

Dell PowerEdge R7625

Technical Guide

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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System overview

The PowerEdge R7625 system is a 2U server that supports:

- Two AMD EPYC 4th Generation 9004 series processor with up to 128 cores
- Optional Direct Liquid Cooling(DLC) for required CPU SKU and/or configurations
- Up to 24 RDIMMs, with up to 6 TB of memory and speeds up to 4800 MT/s
- Two redundant AC or DC power supply units
- Up to 8 x 3.5-inch SATA/SAS drives or 8 x 2.5 SATA/SAS/NVMe or 12 x 3.5-inch SATA/SAS or 16 x 2.5-inch SATA/SAS/NVMe 24 x 2.5-inch SATA/SAS/NVMe (HDD/SSD) drives
- Up to 32 x EDSFF E3.S, or 16 x EDSFF E3.S, or 8 x EDSFF E3.S, 4 x EDSFF E3.S (rear) NVMe Gen5 drives
- PCI Express® (PCIe) 5.0 enabled expansion slots
- Network interface technologies to cover Network Interface Card (NIC)

Topics:

- [Key workloads](#)
- [New technologies](#)

Key workloads

Customers looking for accelerated compute to maximize performance in a dense, scalable server architecture to address the following applications:

- High Performance Computing
- Virtual Desktop Infrastructure (VDI)
- Virtualization

New technologies

Table 1. New technologies

Technology	Detailed Description
AMD Genoa Processor (SP5)	Core count: Up to 128 core processor
	5nm process technology
	AMD Interchip global memory interconnect (xGMI) up to 64 lanes
	Speeds up to 4.1 GHz
	Maximum TDP: 400 W
5600 MT/s DDR5 Memory  NOTE: The speed of 5600 MT/s RDIMM will be clocked down to match the CPU MAX DDR frequency (1 DPC) at 4800 MT/s supported on the platform	Up to 12 channels with 1 DPC per CPU and 24 DIMMs in total
Supports RDIMM, 3DS DIMM DDR5 with ECC up to 4800 MT/s	
PCIe Gen	Gen5 @32 GT/s
PCIe Slot	Up to eight PCIe Slots with x8 or x16 lanes
Flex I/O	LOM board, 2 x1Gb with BCM5720 LAN controller

Table 1. New technologies (continued)

Technology	Detailed Description
	Rear I/O with: • 1 GB Dedicated Management Network Port • 1 x USB 3.0 • 1 x USB 2.0 • VGA port (optional for Direct Liquid Cooling configuration)
	Serial Port Option with STD RIO board
	OCP Mezz 3.0 (supported by x8 PCIe lanes) (optional)
	Front I/O with: • 1 x iDRAC Direct (Micro-AB USB) port • 1 x USB 2.0 • 1 x VGA
CPLD 1-wire	Support payload data of Front PERC, Riser, BOSS N1, BP, and Rear I/O to BIOS and iDRAC.
Dedicated PERC	PERC 11 • HBA355i, H355, H755, H755N PERC 12 • H965i • H965e • HBA465i • HBA465e
Software RAID	S160
Power Supplies	60 mm / 86 mm dimension is the new PSU form factor on a 16G design.
	Platinum 800 W AC/HVDC
	Platinum 1100 W AC/HVDC
	Platinum 1400 W AC/HVDC
	Titanium 1400 W AC/HVDC
	Titanium 1800 W AC/HVDC
	Platinum 2400 W AC/HVDC
	Titanium 2800 W AC/HVDC
	Titanium 3200 W AC/HVDC

System features and generational comparison

The following table shows the comparison between the PowerEdge 7625 with the PowerEdge R7525.

Table 2. Features comparison

Features	PowerEdge R7625	PowerEdge R7525
Processors	Two AMD® EPYC™ 4th Generation 9004 series processors	Two AMD® EPYC™ Generation 2 or Generation 3 processors
CPU interconnect	Inter-chip global memory interconnect (xGMI) 32GT/sec	Inter-chip global memory interconnect (xGMI) 16GT/sec
Memory	24 x DDR5 RDIMM (6 TB), bandwidth up to 5600 MT/S <i>i</i> NOTE: The speed of 5600 MT/s RDIMM will be clocked down to match the CPU MAX DDR frequency (1 DPC) at 4800 MT/s supported on the platform	32 x DDR4 RDIMM (2TB), LRDIMM (4TB), bandwidth up to 3200 MT/S
Storage Controllers	- PERC 11: HBA355i, H355, H755, H755N - PERC 12: H965i, H965e, HBA465e, HBA465i - Software RAID: S160 - BOSS-N1	- Adapters: HBA355E, H840 - PERC: H345, H745, H755, H755N - Software RAID: S150
Drive Bays	Front bays: - Up to 8 x 3.5-inch SAS4/SATA (HDD/SSD) max 160 TB - Up to 12 x 3.5-inch SAS/SATA (HDD/SSD) max 240 TB - Up to 8 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) max 122.88 TB - Up to 16 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) max 245.76 TB - Up to 24 x 2.5-inch SAS/SATA/NVMe (HDD/SSD) max 368.64 TB - Up to 8 x EDSFF E3.S Gen5 NVMe (SSD) max 61.44 TB - Up to 16 x EDSFF E3.S Gen5 NVMe (SSD) max 122.88 TB - Up to 32 x EDSFF E3.S Gen5 NVMe (SSD) max 245.76 TB Rear bay: - Up to 2 x 2.5-inch SAS4/SATA/NVMe (HDD/SSD) max 30.72 TB - Up to 4 x 2.5-inch SAS4/SATA/NVMe (HDD/SSD) max 61.44 TB - Up to 4 x E3.S (NVMe Gen5) max 30.72 TB	Front bays: 3.5 inches, 2.5 inches - 12 Gb SAS, 6 Gb SATA, NVMe HDD
Power Supplies	Hot swap PSUs with full redundancy 3200 W Titanium 277 VAC or 336 VDC	Hot swap PSUs with full redundancy

Table 2. Features comparison (continued)

Features	PowerEdge R7625	PowerEdge R7525
	• 2800 W Titanium 200—240 VAC or 240 HVDC • 2400 W Platinum 100—240 VAC or 240 HVDC • 1800 W Titanium 200—240 VAC or 240 HVDC • 1400 W Titanium 100—240 VAC or 240 HVDC • 1400 W Platinum 100—240 VAC or 240 HVDC • 1400 W Titanium 277 VAC or 336 HVDC • 1100 W Titanium 100—240 VAC or 240 HVDC • 1100 W LVDC -48 — -60 VDC • 800 W Platinum 100—240 VAC or 240 HVDC	• Mixed Mode (MM) AC/HVDC (Platinum) 800 W, 1400 W, 2400 W • Titanium 1100 W Mixed Mode AC/HVDC, (-48 V) 1100 W DC PSU
Cooling Options	• Air Cooling • Optional Direct Liquid Cooling (DLC)	• Air Cooling
Fans	Up to six High performance Silver / High Performance Gold hot plug fans	Up to six Standard (STD) / High performance (HPR) / Very High Performance (VHP) hot plug fans
Dimension	Height: 86.8 mm (3.41 inches)	Height: 86.8 mm (3.41 inches)
	Width: 482 mm (18.97 inches)	Width: 482 mm (18.97 inches)
	Depth: 772.13 mm (30.39 inches) with bezel	Depth: 772.13 mm (30.39 inches) with bezel
	Depth: 758.29 mm (29.85 inches) without bezel	Depth: 758.29 mm (29.85 inches) without bezel
Form Factor	2U rack server	2U rack server
Embedded Management	• iDRAC9 • iDRAC Direct • iDRAC RESTful with Redfish • iDRAC Service Manual • Quick Sync 2 wireless module	• iDRAC9 • iDRAC Direct • iDRAC Service Module • Quick Sync 2 wireless module
Bezel	Optional LCD bezel or security bezel	Optional LCD bezel or security bezel
OpenManage Software	• OpenManage Enterprise • OpenManage Power Manager plugin • OpenManage SupportAssist plugin • OpenManage Update Manager plugin • CloudIQ for PowerEdge plug in • OpenManage Enterprise Integration for VMware vCenter • OpenManage Integration for Microsoft System Center • OpenManage Integration with Windows Admin Center	• OpenManage Enterprise • OpenManage Power Center
Mobility	OpenManage Mobile	OpenManage Mobile
OpenManage Integrations	• BMC TrueSight • Microsoft System Center • OpenManage Integration with ServiceNow • Red Hat Ansible Modules • Terraform Providers	• BMC TrueSight • Microsoft System Center • Red Hat Ansible Modules • VMware vCenter

Table 2. Features comparison (continued)

Features	PowerEdge R7625		PowerEdge R7525	
	VMware vCenter and vRealize Operations Manager			
Security	- Cryptographically signed firmware - Data at Rest Encryption (SEDs with local or external key mgmt) - Secure Boot - Secure Erase - Secured Component Verification (Hardware integrity check) - Silicon Root of Trust - System Lockdown (requires iDRAC9 Enterprise or Datacenter) - TPM 2.0 FIPS, CC-TCG certified, TPM 2.0 China NationZ - AMD Secure Memory Encryption (SME) - AMD Secure Encrypted Virtualization (SEV)		- Cryptographically signed firmware - Secure Boot - Secure Erase - Silicon Root of Trust - System Lockdown (requires iDRAC9 Enterprise or Datacenter) - TPM 1.2/2.0 (optional), TCM 2.0 optional - AMD Secure Memory Encryption (SME) - AMD Secure Encrypted Virtualization (SEV)	
Embedded NIC	2 x 1GbE LOM card (optional)		2 x 1GE LOM	
Networking Options	1 x OCP card 3.0 (optional)  NOTE: The system allows either LOM card or an OCP card or both to be installed in the system.		OCP x16 Mezz 3.0	
GPU Options	Up to two double wide 300W, or six single wide 75W accelerators		Up to three double wide 300W or six single wide 75W accelerators	
Ports	Front Ports 1 x Dedicated iDRAC (micro-USB USB) port 1 x USB 2.0 1 x VGA	Rear Ports 1 x USB 2.0 1 x iDRAC ethernet port 1 x USB 3.0 1 x Serial port (optional) 1 x VGA (optional for Direct Liquid Cooling configuration)	Front Ports 1 x Dedicated iDRAC micro-USB 1 x USB 2.0	Rear Ports 1 x USB 2.0 1 x iDRAC Direct/ ethernet port 1 x USB 3.0 1 x Serial port (optional) 1 x VGA
	Internal Port: 1 x USB 3.0		Internal Port: 1 x USB 3.0	
PCIe	Up to eight PCIe slots 4 x PCIe Gen5 slots 8 x PCIe Gen4 slots		8 x PCIe Gen4 slots	
Operating System and Hypervisors	- 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 Dell Enterprise Operating Systems on Servers, Storage, and Networking page at Dell.com/OSsupport .		- Canonical Ubuntu Server LTS - Citrix Hypervisor - Windows Server LTSC with Hyper-V - Red Hat Enterprise Linux - SUSE Linux Enterprise Server - VMware ESXi For specifications and interoperability details, see Dell Enterprise Operating Systems on Servers, Storage, and Networking page at Dell.com/OSsupport .	

Chassis views and features

Topics:

- Chassis views

Chassis views

Front view of the system



Figure 1. Front view of 24 x 2.5-inch drive system

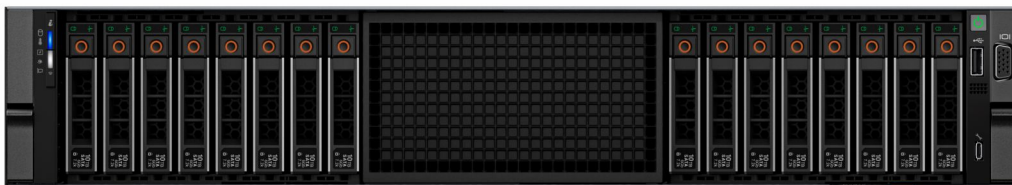


Figure 2. Front view of 16 x 2.5-inch drive system

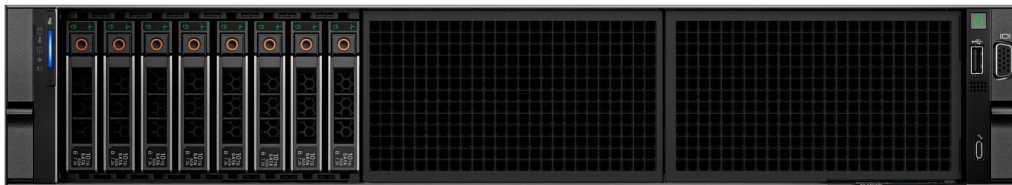


Figure 3. Front view of 8 x 2.5-inch drive system



Figure 4. Front view of 12 x 3.5-inch drive system



Figure 5. Front view of 8 x 3.5-inch drive system

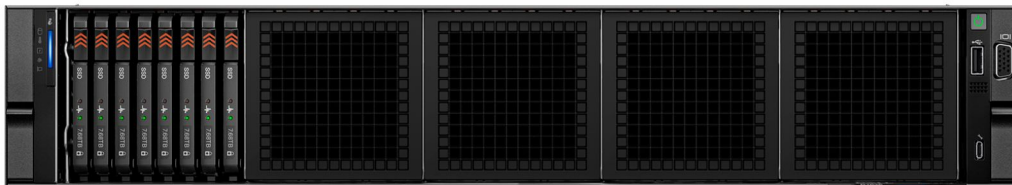


Figure 6. Front view of 8 x E3.S drive system

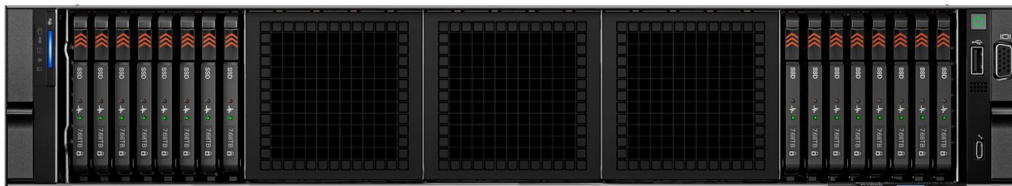


Figure 7. Front view of 16 x E3.S drive system



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

Rear view of the system



Figure 9. Rear view of the system



Figure 10. Rear view of the system with 2 x 2.5-inch rear drive module



Figure 11. Rear view of the system with 4 x 2.5-inch rear drive module



Figure 12. Rear view of the system with 4 x EDSFF E3.S rear drive module

Inside the system

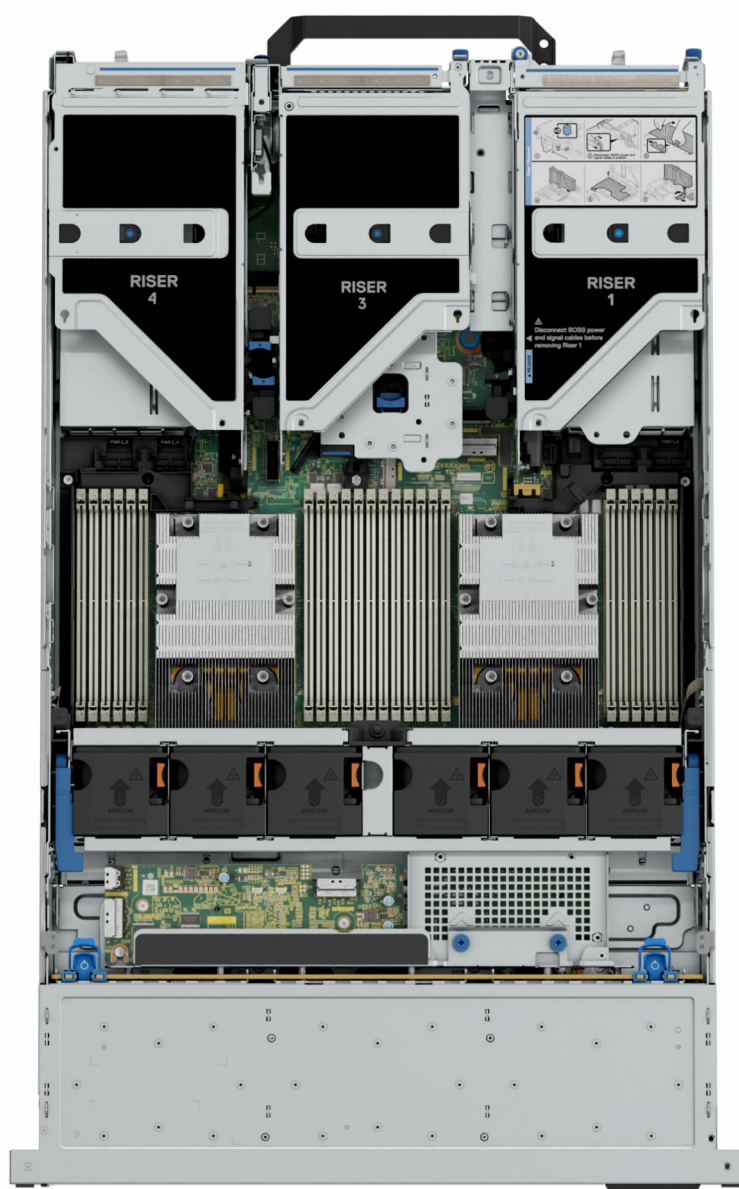


Figure 13. Inside the system

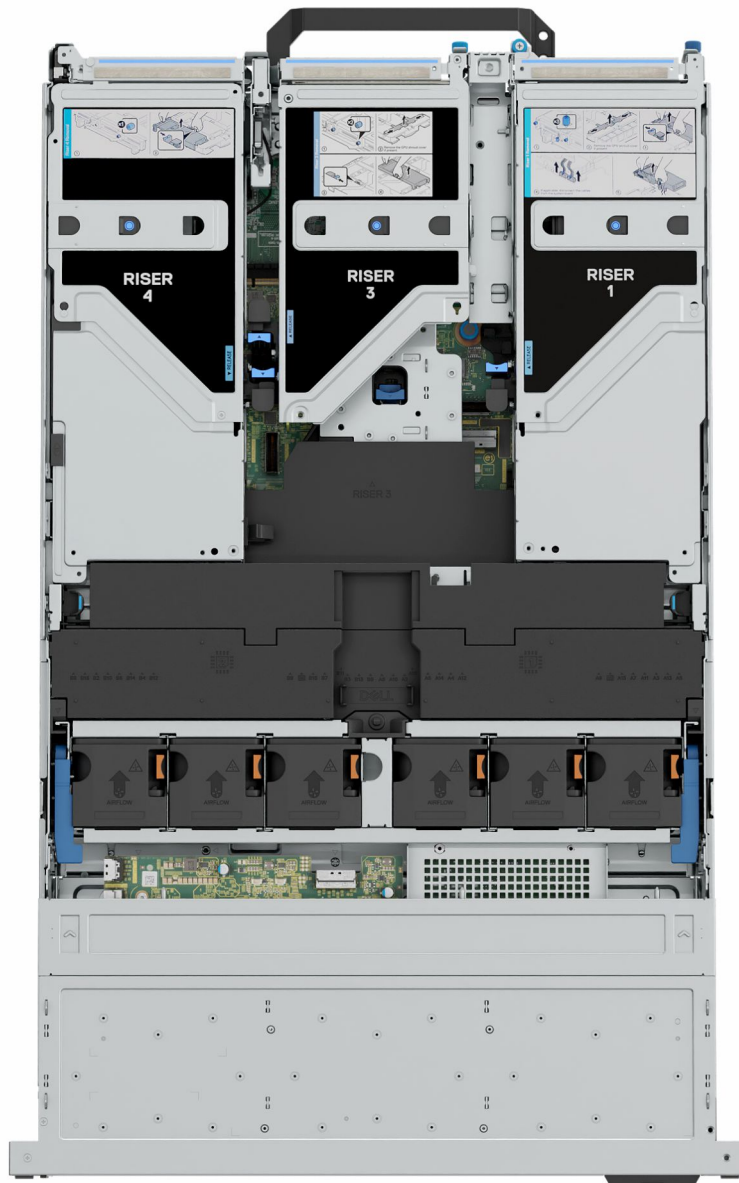


Figure 14. Inside the system with full length risers and GPU shroud

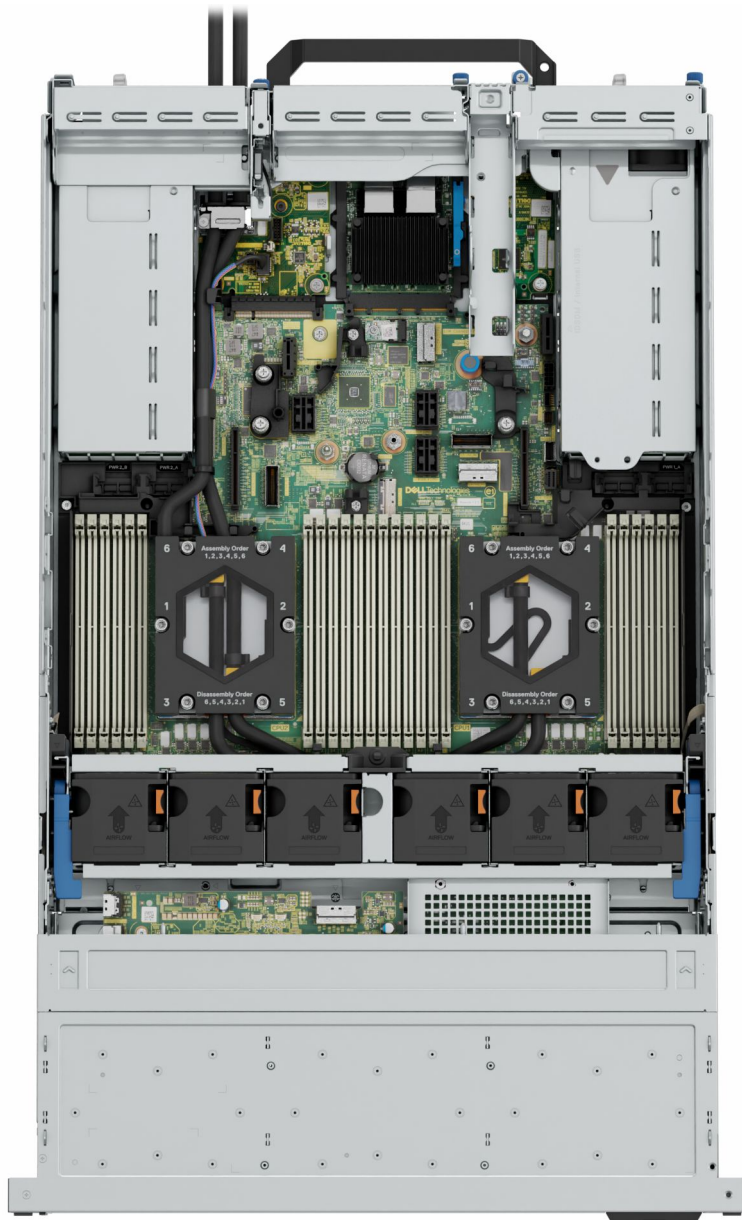


Figure 15. Inside the system with processor liquid cooling module

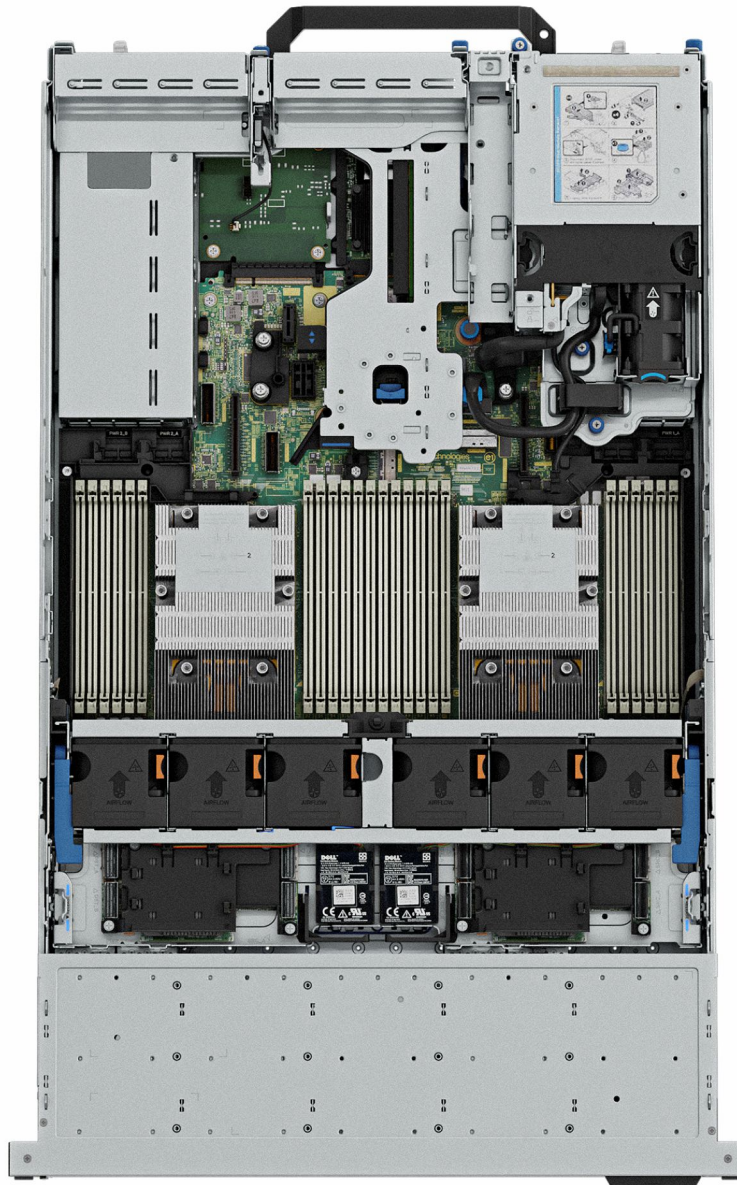


Figure 16. Inside the system with risers 4 x EDSFF E3.S

Processor

Topics:

- [Processor features](#)

Processor features



The AMD EPYC™9004 Series Processor ("Genoa") is the 4th Generation AMD EPYC™ System on a chip (SOC) supporting the modern data center. The AMD EPYC™ 9004 Series Processor is based on AMD's SP5 compatible socket infrastructure with a new BIOS. AMD EPYC™9004 Series Processor is not drop-in compatible to AMD's SP3 socket infrastructure for EPYC™ Series 7002 ("Rome") and 7003 ("Milan") Processors. Based on AMD's "Zen4" and "Zen4c" cores, integrated I/O controllers, up to 32 MB of L3 cache per core, advanced security, and synchronized fabric and memory clock speeds, "Genoa" is designed for improved performance, lower TCO, and faster time to results with next gen technologies.

The following lists the features and functions included in the AMD Genoa offering:

- Supports up to 128 AMD Zen4c cores, 96 AMD Zen4 x86 cores with enhance performance with 32 MB L3 cache/core. Integrated I/O support for up to 128 lanes with PCI Express 5 on Dell platforms (AMD support up to 160 I/O lanes with 2P).
- Enhanced Memory Performance with support up to 4800 MT/s DIMMs (1 DPC), 3DS RDIMM support. Enhanced Memory Performance with: Infinity Fabric™ and Memory Clock Synchronized. Largest Available x86 L3 Cache –Up to 32 MB / core.
- Memory Capacity up to 12 channels DDR5 and up to 256 GB/channel support with 2, 4, 6, 8, 10 and 12 channel performance optimization options.
- Enhanced physical and virtual security with AMD Infinity Guard that includes silicon embedded security and virtual features (Secure Memory Encryption and Secure Encrypted Virtualization-Secure Nested Paging (SEV-SNP) to further improve platform and data security capabilities.

Supported processors

Table 3. Supported processor for the PowerEdge R7625

Processor model number	Base frequency in GHz	Cores/Threads	Default TDP in W	cTDP in W	L3 Cache in MB	Max DDR frequency (1 DPC) MT/s
9754	2.25	128/256	360	360 - 400	256	4800
9734	2.20	112/224	340	340 - 400	256	4800
9684X	2.20	96/192	400	320 - 400	1152	4800
9654	2.40	96/192	360	320 - 400	384	4800
9634	2.25	84/168	290	240 - 300	384	4800

Table 3. Supported processor for the PowerEdge R7625 (continued)

Processor model number	Base frequency in GHz	Cores/Threads	Default TDP in W	cTDP in W	L3 Cache in MB	Max DDR frequency (1 DPC) MT/s
9554	3.10	64/128	360	320 - 400	256	4800
9534	2.45	64/128	280	240 - 300	256	4800
9454	2.75	48/96	290	240 - 300	256	4800
9384X	3.1	32/64	320	320 - 400	768	4800
9354	3.25	32/64	280	240 - 300	256	4800
9334	2.70	32/64	210	200 - 240	128	4800
9254	2.90	24/48	200	200 - 240	128	4800
9224	2.50	24/48	200	200 - 240	64	4800
9124	3.00	16/32	200	200 - 240	64	4800
9474F	3.60	48/96	360	360 - 320	256	4800
9374F	3.85	32/64	320	320 - 320	256	4800
9274F	4.05	24/48	320	320 - 320	256	4800
9184X	3.55	16/32	320	320 - 400	768	4800
9174F	4.10	16/32	320	320 - 320	256	4800

 **NOTE:** The processors are 12 channel and has a maximum frequency of 4800 MT/s (1DPC).

Memory subsystem

Topics:

- Supported memory

Supported memory

The R7625 supports up to 24 DIMMs (12 per socket), with up to 6 TB of memory and speeds of up to 4800 MT/s.

The R7625 support registered (RDIMMs) which use a buffer to reduce memory loading and provide greater density, allowing for the maximum platform memory capacity. Unbuffered DIMMs (UDIMMs) are not supported.

Table 4. Memory technology comparison

Feature	PowerEdge R7625 (DDR5)
DIMM type	RDIMM
Transfer speed	5600 MT/s (1DPC)
Voltage	1.1 V

NOTE: The speed of 5600 MT/s RDIMM will be clocked down to match the CPU MAX DDR frequency (1 DPC) at 4800 MT/s supported on the platform

Table 5. Supported DIMMs

DIMM PN	DIMM Speed (MT/s)	DIMM Type	DIMM Capacity (GB)	Ranks per DIMM	Data Width	DIMM Volts (V)
1V1N1	4800	DDR5 RDIMM	16	1	x8	1.1
W08W9	4800	DDR5 RDIMM	32	2	x8	1.1
J52K5	4800	DDR5 RDIMM	64	2	x4	1.1
FFX9N	4800	DDR5 RDIMM	96	2	x4	1.1
MMWR9	4800	DDR5 RDIMM	128	4	x4	1.1
PPP1D	5600	DDR5 RDIMM	128	2	x4	1.1
PCFCR	4800	DDR5 RDIMM	256	8	x4	1.1
5DR48	5600	DDR5 RDIMM	16	1	x8	1.1
P8XPW	5600	DDR5 RDIMM	32	2	x8	1.1
58F8N	5600	DDR5 RDIMM	64	2	x4	1.1

Storage

Topics:

- [Storage controllers](#)
- [Supported Drives](#)
- [Internal storage configuration](#)
- [External Storage](#)

Storage controllers

Dell's RAID controller options offer performance improvements, including the fPERC solution. fPERC provides a base RAID HW controller without consuming a PCIe slot by using a small form factor and high-density connector to the base planar. 16G PERC Controller offerings are a heavy leverage of the 15G PERC family. The Value and Value Performance levels carry over to 16G from 15G. New to 16G, is the Harpoon-based Premium Performance tier offering. This high-end offering drives IOPs performance and enhanced SSD performance.

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

Table 6. PERC Series controller offerings

Performance Level	Controller and Description
Entry	S160
Value	H355, HBA355 (internal/external), HBA465 (internal/external)
Premium Performance	H755, H755N, H965 (internal/external)

NOTE: For more information about the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card, and on deploying the cards, see the storage controller documentation at [Storage Controller Manuals](#).

Supported Drives

The table that is shown below lists the internal drives that are supported by the R7625.

Table 7. Supported Drives

Form Factor	Type	Speed	Rotational Speed	Capacities
2.5 inches	SAS	12 Gb	7.2 K	2 TB, 4 TB, 8 TB, 12 TB, 16 TB, 20 TB
2.5 inches	SAS	12 Gb	10 K	600 GB, 1.2 TB, 2.4 TB
3.5 inches	SAS	12 Gb	7.2 K	16 TB
3.5 inches	SATA	6 Gb	7.2 K	12 TB, 16 TB, 20 TB, 24 TB
3.5 inches	SATA	6 Gb	7.2 K	2 TB, 4 TB, 8 TB, 12 TB, 16 TB, 20 TB, 24 TB
2.5 inches	vSAS SSD	12 Gb	N/A	960 GB, 1.92 TB, 3.84 TB, 7.68 TB
2.5 inches	SAS SSD	24 Gb	N/A	800 GB, 960 GB, 1.6 TB, 1.92 TB, 3.84 TB, 7.68 TB

Table 7. Supported Drives (continued)

Form Factor	Type	Speed	Rotational Speed	Capacities
2.5 inches	SATA SSD	6 Gb	N/A	480 GB, 960 GB, 1.92 TB, 3.84 TB
2.5 inches	NVMe SSD	Gen4	N/A	400 GB, 800 GB, 30.72 TB, 61.44 TB, 1.6 TB, 1.92 TB, 3.2 TB, 3.84 TB, 6.4 TB, 7.68 TB, 15.36 TB
2.5 inches	DC NVMe SSD	Gen4	N/A	960 GB, 3.84 TB
EDSFF E3.S	NVMe	Gen5	SSD	3.2 TB, 3.84 TB, 6.4 TB, 7.68 TB, 15.36 TB

Internal storage configuration

Table 8. Internal Storage Configuration Matrix

Total HDD/SSD (not BOSS)	NVMe Enabled / Universal Slots	16G Storage Front	Rear Storage	PERC Qty	Storage Controller(s)	Controller Form Factor
0*	0 / 0	N/A	N/A	0	N/A	N/A
8	0 / 0	8x 3.5" SAS3/SATA	N/A	1	HBA355iF/H355F	Front PERC
12	0 / 0	12x 3.5" SAS3/SATA	N/A	1	HBA355i / H355 / H755	PERC Adapter
14	0 / 0	12x 3.5" SAS3/SATA	Rear 2x2.5" univ SAS4	1	HBA355i / H355 / H755	PERC Adapter
14	0 / 0	12x 3.5" SAS3/SATA	Rear 2x2.5" univ SAS4	1	H965i	PERC Adapter
16	0 / 0	12x 3.5" SAS3/SATA	Rear 4x2.5" univ SAS4	1	HBA355i / H355 / H755	PERC Adapter
16	0 / 0	12x 3.5" SAS3/SATA	Rear 4x2.5" univ SAS4	1	H965i	PERC Adapter
12	0 / 0	12x 3.5" SAS3/SATA	N/A	1	HBA355	PERC Adapter
16	0 / 0	12x 3.5" SAS3/SATA	4x Rear E3 G5x4	1	HBA355i/HBA355/H755/S160	PERC Adapter
8	8 / 0	8x U.2 G4	N/A	0	S160 _NVMe	N/A
8	8 / 0	8x U.2 G4	N/A	1	H755N F	Front PERC
8	8 / 0	8x U.2 G4	N/A	1	H965i F	Front PERC
8	0 / 8	8x 2.5" Universal	N/A	1	HBA355i F/H355 F/H755 F/S160	Front PERC
16	0 / 0	16x 2.5" SAS4/SATA	N/A	1	HBA355i F/H355 F/H755 F	Front PERC
16	0 / 0	16x 2.5" SAS4/SATA	N/A	1	H965i F	Front PERC
16	16 / 0	16x U.2 G4	N/A	0	S160	N/A
16	16 / 0	16x U.2 G4	N/A	2	H755N F	Front PERC
16	16 / 0	16x U.2 G4	N/A	2	H965i F	Front PERC
24	8 / 0	16x 2.5" SAS4/SATA + 8x U.2 G4	N/A	1	HBA355i F/H355 F/H755 F/S160	Front PERC

