

Dell EMC PowerEdge R6515

Technical Specifications

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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Technical specifications

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

Topics:

- Chassis dimensions
- System weight
- Processor specifications
- PSU specifications
- Supported operating systems
- Cooling fans specifications
- System battery specifications
- Expansion card riser specifications
- Memory specifications
- Storage controller specifications
- Drive specifications
- Ports and connectors specifications
- Video specifications
- Environmental specifications

Chassis dimensions

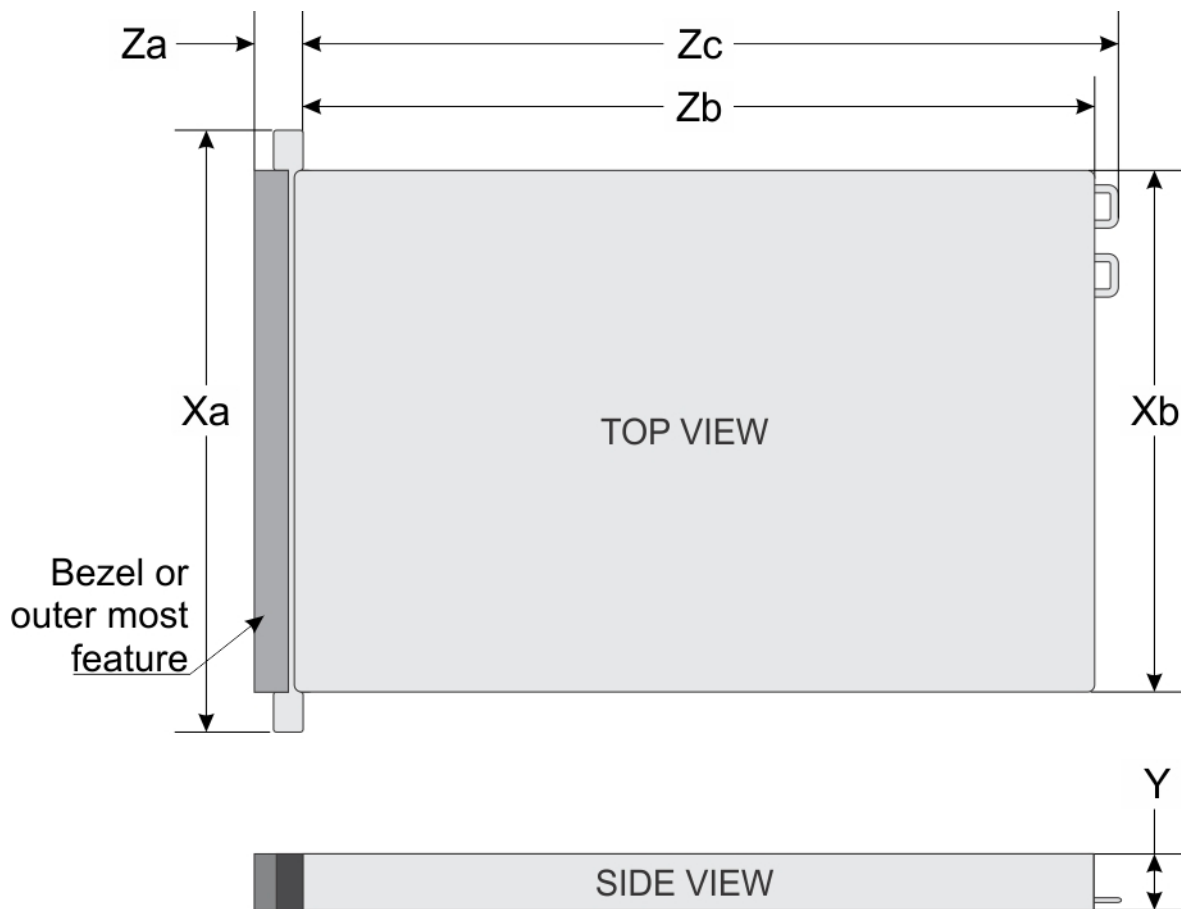


Figure 1. Chassis dimensions

Table 1. PowerEdge R6515 chassis dimensions

System configurations	Xa	Xb	Y	Za	Zb*	Zc
4 x 3.5-inches or 10 x 2.5-inches	482.0 mm (18.97 inches)	434.0 mm (17.08 inches)	42.8 mm (1.68 inches)	With bezel: 35.84 mm (1.4 inches) Without bezel: 22.0 mm (0.87 inches)	657.25 mm (25.87 inches)	692.62 mm (27.26 inches)
8 x 2.5-inches	482.0 mm (18.97 inches)	434.0 mm (17.08 inches)	42.8 mm (1.68 inches)	With bezel: 35.84 mm (1.4 inches) Without bezel: 22.0 mm (0.87 inches)	606.47 mm (23.87 inches)	641.85 mm (25.26 inches)

NOTE: * Zb goes to the nominal rear wall external surface where the motherboard I/O connectors reside.

