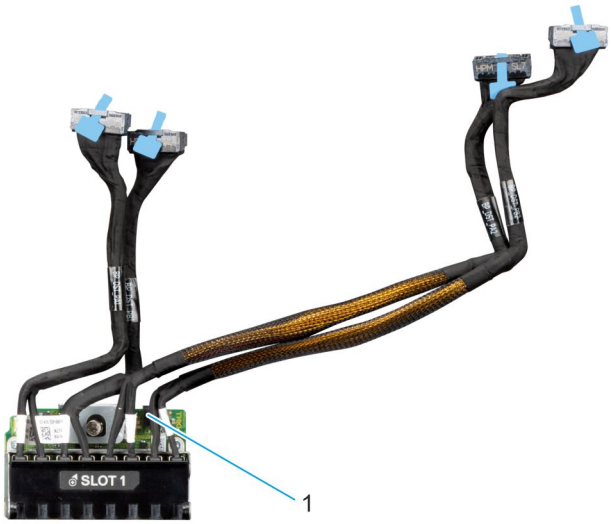


Figure 59. EDSFF E3.S NVMe drive backplane

1. BP_PWR_1 (backplane power cable to HPM board)

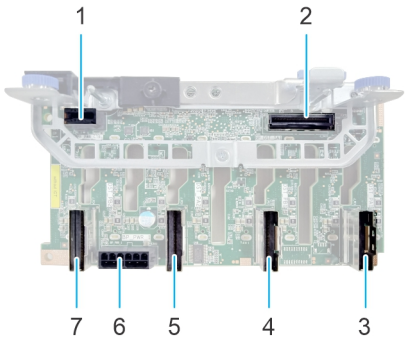


Figure 60. 8 x 2.5-inch Universal drive backplane

1. BP_PWR_CTRL
2. BP_DST_SA1 (PERC to backplane)
3. BP_DST_PA1 (PCIe/NVMe connector)
4. BP_ DST_PB1 (PCIe/NVMe connector)
5. BP_ DST_PA2 (PCIe/NVMe connector)
6. BP_PWR_1 (backplane power cable to HPM board)
7. BP_DST_PB2 (PCIe/NVMe connector)

Removing the drive backplane

Steps

1. Press one or more release tabs to disengage the drive backplane from the hooks on the system.
2. Lift and pull the drive backplane out of the system.

NOTE: To avoid damaging the backplane, remove the disconnected backplane cables from the cable routing clips before removing the backplane.

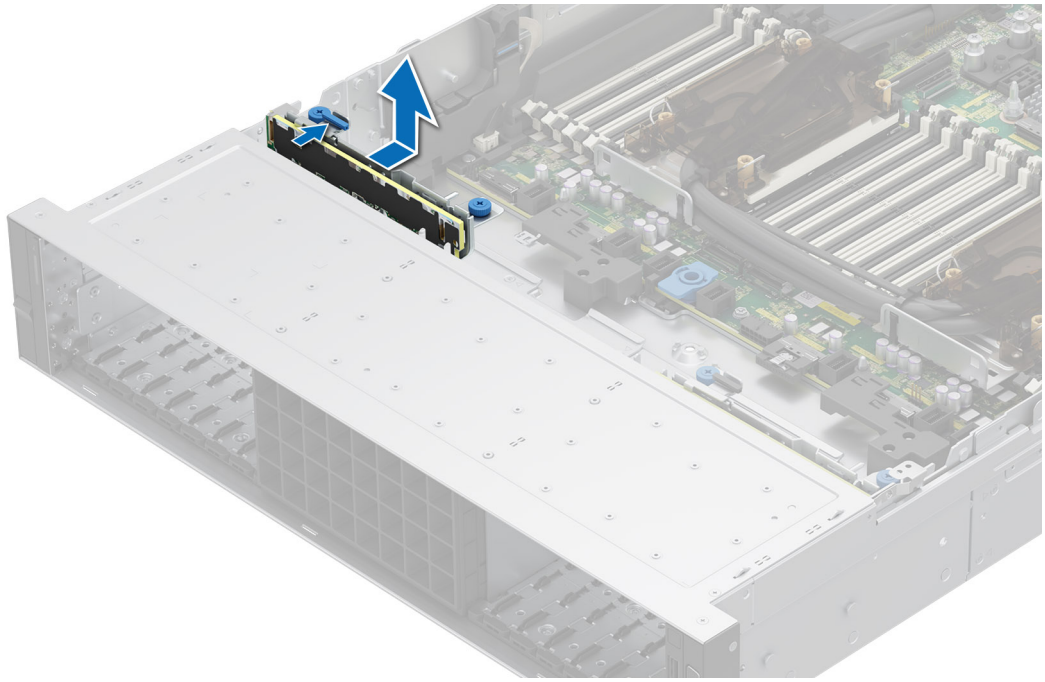


Figure 61. Removing the drive backplane

Next steps

1. Replace the drive backplane.

Installing the drive backplane

Prerequisites

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

Steps

1. Align the slots on the drive backplane with the guides on the system.
2. Slide the drive backplane into the guides on the system and lower the backplane until one or more blue release tabs clicks into place.

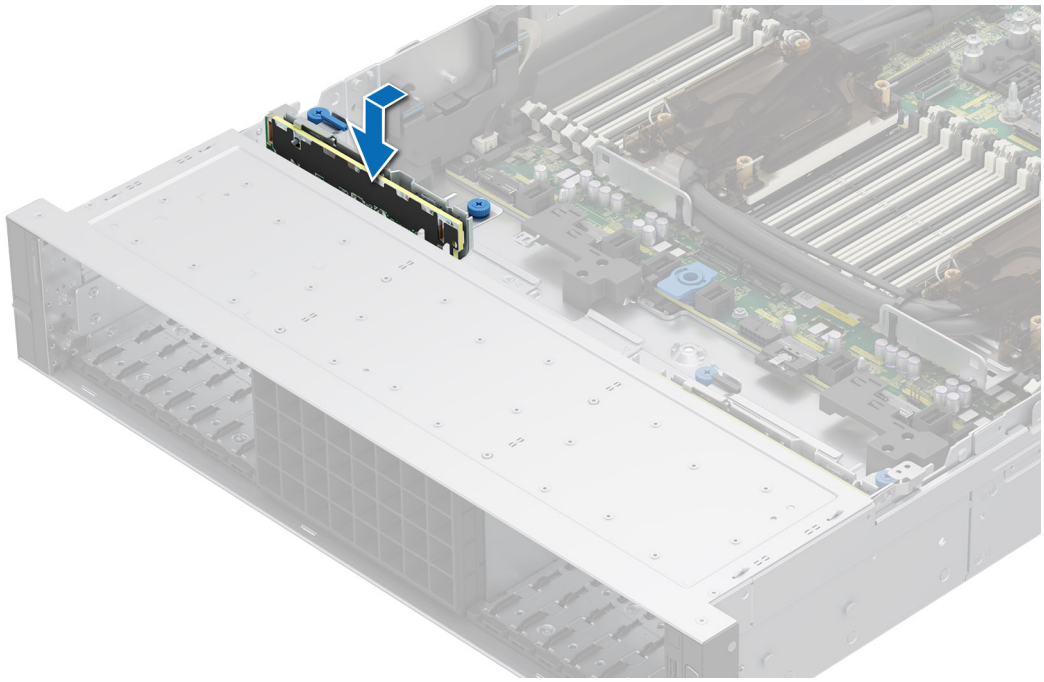


Figure 62. Installing the drive backplane

Next steps

1. Install all the drives.
2. Install the backplane cover.
3. Follow the procedure listed in After working inside your system.

Removing the EDSFF Gen5 E3.S NVMe direct drive backplane module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the cooling fans.
4. Remove the drive backplane cover.
5. Remove the EDSFF Gen5 E3.S NVMe drives.
6. Disconnect the power cable and other required cables, observe the cable routing.

Steps

1. Using a Phillips 2 screwdriver, loosen the captive screws on the backplane module.
2. Slide the backplane module towards the front of the server and remove it from the system.

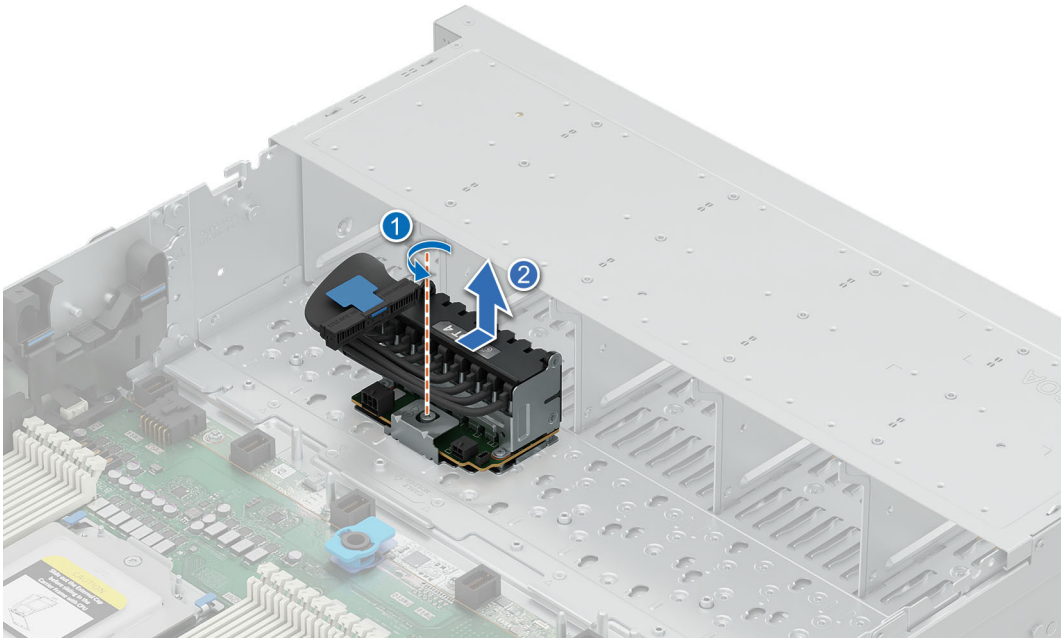


Figure 63. Removing the EDSFF Gen5 E3.S backplane module

Next steps

1. Replace the EDSFF Gen5 E3.S NVMe direct drive backplane module..

Installing the EDSFF Gen5 E3.S NVMe direct drive backplane module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions
2. Follow the procedure listed in the Before working inside your system
3. Remove the cooling fans
4. Remove the drive backplane cover
5. Remove the EDSFF Gen5 E3.S drivesIf required
6. .

NOTE: The L-type heat sink prevents the removal of E3.S backplane connectors from the HPM board.

7. Disconnect the power cables and other required cables, observe the cable routing.

Steps

1. Align the backplane module with the guide pin on the backplane bracket and position it from the top down, ensuring proper alignment.

   NOTE: Locate and place the backplane module on the unlocked position line.

2. Push the module towards the rear of the server until it is securely in place.
3. Using a Phillips 2 screwdriver, tighten the captive screws to secure the module.

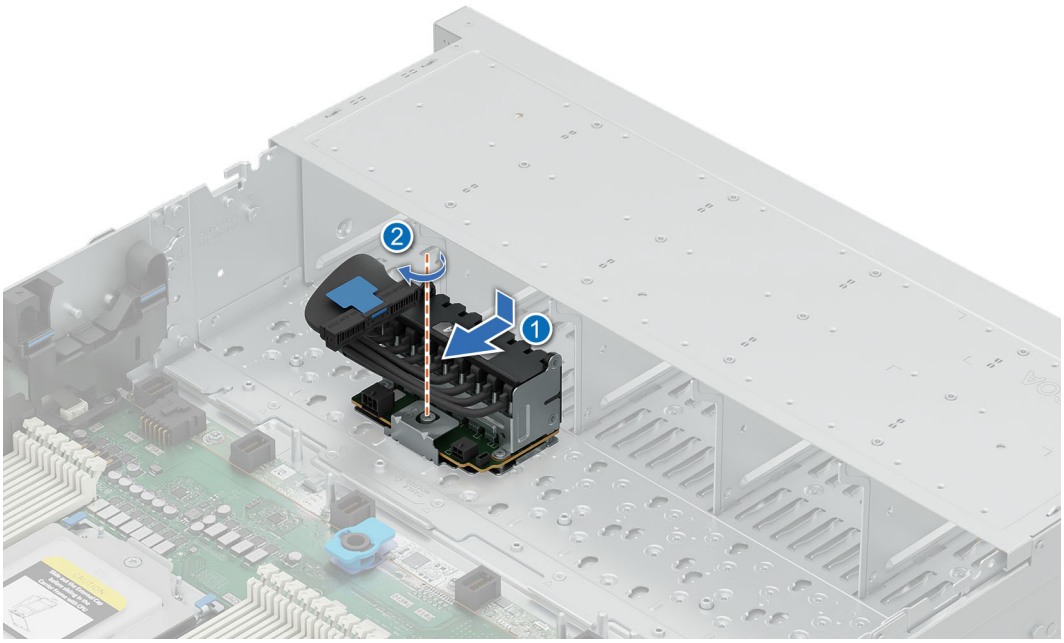


Figure 64. Installing the EDSFF Gen5 E3.S NVMe direct drive backplane module.

Next steps

1. Connect all the cables, and ensure that all the cables are routed through the respective cable clip.
2. Install the EDSFF Gen5 E3.S drives .
3. Install the drive backplane cover.
4. Install the cooling fans.
5. Follow the procedure listed in After working inside your system.

Side wall brackets

.

Removing the side wall bracket

There are two side wall brackets, one on either side of the system. The procedure to remove is similar.

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. If required, remove the drive backplane cover.
4. If installed, remove the air shroud.
5. Remove the cooling fan cage assembly.

NOTE: Ensure that you note the routing of the cables as you remove them from the system board. Route the cables properly when you replace them to prevent the cables from being pinched or crimped.

Steps

1. Press the side tabs to release the side wall cable holder.

   NOTE: Move the cables out of the side wall cable holder.

2. Press the center tab to release the bracket from the chassis, and lift it away from the system.

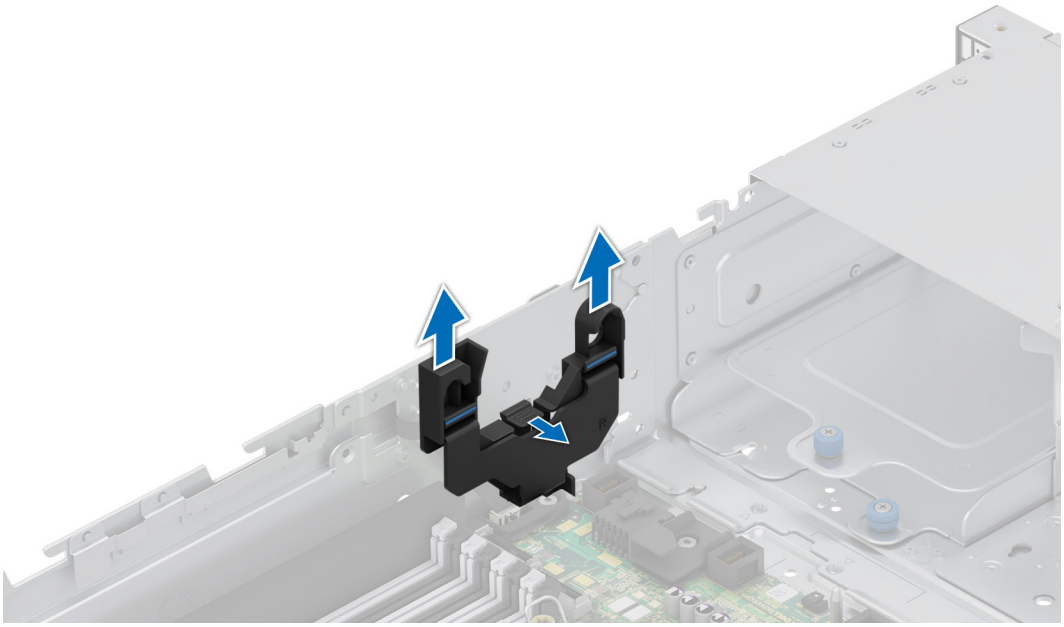


Figure 65. Removing the side wall bracket

Next steps

1. Replace the side wall bracket.

Installing the side wall bracket

There are two side wall brackets on either side of the system. The procedure to install is similar.

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions
2. Follow the procedure listed in the Before working inside your system
3. If required, remove the drive backplane cover
4. If installed, remove the air shroud
5. Remove the cooling fan cage assembly

NOTE: Ensure that you note the routing of the cables as you remove them from the system board. Route the cables properly when you replace them to prevent the cables from being pinched or crimped.

Steps

1. Align the guide slots on the side wall bracket with the guides on the system and slide until the cover is seated firmly.

   NOTE: Route the cables through the side wall cable holder.

2. Close the side wall cable holder until the holder clicks into place.

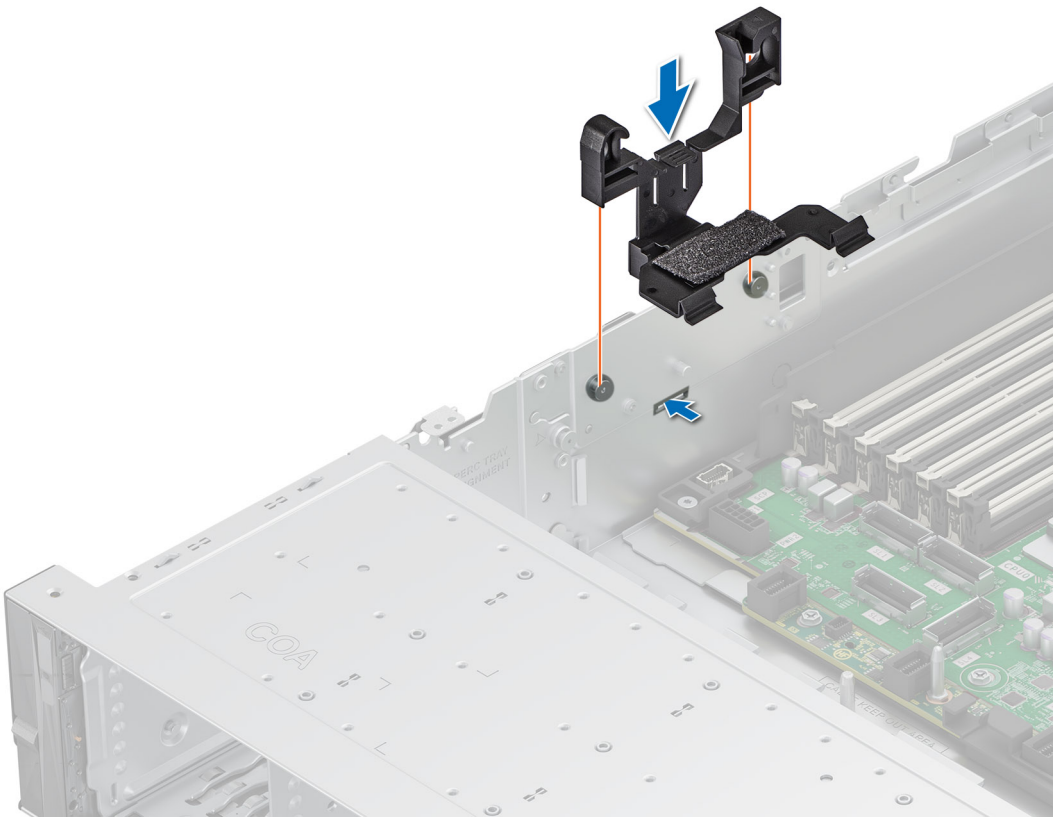


Figure 66. Installing the side wall bracket

Next steps

1. Install the cooling fan cage assembly.
2. If removed, install the air shroud
3. If removed, install the drive backplane cover.
4. Follow the procedure listed in the After working inside your system.

PERC module

Removing the PERC H975i module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. If installed, remove the air shroud.
4. Remove the drive backplane cover.
5. Observe and disconnect the drive backplane cables from the connector on the HPM board and backplane.

NOTE: See cable routing section for more information.

Steps

1. Press the release latches in the direction of the arrows marked on the PERC tray and lift the tray out from the system.

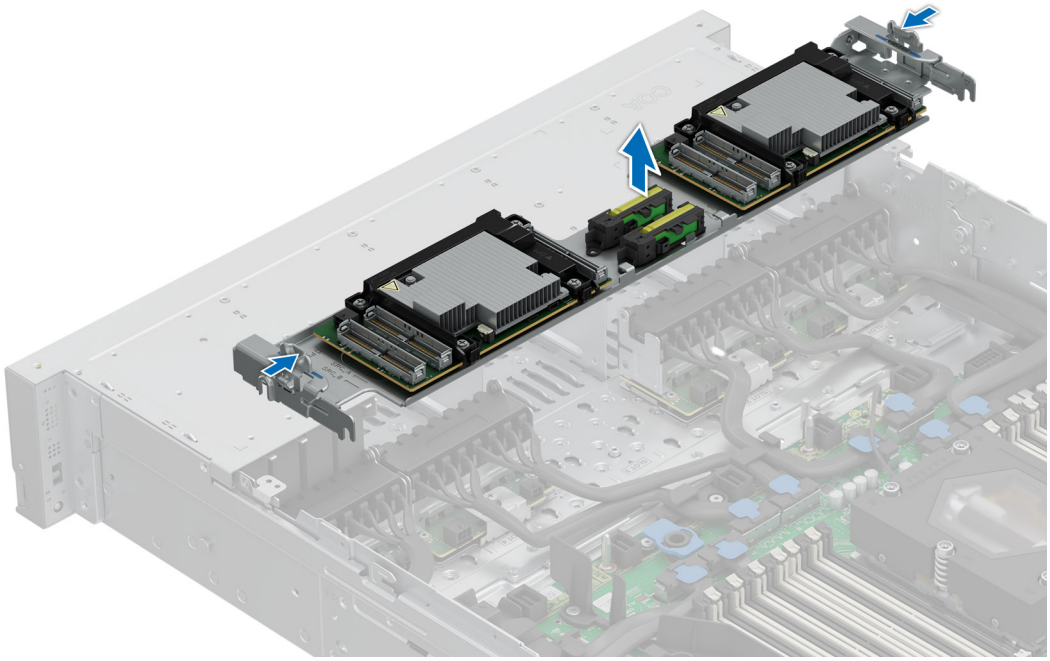


Figure 67. Removing the PERC Tray

2. Disconnect the battery cables from the PERC H975i and unroute it from the cable holders and remove them.

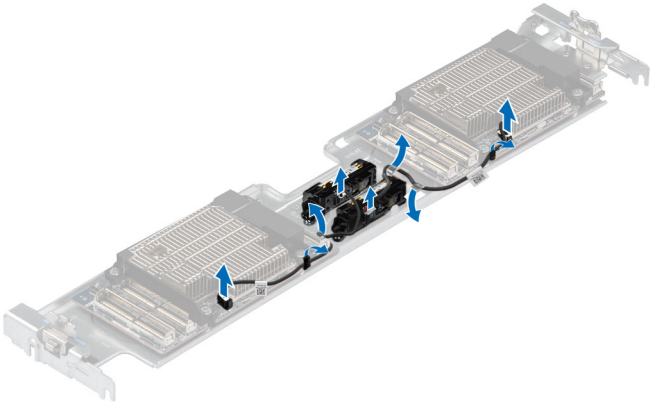


Figure 68. Removing the battery cables

3. Using a Phillips 2 screwdriver, loosen the screws and remove the H975i from the tray, and the shroud from the H975i.
4. Using a Phillips 2 screwdriver, loosen a screw and remove the battery holder from the tray

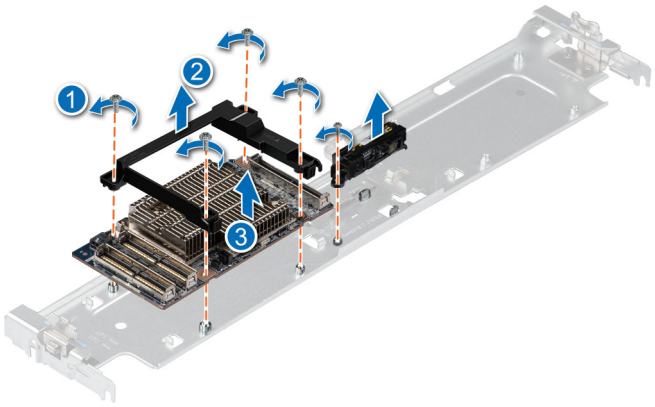


Figure 69. Removing the H975i , bracket and battery holder

Next steps

1. Replace the front PERC module.

Installing the PERC H975i module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the backplane cover.
4. If installed, remove the air shroud.
5. Route the cable properly to prevent the cable from being pinched or crimped.

Steps

1. Align the PERC H975i and the shroud with the screw-guide pins on the PERC tray. Using a Phillips 2 screwdriver, tighten the screws to secure them in place.
2. Push the battery holder into the lock mark on the PERC tray, Using a Phillips #2 screwdriver, tighten the captive screw to secured the battery holder to the PERC tray .

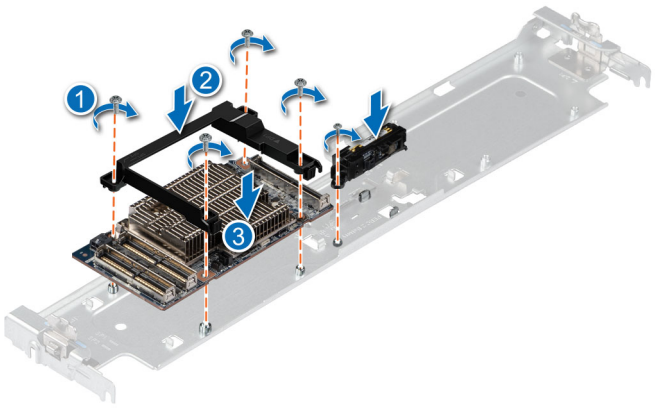


Figure 70. Insdtalling the PERC H975i module to the PERC tray

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

3. Route the battery cable correctly into the cable holders. Connect the battery cable to the PERC H975i.

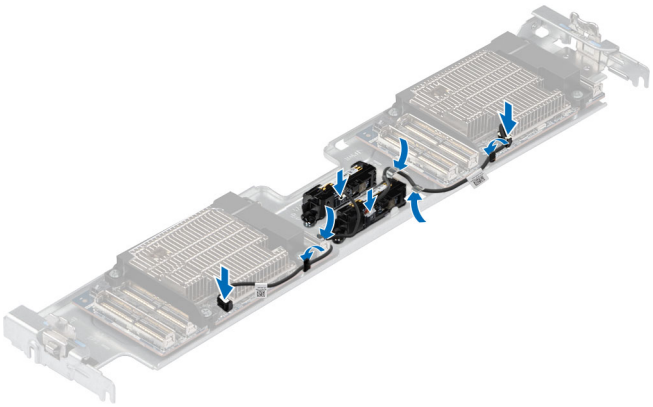


Figure 71. Routing the cables

4. Align the PERC tray with the guide slots on the chassis.
5. Lower the PERC tray towards the chassis and press down on both sides of the tray to ensure both the T-pin and latch locks in place.

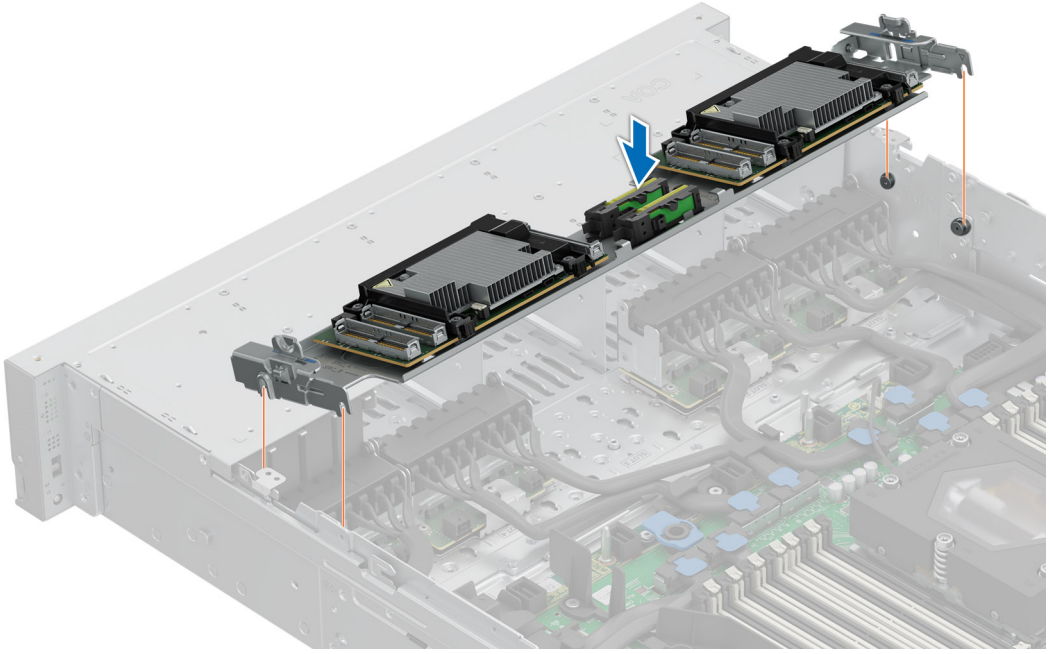


Figure 72. Installing the PERC tray

Next steps

1. Observe and connect the drive backplane cables from the connector on the PERC module and backplane.

NOTE: See cable routing section for more information.

2. Reconnect all the required cables.

3. Install the drive backplane cover.
4. Install the air shroud.
5. Follow the procedure listed in After working inside your system.

Removing the front mounting front PERC module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. If installed, remove the air shroud.
4. Remove the drive backplane cover.
5. Observe and disconnect the drive backplane cables from the connector on the HPM board and backplane.

NOTE: See cable routing section for more information.

Steps

1. Using a Phillips #2 screwdriver, loosen the captive screws on the front PERC module.
2. Slide and pull the front PERC module to disengage from the connector on the drive backplane.

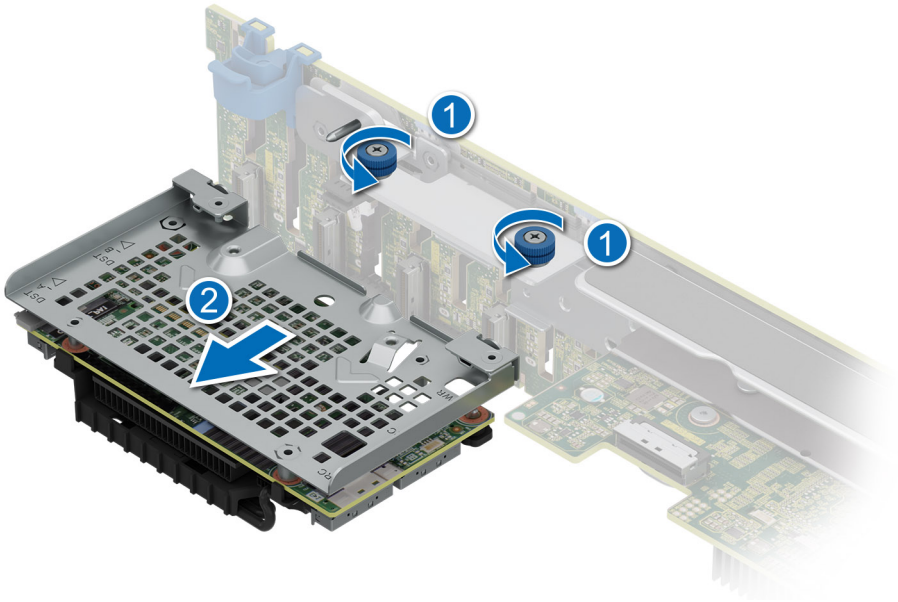


Figure 73. Removing the front mounting front PERC module

Next steps

1. Replace the front PERC module.

Installing the front mounting front PERC module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the backplane cover.
4. If installed, remove the air shroud.
5. Route the cable properly to prevent the cable from being pinched or crimped.

Steps

1. Align the front PERC module at an angle until the tray touches the slot in the system.
2. Slide and press the front PERC module connector with the connector on the drive backplane until firmly seated.
3. Using a Phillips #2 screwdriver, tighten the captive screws on the front PERC module.

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

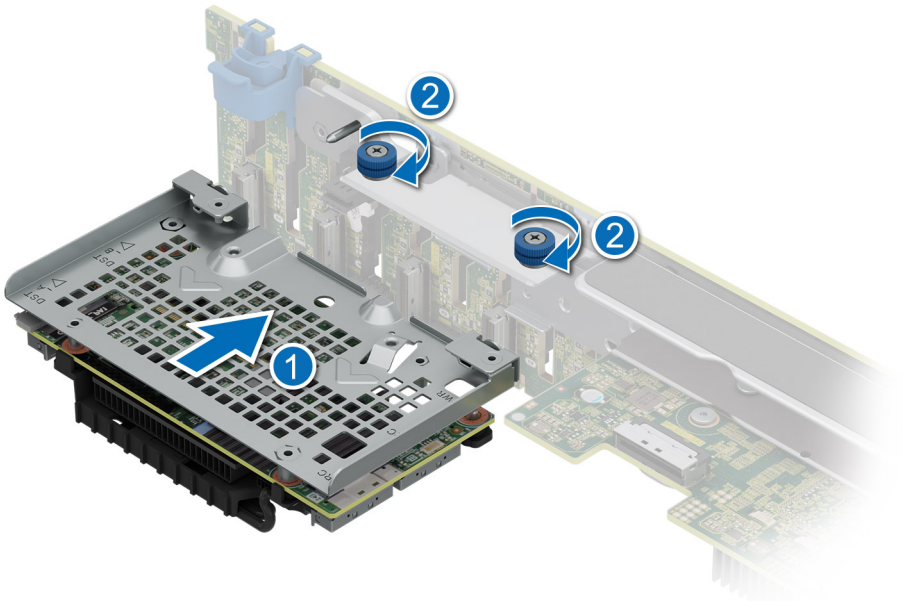


Figure 74. Installing the front mounting front PERC module

Next steps

1. Observe and connect the drive backplane cables from the connector on the HPM board and backplane.

NOTE: See cable routing section for more information.

2. Reconnect all the required cables.
3. Install the drive backplane cover.
4. Install the air shroud.
5. Follow the procedure listed in After working inside your system.

