Dell PowerEdge R770

Technical Guide

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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.

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1

PowerEdge R770 system configurations and features

The PowerEdge R770 system is a 2U server that supports:

- Two Intel Xeon 6 processors with up to 144 E-Cores or 86 P-cores
- Optional Direct Liquid Cooling (DLC) for required CPU SKU and/or configurations
- 32 DIMM slots
- Two AC or DC power supply units
- No backplane configuration
- Up to 8x EDSFF E3.S NVMe (SSD) drives FIO configuration
- Up to 16x EDSFF E3.S NVMe (SSD) drives FIO configuration
- Up to 16 x EDSFF E3.S NVMe (SSD) drives
- Up to 32 x EDSFF E3.S NVMe (SSD) drives
- Up to 40 x EDSFF E3.S NVMe (SSD) drives*
- Up to 4 x EDSFF E3.S NVMe (SSD) drives on the rear*
- Up to 8 x 2.5-inch SAS/SATA/NVMe (SSD) drives
- Up to 8 x 2.5-inch Universal drives
- Up to 16 x 2.5-inch SAS/SATA (SSD) drives
- Up to 24 x 2.5 inch SAS/SATA (SSD) drives
- Up to 24 x 2.5 inch SAS/SATA/NVMe (SSD) (8 NVMe + 16 SAS/SATA) drives

ⓘ **NOTE:** *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

ⓘ **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:

- Key workloads
- New technologies

Key workloads

The Dell PowerEdge R770 offers powerful performance in a purpose-built, cyber resilient, mainstream server. Ideal for:

- Virtualization workloads where density, power efficiency, and performance are essential.
- Artificial Intelligence workloads where the latest GPUs, NVMe storage, and I/O devices are needed to excel in high throughput AI deployments.
- Web and Microservices such as Cloud-Native applications, Consumer Digital Services, and Application DevOps, where flexibility, scalability, and iterative features are paramount.
- Hyperscale workloads involving massive amounts of data generated by applications such as cloud services, social media, and large-scale analytics.
- Scale-out Database in which both high-bandwidth network and storage are needed or in routine/non-critical task that can be managed efficiently freeing up expensive/power-hungry performance-based resources.

New technologies

Table 1. New technologies

Technology	Detailed Description
Intel Xeon 6 processors	Core count: Up to 144 E-cores or 86 P-cores processor
	UPI speed: 16 GT/s, 20 GT/s, 24 GT/s
	Maximum number of PCIe lanes per CPU: Integrated 88 PCIe 5.0 lanes
	Speeds up to 3.6 GHz
	Maximum TDP: 350 W
	CXL 2.0: support ⓘ **NOTE:** CXL 2.0 is supported only on Intel Xeon 6 P-core processors
6400 MT/s DDR5 Memory	Max 16 DIMMs per processor and 32 DIMMs per system
	Supports RDIMM, DDR5 with ECC up to 6400 MT/s
PCIe Gen	Gen5 @32 GT/s
PCIe Slot	Up to 8x Gen5 PCIe slots and max 6 slots for x16 width
Flex I/O	OCP NIC card 3.0 : 2 slots on the front (for front I/O configuration) or 2 slots on the rear (for Rear I/O configuration)
	Rear I/O with: ● 1 x Dedicated ethernet port for iDRAC management ● 2 x USB 3.1 ● 1 x VGA
	Front I/O with: ● 1 x USB 2.0 Type C port ● 1 x USB 2.0 (optional) ● 1 x Mini-DisplayPort (optional) ● 1 x DB9 Serial (with front I/O configuration) ● 1 x Dedicated ethernet port for iDRAC management
Data Center Secured Control Module (DC-SCM)	Dedicated ethernet port for idrac management
M-PESTI	Half-duplex protocol between MCU and CPLD, the modular sideband interface as part of the DC-MHS.
Dedicated PERC	N/A
Software RAID	N/A
Power Supplies	60 mm dimension is the new PSU form factor on a 17G design
	800 W Platinum
	1100 W Platinum
	1500 W Titanium
	800 W Titanium
	1100 W Titanium
	3200 W Titanium
	1400 W -48VDC*
	3200 W 277Vac & HVDC Titanium*

Table 1. New technologies (continued)

Technology	Detailed Description
	1800 W HLAC Titanium*
	2400 W Titanium*
	1500 W 277Vac & HVDC Titanium*

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

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Product comparison

Table 2. Comparison of PowerEdge R770 and R760

Feature	PowerEdge R770	PowerEdge R760
Processor	Two Intel Xeon 6 processors, 144 E-Cores or 86 P-cores per processor	1. Up to two 4th Generation Intel® Xeon® Scalable or Intel® Xeon® Max processors, with up to 56 cores per processor 2. Up to two 5th Generation Intel® Xeon® Scalable processors, with up to 64 cores per processor
Chipset	N/A	Intel C620 series chipset
Accelerators	Up to 3x double width 350 W and 6 x single width 75 W accelerators	Up to two double width 350 W, or six single width 75 W accelerators
Memory		
DIMM speed	Up to 6400 MT/s	Up to 5600 MT/s
Memory type	RDIMM	RDIMM
Memory module slots	32 DDR5 DIMM slots	32 DDR5 DIMM slots
	ⓘ **NOTE:** Supports registered ECC DDR5 DIMMs only.	ⓘ **NOTE:** Supports registered ECC DDR5 DIMMs only.
Storage		
Front bays	• No backplane configuration • Up to 8 x EDSFF E3.S NVMe max 122.88 TB. • Up to 16 x EDSFF E3.S NVMe max 245.76 TB. • Up to 32 x EDSFF E3.S NVMe (SSD) max 489.6 TB. • Up to 8 x 2.5-inch NVMe max 30.72 TB. • Up to 8 x 2.5-inch Universal max 245.6 TB. • Up to 16 x 2.5-inch SAS/SATA (SSD) max 61.44 TB. • Up to 24 x 2.5 inch SAS/SATA (SSD) max 92.16 TB. • Up to 24 x 2.5 inch SAS/SATA/NVMe (SSD) (8 NVMe + 16 SAS/SATA) max 92.16 TB.. • Up to 40 x EDSFF E3.S NVMe (SSD)* max 612 TB	Up to 12 x 3.5-inch SAS/SATA (HDD/SSD) Up to 8 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) Up to 16 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) Up to 16 x EDSFF E3.S Gen5 NVMe (SSD) Up to 24 x 2.5-inch SAS/SATA/NVMe (HDD/SSD)
Rear bays	• Up to 4 x EDSFF E3.S NVMe (SSD)* max 61.2 TB	Up to 2 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) Up to 4 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) Up to 4 x EDSFF E3.S Gen5 NVMe (SSD)

Table 2. Comparison of PowerEdge R770 and R760 (continued)

Feature	PowerEdge R770	PowerEdge R760
Storage controllers		
Internal controllers	H965i Front DC-MHS	PERC H965i
		PERC H755i
		PERC H755N
	H365i Front DC-MHS	PERC H355
	H975i Front DC-MHS*	HBA355e
External controllers	H965e*	H840P
	HBA465e*	PERC H965e
Software RAID	N/A	S160
Internal boot	Boot Optimized Storage Subsystem (BOSS-N1 DC-MHS): HWRAID 1, 2 x M.2 NVMe SSDs 480 GB or 960 GB or M.2 Interposer board (DC-MHS): 2 x M.2 NVMe SSDs	Boot Optimized Storage Subsystem (BOSS-N1): HW RAID 1, 2 x M.2 NVMe SSDs 480 GB or 960 GB
	Internal USB	Internal USB
System management	iDRAC10, iDRAC Direct, iDRAC RESTful API with Redfish	iDRAC with Lifecycle Controller, Quick Sync 2.0, iDRAC Direct, OpenManage Enterprise
Power supply	800 W Platinum	3200 W Titanium 277 VAC or 336 VDC
	1100 W Platinum	2800 W Titanium 200-240 HLAC or 240 VDC
	1500 W Titanium	2400 W Platinum 100-240 VAC or 240 VDC
	800 W Titanium	1800 W Titanium 200-240 HLAC or 240 VDC
	1100 W Titanium	1400 W Platinum 100-240 VAC or 240 VDC
	3200 W Titanium	1400 W Titanium 277 VAC or 336 VDC
	1400 W -48VDC*	1100 W Titanium 100-240 VAC or 240 VDC
	3200 W 277Vac & HVDC Titanium*	1100 W -(48-60) VDC
	1800 W HLAC Titanium	800 W Platinum 100-240 VAC or 240 VDC
	2400 W Titanium*	700 W Titanium 200-240 HLAC or 240 VDC
	1500 W 277Vac & HVDC Titanium*	
Ports		
Network options	OCP NIC card 3.0 : Up to 2 slots on the front (for front I/O configuration) or 2 slots on the rear (for rear I/O configuration)	2 x 1GbE LOM card (optional)
		1 x OCP NIC card 3.0 (optional)
Front ports	1 x USB 2.0 Type C port (supports Host mode)	1 x Dedicated iDRAC Direct USB
	1 x USB 2.0 (optional)	2 x USB 2.0
	1 x Mini-DisplayPort (optional)	1 x VGA

Table 2. Comparison of PowerEdge R770 and R760 (continued)

Feature	PowerEdge R770	PowerEdge R760
Rear ports	1 x DB9 Serial	1 x Dedicated iDRAC Ethernet port
	1 x Dedicated iDRAC Ethernet port	
	1 x VGA	1 x USB 2.0
	2 x USB 3.1	1 x USB 3.0
		1 x Serial (optional)
		1 x VGA (optional for Direct Liquid Cooling configuration)
Internal ports	1 x USB 3.1	1 x USB 3.0 (optional)
Slots		
PCIe	Up to 8x Gen5 PCIe slot and max 6 slots for x 16 width	Up to 8 x PCIe Gen4/Gen5 slots
Form factor	2U rack server	2U rack server
Dimensions and weight		
Height	86.8 mm (3.41 inches)	86.8 mm (3.41 inches)
Width	482.0 mm (18.97 inches)	482.0 mm (18.97 inches)
Depth	For cold aisle (front I/O configuration): 814.52 mm (32.07 inches) without bezel **NOTE:** The front I/O configuration does not support the bezel.	772.13 mm (30.39 inches) with bezel 758.29 mm (29.85 inches) without bezel
	For hot aisle (rear I/O configuration): 802.40 mm (31.59 inches) with bezel 801.51 mm (31.56 inches) without bezel	
Weight	28.53 kg (62.89 lbs)	36.1 kg (79.58 lbs)

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

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Chassis views and features

Topics:

- System configurations - front view for PowerEdge R770 system
- System configurations - rear view for PowerEdge R770 system
- System configurations - inside view for PowerEdge R770 system
- QR code for PowerEdge R770 system resources
- Chassis configurations

System configurations - front view for PowerEdge R770 system

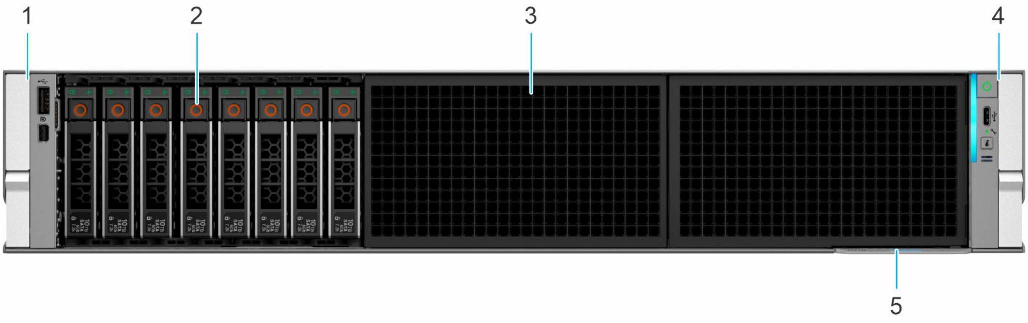


Figure 1. Front view of 8 x 2.5-inch drive system

Table 3. Front view of the 8 x 2.5-inch drive system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. ⓘ **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Drive blank.	N/A	Drive blank is available in eight drive configuration and should not be removed.
4	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host 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.

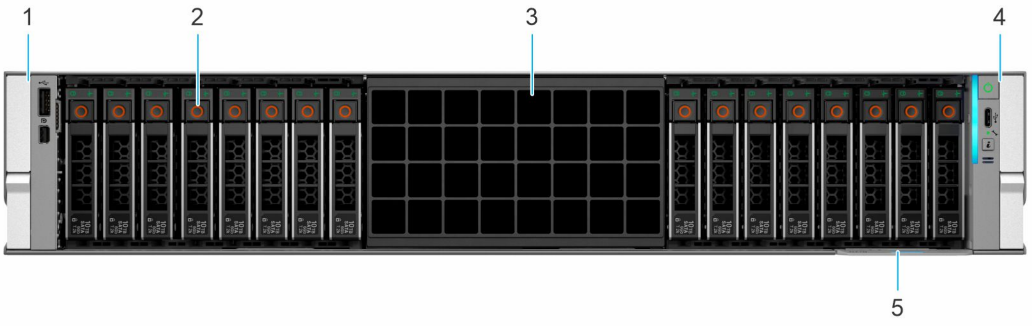


Figure 2. Front view of 16 x 2.5-inch drive system

Table 4. Front view of the 16 x 2.5-inch drive system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Drive blank.	N/A	Drive blank is available in 16 drive configuration and should not be removed.
4	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host 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.

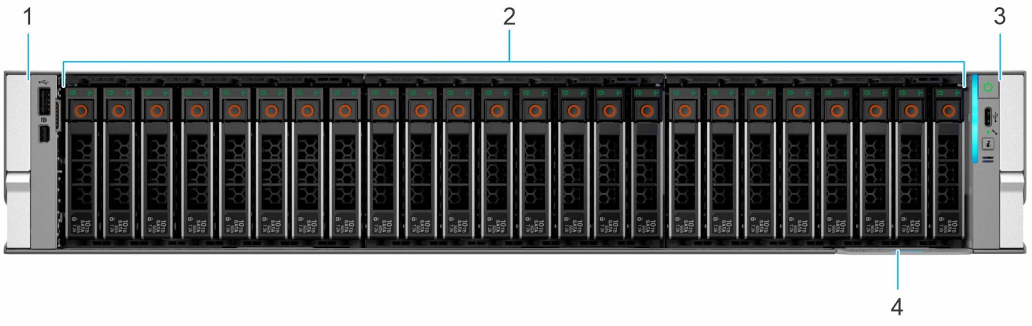


Figure 3. Front view of 24 x 2.5-inch drive system

Table 5. Front view of 24 x 2.5-inch drive system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
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 system health LED, system ID, power button, Type-C USB port, and the host 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.

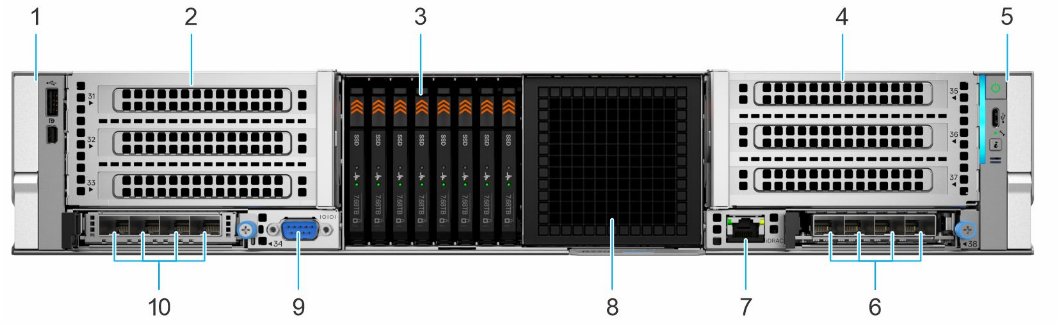


Figure 4. Front view of 8 x EDSFF E3.S drive system with front I/O configuration

Table 6. Front view of 8 x EDSFF E3.S drive system with front I/O configuration

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	PCIe front expansion card riser 1 (slot 31, slot 32 and slot 33)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	Drive	N/A	Enables you to install drives that are supported on your system.
4	PCIe front expansion card riser 3 (slot 35, slot 36 and slot 37)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
5	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host status LED.
6	Primary OCP NIC (slot 38 in front riser 4)	N/A	The OCP NIC slot supports the OCP 3.0 complaint networking card . The NIC ports are integrated on the OCP card which is connected to the system board. **NOTE:** The primary OCP NIC card shares a NIC port with the iDRAC.
7	Dedicated iDRAC Ethernet port (part of front riser 4)	N/A	Enables you to access iDRAC port.
8	Drive blank.	N/A	Drive blank is available in eight drive configuration and should not be removed.
9	Serial COM port (part of front riser 2)	IOIOI	Enables you to connect a serial device to the system.
10	OCP NIC or BOSS-N1 DC-MHS (Slot 34 in front riser 2)	N/A	Enables you to install a secondary OCP or BOSS-N1 DC-MHS controller, based on riser configuration. **NOTE:** Secondary OCP does not support the shared NIC feature.

Figure 5. Front view of 16 x EDSFF E3.S drive system with front I/O configuration

Table 7. Front view of 16 x EDSFF E3.S drive system with front I/O configuration

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. ⓘ **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	PCIe front expansion card riser 1 (slot 31, slot 32 and slot 33)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	Drive	N/A	Enables you to install drives that are supported on your system.
4	PCIe front expansion card riser 3 (slot 35, slot 36 and slot 37)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
5	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host status LED.
6	Primary OCP NIC (slot 38 in front riser 4)	N/A	The OCP NIC slot supports the OCP 3.0 complaint networking card . The NIC ports are integrated on the OCP card which is connected to the system board. ⓘ **NOTE:** The primary OCP NIC card shares a NIC port with the iDRAC.
7	Dedicated iDRAC Ethernet port (part of front riser 4)	N/A	Enables you to access the iDRAC port.
8	Serial COM port (part of front riser 2)	IOIOI	Enables you to connect a serial device to the system.
9	OCP NIC or BOSS-N1 DC-MHS (Slot 34 in front riser 2)	N/A	Enables you to install a secondary OCP or BOSS-N1 DC-MHS controller, based on riser configuration. ⓘ **NOTE:** Secondary OCP does not support the shared NIC feature.

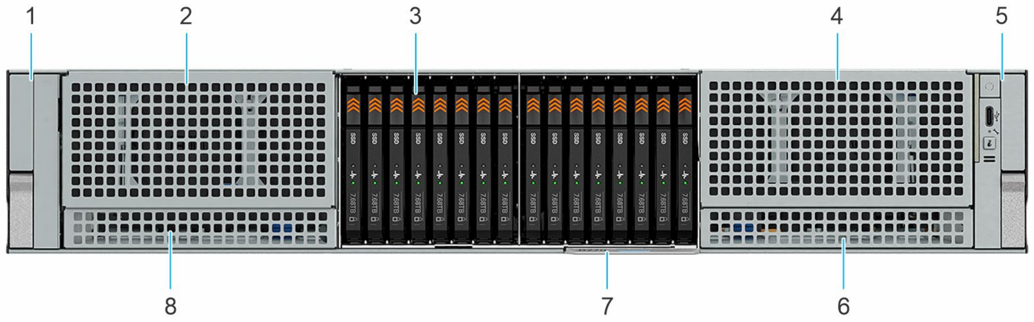


Figure 6. Front view of 16 x EDSFF E3.S drive system with rear I/O configuration

Table 8. Front view of 16 x EDSFF E3.S drive system with rear I/O configuration

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Left control panel blank. **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	PCIe front expansion card riser 1 blank	N/A	In the rear I/O configuration, the riser blank is installed in the expansion card riser bay.
3	Drive	N/A	Enables you to install drives that are supported on your system.
4	PCIe front expansion card riser 3 blank	N/A	In the rear I/O configuration, the riser blank is installed in the expansion card riser bay.
5	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host status LED.
6	PCIe front expansion card riser 4 blank	N/A	In the rear I/O configuration, the riser blank is installed in the expansion card riser bay.
7	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.
8	PCIe front expansion card riser 2 blank	N/A	In the rear I/O configuration, the riser blank is installed in the expansion card riser bay.

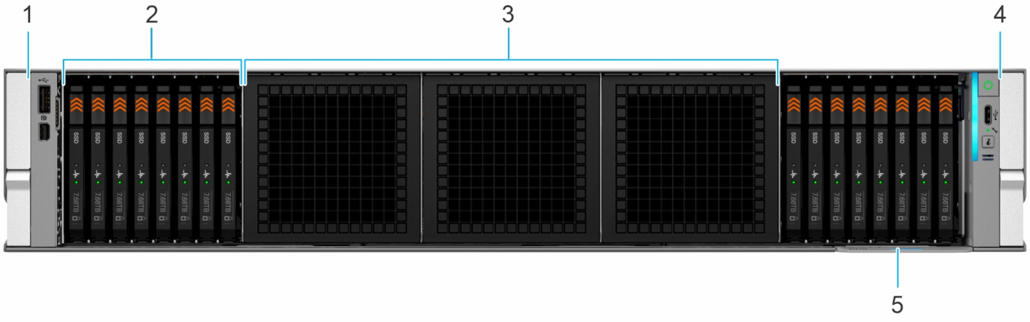


Figure 7. Front view of 16 x EDSFF E3.S drive system

Table 9. Front view of the 16 x EDSFF E3.S drive system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Drive blank.	N/A	Drive blank is available in 16 drive configuration and should not be removed.
4	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host 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.

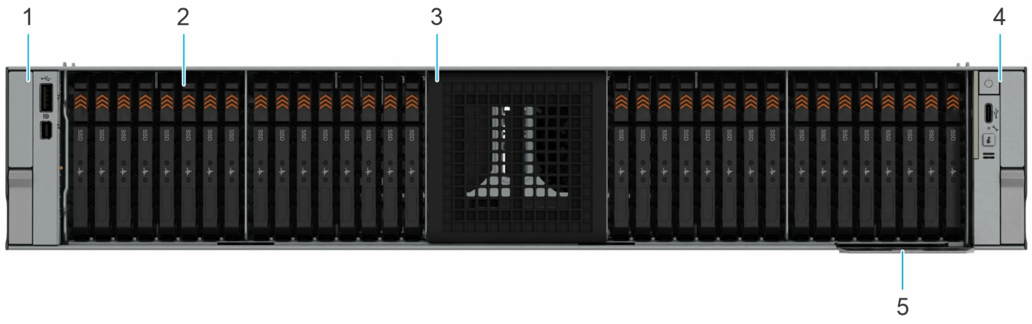


Figure 8. Front view of 32 x EDSFF E3.S drive system

Table 10. Front view of 32 x EDSFF E3.S drive system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Left control panel blank. ⓘ **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	Drive	N/A	Enables you to install drives that are supported on your system.
3	Blank Panel	N/A	Blank panel is available in 32 drive configuration and should not be removed.
4	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host 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.

Figure 9. Front view of 40 x EDSFF E3.S drive system

Table 11. Front view of 40 x EDSFF E3.S drive system*

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Left control panel blank. ⓘ **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
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 system health LED, system ID, power button, Type-C USB port, and the host 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.

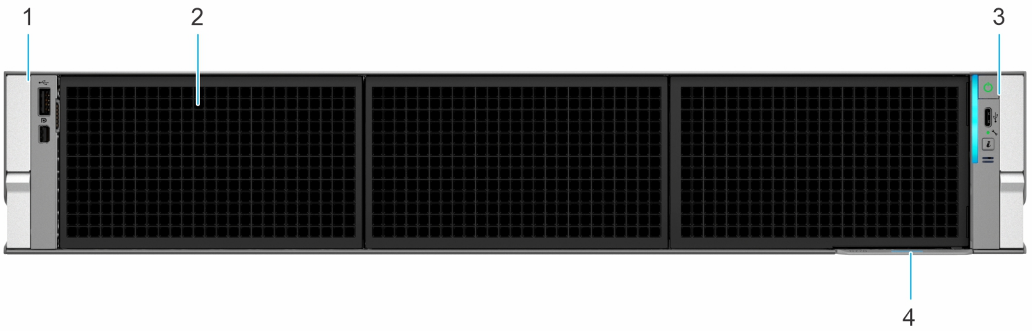


Figure 10. Front view of no BP configuration system

Table 12. Front view of no BP configuration system

Item	Ports, panels, and slots	Icon	Description
1	Left Control Panel (LCP) - Secondary	N/A	Contains the USB port and Mini-Displayport. **NOTE:** The KVM module is optional, and LCP - Secondary blank is default in the left control panel.
2	Drive blank.	N/A	Drive blank is available in no BP configuration and should not be removed.
3	Right Control Panel (RCP) - Primary	N/A	Contains the system health LED, system ID, power button, Type-C USB port, and the host 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.

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

System configurations - rear view for PowerEdge R770 system

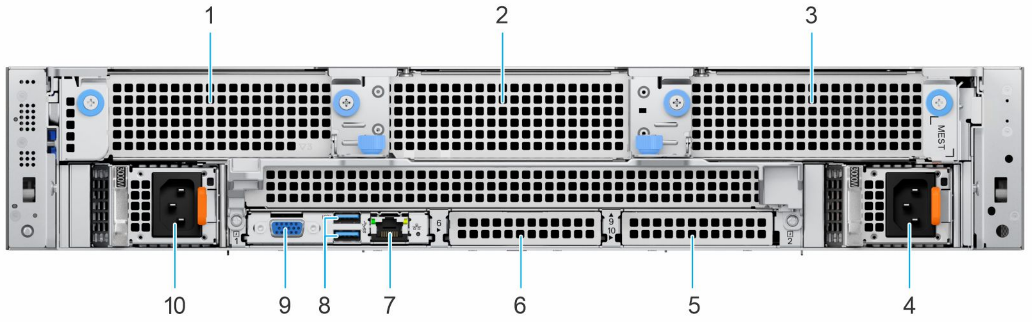


Figure 11. Rear view of the system with front I/O configuration

Table 13. Rear view of the system with front I/O configuration

Item	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1 blank	N/A	In front I/O configuration, the riser blank is installed in the expansion card riser bay.
2	PCIe expansion card riser 3 blank	N/A	

Table 13. Rear view of the system with front I/O configuration (continued)

Item	Ports, panels, or slots	Icon	Description
3	PCIe expansion card riser 5 blank	N/A	
4	Power supply unit (PSU2)	⚡2	PSU2 is the secondary PSU of the system.
5	OCP NIC card filler bracket	N/A	In the front I/O configuration, an OCP filler bracket is installed in the OCP NIC card bay.
6	BOSS filler bracket	N/A	In the front I/O configuration, the BOSS file bracket is installed in BOSS-N1 DC-MHS bay.
7	iDRAC dedicated port	🖧	Enables you to remotely access iDRAC. When the front iDRAC port is connected to the network, the rear iDRAC port is automatically disabled.
8	USB 3.0 port	SS⭠	The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
9	VGA port	IOI	Enables you to connect a display device to the system.
10	Power supply unit (PSU1)	⚡1	PSU1 is the primary PSU of the system.