Table 8. Internal Storage Configuration Matrix (continued)

Total HDD/ SSD (not BOSS)	NVMe Enabled / Universal Slots	16G Storage Front	Rear Storage	PERC Qty	Storage Controller(s)	Controller Form Factor
24	8 / 0	16x 2.5" SAS4/SATA + 8x U.2 G4	N/A	1	H965i Adpt/S160	PERC Adapter
24	0 / 0	24x 2.5" SAS4/SATA	N/A	1	HBA355i F/H355 F/ H755 F	Front PERC
24	0 / 0	24x 2.5" SAS4/SATA	N/A	1	H965i F	Front PERC
24	0 / 8	24x 2.5" SAS4/SATA	N/A	1	HBA355i F/H355 F/ H755 F	Front PERC
24	0 / 6	24x 2.5" SAS4/SATA	N/A	1	H965i F	Front PERC
26	0 / 0	24x 2.5" SAS4/SATA	Rear 2x2.5" univ SAS4	1	HBA355i F/H355 F/ H755 F	Front PERC
26	0 / 0	24x 2.5" SAS4/SATA	Rear 2x2.5" univ SAS4	1	H965i F	Front PERC
26	2 / 0	24x 2.5" SAS4/SATA	Rear 2x2.5" univ SAS4	1	HBA355i F/H355 F/ H755 F	Front PERC
26	2 / 0	24x 2.5" SAS4/SATA	Rear 2x2.5" univ SAS4	1	H965i F	Front PERC
28	0 / 0	24x 2.5" SAS4/SATA	Rear 4x2.5" univ SAS4	1	HBA355i F/H355 F/ H755 F	Front PERC
28	0 / 0	24x 2.5" SAS4/SATA	Rear 4x2.5" univ SAS4	1	H965i F	Front PERC
28	4 / 0	24x 2.5" SAS4/SATA	Rear 4x2.5" univ SAS4	1	HBA355i F/H355 F/ H755 F/S160	Front PERC
28	4 / 0	24x 2.5" SAS4/SATA	Rear 4x2.5" univ SAS4	1	H965i F/S160	Front PERC
24	24 / 0	24x U.2 G5 Switched	N/A	0	S160	N/A
24	24 / 0	24x U.2 G5 Switched	N/A	2	H965i F	Front PERC
16	16 / 0	16x E3.S G4 Ortho	N/A	2	H755N F	Front PERC
16	16 / 0	16x E3.S G4 Ortho	N/A	2	H965i F	Front PERC
32	32 / 0	32x E3.S G5 Ortho	N/A	0	S160	N/A
36	36 / 0	32x E3.S G5 Ortho	4x E3 G5 Rear Ortho	0	S160	N/A
8	8 / 0	8x E3.S G5 Ortho	N/A	0	S160	N/A
16	16 / 0	16x E3.S G5 Ortho	N/A	0	S160	N/A
20	20 / 0	16xE3.S (NVMe G5) +4x SCM E3.S 2T	N/A	0	S160	N/A

 **NOTE:** *BOSS/IDSDM Mandatory: All other configurations support optional BOSS/IDSDM.

External Storage

The R7625 support the external storage device types listed in the table below.

Table 9. Support for External Storage Devices

Device Type	Description
External Tape	Supports connection to external USB tape products
NAS/IDM appliance software	Supports NAS software stack
JBOD	Supports connection to ME5 series JBODs

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 systems management features are added by our partners to firmware to tie in with iDRAC and Lifecycle Controller. These adapters are rigorously validated for worry-free, fully supported use in our servers.

OCP 3.0 support

Table 10. OCP 3.0 feature list

Feature	OCP 3.0
Form factor	SFF
PCIe Gen	Gen4
Max PCIe width	x8, x16 (with OCP cable)
Max no.of ports	4
Port type	BT/SPF/SFP+/SFP28/SFP56/Q56
Max port speed	25 GbE, 100 GbE (with OCP cable)
NC-SI	Yes
SNAPI	No
WoL	Yes
Power consumption	15-35 W

Supported OCP cards

Table 11. Supported OCP cards

Form Factor	DPN	Vendor	Port type	Max Port speed	Port Count	Max PCIe width
OCP 3.0	2VY37	Broadcom	Q56	100 GbE	2	x16
	FD63G	Mellanox	SFP56	100 GbE	2	x16
	DN78C	Mellanox	SFP28	25 GbE	2	x16
	3Y64D	Broadcom	SFP28	25 GbE	4	x16
	24FG6	Broadcom	SFP28	25 GbE	2	x8
	PWH3C	Intel	SFP28	25 GbE	2	x8

Table 11. Supported OCP cards (continued)

Form Factor	DPN	Vendor	Port type	Max Port speed	Port Count	Max PCIe width
	Y4VV5	Intel	SFP28	25 GbE	4	x16
	W5HC8	Broadcom	BT	10 GbE	4	x16
	F6X1R	Intel	BT	10 GbE	2	x8
	RN1M5	Broadcom	BT	10 GbE	2	x8
	G9XC9	Broadcom	BT	1 GbE	4	x8
	D1C51	Intel	BT	1 GbE	4	x4
	HY4CV	Intel	BT	1 GbE	4	x4
	VJWVJ	Broadcom	BT	1 GbE	4	x4

OCP NIC 3.0 vs. rack Network Daughter Card comparisons

Table 12. OCP 3.0, 2.0, and rNDC NIC comparison

Form Factor	Dell rNDC	OCP 2.0 (LOM Mezz)	OCP 3.0	Notes
PCIe Gen	Gen 3	Gen 3	Gen 4	Supported OCP3 are SFF (small form factor)
Max PCIe Lanes	x8	Up to x16	Up to x8	See server slot priority matrix
Shared LOM	Yes	Yes	Yes	This is iDRAC port redirect
Aux Power	Yes	Yes	Yes	Used for Shared LOM

PCIe subsystem

Topics:

- PCIe risers

PCIe risers

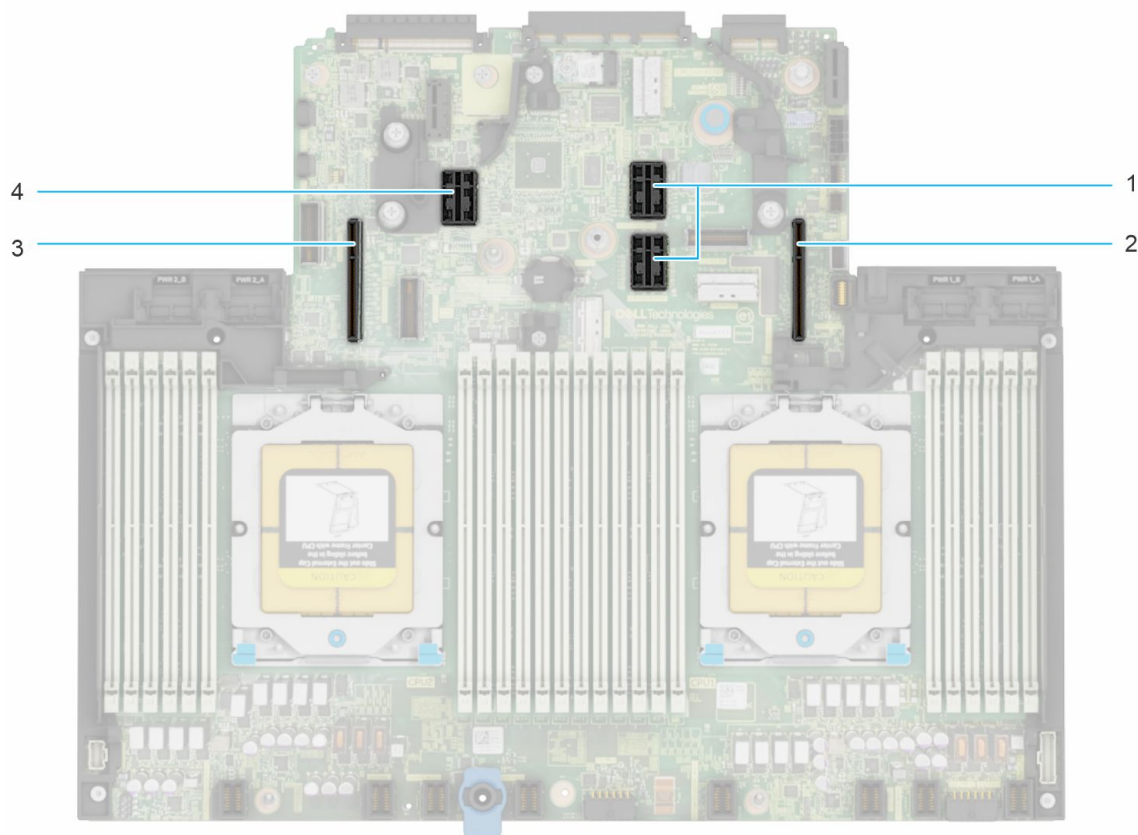


Figure 17. Expansion card riser slot connectors

1. Riser 2
2. Riser 1
3. Riser 4
4. Riser 3

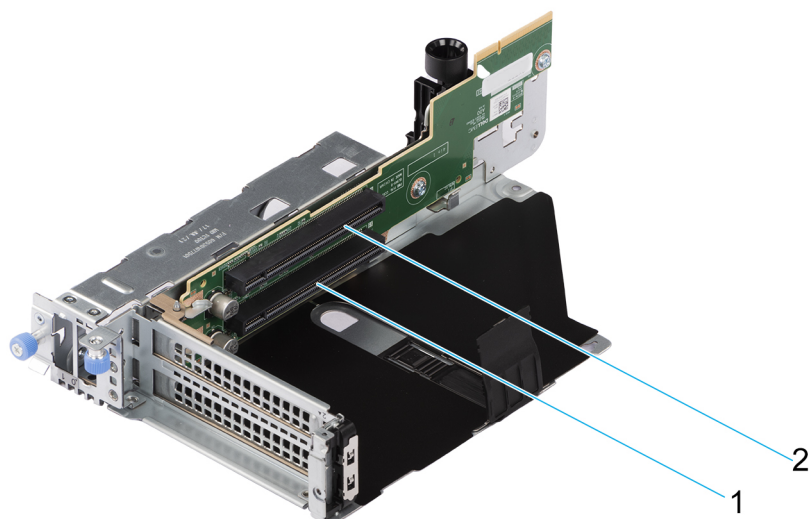


Figure 18. Riser 1B

1. Slot 1
2. Slot 2

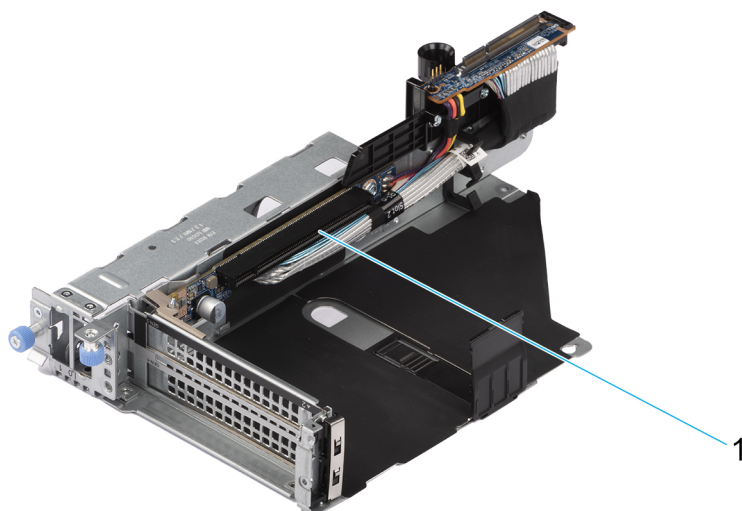


Figure 19. Riser 1P HL

1. Slot 2

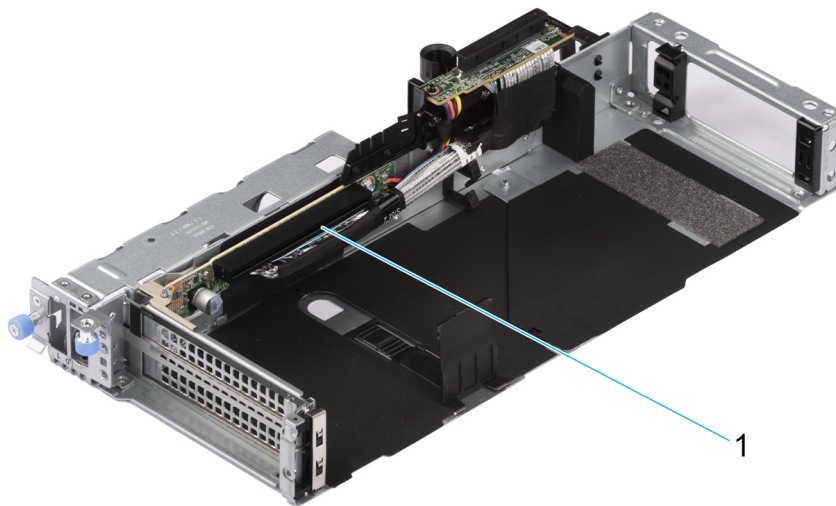


Figure 20. Riser 1P FL

1. Slot 2

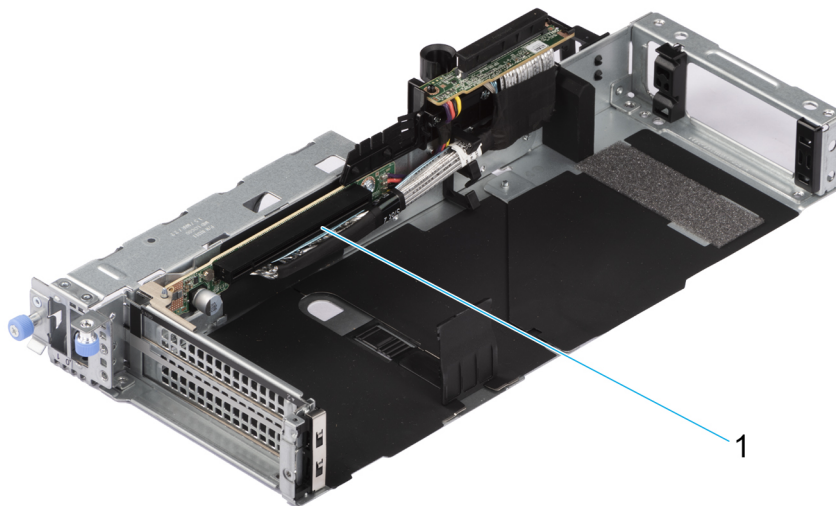


Figure 21. Riser 1Q

1. Slot 2

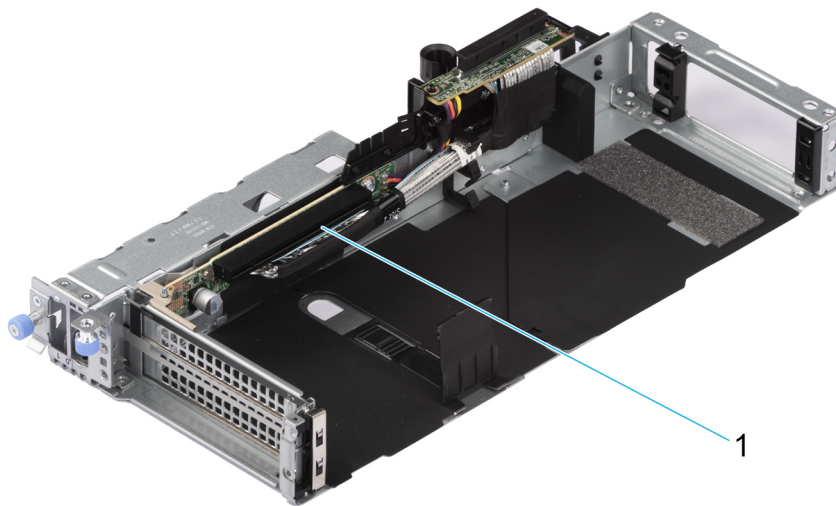


Figure 22. Riser 1S FL

1. Slot 2

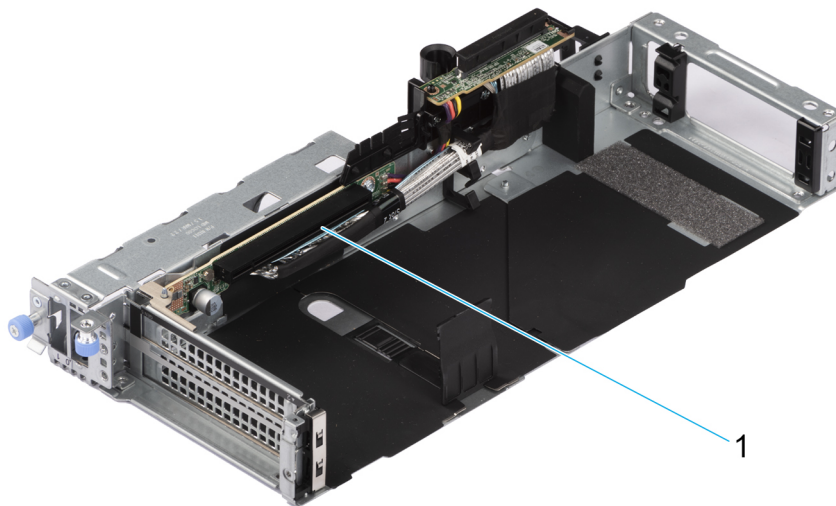


Figure 23. Riser 1S HL

1. Slot 2

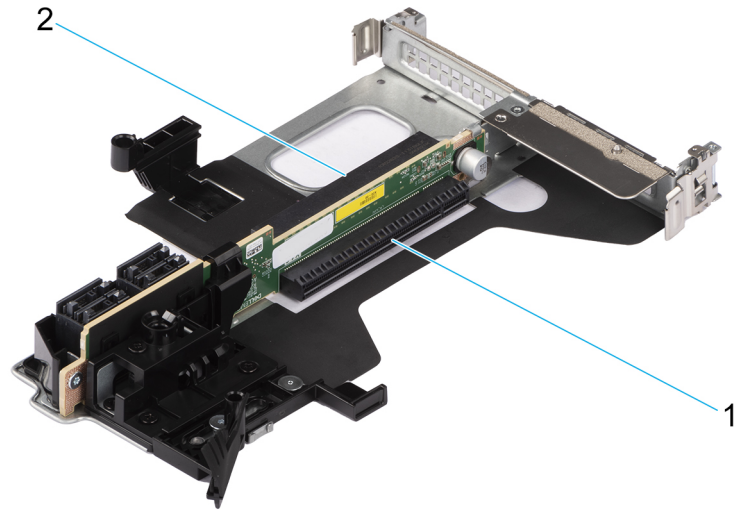


Figure 24. Riser 2A

- 1. Slot 6
- 2. Slot 3

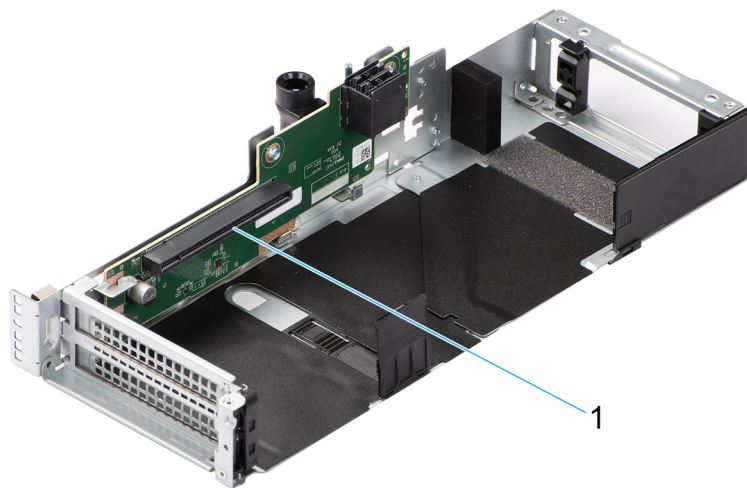


Figure 25. Riser 3A FL

- 1. Slot 5

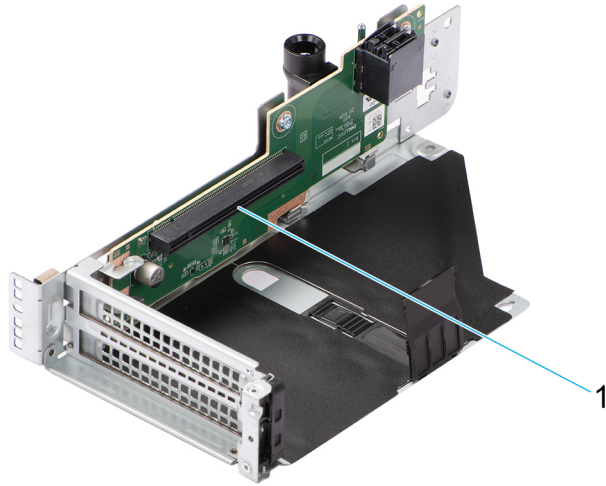


Figure 26. Riser 3A HL

1. Slot 5

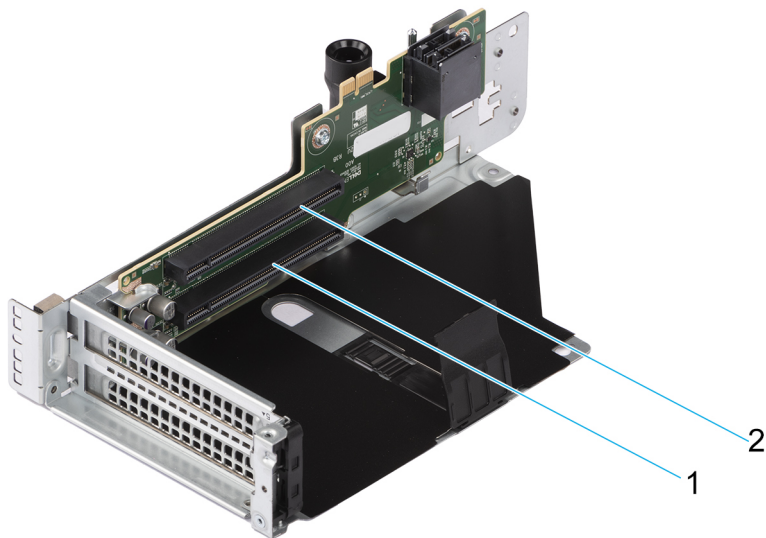


Figure 27. Riser 3B

1. Slot 4
2. Slot 5

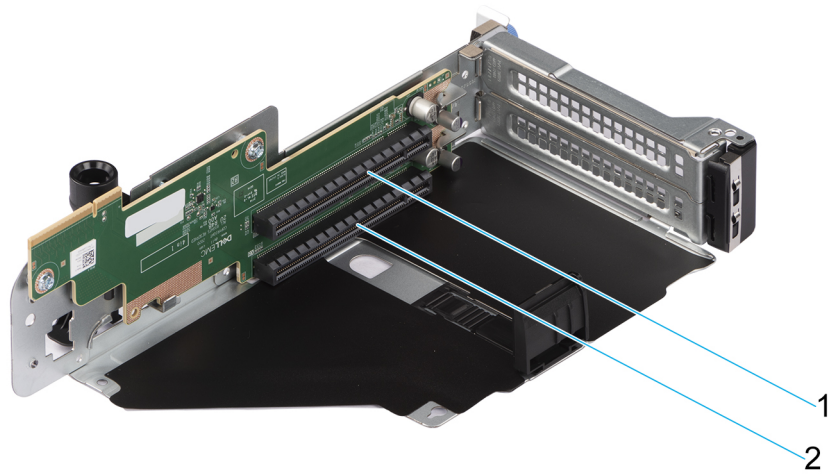


Figure 28. Riser 4B

1. Slot 8
2. Slot 7

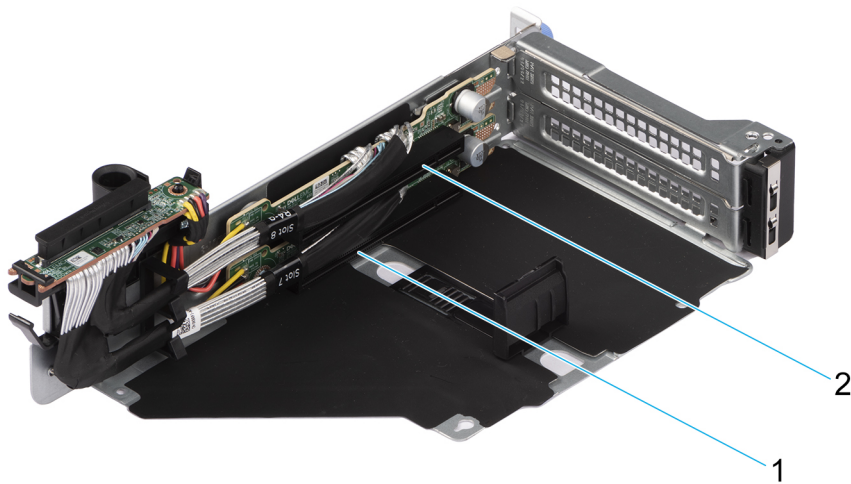


Figure 29. Riser 4Q

1. Slot 7
2. Slot 8

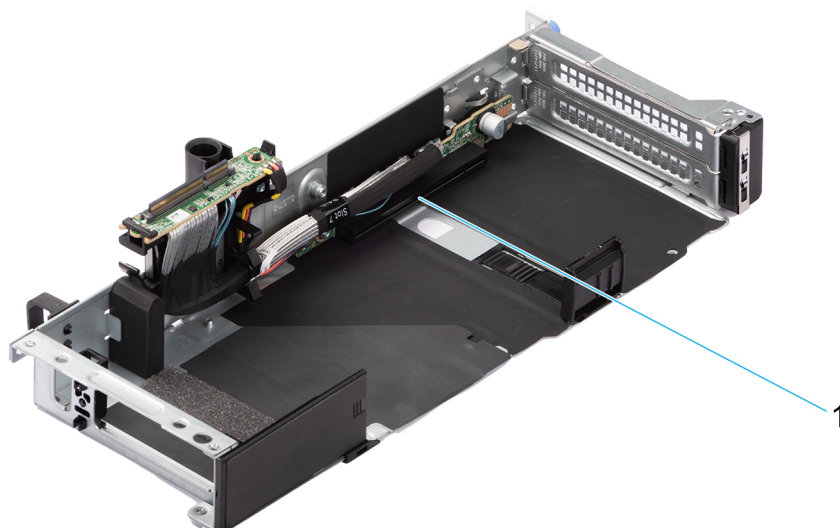


Figure 30. Riser 4P FL

1. Slot 7

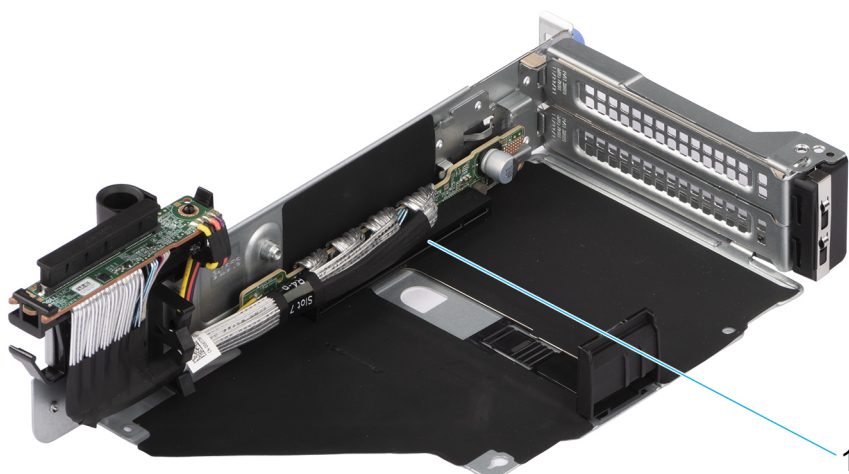


Figure 31. Riser 4P HL

1. Slot 7

Table 13. PCIe Riser Configs

Config #	RSR Configuration	# of CPUs	PERC type supported	Rear Storage Possible	x8 CPU 1	x16 CPU 1	x8 CPU 2	x16 CPU 2
0	0	2	Front PERC	No	0	0	0	0
1	R1B + R4B	2	Front PERC	No	2	0	2	0
2	R1B + R2A + R3B + R4B	2	Front PERC / Adaptor PERC	No	2	1	4	1
3	R1Q + R2A + R3B + R4Q	2	Front PERC / Adaptor PERC	No	2	1	4	1
4	R1P + R2A + R3B + R4P	2	Front PERC / Adaptor PERC	No	0	2	2	2
5	R1S + R2A + R3A + R4P	2	Front PERC	No	0	3	0	3

Table 13. PCIe Riser Configs (continued)

Config #	RSR Configuration	# of CPUs	PERC type supported	Rear Storage Possible	x8 CPU 1	x16 CPU 1	x8 CPU 2	x16 CPU 2
6	R2A + R4Q	2	Front PERC / Adaptor PERC	Yes	0	1	2	1
7	R1Q + R2A + R4Q	2	Front PERC / Adaptor PERC	Yes	2	1	2	1
8	U.2 R1 Paddle card + R2A + R3B + R4D Paddle card	2	No	No	0	2	2	2
9	R1B + R2A	1	Front PERC / Adaptor PERC	No	2	1	0	0
10	R2A + R3B	2	Front PERC / Adaptor PERC	Yes	0	1	2	1
11	R1-E3 Paddle card + R2A + R3B + 2U R4-E3 Paddle card	2	No	Yes	0	2	2	2
12	R1-E3X4 Paddle card+R2A+R3B +R4-E3 Paddle card	2	No	No	0	2	2	2
13	R1-E3 Paddle card+R2A+R3B +R4-SCMX4 Paddle card	2	No	No	0	2	2	2
14	R2a+R3a+R1_R4 Paddle card	2	No	No	0	1	0	2
15	R2a+R3a+E3 R1_R4 Paddle Card	2	No	No	0	1	0	2

Power, thermal, and acoustics

PowerEdge servers have an extensive collection of sensors that automatically track thermal activity, which helps regulate temperature thereby 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 14. 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 Enterprise Infrastructure Planning Tool .
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 • Better performance under a power cap
Power capping	Use Dell's systems management to set the power cap limit for your systems to limit the output of a PSU and reduce system power consumption. Dell is the first hardware vendor to leverage AMD's GUARDMI for circuit-breaker fast capping.
Systems Management	iDRAC Enterprise and Datacenter provides server-level management that monitors, reports and controls power consumption at the processor, memory and system level. Dell OpenManage Power Center delivers group power management at the rack, row, and data center level for servers, power distribution units, and uninterruptible power supplies.
Active power management	AMD's GUARDMI is an embedded technology that provides individual server-level power reporting and power limiting functionality. Dell offers a complete power management solution comprised of AMD's GUARDMI accessed through Dell iDRAC9 Datacenter and OpenManage Power Center that allows policy-based management of power and thermal at the individual server, rack, and data center level. Hot spare reduces power consumption of redundant power supplies. Thermal control off a speed optimizes the thermal settings for your environment to reduce fan consumption and lower system power consumption. Idle power enables Dell servers to run as efficiently when idle as when at full workload.
Fresh Air cooling	See ASHRAE A3/A4 Thermal Restriction.

Table 14. Power tools and technologies (continued)

Feature	Description
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 Find additional information at: Data Center Power and Cooling Solutions.

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 R7625.

Table 15. Power supply Unit Options

PSU	Class	Heat dissipation (maximum) (BTU/hr)	Frequency (Hz)	Voltage	AC		DC	Current (A)
					High line wattage	Low line wattage		
800 W Mixed Mode	Platinum	3000	50/60	100-240 V AC	800 W	800 W	N/A	9.2-4.7
	N/A	3000	N/A	240 V DC	N/A	N/A	800 W	3.8
1100 W Mixed Mode	Titanium	4125	50/60	100-240 V AC	1100 W	1050 W	N/A	12-6.3
	N/A	4125	N/A	240 V DC	N/A	N/A	1100 W	5.2
1400 W Mixed Mode	Platinum	5250	50/60	100-240 V AC	1400 W	1050 W	N/A	12-8
		5250	N/A	240 V DC	N/A	N/A	1400 W	6.6
	Titanium	5250	50/60	100-240 V AC	1400 W	1050 W	N/A	12-8
		5250	N/A	240 V DC	N/A	N/A	1400 W	6.5
	Titanium	5250	50/60	277 V AC	1400 W	1050 W	N/A	5.8
		5250	N/A	336 V DC	N/A	N/A	1400 W	5.17
1800 W Mixed Mode	Titanium	6610	50/60	200-240 V AC	1800 W	N/A	N/A	10
	N/A	6610	N/A	240 V DC	N/A	N/A	1800 W	8.2
2400 W Mixed Mode	Platinum	9000	50/60	100-240 V AC	2400 W	1400 W	N/A	16-13.5
	N/A	9000	N/A	240 V DC	N/A	N/A	2400 W	11.2
2800 W Mixed Mode	Titanium	10500	50/60	200-240 V AC	2800 W	N/A	N/A	15.6
	N/A	10500	N/A	240 V DC	N/A	N/A	2800 W	13.6
3200 W Mixed Mode	Titanium	12000	50/60	277 V AC	3200 W	N/A	N/A	13
	N/A	12000	N/A	336 V DC	N/A	N/A	3200 W	11.5
1100 W DC	N/A	4265	N/A	-48—(-60) V DC	N/A	N/A	1100 W	27

NOTE: If a system with AC 2400 W PSUs operates at low line 100-120 V AC, then the power rating per PSU is derated to 1400 W.

NOTE: If a system with AC 1400W/1100W PSUs operates at low line 100-120 V AC, then the power rating per PSU is derated to 1050 W.