Cable routings

Figure 75. C0:No backplane configuration

Table 60. C0: No backplane configuration

Order	From	To
1	CTRL_DST_PA1 (right control panel)	PCP (HPM board)
2	HPM_J2 (power connector on HPM board)	INTRUSION (intrusion switch connector)

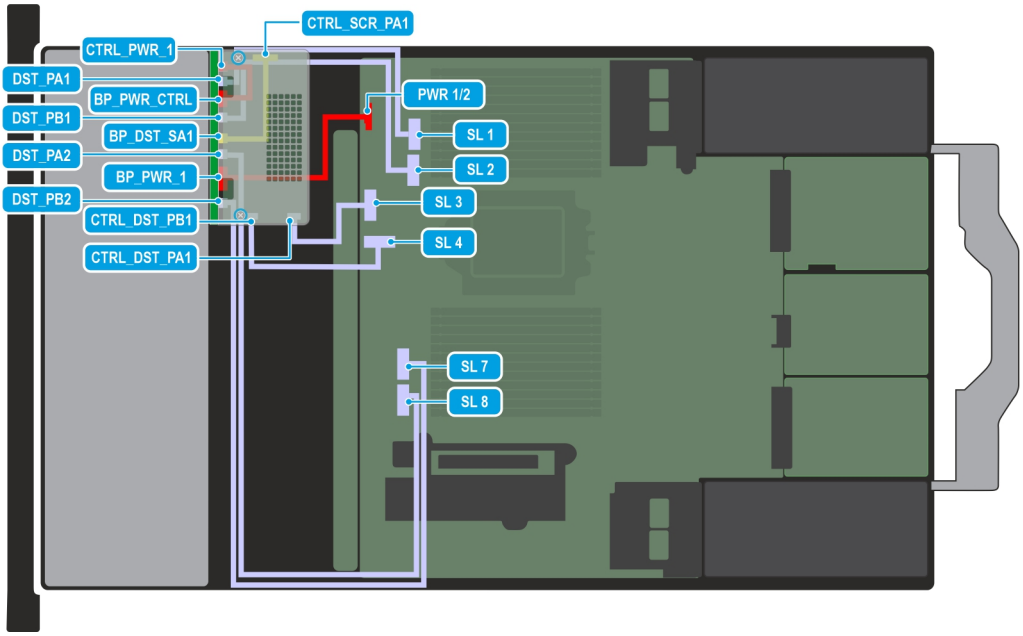


Figure 76. C4-2: 8 x 2.5-inch Universal drives

Table 61. C4-2: 8 x 2.5-inch Universal drives

Order	From	To
1	CTRL_PWR_1 (PERC)	BP_PWR_CTRL (backplane power connector)
2	PWR1/2 (power connector on HPM board)	BP_PWR_1 (backplane power connector)
3	CTRL_SRC_PA1 (PERC)	BP_DST_SA1 (backplane signal connector)
4	SL3 (signal connector on HPM board)	CTRL_DST_PA1 (PERC)
5	SL4 (signal connector on HPM board)	CTRL_DST_PB1 (PERC)
6	SL1(signal connector on HPM board)	BP_PA1 (backplane signal connector)
7	SL2(signal connector on HPM board)	BP_PB1 (backplane signal connector)
8	SL7(signal connector on HPM board)	BP_PB2 (backplane signal connector)
9	SL8(signal connector on HPM board)	BP_PA2 (backplane signal connector)

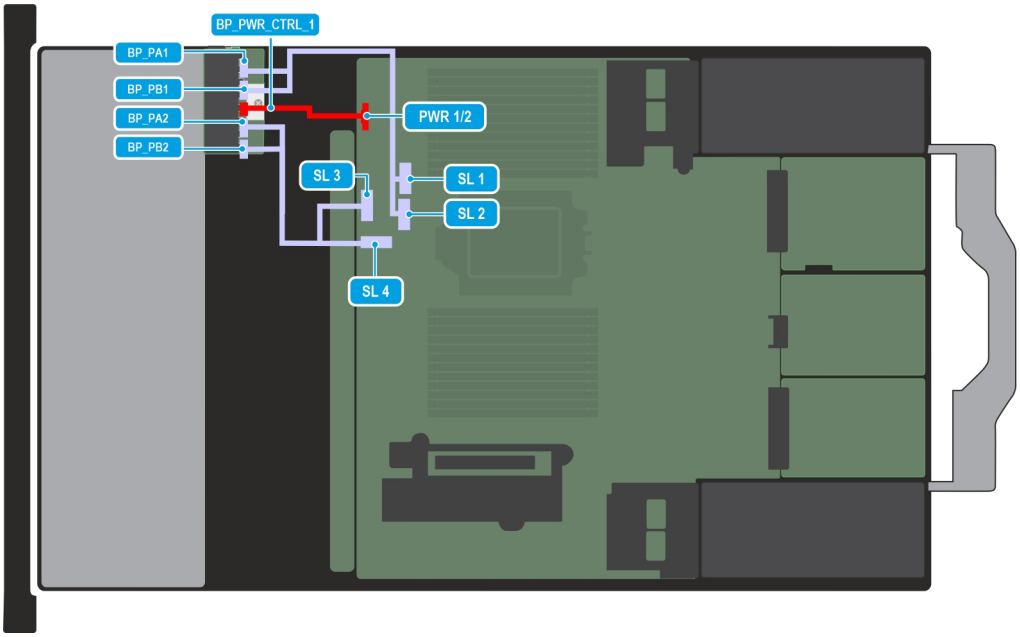


Figure 77. C6-1 8 x EDSFF E3.S Gen5 NVMe drive

Table 62. C6-1: 8 x EDSFF E3.S Gen5 NVMe drive

Order	From	To
1	HPM_PWR1 (power connector on HPM board)	BP_PWR_1 (backplane power connector)
2	SL1 (signal connector on HPM board)	BP_PA1 (backplane signal connector)
3	SL2 (signal connector on HPM board)	BP_PB1 (backplane signal connector)
4	SL3 (signal connector on HPM board)	BP_PA2 (backplane signal connector)
5	SL4 (signal connector on HPM board)	BP_PB2 (backplane signal connector)

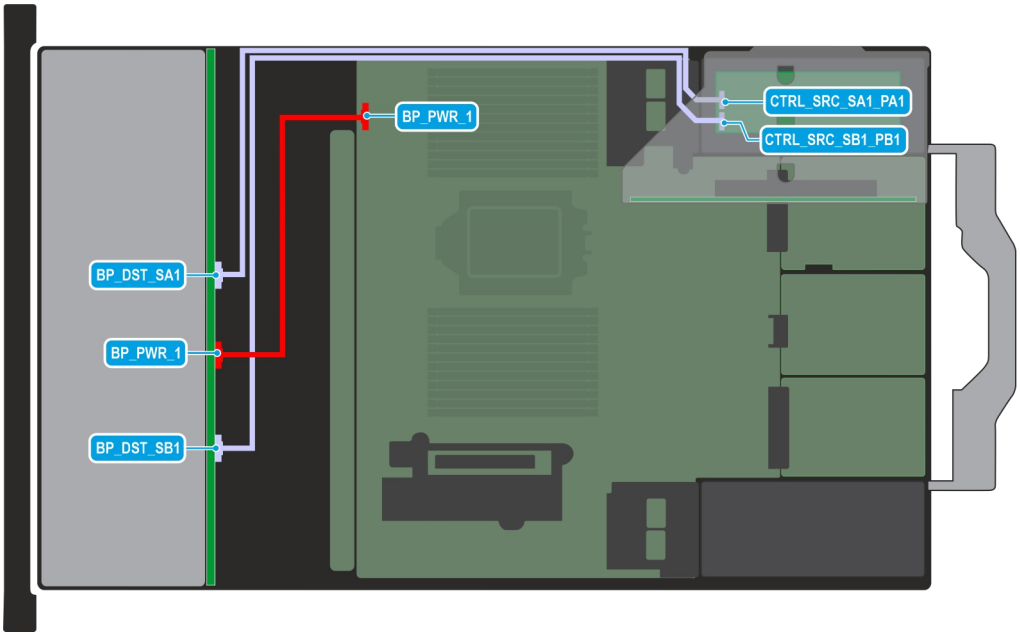


Figure 78. C1-2: 12 x 3.5-inch SAS/SATA drives

Table 63. C1-2: 12 x 3.5-inch SAS/SATA drives

Order	From	To
1	PWR_1 (power connector on HPM board)	BP_PWR_1 (backplane power connector)
2	CTRL_SRC_ SA1_PA1 (Adapter PERC)	BP_DST_SA1 (backplane signal connector)
3	CTRL_SRC_ SA1_PB1 (Adapter PERC)	BP_DST_SB1 (backplane signal connector)

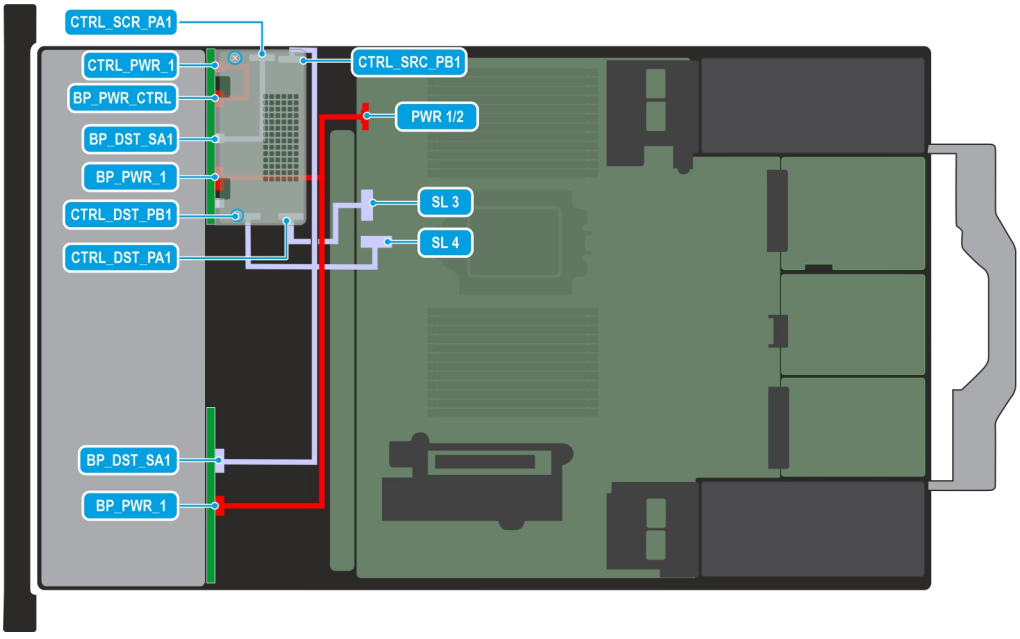


Figure 79. C2-1: 16 x 2.5-inch SAS4/SATA RAID Universal drives

NOTE: Follow the sequential order as shown in the table to remove the cables, to install the cables follow the reverse sequential order.

Table 64. C2-1: 16 x 2.5-inch SAS4/SATA RAID Universal drives

Order	From	To
1	BP_PWR_CTRL (backplane power connector)	CTRL_PWR_1 (PERC)
2	BP_PWR_1 (backplane power connector)	PWR1/2 (power connector on HPM board)
3	BP_DST_SA1 (backplane signal connector)	CTRL_SRC_PA1 (PERC)
4	BP_DST_SA1 (backplane signal connector)	CTRL_SRC_PB1 (PERC)
5	CTRL_DST_PB1 (PERC)	SL4 (signal connector on HPM board)
6	CTRL_DST_PA1 (PERC)	SL3 (signal connector on HPM board)

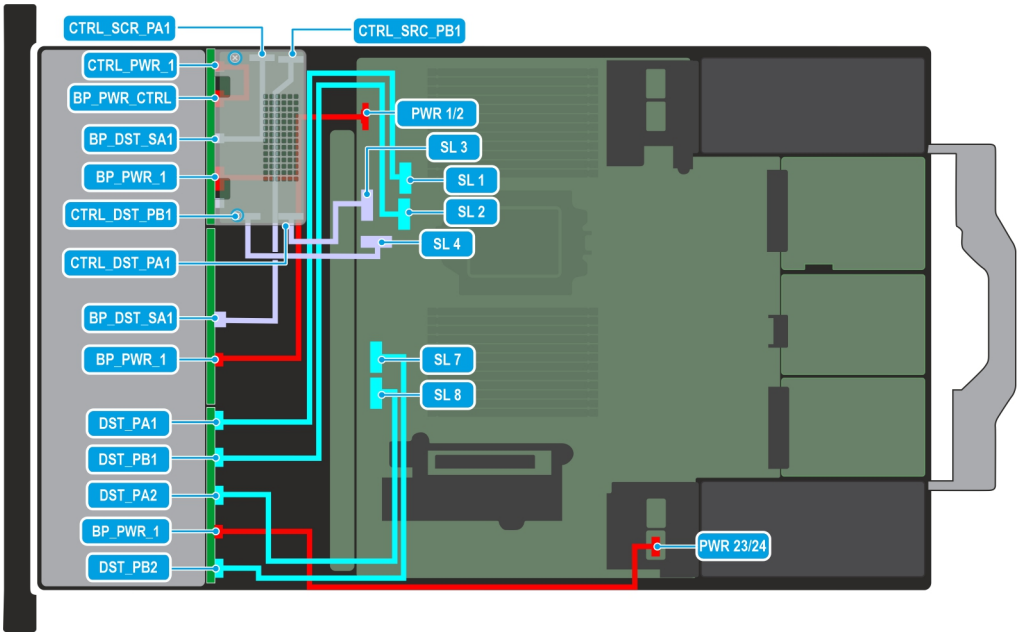


Figure 80. C5-1: 16 x 2.5-inch SAS4/SATA + 8 x U.2 G4

NOTE: Follow the sequential order as shown in the table to remove the cables, to install the cables follow the reverse sequential order.

Table 65. C5-1: 16 x 2.5-inch SAS4/SATA + 8 x U.2 G4

Order	From	To
1	BP_PWR_CTRL (backplane power connector)	CTRL_PWR_1 (PERC)
2	BP_PWR_1 (backplane power connector)	PWR1/2 (power connector on HPM board)
3	BP_PWR_1 (backplane power connector)	PWR23/24 (power connector on HPM board)
4	BP_DST_SA1 (backplane signal connector)	CTRL_SRC_PA1 (PERC)
5	BP_DST_SA1 (backplane signal connector)	CTRL_DST_PB1 (PERC)
6	DST_PA1	SL1 (signal connector on HPM board)
7	DST_PB1	SL2 (signal connector on HPM board)
8	DST_PA2	SL8(signal connector on HPM board)
9	DST_PB2	SL7 (signal connector on HPM board)

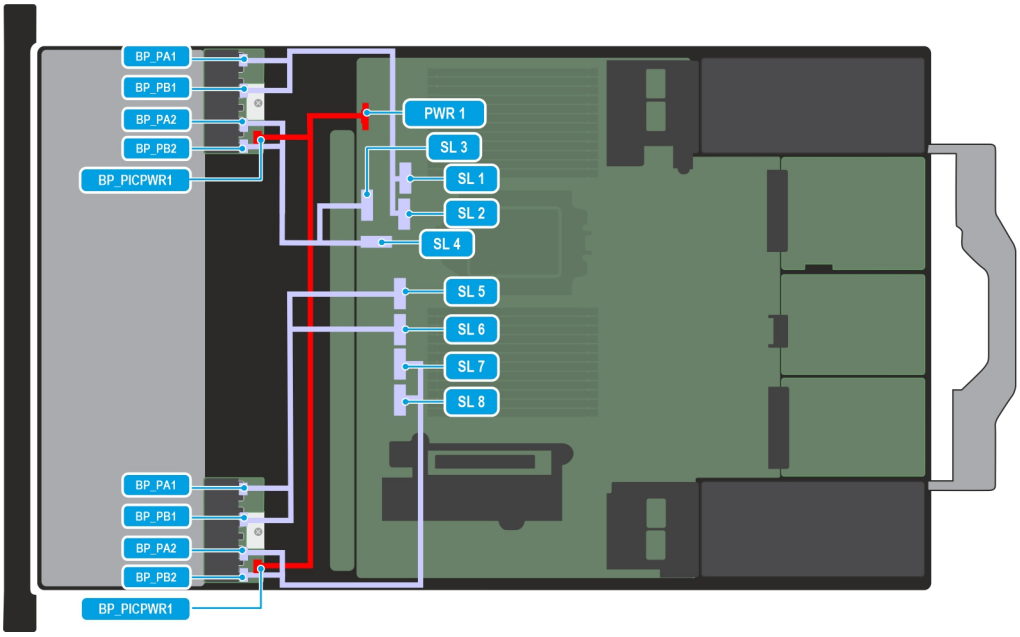


Figure 81. C7-1: 16 x E3.S G5x4

NOTE: Follow the sequential order as shown in the table to remove the cables, to install the cables follow the reverse sequential order.

Table 66. C7-1: 16 x E3.S G5x4

Order	From	To
1	BP_PICPWR1 (backplane power connector)	PWR1 (power connector on HPM board)
2	BP_PA1 and BP_PB1	SL1 and SL2 (signal connector on HPM board)
3	BP_PA2 and BP_PB2	SL3 and SL4 (signal connector on HPM board)
4	BP_PA1 and BP_PB1	SL5and SL6 (signal connector on HPM board)
5	BP_PA2 and BP_PB2	SL7 and SL8 (signal connector on HPM board)

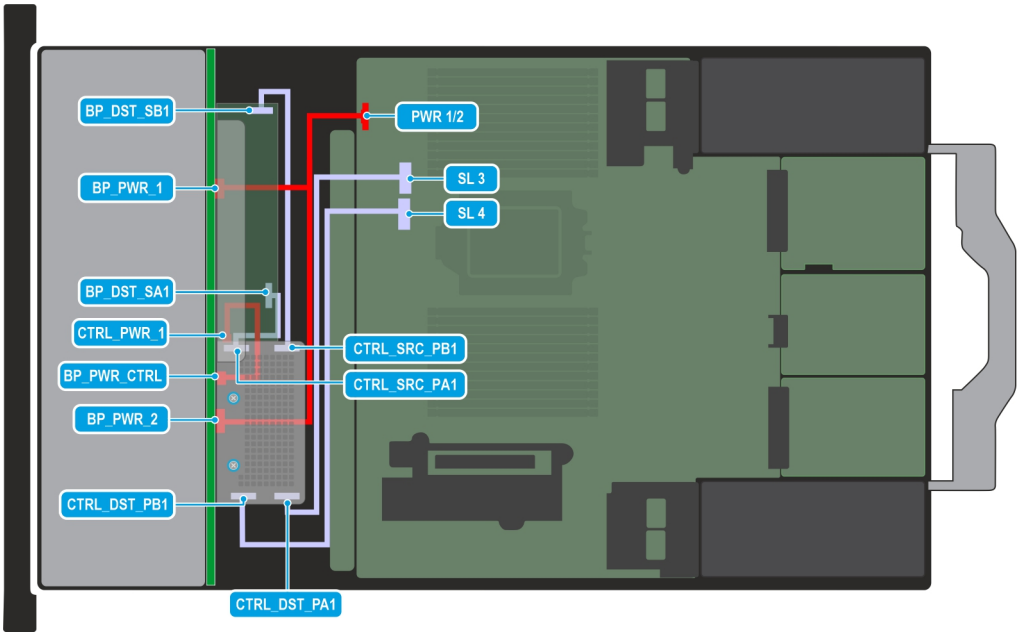


Figure 82. C3-1: 24 x 2.5-inch SAS/SATA drives

Table 67. C3-1: 24 x 2.5-inch SAS/SATA drives

Order	From	To
1	BP_PWR_CTRL (backplane power connector)	CTRL_PWR_1 (PERC)
2	BP_PWR_1 (backplane power connector)	PWR1 (power connector on HPM board)
3	CTRL_SRC_SB1_PB1 (PERC)	BP_DST_SB1 (backplane signal connector)
4	CTRL_SRC_SA1_PA1 (PERC)	BP_DST_SA1 (backplane signal connector)
5	SL3 (signal connector on HPM board)	CTRL_DST_PA1 (PERC)
6	SL4 (signal connector on HPM board)	CTRL_DST_PB1 (PERC)

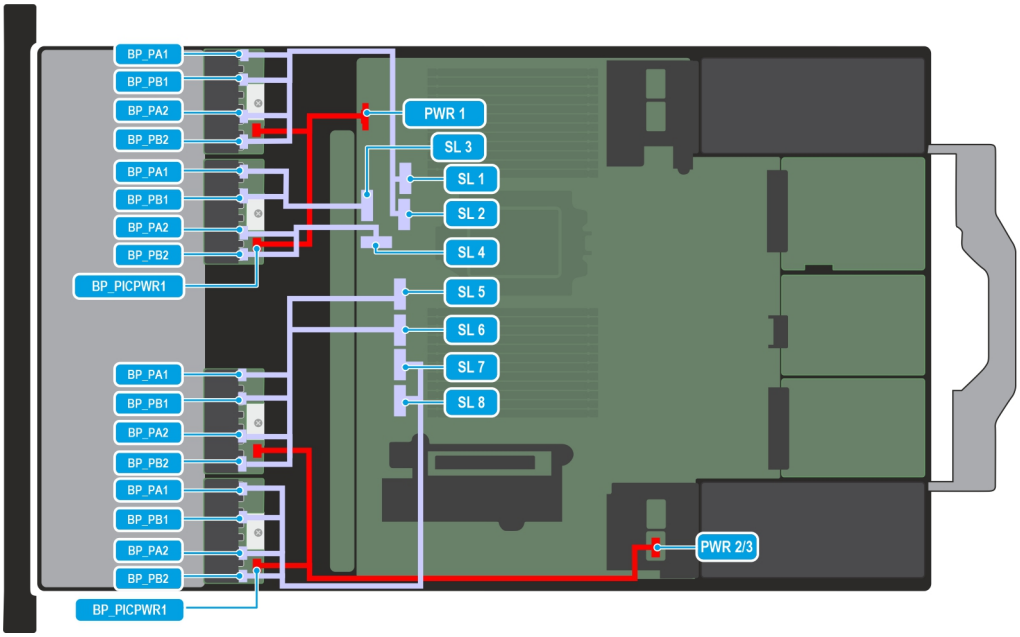


Figure 83. C8-1: 32 x EDSFF E3.S Gen5 NVMe drives

Table 68. C8-1: 32 x EDSFF E3.S Gen5 NVMe drives

Order	From	To
1	HPM_PWR1 (power connector on HPM board)	BP_PICPWR1(backplane power connector)
2	HPM_PWR2/3 (power connector on HPM board)	BP_PICPWR1 (backplane power connector)
3	SL1 and SL2 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)
4	SL3 (signal connector on HPM board)	BP_PA1,BP_PB1(backplane signal connector)
5	SL4 (signal connector on HPM board)	BP_PA2,BP_PB2(backplane signal connector)
6	SL5 and SL6 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)
7	SL7 and SL8 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)

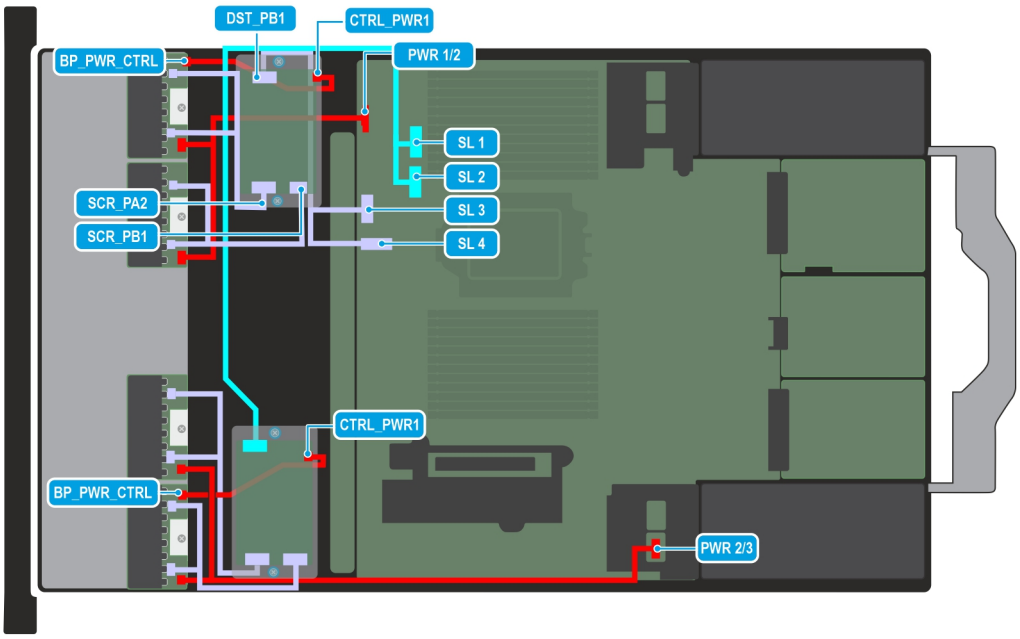


Figure 84. C8-3: 32 x EDSFF E3.S Gen5 NVMe with dual PERC H975i

Table 69. C8-3: 32 x EDSFF E3.S Gen5 NVMe with dual PERC H975i

Order	From	To
1	HPM_PWR1/2 (power connector on HPM board)	BP_PWR_1 (Slot 1 and slot 2 backplane power connector)
2	HPM_PWR23/24 (power connector on HPM board)	BP_PWR_1 (Slot 4 and slot 5 backplane power connector)
3	SL1/SL2 (signal connector on HPM board)	fPREC 13_R(CTRL_DST_PA1))
4	SL3/SL4 (signal connector on HPM board)	fPREC 13_L(CTRL_DST_PA1))
5	CTRL_PWR 1 (PERC power connector)	BP_PWR_CTRL (backplane power connector to controller)
6	CTRL_SRC_SA1_PA1 (PERC signal connector)	BP_J1 to J8 (backplane signal connector)
7	CTRL_SRC_SB1_PB1 (PERC signal connector)	BP_J1 to J8 (backplane signal connector)
8	CTRL_SRC_SA1_PA1 (PERC signal connector)	BP_J1 to J8 (backplane signal connector)

Table 69. C8-3: 32 x EDSFF E3.S Gen5 NVMe with dual PERC H975i (continued)

Order	From	To
9	CTRL_SRC_SB1_PB1 (PERC signal connector)	BP_J1 to J8 (backplane signal connector)

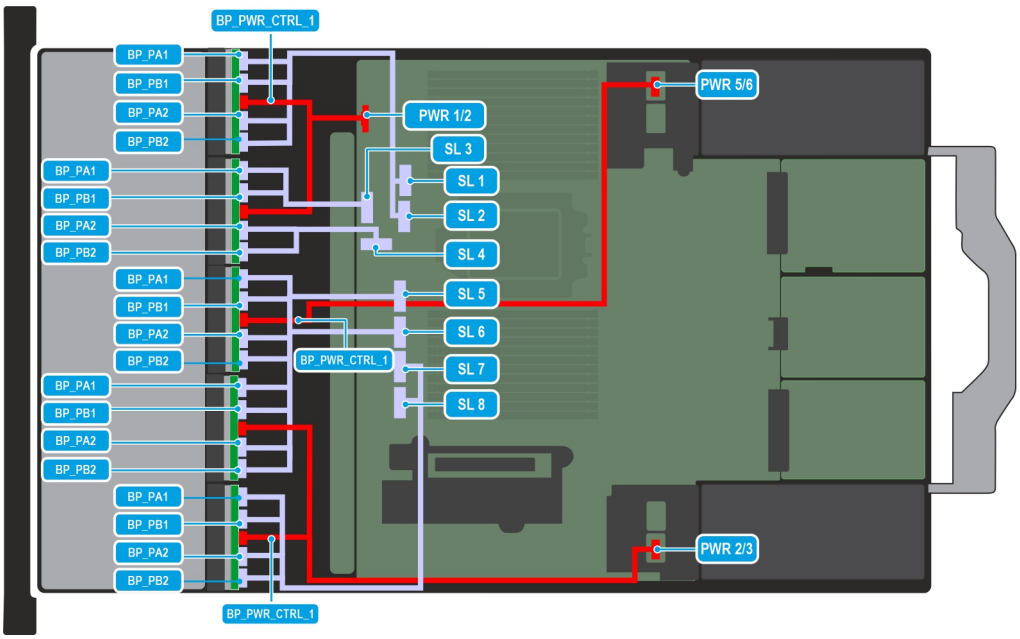


Figure 85. C9-1: 40 x EDSFF E3.S Gen5 NVMe drives

Table 70. C9-1: 40 x EDSFF E3.S Gen5 NVMe drives

Order	From	To
1	HPM_PWR1 (power connector on HPM board)	BP_PICPWR1(backplane power connector)
2	HPM_PWR2/3 (power connector on HPM board)	BP_PICPWR1 (backplane power connector)
3	HPM_PWR5/6 (power connector on HPM board)	BP_PICPWR1 (backplane power connector)
4	SL1 and SL2 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)
5	SL3 (signal connector on HPM board)	BP_PA1,BP_PB1(backplane signal connector)
6	SL4 (signal connector on HPM board)	BP_PA2,BP_PB2(backplane signal connector)
7	SL5 and SL6 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)
8	SL7 and SL8 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)
9	SL13 and SL14 (signal connector on HPM board)	BP_PA1,BP_PB1,BP_PA2 and BP_PB2 (backplane signal connector)

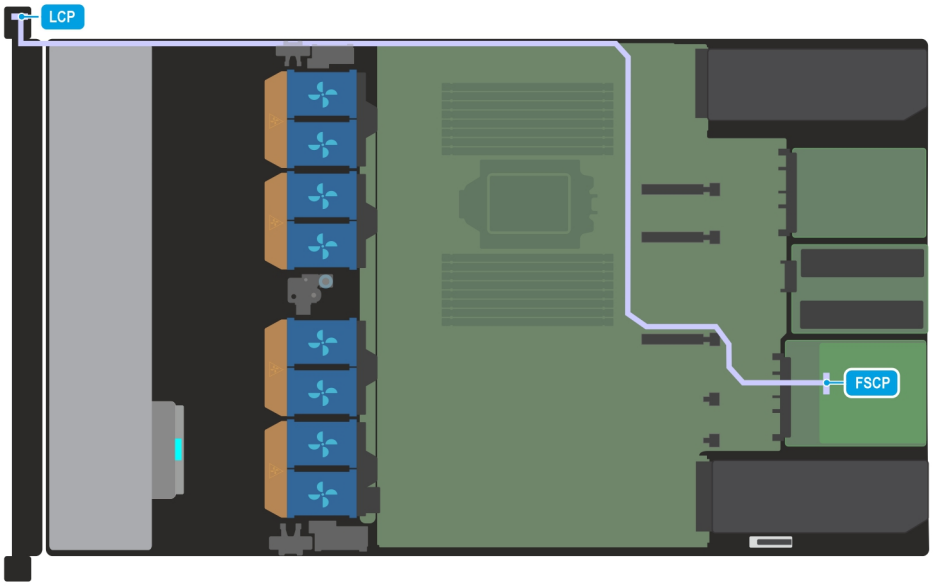


Figure 86. Attic board to the Left Control Panel (LCP) - Secondary

Table 71. Attic Board to Left Control Panel (LCP) - Secondary

Order	From	To
1	Attic_fSCP (Attic signal connector)	Left Control Panel (LCP) - Secondary

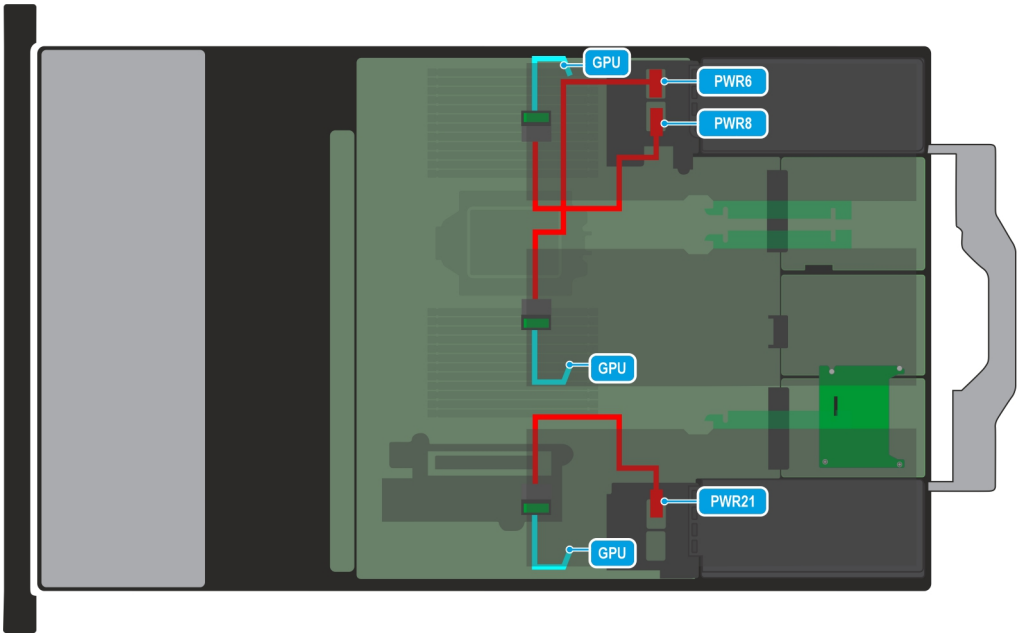


Figure 87. Dual-width GPU cable connections

Table 72. Dual-width GPU cable connections

Order	From	To
1	HPM board power connector (PWR21)	GPU_R1
2	HPM board power connector (PWR5)	GPU_R5
2	HPM board power connector (PWR6)	GPU_R3

Figure 88. DPU cable connections

Table 73. DPU cable connections

Order	From	To
1	PWR 8 (HPM board power connector)	R5 (DPU)
2	PWR 21(HPM board power connector)	R1 (DPU)

System memory

System memory guidelines

The PowerEdge R7715 system supports DDR5 registered DIMMs (RDIMMs). System memory holds the instructions that are started by the processor.