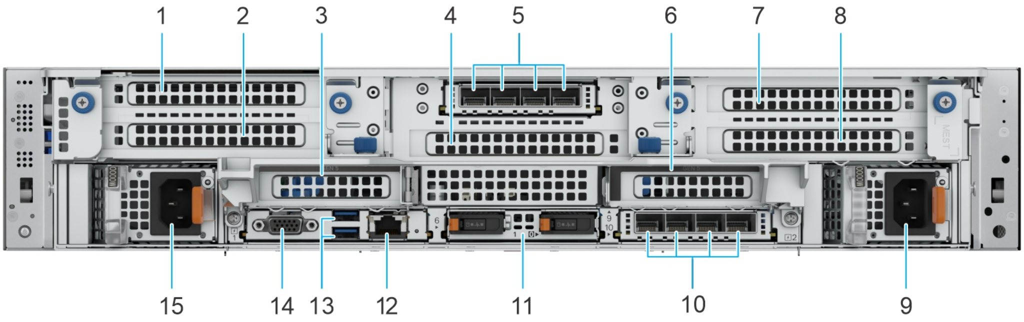


Figure 12. Rear view of the system with rear I/O configuration

Table 14. Rear view of the system with rear I/O configuration

items	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1 (slot 1)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
2	PCIe expansion card riser 1 (slot 2)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	PCIe expansion card riser 2 (slot 3)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
4	PCIe expansion card riser 3 (slot 5)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
5	OCP NIC card (slot 4 in PCIe expansion card riser 3)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.

Table 14. Rear view of the system with rear I/O configuration (continued)

items	Ports, panels, or slots	Icon	Description
6	PCIe expansion card riser 4 (slot 9)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
7	PCIe expansion card riser 5 (slot 7)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
8	PCIe expansion card riser 5 (slot 8)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
9	Power supply unit (PSU2)	⚡2	PSU2 is the secondary PSU of the system.
10	OCP NIC card (slot 10)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.
11	BOSS-N1 DC-MHS module (slot 6)	N/A	BOSS module for internal system boot.
12	iDRAC dedicated port	🖧	Enables you to remotely access iDRAC. When the front iDRAC port is connected to the network, the rear iDRAC port is automatically disabled.
13	USB 3.0 port	SS⇆	The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
14	VGA port	IOI	Enables you to connect a display device to the system.
15	Power supply unit (PSU1)	⚡1	PSU1 is the primary PSU of the system.

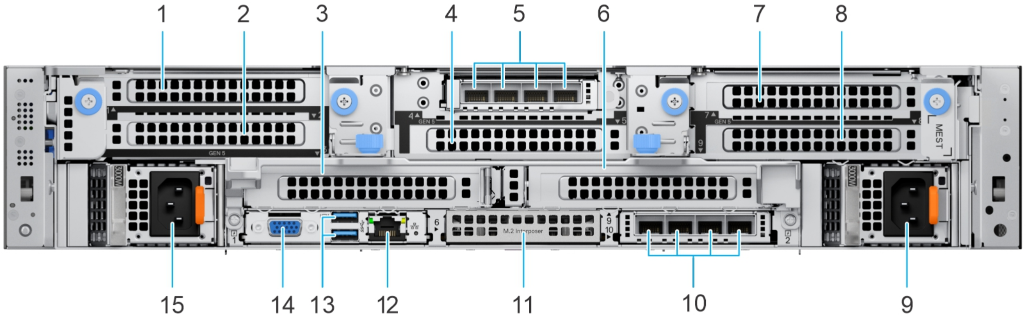


Figure 13. Rear view of the system with rear I/O configuration and M.2 Interposer board

Table 15. Rear view of the system with rear I/O configuration

items	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1 (slot 1)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
2	PCIe expansion card riser 1 (slot 2)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	PCIe expansion card riser 2 (slot 3)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
4	PCIe expansion card riser 3 (slot 5)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
5	OCP NIC card (slot 4 in PCIe expansion card riser 3)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.
6	PCIe expansion card riser 4 (slot 9)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
7	PCIe expansion card riser 5 (slot 7)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
8	PCIe expansion card riser 5 (slot 8)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
9	Power supply unit (PSU2)	⚡2	PSU2 is the secondary PSU of the system.
10	OCP NIC card (slot 10)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.
11	M.2 Interposer board	N/A	M.2 Interposer board for internal system boot.
12	iDRAC dedicated port	🖧	Enables you to remotely access iDRAC. When the front iDRAC port is connected to the network, the rear iDRAC port is automatically disabled.
13	USB 3.0 port	SS⭠	The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
14	VGA port	IOI	Enables you to connect a display device to the system.

Table 15. Rear view of the system with rear I/O configuration (continued)

items	Ports, panels, or slots	Icon	Description
15	Power supply unit (PSU1)	⚡1	PSU1 is the primary PSU of the system.

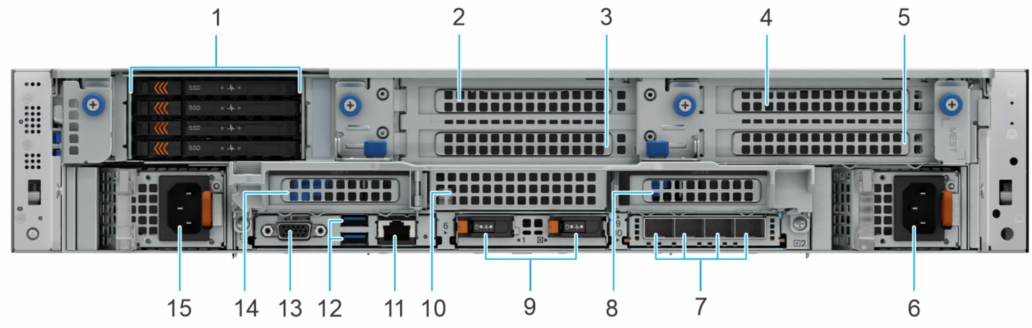


Figure 14. Rear view of the system with 4 x EDSFF E3.S rear drives

Table 16. Rear view of the system with 4 x EDSFF E3.S rear drives*

items	Ports, panels, or slots	Icon	Description
1	Drive	N/A	Enables you to install drives that are supported on your system.
2	PCIe expansion card riser 3 (slot 4)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	PCIe expansion card riser 3 (slot 5)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
4	PCIe expansion card riser 5 (slot 7)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
5	PCIe expansion card riser 5 (slot 8)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
6	Power supply unit (PSU2)	⚡2	PSU2 is the secondary PSU of the system.
7	OCP NIC card (slot 10)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.
8	PCIe expansion card riser 4 (slot 9)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
9	BOSS-N1 DC-MHS module (slot 6)	N/A	BOSS module for internal system boot.
10	PCIe expansion card riser 2 blank	N/A	The riser blank is installed in the expansion card riser bay.
11	iDRAC dedicated port	🖧	Enables you to remotely access iDRAC. When the

Table 16. Rear view of the system with 4 x EDSFF E3.S rear drives* (continued)

items	Ports, panels, or slots	Icon	Description
			front iDRAC port is connected to the network, the rear iDRAC port is automatically disabled.
12	USB 3.0 port	SS⭠	The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
13	VGA port	IOI	Enables you to connect a display device to the system.
14	PCIe expansion card riser 2 (slot 3)	N/A	Enables you to connect a display device to the system.
15	Power supply unit (PSU1)	⚡1	PSU1 is the primary PSU of the system.

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

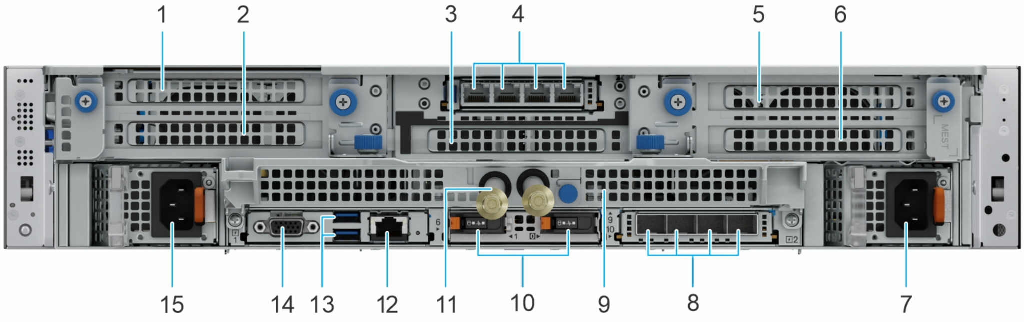


Figure 15. Rear view of the liquid cooling configuration

Table 17. Rear view of the liquid cooling configuration

items	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1 (slot 1)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
2	PCIe expansion card riser 1 (slot 2)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	PCIe expansion card riser 3 (slot 5)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
4	OCP NIC card (slot 4 in PCIe expansion card riser 3)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.
5	PCIe expansion card riser 5 (slot 7)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.

Table 17. Rear view of the liquid cooling configuration (continued)

items	Ports, panels, or slots	Icon	Description
6	PCIe expansion card riser 5 (slot 8)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
7	Power supply unit (PSU2)	⚡2	PSU2 is the secondary PSU of the system.
8	OCP NIC card (slot 10)	N/A	The OCP NIC card supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board and also supports the iDRAC shared NIC feature.
9	PCIe expansion card riser 4 blank	N/A	The liquid cooling blank is installed in the expansion card riser bay.
10	BOSS-N1 DC-MHS module (slot 6)	N/A	BOSS module for internal system boot.
11	Liquid cooling module tubes	N/A	Cold coolant flows into the system from one tube and hot coolant leaves the system from another tube.
12	iDRAC dedicated port	🖧	Enables you to remotely access iDRAC. When the front iDRAC port is connected to the network, the rear iDRAC port is automatically disabled.
13	USB 3.0 port	SS⭠	The USB port is 9-pin and 3.0-compliant. This port enables you to connect USB devices to the system.
14	VGA port	IOI	Enables you to connect a display device to the system.
15	Power supply unit (PSU1)	⚡1	PSU1 is the primary PSU of the system.

System configurations - inside view for PowerEdge R770 system

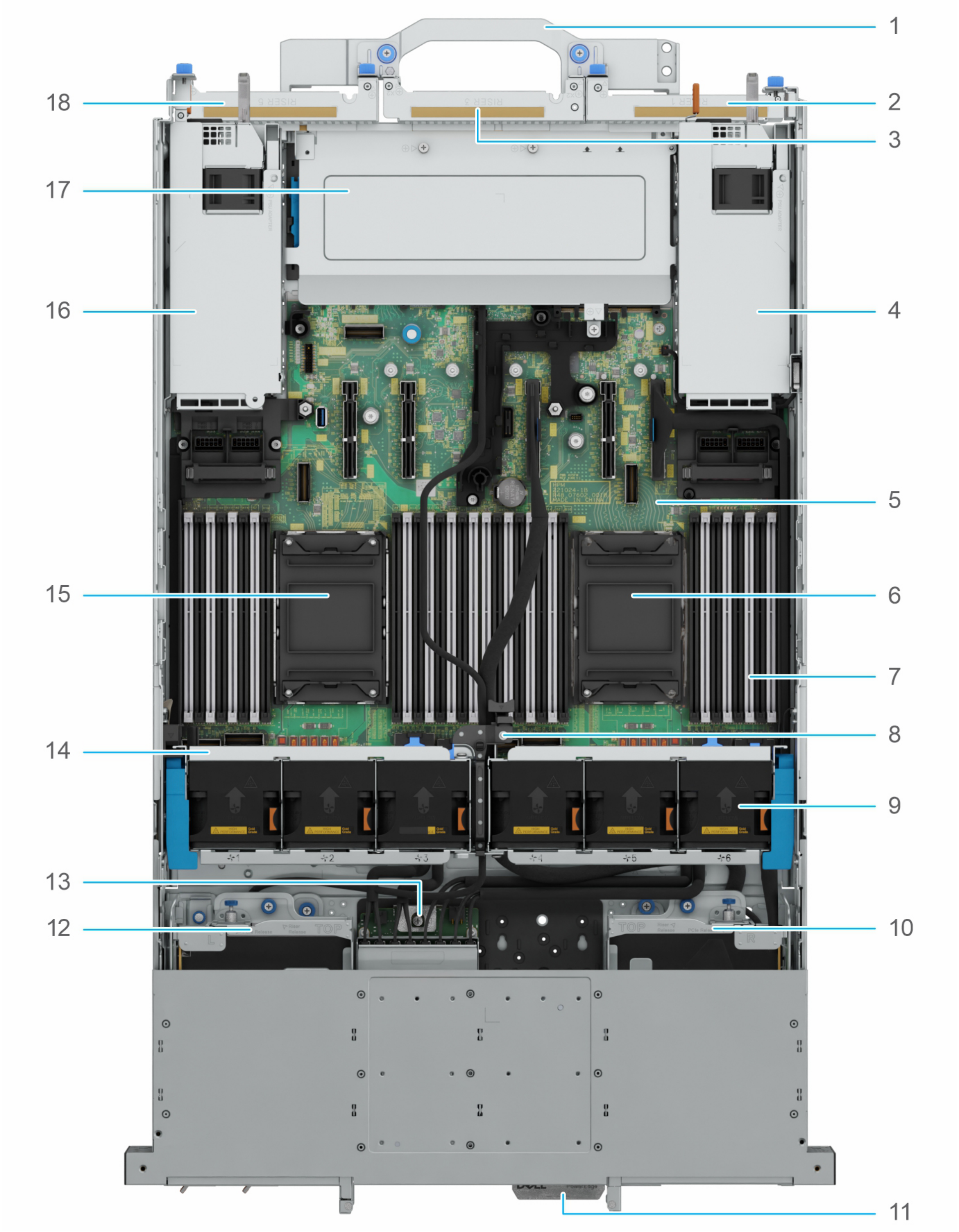


Figure 16. Inside the system with front I/O configuration

1. System handle	2. Rear riser 1 blank
3. Rear riser 3 blank	4. Power supply unit (PSU1)
5. System board or Host Processor Module (HPM)	6. Dust cover for processor 1
7. Memory module slots (DIMM)	8. Cooling cage cable holder
9. Cooling fan	10. Front riser 3
11. Express Service Tag	12. Front riser 1
13. E3.S backplane module	14. Cooling fan cage
15. Dust cover for processor 0	16. Power supply unit (PSU2)
17. Rear riser 2 and riser 4 blank	18. Rear riser 5 blank

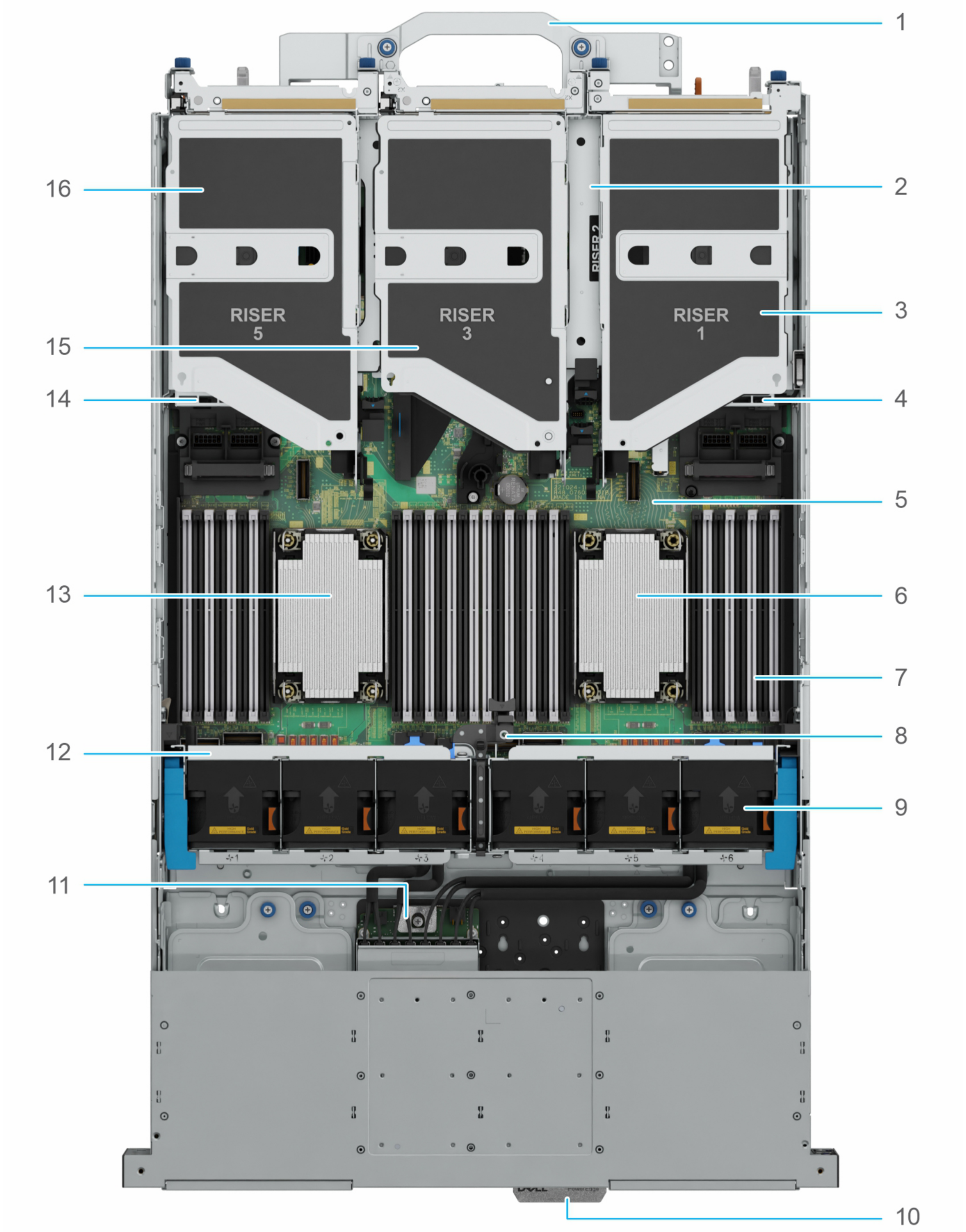


Figure 17. Inside the system with rear I/O configuration

1. System handle
2. Rear riser 2
3. Rear riser 1
4. Power supply unit (PSU1)
5. System board or Host Processor Module (HPM)
6. Processor heat sink module for processor 1
7. Memory module slots (DIMM)
8. Cooling cage cable holder
9. Cooling fan
10. Express Service Tag
11. E3.S backplane module
12. Cooling fan cage
13. Processor heat sink module for processor 0
14. Power supply unit (PSU2)
15. Rear riser 3
16. Rear riser 5

QR code for PowerEdge R770 system resources

Figure 18. QR code for PowerEdge R770 system

Chassis configurations

The PowerEdge™R770 system supports:

- No backplane configuration
- Up to 8 x EDSFF E3.S NVMe (SSD) drives FIO configuration
- Up to 16 x EDSFF E3.S NVMe (SSD) drives FIO configuration
- Up to 16 x EDSFF E3.S NVMe (SSD) drives
- Up to 32 x EDSFF E3.S NVMe (SSD) drives
- Up to 40 x EDSFF E3.S NVMe (SSD) drives*
- Up to 4 x EDSFF E3.S NVMe (SSD) drives on the rear*
- Up to 8 x 2.5-inch SAS/SATA/NVMe (SSD) drives
- Up to 8 x 2.5-inch Universal drives
- Up to 16 x 2.5-inch SAS/SATA (SSD) drives
- Up to 24 x 2.5 inch SAS/SATA (SSD) drives
- Up to 24 x 2.5 inch SAS/SATA/NVMe (SSD) (8 NVMe + 16 SAS/SATA) drives

ⓘ **NOTE:** *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

4

Processor

Topics:

- Processor features

Processor features

The Intel® Xeon® 6 series processor stack is comprised entirely of efficiency cores (E-Cores) providing ultra-high core counts optimized for Cloud Service Providers and HPC server applications. Intel® Xeon® 6700E offers improved performance per watt, boosted performance per rack, upgraded memory speeds, enhanced I/O, expanded UPI speeds and added software extension security.

The following lists the features and functions that are in the Intel® Xeon® 6700E Processor offering:

- High core counts with up to 144 cores with up to 330 W TDP
- Enhanced DDR5 memory with speed up to 6400 MT/s in one DIMM per channel (1DPC) and 5200 MT/s in two DIMM per channel (2DPC)
- Faster UPI 2.0 with up to four Intel Ultra Path Interconnect (Intel® UPI) at up to 24 GT/s, increasing multi-socket bandwidth
- PCIe 5.0 with up to 88 lanes
- Security features leveraging Software Guard Extensions (SGX) for Application Isolation

Supported processors

The following table shows the Intel Xeon 6 processors SKUs that are supported on the R770 .

Table 18. Intel® Xeon® 6 processors supported in R770 - E-Core

Processor	Clock Speed (GHz)	Cache (M)	UPI (GT/s)	Cores	Threads	Turbo	Memory Speed (MT/s)	Memory Capacity	TDP
6780E	2.2	108	24	144	144	Turbo	6400	1 TB	330 W
6766E	1.9	108	24	144	144	Turbo	6400	1 TB	250 W
6756E	1.8	96	24	128	128	Turbo	6400	1 TB	225 W
6746E	2	96	24	112	112	Turbo	6400	1 TB	250 W
6740E	2.4	96	24	96	96	Turbo	6400	1 TB	250 W
6710E	2.4	96	24	64	64	Turbo	6400	1 TB	205 W

Table 19. Intel® Xeon® 6 processors supported in R770 - P-Core

Processor	Clock Speed (GHz)	Cache (M)	UPI (GT/s)	Cores	Threads	Turbo	Memory Speed (MT/s)	Memory Capacity	TDP
6787P	2	336	24	86	172	Turbo	6400	4 TB	350 W
6767P	2.4	336	24	64	128	Turbo	6400	4 TB	350 W
6760P	2.2	320	24	64	128	Turbo	6400	4 TB	330 W
6747P	2.7	288	24	48	96	Turbo	6400	4 TB	330 W
6740P	2.1	288	24	48	96	Turbo	6400	4 TB	270 W

Table 19. Intel® Xeon® 6 processors supported in R770 - P-Core (continued)

Processor	Clock Speed (GHz)	Cache (M)	UPI (GT/s)	Cores	Threads	Turbo	Memory Speed (MT/s)	Memory Capacity	TDP
6736P*	2	144	24	36	72	Turbo	6400	4 TB	205 W
6737P*	2.9	144	24	32	64	Turbo	6400	4 TB	270 W
6730P	2.5	288	24	32	64	Turbo	6400	4 TB	250 W
6530P*	2.3	144	24	32	64	Turbo	6400	4 TB	225 W
6527P*	3.0	144	24	24	48	Turbo	6400	4 TB	255 W
6520P*	2.4	144	24	24	48	Turbo	6400	4 TB	210 W
6724P*	3.6	72	24	16	32	Turbo	6400	4 TB	210 W
6517P*	3.2	72	24	16	32	Turbo	6400	4 TB	190 W
6515P*	2.4	72	24	16	32	Turbo	6400	4 TB	150 W
6505P*	2.2	48	24	12	24	Turbo	6400	4 TB	150 W
6714P*	4.0	48	24	8	16	Turbo	6400	4 TB	165 W
6507P*	3.5	48	24	8	16	Turbo	6400	4 TB	150 W

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

NOTE: Mixing the processors is not supported.

5

Memory subsystem

Topics:

- Supported memory
- System memory guidelines
- CXL memory

Supported memory

Table 20. Memory technology

Feature	PowerEdge R770 (DDR5)
DIMM type	RDIMM
Transfer speed	6400 MT/s(1DPC) and 5200 MT/s (2DPC) ⓘ **NOTE:** Maximum DIMM transfer speed support dependent on CPU SKU and DIMM population
Voltage	1.1 V

Table 21. Supported DIMMs

DIMM type	Rated DIMM Speed (MT/s)	DIMM Type	DIMM Capacity (GB)	Ranks per DIMM	Data Width	DIMM Volts (V)
RDIMM	6400	RDIMM	16	1	x8	1.1
	6400	RDIMM	32	2	x8	1.1
	6400	RDIMM	64	2	x4	1.1
	6400	RDIMM	96	2	x4	1.1
	6400	RDIMM	128	2	x4	1.1
	6400	RDIMM	256	8	x4	1.1

Table 22. Supported DIMMs

DIMM PN	Rated DIMM Speed (MT/s)	DIMM Type	DIMM Capacity (GB)	Ranks per DIMM	Data Width	DIMM Volts (V)
DXMWH	6400	RDIMM	16	1	x8	1.1
G9PYX	6400	RDIMM	32	2	x8	1.1
N66RP	6400	RDIMM	64	2	x4	1.1
JRGVT	6400	RDIMM	96	2	x4	1.1
9C0R6	6400	RDIMM	128	2	x4	1.1
2CRGW	6400	RDIMM	256	8	x4	1.1

System memory guidelines

The PowerEdge R770 system supports DDR5 registered DIMMs (RDIMMs).

Your system memory is organized into eight channels per processor (two memory sockets per channel), 16 memory sockets per processor and 32 memory sockets per system.