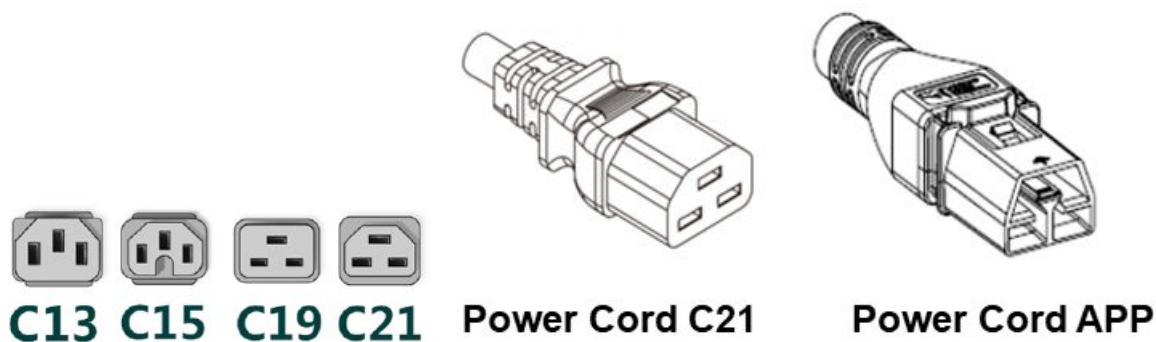


Figure 32. PSU power cords

Table 16. PSU power cords

Form factor	Output	Power cord
Redundant 60 mm	800 W AC	C13
	1100 W AC	C13
	1100 W -48 LVDC	C13
	1400 W AC	C13
	1800 W AC	C15
Redundant 86 mm	2400 W AC	C19
	2800 W AC	C21
	3200 W AC	APP 2006G1

NOTE: C19 power cord combined with C20 to C21 jumper power cord can be used to adapt a 2800 W PSU.

NOTE: C13 power cord combined with C14 to C15 jumper power cord can be used to adapt a 1800 W PSU.

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.

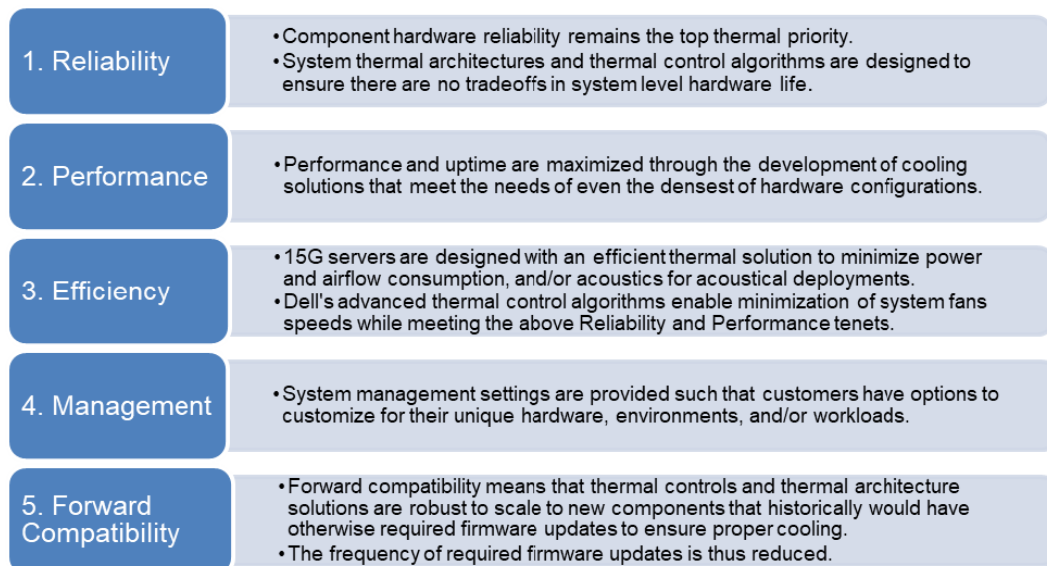


Figure 33. Thermal design characteristics

The thermal design of the PowerEdge R7625 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, as well as 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, in this generation of servers, we have introduced limited user- configurable settings residing in the iDRAC "BIOS setup" screen. For more information, see the at [Dell PowerEdge R7625 Installation and Service Manual](#) and "Advanced Thermal Control: Optimizing across Environments and Power Goals" on Dell.com.
- Cooling redundancy: The R7625 allows N+1 fan redundancy, allowing continuous operation with one fan failure in the system.
- Cooling redundancy: The R7625 with >4 fans allows N+1 fan redundancy, allowing continuous operation with one fan failure in the system.
- Environmental Specifications: The optimized thermal management makes the R7625 reliable under a wide range of operating environments.

Acoustics

Acoustical configurations of R7625

Dell PowerEdge R7625 is a rack-mount server for which acoustical output ranges from that appropriate for an office to that of data centers. Acoustical performance is provided in terms of five configuration: Minimum, Typical-1, Typical-2, GPU and Feature Rich.

Although the R7625 is designed for use in data centers, some users may prefer to use it in a quieter setting.

Table 17. Configurations tested for acoustical experience

Configuration	Minimum	Typical-1, 2.5-inch	Typical-2, 3.5-inch	GPU configuration	Feature Rich
CPU Type	AMD	AMD	AMD	AMD	AMD
CPU TDP / Cores	200 W / 24C	200 W / 24C	200 W / 24C	260 W / 32C	320 W / 32C

Table 17. Configurations tested for acoustical experience (continued)

Configuration	Minimum	Typical-1, 2.5-inch	Typical-2, 3.5-inch	GPU configuration	Feature Rich
CPU Quantity	2	2	2	2	2
RDIMM Memory	16 GB, RDIMM	16 GB, RDIMM	32 GB, RDIMM	32 GB, RDIMM	32 GB, RDIMM
Memory Quantity	6	12	12	24	24
Backplane Type	12 x 3.5-inch BP	8 x 2.5-inch BP	12 x 3.5-inch BP + 4 x E3 rear BP	24 x 2.5-inch exp BP	24 x 2.5-inch exp BP
HDD Type	3.5-inch SATA	2.5-inch SSD	3.5-inch HDD + E3	2.5-inch SSD	2.5-inch SSD
HDD Quantity	1	8	12 x 3.5-inch + 4 x E3	16	24
PSU Type	800 W	800 W	1400 W	2400 W	2400 W
PSU Quantity	2	2	2	2	2
OCP	Dual Port 10 GbE	Dual Port 25 GbE	Dual Port 25 GbE	Dual Port 25 GbE	Dual Port 25 GbE
PCI 1	X	25 Gb PCI	10 Gb PCI	GPU: Double-Wide	100 Gb PCI
PCI 2	X	25 Gb PCI	10 Gb PCI	100 Gb PCI	100 Gb PCI
PCI 3	X	X	X	100 Gb PCI	X
PCI 4	X	X	X	GPU: Double-Wide	X

Table 18. Acoustical experience of R7625 configurations

Configuration		Minimum	Typical-1, 2.5-inch	Typical-2, 3.5-inch	GPU configuration	Feature Rich
Acoustical Performance: Idle/ Operating @ 25°C Ambient						
L _{wA,m} (B)	Idle ⁽⁴⁾	5.0	4.6	6.8	6.7	7.3
	Operating ⁽⁵⁾⁽⁶⁾	5.4	5.1	6.8	6.7	7.3
K _v (B)	Idle ⁽⁴⁾	0.4	0.4	0.4	0.4	0.4
	Operating ⁽⁵⁾⁽⁶⁾	0.4	0.4	0.4	0.4	0.4
L _{pA,m} (dB)	Idle ⁽⁴⁾	35	32	51	52	57
	Operating ⁽⁵⁾⁽⁶⁾	39	33	51	52	57
Prominent tones ⁽³⁾		Prominence ratio < 15 dB				
Acoustical Performance: Idle @ 28°C Ambient						
L _{wA,m} ⁽¹⁾ (B)		5.2	4.6	6.9	6.9	7.4
K _v (B)		0.4	0.4	0.4	0.4	0.4
L _{pA,m} ⁽²⁾ (dB)		37	32	51	55	58
Acoustical Performance: Max. loading @ 35°C Ambient						
L _{wA,m} ⁽¹⁾ (B)		7.2	6.7	7.9	8.3	8.8
K _v (B)		0.4	0.4	0.4	0.4	0.4
L _{pA,m} ⁽²⁾ (dB)		57	52	61	69	73

⁽¹⁾L_{WA,m}: The declared mean A-weighted sound power level (L_{WA}) 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: Idle mode is 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.

Rack, rails, and cable management

Topics:

- [Rails and cable management information](#)

Rails and cable management information

The rail offerings for the PowerEdge R7625 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 [Dell Enterprise Systems Rail Sizing and Rack Compatibility 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 un-threaded 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 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 interferences with rear mounted PDUs or the rear rack door.

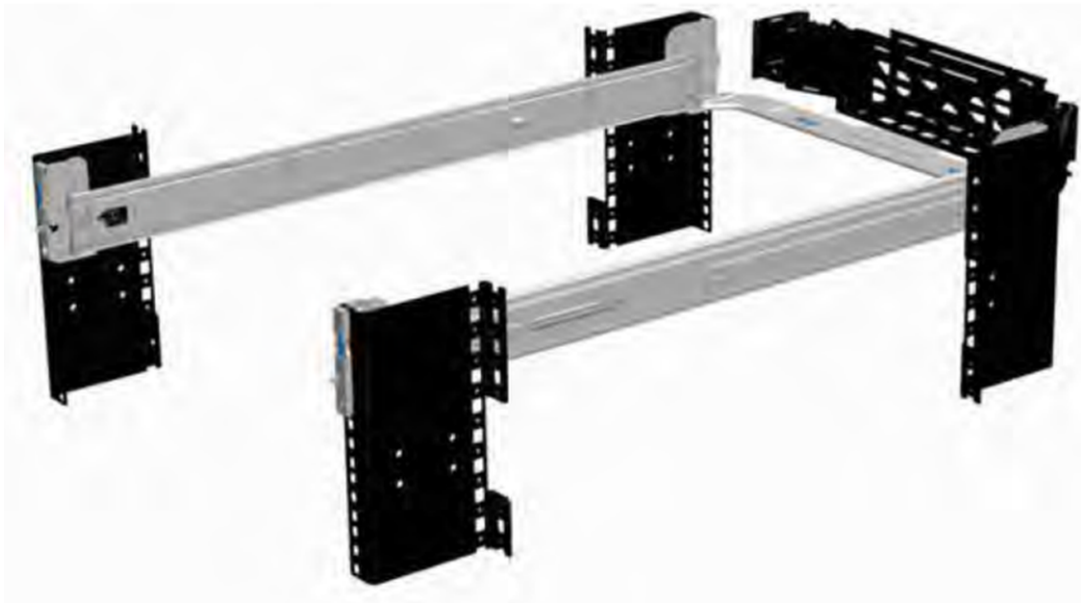


Figure 34. Sliding rails with optional CMA

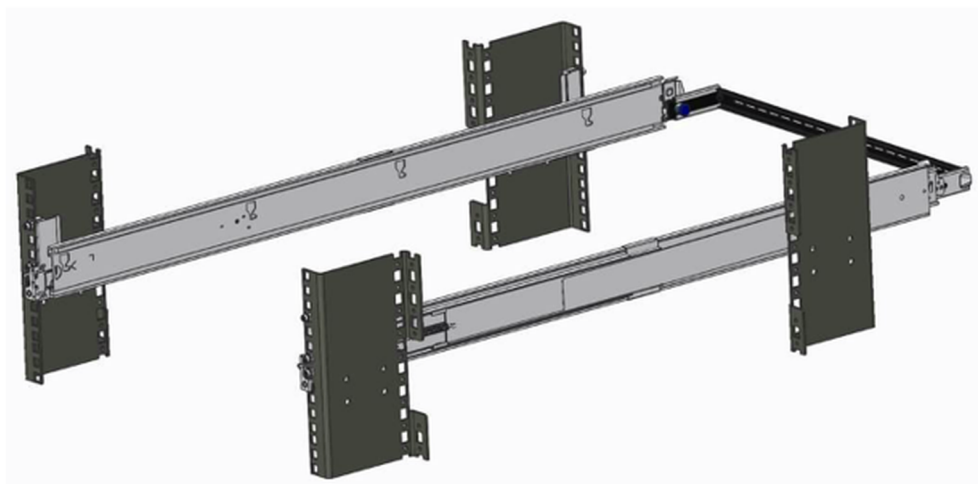


Figure 35. Sliding rails with optional SRB

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, un-threaded 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 Titan or Titan-D racks
- Support full extension of the system out of the rack to allow serviceability of key internal components.
- Support for 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 interferences 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.

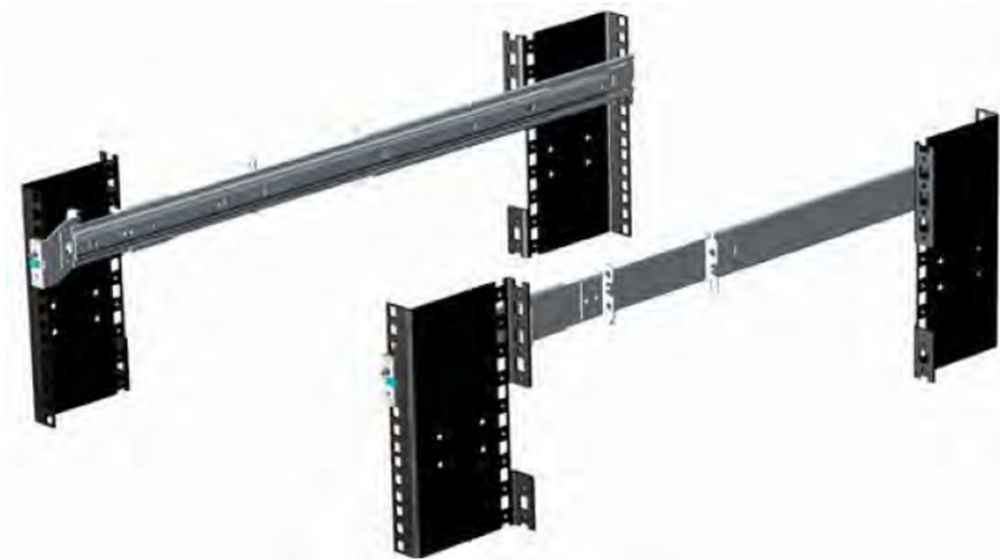


Figure 36. Static rails

Static rails features summary

Static rails for 4-post & 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 un-threaded 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 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 static rails (B20) must be used. Sliding rails support mounting in 4-post racks only.



Figure 37. Static rails in 2-post center mount configuration

Installation in the Dell 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.

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.

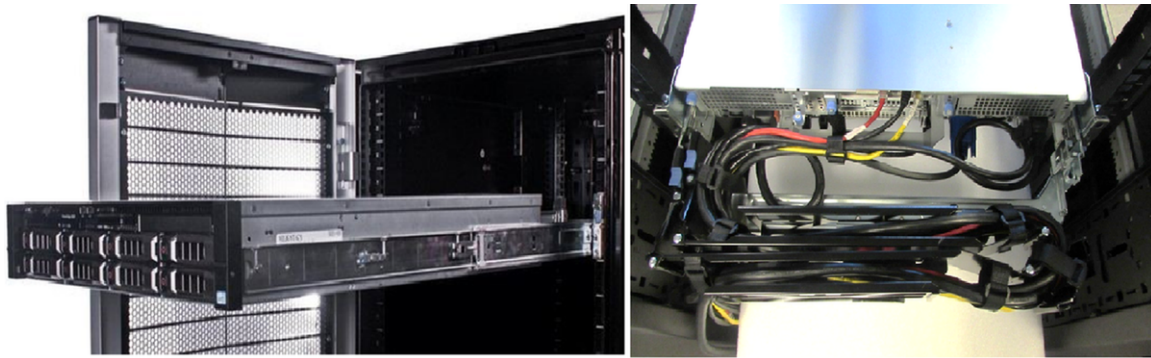


Figure 38. Sliding rails with CMA cabling

Strain Relief Bar (SRB)

The optional strain relief bar (SRB) for the PowerEdge R7625 organizes and supports cable connections at the rear end of the server to avoid damage from bending.

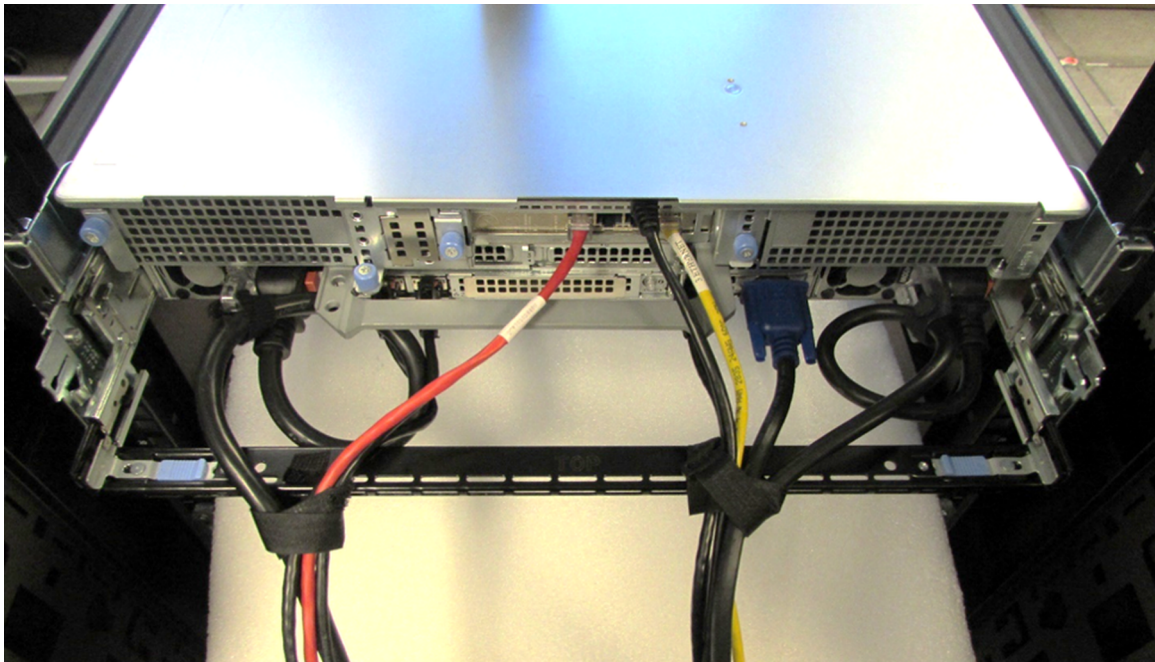


Figure 39. Cabled strain relief bar

- 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 separated into discrete purpose-specific bundles

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.