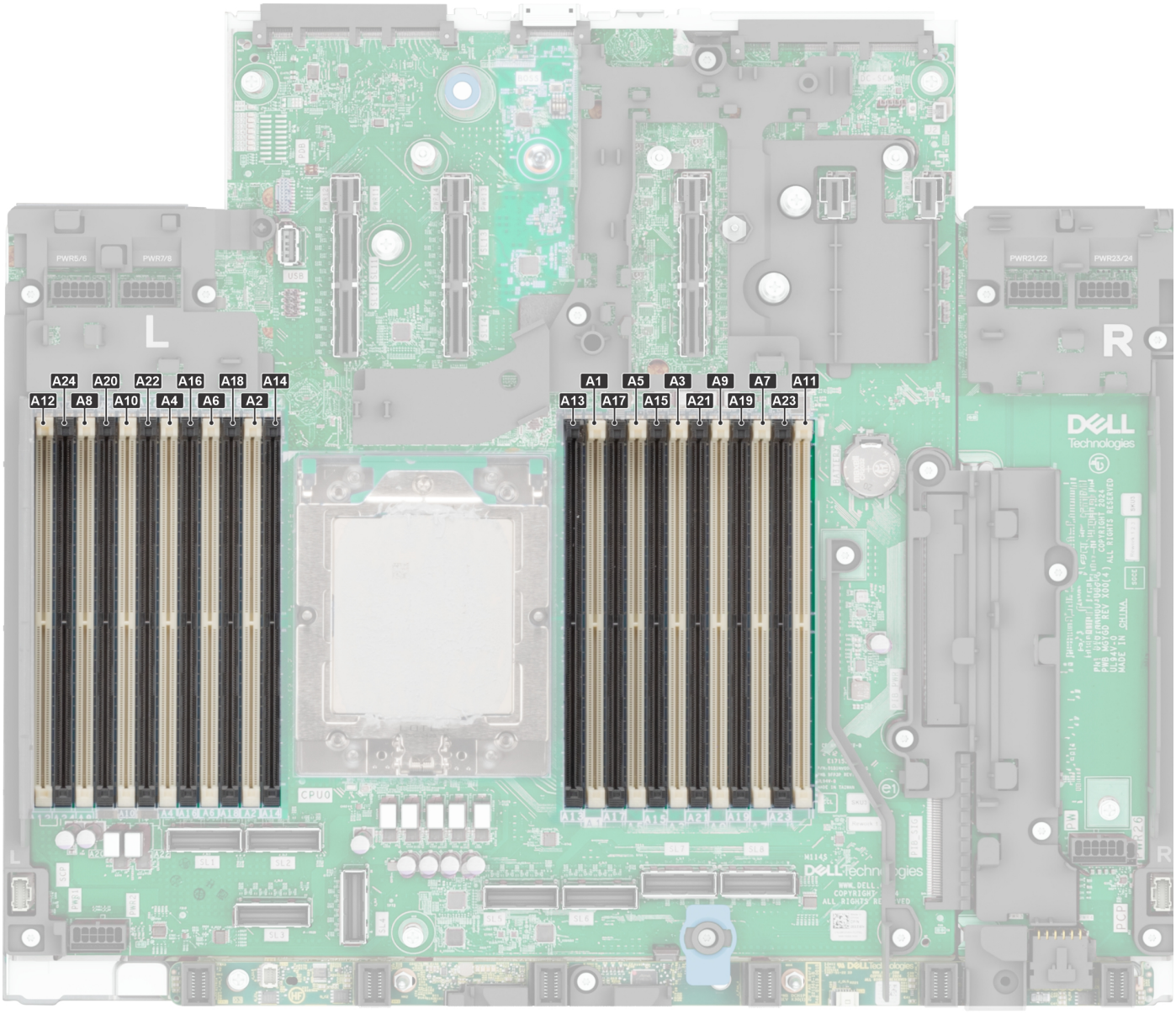


Figure 89. Memory channels

Memory channels are organized as follows:

Table 74. Memory channels

Processor	Channel A	Channel B	Channel C	Channel D	Channel E	Channel F
Processor 0	Slots A1 and A13	Slots A5 and A17	Slots A3 and A15	Slots A9 and A21	Slots A7 and A19	Slots A11 and A23

Table 75. Memory channels

Processor	Channel G	Channel H	Channel I	Channel J	Channel K	Channel L
Processor 0	Slots A2 and A14	Slots A6 and A18	Slots A4 and A16	Slots A10 and A22	Slots A8 and A20	Slots A12 and A24

Table 76. Supported memory matrix

DIMM type	Rank	Capacity	DIMM rated voltage and speed	Operating Speed	
				1 DIMM per channel (DPC)	2 DIMMs per channel (DPC)
RDIMM	1R	16 GB	DDR5 (1.1 V), 6400 MT/s	5200 MT/s	4400 MT/s
	2 R	32 GB, 64 GB, 96 GB, 128 GB	DDR5 (1.1 V), 6400 MT/s	5200 MT/s	4000 MT/s
	8 R	256 GB	DDR5 (1.1 V), 6400 MT/s	5200 MT/s	4000 MT/s

Table 77. Memory Capacity Requirement For Supported GPU Cards

Recommended System Memory Range (1.5x - 2x GPU Memory)							
GPU Name	GPU Memory	x1 GPU	x2 GPUs	x3 GPUs	x4 GPUs	x5 GPUs	x6GPUs
L4	24 GB	36 - 48 GB	72 - 96 GB	108-144 GB	144 - 192 GB	180 - 240 GB	144 - 288 GB
L40S	48 GB	72 - 96 GB	144 - 192 GB	216 - 288 GB	N/A	N/A	N/A
A16	64 GB	96 - 128 GB	192 - 256 GB	288 - 384 GB	N/A	N/A	N/A
H100NVL	94 GB	141 - 188 GB	282 - 376 GB	423 - 564 GB	N/A	N/A	N/A
H200NVL	141 GB	212 - 282 GB	423 - 564 GB	635 - 846 GB	N/A	N/A	N/A

NOTE: The processor may reduce the performance of the rated DIMM speed.

NOTE: Maximum DIMM transfer speed support dependent on CPU SKU and DIMM population.

Memory interleaving with Non-uniform memory access (NUMA)

Non-uniform memory access (NUMA) is a memory design used in multi-processing, where the memory access time depends on the memory location relative to the processor. In NUMA, a processor can access its own local memory faster than the non-local memory.

NUMA nodes per socket (NPS) is a new feature added that allows you to configure the memory NUMA domains per socket. The configuration can consist of one whole domain (NPS1), two domains (NPS2), or four domains (NPS4). In the case of a two-socket platform, an additional NPS profile is available to have whole system memory to be mapped as single NUMA domain (NPS0). For more information on the memory interleaving for NPSx, see the Memory interleaving population rules section in this topic.

BIOS implementation for NPSx

- The BIOS Setup menu presents the applicable NPSx options based on the underlying model number. A change to the current NPSx is communicated to pre-BIOS firmware to take effect on the next boot. The default NPS setting is 1.
- During boot, if the selected NPSx option is not allowed for the model number (for example, if the processor model number changes between reboot), system will halt at the end of POST with UEFI0388 message displayed. On the next reboot, the system will fall back to NPS1 default setting.
- During boot, if the preferred interleaving for the current NPSx is not possible due to memory configuration (for example, the memory population is inconsistent with the preferred interleaving), BIOS shows a warning message UEFI0391.

Table 78. NPS option and Memory Interleave

NPS Option	CCD Configuration	Memory Interleaving	Server Package (12 memory channels)
NPS4: Four NUMA nodes per socket, one node per quadrant.	Symmetric configuration across all quadrants of the SoC.	Firmware will attempt to interleave all memory channels on each Quadrant of the SoC.	3- way interleave per node: {ABD}, {CEF}, {GHK}, and {IKL}

Table 78. NPS option and Memory Interleave (continued)

NPS Option	CCD Configuration	Memory Interleaving	Server Package (12 memory channels)
NPS2: Two NUMA nodes per socket,one node per left/right half of the SoC.	Requires symmetrical CCD configuration across left/right halves of the SoC.	Firmware will attempt to interleave all memory channels on each Half of the SoC.	6-way Interleave per Node: {ABCDEF} and {GHIJKL}
NPS1: One NUMA node per socket.	Available for any CCD configuration in the SoC. Default configuration	Firmware will attempt to interleave all memory channels in the Socket.	12-way Interleave per Socket: {ABCDEFGHIJKL}
NPS0: One NUMA node per system.	Available on dual processor systems only.	Firmware will attempt to interleave all memory channels in the System.	24-way Interleave per System: {ABCDEFGHIJKL} from each socket

NOTE:

1. If the CCD configuration is altered by software (e.g., BIOS Setup Option), NPS4 or NPS2 configurations may not be available, based on the Symmetry requirements noted above.
2. Not all OPNs support NPS2 or NPS4, based on CCD configuration per package.

General memory module installation guidelines

To ensure optimal performance of your system, observe the following general guidelines when configuring your system memory. If your system's memory configuration fails to observe these guidelines, your system might not boot, stop responding during memory configuration, or operate with reduced memory.

The memory bus may operate at speeds of 5200 MT/s or 4000 MT/s depending on the following factors:

- System profile selected (for example, Performance, Performance Per Watt Optimized (OS), or Custom [can be run at high speed or lower])
- Maximum supported DIMM speed of the processors
- Maximum supported speed of the DIMMs

NOTE: MT/s indicates DIMM speed in Mega-Transfers per second.

The following are the recommended guidelines for installing memory modules:

- All DIMMs must be DDR5.
- DIMM mixing configurations are not supported. All DIMM slots must be populated with the exact same DIMMs.
- Populate memory module sockets only if a processor is installed.
  - For single-processor systems, sockets A1 to A24 are available.
  - A minimum of one DIMM must be populated for each installed processor.
- In **Optimizer Mode**, the DRAM controllers operate independently in the 64-bit mode and provide optimized memory performance.

Table 79. Memory population rules

Processor	Memory population	Memory population information
Single processor	A{1}, A{2}, A{3}, A{4}, A{5}, A{6}, A{7}, A{8}, A{9}, A{10}, A{11}, A{12}	1, 2, 4, 6, 8, 10, 12 DIMMs are allowed.
	A{1}, A{13}, A{2}, A{14}, A{3}, A{15}, A{4}, A{16}, A{5}, A{17}, A{6}, A{18}, A{7}, A{19}, A{8}, A{20}, A{9}, A{21}, A{10}, A{22}, A{11}, A{23}, A{12}, A{24}	16, 20, 24 DIMMs are allowed.

- Populate all the sockets with white release tabs first, followed by the sockets with black release tabs.
- Unbalanced or odd memory configurations result in a performance loss, and the system may not identify the memory modules being installed. Always populate memory channels identically with equal DIMMs for the best performance.
- Mixing of any different memory module capacities is not supported.
- Mixing module types within a memory channel is not supported. All DIMMs populated must be RDIMM.

- Mixing different widths (x4 and x8) is not supported.

NOTE: Equal memory modules refer to DIMMs with identical electrical specification and capacity that may be from different vendors.

Removing a memory module

Prerequisites

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

WARNING: The memory modules are hot to touch for some time after the system has been powered off. Allow the memory modules to cool before handling them.

NOTE: For proper system cooling, memory module blanks must be installed in any memory socket that is not populated. Remove the memory module blanks only if you intend to install the memory module in these sockets. DIMM blanks are only required when CPU TDP is equal or greater than 225W. CPU with TDP less that 225W do not require DIMM blanks.

Steps

1. Locate the appropriate memory module socket.
2. To release the memory module from the socket, simultaneously press the ejectors on both ends of the memory module socket to fully open.

   CAUTION: Handle each memory module only by the card edges, ensuring not to touch the middle of the memory module or metallic contacts.

3. Lift the memory module away from the system.

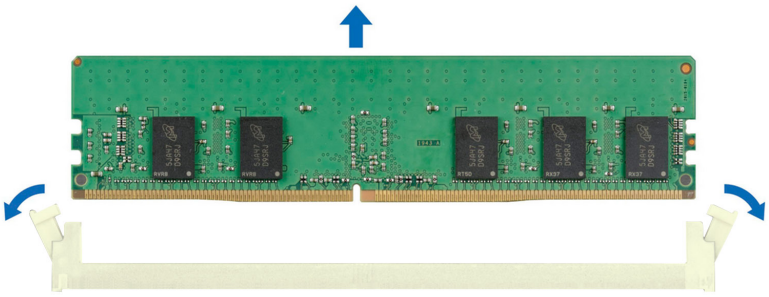


Figure 90. Removing a memory module

Next steps

Replace the memory module.

Installing a memory module

Prerequisites

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

2. Follow the procedure listed in Before working inside your system.
3. Remove the air shroud

Steps

1. Locate the appropriate memory module socket.

   CAUTION: Handle each memory module only by the card edges, ensuring not to touch the middle of the memory module or metallic contacts.

   NOTE: Ensure that the socket ejector latches are fully open before installing the memory module.

2. Align the edge connector of the memory module with the alignment key of the memory module socket, and insert the memory module in the socket.

   CAUTION: To prevent damage to the memory module or the memory module socket during installation, do not bend or flex the memory module. Insert both ends of the memory module simultaneously.

   NOTE: The memory module socket has an alignment key that enables you to install the memory module in the socket in only one orientation.

   CAUTION: Do not apply pressure at the center of the memory module; apply pressure at both ends of the memory module evenly.

3. Press the memory module with your thumbs until the ejectors firmly click into place. When the memory module is properly seated in the socket, the memory module socket levers align with the levers on the other sockets that have memory modules that are installed.

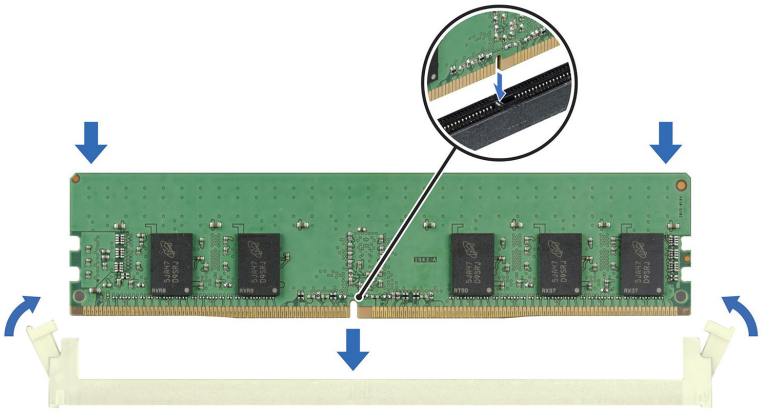


Figure 91. Installing a memory module

Next steps

1. Install the air shroud.
2. Follow the procedure listed in After working inside your system .
3. To verify that the memory module has been installed properly, press **F2** during reboot and click **System Setup Main Menu > System BIOS > Memory Settings**. In the **Memory Settings** screen, the **System Memory Size** must reflect the updated capacity of the installed memory.
4. If the **System Memory Size** is incorrect, one or more of the memory modules may not be installed properly. Shut down the system and ensure that the memory modules are firmly seated in the correct sockets.
5. Run the system memory test in system diagnostics.

Direct Liquid Cooling (DLC) Module

This is a service technician replaceable part only.

Removing the Direct Liquid Cooling (DLC) module

Prerequisites

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

WARNING: The Direct liquid cooling (DLC) module and processor are too hot to touch for some time after the system has been powered off. Allow the liquid cooling module and processor to cool down before handling them.

Steps

1. Disconnect the DLC leak sensor cable from the HPM board.
2. Using a Phillips #2 screw driver, loosen the captive screw on the DLC tube cover.
3. Lift up the metal bracket to loosen the DLC tubes.

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

4. Remove the tubes from the DLC mid bracket
5. Lift the tubes from the DLC tube holder .
6. Using a Torx #T20 screwdriver, fully loosen the captive screw all the way before moving to the next screw (on one-screw-at-a-time basis).

   NOTE: Follow the screw sequence defined on the heat sink label. Disassembly order: 6, 5, 4, 3, 2, 1.

7. Remove the DLC from the system

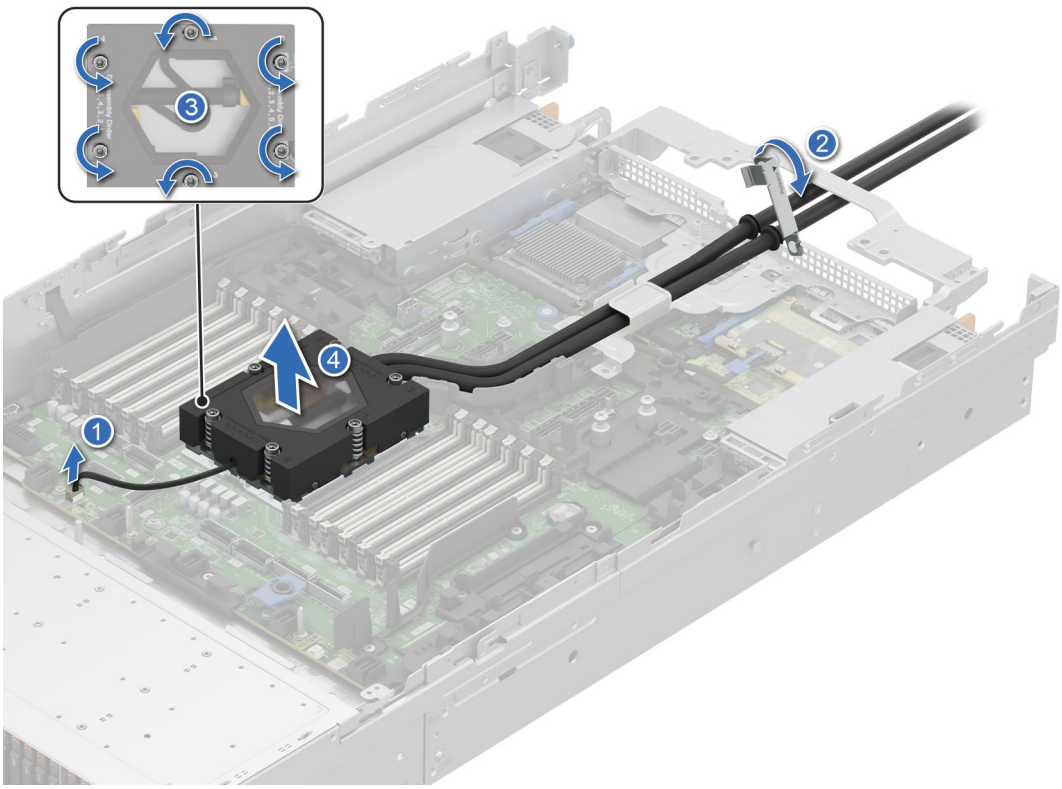


Figure 92. Remove the Direct liquid cooling (DLC) module

Next steps

If you are removing a faulty DLC Module, replace the DLC module, if not, remove the processor.

Installing the Direct Liquid Cooling (DLC) module

Prerequisites

Never uninstall the Direct Liquid Cooling (DLC) module from a processor unless you intend to replace the processor or heat sink. The DLC is necessary to maintain proper thermal conditions.

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

Steps

1. Install DLC tube holder to the HPM and ensure the holder securely fixed to the HPM.
2. Install DLC mid bracket to the HPM and tighten the captive screws

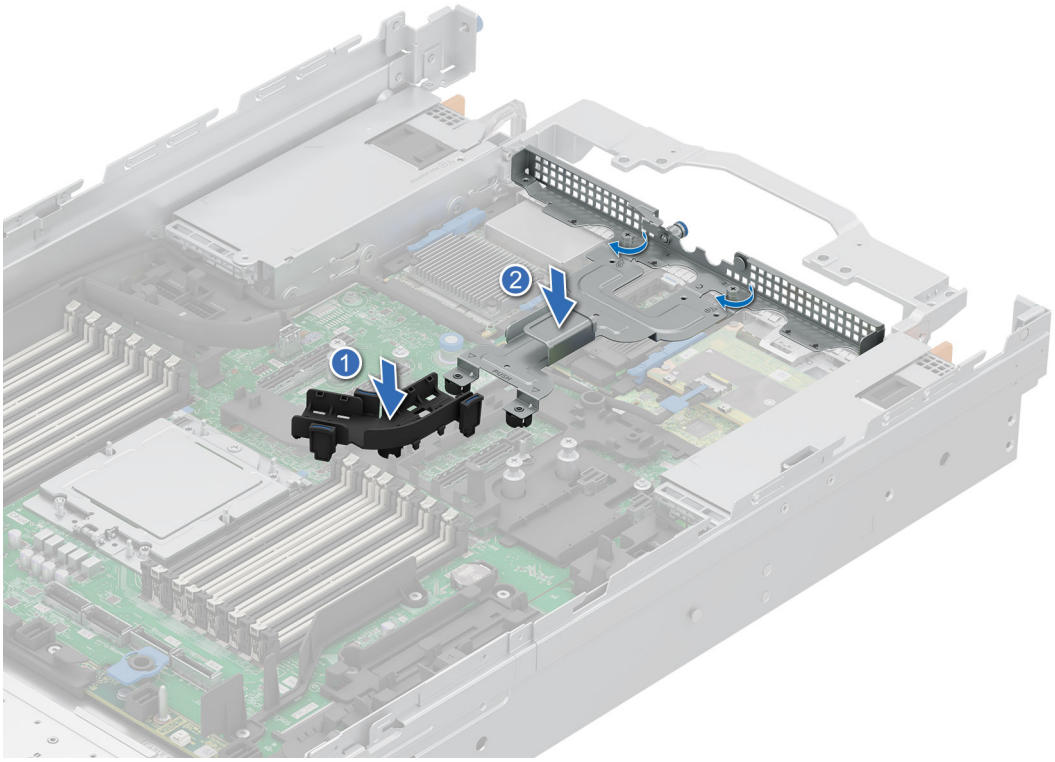


Figure 93. Installing the DLC holder and DLC mid bracket

3. Align the DLC module with the standoff screws on the HPM board.
4. Using a Torx #T20 screwdriver, fully tighten the captive screw all the way down before moving to the next screw (on one-screw-at-a-time basis).

   NOTE: Follow the screw sequence defined on heat sink label. Assembly order: 1, 2, 3, 4, 5, 6.

5. Route the DLC tubes onto the DLC tube holder and DLC mid bracket.
6. Release the metal bracket and align the tube rubber rings with the ring holders.
7. Tilt the metal bracket to close. Using a Phillips #2 screwdriver, tighten the captive screw on the tube cover to secure it in place.
8. Install Liquid cooling leak sensor cable.

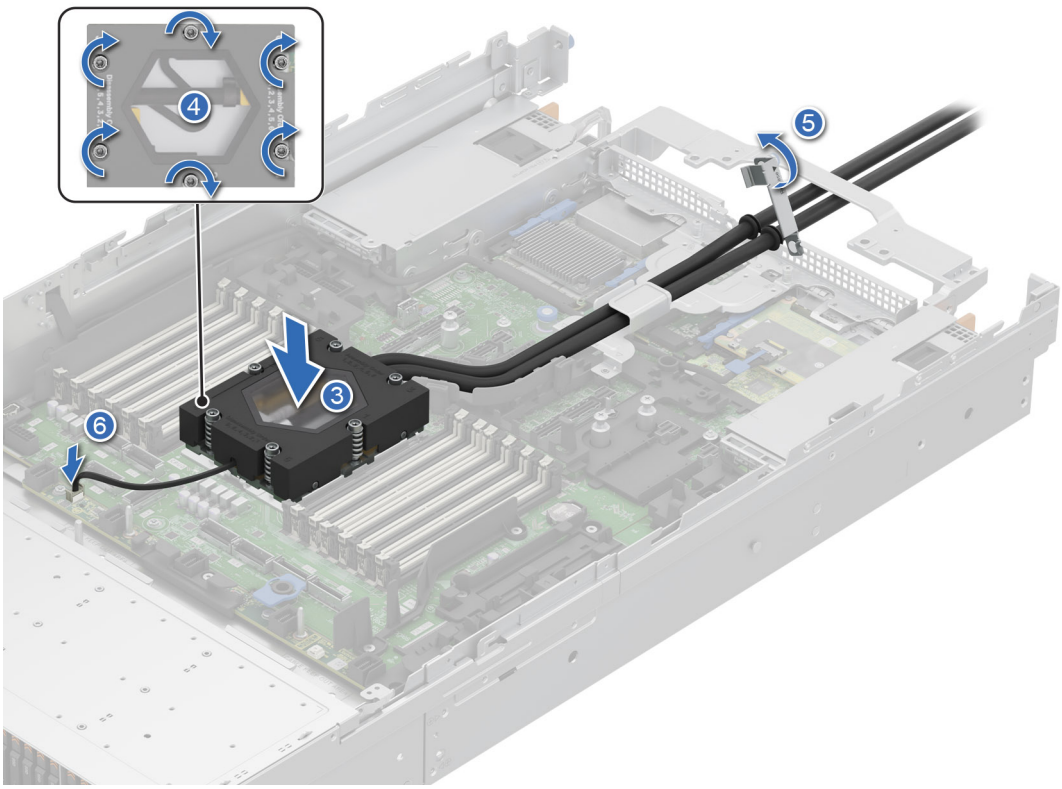


Figure 94. Installing the Direct Liquid Cooling(DLC) module

Next steps

1. Install the air shroud.
2. Follow the procedure listed in the After working inside your system.

Processor and heat sink

This is a service technician replaceable part only.

Removing the heat sink module

Prerequisites

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

NOTE: The heat sink and processor are hot to touch for some time after the system has been powered off. Allow the heat sink and processor to cool down before handling them.

Steps

1. Using a Torx T20 screwdriver, loosen the captive nuts on the heat sink in the numbered order that is mentioned on the heat sink assembly instructions label.
2. Lift the heat sink away from the system.

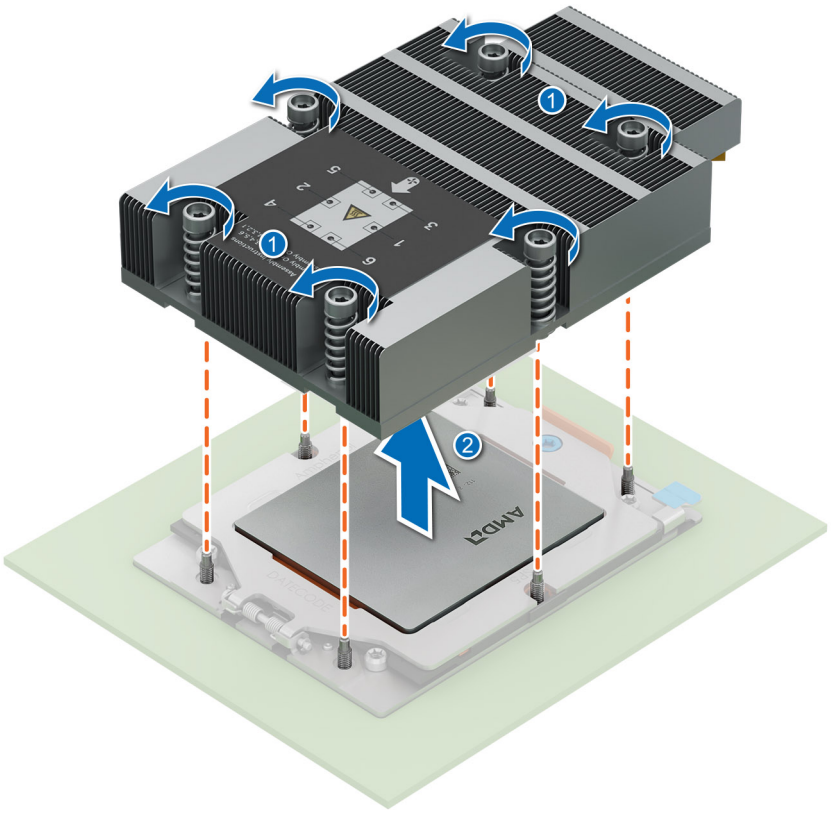


Figure 95. Removing the heat sink module

Next steps

If you are removing a faulty heat sink, replace the heat sink module, if not, remove the processor.

Removing the processor

Prerequisites

WARNING: Remove the processor from processor and heat sink only if you are replacing the processor or heat sink.

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud
4. Remove the heat sink module.

CAUTION: You may find the CMOS battery loss or CMOS checksum error that is displayed during the first instance of powering on the system after the processor or HPM board replacement which is expected. To fix this, go to setup option to configure the system settings.

Steps

1. Using a T-20 Torx screwdriver, loosen the captive screws on the spring-loaded retention frame.

   NOTE: Hold and rotate the retention frame until it is fully open.

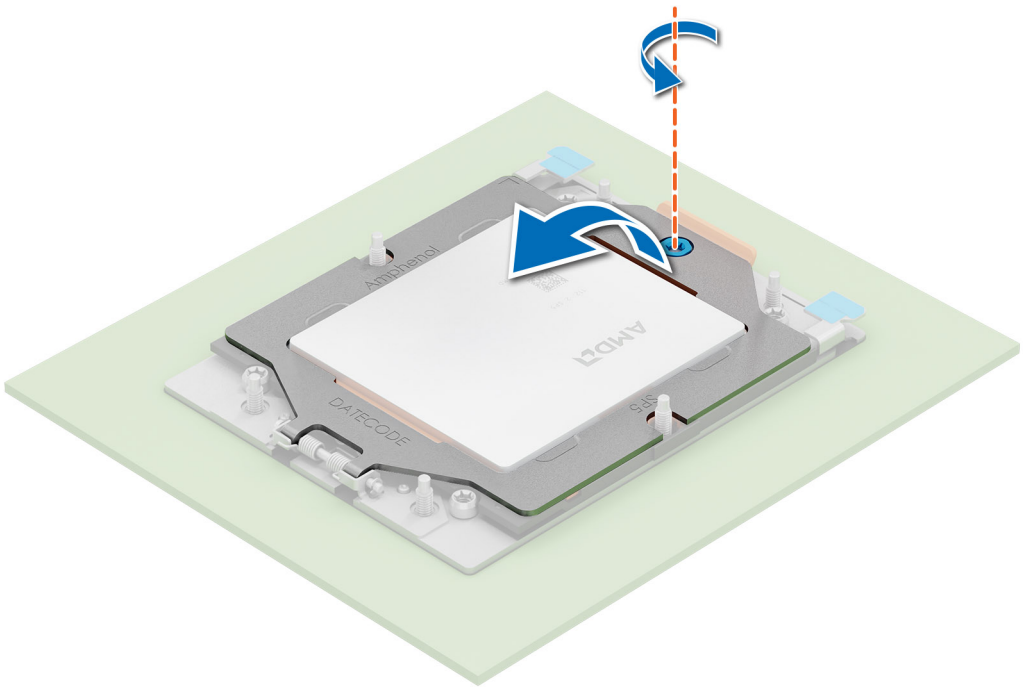


Figure 96. Releasing the retention frame

2. Lift the rail frame by gripping the two blue tabs and rotate the rail frame upwards to a vertical position.

   NOTE: Hold and rotate the rail frame until it is fully open.

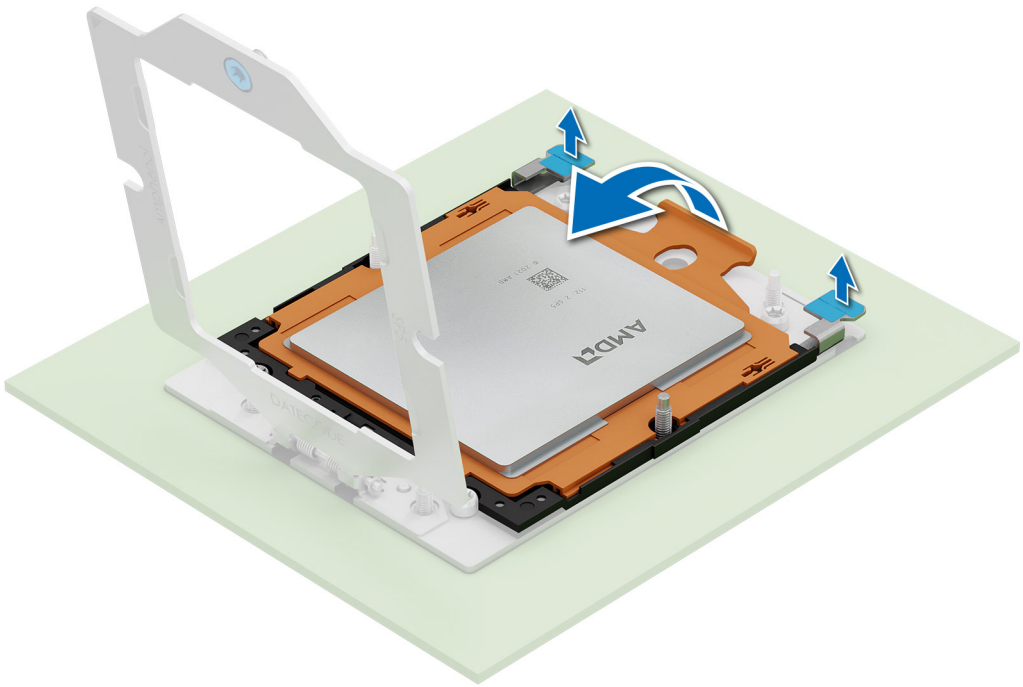


Figure 97. Releasing the rail frame

3. Slide the carrier frame together with the processor out from the rail frame by holding on to the green tab.

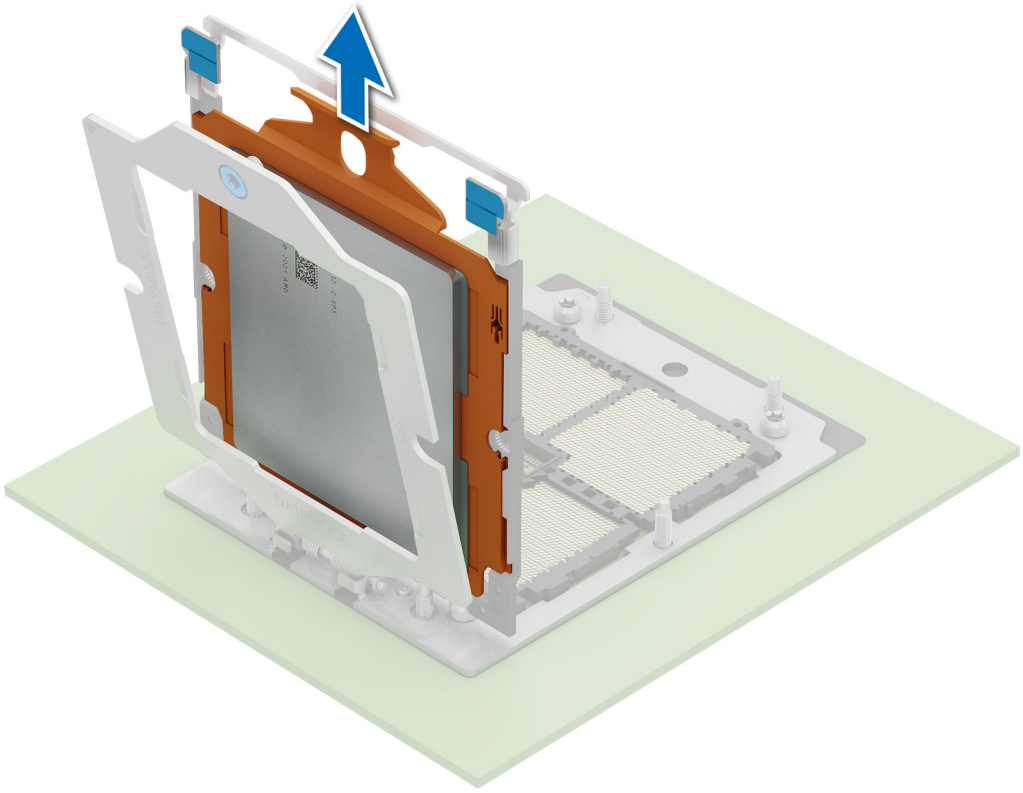


Figure 98. Removing the carrier frame with the processor

Next steps

Replace the processor.