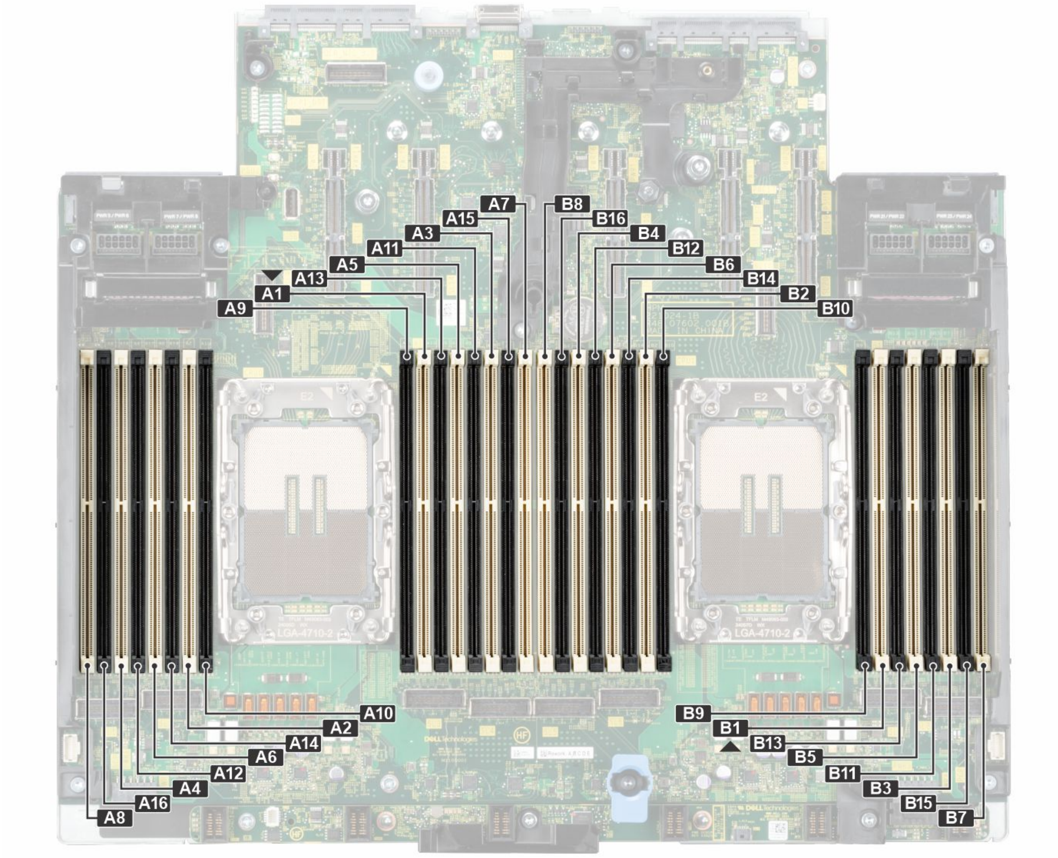


Figure 19. Memory channels

Memory channels are organized as follows:

Table 23. Memory channels

Processor	Channel A	Channel B	Channel C	Channel D	Channel E	Channel F	Channel G	Channel H
Processor 0	Slots A1 and A9	Slots A5 and A13	Slots A3 and A11	Slots A7 and A15	Slots A2 and A10	Slots A6 and A14	Slots A4 and A12	Slots A8 and A16
Processor 1	Slots B1 and B9	Slots B5 and B13	Slots B3 and B11	Slots B7 and B15	Slots B2 and B10	Slots B6 and B14	Slots B4 and B12	Slots B8 and B16

Table 24. Supported memory matrix

DIMM type	Rank	Capacity	DIMM rated voltage and speed	Operating Speed			
				Intel® Xeon 6 E- core processor		Intel® Xeon 6 P- core processor	
				1 DIMM per channel (DPC)	2 DIMM per channel (DPC)	1 DIMM per channel (DPC)	2 DIMM per channel (DPC)
RDIMM	1R	16 GB	DDR5 (1.1 V), 6400 MT/s	N/A	N/A	Up to 6400 MT/s	N/A
	2 R	32 GB	DDR5 (1.1 V), 6400 MT/s	Up to 6400 MT/s	N/A	Up to 6400 MT/s	Up to 5200 MT/s

Table 24. Supported memory matrix (continued)

DIMM type	Rank	Capacity	DIMM rated voltage and speed	Operating Speed			
				Intel® Xeon 6 E- core processor		Intel® Xeon 6 P- core processor	
				1 DIMM per channel (DPC)	2 DIMM per channel (DPC)	1 DIMM per channel (DPC)	2 DIMM per channel (DPC)
		64 GB	DDR5 (1.1 V), 6400 MT/s	Up to 6400 MT/s	Up to 5200 MT/s	Up to 6400 MT/s	Up to 5200 MT/s
		96 GB	DDR5 (1.1 V), 6400 MT/s	N/A	N/A	Up to 6400 MT/s	Up to 5200 MT/s
		128 GB	DDR5 (1.1 V), 6400 MT/s	N/A	N/A	Up to 6400 MT/s	Up to 5200 MT/s
	8 R	256 GB	DDR5 (1.1 V), 6400 MT/s	N/A	N/A	N/A	Up to 5200 MT/s

Table 25. Supported memory matrix

DIMM Capacity	DIMMs per CPU				
	1	**4**	**8**	**12**	**16**
6700E					
32 GB	x	N/A	x	N/A	N/A
64 GB	N/A	N/A	x	N/A	x
6500/6700P					
16 GB	x	N/A	x	N/A	N/A
32 GB	x	x	x	x	x
64 GB	N/A	x	x	N/A	x
128 GB	N/A	N/A	x	N/A	x
256 GB	N/A	N/A	N/A	N/A	x

NOTE:

- DIMMs with capacities 32 GB, and 64 GB are supported on E- core processors.
- DIMMs with capacities 16 GB, 32 GB, 64 GB, 96 GB, 128 GB, and 256 GB are supported on P- core processors.

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

CXL memory

Table 26. CXL memory

RTS 2025	Platform	RC#	CPU0 Port	CPU1 Port	Total Native DIMM configuration	Total Native DIMM capacity	Total CXL AIC configuration	Total system memory capacity
March	R770	RC7	Slot 7/8	Slot 1/2	32 x 96 GB	3072 GB	4 x AIC (96 GB x 4)	4608 GB

Table 26. CXL memory (continued)

RTS 2025	Platform	RC#	CPU0 Port	CPU1 Port	Total Native DIMM configuration	Total Native DIMM capacity	Total CXL AIC configuration	Total system memory capacity
June	R770	RC7	Slot 7/8	Slot 1/2	32 x 128 GB	4096 GB	4 x AIC (128 GB x 4)	6144 GB

NOTE: The CXL memory support is expected to be available in the first half of 2025. Planned Offerings are subject to change and may not be released as originally designed.

NOTE:

- Only the above Native DIMM configurations are supported.
- CXL requires fully populated Native DIMMs.
- Cannot select under 4x DIMMs on AIC.
- Cannot support more than two AICs per CPU.
- 256 GB within AIC cannot be thermally supported.
- x8 AIC refers to lane electrical connectivity only. Must still be populated in a x16 sized physical CEM slot.

6

Storage

Topics:

- Storage controllers
- Supported Drives
- Internal storage configuration

Storage controllers

The R770 system supports Front PERC H965i.

NOTE: The size of the RAID 1 drives must be less than that of the second RAID container.

Supported Drives

The table that is shown below lists the internal drives that are supported in R770. See Agile for the latest SDL.

Table 27. Supported drives

Form Factor	Type	Speed	Rotational Speed	Capacities
EDSFF E3.S	DC NVMe	Gen5	SSD	1.6 TB, 3.2 TB, 1.92 TB, 3.84 TB
EDSFF E3.S	NVMe	Gen5	SSD	3.2 TB, 6.4 TB, 3.84 TB, 7.68 TB, 15.36 TB
2.5 inches	vSAS	12 Gb	SSD	1.92 TB, 3.84 TB, 960 GB, 7.62 TB
2.5 inches	SAS	24 Gb	SSD	1.92 TB, 1.6 TB, 800 GB, 3.84 TB, 960 GB, 7.68 TB
2.5 inches	SATA	6 Gb	SSD	1.92 TB, 480 GB, 960 GB, 3.84 TB
2.5 inches	NVMe	Gen4	SSD	1.6 TB, 3.2 TB, 6.4 TB, 1.92 TB, 3.84 TB, 15.63 TB, 7.68 TB, 800 GB, 400 GB
Universal	NVMe	Gen4	SSD	800 GB, 960 GB, 1.6 TB, 1.92 TB, 3.2 TB, 3.84 TB, 6.4 TB, 7.68 TB, 12.8 TB, 15.63 TB, 30.7 TB

Internal storage configuration

R770 available internal storage configurations:

- 8 x EDSFF E3.S NVMe (SSD) drives.
- 16 x EDSFF E3.S NVMe (SSD) drives.
- 32 x EDSFF E3.S (SSD) drives.
- 2 x EDSFF E3.S (SSD) drives on the rear*.
- 8 x 2.5-inch NVMe (SSD) drives.
- 16 x 2.5-inch SAS/SATA (SSD) drives.
- 24 x 2.5 inch SAS/SATA (SSD) drives.
- 24 x 2.5 inch SAS/SATA/NVMe (SSD) (8 NVMe + 16 SAS/SATA) drives.
- 40 x EDSFF E3.S (SSD) drives*.

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

7

Networking

Topics:

- Overview
- OCP 3.0 support

Overview

PowerEdge offers a wide variety of options to get information moving to and from our servers. Industry best technologies are chosen and these adapters are rigorously validated for worry-free, fully supported use in Dell servers.

OCP 3.0 support

Table 28. OCP 3.0 feature list

Feature	OCP 3.0
Form factor	SFF
PCIe Gen	Gen5
Max PCIe width	x8, x16 (For Rear I/O configuration additional OCP cable is required)
Max number of ports	4
Port type	SFP28/QSFP56
Max port speed	25 GbE, 100 GbE (For Rear I/O configuration additional OCP cable is required)
NC-SI	Yes
SNAPI	Yes
WoL	Yes
Power consumption	15 W–35 W

OCP is also supported in front of the system for some configurations, called the Floating OCP Paddle Card (FLOP). Additionally, the Front I/O OCP supports both internal latch and thumbscrew versions, providing flexibility in installation and maintenance.

Supported OCP cards

Table 29. Supported OCP cards

Form factor	Vendor	Port type	Port speed	Port count
OCP 3.0	Mellanox	QSFP56	25 GbE	2
	Broadcom	QSFP56	25 GbE	4
	Mellanox	QSFP56	100 GbE	2
	Broadcom	QSFP56	100 GbE	2

Table 29. Supported OCP cards (continued)

Form factor	Vendor	Port type	Port speed	Port count
	Broadcom	QSFP56	100 GbE	2
	Broadcom	BT	10 GbE	4
	Broadcom	BT	10 GbE	2
	Broadcom	SFP28	25 GbE	2
	Broadcom	QSFP112	200 GbE	2
	Intel	BT	10 GbE	2
	Intel	BT	10 GbE	4
	Intel	BT	1 GbE	4

OCP NIC 3.0 vs 2.0

Table 30. OCP 3.0 and 2.0 NIC comparison

Form Factor	OCP 2.0 (LOM Mezz)	OCP 3.0	Notes
PCIe Gen	Gen3	Gen5	Supported OCP3 is SFF (small form factor).
Max PCIe Lanes	Up to x16	Up to x16	See server slot priority matrix.
Shared LOM	Yes	Yes	Only OCP on slot 10 (rear IO) and slot 38 (front IO) can support iDRAC port redirect as shared NIC.
Aux Power	Yes	Yes	Used for Shared LOM

8

PCIe subsystem

Topics:

- PCIe risers

PCIe risers

Shown below are the riser offerings for the platform.

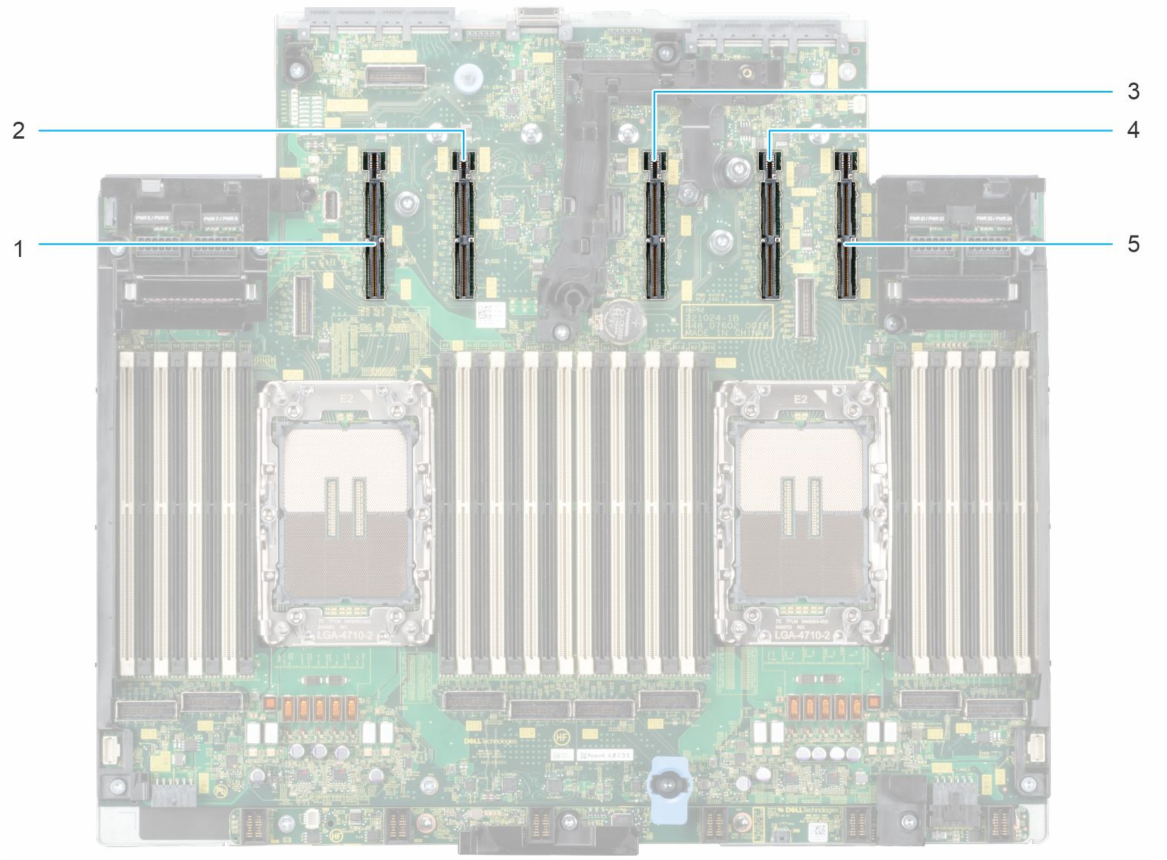


Figure 20. Riser connector location on system board

1. Front riser RF2a or rear riser 5
2. Front riser RF1a or rear riser 4
3. Front riser RF4a or rear riser 2
4. Rear riser 3
5. Front riser RF3a or rear riser 1

NOTE: The system can have front or rear risers, but not both at the same time.

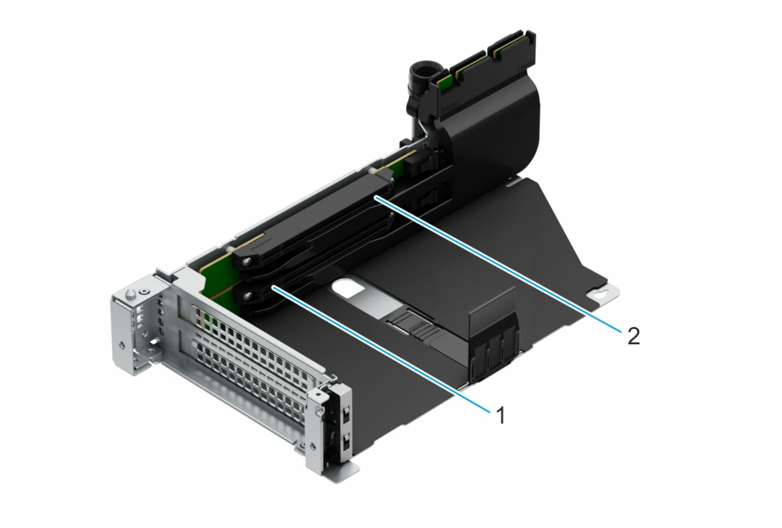


Figure 21. Riser 1A

1. Slot 1
2. Slot 2

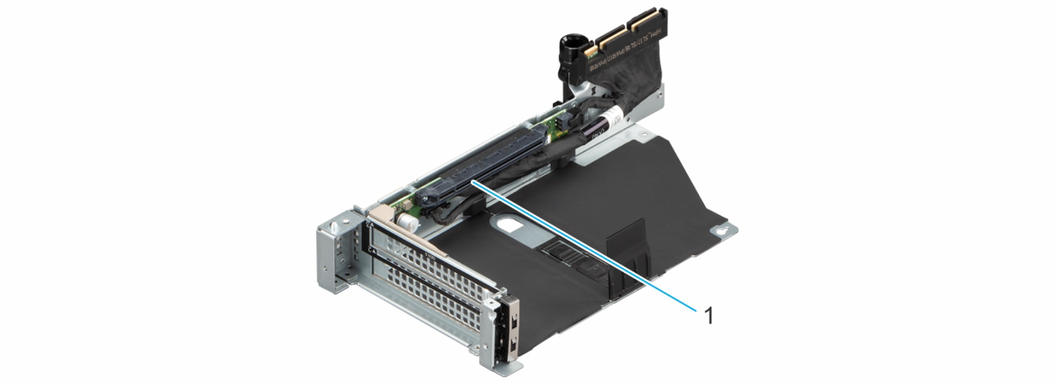


Figure 22. Riser 1B

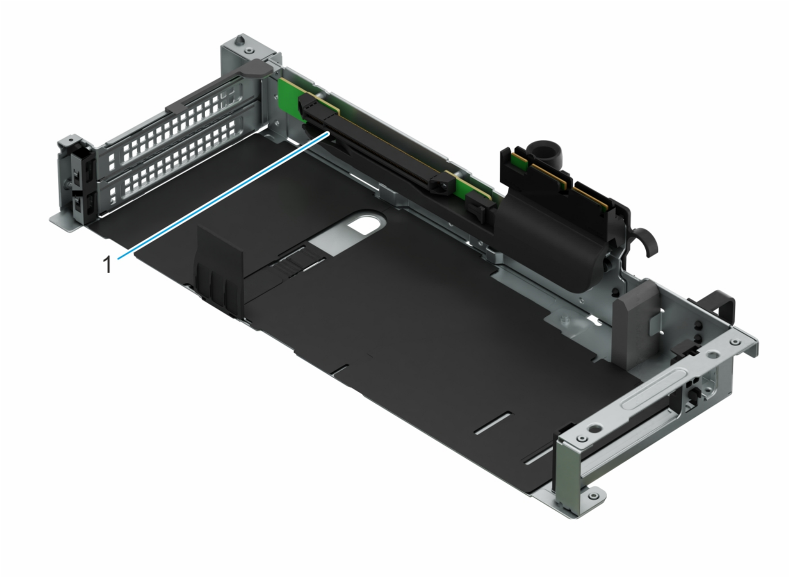


Figure 23. Riser 1B (FL)