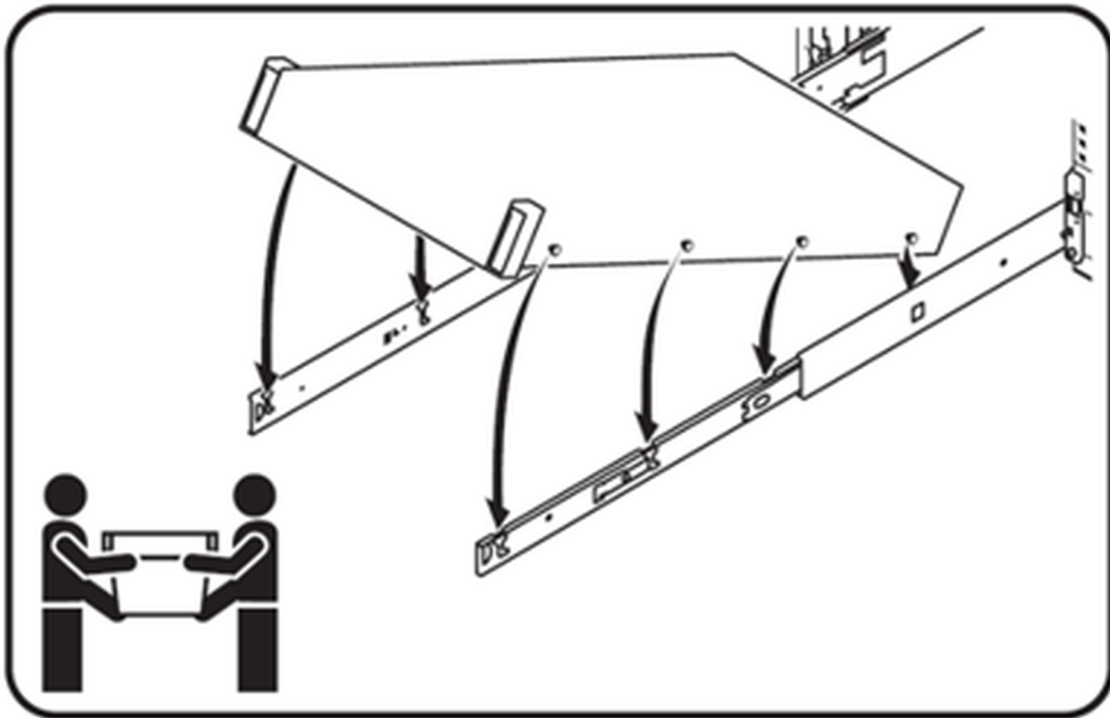


Figure 40. Installing the system in Drop-in sliding rails

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. For a 2U systems, this is a two person lift.

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

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

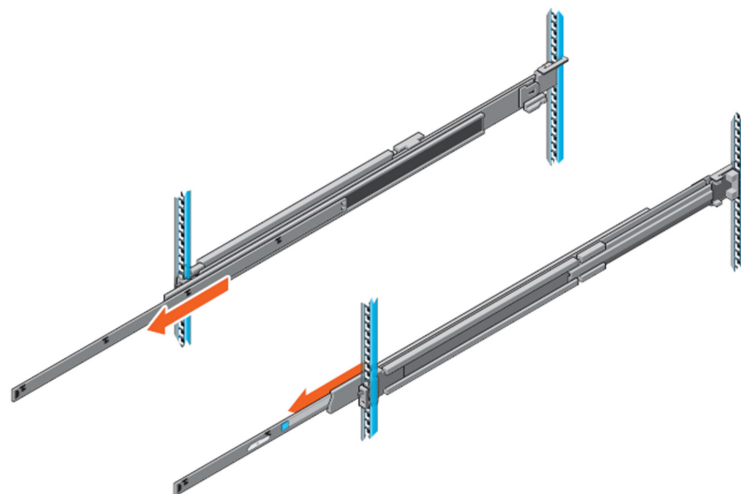


Figure 41. Pull out inner rail

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.

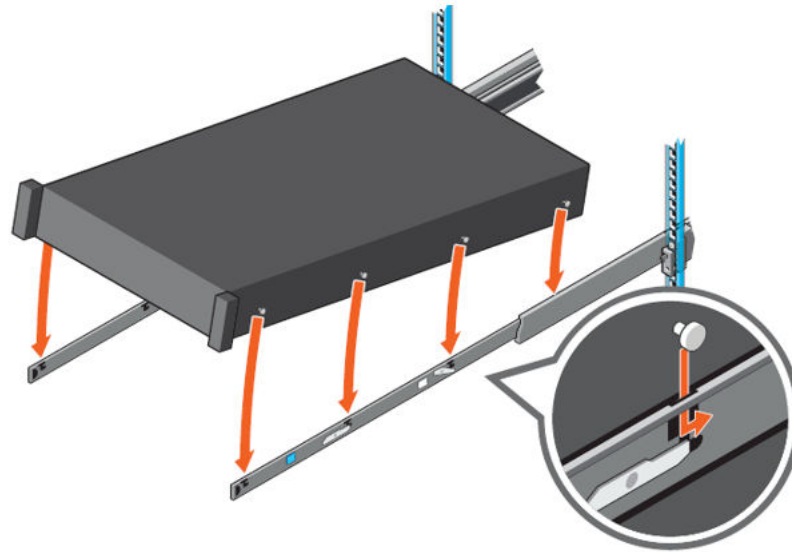


Figure 42. Rail standoffs seated in J-slots

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.

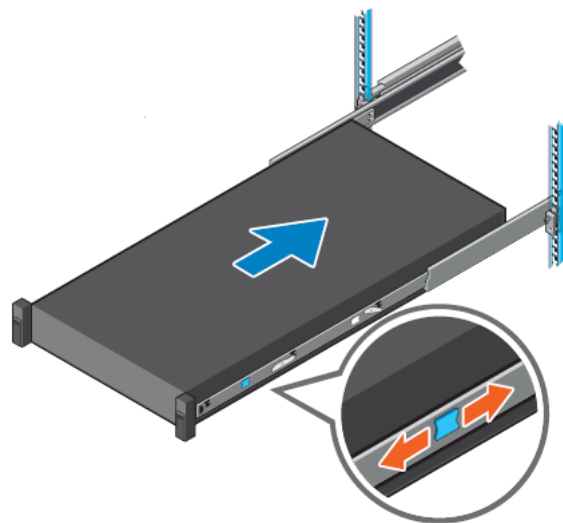


Figure 43. Slide system into the rack

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.

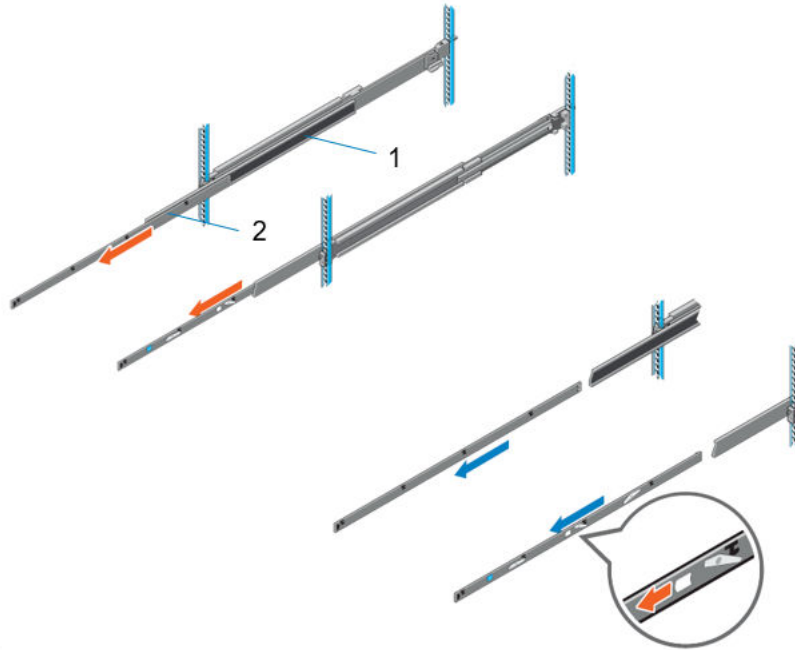


Figure 44. Pull out the intermediate rail

Table 19. 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.

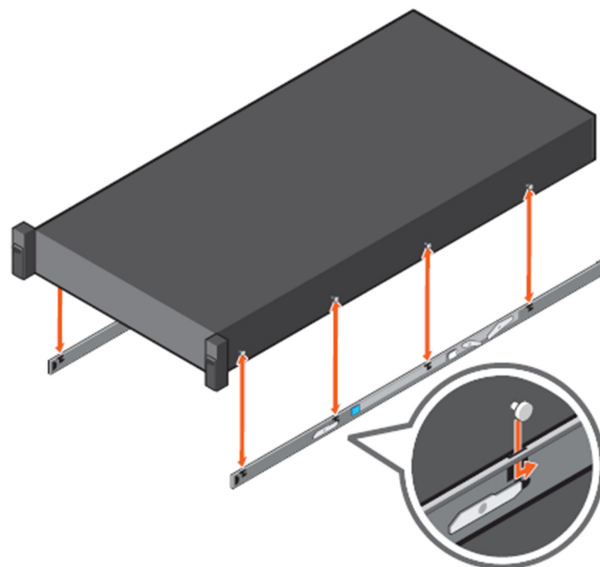


Figure 45. Attach the inner rails to the system

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

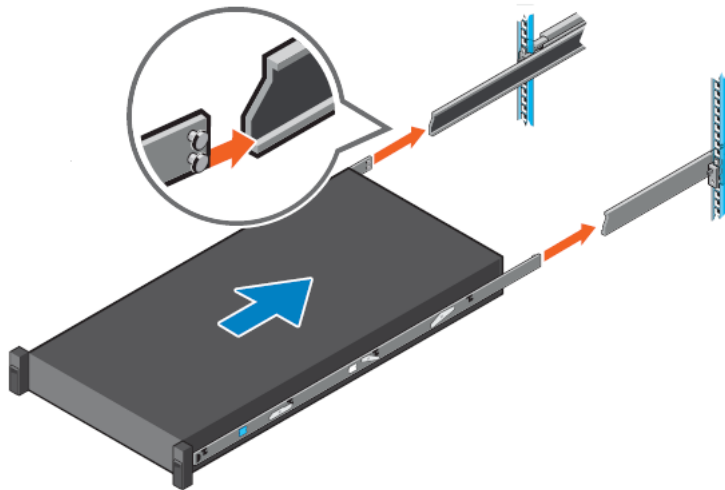


Figure 46. Install system into the extended rails

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

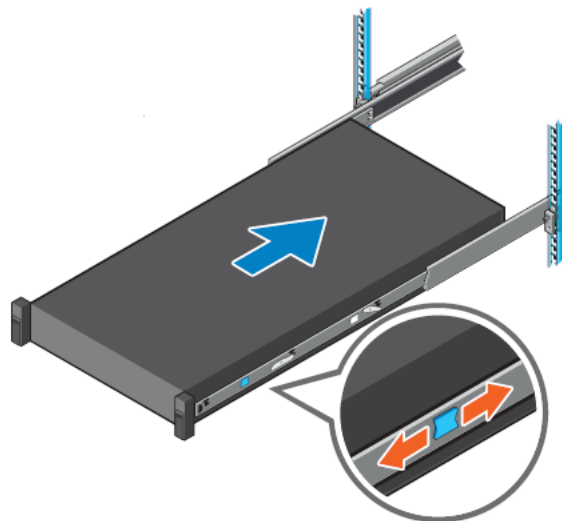


Figure 47. Slide system into the rack

Supported Operating Systems

The PowerEdge system supports the following operating system:

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

Links to specific OS versions and editions, certification matrices, Hardware Compatibility Lists (HCL) portal, and Hypervisor support are available at [Dell Enterprise Operating Systems](#).

Dell OpenManage Systems Management

Dell delivers management solutions that help IT administrators effectively deploy, update, monitor, and manage IT assets. OpenManage solutions and tools enable you to quickly respond to problems by helping them to manage Dell servers efficiently; in physical, virtual, local, and remote environments; all without the need to install an agent in the operating system.

The OpenManage portfolio includes:

- Innovative embedded management tools - integrated Dell Remote Access Controller (iDRAC)
- Consoles - OpenManage Enterprise
- Extensible with plug-ins - OpenManage Power Manager
- Update tools - Repository Manager

Dell has developed comprehensive systems management solutions that are based on open standards and has integrated with management consoles from partners such as Microsoft and VMware, allowing advanced management of Dell servers. Dell management capabilities extend to offerings from the industry's top systems management vendors and frameworks such as Ansible, Splunk, and ServiceNow. OpenManage tools automate the full span of server life cycle management activities along with powerful RESTful APIs to script or integrate with your choice of frameworks.

For more information about the entire OpenManage portfolio, see:

- The [OpenManage Consoles and Integrations](#) page at [PowerEdge Central](#).
- 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)

iDRAC9 delivers advanced, agent-free, local and remote server administration. Embedded in every PowerEdge server, iDRAC9 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; just 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 iDRAC9 in-place across the Dell PowerEdge portfolio, the same IT administration techniques and tools can be applied throughout. This consistent management platform allows easy 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. By having iDRAC at the core, the entire OpenManage portfolio of Systems Management tools allows every customer to tailor an effective, affordable solution for any size environment.

Zero Touch Provisioning (ZTP) is embedded in iDRAC. ZTP - Zero Touch Provisioning is Intelligent Automation Dell's agent-free management puts IT administrators in control. Once a PowerEdge server is connected to power and networking, that system can be monitored and fully managed, whether you're standing in front of the server or remotely over a network. In fact, 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, iDRAC Group Manager, and System Lockdown, iDRAC9 is purpose-built to make server administration quick and easy. For those customers whose existing management platform utilizes in-band management, Dell does provide iDRAC Service Module, a lightweight service that can interact with both iDRAC9 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.

iDRAC9 offers following license tiers:

Table 20. iDRAC9 license tiers

License	Description
iDRAC9 Basic	- Available only on 100-500 series rack/tower - Basic instrumentation with iDRAC web UI - For cost conscious customers that see limited value in management
iDRAC9 Express	- Default on 600+ series rack/tower, modular, and XR series - Includes all features of Basic - Expanded remote management and server life-cycle features
iDRAC9 Enterprise	- Available as an upsell on all servers - Includes all features of Basic and Express. Includes key features such as virtual console, AD/LDAP support, and more - Remote presence features with advanced, Enterprise-class, management capabilities
iDRAC9 Datacenter	- Available as an upsell on all servers - Includes all features of Basic, Express, and Enterprise. Includes key features such as telemetry streaming, Thermal Manage, automated certificate management, and more - Extended remote insight into server details, focused on high end server options, granular power, and thermal management

For a full list of iDRAC features by license tier, see [Integrated Dell Remote Access Controller 9 User's Guide](#) at [Dell.com](#).

For more details on iDRAC9 including white papers and videos, see:

- [iDRAC and embedded technologies](#) at [PowerEdge Central](#)
- [Support for Integrated Dell Remote Access Controller 9 \(iDRAC9\)](#) on the [Knowledge Base](#) page at [Dell.com](#)

Systems Management software support matrix

Table 21. Systems Management software support matrix

Categories	Features	PE mainstream
Embedded Management and In-band Services	iDRAC9 (Express, Enterprise, and Datacenter licenses)	Supported
	OpenManage Mobile and QuickSync2	Supported
	OM Server Administrator (OMSA)	Supported
	iDRAC Service Module (iSM)	Supported
	Driver Pack	Supported
Change Management	Update Tools (Repository Manager, DSU, Catalogs)	Supported
	Server Update Utility	Supported
	Lifecycle Controller Driver Pack	Supported
	Bootable ISO	Supported
Console and Plug-ins	OpenManage Enterprise	Supported
	Power Manager Plug-in	Supported
	Update Manager Plug-in	Supported
	Services Plug-in	Supported
	CloudIQ	Supported
Integrations and connections	OM Integration with VMware Vcenter/vROps	Supported
	OM Integration with Microsoft System Center (OMIMSC)	Supported
	Integrations with Microsoft System Center and Windows Admin Center (WAC)	Supported

Table 21. Systems Management software support matrix (continued)

Categories	Features	PE mainstream
	ServiceNow	Supported
	Ansible	Supported
	Third-party Connectors	Supported
Security	Secure Enterprise Key Management	Supported
	Secure Component Verification	Supported
Standard operating system	Red Hat Enterprise Linux, SUSE, Windows Server 2021 Ubuntu, CentOS	Supported (Tier-1)

For more information, see:

- [OpenManage Consoles and Integrations](#) at [PowerEdge Central](#)
- [OpenManage Tools](#) at [PowerEdge Central](#)

Appendix A. Additional specifications

Topics:

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

Chassis dimensions

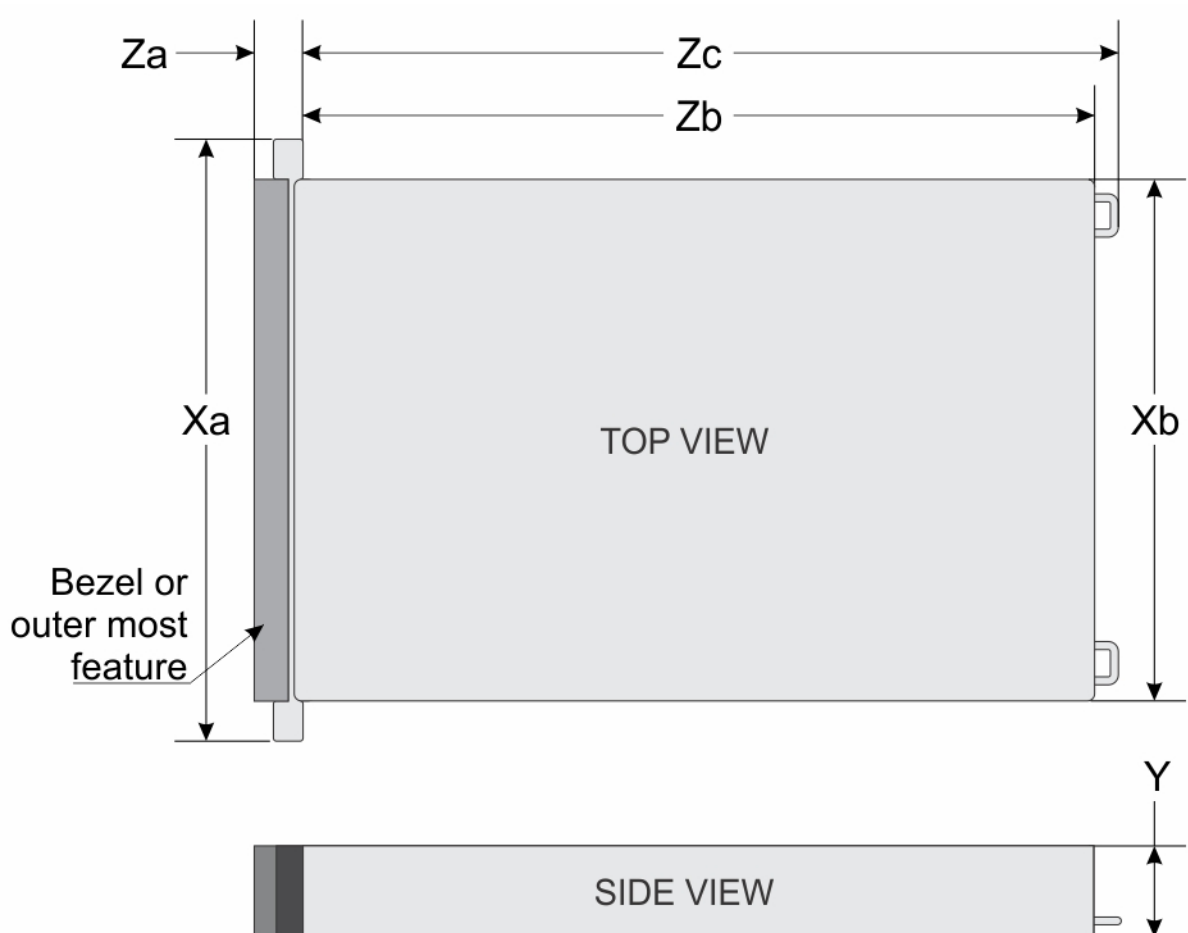


Figure 48. Chassis dimensions

Table 22. PowerEdge R7625 chassis dimensions

Xa	Xb	Y	Za	Zb	Zc
482.0 mm (18.97 inches)	434.0 mm (17.08 inches)	86.8 mm (3.41 inches)	35.84 mm (1.4 inches) With bezel 22.0 mm (0.87 inches) Without bezel	700.7 mm (27.58 inches) Ear to Rear wall	736.29 mm (28.98 inches) Ear to PSU handle

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

System weight

Table 23. PowerEdge R7625 system weight

System configuration	Maximum weight (with all drives/SSDs)
A server with fully populated drives	34.4 kg (75.84 pound)
A server without drives and PSU installed	23.3 kg (51.37 pound)

NIC port specifications

The PowerEdge R7625 system supports up to two 10/100/1000 Mbps Network Interface Controller (NIC) ports embedded on the LAN on Motherboard (LOM) and integrated on the Open Compute Project (OCP) cards.

Table 24. NIC port specification for the system

Feature	Specifications
LOM card (optional)	1 GbE x 2
OCP card 3.0 (optional)	1 GbE x 4, 10 GbE x 2, 10 GbE x 4, 25 GbE x 2, 25 GbE x 4
Management Interface Card (MIC) to support Dell Data Processing Unit (DPU) card (optional)	25 GbE x 2 or 100 GbE x 2

NOTE: The system allows either LOM card or an OCP card or both to be installed in the system.

NOTE: On the system board, the supported OCP PCIe width is x8; when x16 PCIe width is installed, it is downgraded to x8.

NOTE: The system allows either LOM card or MIC card to be installed in the system.

Video specifications

The PowerEdge R7625 system supports integrated Matrox G200 graphics controller with 16 MB of video frame buffer.

Table 25. 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

Table 25. Supported video resolution options (continued)

Resolution	Refresh rate (Hz)	Color depth (bits)
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 specifications

Table 26. PowerEdge R7625 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	USB 3.0-compliant port	One	Internal USB 3.0-compliant port	One
iDRAC Direct port (Micro-AB USB 2.0-compliant port)	One	USB 2.0-compliant ports	One		

 **NOTE:** The micro USB 2.0 compliant port can only be used as an iDRAC Direct or a management port.

PSU rating

Table 27. PSUs Highline and Lowline ratings

Features	800 W Platinum	1100 W Titanium	1100 W -48VDC	1400 W Platinum	1400 W Titanium	1800 W Titanium	2400 W Platinum	2800 W Titanium	3200 W Titanium
Peak Power (Highline/-72 VDC)	1360 W	1870 W	1870 W	2380 W	2380 W	3060 W	4080 W	4760 W	5400 W
Highline/-72 VDC	800 W	1100 W	1100 W	1400 W	1400 W	1800 W	2400 W	2800 W	3200 W
Peak Power (Lowline/-40 VDC)	1360 W	1785 W	N/A	1785 W	1785 W	N/A	2380 W	N/A	N/A
Lowline/-40 VDC	800 W	1050 W	N/A	1050 W	1050 W	N/A	1400 W	N/A	N/A
Highline 240 VDC	800 W	1100 W	N/A	1400 W	1400 W	1800 W	2400 W	2800 W	3200 W
DC-48-60 V	N/A	N/A	1100 W	N/A	N/A	N/A	N/A	N/A	N/A

The PowerEdge R7625 supports up to two AC or DC power supplies with 1+1 redundancy, autosensing, and autoswitching capability.

If two PSUs are present during POST, a comparison is made between the wattage capacities of the PSUs. If the PSU wattages do not match, the larger of the two PSUs is enabled. Also, there is a PSU mismatch warning that is displayed in the BIOS, iDRAC, or on the System LCD.

If a second PSU is added at run-time, in order for that particular PSU to be enabled, the wattage capacity of the first PSU must equal the second PSU. Otherwise, the PSU is identified as unmatched in iDRAC and the second PSU will not be enabled.

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

Table 28. PSU Efficiency Levels

Efficiency Targets by Load						
Form factor	Output	Class	10%	20%	50%	100%
Redundant 60 mm	800 W AC	Platinum	89.00%	93.00%	94.00%	91.50%
	1100 W AC	Titanium	90.00%	94.00%	96.00%	91.50%
	1100 W -48 VDC	N/A	85.00%	90.00%	92.00%	90.00%
	1400 W AC	Platinum	89.00%	93.00%	94.00%	91.50%
	1800 W AC	Titanium	90.00%	94.00%	96.00%	94.00%
Redundant 86 mm	2400 W AC	Platinum	89.00%	93.00%	94.00%	91.50%
	2800 W AC	Titanium	90.00%	94.00%	96.00%	94.00%
	3200 W AC	Titanium	90.00%	94.00%	96.00%	91.00%

Environmental specifications

Table 29. Continuous Operation Specifications for ASHRAE A2

Temperature	Specifications
Allowable continuous operations	
Temperature range for altitudes <= 900 m (<= 2953 ft)	10–35°C (50–95°F) with no direct sunlight on the equipment
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 80% RH with 21°C (69.8°F) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1°C/300 m (1.8°F/984 Ft) above 900 m (2953 Ft)

Table 30. Continuous Operation Specifications for ASHRAE A3

Temperature	Specifications	
Allowable continuous operations		
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–40°C (41–104°F) with no direct sunlight on the equipment	
	Excursion Limited Operation	5-35°C (41-95°F) Continuous Operation
		35-40°C (95-104°F) 10% Annual Runtime
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 85% RH with 24°C (75.2°F) maximum dew point	
Operational altitude de-rating	Maximum temperature is reduced by 1°C/175 m (1.8°F/574 Ft) above 900 m (2953 Ft)	

Table 31. Continuous Operation Specifications for ASHRAE A4

Temperature	Specifications	
Allowable continuous operations		
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–45°C (41–113°F) with no direct sunlight on the equipment	
	Excursion Limited Operation	5-35°C (41-95°F) Continuous Operation
		35-40°C (95-104°F) 10% Annual Runtime
		40-45°C (104-113°F) 1% Annual Runtime
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 90% RH with 24°C (75.2°F) maximum dew point	
Operational altitude de-rating	Maximum temperature is reduced by 1°C/125 m (1.8°F/410 Ft) above 900 m (2953 Ft)	

Table 32. Common Environmental Specifications for ASHRAE A2, A3 and A4

Temperature	Specifications
Allowable continuous operations	
Maximum temperature gradient (applies to both operation and non-operation)	20°C in an hour* (36°F in an hour) and 5°C in 15 minutes (9°F in 15 minutes), 5°C in an hour* (9°F in an hour) for tape hardware <i>i</i> NOTE: * - Per ASHRAE thermal guidelines for tape hardware, these are not instantaneous rates of temperature change.
Non-operational temperature limits	-40 to 65°C (-40 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 33. Maximum vibration specifications

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

Table 34. 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 may need to rectify the environmental conditions. Remediation of environmental conditions is the responsibility of the customer.

Table 35. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit NOTE: This condition applies 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. NOTE: Air entering the data center must have MERV11 or MERV13 filtration.
Conductive dust	Air must be free of conductive dust, zinc whiskers, or other conductive particles NOTE: This condition applies to data center and non-data center environments.
Corrosive dust	- Air must be free of corrosive dust - Residual dust present in the air must have a deliquescent point less than 60% relative humidity NOTE: This condition applies to data center and non-data center environments.

Table 36. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-2013
Silver coupon corrosion rate	<200 Å/month as defined by ANSI/ISA71.04-2013

Particulate and gaseous contamination specifications

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

Table 37. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration: Conventional Data Center only	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit NOTE: Filtering room air with a MERV8 filter, as specified in ANSI/ASHRAE Standard 127, is a recommended method for achieving the necessary environmental conditions. NOTE: Air entering the data center must have MERV11 or MERV13 filtration. NOTE: This condition applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.
Walk-Up Edge Data Center or Cabinet (sealed, closed loop environment)	Filtration is not required for cabinets that are anticipated to be opened six times or less per year. Class 8 per ISO 1466-1 filtration as defined above is required otherwise. NOTE: In environments commonly above ISA-71 Class G1 or that may have known challenges, special filters may be required.

Table 37. Particulate contamination specifications (continued)

Particulate contamination	Specifications
Conductive dust: data center and non-data center environments	Air must be free of conductive dust, zinc whiskers, or other conductive particles. NOTE: Conductive dust, which can interfere with equipment operation, can originate from various sources, including manufacturing processes and zinc whiskers that may develop on the plating of raised floor tiles. NOTE: This condition applies to data center and non-data center environments.
Corrosive dust: data center and non-data center environments	- Air must be free of corrosive dust. - Residual dust present in the air must have a deliquescent point less than 60% relative humidity. NOTE: This condition applies to data center and non-data center environments.

Table 38. Gaseous contamination specifications

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

Thermal air restrictions

ASHRAE A3 environment

- Two PSUs are required in redundant mode, however single PSU failure is not supported.
- PCIe SSD is not supported.
- DIMMs greater than 32 GB are not supported.
- Both SW and DW GPGPU/FPGA are not supported.
- CPU TDP greater than 200W are not supported.
- Rear drives are not supported.
- PCIe card TDP more than 25 W is not supported.
- OCP is supported with 85C active optic cable.

ASHRAE A4 environment

- Two PSUs are required in redundant mode, however single PSU failure is not supported.
- PCIe SSD is not supported.
- DIMMs greater than 32 GB are not supported.
- Both SW and DW GPGPU/FPGA are not supported.
- CPU TDP greater than 200W are not supported.
- Rear drives are not supported.
- PCIe card TDP more than 25 W is not supported.
- OCP is supported with 85C active cable and cards Tier≤4
- BOSS N1 is not supported.

Liquid cooling: ASHRAE A3 environment

- Two PSUs are required in redundant mode, however single PSU failure is not supported.
- PCIe SSD is not supported.
- DIMMs greater than 32 GB are not supported.

- Both SW and DW GPGPU/FPGA are not supported.
- Rear drives are not supported.
- PCIe card TDP more than 25 W is not supported.
- OCP is supported with 85C active optic cable.

Liquid cooling: ASHRAE A4 environment

- Two PSUs are required in redundant mode, however single PSU failure is not supported.
- PCIe SSD is not supported.
- DIMMs greater than 32 GB are not supported.
- Both SW and DW GPGPU/FPGA are not supported.
- Rear drives are not supported.
- PCIe card TDP more than 25 W is not supported.
- OCP is supported with 85C active cable and cards Tier<=5
- BOSS N1 is not supported.

Other Restrictions

High temp spec(85C) active optics cable is required for cards,

- 25Gb and above PCIe/OCP cards require DAC or 85C active optics cable.

Thermal restriction matrix

Table 39. Air cooling: Thermal restriction matrix(non-GPU)

Configuration			No BP	8 x 2.5" U.2	16 x 2.5" SAS (SmartFlow)	16 x 2.5" U.2 (SmartFlow)	24 x 2.5" SAS			16x2.5" SAS + 8x2.5" U.2	8x3.5"	12x3.5"				
Rear storage			No Rear Drives	No Rear Drives	No Rear Drives	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5 w/ 3x Rear-Fan	No Rear Drives	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5 w/ 3x Rear-Fan		
CPU cTDP Max		CPU TDP														
CPU TDP / cTDP	240 W	210 W	HPR SILVER Fan + 2U STD HSK								HPR SILVER Fan [75%] + 2U STD HSK	HPR GOLD Fan [70%] + 2U EXT HSK				
		200 W														
	300 W	290 W	HPR SILVER Fan + 2U EXT HSK								HPR SILVER Fan [75%] + 2U EXT HSK	HPR GOLD Fan [70%] + 2U EXT HSK (Note 1)				
		280 W														
	400 W	360 W	HPR SILVER Fan + 2U EXT HSK				HPR GOLD Fan + 2U EXT HSK			HPR GOLD Fan [75%]	Requires LC					
		320 W														
		340 W														

Table 39. Air cooling: Thermal restriction matrix(non-GPU) (continued)

Configuration			No BP	8 x 2.5" U.2	16 x 2.5" SAS (SmartFlow)	16 x 2.5" U.2 (SmartFlow)	24 x 2.5" SAS			16x2.5" SAS + 8x2.5" U.2	8x3.5"	12x3.5"		
Rear storage			No Rear Drives	No Rear Drives	No Rear Drives	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5" w/ 3x Rear-Fan	No Rear Drives	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5" w/ 3x Rear-Fan
CPU cTDP Max	CPU TDP													
										+ 2U EXT HSK				
Memory	16 GB RDIMM		HPR SILVER Fan				HPR GOLD Fan			HPR SILVER Fan [75%]	HPR GOLD Fan [70%]			
	32 GB RDIMM													
	64 GB RDIMM													
	96 GB RDIMM													
	128 GB RDIMM		HPR GOLD Fan	Not supported	Not supported									
	256 GB RDIMM (Note 2)													HPR GOLD Fan (Note 1)

Note 1: Supported ambient temperature is 30°C.

Note 2: Support SKHYNIX RDIMM only

Table 40. Air cooling: Thermal restriction matrix(GPU Configuration)

Configuration				No BP	8 x 2.5" U.2	16 x 2.5" SAS (SmartFlow)	16 x 2.5" U.2 (SmartFlow)	24 x 2.5" SAS	16x2.5" SAS + 8x2.5" U.2	8x3.5"
Rear storage				No Rear Drives						
CPU cTDP Max	CPU TDP	Model								
CPU TDP/ cTDP	240 W	210 W	9334	HPR GOLD Fan + 1U EXT HSK						HPR GOLD Fan [75%] + 1U EXT HSK
		200 W	9254							
			9224							
			9124							
	300 W	290 W	9634							
		280 W	9534							
		290 W	9454							
		280 W	9354							
	400 W	360 W	9654	HPR GOLD Fan + 1U EXT HSK	Not Supported				Requires LC	
			9554	HPR GOLD Fan						
9474F										

Table 40. Air cooling: Thermal restriction matrix(GPU Configuration) (continued)

Configuration				No BP	8 x 2.5" U.2	16 x 2.5" SAS (SmartFlow)	16 x 2.5" U.2 (SmartFlow)	24 x 2.5" SAS	16x2.5" SAS + 8x2.5" U.2	8x3.5"
Rear storage				No Rear Drives						
CPU cTDP Max	CPU TDP	Model								
		320 W	9374F	+ 1U EXT HSK (Note 1)						
			9274F	HPR GOLD Fan						
			9174F	+ 1U EXT HSK						
Memory	16 GB RDIMM			HPR GOLD Fan					HPR GOLD Fan [75%]	
	32 GB RDIMM									
	64 GB RDIMM									
	96 GB RDIMM									
	128 GB RDIMM			HPR GOLD Fan	Not Supported	Not Supported				
	256 GB RDIMM (Note 3)				HPR GOLD Fan (Note 1)					
GPU	A2 16 GB			HPR GOLD Fan					HPR GOLD Fan [75%] (Note 1)	
	A16 64GB								HPR GOLD Fan [75%]	
	A30 24GB									
	A40 48GB									
	A100 80GB									
	H100 80 GB									
	MI210 64GB									

Note 1: Supported ambient temperature is 30°C.