Installing the processor

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the heat sink module.

Steps

1. Release the retention frame and rail frame. See step 1 and step 2 of the removing the processor.
2. Insert the carrier frame with the processor into the rail frame until the carrier frame clicks in place with the rail frame.

   NOTE: If there is a blank external cap in the rail frame, remove it by sliding it out from the rail frame.

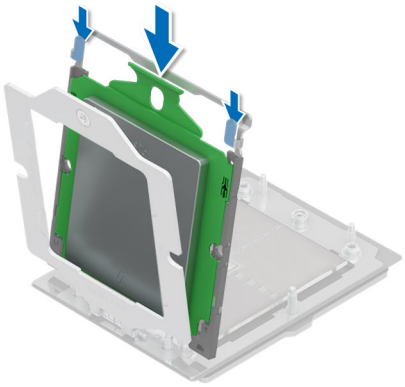


Figure 99. Inserting the carrier frame with the processor

3. Close the rail frame down and press the left blue tab first to click in place. Then perform the same on the right blue tab.

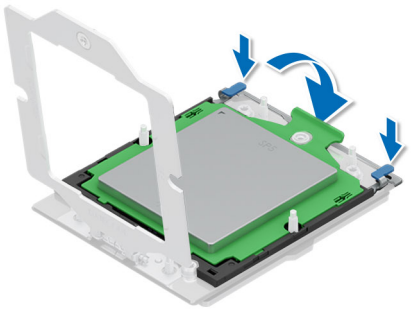


Figure 100. Closing the rail frame with the carrier frame

4. Rotate and close the retention frame and tighten the captive screw.

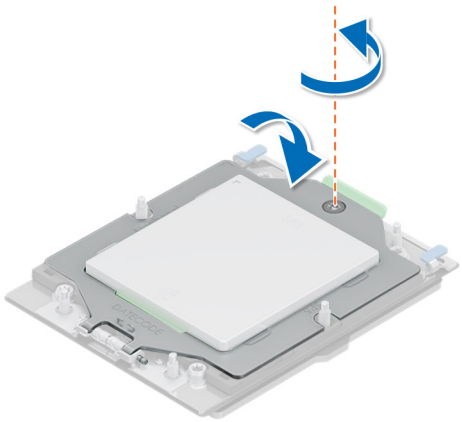


Figure 101. Securing the retention frame

Next steps

1. Install the heat sink module.
2. Install the air shroud.
3. Follow the procedure listed in After working inside your system.

Installing the heat sink module

Prerequisites

Never remove the heat sink from a processor unless you intend to replace the processor or heat sink. The heat sink is necessary to maintain proper thermal conditions.

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. The system supports different to types of heat sinks and the procedure to install them are similar.

Steps

1. If you are using an existing heat sink, remove the thermal grease on the heat sink by using a thin lint-free cloth.

   NOTE: For a new heat sink, the thermal paste is pre-applied to the heat sink. Remove the protective cover, and install the heat sink.

2. Use the thermal grease syringe included with your processor kit to apply the grease in a thin spiral on the top of the processor.

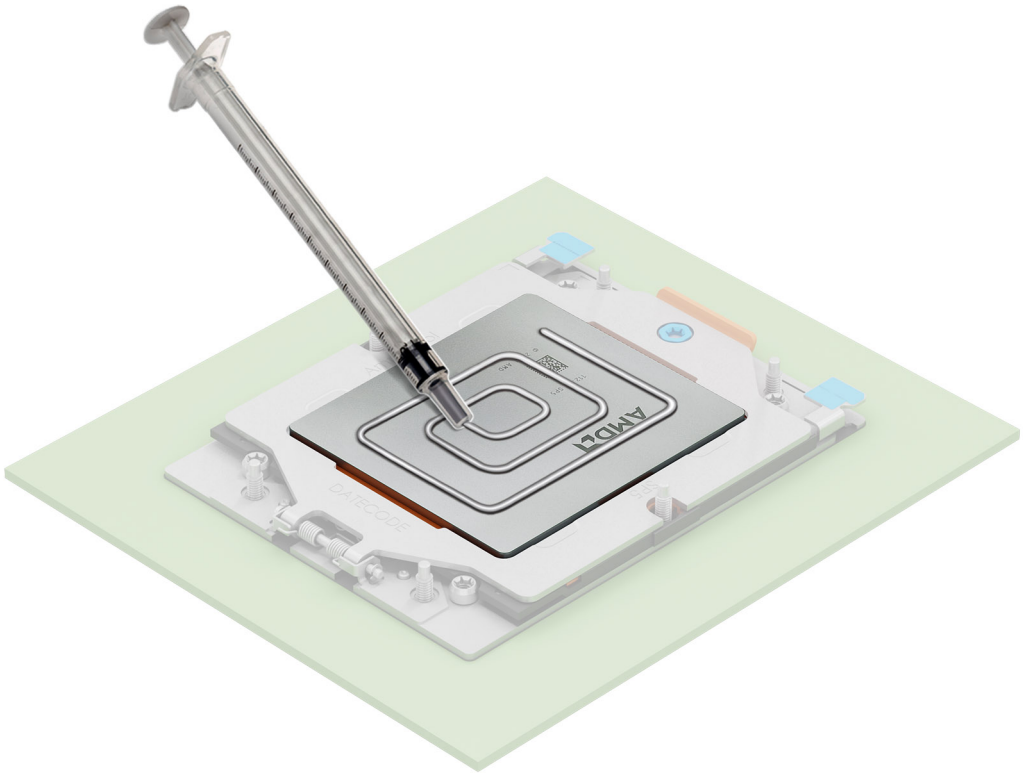


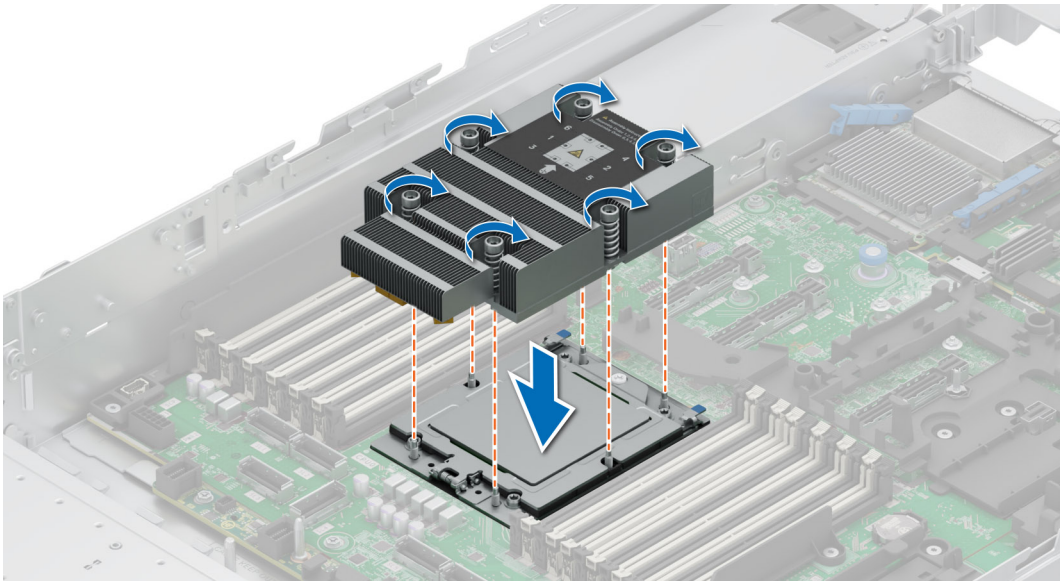
Figure 102. Applying thermal grease

NOTE: Applying too much thermal grease can result in excess grease coming in contact with and contaminating the processor socket.

NOTE: The thermal grease syringe is intended for single use only. Dispose of the syringe after you use it.

3. Align the screws on the heat sink the guide pins on the CPU, and lower it down.
4. Using the Torx T30 screwdriver, secure the captive nuts on the heat sink in the numbered order that is mentioned on the heat sink assembly instructions label.

Figure 103. Installing the heat sink module



Next steps

1. Install the air shroud.
2. Follow the procedure listed in the After working inside your system.

Expansion cards and expansion card risers

NOTE: When an expansion card is not supported or missing, the iDRAC logs an event. This does not prevent your system from booting. However, if a F1/F2 pause occurs with an error message, see EEMI guide.

Expansion card installation guidelines

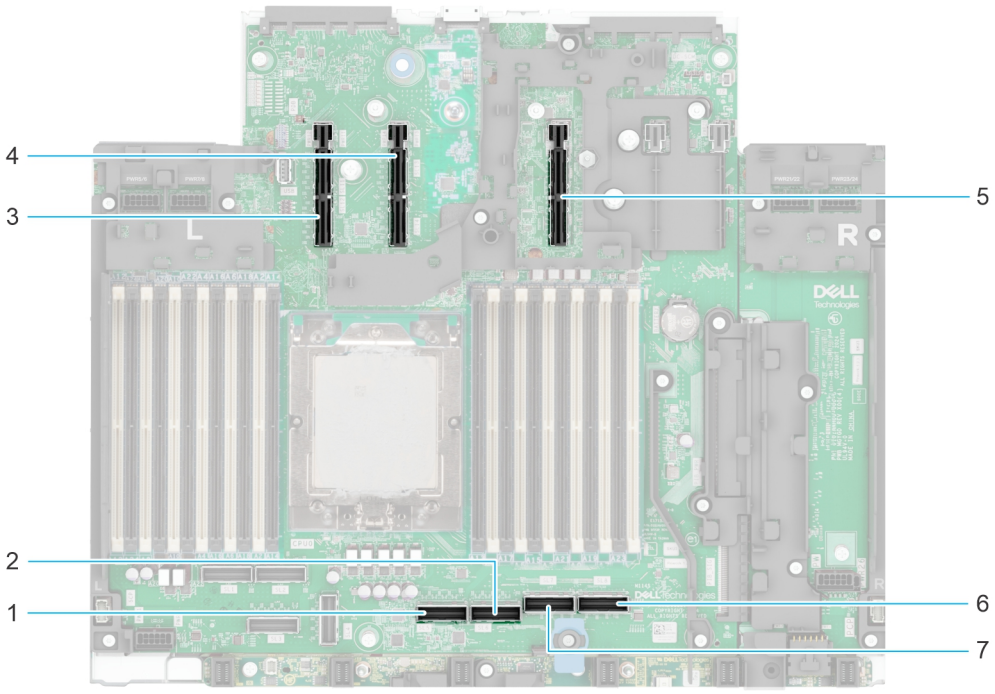


Figure 104. Expansion card riser slot connectors

1. PCIe connector 5 (SL5_CPU 0)
2. PCIe connector 6 (SL6_CPU 0)
3. Riser connector - requires CPU 0 (SL11/SL12/PWR11/PWR12)
4. Riser connector - requires CPU 0 (SL13/SL14/PWR13/PWR14)
5. Riser connector - requires CPU 0 (SL15/SL16/PWR15/PWR16)
6. PCIe connector 8 (SL8_CPU 0)
7. PCIe connector 7 (SL7_CPU 0)

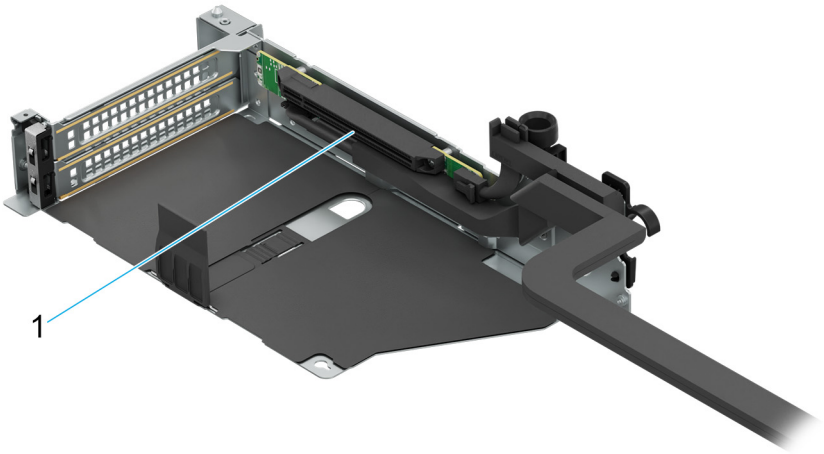


Figure 105. Riser 1e

1. Slot 1

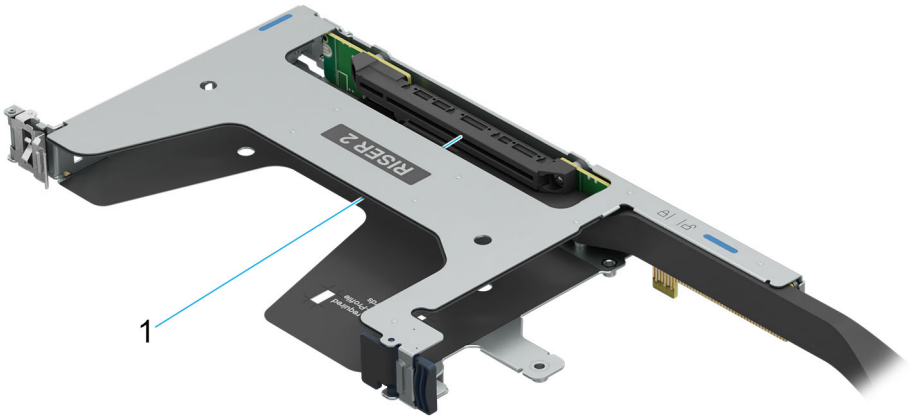


Figure 106. Riser R2n

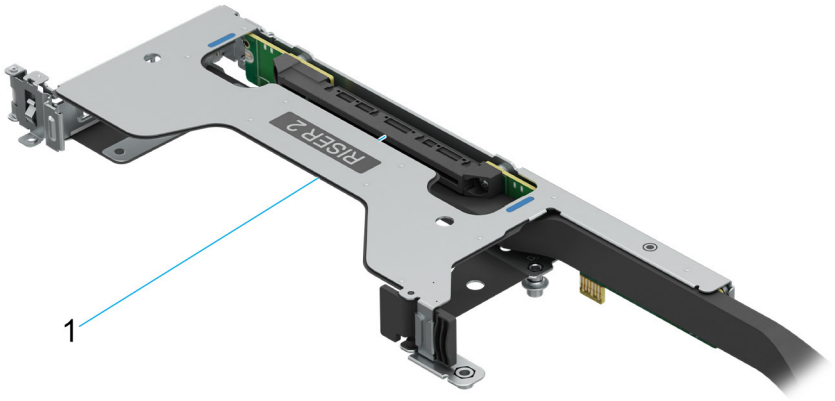


Figure 107. Riser R2m

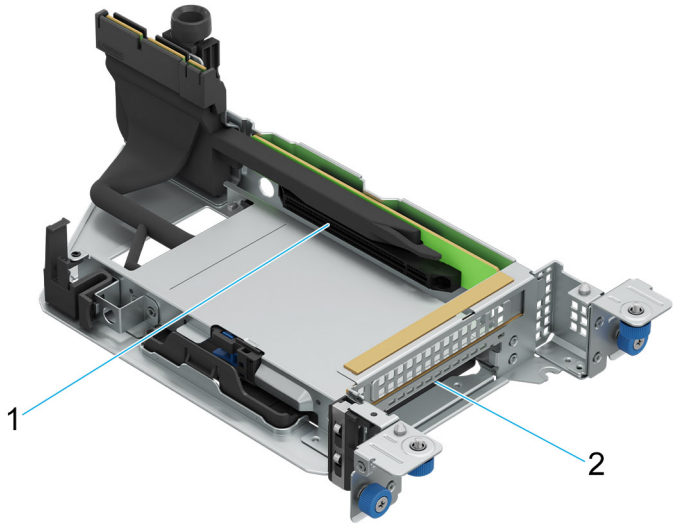


Figure 108. Riser 3e

1. Slot 2

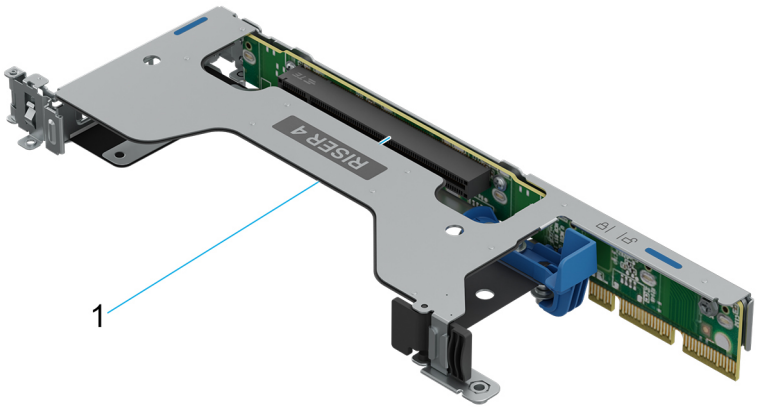


Figure 109. Riser R4a

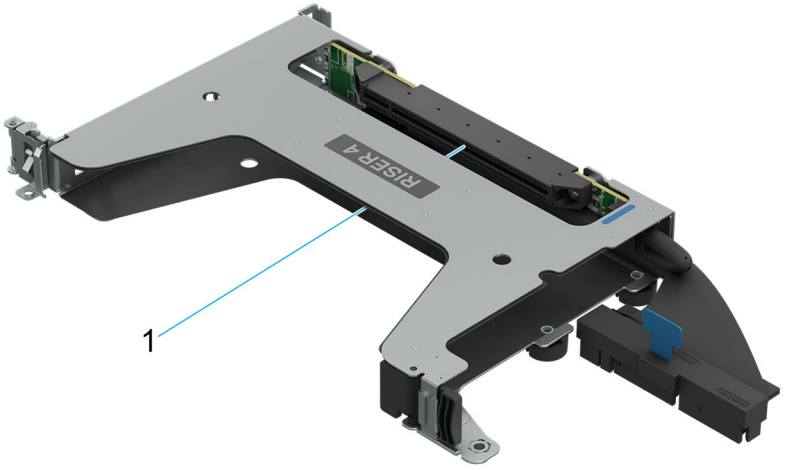


Figure 110. Riser 4b

1. Slot 1

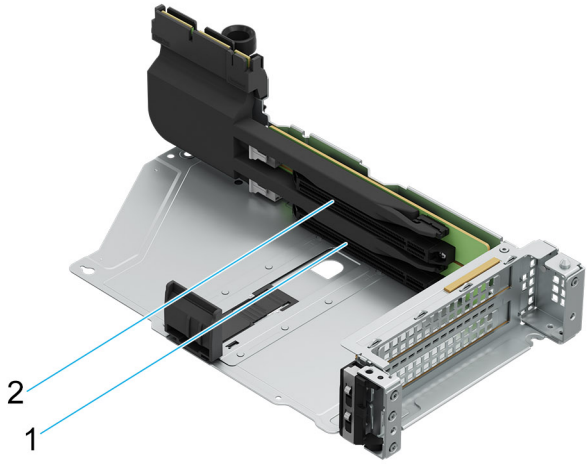


Figure 111. Riser 5b

1. Slot 1
2. Slot 2

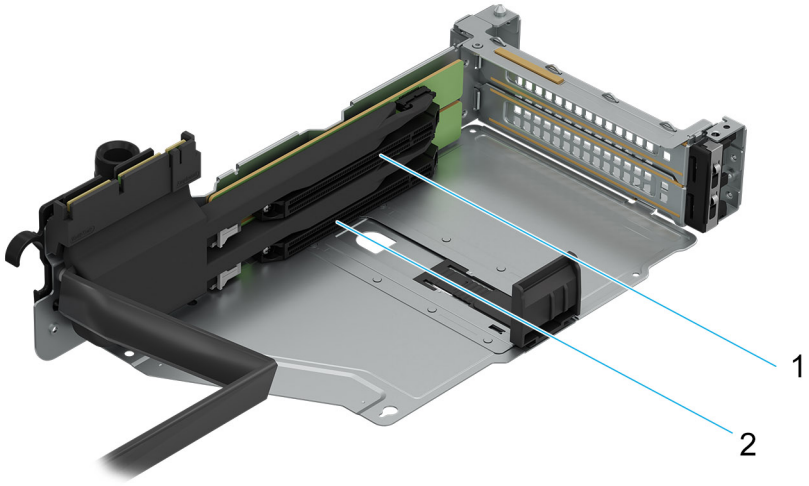


Figure 112. Riser R5f

1. Slot 7
2. Slot 8

NOTE: The expansion-card slots are not hot-swappable.

The following table provides guidelines for installing expansion cards to ensure proper cooling and mechanical fit. The expansion cards with the highest priority should be installed first using the slot priority indicated. All the other expansion cards should be installed in the card priority and slot priority order.

Expansion card riser configurations

Table 80. Expansion card riser configurations

Riser Configurations (RC)	Expansion card risers	PCIe Slots	Form factor	Controlling processor	Slot's electrical bandwidth/ physical connector
RC0: No Riser config	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	BOSS	6	BOSS	Processor 0	PCIe Gen3 x4 (1C connector)
RC1: 2 x16 F	R3b	4	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R5b	7	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	BOSS	6	BOSS	Processor 0	PCIe Gen3 x4 (1C connector)
RC2: 2 x16 FH + 2nd OCP	R3e	4	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	R4b	9	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R5b	7	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	BOSS	6	BOSS	Processor 0	PCIe Gen3 x4 (1C connector)
RC3: 4 x16 FH + 2nd OCP	R1e	2	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R2n	3	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R3e	4	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	R4b	9	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R5b	7	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	BOSS	6	BOSS	Processor 0	PCIe Gen3 x4 (1C connector)
RC4 : 1 x16 LP + 2 x16 DW + 2nd OCP	R1e_DW	2	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R3e	4	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	R4a	9	Low profle	Processor 0	PCIe Gen5 x16 (x16 connector)

Table 80. Expansion card riser configurations (continued)

Riser Configurations (RC)	Expansion card risers	PCIe Slots	Form factor	Controlling processor	Slot's electrical bandwidth/ physical connector
	R5b_DW	7	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	BOSS	6	BOSS	Processor 0	PCIe Gen3 x4 (1C connector)
RC5: 6 x16 FH	R1e	2	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R2n	3	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R3b	4	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R4b	9	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R5f	7	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
		8	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
RC7: 6 x8 FH + 2 x16 FH	R1d	1	Full height	Processor 0	PCIe Gen5 x8 (x16 connector)
		2	Full height	Processor 0	PCIe Gen5 x8 (x16 connector)
	R2n	3	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R3a	4	Full height	Processor 0	PCIe Gen5 x8 (x16 connector)
		5	Full height	Processor 0	PCIe Gen5 x8 (x16 connector)
	R4b	9	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R5a	7	Full height	Processor 0	PCIe Gen5 x8 (x16 connector)
RC8: 2 x16 LP + 3 x16 DW	R1e	2	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R2m	3	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R3b	4	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R4a	9	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)
	R5b	7	Full height	Processor 0	PCIe Gen5 x16 (x16 connector)

Table 80. Expansion card riser configurations (continued)

Riser Configurations (RC)	Expansion card risers	PCIe Slots	Form factor	Controlling processor	Slot's electrical bandwidth/ physical connector
	OCP3	10	OCP3	Processor 0	PCIe Gen5 x16 (4C+ connector)
	BOSS	6	BOSS	Processor 0	PCIe Gen3 x4 (1C connector)

NOTE: Riser 5b and Riser 5f supports DPU cards.

Table 81. RC1: R3b+R5b

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb, 100Gb, 200Gb)	4,7	2
Mellanox (NIC: 25Gb, 100Gb)	4,7	2
Emulex (HBA: FC32)	4,7	2
Marvell (HBA: FC32)	4,7	2
Foxconn (PERC H965E, HBA465E)	4,7	1
NVidia BlueField-3 B3220	7	1

Table 82. RC2: R3e+R4b+R5b

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb, 100Gb)	7,9	2
Mellanox (NIC: 25Gb, 100Gb)	7,9	2
Emulex (HBA: FC32)	7,9	2
Marvell (HBA: FC32)	7,9	2
Foxconn (PERC H965E, HBA465E)	7,9	1
NVidia BlueField-3 B3220	7	1

Table 83. RC3: R1e+R2n+R3e+R4b+R5b

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb 100Gb)	2,3,7,9	4
Mellanox (NIC: 25Gb)	2,3,7,9	4
Emulex (HBA: FC32)	2,3,7,9	4
Marvell (HBA: FC32)	2,3,7,9	4
Foxconn (PERC H965E, HBA465E)	2,3,7,9	1
NVidia BlueField-3 B3220	2,7	2

Table 84. RC4: R1e+R3e+R4a+R5b(FL)

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb, 100Gb)	2, 7, 9	1, 2
Mellanox (NIC: 25Gb)	2, 7, 9	1, 2
Emulex (HBA: FC32)	2, 7, 9	1, 2
Marvell (HBA: FC32)	2, 7, 9	1, 2

Table 84. RC4: R1e+R3e+R4a+R5b(FL) (continued)

Card type	Slot priority	Maximum number of cards
Foxconn (PERC H965E, HBA465E)	2,7,9	1
NVidia BlueField-3 B3220	2,7	2

Table 85. RC5: R1e+R2n+R3b+R4b+R5f

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb, 100Gb)	2,3,4,7,8,9	6
Mellanox (NIC: 25Gb, 100Gb)	2,3,4,7,8,9	6
Emulex (HBA: FC32)	2,3,4,7,8,9	6
Marvell (HBA: FC32)	2,3,4,7,8,9	6
Foxconn (PERC H965E, HBA465E)	2,3,4,7,8,9	1
NVidia BlueField-3 B3220	2,7	2

Table 86. RC7: R1d+R2n+R3a+R4b+R5a

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb, 100Gb)	3,9	2
Mellanox (NIC: 25Gb, 100Gb)	3,9	2
Emulex (HBA: FC32)	1,2,3,4,5,7,8,9	8
Marvell (HBA: FC32)	1,2,3,4,5,7,8,9	8
SMARTM (CXL:type3)	1,2	2
Foxconn (PERC H965E, HBA465E)	3,9	1

Table 87. RC8: R1e+R2m+R3b+R4a+R5b(FL)

Card type	Slot priority	Maximum number of cards
Broadcom (NIC: 25Gb, 100Gb)	2, 3, 4, 7, 9	2, 3
Mellanox (NIC: 25Gb, 100Gb)	2, 3, 4, 7, 9	2, 3
Emulex (HBA: FC32)	2, 3, 4, 7, 9	2, 3
Marvell (HBA: FC32)	2, 3, 4, 7, 9	2, 3
Foxconn (PERC H965E, HBA465E)	2,3,4,7,9	1
NVidia BlueField-3 B3220	2,7	2

Removing the rear expansion card risers

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud
4. If applicable, disconnect the cables from the expansion card or HPM board.

Steps

1. For rear riser 1, 3 and riser 5:
   a. Loosen the captive screws on the riser and system.

b. Press the blue release tab on the riser and holding the edges lift the expansion card riser from the connector on the HPM board.

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

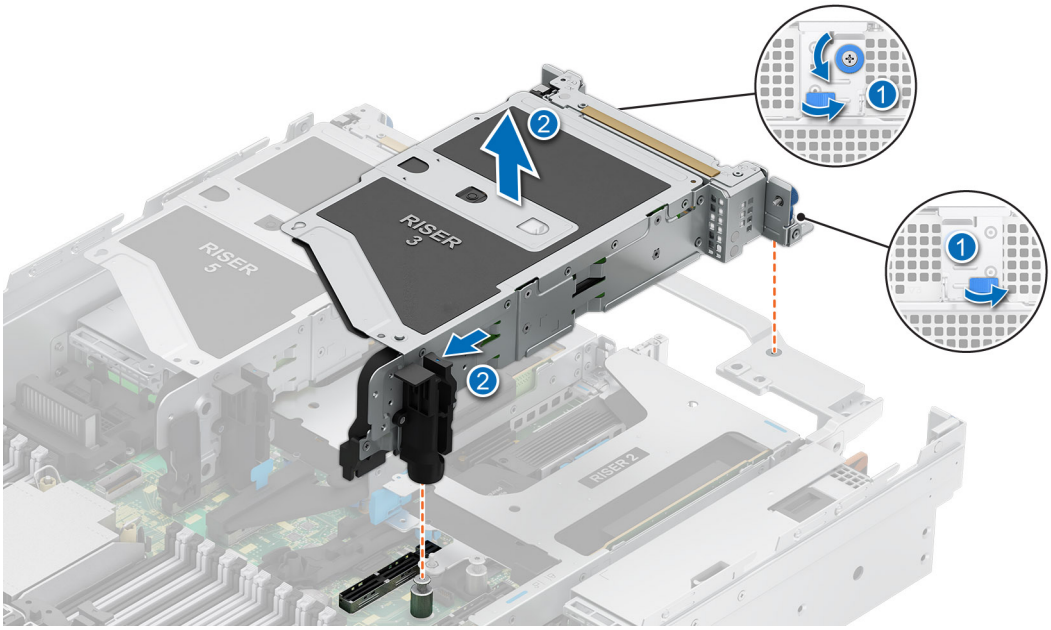


Figure 113. Removing the rear expansion card riser 3

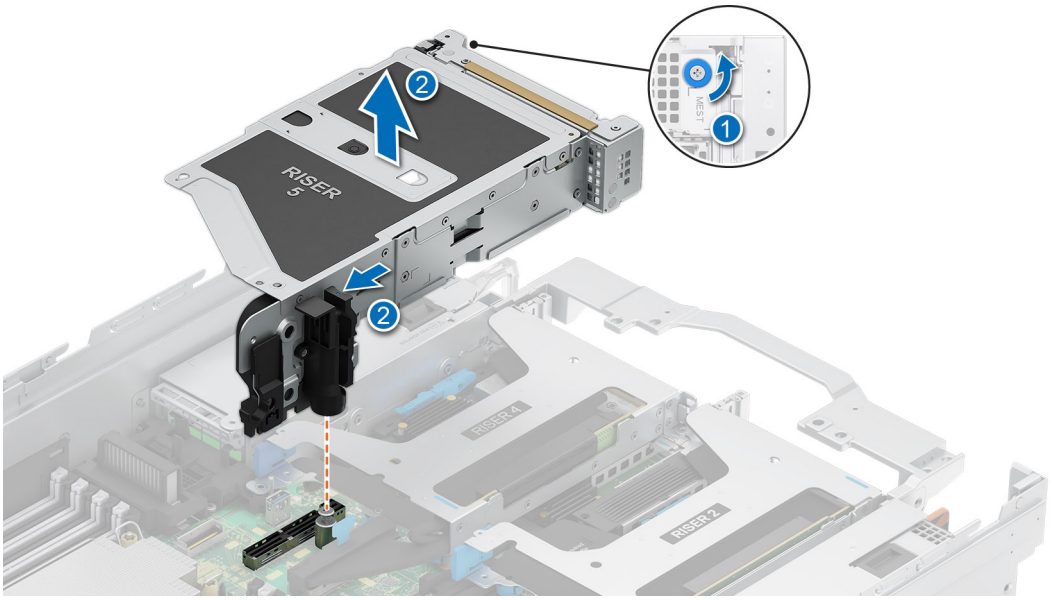


Figure 114. Removing the rear expansion card riser 5

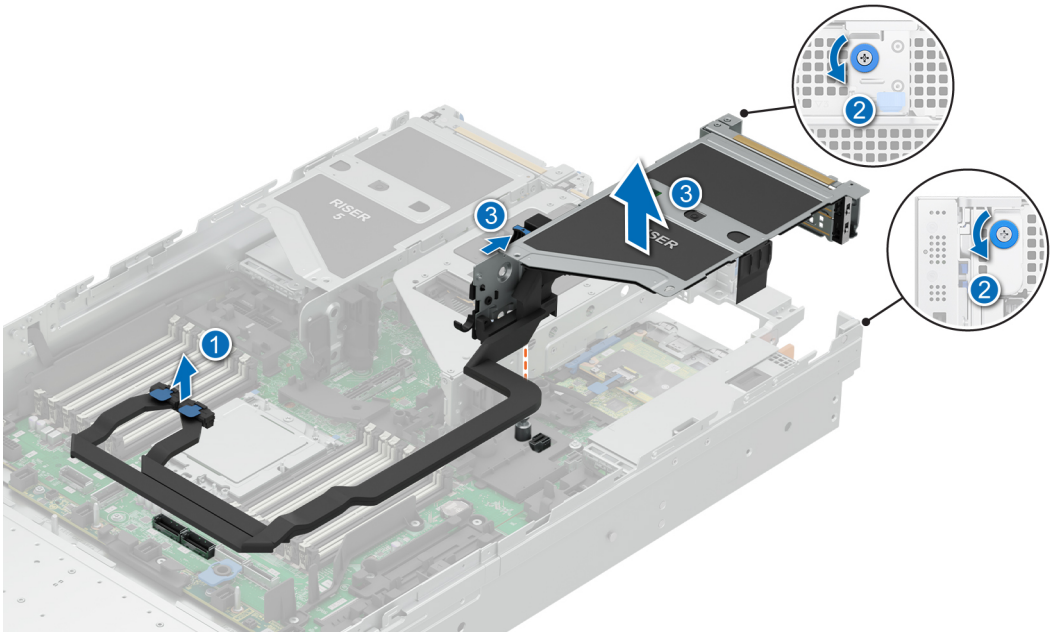


Figure 115. Removing the rear expansion card riser 1

2. For rear riser 2:
   a. Pull and disconnect the riser cable from the HPM board.
   b. Slide the knob to unlock position
   c. Holding the edges lift the expansion card riser from the riser connector on the HPM board.