1. Slot 2

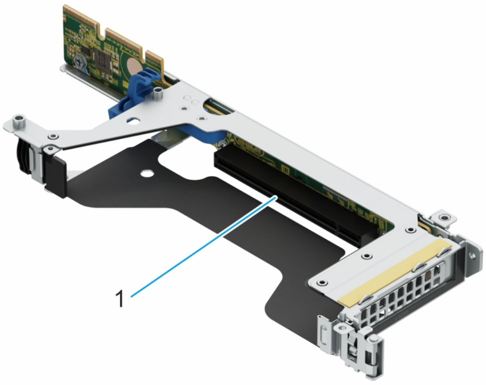


Figure 24. Riser R2A

1. Slot 3

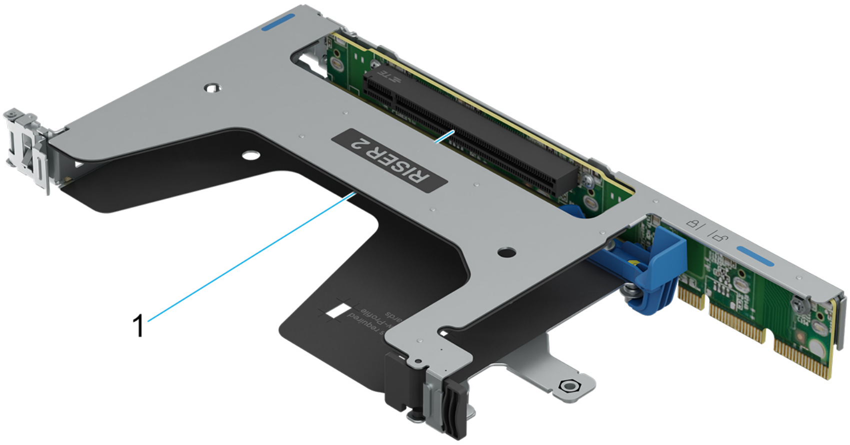


Figure 25. Riser 2B

1. Slot 3

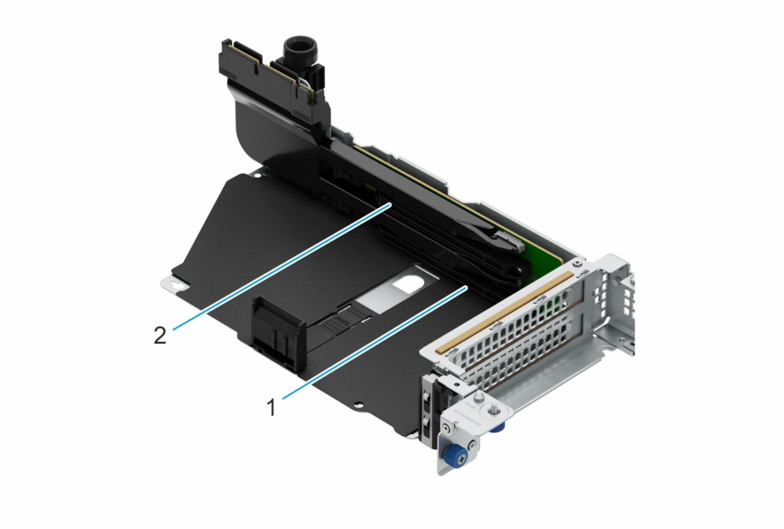


Figure 26. Riser 3A

1. Slot 4
2. Slot 5

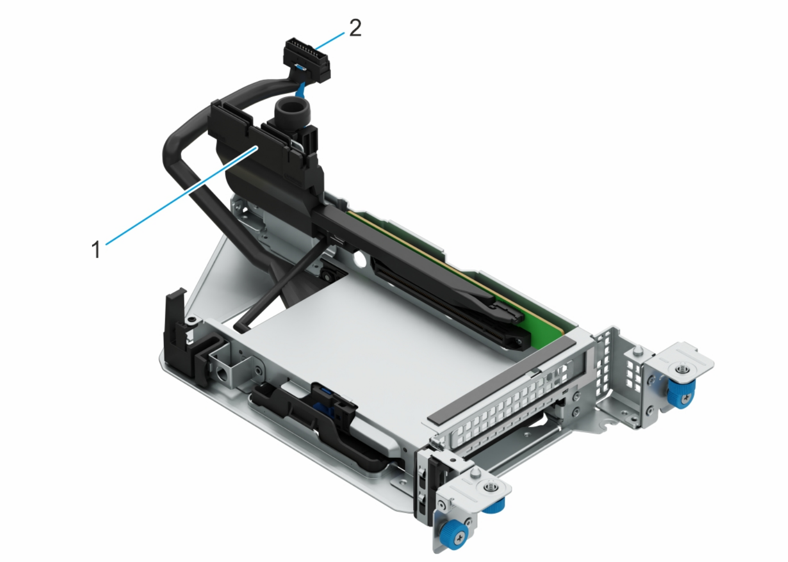


Figure 27. Riser 3C

1. Slot 4
2. Slot 5

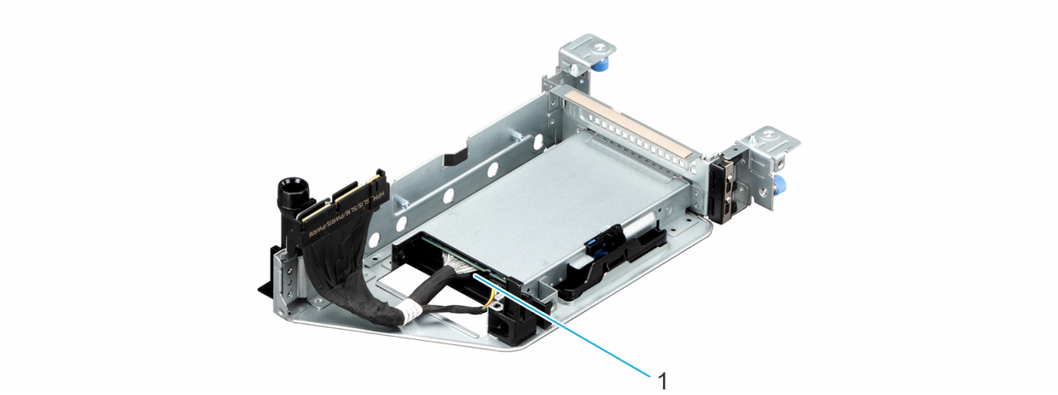


Figure 28. Riser 3E

1. Slot 4

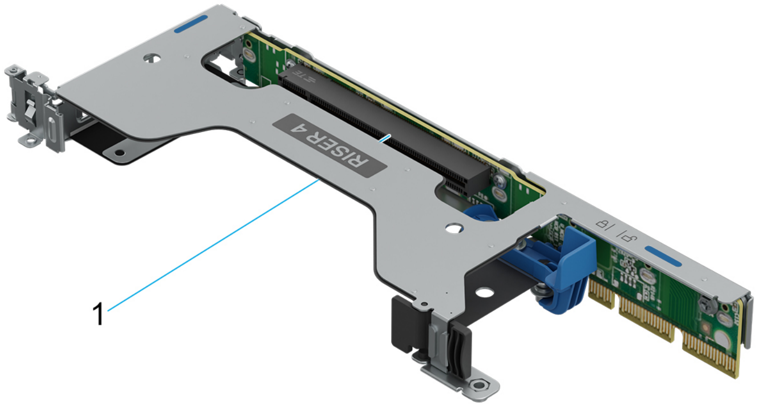


Figure 29. Riser 4A

1. Slot 9

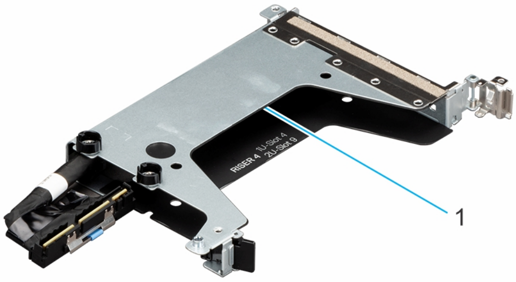


Figure 30. Riser 4B

1. Slot 9

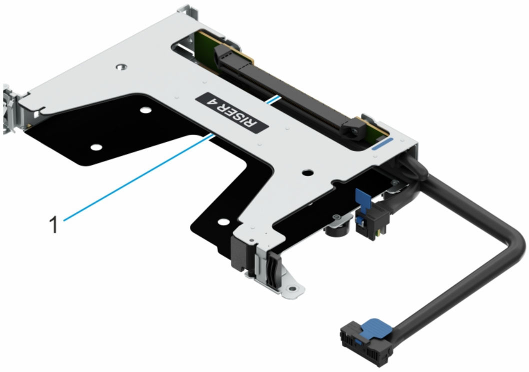


Figure 31. Riser R4C

1. Slot 9

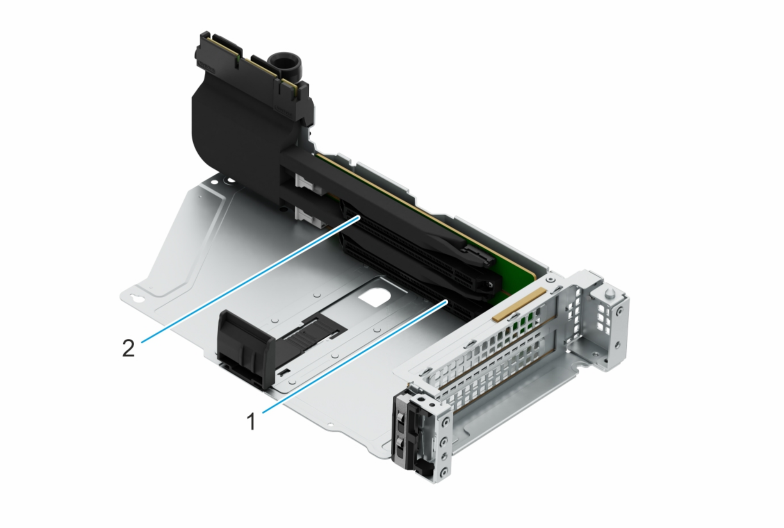


Figure 32. Riser R5A

1. Slot 7
2. Slot 8

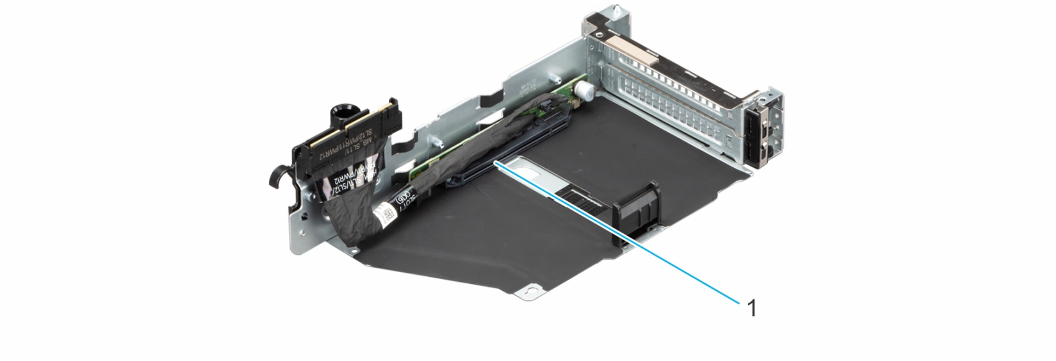


Figure 33. Riser R5B

1. Slot 7

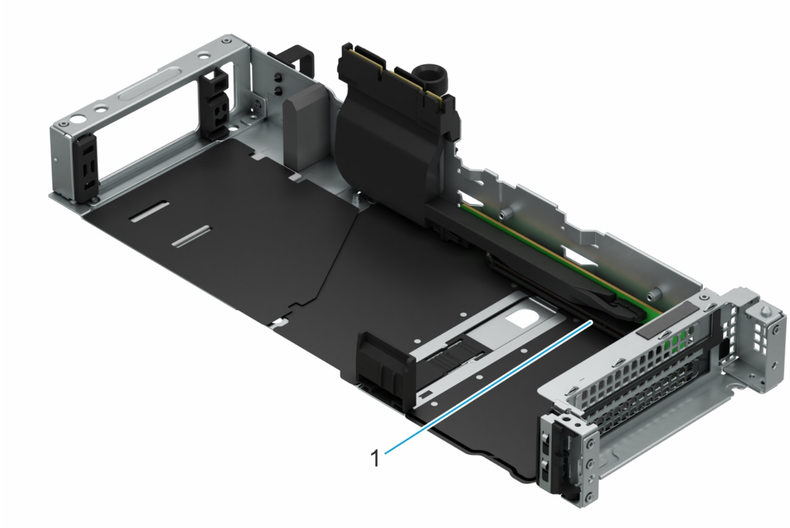


Figure 34. Riser R5B (FL)

1. Slot 7

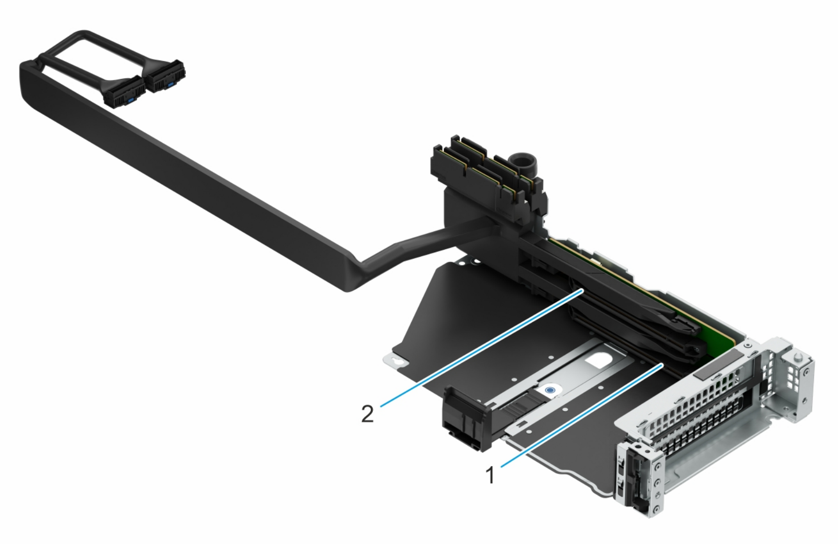


Figure 35. Riser R5C

1. Slot 7
2. Slot 8

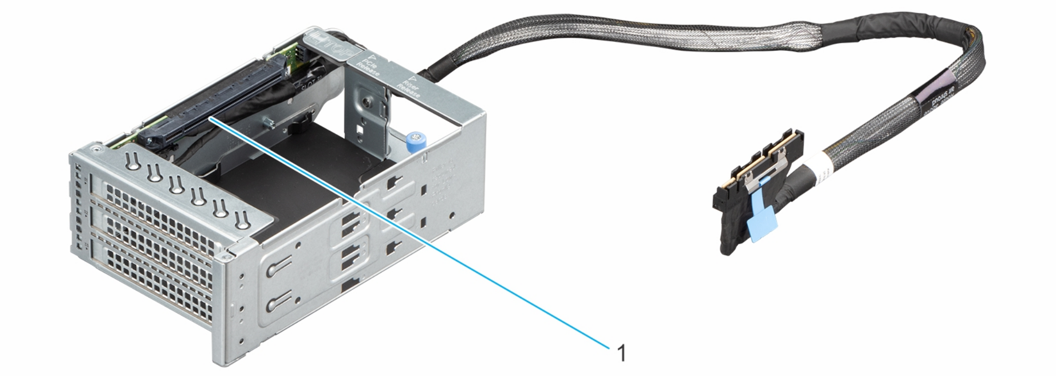


Figure 36. Riser RF1A

1. Slot 31

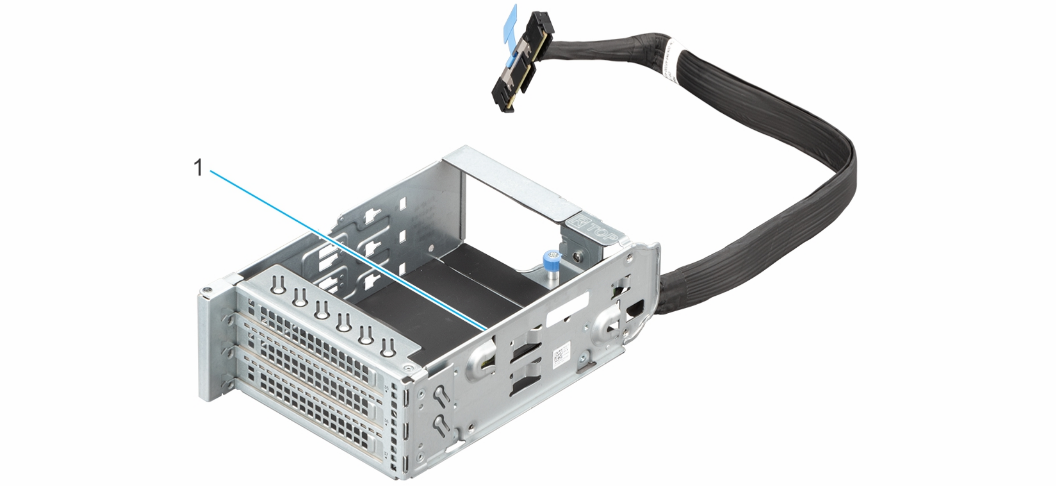


Figure 37. Riser RF3A

1. Slot 36

Figure 38. Riser RF2A

1. Slot 34

Figure 39. Riser RF4A

1. Slot 38

Table 31. PCIe Riser Configurations

Config No.	Riser configuration	No. of Processors	PERC type supported	Rear storage possible
1	RF1a+RF3a+RF4a	2	N/A	No
2	RF1a+RF2a+RF3a+RF4a	2	N/A	No
6-1	R1b+R2b+R3e+R4b+ R5b	2	N/A	No

9

Power, thermal, and acoustics

PowerEdge servers have an extensive collection of sensors that automatically track thermal activity, which helps to regulate temperature by reducing server noise and power consumption. The table below lists the tools and technologies Dell offers to lower power consumption and increase energy efficiency.

Topics:

- Power
- Thermal
- Acoustics

Power

Table 32. Power tools and technologies

Feature	Description
Power Supply Units(PSU) portfolio	Dell's PSU portfolio includes intelligent features such as dynamically optimizing efficiency while maintaining availability and redundancy. Find additional information in the Power supply units section.
Tools for right sizing	Enterprise Infrastructure Planning Tool (EIPT) is a tool that can help you determine the most efficient configuration possible. With Dell's EIPT, you can calculate the power consumption of your hardware, power infrastructure, and storage at a given workload. Learn more at Dell EIPT.
Industry Compliance	Dell's servers are compliant with all relevant industry certifications and guide lines, including 80 PLUS, Climate Savers and ENERGY STAR.
Power monitoring accuracy	PSU power monitoring improvements include: ● Dell's power monitoring accuracy is currently 1%, whereas the industry standard is 5% ● More accurate reporting of power
Rack infrastructure	Dell offers some of the industry's highest-efficiency power infrastructure solutions, including: ● Power distribution units (PDUs) ● Uninterruptible power supplies (UPSs) ● Energy Smart containment rack enclosures ● AC Blind Mate Find additional information at: Power and Cooling

Power Supply Units

Energy Smart power supplies have intelligent features, such as the ability to dynamically optimize efficiency while maintaining availability and redundancy. Also featured are enhanced power-consumption reduction technologies, such as high-efficiency power conversion and advanced thermal-management techniques, and embedded power-management features, including high-accuracy power monitoring. The table below shows the power supply unit options that are available for the R770.

Table 33. R770 PSU specifications

PSU	Class	Heat dissipation (maximum) (BTU/hr)	Frequency (Hz)	AC Voltage			DC Voltage			Current (A)
				200—240 V	100—120 V	277 V	240 V	- (48—60) V	336 V	
800 W mixed mode	Platinum	3000	50/60	800 W	800 W	N/A	N/A	N/A	N/A	9.2—4.5
	N/A	3000	N/A	N/A	N/A	N/A	800 W	N/A	N/A	3.7
	Titanium	3000	50/60	800 W	800 W	N/A	N/A	N/A	N/A	9.2—4.5
	N/A	3000	N/A	N/A	N/A	N/A	800 W	N/A	N/A	3.7
1100 W mixed mode	Platinum	4125	50/60	1100 W	1050 W	N/A	N/A	N/A	N/A	12—6.1
	N/A	4125	N/A	N/A	N/A	N/A	1100 W	N/A	N/A	5.1
	Titanium	4125	50/60	1100 W	1050 W	N/A	N/A	N/A	N/A	12—6.1
	N/A	4125	N/A	N/A	N/A	N/A	1100 W	N/A	N/A	5.1
1400 W -48 VDC*	N/A	5310	N/A	N/A	N/A	N/A	N/A	1400 W	N/A	33
1500 W mixed mode	Titanium	5625	50/60	1500 W	1050 W	N/A	N/A	N/A	N/A	12—8.2
	N/A	5625	N/A	N/A	N/A	N/A	1500 W	N/A	N/A	6.8
1500 W 277Vac & HVDC*	Titanium	5625	50/60	N/A	N/A	1500 W	N/A	N/A	N/A	6.1
	N/A	5625	N/A	N/A	N/A	N/A	N/A	N/A	1500 W	4.91
1800 W HLAC*	Titanium	6750	50/60	1800 W	N/A	N/A	N/A	N/A	N/A	9.8—8.2
1800 W HVDC	N/A	6750	N/A	N/A	N/A	N/A	1800 W	N/A	N/A	8.2
2400 W mixed mode*	Titanium	9000	50/60	2400 W	1400 W	N/A	N/A	N/A	N/A	16—13.2
	N/A	9000	N/A	N/A	N/A	N/A	2400 W	N/A	N/A	10.9
3200 W mixed mode	Titanium	12000	50/60	2900 W** 3200 W***	N/A	N/A	N/A	N/A	N/A	16
	N/A	12000	N/A	N/A	N/A	N/A	3200 W	N/A	N/A	14.5
3200 W 277Vac & HVDC*	Titanium	12000	50/60	N/A	N/A	3200 W	N/A	N/A	N/A	12.9
	N/A	12000	N/A	N/A	N/A	N/A	N/A	N/A	3200 W	10.47

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

NOTE:

- **200-220 V
- *** 220.1-240 V

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

Figure 40. PSU power cords

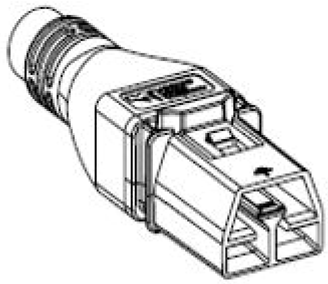


Figure 41. APP 2006G1 power cord

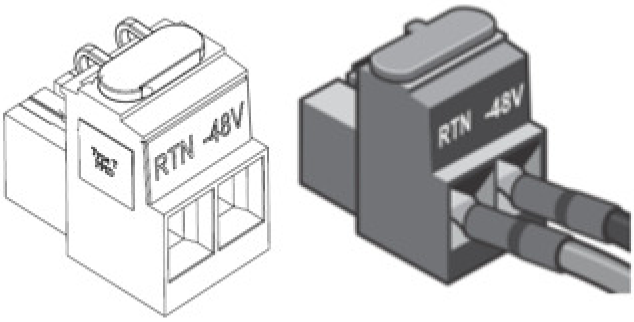


Figure 42. Lotes DC PSU connector

Table 34. PSU power cords

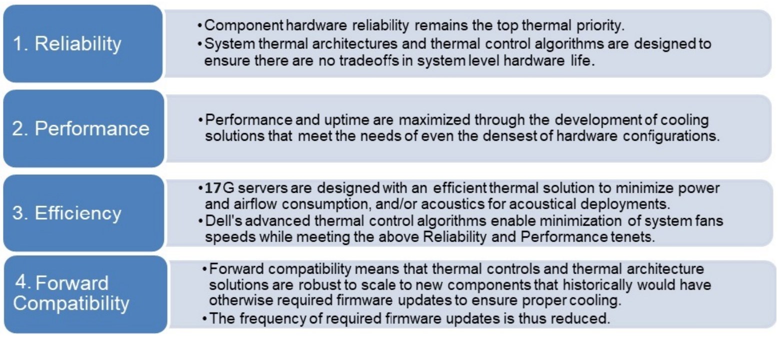
Form factor	Output	Power cord
60 mm	800 W mixed mode	C13
	1100 W mixed mode	C13
	1400 W -48 VDC	Lotes RN5T2
	1500 W mixed mode	C13
	1500 W mixed mode 277Vac & HVDC	APP/Saf-D-Grid
	1800 W mixed mode	C15
73.5 mm	2400 W mixed mode	C19
	3200 W mixed mode	C19
	3200 W mixed mode 277Vac & HVDC	APP/Saf-D-Grid

Thermal

PowerEdge servers have an extensive collection of sensors that automatically track thermal activity, which helps regulate temperature thereby reducing server noise and power consumption.

Thermal design

Thermal management of the platform helps deliver high performance with the right amount of cooling to components, while maintaining the lowest fan speeds possible. This is done across a wide range of ambient temperatures from 10°C to 35°C (50°F to 95°F) and to extended ambient temperature ranges.



1. Reliability	• Component hardware reliability remains the top thermal priority. • System thermal architectures and thermal control algorithms are designed to ensure there are no tradeoffs in system level hardware life.
2. Performance	• Performance and uptime are maximized through the development of cooling solutions that meet the needs of even the densest of hardware configurations.
3. Efficiency	• 17G servers are designed with an efficient thermal solution to minimize power and airflow consumption, and/or acoustics for acoustical deployments. • Dell's advanced thermal control algorithms enable minimization of system fans speeds while meeting the above Reliability and Performance tenets.
4. Forward Compatibility	• Forward compatibility means that thermal controls and thermal architecture solutions are robust to scale to new components that historically would have otherwise required firmware updates to ensure proper cooling. • The frequency of required firmware updates is thus reduced.

Figure 43. Thermal design characteristics

The thermal design of the PowerEdge R770 reflects the following:

- Optimized thermal design: The system layout is architected for optimum thermal design.
- System component placement and layout are designed to provide maximum airflow coverage to critical components with minimum expense of fan power.
- Comprehensive thermal management: The thermal control system regulates the fan speed based on several different responses from all system-component temperature sensors, and inventory for system configurations. Temperature monitoring includes components such as processors, DIMMs, chipset, the inlet air ambient, hard disk drives, and OCP.
- Open and closed loop thermal fan speed control: Open loop thermal control uses system configuration to determine fan speed based on inlet air ambient temperature. Closed loop thermal control method uses feedback temperatures to dynamically determine proper fan speeds.
- User-configurable settings: With the understanding and realization that every customer has unique set of circumstances or expectations from the system. For more information, see the Dell PowerEdge R770 Installation and Service Manual at PowerEdge Manuals and “Advanced Thermal Control: Optimizing across Environments and Power Goals” on Dell.com.
- Cooling redundancy: The R770 allows N+1 fan redundancy, allowing continuous operation with one fan failure in the system.
- Environmental Specifications: The optimized thermal management makes the R770 reliable under a wide range of operating environments.

Acoustics

Acoustical configurations of R770

The Dell PowerEdge R770 is a rack-mount server whose with acoustical output that spans from levels suitable for an office environment to those found in data centers. Acoustical performance is provided in terms of eight configurations: Quietest Configuration, GPU Quietest, Entry, Volume(2.5”), Volume(Front I/O), Volume(GPU), Feature Rich, and Feature Rich(ML). Detailed information about these configurations can be found in 'Configurations tested for acoustical experience' table, while acoustical performance data for each configuration is included in 'Acoustical experience of R770 edition configurations' table.

Table 35. Configurations tested for acoustical experience

Configurations	Quietest Acoustical	GPU Quietest Acoustical	Entry	Volume (2.5”)	Volume (Front I/O)	Volume(GPU)	Feature Rich ML	Feature Rich
CPU	2 x Intel 205 W	2 x Intel 205 W	2 x Intel 205 W	2 x Intel 205 W	2 x Intel 250 W	2 x Intel 330 W	2 x Intel 350 W	2 x Intel 250 W
Memory	16 x 32 GB RDIMM DDR5	32 x 64 GB RDIMM DDR5	16 x 32 GB RDIMM DDR5	16 x 32 GB RDIMM DDR5	16 x 32 GB RDIMM DDR5	32 x 64 GB RDIMM DDR5	32 x 64 GB RDIMM DDR5	16x 32 GB RDIMM DDR5
HDD/SSD	1 x 2.5”	2 x 2.5”	2x 2.5”	8x2.5”NVME	8xE3	8x2.5”NVME	24x2.5”	2xE3
BP	8x 2.5" Universal BP	8x 2.5" Universal BP	8x 2.5" Universal BP	8x 2.5" Universal BP	8x E3 BP	8x 2.5" Universal BP	24x2.5”	4x8xE3
PERC	N/A	H365i	N/A	N/A	N/A	H965i	H965i	N/A
BOSS	N/A	N/A	N/A	17G BOSS	17G BOSS	17G BOSS	17G BOSS	17G BOSS
OCP	2-port 25 Gbe	N/A	2-port 25 Gbe	2-port 25 Gbe	N/A	2-port 25 Gbe	2-port 25 Gbe	2-port 25 Gbe
PSU	2x 1100 W	2x 3200 W	2x 1100 W	2x 1100 W	2x 1500 W	2x 3200 W	2x 3200 W	2x 1500 W
Bezel	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PCI	N/A	1 x Nvidia H100	N/A	2-port 100Gbe	N/A	1 x Nvidia H100	2-port 100Gbe	2-port 100Gbe

Table 36. Acoustical experience of R770 edition configurations

Configuration		Quietest Acoustical	GPU Quietest Acoustical	Entry	Volume (2.5”)	Volume (Front I/O)	Volume(GPU)	Feature Rich ML	Feature Rich
Acoustical Performance: Idle/ Operating @ 25 °C Ambient									
$L_{wA,m}$(B)	Idle(4)	4.7	6.4	4.7	4.7	5.9	6.9	5.9	6.1
	Operating / Customer Usage Operating (5)(6)	4.7	9.2	4.7	5.4	5.9	8.7	6.0	6.4
K_v(B)	Idle(4)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Operating / Customer Usage Operating (5)(6)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
$L_{pA,m}$(dB)	Idle(4)	34	51	34	34	43	51	42	44
	Operating / Customer Usage Operating (5)(6)	34	70	34	39	43	70	43	46
Prominent discrete tones (3)		Prominence ratio < 15 dB							

Table 36. Acoustical experience of R770 edition configurations (continued)

Configuration	Quietest Acoustical	GPU Quietest Acoustical	Entry	Volume (2.5”)	Volume (Front I/O)	Volume(GPU)	Feature Rich ML	Feature Rich
Acoustical Performance: Idle @ 28 °C Ambient								
$L_{wA,m}$(1)(B)	5.2	6.9	5.2	5.1	6.2	6.9	6.4	6.2
K_v (B)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
$L_{pA,m}$(2)(dB)	35	50	35	35	45	50	47	45
Acoustical Performance: Max. Loading @ 35 °C Ambient								
$L_{wA,m}$(1)(B)	7.4	9.1	7.4	7.4	7.2	9.1	7.5	8.3
K_v (B)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
$L_{pA,m}$(2)(dB)	58	74	58	57	56	73.7	57	70

(1)LwA, m: The declared mean A-weighted sound power level (LwA) is calculated per section 5.2 of ISO 9296 with data collected using the methods described in ISO 7779 (2010). Engineering data presented here may not be fully compliant with ISO 7779 declaration requirements.

(2)LpA, m: The declared mean A-weighted emission sound pressure level is at the bystander position per section 5.3 of ISO 9296 and measured using methods described in ISO 7779. The system is placed in a 24U rack enclosure, 25cm above a reflective floor. Engineering data presented here may not be fully compliant with ISO 7779 declaration requirements.

(3)Prominent discrete tones: Criteria of Annex D of ECMA-74 & Prominence Ratio method of ECMA-418 are followed to determine if discrete tones are prominent and to report them, if so.

(4)Idle mode: The steady-state condition in which the server is energized but not operating any intended function.

(5)Operating mode: Operating mode is represented by the maximum of the steady state acoustical output at 50% of CPU TDP or active storage drives for the respective sections of Annex C of ECMA-74.

(6) Customer Usage Operating mode: The operating mode is represented by the maximum of the steady state acoustical output at 10%~50% of CPU TDP, 10~50% of Memory, 10% IOPs, and >50% GPU load as the components showed in the above configurations.

10

Rack, rails, and cable management

Topics:

- Rails and cable management information

Rails and cable management information

The rail offerings for the PowerEdge R770 consist of two general types: sliding and static. The cable management offerings consist of an optional cable management arm (CMA) and an optional strain relief bar (SRB).

See the *Enterprise Systems Rail Sizing and Rack Compatibility Matrix* available at rail-rack matrix for information regarding:

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

Key factors governing proper rail selection include the following:

- Spacing between the front and rear mounting flanges of the rack.
- Type and location of any equipment that is mounted in the back of the rack such as power distribution units (PDUs).
- Overall depth of the rack.

Sliding rails features summary

The sliding rails allow the system to be fully extended out of the rack for service. There are two types of sliding rails available, ReadyRails II sliding rails and Stab-in/Drop-in sliding rails. The sliding rails are available with or without the optional cable management arm (CMA) or strain relief bar (SRB).

B21 ReadyRails sliding rails for 4-post racks

- Supports drop-in installation of the chassis to the rails.
- Support for tool-less installation in 19" EIA-310-E compliant square or unthreaded round hole 4-post racks including all generations of the Dell racks.
- Support for tooled installation in 19" EIA-310-E compliant threaded hole 4-post racks.
- Support full extension of the system out of the rack to allow serviceability of key internal components.
- Support for optional strain relief bar (SRB).
- Support for an optional cable management arm (CMA).

> **NOTE:** For situations where CMA support is not required, the outer CMA mounting brackets can be uninstalled from the sliding rails. This reduces the overall length of the rails and eliminates the potential interference with rear-mounted PDUs or the rear rack door.

Figure 44. Sliding rails with optional CMA

Figure 45. Sliding rails with optional SRB

B22 Stab-in/Drop-in sliding rails for 4-post racks

- Supports drop-in or stab-in installation of the chassis to the rails.
- Support for tool-less installation in 19" EIA-310-E compliant square, unthreaded round hole racks including all generations of the Dell racks. Also supports tool-less installation in threaded round hole 4-post racks.
- Support for tool-less installation in Dell EMC Titan or Titan-D racks.
- Support full extension of the system out of the rack to allow serviceability of key internal components.
- Support for an optional cable management arm (CMA).
- Support for optional strain relief bar (SRB).

NOTE: For situations where CMA support is not required, the outer CMA mounting brackets can be uninstalled from the sliding rails. This reduces the overall length of the rails and eliminates the potential interference with rear-mounted PDUs or the rear rack door.