Note 2: Bergamo CPUs.

Note 3: Support SKHYNIX RDIMM only

 **NOTE:** “High-Performance GOLD Fan” to be supported on all GPU configurations.

 **NOTE:** GPU is not supported on 12x3.5-inch configurations and system configurations with rear module installed.

Table 41. Air Cooling: Thermal Guidance(non GPU)

Configuration				No BP	8 x 2.5" U.2	16 x 2.5" SAS (SmartFlow)	16 x 2.5" U.2 (SmartFlow)	24 x 2.5" SAS			16x2.5" SAS + 8x2.5" U.2	8x3.5"	12x3.5"				
Rear storage				No Rear Drives	No Rear Drives	No Rear Drives	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5" w/ 3x Rear-Fan	No Rear Drives	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5" w/ 3x Rear-Fan		
CPU cTDP Max	Model	Core Count #															
CPU TDP / cTDP	240 W	9334	32	35°C								35°C	35°C				
		9254	24														
		9224	24														
		9124	16														
	300 W	9634	84	35°C								35°C	30°C				
		9534	64														
		9454	48														
		9354	32														
	400 W	9654	96	35°C								35°C	Requires LC				
		9554	64														
		9474F	48														
		9374F	32														
		9274F	24														
		9174F	16														
		9734	112														
		9754	128														
		9684X	96														
		9384X	32														
		9184X	16														
Memory	16 GB RDIMM			35°C								35°C	35°C				
	32 GB RDIMM																
	64 GB RDIMM																
	96 GB RDIMM																
	128 GB RDIMM			35°C	Not Supported		Not Supported										
	256 GB RDIMM (Note 1)				30°C												

Note 1: Support SKHYNIX RDIMM only

 **NOTE:** Not all backplanes/risers support liquid cooling; these are listed as "No Support."

 **NOTE:** Inlet temperature is determined by lowest degree requirement.

Table 42. Air Cooling: Thermal Guidance (GPU Configuration)

Configuration				No BP	8 x 2.5" U.2	16 x 2.5" SAS (SmartFlow)	16 x 2.5" U.2 (SmartFlow)	24 x 2.5" SAS	16x2.5" SAS + 8x2.5" U.2	8x3.5"
Rear storage				No Rear Drives						
CPU cTDP Max		Model	Core Count#							
CPU TDP/ cTDP	240 W	9334	32	35°C					35°C	
		9254	24							
		9224	24							
		9124	16							
	300 W	9634	84	35°C						
		9534	64							
		9454	48							
		9354	32							
	400 W	9654	96	35°C	Not Supported				Requires LC	
		9554	64	30°C						
		9474F	48							
		9374F	32							
		9274F	24							35°C
		9174F	16							
Memor y	16 GB RDIMM			35°C					35°C	
	32 GB RDIMM									
	64 GB RDIMM									
	128 GB RDIMM			35°C	Not Supporte d	Not Supported			Not Supported	
	256 GB RDIMM (Note 1)				30°C					
GPU	A2 16 GB			35°C					30°C	
	A16 64 GB								35°C	
	A30 24 GB									
	A40 48 GB									
	A100 80 GB									
	H100 80 GB									
	MI210 64 GB									

Note 1: Support SKHYNIX RDIMM only

NOTE: Not all backplanes/risers support liquid cooling; these are listed as "No Support."

NOTE: Inlet temperature is determined by lowest degree requirement.

Table 43. Liquid cooling: Thermal restriction matrix(non-GPU)

Configuration		No BP	8 x 2.5" U.2	24 x 2.5" SAS		8x3.5"	12x3.5"		
Rear storage		No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5 w/ 3x Rear-Fan	No Rear Drives	No Rear Drives	2x Rear 2.5" w/ 2x Rear-Fan	4x Rear 2.5 w/ 3x Rear-Fan
CPU	All CPU TDP SKUs	HPR SILVER Fan				HPR SILVER Fan [75%]	HPR GOLD Fan [70%]		
Memory	16 GB RDIMM	HPR SILVER Fan				HPR SILVER Fan [75%]	HPR GOLD Fan [70%]		
	32 GB RDIMM								
	64 GB RDIMM								
	96 GB RDIMM								
	128 GB RDIMM	HPR GOLD Fan		Not supported					
	256 GB RDIMM (Note 1)								

Note 1: Support SKHYNIX RDIMM only

 **NOTE:** Use “High-Performance Silver” fan for all 2.5” and 8x3.5” configurations.

 **NOTE:** Use “High-Performance GOLD” fan for all 12x3.5” configurations.

Table 44. Liquid cooling: Thermal restriction matrix(GPU Configuration)

Configuration		No BP	8 x 2.5" U.2	8x3.5"
Rear storage		No Rear Drives	No Rear Drives	No Rear Drives
CPU	All CPU TDP SKUs	HPR GOLD Fan		HPR GOLD Fan [75%]
Memory	16 GB RDIMM	HPR GOLD Fan		HPR GOLD Fan [75%]
	32 GB RDIMM			
	64 GB RDIMM			
	96 GB RDIMM			
	128 GB RDIMM	HPR GOLD Fan		Not supported
	256 GB RDIMM (Note 2)			
GPU	A2 16 GB	HPR GOLD Fan		HPR GOLD Fan [75%] Note 1
	A16 64 GB			HPR GOLD Fan [75%]
	A30 24 GB			
	A40 48 GB			
	A100 80 GB			
	H100 80 GB			
	MI210 64 GB			

Note 1: Supported ambient temperature is 30°C.

Note 2: Support SKHYNIX RDIMM only

 **NOTE:** “High-Performance GOLD Fan” to be supported on all GPU configurations.

 **NOTE:** GPU is not supported on 12x3.5" configurations and system configurations with rear module installed.

Table 45. Label reference

Label	Description
HPR SILVER (Silver)	High performance (silver grade)
HPR GOLD (Gold)	High performance (gold grade)
HSK	Heat sink
LP	Low profile
FH	Full height

Appendix B. Standards compliance

The system conforms to the following industry standards.

Table 46. Industry standard documents

Standard	URL for information and specifications
ACPI Advance 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	JEDEC Standards
PCI Express PCI Express Base Specification, v5.0	PCIe Specifications
PMBus Power System Management Protocol Specification, v1.2	Power System Management Protocol Specification
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, v1.2 and 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 Implementers Forum, Inc. USB
NVMe Express Base Specification. Revision 2.0c	NVMe
NVMe Command Set Specifications	
1. NVMe Express NVMe Command Set Specification. Revision 1.1c	
2. NVMe Express Zoned Namespaces Command Set. Revision 1.0c	
3. NVMe Express® Key Value Command Set. Revision 1.0c	
NVMe Transport Specifications	
1. NVMe Express over PCIe Transport. Revision 1.0c	
2. NVMe Express RDMA Transport. Revision 1.0b	
3. NVMe Express TCP Transport. Revision 1.0c	
NVMe NVMe Express Management Interface. Revision 1.2c	
NVMe NVMe Boot Specification. Revision 1.0	

Appendix C Additional resources

Table 47. 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 system 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
QR code for system resources	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

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 49. ProSupport Enterprise Suite

	Basic Hardware Support ¹	ProSupport	BEST ProSupport Plus
Outcome Assistance and Advocacy via assigned Technical Customer Success Manager ①			
Enjoy a frictionless customer experience with cross-functional lifecycle management aligned to your goals			✓
Accelerate time-to-value through onboarding assistance, education and success planning			✓
Turn challenges into opportunities with actionable strategies powered by data and AI-driven analytics			✓
Ensure coverage continuity while preparing to scale for future success			✓
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			
Receive an assigned incident manager for Sev 1 issues who will work your issue through to resolution		✓	✓
Count on Mission Critical Support during Sev 1 incidents and natural disasters ①			✓
Keep systems code current and performing at peak through Proactive System Maintenance			✓
Get priority access to senior technical support engineers—skip the queues and callbacks			✓
Bringing your own software? We provide limited 3rd party software support ①			✓
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. Technical Customer Success 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 or ProSupport Plus

- **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 Data Center – CSP (Cloud Serviced Provider) and AI Solution**

ProSupport One for Data Center – CSP and AI Solution is a unique offer that is designed for a limited set of Dell accounts purchasing AI computing solutions greater than 1,000 servers and \$250M in sales. PS1DC - CSP and AI improves the entire services experience combining support, deployment (rack integration), residency services, a designated support engineer, an onsite service engineer, and an onsite parts service as one holistic offer. Special pricing has been determined to compete effectively against competitors and provide the best customer experience. PS1DC for CSP and AI 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 unique offer. More details on PS1DC for CSP and AI [here](#).

- **Onsite Parts Service (OPS)**

Ideal for large organizations that have their own staff to support their data center. Dell offers a service that is called Onsite Parts Service (OPS) from Dell Services. OPS manages parts inventory located at the customer's designated facility. The Logistics Online Inventory Solution (LOIS) program will use software to support the monitoring and automatic replenishment of inventory stored on the customer site. . 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.

ProDeploy Infrastructure Suite

Versatile choices for accelerated deployments

NOTE: All XE Series servers require mandatory deployment

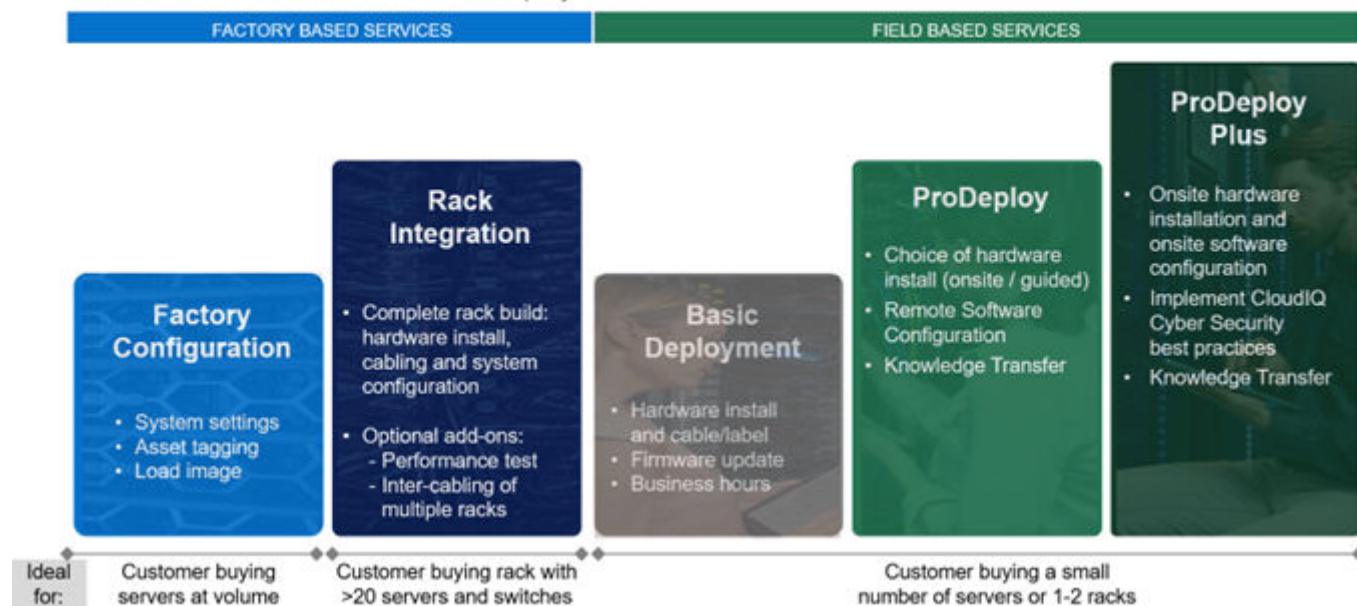


Figure 50. ProDeploy Infrastructure Suite

Factory-based Services

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

Customer Rack Integration or ProDeploy FLEX Rack Integration

Dell offers robust custom rack integration services through two main programs: Enterprise Rack Integration Services and Integrated Rack Scalable Systems (IRSS). These services are designed to streamline deployment, reduce complexity, and optimize performance for data centers, edge environments, and AI workloads. These factory services are purchased as a custom engagement or as ProDeploy Flex Rack Integration SKUs.

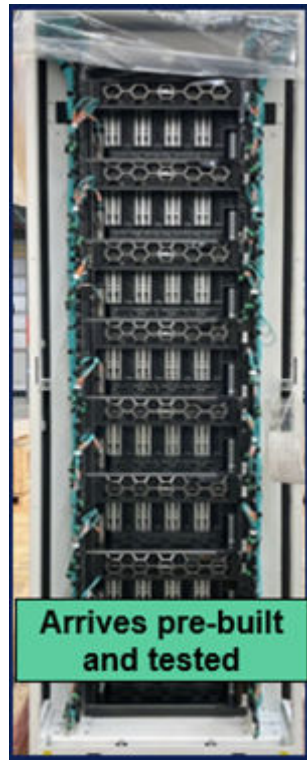


Figure 51. Pre-configured system



Figure 52. Pre-configured system

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.

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 implementation 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 53. 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 using Cluster Build Services

Once the integrated rack arrives the data center or is built onsite, Dell can also convert the racks into a large computing cluster. Dell provides several deploy options for Artificial Intelligence (AI) or High-Performance Computing (HPC) implementations. These complex environments require specialists that understand advanced feature sets to create a unified computing cluster for the most demanding workloads. Choose one of the cluster build add-ons below.

Increase Time to Value and with ProDeploy Flex and Cluster Builds

Sell as Custom Quote or Standard SKUs
Add-ons 1 & 2 arriving as standard SKUs in Sept.

ProDeploy Flex Rack Integration or ProDeploy Flex Onsite

+ Cluster Build Add-ons
Select one or more add-ons below

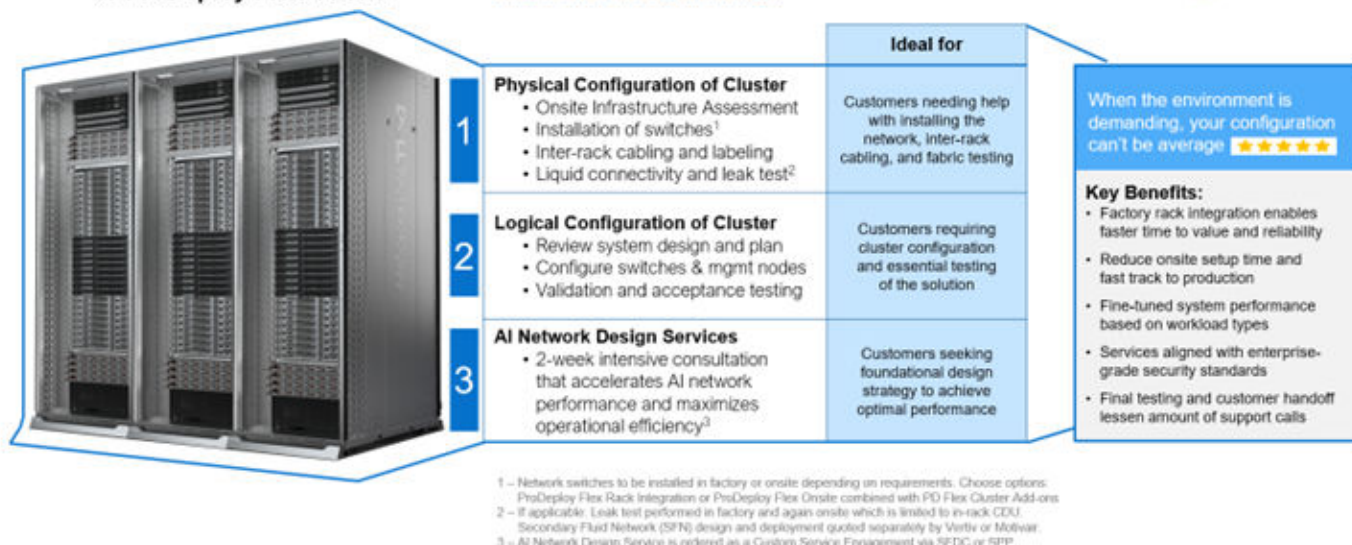


Figure 54. Deployment choices for cluster implementation

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 Ansible 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.



Figure 55. Dell Managed Services

Cyber-Security Services

Managed Detection and Response (MDR)

Dell Managed Detection and Response Pro Plus is our fully-managed, 360° security operations solution comprised of our most cutting-edge, preventive and responsive cybersecurity services. MDR Pro Plus was designed with your top security concerns in mind, allowing you to focus on your core business goals while Dell handles your security operations. First, we have Vulnerability Management. With this service, we'll do ongoing scanning of the customer's environment looking for software that needs to be patched. Next is Pen Testing and Attack Simulation Management. This service will continuously validate security controls and policies with automated Breach and Attack Simulation (BAS), because a misconfiguration can lead to an exposure which an attacker can exploit. The service also includes an annual penetration test to determine if a skilled threat actor could exploit pathways leading to critical assets or data. Third, Managed Security Awareness Training. This service will educate the customer's end users so that they don't inadvertently put the customer at risk. If you think about our annual compliance training modules, there is always a security module. This is the same type of thing, but rather than once a year, it will be smaller, bite-size pieces of content delivered throughout the year. Fourth is our Managed Detection and Response service which provides 24x7 threat detection and investigation, analysis of end-to-end activity by threat actors, threat hunting, and quick initiation of cyber incident response when needed. Customers can choose between Secureworks Taegis XDR, CrowdStrike Falcon XDR or Microsoft Defender XDR as the security analytics platform our analysts will use to monitor their environment. All four of these services are delivered by experienced, certified Dell security experts using advanced technology such as the Secureworks Taegis XDR, CrowdStrike Falcon XDR or Microsoft Defender XDR security platforms.

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](#)