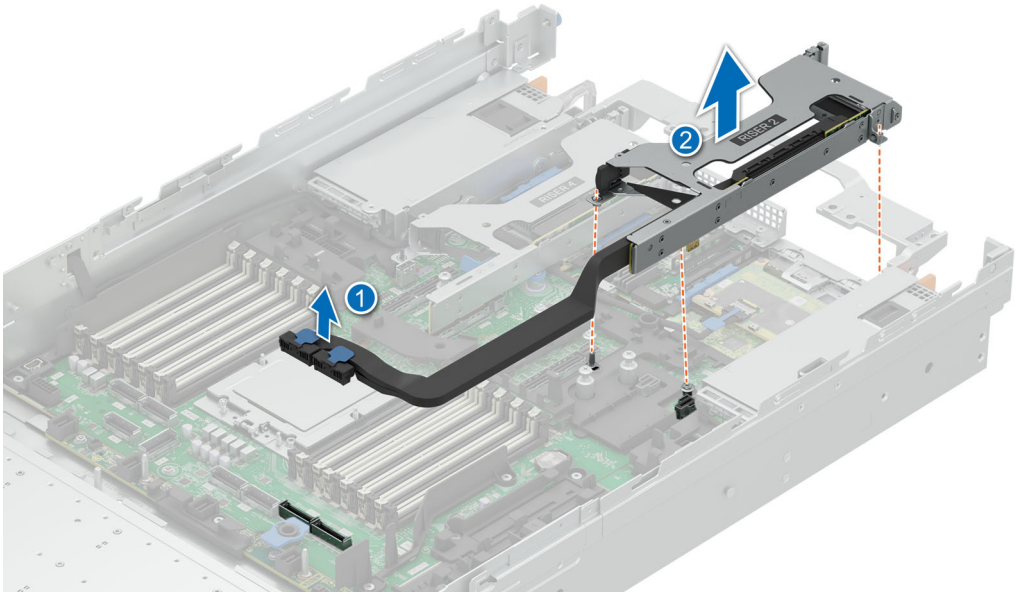


Figure 116. Removing the rear expansion card riser 2

3. For rear riser 4:
   a. Pull and disconnect the riser cable from the HPM board.
   b. Holding the edges lift the expansion card riser from the riser connector on the HPM board.

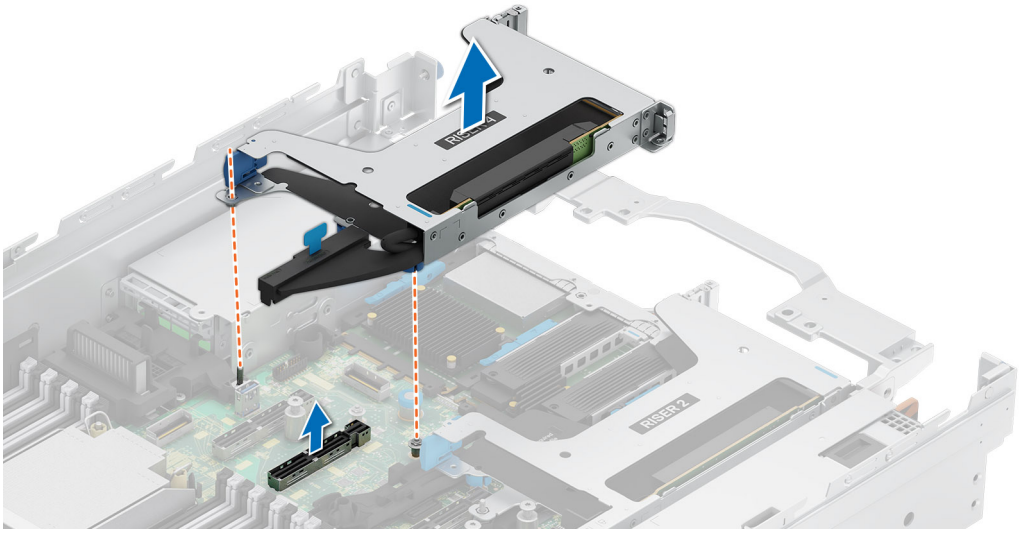


Figure 117. Removing the rear expansion card riser 4

Next steps

1. Replace the rear expansion card risers.

Installing the rear expansion card risers

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud
4. If removed, install the expansion cards into the rear expansion card risers.

NOTE: Install riser 2 and 4 before installing riser 3, and riser 5.

Steps

1. For rear riser 2 and 4:
   a. Holding the edges or the touch points, align the holes on the expansion card riser with the guides on the HPM board.
   b. Lower the expansion card riser into place and press the touch points until the expansion card riser is fully seated on the HPM board.
   c. Connect the riser cable connector to the HPM board.

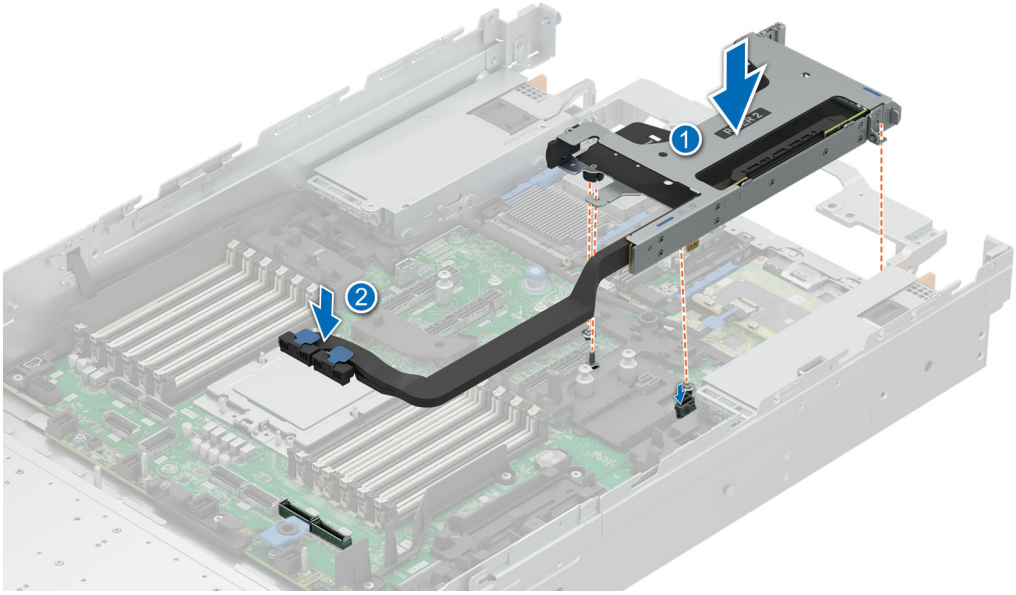


Figure 118. Installing the rear expansion card riser 2

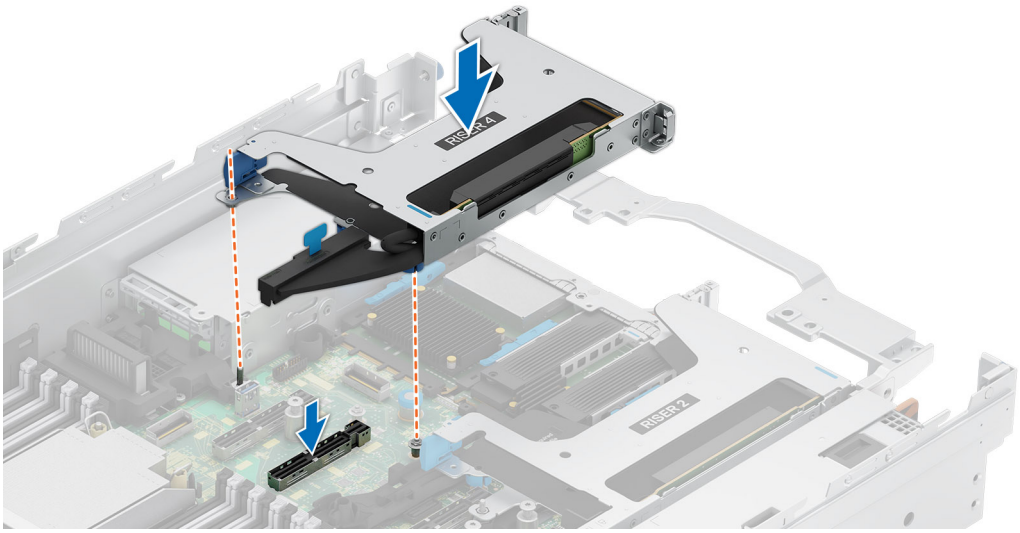
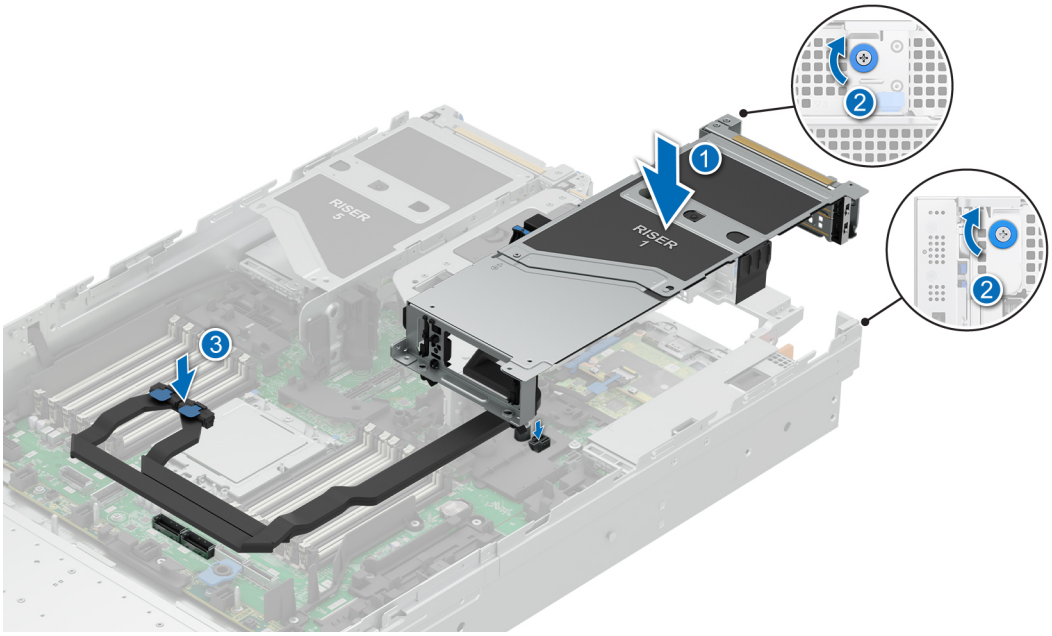


Figure 119. Installing the rear expansion card riser 4

2. For rear riser 1
   a. Holding the edges or the touch points, align the holes on the expansion card riser with the guides on the HPM board.
   b. Lower the expansion card riser into place and press the touch points until the expansion card riser connector is fully seated on the HPM board connector.
   c. Tighten the captive screws on the risers and system if any.
   d. Connect the riser cable to the HPM board.

Figure 120. Installing the rear expansion card riser 1



3. For rear riser 3, and riser 5:
   a. Holding the edges or the touch points, align the holes on the expansion card riser with the guides on the HPM board.
   b. Lower the expansion card riser into place and press the touch points until the expansion card riser connector is fully seated on the HPM board connector.
   c. Tighten the captive screws on the risers and system if any.

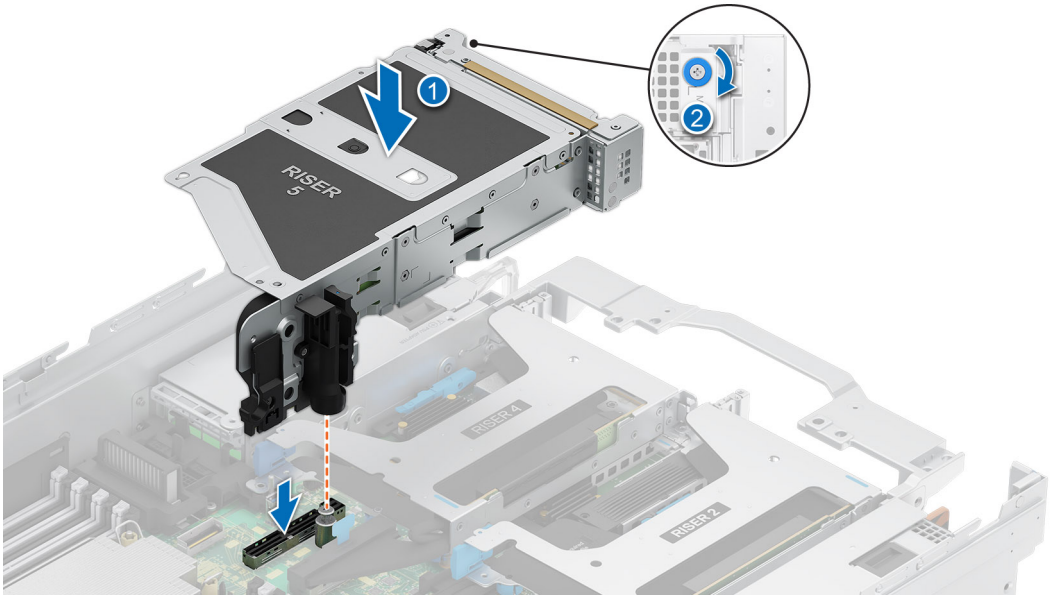


Figure 121. Installing the rear expansion card riser 5

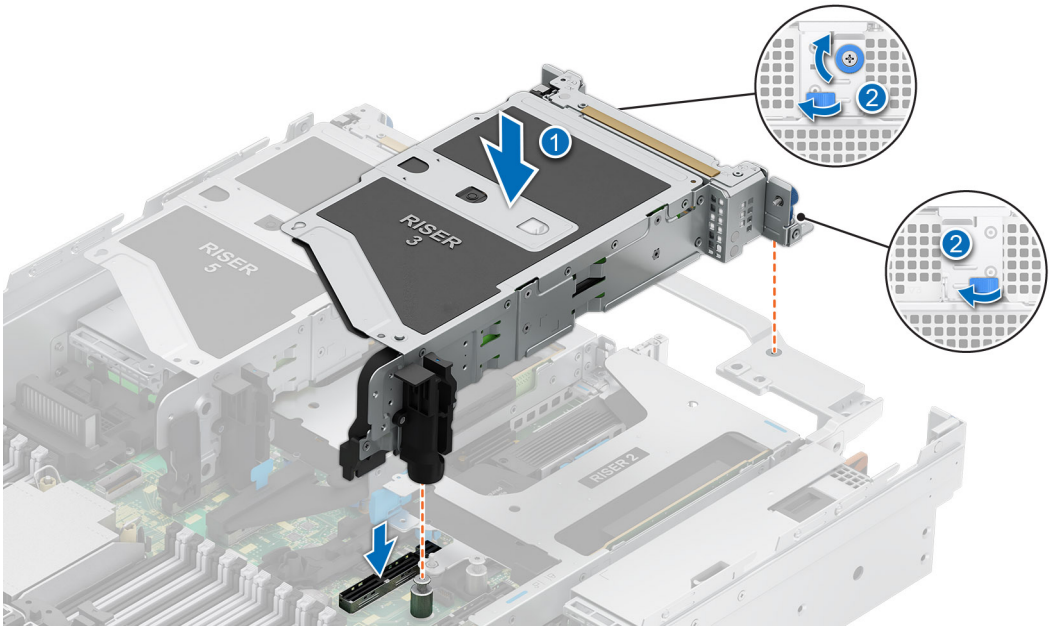


Figure 122. Installing the rear expansion card riser 3

Next steps

1. If required, reconnect the cables to the expansion card or HPM board.
2. Install the air shroud .
3. Follow the procedure listed in After working inside your system.

Removing an expansion card from the expansion card riser

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. If applicable, disconnect the cables from the expansion card.
4. Remove the air shroud.
5. Remove the expansion card riser.

Steps

1. Removal of the expansion card from riser 1d, 1e_DWFH, 1b, 3a, 3b, 3a, 5a, 5b, and 5f card:

   NOTE: Steps to remove the expansion card from these risers are the same.

   a. Tilt the expansion card retention latch lock to open.
   b. Pull the card holder before removing the card from the riser.
   c. Hold the expansion card by the edges and pull the card from the riser.

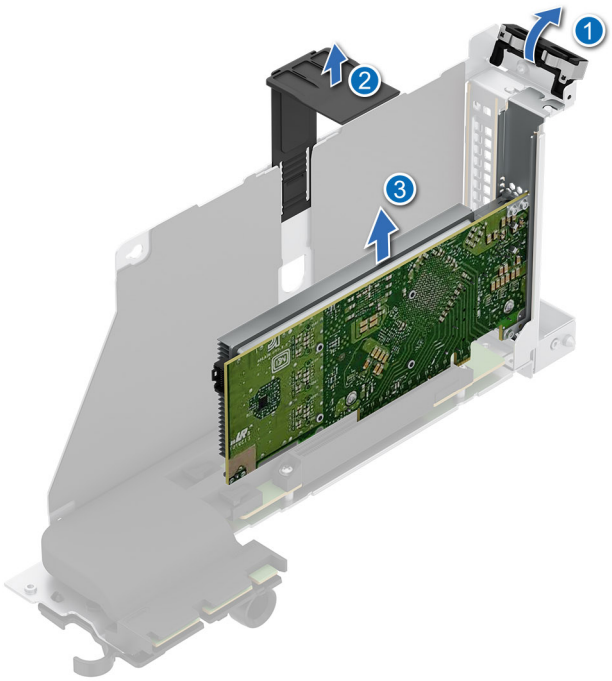


Figure 123. Removing low profile expansion card from the rear expansion card riser

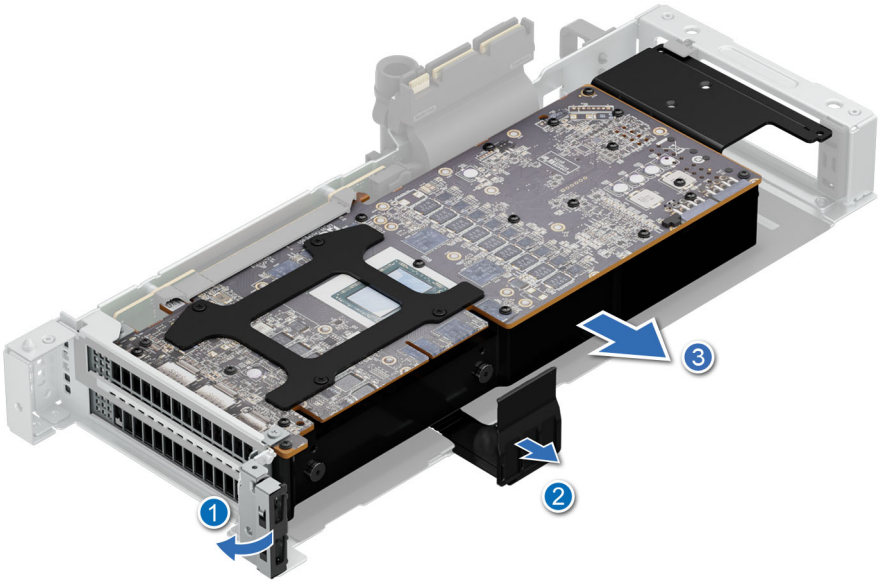


Figure 124. Removing the GPU card from riser 1e_DWFH

d. If the expansion card is not going to be replaced on the riser, install a filler bracket and close the card holder on both ends of the riser.

NOTE: You must install a filler bracket over an empty expansion card slot to maintain Federal Communications Commission (FCC) certification of the system. The filler bracket also keeps dust and dirt out of the system and aids in proper cooling and airflow inside the system.

Figure 125. Installing the filler bracket

2. Removing the expansion card from riser 2:

   NOTE: Steps to remove the expansion card from these risers are the same.

   a. Tilt the card holder on both ends of the riser.
   b. Hold the expansion card by the edges and pull the card from the riser.

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

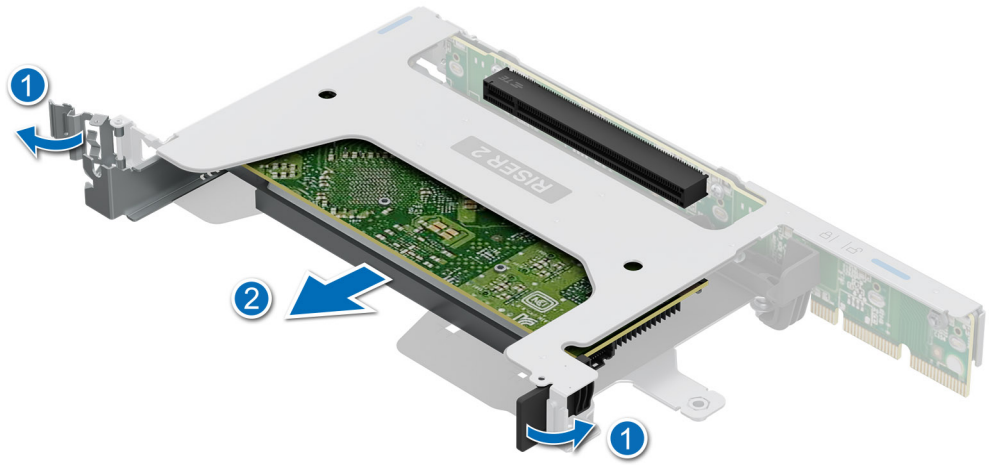


Figure 126. Removing expansion card from the riser

   c. If the expansion card is not going to be replaced on the riser, install a filler bracket and close the card holder on both ends of the riser.

NOTE: You must install a filler bracket over an empty expansion card slot to maintain Federal Communications Commission (FCC) certification of the system. The filler bracket also keeps dust and dirt out of the system and aids in proper cooling and airflow inside the system.

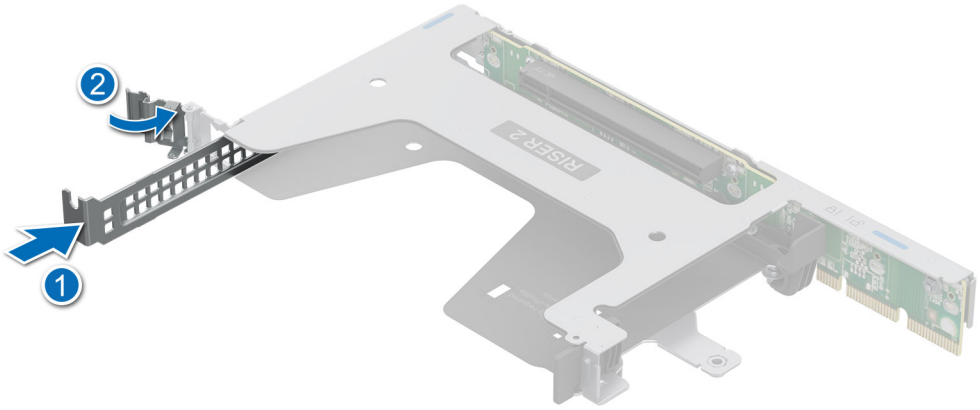


Figure 127. Installing the filler bracket

3. For Riser 4a:
   a. Open the expansion card latches. Hold the expansion card by its edges and pull the card until the card edge connector disengages from the expansion card connector on the riser.

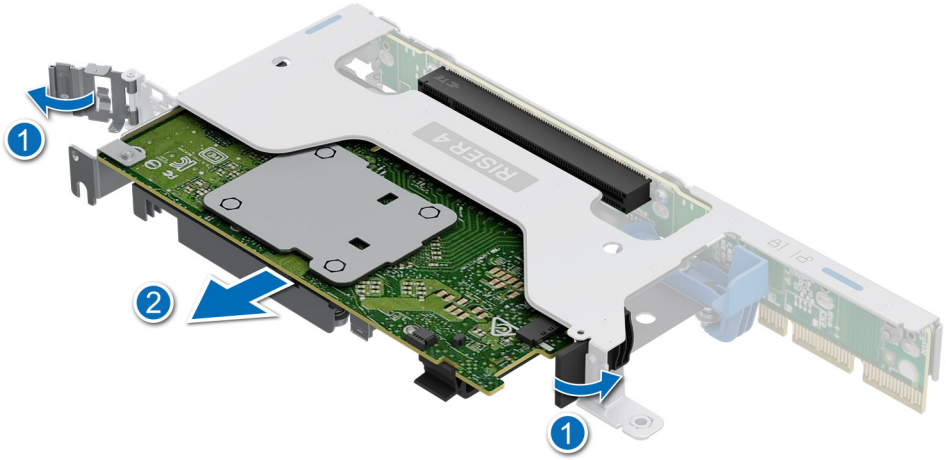


Figure 128. Removing expansion card from the expansion card riser 4a

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

Next steps

If applicable, install an expansion card into the expansion card riser.

Installing an expansion card into the expansion card riser

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.
5. If installing a new expansion card, unpack it and prepare the card for installation.

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

CAUTION: Do not install GPUs, network cards, or other PCIe devices on your system that are not validated and tested by Dell. Damage caused by unauthorized and invalidated hardware installation will null and void the system warranty.

Steps

1. Open the expansion card latch.
2. If installed, remove the PCIe blank from the risers.

NOTE: Store the PCIe blank for future use. PCIe blank must be installed in empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The blank also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

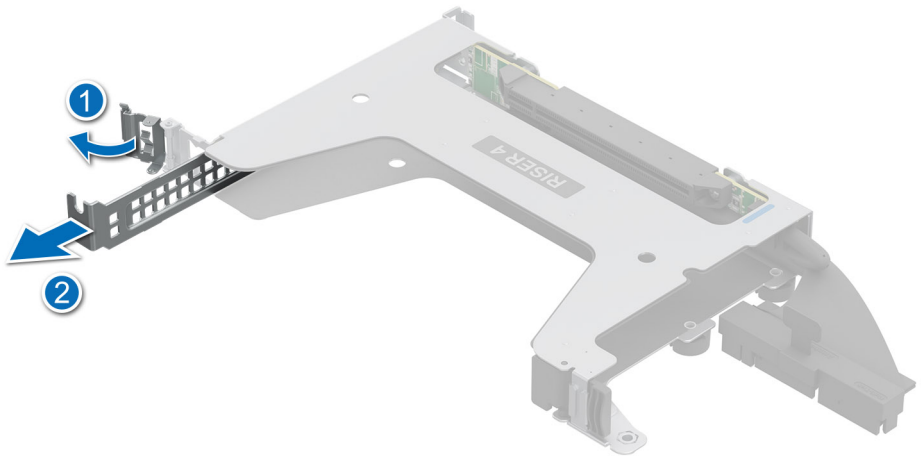


Figure 129. Removing the filler bracket

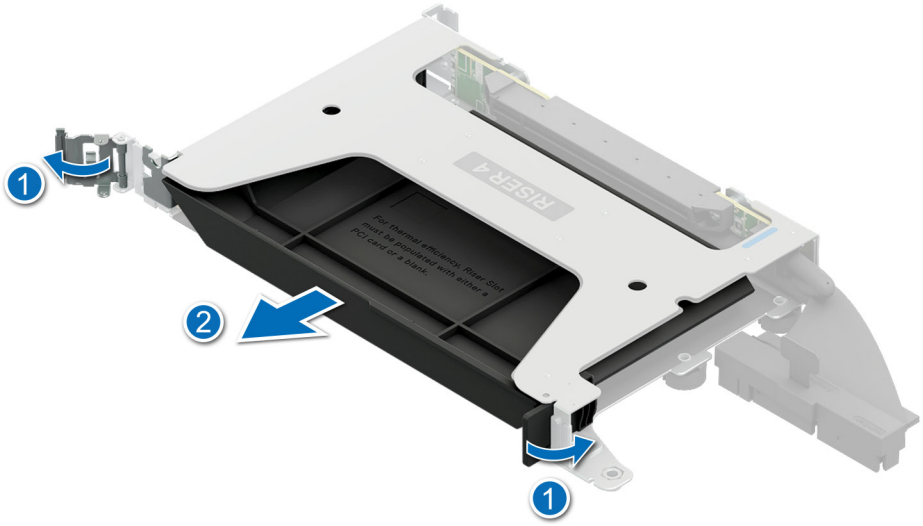


Figure 130. Removing the PCIe blank

3. For riser 4b:
   a. Open the expansion card latches. Hold the card by the edges, and align the card edge connector with the expansion card connector on the riser.
   b. Insert the card edge connector firmly into the expansion card connector until the card is fully seated.
   c. Align and slide the card holder guides into the slots on the riser until seated.
   d. Close the expansion card latches on both ends of the riser.

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

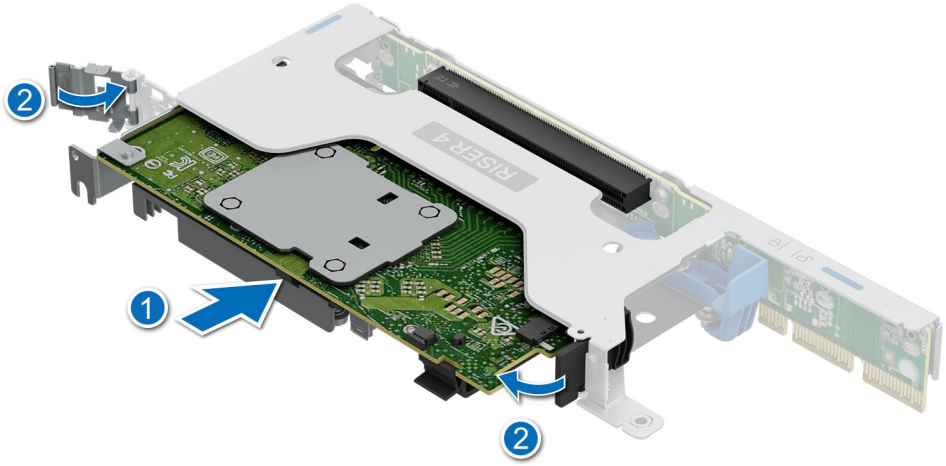


Figure 131. Installing an expansion card into the riser 4b

4. Installing an expansion card into riser 2

   NOTE: Steps to install the expansion card into these risers are the same.

   a. Tilt the card holder on both ends and slide out the filler bracket from the riser.

NOTE: Store the filler bracket for future use. The filler bracket must be installed in empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The blank also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

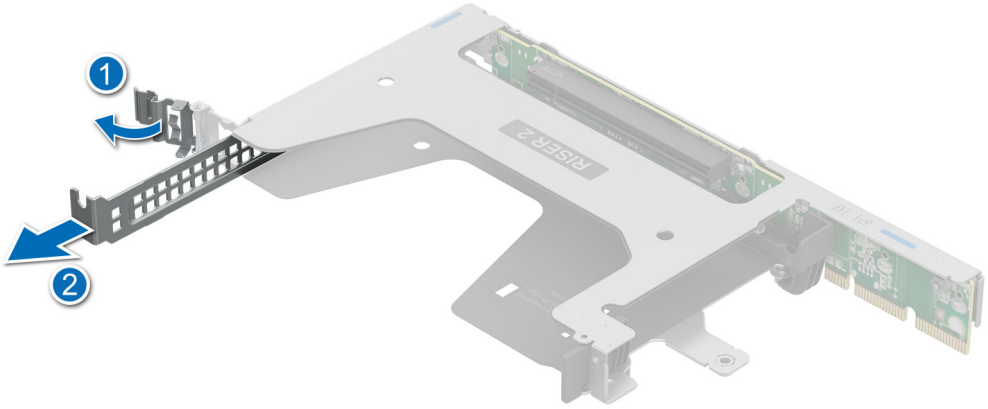


Figure 132. Removing the filler bracket

b. Hold the card by edges, and align the card with the connector on the riser.
c. Insert the card firmly into the expansion card connector until seated.
d. Close the card holder on both ends of the riser.

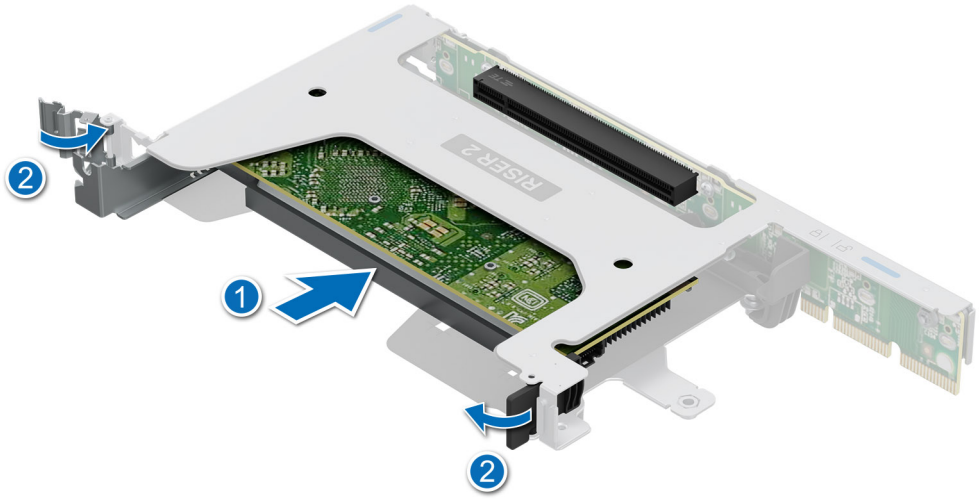


Figure 133. Installing expansion card into the riser 2

e. Align and press the card holder into the slot on the riser until seated.

5. Installing an expansion card into riser 1d, 1e_DWFH, 1b, 3a, 3b, 3a, 5a, 5b, and 5f card :

NOTE: Steps to install the expansion card into these risers are the same.

a. Tilt the card holder and slide out the filler bracket from the riser.

NOTE: Store the filler bracket for future use. The filler bracket must be installed in empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The blank also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

Figure 134. Removing the filler bracket

b. Tilt the expansion card retention latch lock to open.
c. Hold the card by edges, and align the card with the connector on the riser.
d. Insert the card firmly into the expansion card connector until seated.
e. Tilt the expansion card retention latch to close.
f. Push the card holder to hold the card in the riser.