B20 static rails summary

The static rails offer a greater adjustability range and a smaller overall mounting footprint than the sliding rails because of their reduced complexity and lack of need for CMA support. The static rails support a wider variety of racks than the sliding rails. However, they do not support serviceability in the rack and are thus not compatible with the CMA. The static rails are also not compatible with SRB.

Figure 46. Static rails

Static rails features summary

Static rails for 4-post and 2-post racks:

- Supports Stab-in installation of the chassis to the rails.
- Support tool-less installation in 19" EIA-310-E compliant square or unthreaded round hole 4-post racks including all generations of Dell racks.
- Support tooled installation in 19" EIA-310-E compliant threaded hole 4-post and 2-post racks.
- Support for tooled installation in Dell EMC Titan or Titan-D rack.

NOTE:

- Screws are not included with the static rail kit since racks are offered with various thread types. The screws are provided for mounting static rails in racks with threaded mounting flanges.
- Screw head diameter should be 10 mm or less.

2-Post racks installation

If installing to 2-Post (Telco) racks, the ReadyRails II static rails (B4) must be used. Sliding rails support mounting in 4-post racks only.

Figure 47. Static rails in 2-post center mount configuration

Installation in the Dell EMC Titan or Titan-D racks

For tool-less installation in Titan or Titan-D racks, the Stab-in/Drop-in sliding rails (B22) must be used. This rail collapses down sufficiently to fit in the rack with mounting flanges that are spaced about 24 inches apart from front to back. The Stab-in/Drop-in sliding rail allows bezels of the servers and storage systems to be aligned when installed in these racks. For tooled installation, Stab-in Static rails (B20) must be used for bezel alignment with storage systems.

Rack Installation

Drop-in design means that the system is installed vertically into the rails by inserting the standoffs on the sides of the system into the J-slots in the inner rail members with the rails in the fully extended position. The recommended method of installation is to first insert the rear standoffs on the system into the rear J-slots on the rails to free up a hand and then rotate the system down into the remaining J-slots while using the free hand to hold the rail against the side of the system.

Stab-in design means that the inner (chassis) rail members must first be attached to the sides of the system and then inserted into the outer (cabinet) members installed in the rack.

Installing the system into the rack (option A: Drop-In)

1. Pull the inner rails out of the rack until they lock into place.

Figure 48. Pull out inner rail

2. Locate the rear rail standoff on each side of the system and lower them into the rear J-slots on the slide assemblies.
3. Rotate the system downward until all the rail standoffs are seated in the J-slots.

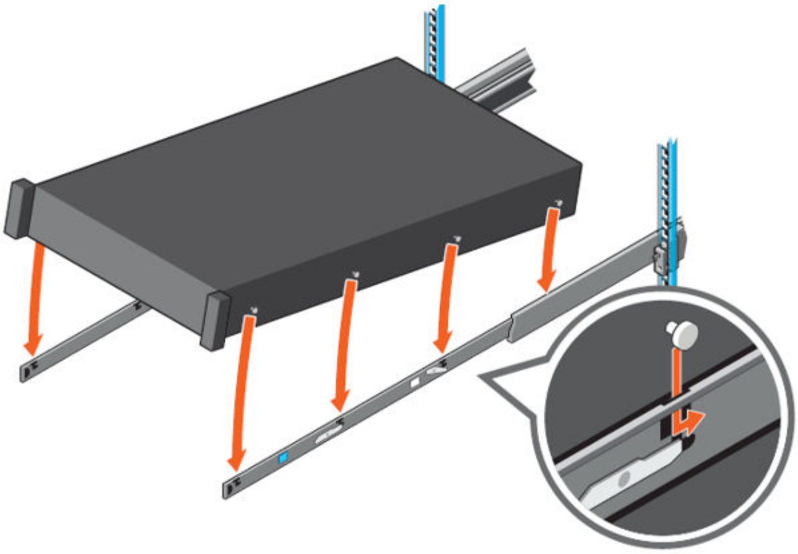


Figure 49. Rail standoffs seated in J-slots

4. Push the system inward until the lock levers click into place.
5. Pull the blue side release lock tabs forward or backward on both rails and slide the system into the rack until the system is in the rack.

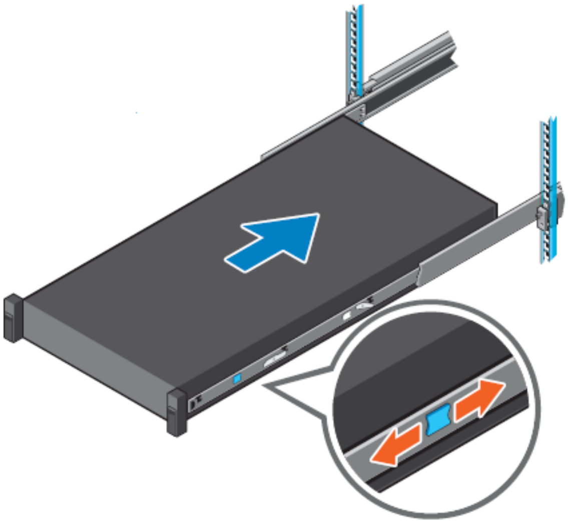


Figure 50. Slide system into the rack

Installing the system into the rack (option B: Stab-In)

1. Pull the intermediate rails out of the rack until they lock into place.
2. Release the inner rail lock by pulling forward on the white tabs and sliding the inner rail out of the intermediate rails.

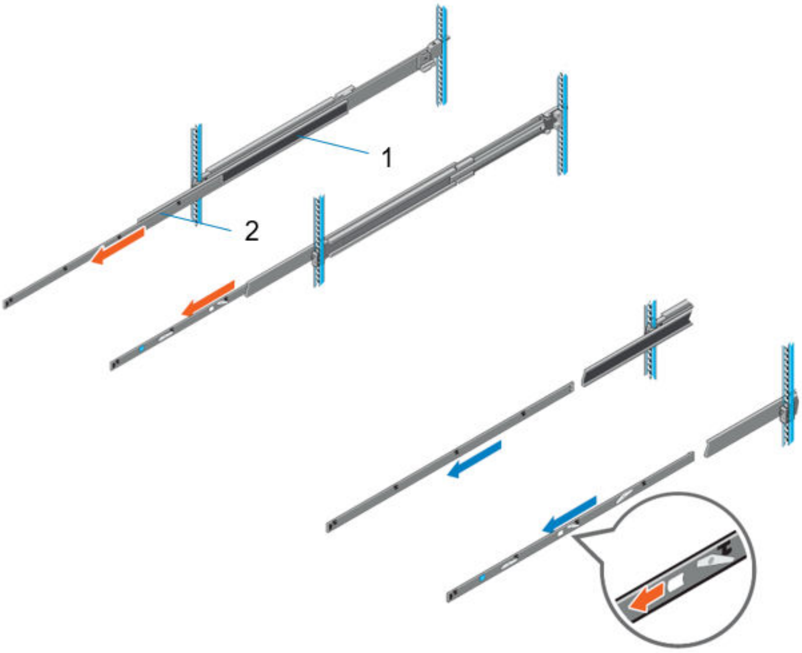


Figure 51. Pull out the intermediate rail

Table 37. Rail component label

Number	Component
1	Intermediate rail
2	Inner rail

3. Attach the inner rails to the sides of the system by aligning the J-slots on the rail with the standoffs on the system and sliding forward on the system until they lock into place.

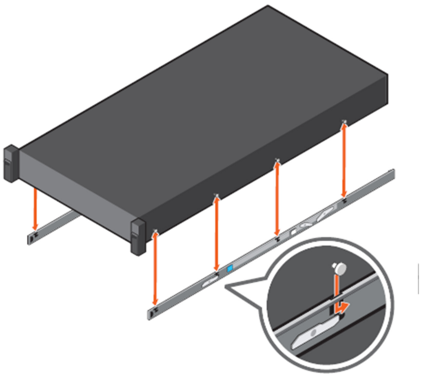


Figure 52. Attach the inner rails to the system

4. With the intermediate rails extended, install the system into the extended rails.

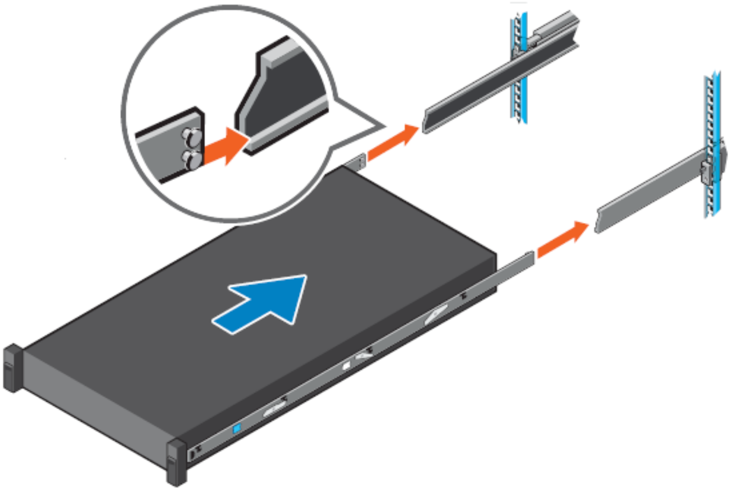


Figure 53. Install system into the extended rails

5. Pull blue slide release lock tabs forward or backward on both rails, and slide the system into the rack.

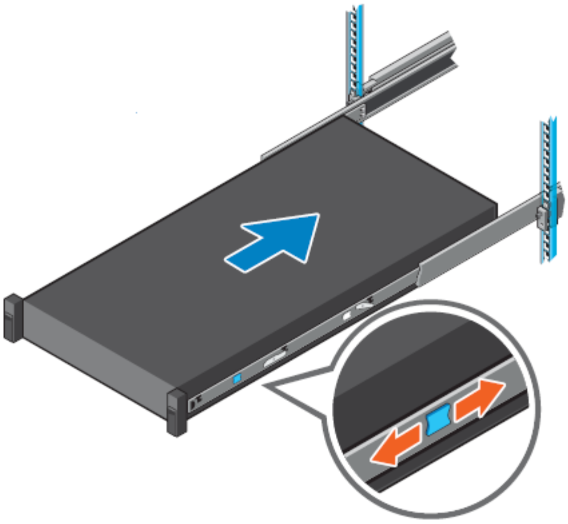


Figure 54. Slide system into the rack

B35 Blind Mate Power Rail features summary

These rails are compatible with the R770 CSP Cold-Aisle-Service (front I/O) Configuration.

The Blind mate Power Rails are Static Rail which includes extra power pass-thru, bracket assemblies to allow for the ability to connect power, and then remove/service the R770 CSP, without needing Hot-Aisle access. These rails do not allow for hot-swapping of internal components or in-rack serviceability, and are not compatible with SRB.

- Supports Stab-in installation of the chassis to the rails
- Supports tool-less installation in 19-inch EIA-310-E compliant square or unthreaded round hole 4-post racks including all generations of Dell racks
- Supports tooled installation in 19-inch EIA-310-E compliant threaded hole 4-post
- Supports tooled installation in Dell Titan or Titan-D rack

NOTE:

- Screws are not included with the static rail kit since racks are offered with various thread types.

- Screw head diameter should be 10 mm or less.

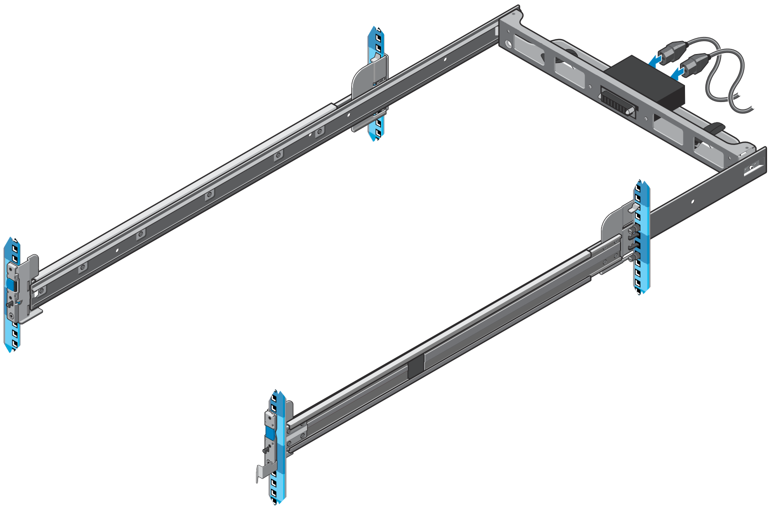


Figure 55. Blind Mate Rails, Rack cabinet members setup

B35 Blind Mate Power Rail Power Pass-Thru Setup

The Blind Mate Power Rails require extra setup to enable the blind mate ability and cold-aisle serviceability, by installing 2 power pass-thru brackets.

The "inner" bracket is installed behind the rear of the server, which is attached to the rail chassis members, and the cable sub-assembly will be plugged into the server PSUs as shown below:

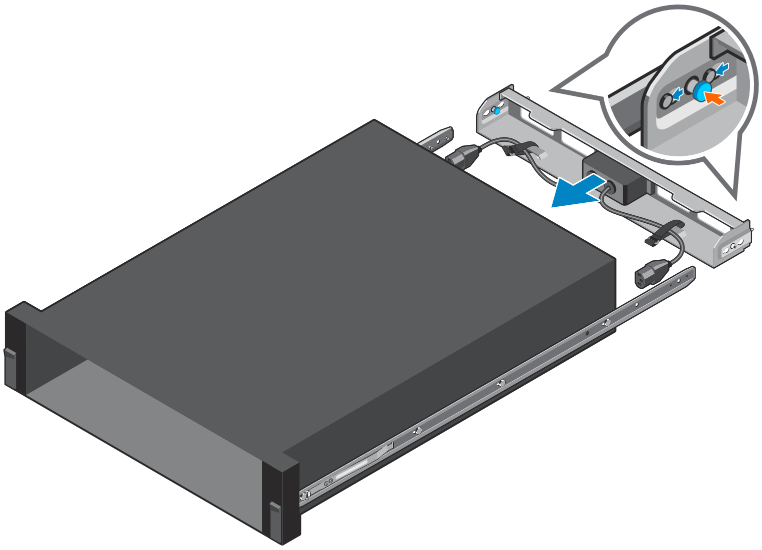


Figure 56. Attaching bracket to rails

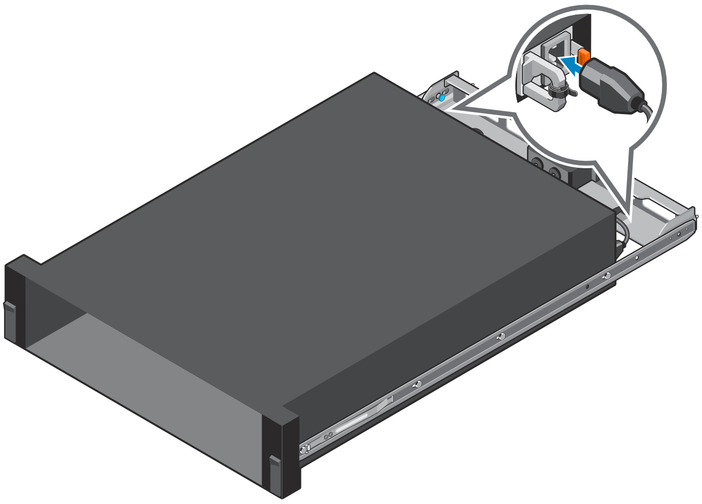


Figure 57. Connecting power cable to system

The "outer" bracket will be installed to the rail cabinet members in the rack, after the individual cabinet members have been installed. Users plug live power cable to the rear cable assembly, just as they would to the server in the standard setups, as shown below:

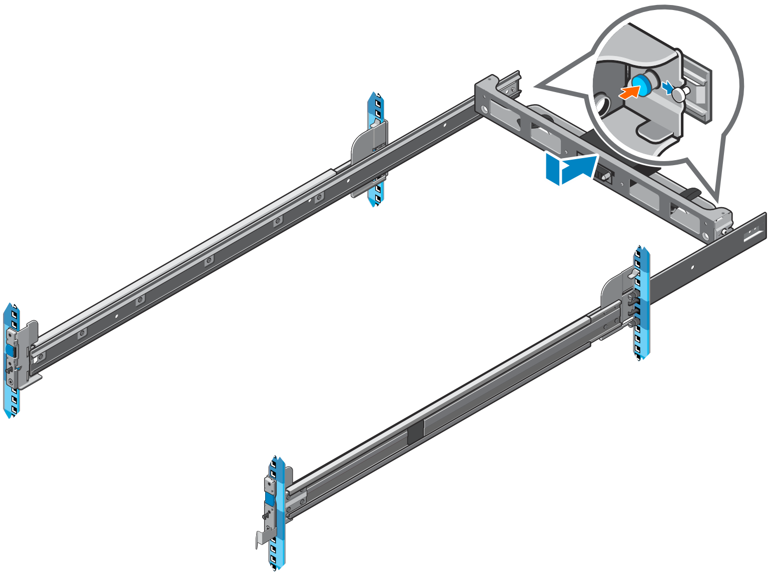


Figure 58. Connecting rear bracket

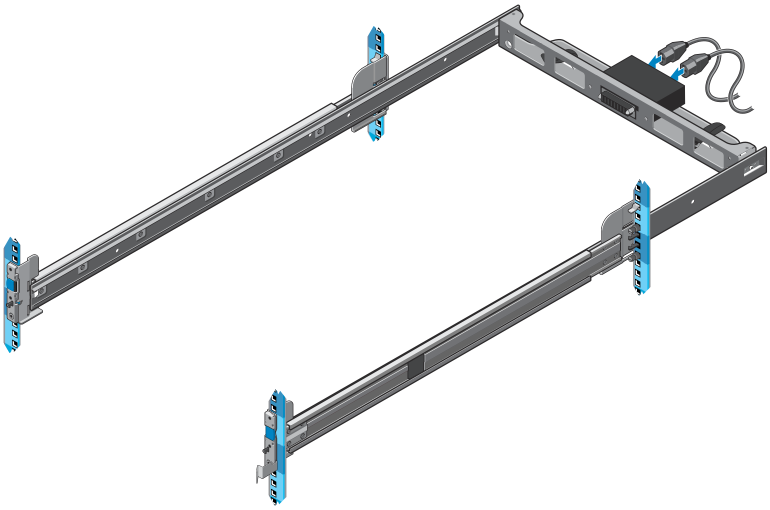


Figure 59. Connecting live power cable to bracket

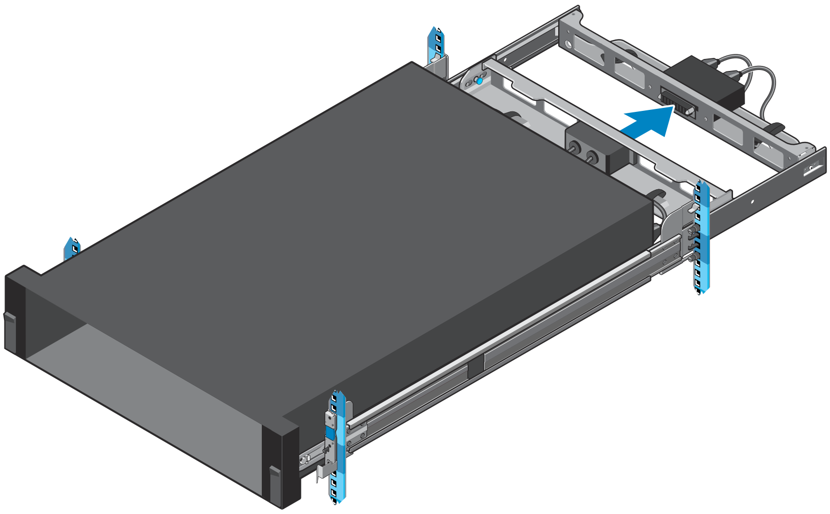


Figure 60. Sliding system to rear bracket

Installation of the server will follow the traditional Stab-in process, where the pass-thru brackets and connectors will mate as the server rack ears meet the front rack flange. Visual Indicators are present to identify Blind Mate Power setups from the Cold Aisle.

WARNING: Whenever you need to lift the system, get others to assist you. To avoid injury, do not attempt to lift the system by yourself. Get others to assist you or use a mechanical lift.

NOTE: Begin installing the rails in the allotted space that is closest to the bottom of the rack enclosure.

Cable management arm (CMA)

The optional cable management arm (CMA) organizes and secures the cords and cables exiting the back of the systems. It unfolds to allow the systems to extend out of the rack without having to detach the cables. Some key features of the CMA include:

- Large U-shaped baskets to support dense cable loads.
- Open vent pattern for optimal airflow.

- Ability to mount on either side by swinging the spring-loaded brackets from one side to the other.
- Utilizes hook-and-loop straps rather than plastic tie wraps to eliminate the risk of cable damage during cycling.
- Includes a low-profile fixed tray to both support and retain the CMA in its fully closed position.
- Both the CMA and the tray mount without the use of tools by simple and intuitive snap-in designs.

The CMA can be mounted to either side of the sliding rails without the use of tools or the need for conversion. For systems with one power supply unit (PSU), it is recommended to mount on the side opposite to that of the power supply to allow easier access to it and the rear drives (if applicable) for service or replacement.

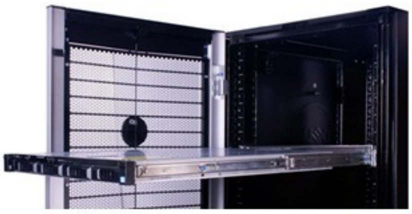


Figure 61. Sliding rails with CMA

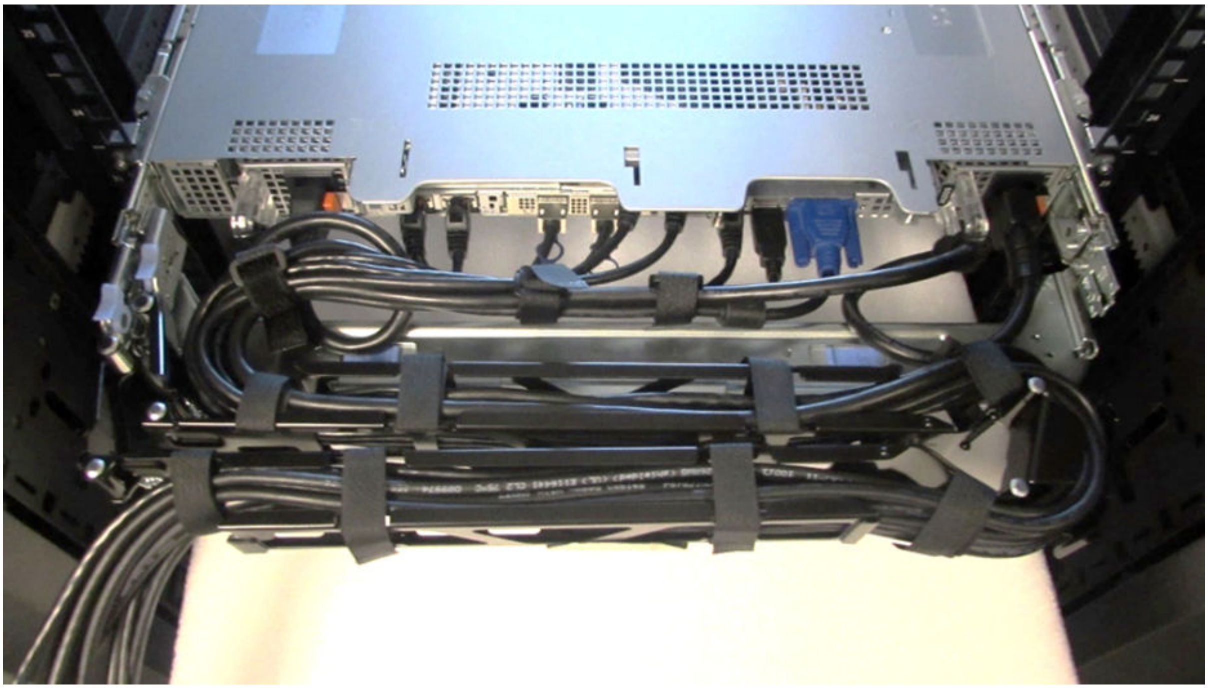


Figure 62. CMA Cabling

Strain Relief Bar (SRB)

The optional strain relief bar (SRB) for the PowerEdge R770 organizes and supports cable connections at the rear end of the server to avoid damage from bending.

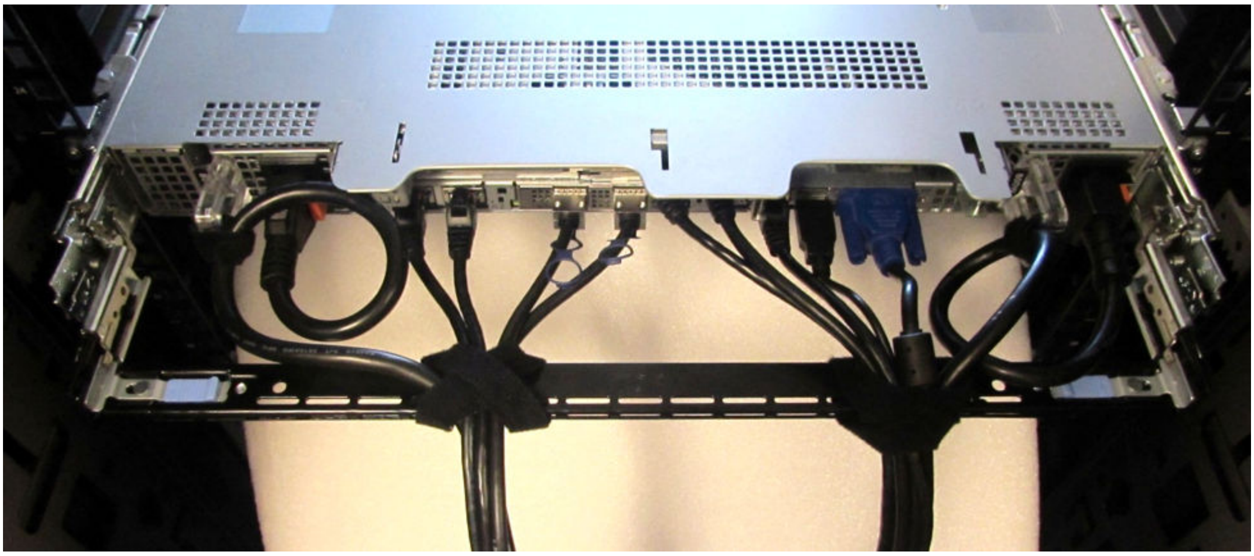


Figure 63. Cabled strain relief bar

- Tool-less attachment to the rails
- Two depth positions to accommodate various cable loads and rack depths
- Supports cable loads and controls stresses on server connectors
- Cables can be segregated into discrete purpose-specific bundles

11

Operating Systems and Virtualization

Topics:

- Supported operating system

Supported operating system

The PowerEdge R770 system supports the following operating systems:

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

For specifications and interoperability details, see OS support.