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

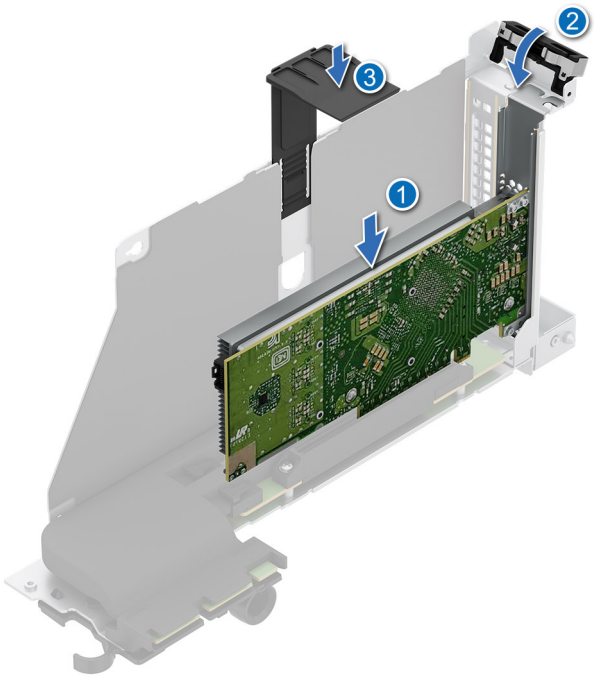


Figure 135. Installing a low-profile expansion card into the riser

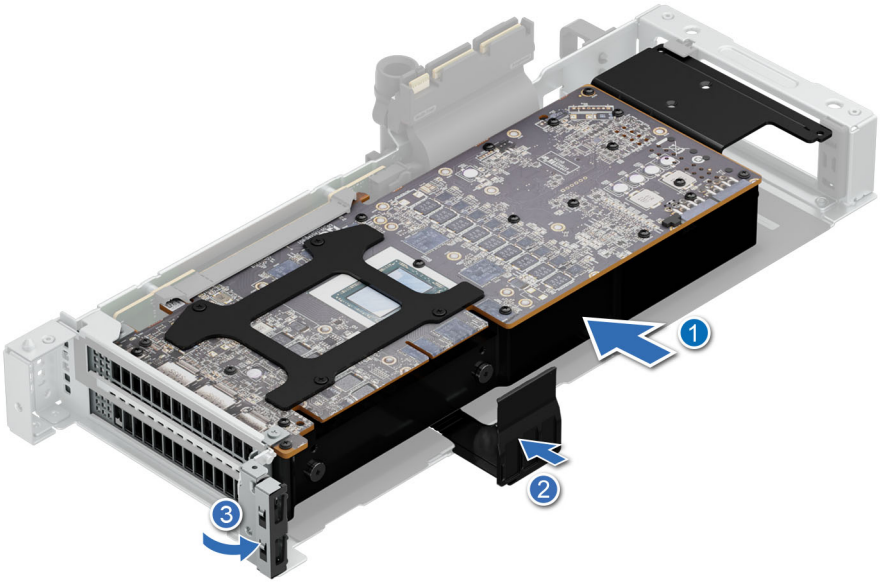


Figure 136. Installing the GPU into riser 1e_DWFH

6. OCP NIC card into riser 3:
   a. Open the blue latch on the riser.
   b. Slide the OCP NIC card into the riser slot.
   c. Push until the OCP NIC card is connected to the connector on the riser.
   d. Close the blue latch to lock the OCP NIC card to the riser.

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

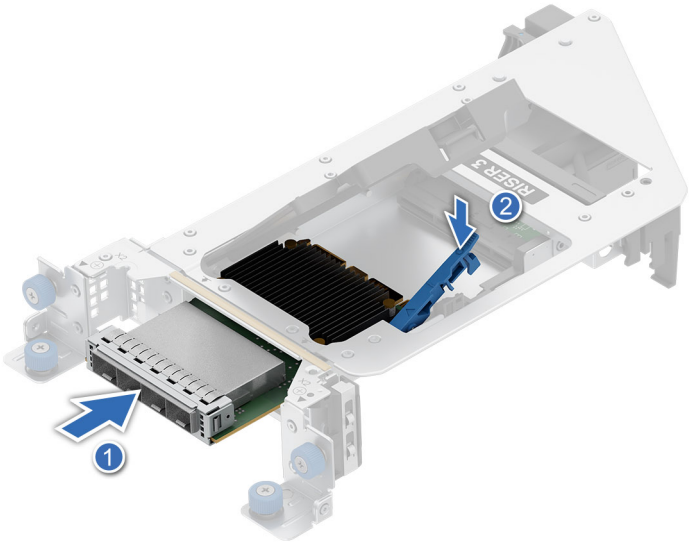


Figure 137. Installing an OCP NIC card into the riser 3

e. Align and insert the cover latch into the riser.

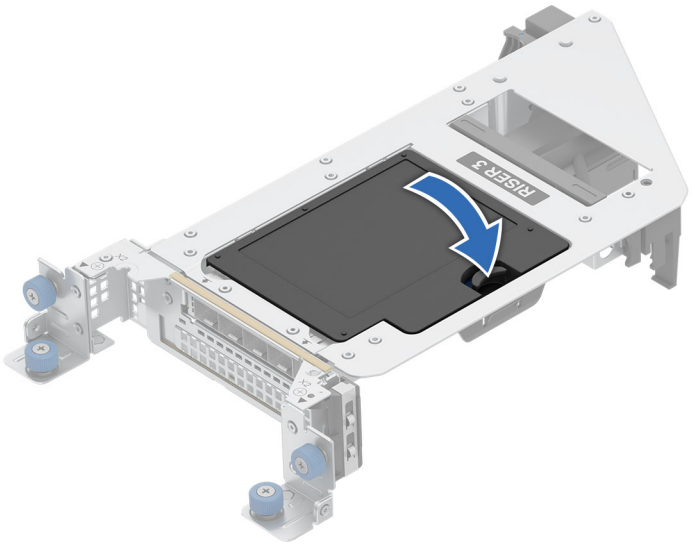


Figure 138. Installing an OCP NIC cover into the riser 3

Next steps

1. If applicable, connect the cables to the expansion card. .
2. Install the expansion card riser.
3. Install the air shroud.
4. Follow the procedure listed in the After working inside your system.
5. Install any device drivers required for the card as described in the documentation for the card.

M.2 SSD module

Removing the M.2 NVMe SSD module

Prerequisites

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

Steps

1. Pull and lift the BOSS-N1 DC-MHS carrier latch to open.
2. Slide the BOSS-N1 DC-MHS carrier out.

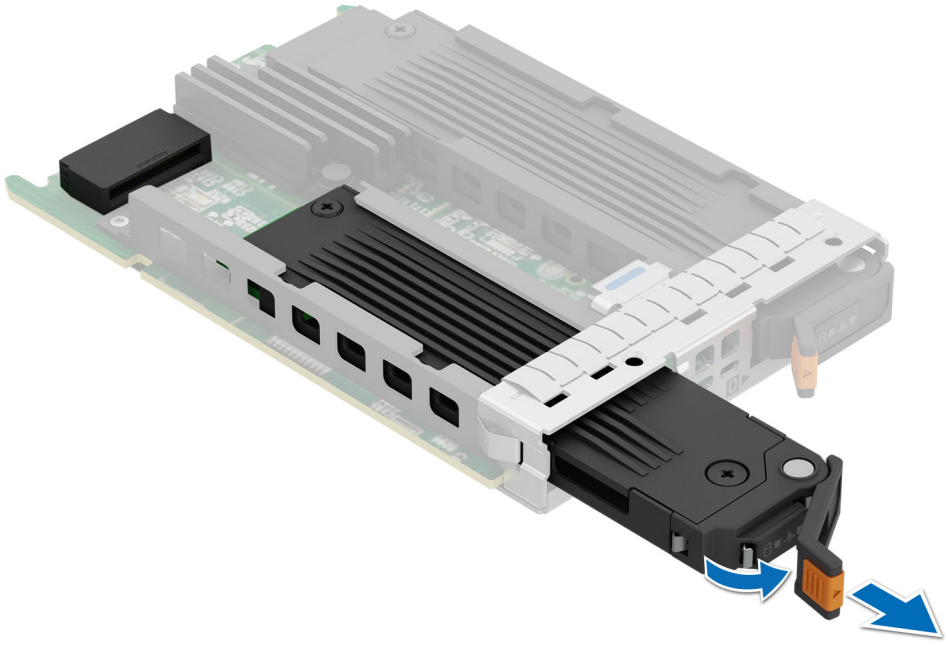


Figure 139. Removing the BOSS-N1 DC-MHS carrier

3. Using the Phillips 1 screwdriver, loosen the captive screws securing the top cover of the BOSS-N1 DC-MHS carrier.

   NOTE: Follow the sequence to loosen the captive screws. First, loosen the screw at the connector end, and then the screw at the front handle end.

Figure 140. Loosen the captive screws

4. Tilt the top cover from the side and lift the top cover out of the BOSS-N1 DC-MHS card carrier.

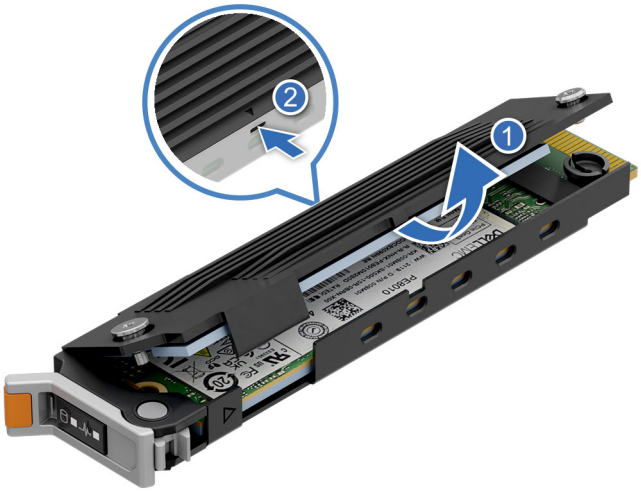


Figure 141. Removing the top cover

5. Lift the M.2 NVMe SSD module to disconnect from the BOSS-N1 DC-MHS carrier connector.

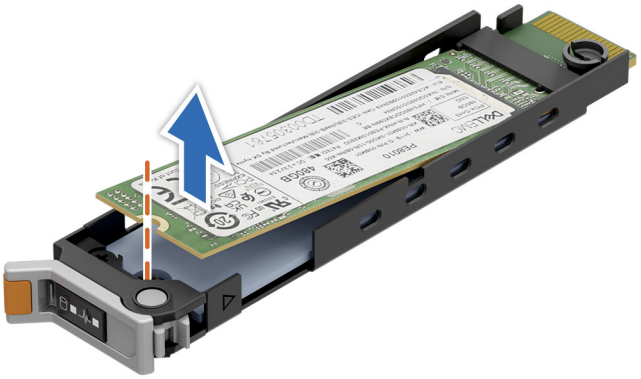


Figure 142. Removing the M.2 NVMe SSD module

NOTE: For information about Thermal pad and BOSS-N1 DC-MHS carrier replacement, go to PowerEdge Manuals > **Rack Servers** > PowerEdge R7715 > **Select This Product** > **Documentation** > **Manuals and Documents** > **BOSS-N1 DC-MHS M.2 NVMe SSD Card Installation and Replacement Tech Sheet**.

Next steps

1. Replace the M.2 NVMe SSD module.

Installing the M.2 NVMe SSD module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Replace the thermal pads on the top and bottom cover of the BOSS-N1 DC-MHS card carrier, when replacing the M.2 NVMe SSD module.

NOTE: For information about Thermal pad and BOSS-N1 DC-MHS card carrier replacement, go to PowerEdge Manuals > **Rack Servers** > PowerEdge R7715 > **Select This Product** > **Documentation** > **Manuals and Documents** > **BOSS-N1 DC-MHS M.2 NVMe SSD Card Installation and Replacement Tech Sheet**.

Steps

1. Align the M.2 NVMe SSD module at an angle with the BOSS-N1 DC-MHS card carrier connector.
2. Insert the M.2 NVMe SSD module until it is firmly seated in the BOSS-N1 DC-MHS card carrier connector.

NOTE: Press the M.2 NVMe SSD card until it adheres to the thermal pad.

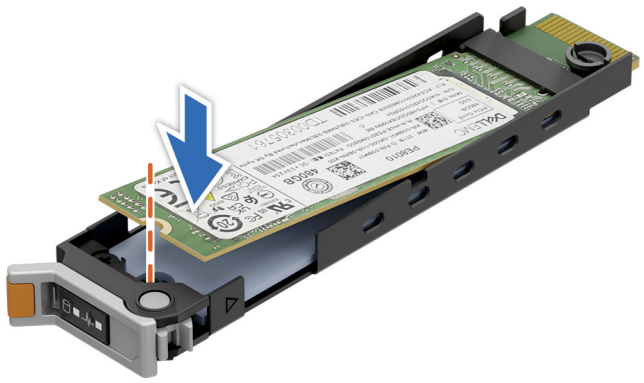


Figure 143. Installing the M.2 NVMe SSD module

3. Align at an angle, place the top cover hook into the slot on the bottom cover of the BOSS-N1 DC-MHS card carrier.
4. Press the opposite side of the top cover until firmly seated.

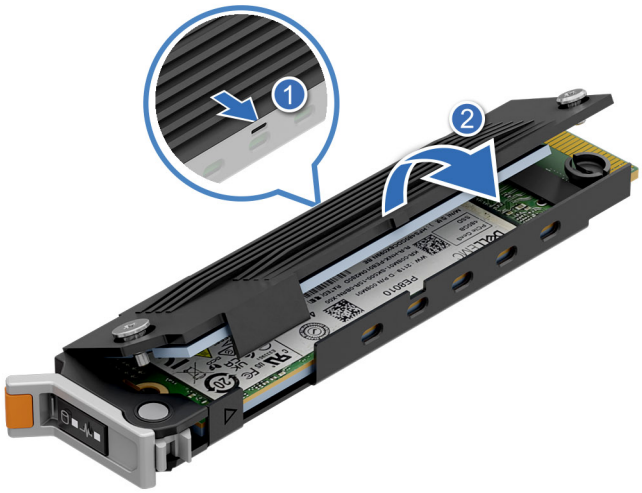


Figure 144. Installing the top cover

5. Using the Phillips 1 screwdriver, tighten the captive screws on the BOSS-N1 DC-MHS card carrier top cover.

   NOTE: Follow the sequence to tighten the captive screws. First, tighten the screw available at the front handle end, and then the screw at the connector end.

Figure 145. Tighten the top cover captive screws

6. Slide the BOSS-N1 DC-MHS card carrier into the BOSS-N1 DC-MHS module slot.
7. Close the BOSS-N1 DC-MHS card carrier release latch to lock the carrier in place.

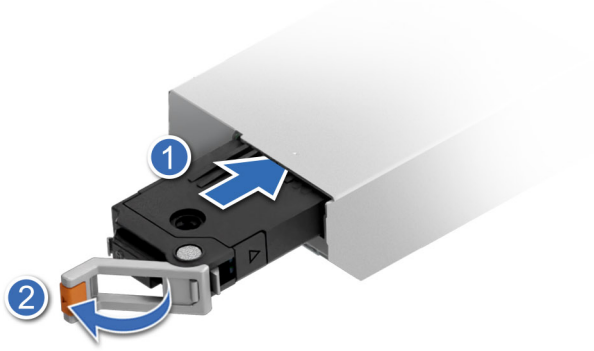


Figure 146. Installing the BOSS-N1 DC-MHS card carrier

Optional BOSS-N1 DC-MHS module

This is a service technician replaceable part only.

Removing the BOSS-N1 DC-MHS module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.

Steps

1. Open the blue latch to disengage the BOSS-N1 DC-MHS module.
2. Push the BOSS-N1 DC-MHS module towards the rear end of the system to disconnect from the connector on the HPM board.
3. Slide the BOSS-N1 DC-MHS module out of the slot on the system.

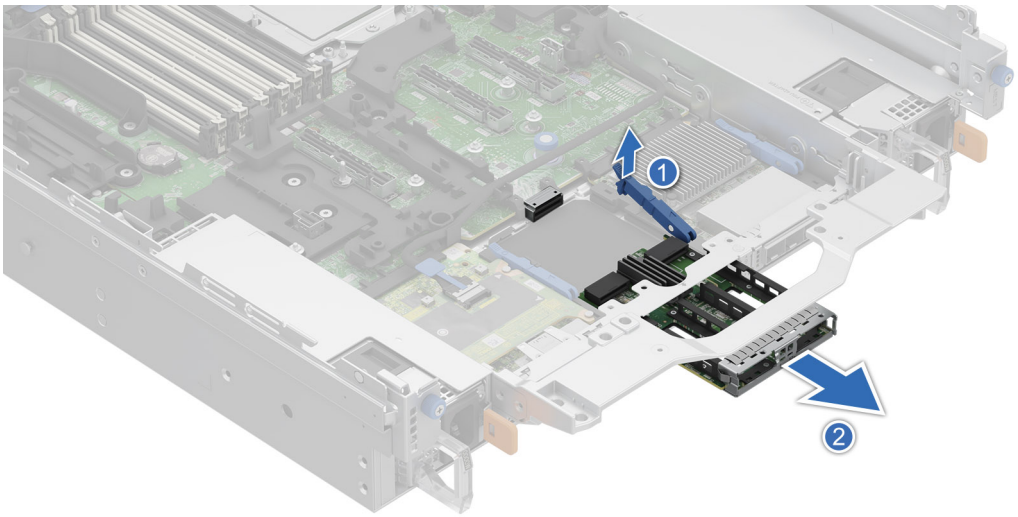


Figure 147. Removing the BOSS-N1 DC-MHS module

4. If the BOSS-N1 DC-MHS module is not going to be replaced, install a filler bracket.

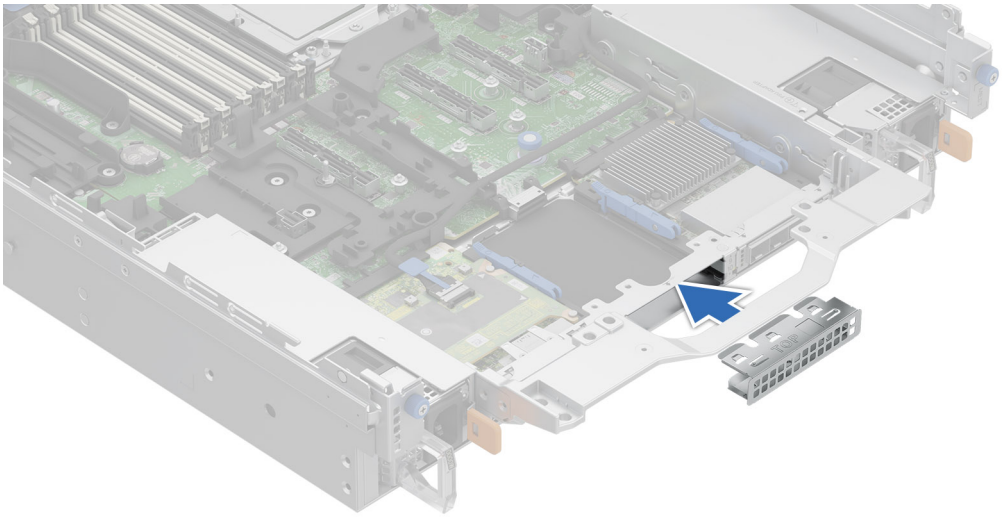


Figure 148. Installation of filler bracket

Next steps

1. Replace the BOSS-N1 DC-MHS module.

Installing the BOSS-N1 DC-MHS module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.

Steps

1. If installed, remove the filler bracket.

   NOTE: Store the filler bracket for future use. Filler brackets must be installed in empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

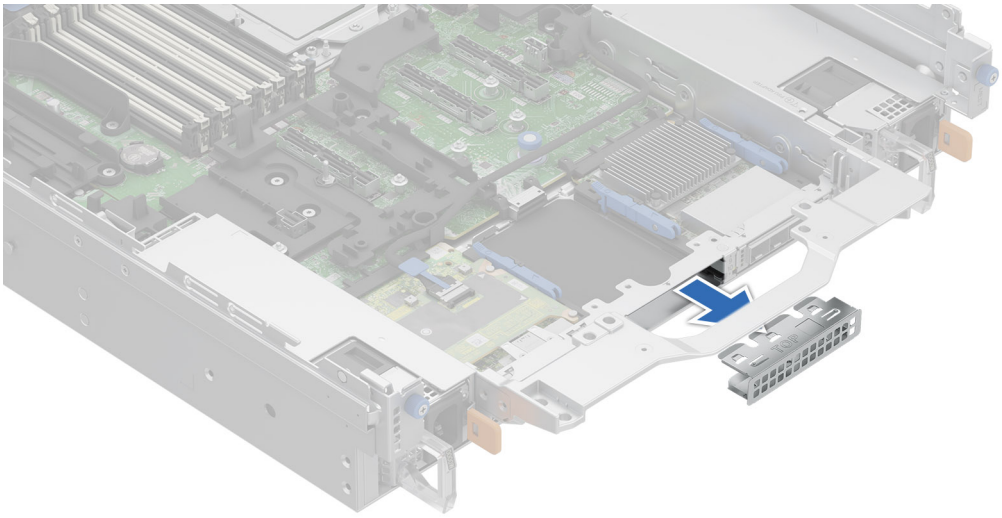


Figure 149. Removal of filler bracket

2. Open the blue latch on the HPM board.
3. Slide the BOSS-N1 DC-MHS module into the slot in the system.
4. Push until the BOSS-N1 DC-MHS module is connected to the connector on the HPM board.
5. Close the blue latch to lock the BOSS-N1 DC-MHS module to the system.

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

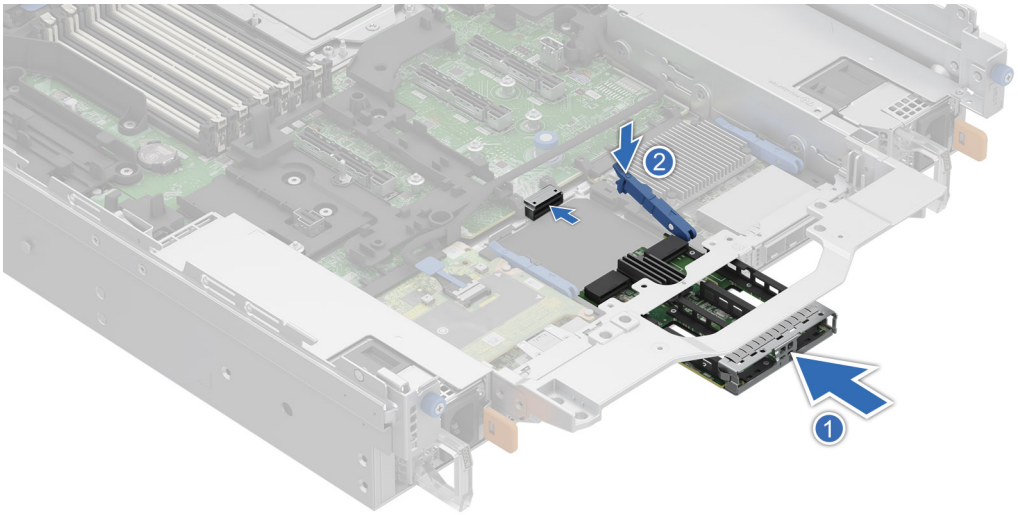


Figure 150. Installing the BOSS-N1 DC-MHS module

Next steps

1. Install the expansion card riser.
2. Install the air shroud.
3. Follow the procedure listed in the After working inside your system.

Optional OCP NIC card

Removing the rear OCP NIC card

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.

Steps

1. Open the blue latch to disengage the OCP NIC card.
2. Push the OCP NIC card towards the rear end of the system to disconnect from the connector on the HPM board.
3. Slide the OCP NIC card out of the slot on the system.

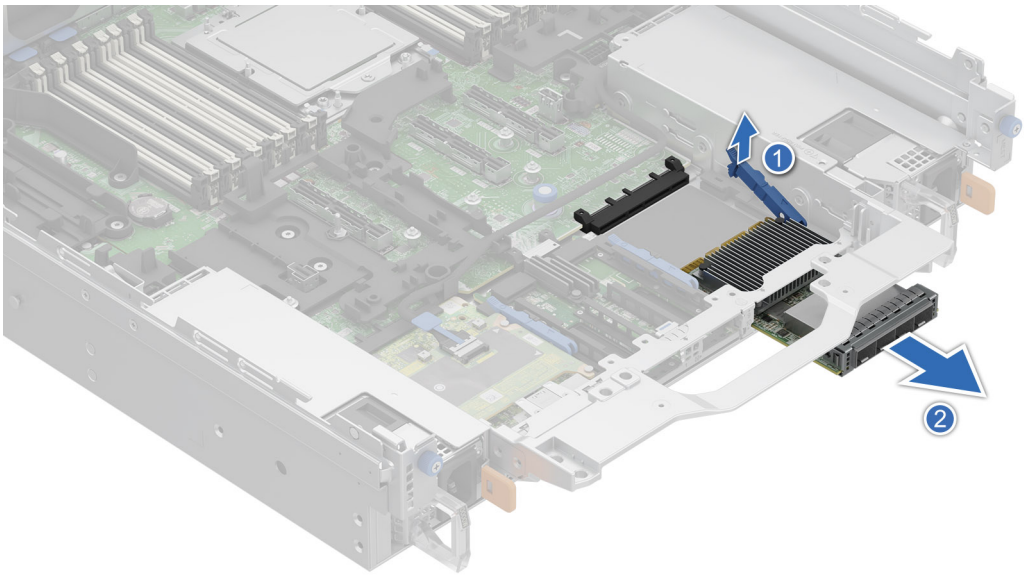


Figure 151. Removing the OCP NIC card

4. If the OCP NIC card is not going to be replaced, install a filler bracket .

NOTE: You must install a filler bracket over an empty expansion card slot to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

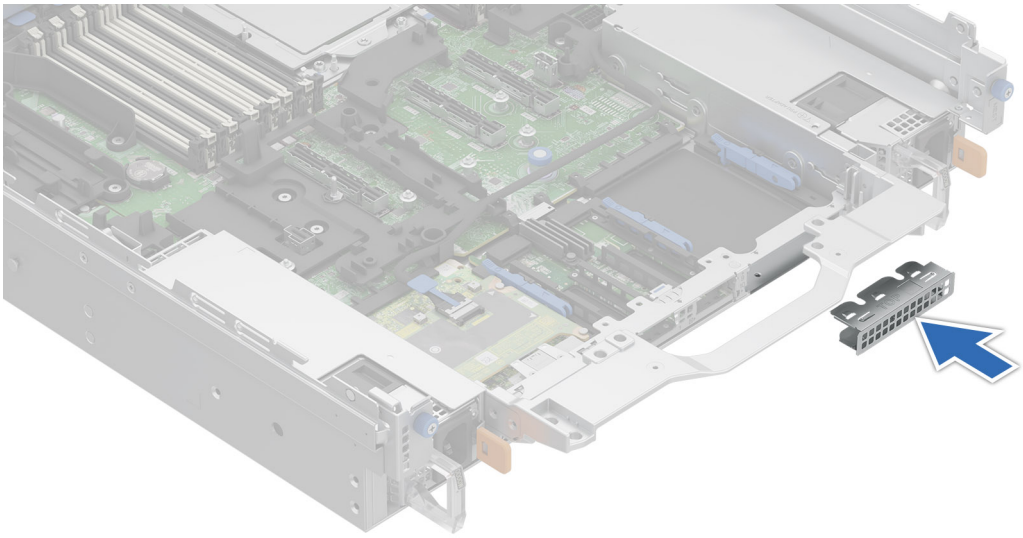


Figure 152. Installation of filler bracket

Next steps

1. Replace the OCP NIC card.

Installing the rear OCP NIC card

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.

CAUTION: Do not install GPUs, network cards, or other PCIe devices on your system that are not validated and tested by Dell. Damage caused by unauthorized and invalidated hardware installation will null and void the system warranty.

Steps

1. If installed, remove the filler bracket.

   NOTE: Store the filler bracket for future use. Filler brackets must be installed in empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

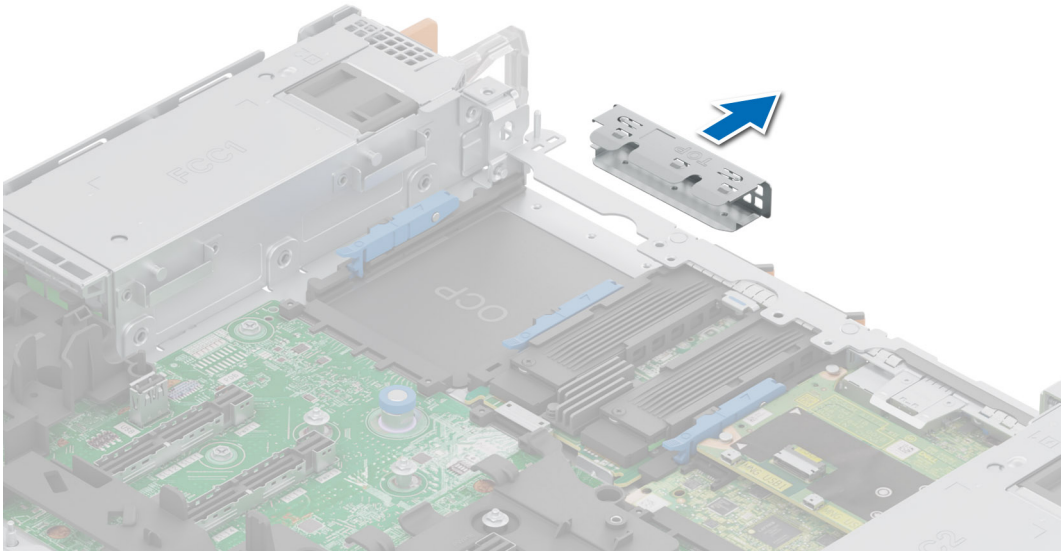


Figure 153. Removal of filler bracket

2. Open the blue latch on the HPM board.
3. Slide the OCP NIC card into the slot in the system.
4. Push until the OCP NIC card is connected to the connector on the HPM board.
5. Close the blue latch to lock the OCP NIC card to the system.

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

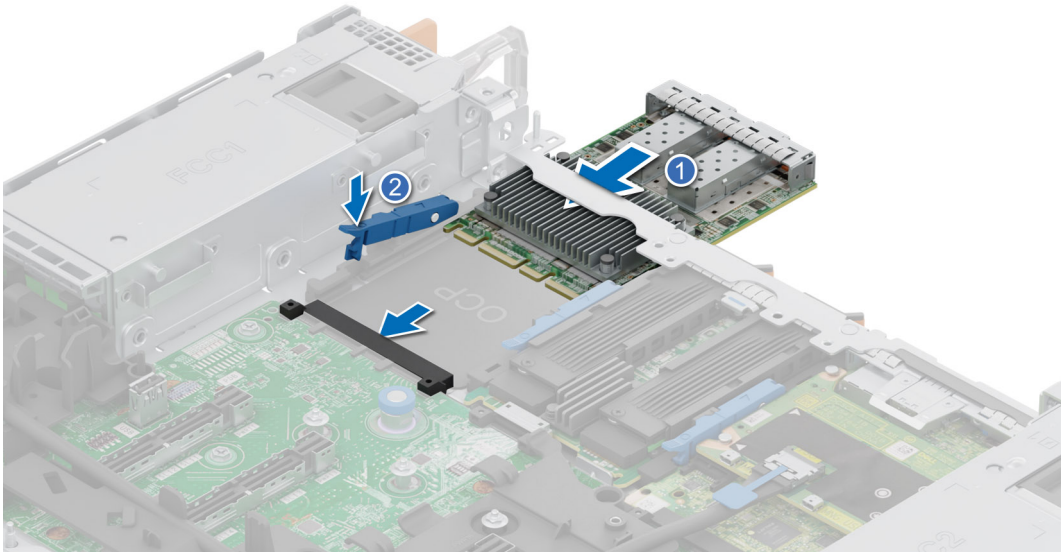


Figure 154. Installing the OCP NIC card

Next steps

1. Route and connect the cables, taking care not to damage them.
2. Install the expansion card riser.
3. Install the air shroud.
4. Follow the procedure listed in After working inside your system.

Datacenter-Secure Control Module (DC-SCM)

This is a service technician replaceable part only.

Removing the DC-SCM board

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.
5. **NOTE:** Disconnect the Attic cable, see cable routing section.

Steps

1. Open the blue latch to disengage the DC-SCM board.
2. Push the DC-SCM board towards the rear end of the system to disconnect from the connector on the HPM board.
3. Slide the DC-SCM board out of the slot on the system.

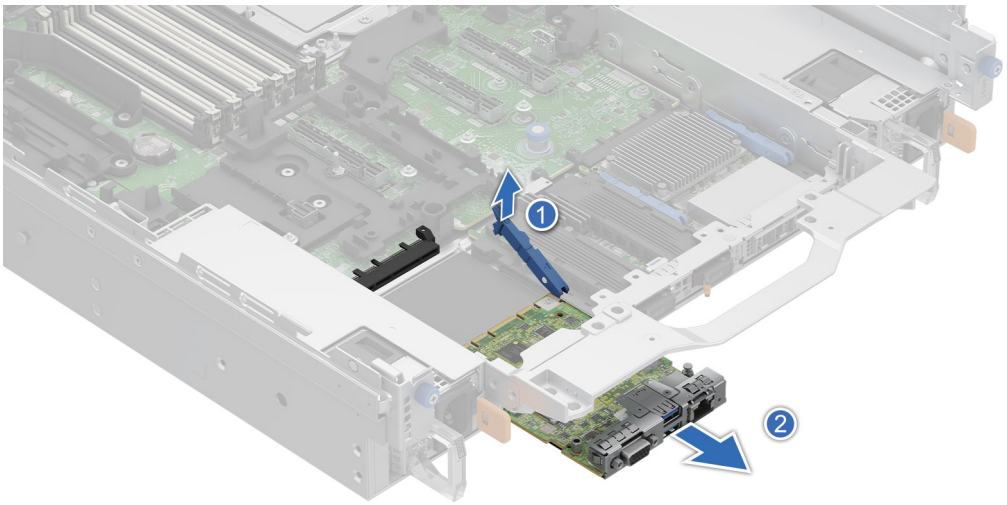


Figure 155. Removing the DC-SCM board

Next steps

NOTE: If a new DC-SCM board is being installed, the Attic board must be removed from the existing DC-SCM board and installed on the new board.

1. Remove the Attic card.
2. Replace the DC-SCM board.

Installing the DC-SCM board

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card risers.
5. Remove the Attic board.

NOTE: Disconnect the Attic cable, see cable routing section.

Steps

1. Open the blue latch on the HPM board.
2. Slide the DC-SCM board into the slot in the system.
3. Push until the DC-SCM board is connected to the connector on the HPM board.
4. Close the blue latch to lock the DC-SCM board to the system.

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

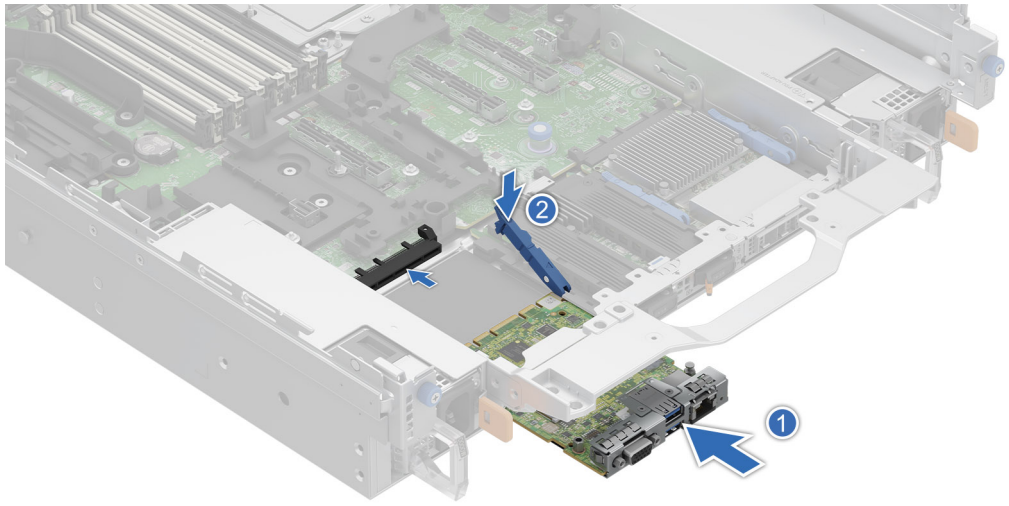


Figure 156. Installing the DC-SCM board

Next steps

1. Replace the Attic board.
2. **NOTE:** Connect the Attic cable, see cable routing section.
3. Install the expansion card risers.
4. Install the air shroud
5. Power on the system.
6. Ensure that you perform the following steps:
   a. Use the Easy Restore feature to restore the BIOS and Service Tag. See the Restoring the system using Easy Restore feature section.
   b. If the service tag is not backed up in the backup flash device, enter the system service tag manually. See the Manually update the Service Tag by using System Setup section.
   c. Install BIOS and iDRAC version updates, Diagnostic, and OS Drivers Pack and OS Collector.
   d. Re-enable the Trusted Platform Module (TPM).
7. Follow the procedure listed in After working inside your system.

Restoring the system using Easy Restore

The Easy Restore feature restores the server service tag and BIOS configuration data after replacing the Datacenter-Secure Control Module (DC-SCM). System configuration data is automatically maintained in a backup flash device within the system. If the BIOS detects a new DC-SCM during server boot, the system prompts the user to restore the backup system configuration data.

About this task

For more information about the Easy Restore feature, see iDRAC User's Guide at iDRAC Manuals.

When the DC-SCM is booted for the first time, it presents a screen with settings it can restore, below is a list of options/steps available:

Steps

1. To restore the system configuration data, press **Y**
2. To skip restore for this boot, press **N**
3. Enter BIOS setup to manually restore Service Tag, press **F2**

Figure 157. Easy Restore

Manually update the Service Tag

After replacing a HPM board, if Easy Restore fails, follow this process to manually enter the Service Tag, using **System Setup**.

About this task

If you know the system service tag, use the **System Setup** menu to enter the service tag.

Steps

1. Power on the system.
2. To enter the **System Setup**, press **F2**.
3. Click **Service Tag Settings**.
4. Enter the service tag.

   NOTE: You can enter the service tag only when the **Service Tag** field is empty. Ensure that you enter the correct service tag. Once the service tag is entered, it cannot be updated or changed. Incorrectly entered service tag will lead to HPM board replacement.

5. Click **OK**.

Attic board

This is a service technician replaceable part only.

Removing the Attic board

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.
5. Remove the DC-SCM board.

Steps

1. Using the Phillips 1 screwdriver, loosen the captive screws securing the attic board to the DC-SCM board.
2. Tilt and lift the Attic board from the DC-SCM guide pins.

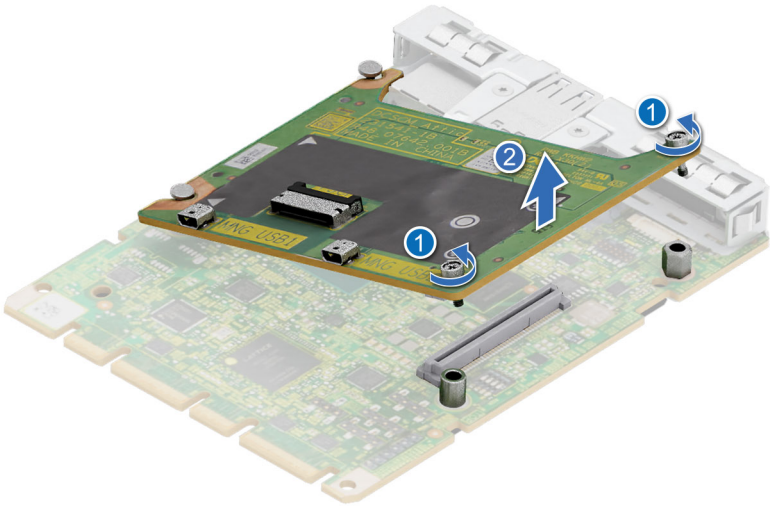


Figure 158. Removing the Attic board

Next steps

1. Replace the Attic board.

Installing the Attic board

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.
5. Remove the DC-SCM board.

CAUTION: Do not install GPUs, network cards, or other PCIe devices on your system that are not validated and tested by Dell. Damage caused by unauthorized and invalidated hardware installation will null and void the system warranty.

Steps

1. Align the Attic board at an angle with the guide pins on the DC-SCM board.
2. Press until the Attic board is connected to the connector on the DC-SCM board.
3. Using a Phillips 1 screwdriver, tighten the captive screws.

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

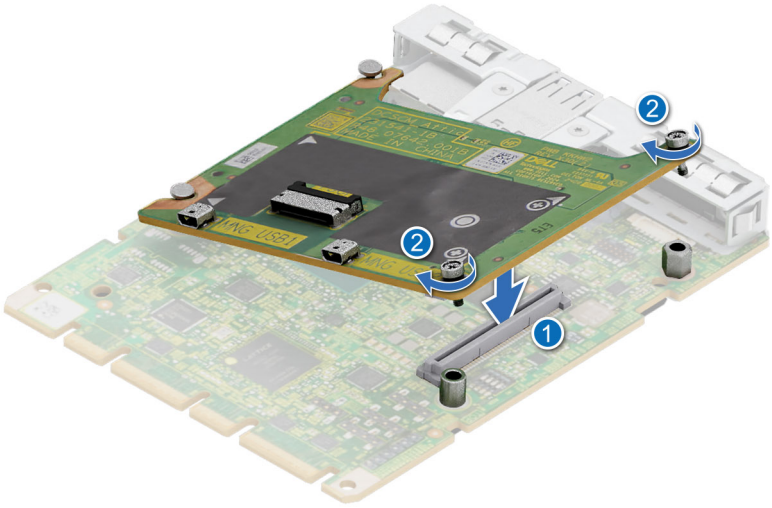


Figure 159. Installing the Attic board

Next steps

1. Install the DC-SCM board.
2. Install the expansion card riser.
3. Install the air shroud.
4. Follow the procedure listed in After working inside your system.

Restoring the system using Easy Restore

The Easy Restore feature restores the server service tag and BIOS configuration data after replacing the Datacenter-Secure Control Module (DC-SCM). System configuration data is automatically maintained in a backup flash device within the system. If the BIOS detects a new DC-SCM during server boot, the system prompts the user to restore the backup system configuration data.

About this task

When the DC-SCM is booted for the first time, it presents a screen with settings it can restore, below is a list of options/steps available:

Steps

1. To restore the system configuration data, press **Y**
2. To skip restore for this boot, press **N**
3. Enter BIOS setup to manually restore Service Tag, press **F2**

Figure 160. Easy Restore

Manually update the Service Tag

After replacing a HPM board, if Easy Restore fails, follow this process to manually enter the Service Tag, using **System Setup**.

About this task

If you know the system service tag, use the **System Setup** menu to enter the service tag.

Steps

1. Power on the system.
2. To enter the **System Setup**, press **F2**.
3. Click **Service Tag Settings**.
4. Enter the service tag.

NOTE: You can enter the service tag only when the **Service Tag** field is empty. Ensure that you enter the correct service tag. Once the service tag is entered, it cannot be updated or changed. Incorrectly entered service tag will lead to HPM board replacement.

5. Click **OK**.

Optional internal USB port

This is a service technician replaceable part only.

Removing the internal USB card

Prerequisites

CAUTION: To avoid interference with other components in the server, the maximum permissible dimensions of the USB memory key are 15.9 mm wide x 57.15 mm long x 7.9 mm high.

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.

Steps

Lift the internal USB card to disconnect from the connector on the HPM board.

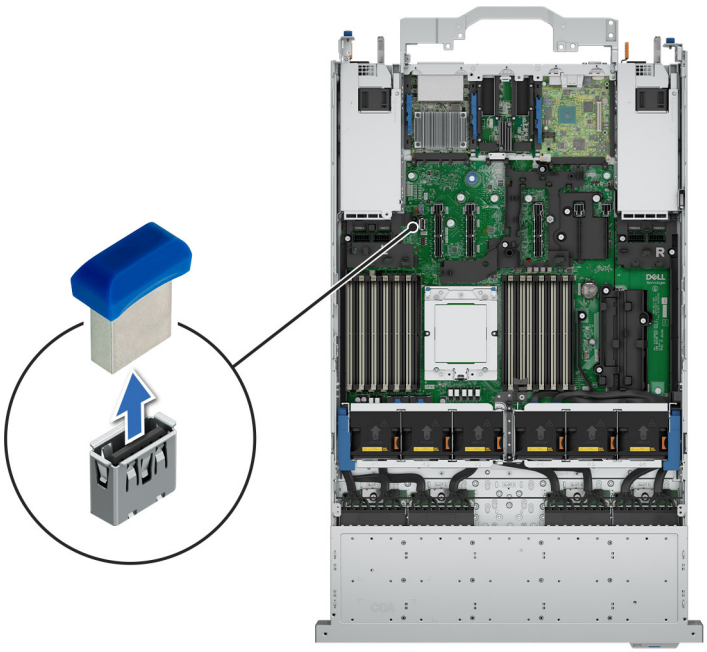


Figure 161. Removing the internal USB card

Next steps

1. Replace the internal USB card.

Installing the Internal USB card

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the air shroud.
4. Remove the expansion card riser.

Steps

Align the internal USB card with the USB port on the HPM board and press firmly until it is properly seated.

NOTE: For information about the exact location of USB on HPM board, see HPM board jumpers and connectors section.

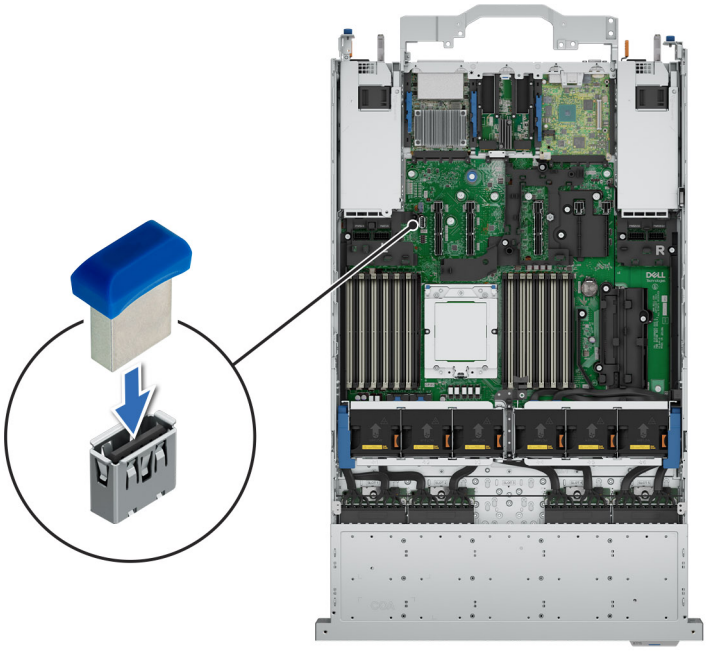


Figure 162. Installing the internal USB card

Next steps

1. Install the expansion card riser.
2. Install the air shroud.
3. Follow the procedure listed in After working inside your system.
4. While booting, press F2 to enter **System Setup** and verify that the system detects the USB memory key.

System battery

This is a service technician replaceable part only.

Replacing the system battery

Prerequisites

WARNING: There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type that is recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions. See the Safety instructions that came with your system for more information.

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. If required, Remove the air shroud.
4. Remove the expansion card risers.

Steps

1. Press and hold the battery socket retention latch, for the battery to pop out.

   NOTE: If the battery does not pop out, then lift it out of the socket.

   Watch video: Removing the system battery

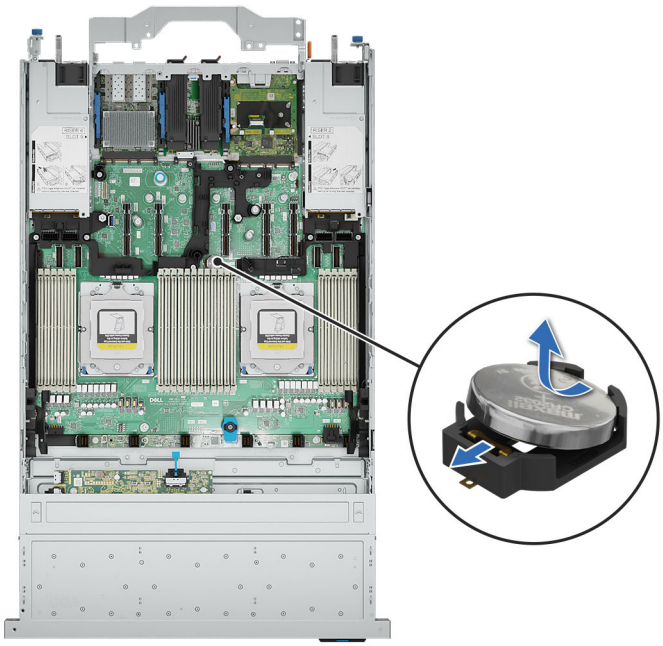


Figure 163. Removing the system battery

2. To install a new system battery, hold the battery with the positive side facing up at an angle and slide it under the battery holder socket latch.
3. Press the battery into the connector until it snaps into place.

   Watch video: Installing the system battery

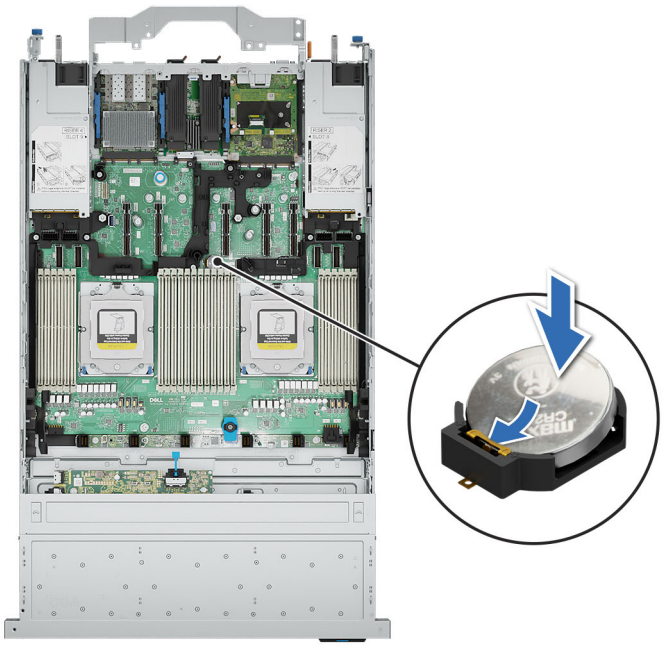


Figure 164. Installing the system battery

Next steps

1. Install the expansion card risers.
2. If applicable, connect the cables to one or more expansion cards.
3. Follow the procedure listed in After working inside your system.
4. Confirm that the battery is operating properly, by performing the following steps:
   a. Enter the System Setup, while booting, by pressing F2.
   b. Enter the correct time and date in the System Setup **Time** and **Date** fields.
   c. **Exit** the System Setup.
   d. To test the newly installed battery, check the time and date at least an hour after installing the battery.
   e. Enter the System Setup and if the time and date are still incorrect, see Getting help section.

Intrusion switch

This is a service technician replaceable part only.

Removing the intrusion switch module

Prerequisites

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

NOTE: Ensure that you note the routing of the cable as you remove it from the HPM board. Route the cable properly when you replace it to prevent the cable from being pinched or crimped.

Steps

1. Using a Phillips 1 screwdriver, loosen the screws on the intrusion switch module.
2. Disconnect the intrusion switch cable and the dongle cable.

NOTE: The intrusion switch cable is connected to the dongle cable, which in turn is connected to the HPM board. See the cable routing section.

3. Disconnect the dongle cable in the J slot connector on the HPM board.
4. Lift the intrusion switch module along with dongle cable out of the system.

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

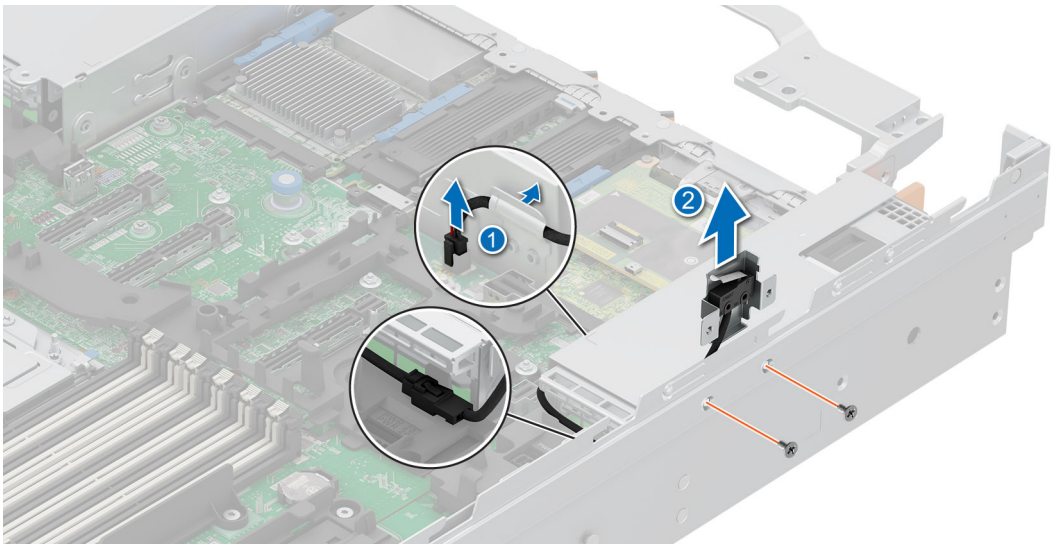


Figure 165. Removing the intrusion switch module

Next steps

1. Replace the intrusion switch module.

Installing the intrusion switch module

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the expansion card riser.

Steps

1. Align and place the intrusion switch module into the system.
2. Using a Phillips 1 screwdriver, tighten the screws to secure the intrusion switch module to the system chassis.
3. Connect the dongle cable to the connector on the HPM board.

NOTE: The intrusion switch cable is connected to the dongle cable, which in turn is connected to the HPM board.

NOTE: When routing the cable, ensure you route it properly to avoid pinching or crimping.

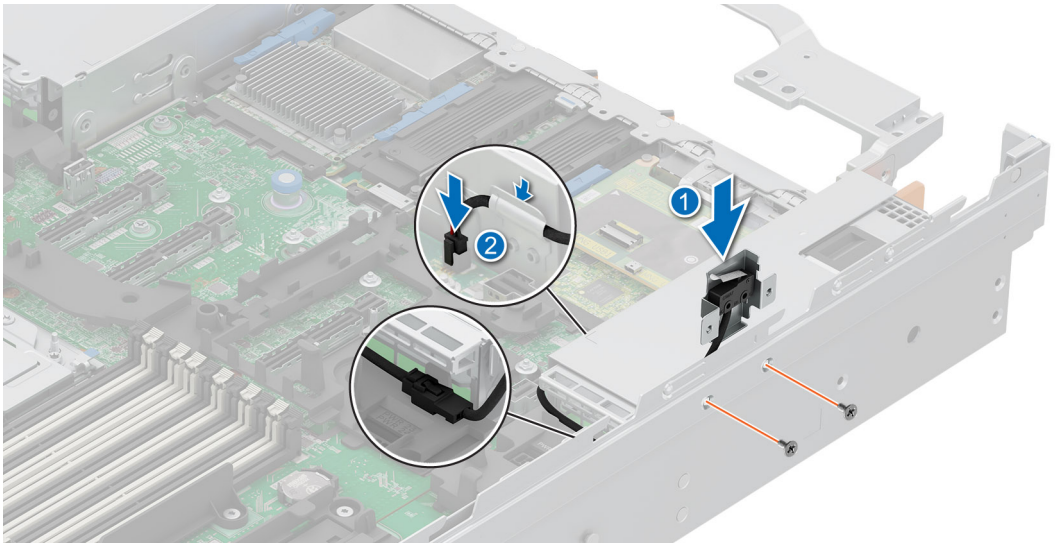


Figure 166. Installing the intrusion switch module

Next steps

1. Install the expansion card riser.
2. Follow the procedure listed in the After working inside your system.

Power supply unit

Removing a power supply unit filler

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the PSU or remove the PSU blank.

Steps

1. Place a flat screwdriver in the gap between the latch and the PSU cage.
2. Rotate flat screwdriver in an anti clockwise direction to disengage the latch and simultaneously slide out the right PSU filler from the PSU cage.

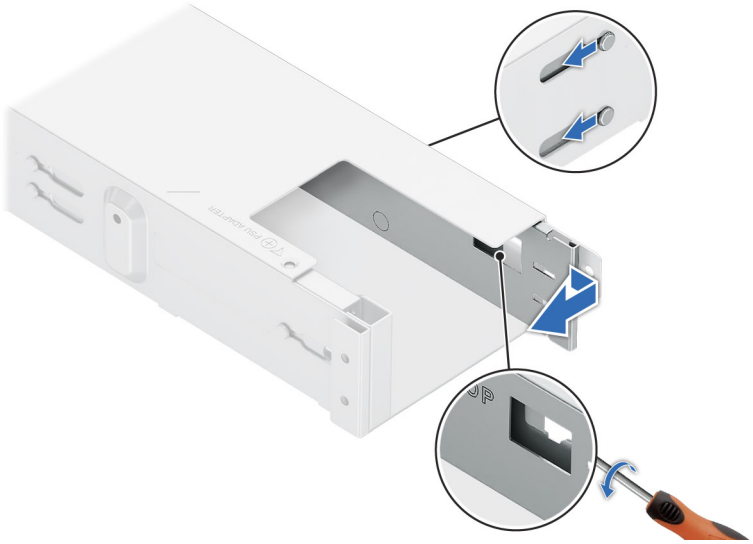


Figure 167. Removing the right PSU filler

3. Using a Phillips 1 screwdriver, loosen the screw on the PSU cage.
4. Slide out the left PSU filler from the PSU cage.

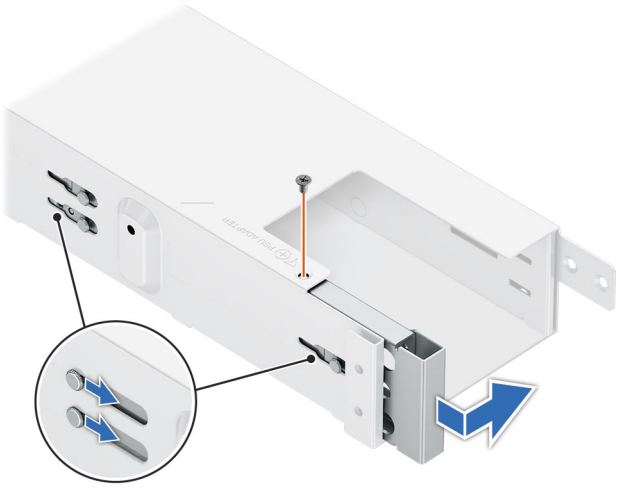


Figure 168. Removing the left PSU filler

Next steps

1. Replace the PSU filler.

Installing a power supply unit filler

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. Remove the PSU or remove the PSU blank.

Steps

1. Align the guides on the filler with the slots on the PSU cage and slide until the filler secured in the PSU cage.

2. Using a phillips 1 screwdriver, tighten the screw.

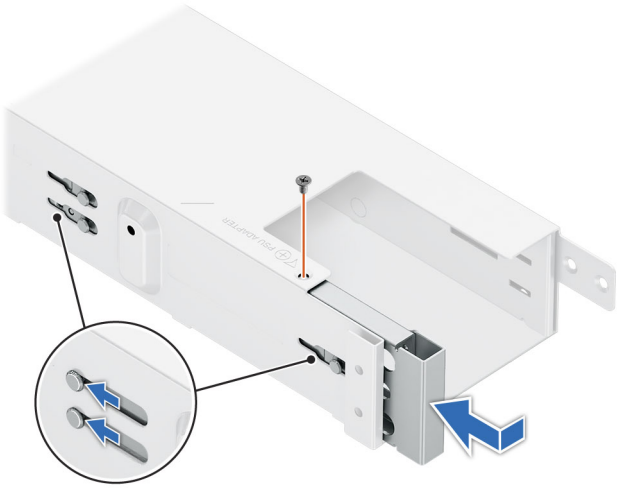


Figure 169. Installing the left PSU filler

3. Align the guides on the filler with the slots on the PSU cage and slide the filler, until the latch is locked with the PSU cage.

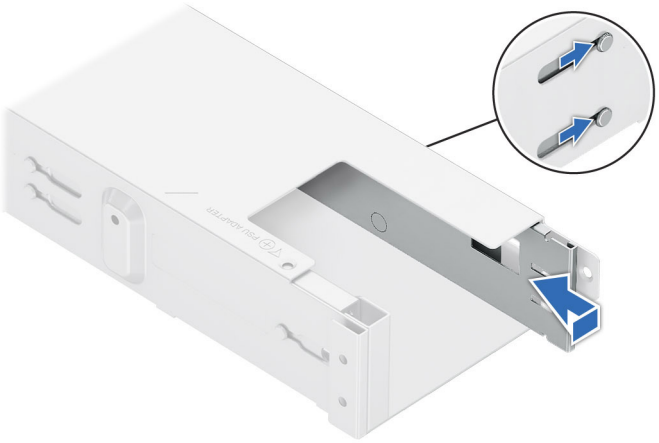


Figure 170. Installing the right PSU filler

Next steps

1. Install the PSUor install the PSU blank.
2. Follow the procedure listed in After working inside your system.

Removing a power supply unit

Prerequisites

CAUTION: The system requires one power supply unit (PSU) for normal operation.

1. Follow the safety guidelines listed in the 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 or remove the optional cable management accessory if it interferes with the PSU removal.

NOTE: For information about the cable management when the PSU is removed or installed while the system is in a rack, see the system's cable management arm documentation at PowerEdge Manuals.

Steps

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

Figure 171. Removing a power supply unit

Next steps

1. Replace the PSU or install the PSU blank.

Installing a power supply unit

Prerequisites

1. Follow the safety guidelines listed in the 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.

3. If required, Remove the PSU blank.

Steps

Slide the PSU into the PSU bay until the release latch snaps into place.

Figure 172. Installing a power supply unit

Next steps

1. If you have unlatched or removed the cable management accessory, reinstall or relatch it. For information about the cable management when the PSU is removed or installed while the system is in the rack, see the system's cable management accessory documentation at PowerEdge Manuals.
2. Connect the power cable to the PSU, and plug the cable into a power outlet.

CAUTION: When connecting the power cable to the PSU, secure the cable to the PSU with the strap.

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 status indicator turns green to indicate that the PSU is functioning properly.

Removing a power supply unit blank

Prerequisites

Follow the safety guidelines listed in the Safety instructions.

Steps

Pull the PSU blank out of the system.

CAUTION: For proper system cooling, the PSU blank must be installed in the second PSU bay in a non-redundant configuration. Remove the PSU blank only if you are installing a second PSU.

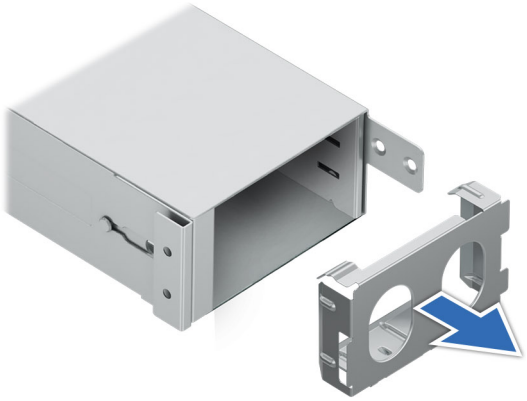


Figure 173. Removing a power supply unit blank

Next steps

1. Replace the PSU blank or install the PSU.

Installing a power supply unit blank

Prerequisites

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

   NOTE: Install the power supply unit (PSU) blank only in the second PSU bay.

2. If required, remove the PSU.

Steps

Align the PSU blank with the PSU bay and push it into the PSU bay until it clicks into place.

NOTE: Ensure that the "Top" mark on the PSU blank is on the upper side.

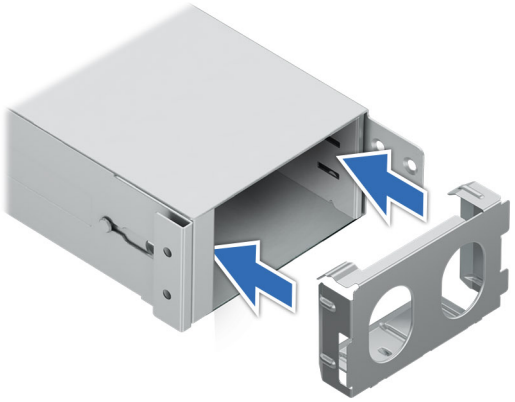


Figure 174. Installing a power supply unit blank

Trusted Platform Module

TPM is soldered down to the DC-SCM.

If the Trusted Platform Module (TPM) is identified as the root cause of the problem, a full DC-SCM replacement is necessary.

For more information on TPM see Trusted Platform Module (TPM) Summary.

Initializing TPM 2.0 for users

Steps

1. Initialize the TPM.
   a. While booting your system, press F2 to enter System Setup.
   b. On the **System Setup Main Menu** screen, click **System BIOS** > **System Security Settings**.
   c. From the **TPM Security** option, select **On**.
   d. Save the settings.
   e. Restart your system.
2. The **TPM Status** changes to **Enabled, Activated**.

HPM board

This is a service technician replaceable part only.

NOTE: System board is know as Host Processor Module (HPM) board.

Removing the HPM board

Prerequisites

CAUTION: If you are using the Trusted Platform Module (TPM) with an encryption key, you may be prompted to create a recovery key during program or System Setup. Be sure to create and safely store this recovery key. If you replace this HPM board, you must supply the recovery key when you restart your system or program before you can access the encrypted data on your drives.

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the following components:
   a. Cooling fans
   b. Air shroud
   c. Side wall bracket
   d. Memory modules
   e. Expansion card risers
   f. Heat sink module
   g. OCP (if installed)
   h. BOSS-N1 DC-MHS
   i. DC-SCM
   j. Internal USB memory key (if removed)
   k. Power supply units (PSU)
   l. Disconnect all the cables from the HPM board and make note of all the cable connections.

CAUTION: Take care not to damage the system identification button while removing the HPM board from the system.

CAUTION: Do not lift the system board by holding a memory module, processor, or other components.

Steps

1. Using the HPM board holder and plunger, slide the HPM board towards the front of the system.
2. Securely hold the holder and plunger to carefully lift the HPM board out of the chassis.

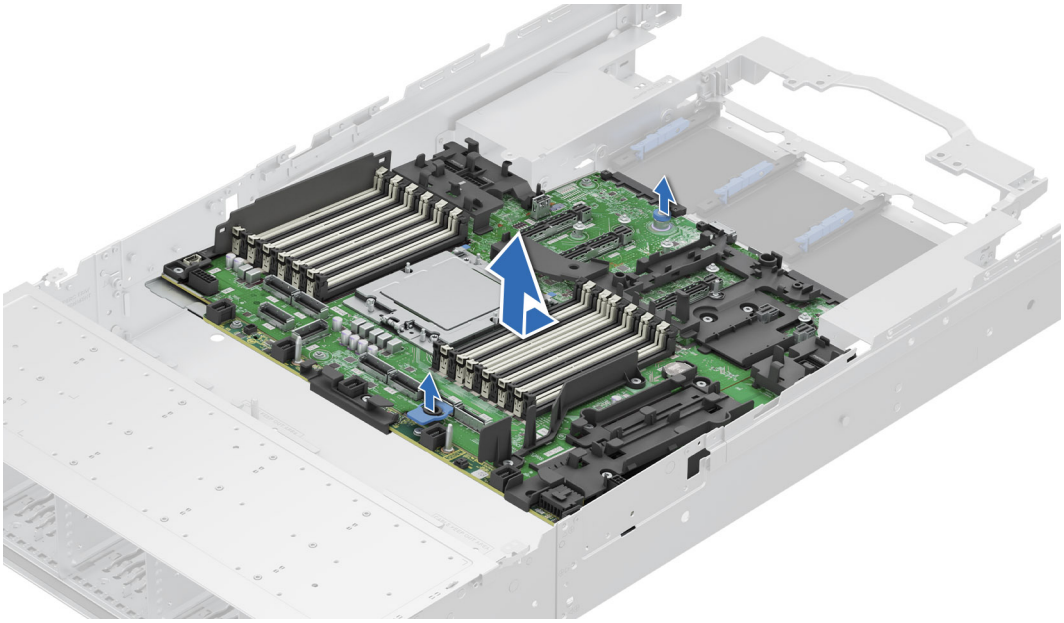


Figure 175. Removing the HPM board

Next steps

1. Install the HPM board.

Installing the HPM board

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in Before working inside your system.
3. If you are replacing the HPM board, remove all the components that are listed in the removing the HPM board section.