12

Dell Systems Management

Dell delivers management solutions that help IT administrators deploy, update, monitor, and manage IT assets. OpenManage solutions and tools enable you to solve and respond to problems quickly by manage Dell servers efficiently in physical and remote environments, and operating in-band and out-of-band (agent-free).

The OpenManage portfolio includes innovative embedded management tools such as the integrated Dell Remote Access Controller (iDRAC) and consoles like OpenManage Enterprise, OpenManage Power Manager Plugin, and tools like Repository Manager. Dell has developed comprehensive systems management solutions that are based on open standards by connecting and/or integrating it's offers with top system management vendors and frameworks such as Ansible, Microsoft, and VMware, enabling advanced management of Dell hardware. The key tools for managing Dell PowerEdge servers are iDRAC and OpenManage Enterprise (OME) console. OpenManage Enterprise helps the system administrators with the life cycle management of multiple generations of PowerEdge servers. OME has additional functions that can be added with plugins like OpenManage Enterprise Services, Update Manager, APEX AIOps Observability (formerly CloudIQ), and Power Manager. It also offers integration with VMware vCenter and Microsoft System Center, and a set of tools, including Repository Manager, enabling easy management of PowerEdge hardware. The four main pillars of Dell systems management closely align with the issues and business challenges that are faced by many IT departments.

- Automating IT management.
  - Comprehensive automation management for reducing OPEX and increasing uptime and overall efficiency of systems.
  - Comprehensive suite of tools to automate according to your needs.
- Management made simple.
  - Simple but powerful tools for managing your Dell servers.
  - Integrated tools that streamline support engagements.
  - Innovative at-the-box management features.
- Secure by default.
  - Dell servers offer robust security defenses to prevent the next generation of malicious attacks.
  - Security is designed deep into the hardware and firmware architecture for optimal protection.
- Smarter infrastructure management.
  - It offers a next-generation 1-to-many console to manage your IT and server infrastructure.
  - Embedded intelligence that is infrastructure-aware to optimize troubleshooting and deployment.

This document provides an overview of the OpenManage Systems Management offerings to help IT administrators choose the appropriate tools to completely manage Dell PowerEdge servers.

- The latest Dell Systems Management Overview Guide.

Topics:

- Integrated Dell Remote Access Controller (iDRAC)
- Systems Management software support matrix

Integrated Dell Remote Access Controller (iDRAC)

iDRAC10 delivers advanced, agent-free, local and remote server administration. Embedded in every PowerEdge server, iDRAC10 provides a secure means to automate a multitude of common management tasks. Because iDRAC is embedded within every PowerEdge server, there is no additional software to install; plug in power and network cables, and iDRAC is ready to go. Even before installing an operating system (operating system) or hypervisor, IT administrators have a complete set of server management features at their fingertips.

With iDRAC10 in-place across the Dell PowerEdge portfolio, the same IT administration techniques and tools can be applied throughout. This consistent management platform allows scaling of PowerEdge servers as an organization's infrastructure grows. Customers can use the iDRAC RESTful API for the latest in scalable administration methods of PowerEdge servers. With this API, iDRAC enables support for the Redfish standard and enhances it with Dell extensions to optimize at-scale management of PowerEdge servers.

Zero-Touch Provisioning (ZTP) is embedded in iDRAC. ZTP is an Intelligent Automation Dell's agent-free management. Once a PowerEdge server is connected to power and networking that system can be monitored and fully managed, whether you are standing in front of the server or remotely over a network. With no need for software agents, an IT administrator can:

- Monitor
- Manage
- Update
- Troubleshoot, and remediate Dell servers.

With features like zero-touch deployment and provisioning, and System Lockdown, iDRAC10 is purpose-built to simplify server administration. For those customers whose existing management platform uses in-band management, Dell does provide iDRAC Service Module, a lightweight service that can interact with both iDRAC10 and the host operating system to support legacy management platforms.

When ordered with DHCP enabled from the factory, PowerEdge servers can be automatically configured when they are initially powered up and connected to your network. This process uses profile-based configurations that ensure each server is configured per your specifications. This feature requires an iDRAC Enterprise license.

iDRAC10 offers the following license tiers:

Table 38. iDRAC10 license tiers

License	Description
iDRAC10 Core	● Available for all servers. ● Core system management features for users who are cost conscious.
iDRAC10 Enterprise	● Available as an upsell on all servers. ● Includes all features of Core. Also, includes additional automation features and virtual console and security features. ● Bundled with Secure Enterprise Key Management (SEKM) and Secure Component Verification (SCV) licenses. **NOTE:** Available in March 2025
iDRAC10 Datacenter*	● Available as an upsell on all servers. ● Includes all features of Core and Enterprise. ● Includes key features such as telemetry streaming and thermal management. ● Includes advanced accelerators (GPU and DPU) system management and advanced air and liquid cooling. **NOTE:** Available in June 2025

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

For a full list of iDRAC features by license tier, see the **Integrated Dell Remote Access Controller 10 User's Guide** at Dell.com.

For more details on iDRAC10 including white papers and videos, see:

- Support for Integrated Dell Remote Access Controller 10 (iDRAC10) is on the Knowledge Base page at Dell.com

Systems Management software support matrix

Table 39. Systems Management software support matrix

Categories	Features	PE mainstream
Embedded Management and In-band Services	iDRAC10 (Express, Enterprise, and Datacenter licenses)	Supported
	iDRAC RESTful API with Redfish	Supported
	iDRAC Service Module (iSM) (available from RTS 1.2)	Supported
	Driver Pack (available from RTS 1.2)	Supported

Table 39. Systems Management software support matrix (continued)

Categories	Features	PE mainstream
Tools	Dell Repository Manager	Supported
	Dell System Update	Supported
	Enterprise Catalogs	Supported
	iDRAC RESTful API with Redfish	Supported
	IPMI	Supported
	RACADM CLI	Supported
Security	Cryptographically signed firmware	Supported
	Data at Rest Encryption (SEDs with local or external key mgmt)	Supported
	Secure Boot	Supported
	Secured Component Verification (Hardware integrity check)	Supported
	Silicon Root of Trust	Supported
	Secure Erase	Supported
	System Lockdown (requires iDRAC10 Enterprise or Datacenter)	Supported
	TPM 2.0 FIPS, CC-TCG certified	Supported
Standard operating system	Canonical Ubuntu Server LTS , Red Hat Enterprise Linux, SUSE Linux Enterprise Server	Supported (Tier-1)

13

Appendix A: Additional specifications

Topics:

- Chassis dimensions
- System weight
- NIC port specifications
- Video specifications
- USB Ports
- PSU rating
- Environmental specifications

Chassis dimensions

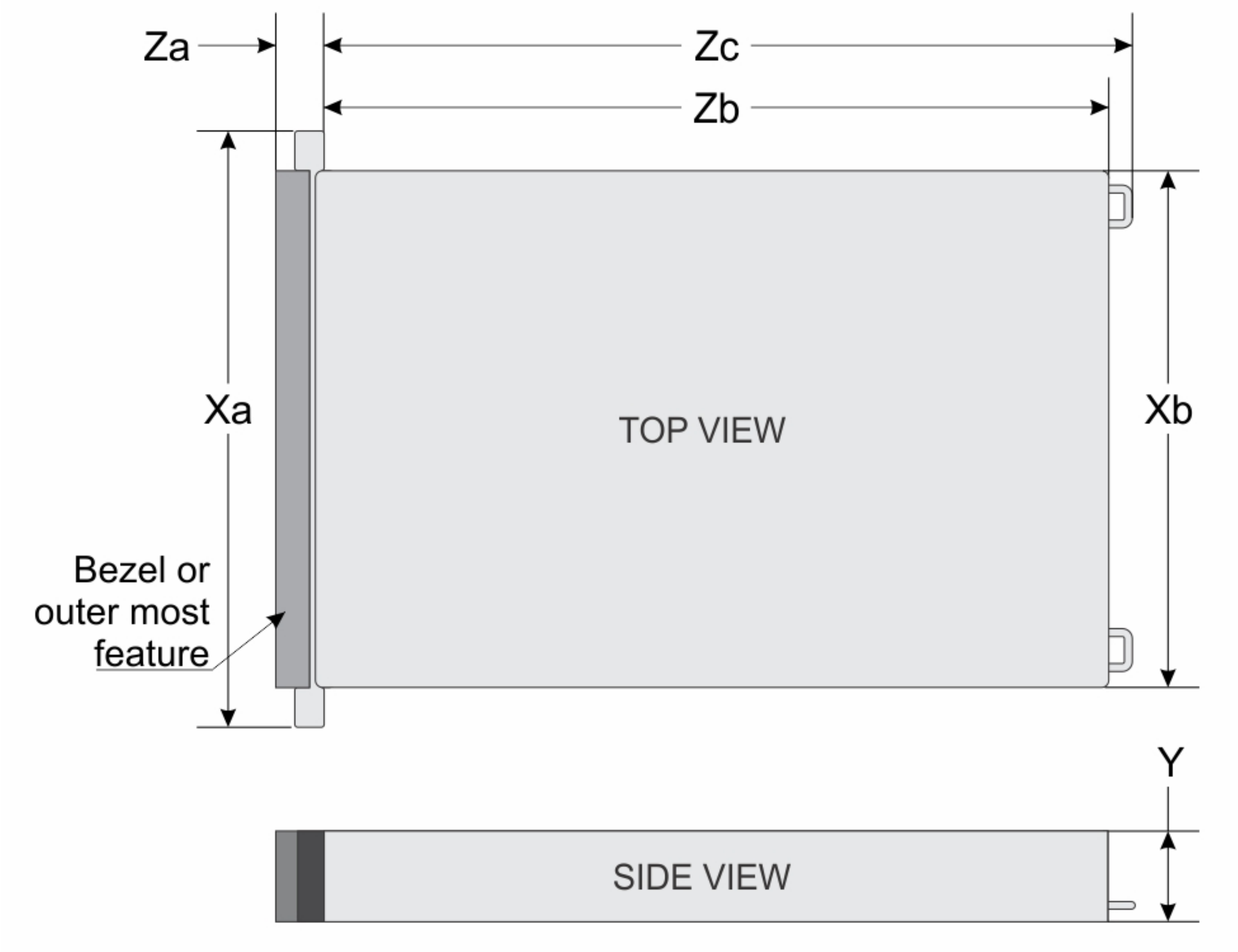


Figure 64. Chassis dimensions

Table 40. PowerEdge R770 chassis dimensions

Drives	Xa	Xb	Y	Za	Zb	Zc
• 8 x EDSFF E3.S (Front I/O) • 16 x EDSFF E3.S (Front I/O)	482.0 mm (18.97 inches)	434.0 mm (17.08 inches)	86.8 mm (3.41 inches)	42.9 mm (1.68 inches) Without bezel	700.7 mm (27.58 inches) Ear to rear wall	771.62 mm (30.37 inches) Ear to PSU handle
• 8 x 2.5-inch SAS/SATA • 8 x 2.5-inch Universal • 16 x 2.5-inch SAS/SATA • 16 x 2.5-inch + 8 x 2.5-inch SAS/SATA • 24 x 2.5-inch SAS/SATA • 16 x EDSFF E3.S • 32 x EDSFF E3.S • 40 x EDSFF E3.S*	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 29.89 mm (1.18 inches) Without bezel	700.7 mm (27.58 inches) Ear to rear wall	771.62 mm (30.37 inches) Ear to PSU handle

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

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

System weight

Table 41. PowerEdge R770 system weight

System configuration	Maximum weight (with all drives/SSDs)
8 x EDSFF E3.S	25.89 kg (57.07 pound)
16 x EDSFF E3.S	28.53 kg (62.89 pound)
8 x 2.5-inch SAS/SATA drives	27.2 kg (59.96 pounds)
8 x 2.5-inch Universal	27.2 kg (59.96 pounds)
16 x 2.5-inch SAS/SATA drives	29.5 kg (65.03 pounds)
16 x 2.5-inch + 8 x 2.5-inch SAS/SATA drives	31.33 kg (69.07 pounds)
24 x 2.5-inch SAS/SATA drives	32.08 kg (70.72 pounds)
32 x EDSFF E3.S	31.24 kg (68.87 pounds)
40 x EDSFF E3.S*	30.96 kg (68.25 pounds)

NOTE: *Expected to be available during the future releases. Planned Offerings are subject to change and may not be released as originally designed.

Table 42. PowerEdge R770 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

NIC port specifications

The PowerEdge R770 system supports Network Interface Controller (NIC) ports that are embedded on the Open Compute Project (OCP) NIC cards.

Table 43. NIC port specification for the system

Feature	Specifications
OCP NIC 3.0 card	1 GbE x 4, 10 GbE x 2, 10 GbE x 4, 25 GbE x 2, 25 GbE x 4, 100 GbE x 2

ⓘ **NOTE:** The OCP NIC card can be installed in front or rear of the system, depending on the system I/O configuration.

Video specifications

The PowerEdge R770 system supports integrated Matrox G200 graphics controller with 16 MB of video frame buffer.

Table 44. Supported video resolution options

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

USB Ports

The front USB 2.0 port only supports output current up to 0.5 A and cannot support high-power consumption devices such as CD-ROM.

Figure 65. Front USB Port

The bottom port of the rear USB connector can support USB3.1 to supply output current up to 0.9 A.

Figure 66. Rear USB Port

An internal USB Type-A vertical connector on the motherboard can support a small USB card. The maximum allowable height of the the USB card body is specified per configuration:

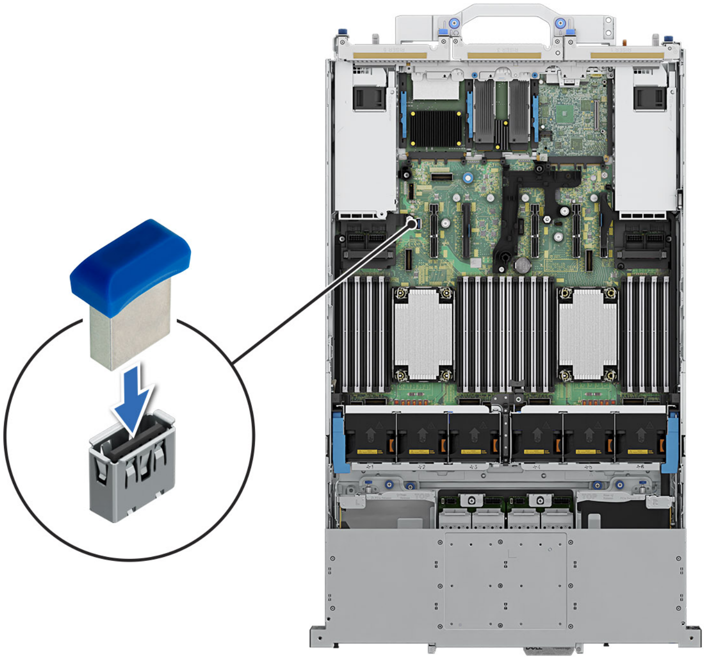


Figure 67. Internal USB card Port

Table 45. USB card length

Configuration	card length limit (including connector)
2U	31.32 mm

NOTE: Internal USB design is USB card restriction, not for cable.

Table 46. PowerEdge R770 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-compliant port	One (optional)	USB 3.1-compliant ports	Two	Internal USB 3.1-compliant port	One **NOTE:** Internal USB is optional for cold and hot aisle I/O configurations.
USB 2.0 Type C port	One				

PSU rating

Below table lists the power capacity of the PSUs in high/low line operation mode.

Table 47. PSUs highline and lowline ratings

PSU	800 W Platinum	800 W Titanium	1100 W Platinum	1100 W Titanium	1400 W -48VDC*	1500 W Titanium	1500 W 277Vac & HVDC*	1800 W HLAC* Titanium	2400 Titanium	3200 W Titanium	3200 W Titanium 277Vac & HVDC*
Peak Power (Highline)	1240 W	1240 W	1705 W	1705 W	N/A	2325 W	2325 W	2790 W	3720 W	5440 W	5440 W
Highline	800 W	800 W	1100 W	1100 W	N/A	1500 W	1500 W	1800 W	2400 W	3200 W	3200 W
Peak Power (Lowline)	1240 W	1240 W	1627 W	1627 W	N/A	1627 W	N/A	N/A	2170 W	N/A	N/A
Lowline	800 W	800 W	1050 W	1050 W	N/A	1050 W	N/A	N/A	1400 W	N/A	N/A
Highline 240 VDC	800 W	800 W	1100 W	1100 W	N/A	1500 W	N/A	1800 W	2400 W	3200 W	N/A
Highline 380 VDC	N/A	N/A	N/A	N/A	N/A	N/A	1500 W	N/A	N/A	N/A	3200 W
DC-(48—60) V	N/A	N/A	N/A	N/A	1400 W	N/A	N/A	N/A	N/A	N/A	N/A

The PowerEdge R770 supports up to two AC power supplies with 1+0 or 2+0 non-redundancy, 1+1 redundancy, autosensing, and auto switching capability.

Dell PSUs have achieved Platinum and Titanium efficiency levels as shown in the table below.

Table 48. PSU efficiency level

Efficiency Targets by Load						
Form factor	**Output**	**Class**	**10%**	**20%**	**50%**	**100%**
Redundant 60 mm	800 W Mixed mode	Platinum	N/A	90.00%	94.00%	91.00%
	800 W mixed mode	Titanium	90.00%	94.00%	96.00%	91.00%
	1100 W Mixed mode	Platinum	N/A	90.00%	94.00%	91.00%
	1100 W mixed mode	Titanium	90.00%	94.00%	96.00%	91.00%

Table 48. PSU efficiency level (continued)

Efficiency Targets by Load						
Form factor	**Output**	**Class**	**10%**	**20%**	**50%**	**100%**
	1400 W -48VDC*	N/A	85.00%	90.00%	94.00%	92.00%
	1500 W Mixed mode	Titanium	90.00%	94.00%	96.00%	91.00%
	1500 W 277Vac & HVDC	Titanium	90.00%	94.00%	96.00%	91.00%
	1800 W HLAC* mixed mode	Titanium	90.00%	94.00%	96.00%	91.00%
Redundant 73.5 mm	2400 W Titanium	Titanium	90.00%	94.00%	96.00%	91.00%
	3200 W mixed mode	Titanium	90.00%	94.00%	96.00%	91.00%
	3200 W 277Vac & HVDC*	Titanium	90.00%	94.00%	96.00%	91.00%

Environmental specifications

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

Table 49. Continuous Operation Specifications for ASHRAE A2

Temperature	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 50. Common Environmental Specifications for ASHRAE A2, A3, A4 and Rugged environment

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

Table 51. 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 52. 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 53. 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 54. 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 55. 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
EXT	Extend
L-type	L-shaped

Table 56. Processor and heat sink matrix

Heat sink	Processor TDP
2U EXT HSK	1. For all CPUs in configs without rear GPUs 2. For all CPUs in FIO RC 1/2 configs
1U EXT HSK	≤ 250 W (GPU shroud should be installed with rear GPU/FGPA/long PCIe cards)
L-type HSK	> 250 W (GPU shroud should be installed with rear GPU/FGPA/long PCIe cards)

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 57. Thermal restriction matrix for Non-GPU Configurations E-Core processors

Configuration			**No BP**	**FIO 8 x EDSFF E3.S NVMe**	**FIO 16 x EDSFF E3.S NVMe**	**8 x 2.5 inch SAS/SATA (SSD)**	**16 x 2.5 inch SAS/SATA (SSD)**	**16 x 2.5 inch SAS/SATA (SSD) + 8 x 2.5 inch U.2**	**24 x 2.5 inch SAS/SATA (SSD)**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**Ambient temperature**
Storage configuration			**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	
Storage configuration number			**C0-01**	**C01-01**	**C02-01**	**C04-01~09**	**C05-01/02**	**C06-01/02/06/07**	**C07-01/02**	**C09-01/03**	**C08-01/02/04**	
Riser configuration			**RC 6/7/11**	**RC 2**	**RC 1/2/6**	**RC 0/6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11/12**	**RC 6/7/11/12/15**	
Processor	**TDP**	**Cores**	**Fan**									
6710E	205 W	64	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6756E	225 W	128	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C

Table 57. Thermal restriction matrix for Non-GPU Configurations E-Core processors (continued)

Configuration			**No BP**	**FIO 8 x EDSFF E3.S NVMe**	**FIO 16 x EDSFF E3.S NVMe**	**8 x 2.5 inch SAS/SATA (SSD)**	**16 x 2.5 inch SAS/SATA (SSD)**	**16 x 2.5 inch SAS/SATA (SSD) + 8 x 2.5 inch U.2**	**24 x 2.5 inch SAS/SATA (SSD)**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**Ambient temperature**
Storage configuration			**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	
Storage configuration number			**C0-01**	**C01-01**	**C02-01**	**C04-01~09**	**C05-01/02**	**C06-01/02/06/07**	**C07-01/02**	**C09-01/03**	**C08-01/02/04**	
Riser configuration			**RC 6/7/11**	**RC 2**	**RC 1/2/6**	**RC 0/6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11/12**	**RC 6/7/11/12/15**	
Processor	**TDP**	**Cores**	**Fan**									
6740E	250 W	96	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6746E	250 W	112	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6766E	250 W	144	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6780E	330 W	144	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
RDIMM	**1 DPC power**	**2 DPC power**	**DIMM configuration**									
32 GB	8 W	N/A	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
64 GB	13 W	10 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A

Table 58. Thermal restriction matrix for Non-GPU Configurations P-Core processors

Configuration			**No BP**	**FIO 8 x EDSFF E3.S NVMe**	**FIO 16 x EDSFF E3.S NVMe**	**8 x 2.5 inch SAS/SATA (SSD)**	**16 x 2.5 inch SAS/SATA (SSD)**	**16 x 2.5 inch SAS/SATA (SSD) + 8 x 2.5 inch U.2**	**24 x 2.5 inch SAS/SATA (SSD)**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**Ambient temperature**
Storage configuration			**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	
Storage configuration number			**C0-01**	**C01-01**	**C02-01**	**C04-01~09**	**C05-01/02**	**C06-01/02/06/07**	**C07-01/02**	**C09-01/03**	**C08-01/02/04**	
Riser configuration			**RC 6/7/11**	**RC 2**	**RC 1/2/6**	**RC 0/6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11/12**	**RC 6/7/11/12/15**	
Processor	**TDP**	**Cores**	**Fan**									
6730P	250 W	32	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6740P	270 W	48	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6747P	330 W	48	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6760P	330 W	64	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6767P	350 W	64	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
6787P	350 W	86	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR SLVR	HPR GOLD	HPR GOLD	35°C
RDIMM	**1 DPC power**	**2 DPC power**	**DIMM configuration**									
16 GB	6 W	N/A	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
32 GB	8 W	6	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
64 GB	13 W	10 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
96 GB	15	11	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
128 GB	16	12	HPR GOLD	HPR GOLD	HPR GOLD	HPR GOLD	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	N/A

Table 58. Thermal restriction matrix for Non-GPU Configurations P-Core processors (continued)

Configuration			No BP	FIO 8 x EDSFF E3.S NVMe	FIO 16 x EDSFF E3.S NVMe	8 x 2.5 inch SAS/SATA (SSD)	16 x 2.5 inch SAS/SATA (SSD)	16 x 2.5 inch SAS/SATA (SSD) + 8 x 2.5 inch U.2	24 x 2.5 inch SAS/SATA (SSD)	16 x EDSFF E3.S NVMe	32 x EDSFF E3.S NVMe	Ambient temperature
Storage configuration			No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	
Storage configuration number			C0-01	C01-01	C02-01	C04-01~09	C05-01/02	C06-01/02/06/07	C07-01/02	C09-01/03	C08-01/02/04	
Riser configuration			RC 6/7/11	RC 2	RC 1/2/6	RC 0/6/7/11	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/7/11/12	RC 6/7/11/12/15	
Processor	**TDP**	**Cores**	**Fan**									
			35°C	35°C	35°C	35°C						
256 GB	N/A	15	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	HPR GOLD 35°C	N/A

NOTE: "High-Performance GOLD" is required for DIMM ≥ 128 GB

NOTE: Both Front I/O and Rear I/O configurations are supported, using the same chassis.