Steps

1. Unpack the new HPM board assembly.

   CAUTION: Do not lift the system board by holding a memory module, processor, or other components.

   CAUTION: Take care not to damage the system identification button while placing the HPM board into the chassis.

2. Holding the HPM board holder and plunger, align and lower the HPM board into the system.
3. Slide the HPM board towards the rear of the chassis until the connectors are firmly seated in the slots.

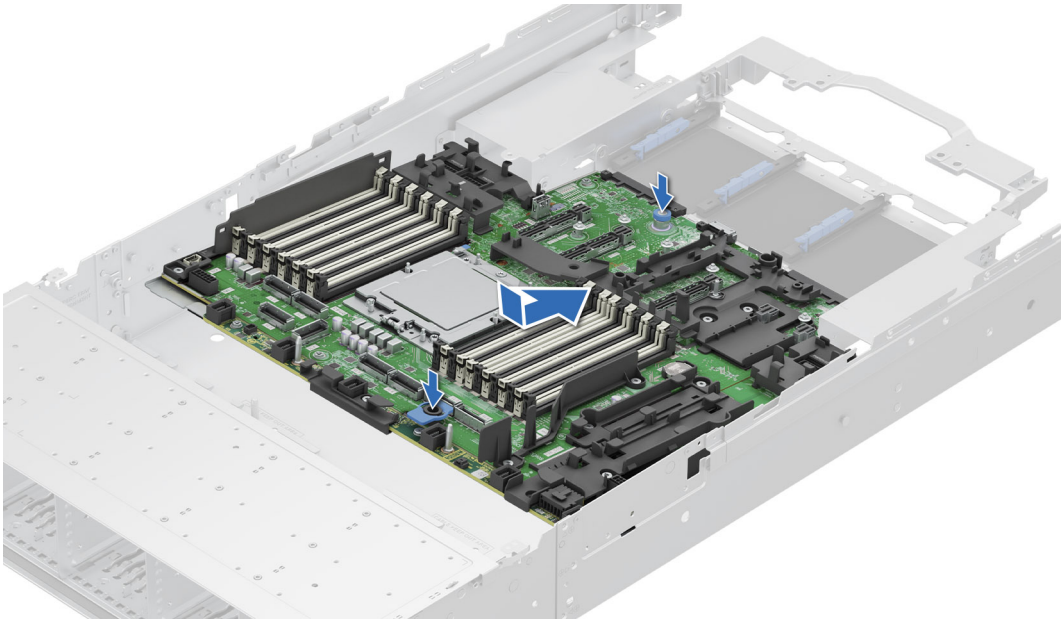


Figure 176. Installing the HPM board

Next steps

1. Replace the following components:
   a. Internal USB memory key (if removed)
   b. OCP card (if removed)
   c. BOSS-N1 DC-MHS
   d. DC-SCM
   e. Heat sink module
   f. Memory modules
   g. Expansion card risers
   h. Side wall bracket
   i. Air shroud
   j. Cooling fans
   k. Power supply units (PSU)
2. Reconnect all cables to the HPM board.

   NOTE: Ensure that the cables inside the system are routed along the chassis wall and secured using the cable securing bracket.

3. Follow the procedure listed in After working inside your system.

Control panel

This is a service technician replaceable part only.

Removing the right/primary control panel

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the drive backplane cover
4. If installed, remove the air shroud
5. Remove the cooling fan cage assembly

6. Remove the side wall bracket

Steps

1. Using the Phillips 1 screwdriver, remove the screws that secure the right/primary control panel and cable cover to the system.
2. Remove the cable cover away from the system.
3. Disconnect the right and primary control panel cable from the connector on the HPM board.
4. Holding the right/primary control panel cable assembly, slide the right and primary control panel out of the system.

NOTE: Observe the routing of the cable assembly as you remove the right/primary control panel from the system.

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

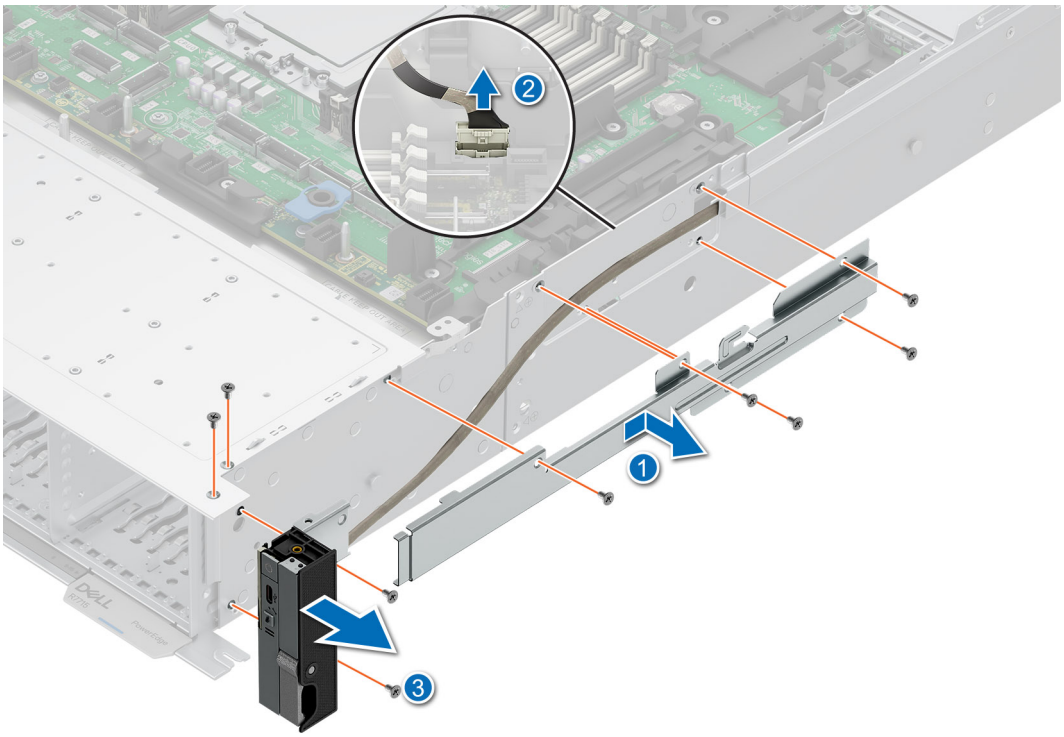


Figure 177. Removing the right / primary control panel

Next steps

1. Replace the right / primary control panel.

Installing the right/primary control panel

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions
2. Follow the procedure listed in the Before working inside your system
3. Remove the drive backplane cover
4. If installed, remove the air shroud
5. Remove the cooling fan cage assembly
6. Remove the side wall bracket

Steps

1. Align and slide the right/primary control panel into the slot on the system.

2. Route the right/primary control panel cable through the side wall of the system.
3. Align and slide the right/primary control panel cable cover in the slot on the system.

   NOTE: Route the cable properly to prevent the cable from being pinched or crimped.

4. Connect the right/primary control panel cable to the connector on the HPM board.
5. Using the Phillips 1 screwdriver, tighten the screws that secure the right/primary control panel and the cable cover to the system.

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

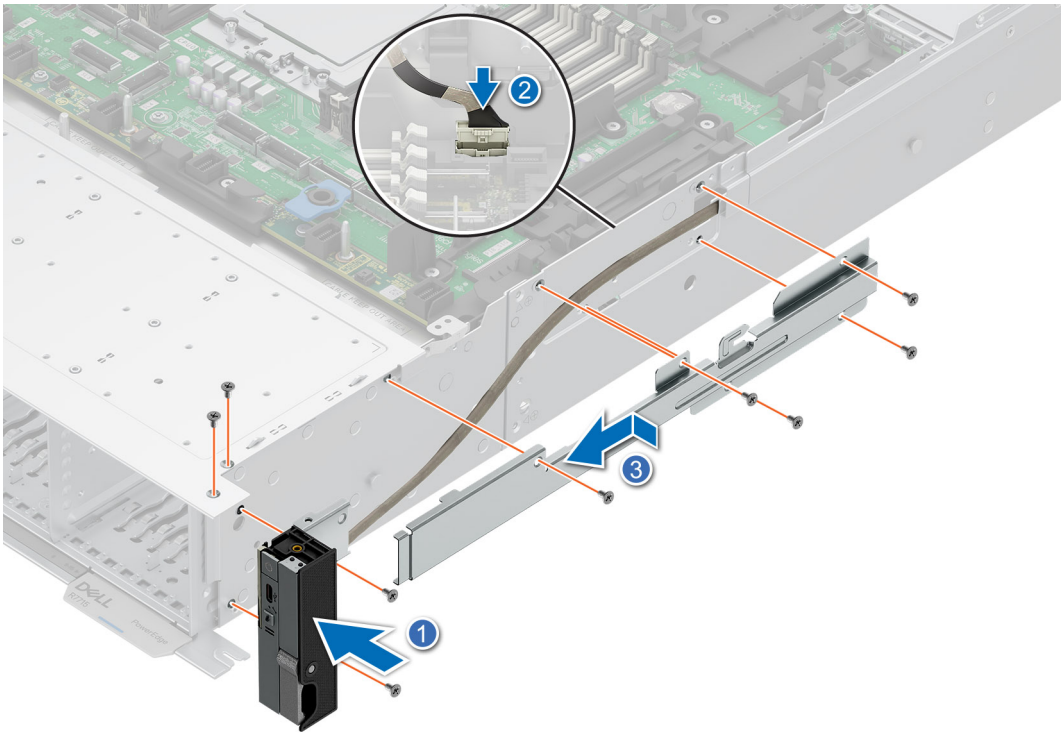


Figure 178. Installing the right /primary control panel

Next steps

1. Install the side wall bracket.
2. Install the cooling fan cage assembly.
3. Install the drive backplane cover.
4. Install the air shroud .
5. Follow the procedure listed in After working inside your system.

Removing the KVM Left / Secondary Control Panel

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the drive backplane cover.
4. If installed, remove the air shroud .
5. Remove the cooling fan cage assembly.

Steps

1. Using the Phillips 1 screwdriver, remove the screws that secure the left / secondary control panel and the cable cover to the system.
2. Remove the cable cover away from the system.
3. Disconnect the control panel cable from the connector on the Attic board.
4. Holding the cable, slide the left / secondary control panel out of the system.

NOTE: Observe the routing of the cable as you remove the left / secondary control panel from the system.

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

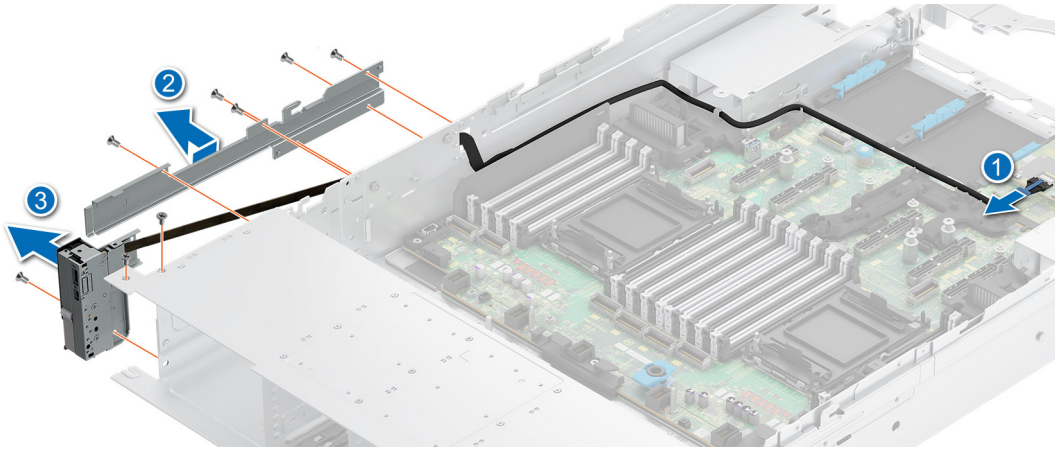


Figure 179. Removing the KVM Left / Secondary Control Panel

Next steps

1. Replace the KVM Left / Secondary Control Panel.

Installing the KVM Left / Secondary Control Panel

Prerequisites

1. Follow the safety guidelines listed in the Safety instructions.
2. Follow the procedure listed in the Before working inside your system.
3. Remove the drive backplane cover.
4. If installed, Air shroud
5. Remove the cooling fan cage assembly.

Steps

1. Align and slide the left / secondary control panel in the slot on the system.
2. Route the left / secondary control panel cable through the side wall of the system.
3. Align and slide the left / secondary control panel cable cover in the slot on the system.

NOTE: Route the cable properly through the chassis side holder and the clips to prevent the cable from being pinched or crimped.

4. Connect the left / secondary control panel cable to the connector on the Attic board .
5. Using the Phillips 1 screwdriver, tighten the screws to secure the left / secondary control panel and the cable cover to the system.

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

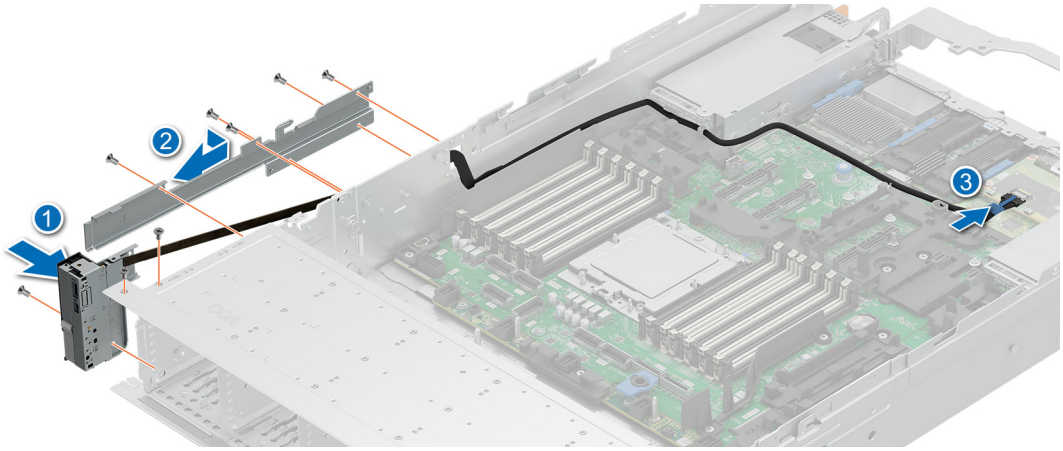


Figure 180. Installing the KVM Left / Secondary Control Panel

Next steps

1. Install the cooling fan cage assembly.
2. Install the drive backplane cover.
3. Install the air shroud .
4. Follow the procedure listed in After working inside your system.

9

Upgrade Kits

The table lists the available After Point Of Sale [APOS] kits.

Table 88. Upgrade kits

Kits	Related links to service instructions
Processor	See Installing the processor.
BOSS-N1	See Installing the BOSS-N1 controller card module .
GPU/Accelerator enablement kit	See Installing the GPU.
PERC	See Installing the PERC card.

Topics:

Processor upgrade kit components

The system supports only one processor.

Before you begin the installation or removal process, follow the safety guidelines and before working inside the system instructions.

Table 89. Processor upgrade kit components matrix

System configuration	CPU	Heatsink	FAN
• All storage configuration	1	No Changes	• HPR Gold fan for CPU TDP ≤ 300W with memory ≤ 64GB and want to upgrade memory to >96 GB
• 16 x 2.5-inch SAS/SATA SSD + 8 x U.2 • 16 x 2.5-inch SAS/SATA SSD • 8 x EDSFF E3.S Gen5 NVMe • 16 x EDSFF E3.S Gen5 NVMe • Up to 32 x EDSFF E3.S Gen5 NVMe	1	No Changes	HPR Gold fan for CPU TDP > 300 W
• No Backplane configuration • 2 x U.2 SSD	1	No Changes	HPR Gold fan for CPU 9175F and 9275F

For installation procedures of the Heatsink and Processor see: Installing the processor section.

NOTE: The install procedure for the remote and extended heatsinks are the same.

BOSS-N1 DCMHS module kit

The BOSS-N1 DCMHS module supports up to two M.2 SSDs. On the PowerEdge R7715 the BOSS-N1 DCMHS modules are supported at the rear of the system.

Before you begin the installation or removal process, follow the safety guidelines and before working inside the system instructions.

Table 90. BOSS-N1 DCMHS module kit components

Components in kit	Quantity
BOSS-N1 DCMHS controller card module	1
BOSS-N1 DCMHS card carrier	2
M.2 NVMe SSD capacity label	2
BOSS-N1 DCMHS card carrier blank	1

For installation procedures of the BOSS-N1 DCMHS modules see: Installing the BOSS-N1 DCMHS module section.

GPU kit

The GPU FL kit is available for the Customer. Depending on the kit ordered, the respective components are available.

CAUTION: Do not install GPUs, network cards, or other PCIe devices on your system that are not validated and tested by Dell. Damage caused by unauthorized and invalidated hardware installation will null and void the system warranty.

WARNING: Consumer-Grade GPU should not be installed or used in the Enterprise Server products.

Table 91. Components in the full length (FL) GPU kit

Components	Cable kit for multiple GPU upgrade
L4 full-height	None
L4 low-profile	None
L40s	• Power cable • Mylar
A16	• Power cable • Mylar
H100	• Power cable • Mylar
H200	• Power cable • Mylar

NOTE: See expansion card installation guidelines for more information about riser configuration supported for the system.

NOTE: Dual-width GPU and single-width GPU cannot be interchangeable due to riser restrictions.

NOTE: Dual-width GPU upgrade is restricted to RC4 and RC8 only on the R7715.

NOTE: When customer wants to upgrade one GPU to multiple GPUs, it is restricted to the same type of GPU.

- RC4 riser only support up to 2 dual-width GPUs.
- RC8 riser only support up to 3 dual-width GPUs.
- R7715 supports up to 6 single-width L4 (FH) GPUs (no extra cables required for upgrade).

NOTE: L4 (FH& LP) is not interchangeable due to different form factors.

For installation procedures of the GPU see: removing or installing the expansion card from the expansion card riser > Removing the GPU.

NOTE: See cable routing section for more information about connecting the GPU.

Perc module kit

Before you begin the installation or removal process, follow the safety guidelines and before working inside the system instructions.

Table 92. PERC module kit components for configuration: 32 x EDSFF E3.S NVMe *

Components in kit	Quantity
PERC bracket	1
Shroud	2
Screw 3 x 8.5 mm	8

Table 92. PERC module kit components for configuration: 32 x EDSFF E3.S NVMe * (continued)

Components in kit	Quantity
Screw 3 x 5.3 mm	2
8 x EDSFF E3.S NVMe backplane	• Four backplanes for 32 x EDSFF E3.S NVMe configuration
Power cable	• Two for 32 x EDSFF E3.S NVMe configuration
PCIe cable	• Two for 32 x EDSFF E3.S NVMe configuration

Table 93. PERC upgrade kit details for configuration: 32 x EDSFF E3.S NVMe *

Backplane configuration	Upgrade from	Upgrade to	Remove card or cables	Replace with the card or cables
32 x EDSFF E3.S NVMe	Onboard controller	H975i front PERC	32 x EDSFF E3.S NVMe backplane	• H975i card • PERC shroud • Four 8 x EDSFF E3.S NVMe backplanes • Two PERC power cable • Two PERC signal cables.

Table 94. PERC module kit components for configuration: 8 x 2.5-inch Universal, 16 x 2.5-inch SAS/SATA + 8 x U.2, 16 x 2.5-inch SAS/SATA, 24 x 2.5-inch SAS/SATA* and 12x 3.5-inch SAS/SATA*

Components in kit	Quantity
PERC signal cable	1

Table 95. PERC upgrade kit details for configuration: 8 x 2.5-inch Universal, 16 x 2.5-inch SAS/SATA + 8 x U.2, 16 x 2.5-inch SAS/SATA, 24 x 2.5-inch SAS/SATA* and 12x 3.5-inch SAS/SATA*

Backplane configuration	Upgrade from	Upgrade to	Remove card or cables	Replace with the card or cables
• 8 x 2.5-inch Universal • 16 x 2.5-inch SAS/SATA • 16x 2.5-inch SAS/SATA + 8x U.2 • 24 x 2.5-inch SAS/SATA*	H365i front PERC	H965i front PERC	N/A	One PERC signal cables.
12x 3.5-inch SAS/SATA	PERC H365i adapter	H965i adapter	N/A	One PERC signal cables.

10

System diagnostics and indicator codes

The diagnostic indicators on the system front panel display system status during system startup.

Topics:

Power button LED

The power button LED is on the front panel of your system.

Figure 181. Power button LED

Table 96. Power button LED

Power button LED indicator code	Condition
Off	System is not operating or idle in standby power mode regardless of the power supply available.
On	System is operating, one or more of the non-standby power supply units are active.
Slowly blinking	System is performing powering on sequence, and is still booting.

System health and system ID indicator codes

The system health and system ID indicator is located on the right control panel (RCP) - primary of the system.

Figure 182. System health and system ID indicator

Table 97. System health and system ID indicator codes

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is powered on, is healthy, and system ID mode is not active. Press the system ID button to switch to system ID mode.
Blinking blue	Indicates that the system ID mode is active. Press the system ID button to switch to system health mode.
Blinking amber	Indicates that the system is experiencing a fault. Check the System event log for specific error messages. For information about the event and error messages that are generated by the system firmware and agents that monitor system components, go to MyDell.

NIC indicator codes

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

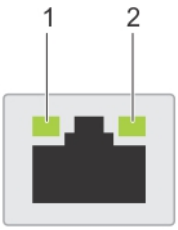


Figure 183. NIC indicator codes

1. Link LED indicator
2. Activity LED indicator

Table 98. NIC indicator codes

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

Table 98. NIC indicator codes (continued)

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

Power supply unit indicator codes

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

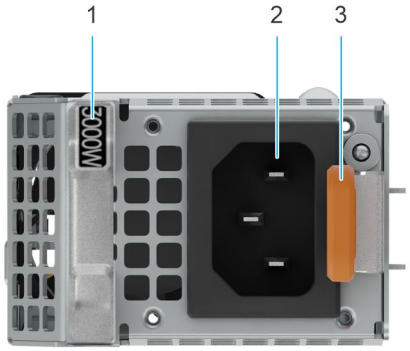


Figure 184. AC PSU status indicator

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

Table 99. 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 greens 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.**

Table 99. AC PSU status indicator codes (continued)

Power indicator codes	Condition
	CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power. **CAUTION: When correcting a PSU mismatch, replace the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and an unexpected system shutdown. To change from a high output configuration to a low output configuration or vice versa, you must power off the system.** **CAUTION: AC PSUs support both 240 V and 120 V input voltages with the exception of Titanium PSUs, which support only 240 V. When two identical PSUs receive different input voltages, they can output different wattages, and trigger a mismatch.**

Drive indicator codes

The LEDs on the drive carrier indicates 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 185. Drive indicators

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 100. 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. **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 expected drive failure.
Blinks amber four times per second	Indicates that the drive has failed.
Blinks green slowly	Indicates that the drive is rebuilding.

Table 100. Drive indicator codes (continued)

Drive status indicator code	Condition
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.

EDSFF E3.S drive led codes

The LEDs on the drive carrier indicate the state of each drive. The LEDs on the EDSFF E3.S drive have two LEDs: an activity LED (green) and a locate/fault LED (blue/amber). The activity LED blinks whenever the drive is accessed.

Figure 186. EDSFF E3.S drive indicators

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

EDSFF E3.S drive led codes

E3.S hard drives have Green LED and Blue/Amber LED.

- Green LED shows : Drive power status , Activity
- Blue/Amber LED shows: Drive Fault, Locate

EDSFF indicator behavior

Table 101. EDSFF indicator behavior

Pattern Name	Description	Blue Element	Amber Element
Locate	This device is being identified.	ON (1 sec ON 1 sec OFF)	OFF
Fault	The device is in a fault condition.	OFF	ON (2 sec ON 1 sec OFF)
N/A	This device does not have fault or locate device.	OFF	OFF

NOTE: Locate behavior overrides Fault state.

Green LED

The green LED is driven and controlled by the device. The two functions for this LED are defined as follows:

- Power: This function indicates that the device has power and has no issues with its power regulation. Once the green LED is ON, it shall either remain ON or blink at the activity frequency unless the device determines power is no longer within its operating range.
- Activity: This function indicates if the device is being used.

Table 102. LED and device state per function for Green LED

Function/Device state	LED state
Power ON/Device is powered, no activity occurring.	ON
Activity/Device is powered, host initiated I/O activity occurring.	4 Hz nominal blink rate
Power OFF/Device is not powered.	OFF

Using system diagnostics

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

Dell Embedded System Diagnostics

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

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

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

Running the Embedded System Diagnostics from the Boot Manager

Steps

1. Download the UEFI ePSA Diagnostics SWB from the Dell support site.
2. Install the UEFI ePSA Diagnostics SWB from iDRAC Web Interface.
3. Power cycle the system and Press F11 during boot.
4. Select **System Utilities** → **Launch Diagnostics**.
   The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics start running the tests on all the detected devices.

System diagnostic controls

Table 103. System diagnostic controls

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

11

Jumpers and connectors

This topic provides some basic and specific information about jumpers and switches. It also describes the connectors on the various boards in the system. Jumpers on the HPM board help to disable the system and reset the passwords. To install components and cables correctly, you must know the connectors on the HPM board.

Topics:

HPM board jumpers and connectors

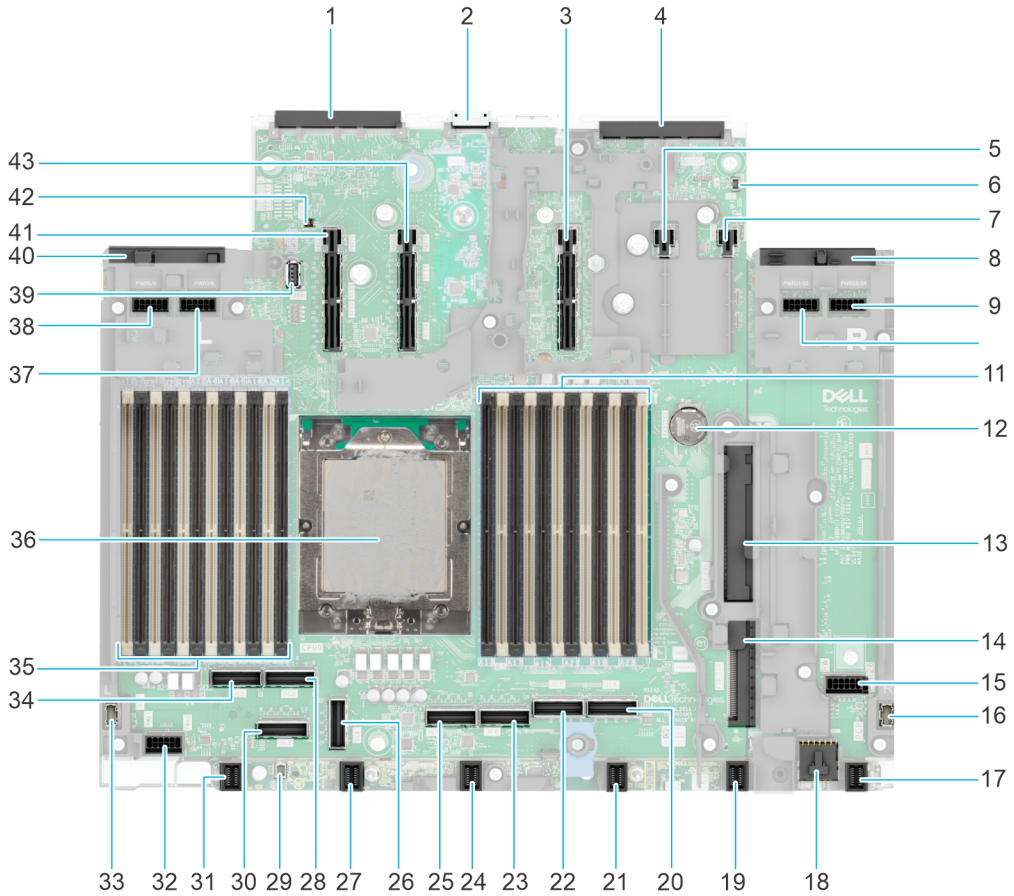


Figure 187. HPM board jumpers and connectors

Table 104. HPM board jumpers and connectors

Item	Connector
1	OCP NIC 3.0 connector
2	BOSS connector
3	Riser connector 3 - requires CPU 0 (SL15/SL16/PWR15/PWR16)

Table 104. HPM board jumpers and connectors (continued)

Item	Connector
4	DC-SCM connector
5	Riser connector (PWR17/PWR18)
6	Intrusion switch connector
7	Riser connector (PWR19/PWR20)
8	PSU1 connector
9	Power connector 23/24 (PWR23/PWR24)
10	Power connector 21/21 (PWR21/PWR22)
11	DIMM for CPU 0
12	Coin cell battery
13	PIB power connector
14	PIB signal connector
15	TBD
16	Right/ Primary control panel connector
17	Fan 6 connector
18	Power connector 3/4 (PWR3/PWR4)
19	Fan 5 connector
20	PCIe connector 8 (SL8_CPU 0)
21	Fan 4 connector
22	PCIe connector 7 (SL7_CPU 0)
23	PCIe connector 6 (SL6_CPU 0)
24	Fan 3 connector
25	PCIe connector 5 (SL5_CPU 0)
26	PCIe connector 4 (SL4_CPU 0)
27	Fan 2 connector
28	PCIe connector 2 (SL2_CPU 0)
29	Fan Board
30	PCIe connector 3 (SL3_CPU 0)
31	Fan 1 connector
32	Power connector 1/2 (PWR1/PWR2)
33	LCP connector
34	PCIe connector 1 (SL1_CPU 0)
35	DIMM for CPU 0
36	CPU 0
37	Power connector 7/8 (PWR7/PWR8)
38	Power connector 5/6 (PWR5/PWR6)
39	Internal USB
40	PSU connector 2

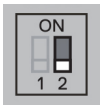
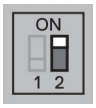
Table 104. HPM board jumpers and connectors (continued)

Item	Connector
41	Riser connector 5 - requires CPU 0 (SL11/SL12/PWR11/PWR12)
42	DIP switch for NVRAM/PWRD
43	Riser connector 4 - requires CPU 0 (SL13/SL14/PWR13/PWR14)

HPM board jumper settings

For information about resetting the password jumper to disable a password, see the Disabling a forgotten password section.

Table 105. HPM board jumper settings

Jumper	Setting	Description
NVRAM_CLR		OFF (default): The BIOS settings are retained at system boot.
		ON: The BIOS settings cleared at system boot.
PWRD_DIS		OFF (default): The BIOS password is enabled.
		ON: The BIOS password is disabled.

CAUTION: Be careful when changing the BIOS settings. The BIOS interface is designed for advanced users. Any change in the setting could prevent your system from starting correctly and you might have potential loss of data.

Disabling a forgotten password

The software security features of the system include a system password and a setup password. The password jumper enables or disables password features and clears any password(s) currently in use.

Prerequisites

Steps

1. Power off the system, and all the attached peripherals, and disconnect the system from the electrical outlet.
2. Remove the system cover.
3. Move the jumper on the HPM board from pins 2 and 4 to pins 4 and 6.
4. Replace the system cover.

   NOTE: The existing passwords are not disabled (erased) until the system boots with the jumper on pins 4 and 6. However, before you assign a new system and/or setup password, you must move the jumper back to pins 2 and 4.

   NOTE: If you assign a new system and/or setup password with the jumper on pins 4 and 6, the system disables the new password(s) the next time it boots.

5. Reconnect the system and all the attached peripherals.

6. Power off the system.
7. Remove the system cover.
8. Move the jumper on the HPM board from pins 4 and 6 to pins 2 and 4.
9. Replace the system cover.
10. Reconnect the system to the electrical outlet and power on the system, and all the attached peripherals.
11. Assign a new system and/or setup password.

12

Getting Help

Topics:

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 How to Recycle and select the relevant country.

Contact Dell Technologies

Dell provides online support, mobile support, and onsite service options. If you do not have an active Internet connection, you can find Dell contact information on your invoice, packing slip, bill, or Dell product catalog. The availability of services varies depending on the country or region and product, and some services may not be available in your area. You can contact Dell for sales, technical support, or customer service issues.

Steps

1. Go to Dell Support and follow the prompts.
2. For contact details of Dell Global Technical Support, click Contact Technical Support.

Accessing system information by using MyDell

You can use the MyDell label located on the Express service tag in the front of the PowerEdge system, to access information about PowerEdge R7715 system.

Prerequisites

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

The MyDell 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 support and sales teams.

Steps

Go to product-specific page in PowerEdge Manuals or scan the model-specific QR code on your system using your smartphone or tablet.

Quick Resource Locator for PowerEdge R7715 system

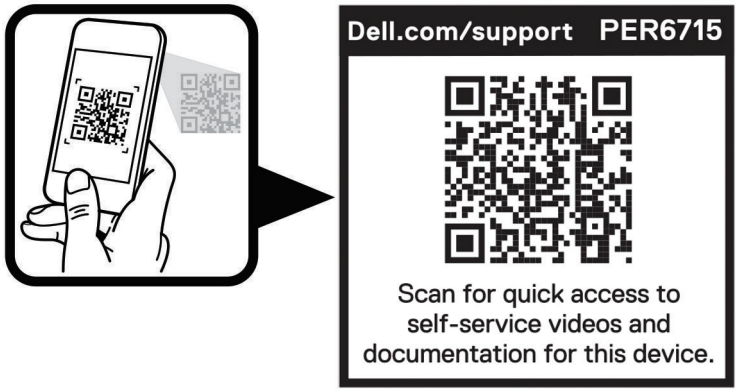


Figure 188. Quick Resource Locator for PowerEdge R7715 system

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 secureconnectgateway.

13

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 106. Additional documentation resources for your system

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

Table 106. Additional documentation resources for your system (continued)

Task	Document	Location
	For information about updating drivers and firmware, see the Methods to download firmware and drivers section in this document.	Drivers
Managing your system	For information about systems management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide.	PowerEdge Manuals
	For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.	OpenManage Manuals
	For information about installing and using Dell SupportAssist, see the Dell SupportAssist Enterprise User's Guide.	serviceability tools
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	OpenManage Manuals
Working with the Dell PowerEdge RAID controllers	For information about understanding the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card and deploying the cards, see the Storage controller documentation.	Storage Controller Manuals
Understanding event and error messages	For information about the event and error messages generated by the system firmware and agents that monitor system components, see the EEMI guide.	EEMI guide
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	PowerEdge Manuals