Table 59. Thermal Restriction for GPU Configurations for E-core processors

Configuration			No BP	FIO 8 x EDSFF E3.S NVMe	FIO 16 x EDSFF E3.S NVMe		8 x 2.5 inch SAS/SATA (SSD)	16 x 2.5 inch SAS/SATA (SSD)	16 x 2.5 inch SAS/SATA (SSD) + 8 x 2.5 inch U.2	24 x 2.5 inch SAS/SATA (SSD)	16 x EDSFF E3.S NVMe	32 x EDSFF E3.S NVMe	Ambient temperature
Storage configuration			No rear drives	No rear drives	No rear drives No rear drives		No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	
Storage configuration number			C0-01	C01-01	C02-01C04-01~09		C05-01/02	C06-01/02/06/07	C07-01/02	C09-01/03	C08-01/02/04	C0-01	
Riser configuration			RC 6/7/11	RC 2	RC1/2	RC 6	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/15	
Air shroud type			GPU	Regular	Regular	GPU	GPU	GPU	GPU	GPU	GPU	GPU	
Processor	**TDP**	**Cores**	**Heat-sink**										
6710E	205 W	64	1U-EXT HSK	2U-EXT HSK	2U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	35°C

Table 59. Thermal Restriction for GPU Configurations for E-core processors (continued)

Configuration			No BP	FIO 8 x EDSFF E3.S NVMe	FIO 16 x EDSFF E3.S NVMe		8 x 2.5 inch SAS/ SATA (SSD)	16 x 2.5 inch SAS/ SATA (SSD)	16 x 2.5 inch SAS/ SATA (SSD) + 8 x 2.5 inch U.2	24 x 2.5 inch SAS/ SATA (SSD)	16 x EDSFF E3.S NVMe	32 x EDSFF E3.S NVMe	Ambient temperature
Storage configuration			No rear drives	No rear drives	No rear drives No rear drives		No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	No rear drives	
Storage configuration number			C0-01	C01-01	C02-01C04-01~09		C05-01/02	C06-01/02/06/07	C07-01/02	C09-01/03	C08-01/02/04	C0-01	
Riser configuration			RC 6/7/11	RC 2	RC1/2	RC 6	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/7/11	RC 6/15	
Air shroud type			GPU	Regular	Regular	GPU	GPU	GPU	GPU	GPU	GPU	GPU	
Processor	**TDP**	**Cores**	**Heat-sink**										
6756E	225 W	128	1U-EXT HSK	2U-EXT HSK	2U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	35°C
6740E	250 W	96	1U-EXT HSK	2U-EXT HSK	2U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	35°C
6746E	250 W	112	1U-EXT HSK	2U-EXT HSK	2U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	35°C
6766E	250 W	144	1U-EXT HSK	2U-EXT HSK	2U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	35°C
6780E	330 W	144	1U L-TYPE HSK	2U-EXT HSK	2U-EXT HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	35°C
RDIMM	**1 DPC power**	**2 DPC power**	**DIMM ambient temperature**										
32 GB	8 W	N/A	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
64 GB	13 W	10 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
GPU		**TDP**	**GPU ambient temperature**										
L4 24 GB		72 W	CPU>=300 W, 30°C	35°C	35°C	CPU>=300 W, 30°C	CPU>300 W, 30°C	30°C	30°C	30°C	CPU>300 W, 30°C	30°C	N/A
H100 NVL 94 GB		400 W	35°C	35°C	35°C	35°C	35°C	35°C	30°C	35°C	35°C	35°C	N/A
L40S 48 GB		350 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C
A16 64 GB		250 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C

Table 59. Thermal Restriction for GPU Configurations for E-core processors (continued)

Configuration			**No BP**	**FIO 8 x EDSFF E3.S NVMe**	**FIO 16 x EDSFF E3.S NVMe**		**8 x 2.5 inch SAS/ SATA (SSD)**	**16 x 2.5 inch SAS/ SATA (SSD)**	**16 x 2.5 inch SAS/ SATA (SSD) + 8 x 2.5 inch U.2**	**24 x 2.5 inch SAS/ SATA (SSD)**	**16 x EDSFF E3.S NVMe**	**32 x EDSFF E3.S NVMe**	**Ambient temperature**
Storage configuration			**No rear drives**	**No rear drives**	**No rear drives No rear drives**		**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	
Storage configuration number			**C0-01**	**C01-01**	**C02-01C04-01~09**		**C05-01/02**	**C06-01/02/06/07**	**C07-01/02**	**C09-01/03**	**C08-01/02/04**	**C0-01**	
Riser configuration			**RC 6/7/11**	**RC 2**	**RC1/2**	**RC 6**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/15**	
Air shroud type			**GPU**	**Regular**	**Regular**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	
Processor	**TDP**	**Cores**	**Heat-sink**										
DPU		**Cable**	**DPU ambient temperature**										
B3140H (400G x 1P)		Active (70 C)	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	N/A
		Passive	35°C	35°C	35°C	35°C	35°C	35°C	30°C	30°C	35°C	35°C	N/A
B3230 (200G x 2P)		Active (70 C)	35°C	35°C	35°C	35°C	35°C	35°C	CPU ≤ 300 W, 30°C	CPU ≤ 300 W, 30°C	30°C	30°C	N/A
		Passive	35°C	35°C	35°C	35°C	35°C	35°C	CPU ≤ 300 W, 30°C	CPU ≤ 300 W, 30°C	30°C	30°C	N/A

Table 60. Thermal Restriction for GPU Configurations for P-core processors

Configuration			No BP	FIO 8 x EDSFF E3.S NVMe	FIO 16 x EDSFF E3.S NVMe		8 x 2.5 inch SAS/ SATA (SSD)	16 x 2.5 inch SAS/ SATA (SSD)	16 x 2.5 inch SAS/ SATA (SSD) + 8 x 2.5 inch U.2	24 x 2.5 inch SAS/ SATA (SSD)	16 x EDSFF E3.S NVMe	32 x EDSFF E3.S NVMe	Ambient temperature
Storage configuration			**No rear drives**	**No rear drives**	**No rear drives No rear drives**		**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	
Storage configuration number			**C0-01**	**C01-01**	**C02-01C04-01~09**		**C05-01/02**	**C06-01/02/06/07**	**C07-01/02**	**C09-01/03**	**C08-01/02/04**	**C0-01**	
Riser configuration			**RC 6/7/11**	**RC 2**	**RC1/2**	**RC 6**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/15**	
Air shroud type			**GPU**	**Regular**	**Regular**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	
Processor	**TDP**	**Cores**	**Heat-sink**										
6730P	250 W	32	1U-EXT HSK	2U-EXT HSK	2U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	1U-EXT HSK	35°C
6740P	270 W	48	1U L-TYPE HSK	2U-EXT HSK	2U-EXT HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	35°C
6747P	330 W	48	1U L-TYPE HSK	2U-EXT HSK	2U-EXT HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	35°C
6760P	330 W	64	1U L-TYPE HSK	2U-EXT HSK	2U-EXT HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	35°C
6767P	350 W	64	1U L-TYPE HSK	2U-EXT HSK	2U-EXT HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	35°C
6787P	350 W	86	1U L-TYPE HSK	2U-EXT HSK	2U-EXT HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	1U L-TYPE HSK	35°C
RDIMM	**1 DPC power**	**2 DPC power**	**DIMM ambient temperature**										
16 GB	6 W	N/A	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
32 GB	8 W	6 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
64 GB	13 W	10 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
96 GB	15 W	11 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
128 GB	16 W	12 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A

Table 60. Thermal Restriction for GPU Configurations for P-core processors (continued)

Configuration			No BP	FIO 8 x EDSFF E3.S NVMe	FIO 16 x EDSFF E3.S NVMe		8 x 2.5 inch SAS/SATA (SSD)	16 x 2.5 inch SAS/SATA (SSD)	16 x 2.5 inch SAS/SATA (SSD) + 8 x 2.5 inch U.2	24 x 2.5 inch SAS/SATA (SSD)	16 x EDSFF E3.S NVMe	32 x EDSFF E3.S NVMe	Ambient temperature
Storage configuration			**No rear drives**	**No rear drives**	**No rear drives No rear drives**		**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	**No rear drives**	
Storage configuration number			**C0-01**	**C01-01**	**C02-01C04-01~09**		**C05-01/02**	**C06-01/02/06/07**	**C07-01/02**	**C09-01/03**	**C08-01/02/04**	**C0-01**	
Riser configuration			**RC 6/7/11**	**RC 2**	**RC1/2**	**RC 6**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/7/11**	**RC 6/15**	
Air shroud type			**GPU**	**Regular**	**Regular**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	**GPU**	
Processor	**TDP**	**Cores**	**Heat-sink**										
256 GB	N/A	15 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	N/A
GPU		**TDP**	**GPU ambient temperature**										
L4 24 GB		72 W	CPU>=300 W, 30°C	35°C	35°C	CPU>300 W, 30°C	CPU>=300 W, 30°C	30°C	30°C	30°C	CPU>300 W, 30°C	30°C	N/A
H100 NVL 94 GB		400 W	35°C	35°C	35°C	35°C	35°C	35°C	30°C	35°C	35°C	35°C	35°C
L40S 48 GB		350 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C
A16 64 GB		250 W	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C	35°C
DPU		**Cable**	**DPU ambient temperature**										
B3140H (400G x 1P)		Active (70C)	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	N/A
		Passive	35°C	35°C	35°C	35°C	35°C	35°C	30°C	30°C	35°C	35°C	N/A
B3230 (200G x 2P)		Active (70C)	35°C	35°C	35°C	35°C	35°C	35°C	CPU ≤ 300 W, 30°C	CPU ≤ 300 W, 30°C	30°C	30°C	N/A
		Passive	35°C	35°C	35°C	35°C	35°C	35°C	CPU ≤ 300 W, 30°C	CPU ≤ 300 W, 30°C	30°C	30°C	N/A

NOTE: In front I/O configuration, RC 1/2 use regular air shroud and 2U EXT HSK, regardless of GPU presence.

Other Restrictions

- For rear IO configurations, 25Gb and above 25Gb PCIe/OCP cards require DAC or 85degC active optics.
  - 85degC active optics are M14MK(SFP28), 4WGYD(QSFP+)
- L4 GPU
  - Support up to 30degC system ambient when CPU≥300W in system configs No BP(C0), 8x2.5”(C04).
  - Support up to 30degC system ambient when CPU>300W in system configs FIO 16xE3.s(C02+RC6) and 16xE3.s(C09).
  - Support up to 30degC system ambient for all CPUs in system config 16x2.5”(C05); Support slot 2/5/7/9 only for riser config 11
  - Support up to 30degC system ambient in system config (16+8)x2.5”(C06) and 24x2.5”(C07); Support on slot 7/9 only for riser config 6; Support CPU<300 W and slot 9 only for riser config 7; Support on slot 5/7 for riser config 11
  - Support up to 30degC system ambient in system config 32xE3.s(C08); Support on slot 2/7/9 only for riser config 6
- DPU restrictions
  - “Long” riser cage is requested and “Removed” blanks on GPU shroud , when DPU cards installed.
  - DPU BF-3 B3140H (6CMW1/KK4NR) restrictions
    - Required DAC(passive cable), not support 70degC active optics until 85degC active optics available.
    - Support up to 30degC system ambient with DAC(passive cable) in system configs (16+8)x2.5”(C06) and 24x2.5”(C07)
  - DPU BF-3 B3230 restrictions
    - Support both active/passive cables
    - Support up to 30degC system ambient and CPU up to 300 W in system configs (16+8)x2.5”(C06) and 24x2.5”(C07)
    - Support up to 30degC system ambient for all CPUs in system configs 16xE3.s(C09) and 32xE3.s(C08)
- Single Port Network card restrictions
  - Support up to 35degC system ambient with DAC(passive cable)
  - Support up to 30degC system ambient with active cable
    - FIO 8xE3(C01) and FIO 16xE3(C02) with RC1/2 which can support up to 35degC with active cable
    - (16+8)x2.5"(C06)+(RC11-2): support on slot 3/5 only
    - 24x2.5"(C07)+(RC11-2): support on slot 3/5 only

Thermal restriction for liquid cooling configurations

- No thermal restriction to support all CPU SKUs with liquid cooling configurations.
- DPU restrictions
  - “Long” riser cage is requested and “Removed” blanks on GPU shroud , when DPU cards installed.
  - DPU BF-3 B3140H (6CMW1/KK4NR) restrictions
    - Support up to 30degC system ambient with temperature spec is 70degC active optics until 85degC active optics available.
    - Support up to 35degC system ambient with DAC(passive cable)
  - DPU BF-3 B3230 restrictions
    - Support up to 30degC system ambient with temperature spec is 70degC active optics in system configs (16+8)x2.5”(C06) and 24x2.5”(C07).
    - Support up to 35degC system ambient in system configs 8x2.5”(C04), 16x2.5”(C06) and 16xE3.s(C09).
    - Support up to 35degC system ambient with DAC(passive cable).

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Appendix B. Standards compliance

The system conforms to the following industry standards.

Table 61. Industry standard documents

Standard	URL for information and specifications
ACPIAdvance Configuration and Power Interface Specification, v6.4	ACPI
Ethernet IEEE Std 802.3-2022	IEEE Standards
MSFT WHQL Microsoft Windows Hardware Quality Labs	Windows Hardware Compatibility Program
IPMI Intelligent Platform Management Interface, v2.0	IPMI
DDR5 Memory DDR5 SDRAM Specification	DDR5 SDRAM
PCI Express PCI Express Base Specification, v5.0	PCIe specifications
PMBus Power System Management Protocol Specification, v1.2	PMBus specifications
SAS Serial Attached SCSI, 3 (SAS-3) (T10/INCITS 519)	SCSI storage interfaces
SATA Serial ATA Rev. 3.3	SATA IO
SMBIOS System Management BIOS Reference Specification, v3.3.0	DMTF SMBIOS
TPM Trusted Platform Module Specification, v2.0	TPM specifications
UEFI Unified Extensible Firmware Interface Specification, v2.7	UEFI specifications
PI Platform Initialization Specification, v1.7	
USB Universal Serial Bus v2.0 and SuperSpeed v3.0 (USB 3.1 Gen1)	USB document library
NVMe Express Base Specification. Revision 2.0c	NVMe specifications
NVMe Command Set Specifications 1. NVM Express NVM Command Set Specification. Revision 1.1c 2. NVM Express Zoned Namespaces Command Set. Revision 1.0c 3. NVM Express® Key Value Command Set. Revision 1.0c	
NVMe Transport Specifications 1. NVM Express over PCIe Transport. Revision 1.0c 2. NVM Express RDMA Transport Revision. 1.0b 3. NVM Express TCP Transport. Revision 1.0c	
NVMe NVM Express Management Interface. Revision 1.2c	
NVMe NVMe Boot Specification. Revision 1.0	

Appendix C: Additional resources

Table 62. Additional resources

Resource	Description of contents	Location
Installation and Service Manual	This manual, available in PDF format, provides the following information: ● Chassis features ● System Setup program ● System indicator codes ● System BIOS ● Remove and replace procedures ● Diagnostics ● Jumpers and connectors	Dell.com/Support/Manuals
Getting Started Guide	This guide ships with the system, and is also available in PDF format. This guide provides the following information: ● Initial setup steps	Dell.com/Support/Manuals
Rack Installation Guide	This document ships with the rack kits, and provides instructions for installing a server in a rack.	Dell.com/Support/Manuals
System Information Label	The system information label documents the HPM board layout and system jumper settings. Text is minimized due to space limitations and translation considerations. The label size is standardized across platforms.	Inside the system chassis cover
MyDell label	This code on the chassis can be scanned by a phone application to access additional information and resources for the server, including videos, reference materials, service tag information, and Dell contact information.	Inside the system chassis cover
Enterprise Infrastructure Planning Tool (EIPT)	The Dell online EIPT enables easier and more meaningful estimates to help you determine the most efficient configuration possible. Use EIPT to calculate the power consumption of your hardware, power infrastructure, and storage.	Dell.com/calc

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Appendix D: Service and support

Topics:

- Why attach service contracts
- ProSupport Infrastructure Suite
- Specialty Support Services
- ProDeploy Infrastructure Suite
- Supplemental Deployment Services
- Unique Deployment Scenarios
- DAY 2 – Automation Services with Ansible
- Dell Technologies Consulting Services

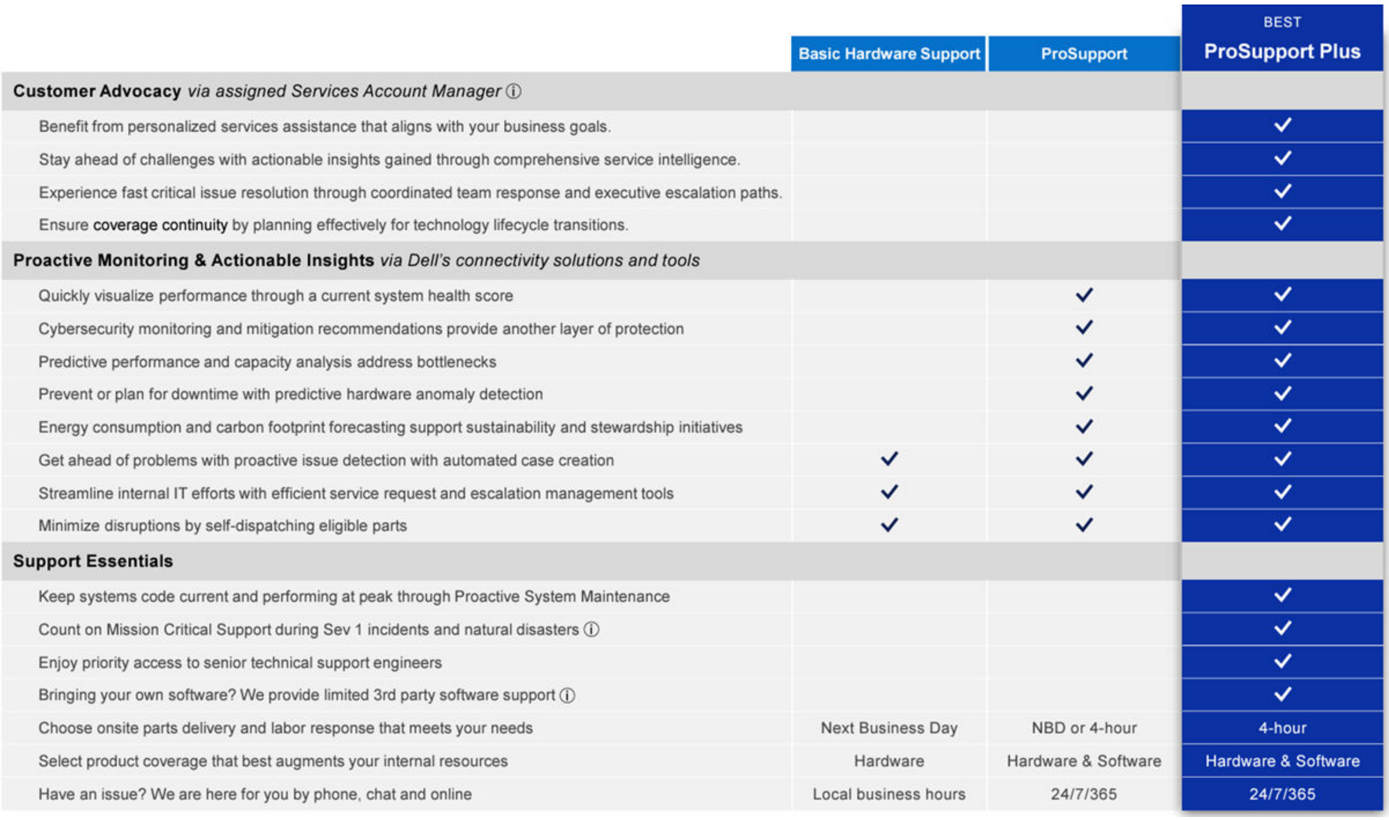
Why attach service contracts

Dell PowerEdge servers include a standard hardware warranty that highlights our commitment to product quality by guaranteeing repair or replacement of defective components. While industry-leading, our warranties are limited to 1 or 3 years, depending on model, and do not cover software assistance. Call records show that customers are most often seeking Dell technical support for software related issues like configuration guidance, troubleshooting, upgrade assistance or performance tuning. Encourage customers to purchase ProSupport service contracts to supplement warranty coverage and ensure optimal support for both hardware and software. ProSupport provides a complete hardware guarantee beyond the original warranty period.

ProSupport Infrastructure Suite

ProSupport Infrastructure Suite is a set of support services that enable customers to build the solution that is right for their organization. It is an industry-leading, enterprise-class support that aligns with the criticality of your systems, the complexity of your environment, and the allocation of your IT resources.

Figure 68. ProSupport Enterprise Suite



	Basic Hardware Support	ProSupport	BEST ProSupport Plus
Customer Advocacy *via assigned Services Account Manager* ⓘ			
Benefit from personalized services assistance that aligns with your business goals.			✓
Stay ahead of challenges with actionable insights gained through comprehensive service intelligence.			✓
Experience fast critical issue resolution through coordinated team response and executive escalation paths.			✓
Ensure coverage continuity by planning effectively for technology lifecycle transitions.			✓
Proactive Monitoring & Actionable Insights *via Dell's connectivity solutions and tools*			
Quickly visualize performance through a current system health score		✓	✓
Cybersecurity monitoring and mitigation recommendations provide another layer of protection		✓	✓
Predictive performance and capacity analysis address bottlenecks		✓	✓
Prevent or plan for downtime with predictive hardware anomaly detection		✓	✓
Energy consumption and carbon footprint forecasting support sustainability and stewardship initiatives		✓	✓
Get ahead of problems with proactive issue detection with automated case creation	✓	✓	✓
Streamline internal IT efforts with efficient service request and escalation management tools	✓	✓	✓
Minimize disruptions by self-dispatching eligible parts	✓	✓	✓
Support Essentials			
Keep systems code current and performing at peak through Proactive System Maintenance			✓
Count on Mission Critical Support during Sev 1 incidents and natural disasters ⓘ			✓
Enjoy priority access to senior technical support engineers			✓
Bringing your own software? We provide limited 3rd party software support ⓘ			✓
Choose onsite parts delivery and labor response that meets your needs	Next Business Day	NBD or 4-hour	4-hour
Select product coverage that best augments your internal resources	Hardware	Hardware & Software	Hardware & Software
Have an issue? We are here for you by phone, chat and online	Local business hours	24/7/365	24/7/365

ProSupport Plus for Infrastructure

ProSupport Plus for Infrastructure is the ultimate solution for customers seeking preventative maintenance and optimal performance on their business-critical assets. The service caters to customers who require proactive, predictive, and personalized support for systems that manage critical business applications and workloads. When customers purchase PowerEdge server, we recommend ProSupport Plus, our proactive and preventative support service for business-critical systems. ProSupport Plus provides all the benefits of ProSupport, including the following “Top five reasons to buy ProSupport Plus (PSP)”

1. **Priority access to specialized support experts:** Immediate advanced troubleshooting from an engineer that understands Dell infrastructure solutions.
2. **Mission Critical Support:** When critical (Severity 1) support issues happen, the customer is assured that we do all that we can to get them back up and running as quickly as possible.
3. **Service Account Manager:** A customer’s #1 support advocate, ensuring they get the best possible proactive and predictive support experience.
4. **Systems maintenance:** On a semiannual basis, we will keep a customer’s ProSupport Plus system(s) up to date by installing the latest firmware, BIOS, and driver updates to improve performance and availability.
5. **Third-party software support:** Dell is a customer’s single point of accountability for any eligible third-party software that is installed on their ProSupport Plus system, whether they purchased the software from us or not.

ProSupport for Infrastructure

Comprehensive 24x7 support for hardware and software – best for production, but not critical, workloads and applications. The ProSupport service offers highly trained experts around the clock and around the globe to address IT needs. We help minimize disruptions and maximize availability of PowerEdge server workloads with:

- 24x7 support through phone, chat and online
- A central point of accountability for all hardware and software issues
- Hypervisor, operating system, and application support
- Dell security advisories
- Onsite response service levels 4 hour or Next Business Day options

- Proactive issue detection with automated case creation
- Predictive hardware anomaly detection
- Incident Manager assigned for Severity 1 cases
- Collaborative third-party support
- Access to AIOps Platforms - (MyService360, TechDirect, and CloudIQ)
- Consistent experience regardless of where customers are located or what language that they speak.

Basic Hardware Support

Provides reactive hardware support during normal business hours, excluding local national holidays. No software support or software-related guidance. For improved levels of support, choose ProSupport or ProSupport Plus.

Specialty Support Services

Optional specialty support services complement the ProSupport Infrastructure Suite to provide additional proficiencies that are critical for modern data center operations.

Hardware coverage add-ons to ProSupport

- **Keep Your Hard Drive (KYHD), Keep Your Component (KYC), or Keep Your GPU (KYGPU):**

  Normally if a device fails under warranty, Dell replaces it using a one-for-one exchange process.KYHD/KYCC/KYGPU gives you the option to retain your device. It provides full control of sensitive data and minimizes security risk by letting you retain possession of failed drives, components, or GPU when receiving replacement parts without incurring additional cost.
- **Onsite Diagnosis Service:**

  Ideal for sites with non-technical staff. Dell field technician performs initial troubleshooting diagnosis onsite and transfers to Dell remote engineers to resolve the issue.
- **ProSupport Add-on for HPC:**

  Sold as an add-on to a ProSupport service contract, the ProSupport Add-on for HPC provides solution-aware support to cover the additional requirements that are required to maintain an HPC environment such as:

  - Access to senior HPC experts
  - Advanced HPC cluster assistance: Performance, interoperability, and configuration
  - Enhanced HPC solution level end-to-end support
  - Remote pre-support engagement with HPC Specialists during ProDeploy implementation
- **ProSupport Add-on for Telco (Respond & Restore):**

  An add-on service designed for the top 31 TELCO customers globally, Respond & Restore provides direct access to Dell solution experts who specialize in TELCO carrier-grade support. This add-on also provides a hardware uptime guarantee, meaning if a system fails, Dell has it installed and operational within 4 hours for Severity 1 issues. Dell incurs penalties and fees if SLAs are not met.

Personalized Support and Supplemental Site-wide Expertise

- **Technical Account Manager:**

  Designated technology lead who monitors and manages the performance and configuration of specific technology sets.
- **Designated Remote Support:**

  Personalized support expert who manages all troubleshooting and resolution of IT assets.
- **Multivendor Support Service:**

  Support your third-party devices as one service plan for servers, storage, and networking (includes coverage for: Broadcom, Cisco, Fujitsu, HPE, Hitachi, Huawei, IBM, Lenovo, NetApp, Oracle, Quanta, SuperMicro and others).

Services for large enterprises

- **ProSupport One for Data Center:**

  ProSupport One for Data Center offers flexible site-wide support for large and distributed data centers with more than 1,000 assets (combined total of server, storage, networking, so forth). This offering is built on standard ProSupport features that leverage our global scale and are tailored to specific customer needs. While not for everyone, this service option offers a truly unique solution for our largest customers with the most complex environments.

  - Team of assigned Services Account Managers with remote or onsite options
  - Assigned technical and field engineers who are trained on the customer's environment and configurations.
  - On-demand reporting and recommendations that are enabled by ProSupport AIOps tools (MyService360, TechDirect, and CloudIQ)
  - Flexible onsite support and parts options that fit their operational model
  - A tailored support plan and training for their operations staff
- **ProSupport One for CSPs (Cloud Serviced Providers)**

  ProSupport One for CSPs is a unique offer that is designed for a limited set of Dell accounts purchasing Gen AI computing solutions greater than 1,000 servers and $250M in sales. PS1 for CSPs improves the entire services experience combining support, deployment (rack integration), residency services, a designated support engineer and the LOIS parts locker as one holistic bundle. Special pricing has been determined to compete effectively against competitors and provide the best customer experience. PS1 for CSPs can only be sold with XE Servers and all networking platforms (Dell and NVIDIA). All other products would be eligible for the standard PS1DC not this special bundle offer. More details on PS1 for CSPs here.
- **Logistics Online Inventory Solution (LOIS)**

  Ideal for large organizations that have their own staff to support their data center. Dell offers a service that is called Logistics Online Inventory Solution which is an onsite parts locker that provides self-maintainers with a local inventory of common replacement components. Having access to these parts lockers allows the self-maintainer to replace a failed component immediately without delay. Each replacement part would automatically initiate a replenishment of the parts inventory that is shipped the next day or delivered onsite by Dell during a regular scheduled visit (called Scheduled Onsite Service). As part of the LOIS system, customers can integrate their systems directly to Dell TechDirect using APIs to help streamline the support management process.

End-of-Life Services

- **Post Standard Support (PSS)**

  Extend service life beyond the initial seven years of ProSupport, adding up to five more additional years of hardware coverage.
- **Data Sanitization & Data Destruction**

  Renders data unrecoverable on repurposed or retired products, ensuring security of sensitive data and enabling compliance and provides NIST-compliant certification.
- **Asset Recovery Services**

  Recycle, resale, and disposal of hardware. Helps you securely and responsibly retire IT assets that are no longer needed while protecting both your business and the planet.

ProDeploy Infrastructure Suite

ProDeploy Infrastructure Suite provides various deployment offerings that satisfy a customer's unique needs. It is made up of various sub-offers: Factory Configuration Services, Rack Integration, Basic Deployment, ProDeploy, ProDeploy Plus, and optionally ProDeploy FLEX which allows for some customization of the features listed.

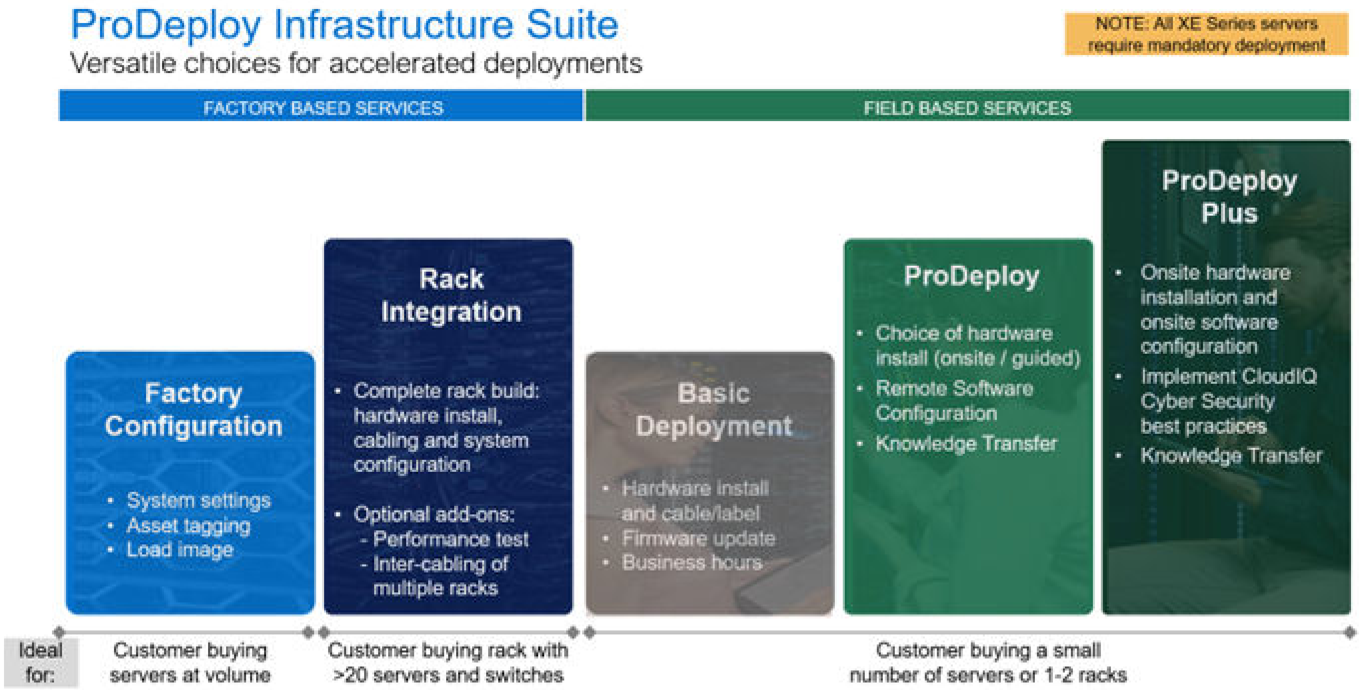


Figure 69. ProDeploy Infrastructure Suite

Factory-based Services

Pre-configured systems or complete racks, customized prior to shipping to the customer's site.

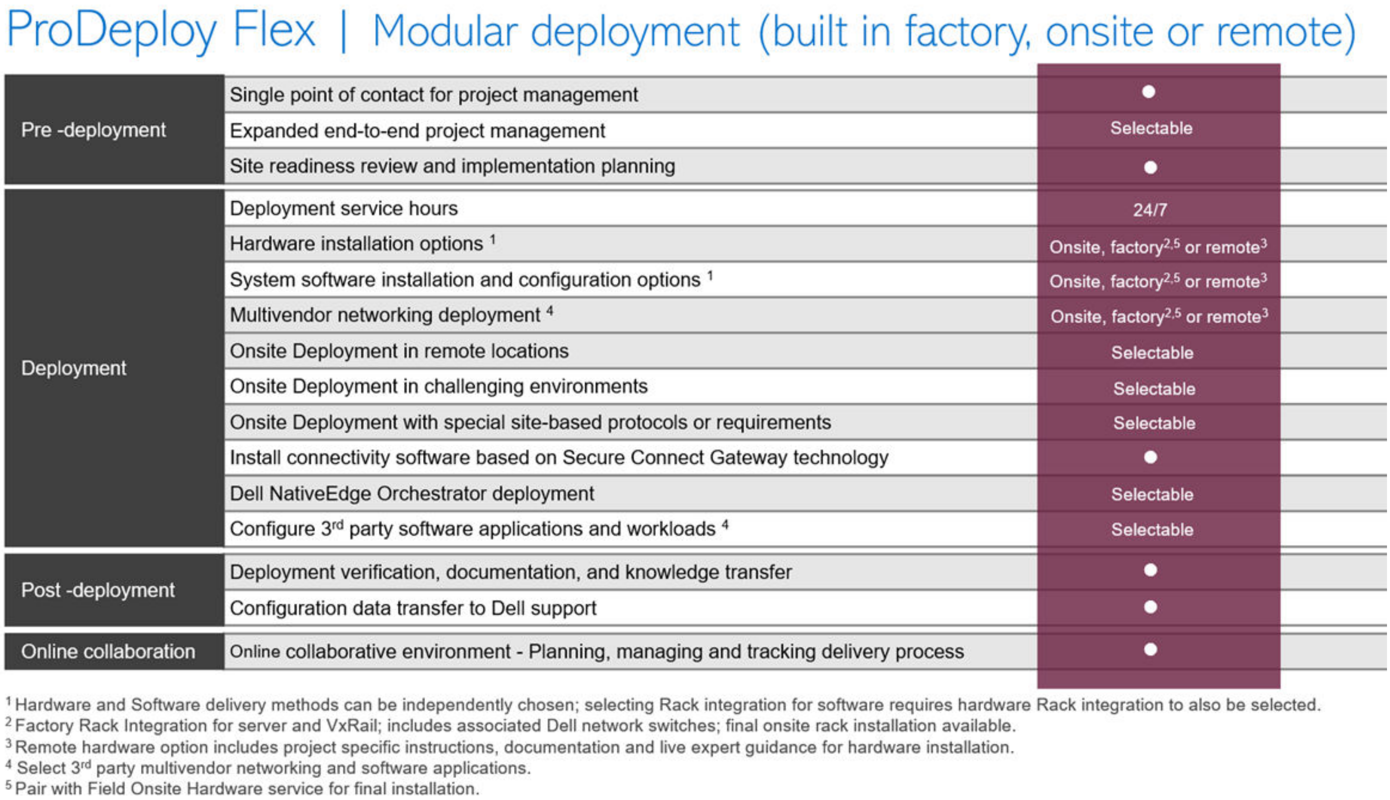
Rack Integration or ProDeploy FLEX Rack Integration

Ideal for customers buying servers in volume and seeking pre-configuration prior to shipping such as: custom image, system settings, and asset tagging so it arrives ready to use out of the box. Furthermore, servers are packaged and bundled to meet specific shipping and distribution requirements for each customer location to facilitate the rollout process. Once the server is onsite, Dell can install and configure the server to the environment using any of the field-based deployment services outlined in the next section.

- STANDARD SKUs for Rack Integration is available in then USA only and requires:
  - 20 or more devices (XE, R and C series servers, VxRail and all Dell or non-Dell switches).
  - Shipping to contiguous USA.
- USE CUSTOM QUOTE for Rack Integration scenarios that require:
  - Any Direct Liquid Cooling (DLC) implementation
  - Shipping to multiple locations or shipment to any country outside USA or shipping outside contiguous USA
  - Air-cooled racks containing less than 20 servers
  - Any rack that includes Storage

Factory Configuration

Ideal for customers buying servers in volume and seeking pre-configuration prior to shipping such as: custom image, system settings, and asset tagging so it arrives ready to use out of the box. Furthermore, servers are packaged and bundled to meet specific shipping and distribution requirements for each customer location to facilitate the rollout process. Once the server is onsite, Dell can install and configure the server to the environment using any of the field-based deployment services outlined in the next section.



ProDeploy Flex | Modular deployment (built in factory, onsite or remote)

Pre -deployment	Single point of contact for project management	●
	Expanded end-to-end project management	Selectable
	Site readiness review and implementation planning	●
Deployment	Deployment service hours	24/7
	Hardware installation options [1]	Onsite, factory[2,5] or remote[3]
	System software installation and configuration options [1]	Onsite, factory[2,5] or remote[3]
	Multivendor networking deployment [4]	Onsite, factory[2,5] or remote[3]
	Onsite Deployment in remote locations	Selectable
	Onsite Deployment in challenging environments	Selectable
	Onsite Deployment with special site-based protocols or requirements	Selectable
	Install connectivity software based on Secure Connect Gateway technology	●
	Dell NativeEdge Orchestrator deployment	Selectable
	Configure 3rd party software applications and workloads [4]	Selectable
Post -deployment	Deployment verification, documentation, and knowledge transfer	●
	Configuration data transfer to Dell support	●
Online collaboration	Online collaborative environment - Planning, managing and tracking delivery process	●

[1] Hardware and Software delivery methods can be independently chosen; selecting Rack integration for software requires hardware Rack integration to also be selected.

[2] Factory Rack Integration for server and VxRail; includes associated Dell network switches; final onsite rack installation available.

[3] Remote hardware option includes project specific instructions, documentation and live expert guidance for hardware installation.

[4] Select 3rd party multivendor networking and software applications.

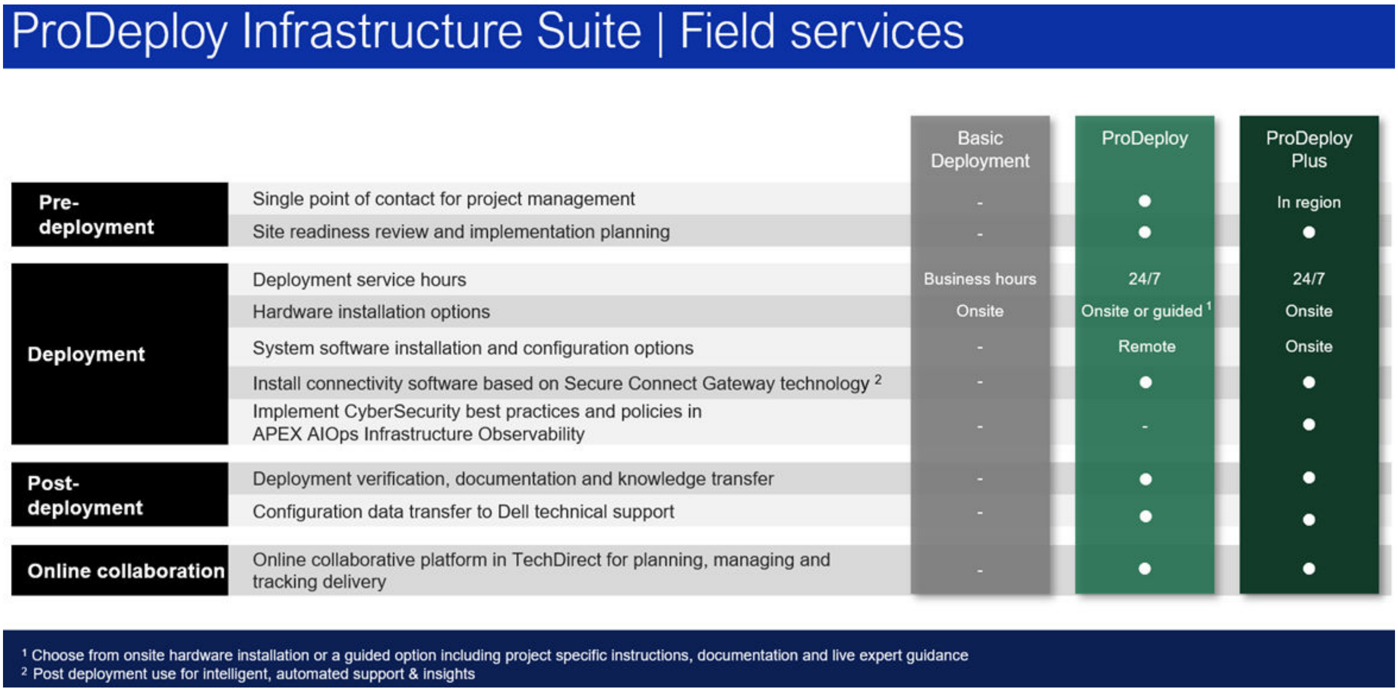
[5] Pair with Field Onsite Hardware service for final installation.

Figure 70. ProDeploy Flex modular services

Field-based services

Put PowerEdge servers to work faster with Dell field-based deployment services. Whether we are deploying one server to one thousand – we have you covered. Dell provides versatile delivery options to fit every budget and operating model.

- **ProDeploy Plus:** Elevate Infrastructure deployments with our most complete service from planning through onsite hardware installation and software configuration including the implementation of cybersecurity best practices. ProDeploy Plus provides the skill and scale that is needed to successfully execute demanding deployments in today's complex IT environments. The deployment starts with a site readiness review and implementation plan. Certified deployment experts perform the software configuration to include setup of leading operating systems and hypervisors. Dell will also configure PowerEdge software tools to include iDRAC and OpenManage system utilities as well as support AIOps platforms: MyService360, TechDirect, and CloudIQ. Unique to ProDeploy Plus, the cybersecurity implementation helps customers understand potential security risks and make recommendations for reducing product attack surfaces. The system is tested, validated prior to completion. The customer will also receive full project documentation and knowledge transfer to complete the process.
- **ProDeploy:** ProDeploy provides remote software configuration and choice of hardware installation (onsite or guided). ProDeploy is great for customers who are price sensitive or willing to participate in some portion of the deployment to include providing remote access to their network. The ProDeploy remote software includes everything mentioned in ProDeploy Plus except it does not include the added value, cybersecurity implementation, and implementatiod best practices.
- **Basic Deployment:** Basic Deployment delivers worry-free professional installation by experienced technicians. This service is often sold to Competency Enabled Partners who will have Dell do the hardware installation while they complete the software configuration. Furthermore, Basic Deployment tends to be purchased by large enterprises who have smart technical staff. These companies just need Dell to install the hardware, and they will perform the software configuration. The last use case for Basic Deployment is when paired with Factory Configuration services. The servers are preconfigured in the factory, and the basic deployment service will install the system into the rack to finalize the deployment.



ProDeploy Infrastructure Suite | Field services

		Basic Deployment	ProDeploy	ProDeploy Plus
Pre-deployment	Single point of contact for project management	-	●	In region
	Site readiness review and implementation planning	-	●	●
Deployment	Deployment service hours	Business hours	24/7	24/7
	Hardware installation options	Onsite	Onsite or guided [1]	Onsite
	System software installation and configuration options	-	Remote	Onsite
	Install connectivity software based on Secure Connect Gateway technology [2]	-	●	●
	Implement CyberSecurity best practices and policies in APEX AIOps Infrastructure Observability	-	-	●
Post-deployment	Deployment verification, documentation and knowledge transfer	-	●	●
	Configuration data transfer to Dell technical support	-	●	●
Online collaboration	Online collaborative platform in TechDirect for planning, managing and tracking delivery	-	●	●

[1] Choose from onsite hardware installation or a guided option including project specific instructions, documentation and live expert guidance

[2] Post deployment use for intelligent, automated support & insights

Figure 71. ProDeploy Infrastructure Suite - Field services

Supplemental Deployment Services

Additional ways to expand scope or deploy for unique scenarios.

Two Host Adder (requires PD/PDP)

Deploying new storage, compute, or networking devices may require interconnection to other servers (also called hosts). The Dell delivery team will set up four hosts per device as part of every ProDeploy service. For example, if the customer is buying two storage arrays the ProDeploy service will automatically include connectivity of four hosts each (4x2=8 total hosts per project since there are two devices). This supplemental “Two Host Adder” service provides for the configuration of additional hosts above what is already provided as part of the ProDeploy service. In many cases, customers can work with us while we set up the included hosts, so they may understand how to do the rest themselves. Always ask the customer how many hosts are being connected and sell the host adder depending on the customer’s technology skillset. Note that this service applies to the connectivity of Dell devices not 3rd party devices.

Additional Deployment Services (ADT) – sold with or without PD/PDP

You can expand the scope of a ProDeploy engagement leveraging Additional Deployment Time (ADT). ADT covers additional tasks above the normal deliverables of the ProDeploy offers. ADT can also be used as a standalone service without ProDeploy. SKUs are available for both Project Management and Technical Resource Expertise. SKUs are sold as blocks of four hours remote or eight hours onsite. The delivery team can help in scoping the number of hours required for additional tasks.

Data Migration Services

Migrating data sets is no easy task. Our experts use proven tools and process to streamline data migrations and avoid compromising data. A customer project manager works with our experienced team of experts to create a migration plan. Data migration is part of every technology upgrade, platform change, and shift to the cloud. You can rely on Dell data migration services to perform a seamless transition.

Residency Services

Certified technical professionals act like an extension of your IT staff to enhance internal capabilities and resources and help you realize faster adoption and maximized ROI of new technology. Residency Services help customers transition to new capabilities quickly by leveraging specific technology skill sets. Residency experts can provide post implementation management and knowledge transfer that is related to a new technology acquisition or day-to-day operational management of the IT infrastructure.

- Global experts available to serve in-person (onsite) or virtual (remote)
- Engagements starting at 2 weeks with flexibility to adjust
- Residency is available for project management needs, and many different technology skills sets such as: Server, storage, Gen AI, networking, security, multi-cloud, data mgmt., and modern workforce application residents

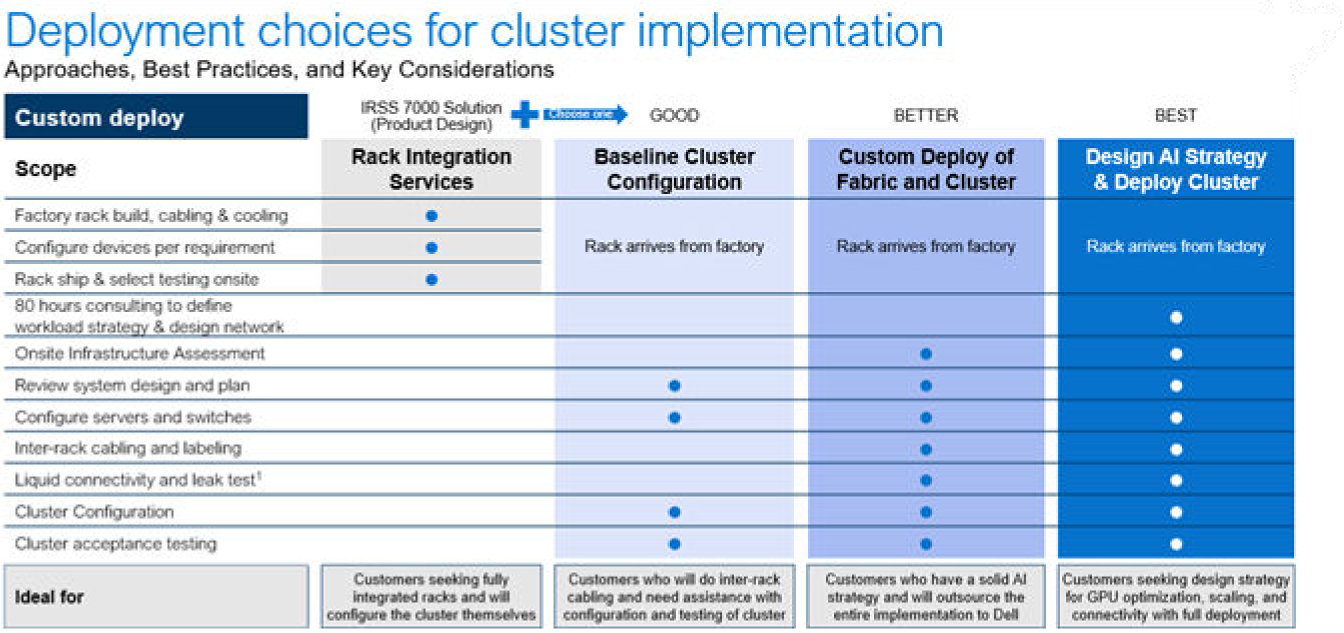
Unique Deployment Scenarios

Custom Deployment Services

When a deployment is beyond the scope of the ProDeploy Infrastructure Suite, you can turn to the custom deployment services team to address complex implementation scenarios and customer unique requirements. The Dell custom deployment team is staffed with solution architects who will assist with customer scoping calls to define the project and develop the statement of work. Custom services can handle a wide range of deployments that can be performed in the factory or onsite. All custom engagement services are requested through SFDC.

Deployment of AI or HPC

Dell provides a number of deploy options for Artificial Intelligence (AI) or High-Performance Computing (HPC) implementations. These complex environments require specialists that understand advanced feature sets. Dell deploys and understands the complexities to optimize the environment. AI and HPC deployments are always scoped as custom service engagements.



Deployment choices for cluster implementation

Approaches, Best Practices, and Key Considerations

Custom deploy	IRSS 7000 Solution (Product Design) + Choose one	GOOD	BETTER	BEST
Scope	**Rack Integration Services**	**Baseline Cluster Configuration**	**Custom Deploy of Fabric and Cluster**	**Design AI Strategy & Deploy Cluster**
Factory rack build, cabling & cooling	●	Rack arrives from factory	Rack arrives from factory	Rack arrives from factory
Configure devices per requirement	●			
Rack ship & select testing onsite	●			
80 hours consulting to define workload strategy & design network				●
Onsite Infrastructure Assessment			●	●
Review system design and plan		●	●	●
Configure servers and switches		●	●	●
Inter-rack cabling and labeling			●	●
Liquid connectivity and leak test[1]			●	●
Cluster Configuration		●	●	●
Cluster acceptance testing		●	●	●
Ideal for	Customers seeking fully integrated racks and will configure the cluster themselves	Customers who will do inter-rack cabling and need assistance with configuration and testing of cluster	Customers who have a solid AI strategy and will outsource the entire implementation to Dell	Customers seeking design strategy for GPU optimization, scaling, and connectivity with full deployment

Figure 72. Deployment choices for cluster implementation

DAY 2 – Automation Services with Ansible

Dell solutions are built as “automation ready” with integrated APIs (Application Programming Interfaces) to allow customers to programmatically call actions on the product through code. Although Dell has published Anisble automation use cases, some customers need additional assistance with GitOps. By the end of the service, the customer will have the foundational components required to accelerate automation and understand how the programming works together: Day 1 and Day 2 use case automation scripts (ansible modules), CI/CD tool (Jenkins), and Version control (Git).

Dell Technologies Consulting Services

Our expert consultants help customers transform faster, and quickly achieve business outcomes for the high-value workloads Dell PowerEdge systems can handle. From strategy to full-scale implementation, Dell Technologies Consulting can help determine how to perform IT, workforce, or application transformation. We use prescriptive approaches and proven methodologies that are combined with the portfolio and partner ecosystem of Dell Technologies to help achieve real business outcomes. From multicloud, applications, DevOps, and infrastructure transformations, to business resiliency, data center modernization, analytics, workforce collaboration, and user experiences-we are here to help.

Dell Managed Services

Some customers prefer Dell to manage the complexity and risk of daily IT operations, Dell Managed Services utilizes proactive, AI enabled delivery operations and modern automation to help customers realize desired business outcomes from their infrastructure investments. With these technologies, our experts run, update, and fine-tune customer environments that are aligned with service levels, while providing environment-wide and down-to-the-device visibility. There are two types of managed service offers. First the outsourcing model or CAPEX model where Dell manages the customer owned assets using our people and tools. The second is the as-a-Service model or OPEX model called APEX. In this service, Dell owns all technology and all the management of it. Many customers will have a blend of the two management types depending on the goals of the organization.

Managed Outsourcing or CAPEX model

We manage your technology using our people and tools.[1]

- Managed detection and response*
- Technology Infrastructure
- End-user (PC/desktop)
- Service desk operations
- Cloud Managed (Pub/Private)
- Office365 or Microsoft Endpoint

APEX as-a-Service or OPEX model

We own all technology so you can off-load all IT decisions.

- APEX Cloud Services
- APEX Flex on Demand elastic capacity
- APEX Data Center Utility pay-per-use model

1 – Some minimum device counts may apply. Order via: ClientManagedServices.sales@dell.com

* Managed detection and response covers the security monitoring of laptops, servers, & virtual servers. Min. 50 devices combined. No Networking or Storage-only systems [SAN/NAS]. Available in 32 countries. Details here

Figure 73. Dell Managed Services

Managed Detection and Response (MDR)

Dell Technologies Managed Detection and Response (MDR) is powered by Secureworks Taegis XDR software platform. MDR is a managed service that secures the customer's IT environment against malicious actors and provides remediation if and when a threat is identified. When a customer purchases MDR, they will receive the following features from our team:

- Dell badge resources
- Agent rollout assistance to help deploy the Secureworks Endpoint Agent
- 24x7 threat detection and investigation
- Up to 40 hrs per quarter of response and active remediation activities
- If the customer experiences a breach, we will provide up to 40 hrs per year of Cyber incident response initiation
- Quarterly reviews with the customer to review the data

Dell Technologies Education Services

Build the IT skills required to influence the transformational outcomes of the business. Enable talent and empower teams with the right skills to lead and perform transformational strategy that drives competitive advantage. Leverage the training and certification that is required for real transformation.

Dell Technologies Education Services offers PowerEdge server training and certifications that are designed to help customers achieve more from their hardware investment. The curriculum delivers the information and the practical, firsthand skills that their team must confidently install, configure, manage, and troubleshoot Dell servers.

To learn more or register for a class today, see Education.Dell.com.

Resources

Service for powerEdge