System weight

Table 2. PowerEdge R6515 system weight

System configuration	Maximum weight (with all drives)
4 x 3.5-inch configuration	16.75 kg (36.92 lb)
8 x 2.5-inch configuration	15.6 kg (34.39 lb)
10 x 2.5-inch configuration	15.8 kg (34.83 lb)

Processor specifications

Table 3. PowerEdge R6515 processor specifications

Supported processor	Number of processors supported
AMD EYPC 7002 series processor	One

PSU specifications

Table 4. PowerEdge R6515 PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	Current
550 W AC	Platinum	2107 BTU/hr	50/60 Hz	100-240 V AC,autoranging	7.4 A - 3.7 A

- NOTE:** This system is also designed to connect to the IT power systems with a phase-to-phase voltage not exceeding 230 V.
- NOTE:** For certain premium configurations with high power consumption, system PSU might stay with 2+0 mode only, 1+1 redundant mode is not available.
- NOTE:** When selecting or upgrading the system configuration, to ensure optimum power utilization, verify the system power consumption with the Dell Energy Smart Solution Advisor available at Dell.com/ESSA.

Supported operating systems

The PowerEdge R6515 supports the following operating systems:

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

For more information, see www.dell.com/ossupport.

Cooling fans specifications

The PowerEdge R6515 system supports both the Standard fan (STD fan) and High Performance fan (HPR fan) and requires all six fans to be installed.

- NOTE:** Mixing of STD and HPR fans is not supported.

NOTE: The STD and HPR fans installation depends on the system configuration. For more information about the fan support configuration or matrix, see [Thermal restriction matrix](#).

System battery specifications

The PowerEdge R6515 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion card riser specifications

The PowerEdge R6515 system supports up to two PCI express (PCIe) expansion cards:

Table 5. Expansion card slots supported on the system board

PCIe slot	Riser	PCIe slot height	PCIe slot length	Slot width
Slot 2	Riser 1A	Low-profile	Half-length	x16 (Gen 3)
Slot 3	Riser 2	Low-profile	Half-length	x16 (Gen 4)

Memory specifications

The PowerEdge R6515 system supports the following memory specifications for optimized operation.

Table 6. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Minimum RAM	Maximum RAM
RDIMM	Single rank	8 GB	8 GB	128 GB
	Dual rank	16 GB	16 GB	256 GB
		32 GB	32 GB	512 GB
		64 GB	64 GB	1 TB
3DS LRDIMM	Octa rank	128 GB	128 GB	2 TB

Table 7. Memory module sockets

Memory module sockets	Speed
Sixteen 288-pin	3200 MT/s, 2933 MT/s, 2666 MT/s

Storage controller specifications

The PowerEdge R6515 system supports the following controller cards:

Table 8. PowerEdge R6515 system controller cards

Internal controllers	External controllers
<ul style="list-style-type: none"> PERC H740P PERC H730P PERC H330 S150 HBA330 Boot Optimized Storage Subsystem (BOSS-S1): HWRAID 2 x M.2 SSDs 	<ul style="list-style-type: none"> 12Gbps SAS Ext. HBA H840

Drive specifications

Drives

The PowerEdge R6515 system supports

- Up to 4 x 3.5-inch (SAS, SATA or SSD) front accessible drives in slot 0 to 3
- Up to 8 x 2.5-inch (SAS, SATA or SSD) front accessible drives in slot 0 to 7
- Up to 10 x 2.5-inch drives front accessible drives (with 8 SAS/SATA drives in slot 0 to 7 + 2 NVMe drives in slot 8 to 9)
- Up to 10 x 2.5-inch front accessible NVMe drives in slot 0 to 9

NOTE: The front accessible NVMe drives currently utilize PCIe Gen3.

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

Optical drives

The PowerEdge R6515 system supports the following optical drives.

Table 9. Supported optical drive type

Supported drive type	Supported number of drives
Dedicated SATA DVD-ROM drive or DVD +/-RW drive	One

Ports and connectors specifications

USB ports specifications

Table 10. PowerEdge R6515 system USB specifications

Front		Rear		Internal	
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 ports	Two	Internal USB 3.0-compliant port	One
Micro USB 2.0-compliant port for iDRAC Direct	One				

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

LOM riser card specifications

The PowerEdge R6515 system supports up to two 10/100/1000 Mbps Network Interface Controller (NIC) ports that are located on the back panel. The system also supports LAN on Motherboard (LOM) on an optional riser card.

You can install one LOM riser card. The supported LOM riser options are:

- 2 x 1 Gb Base-T
- 2 x 10Gb Base-T
- 2 x 10Gb SFP+

- 2 x 25Gb SFP+

NOTE:

- You can install up to two PCIe add-on NIC cards.
- For information about Linux network performance settings, see the *Linux Network Tuning Guide for AMD EPYC Processor Based Servers* white paper at [AMD.com](https://www.amd.com)

Serial connector specifications

The PowerEdge R6515 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

VGA ports specifications

The PowerEdge R6515 system supports two 15-pin VGA ports one each on the front and back panels.

IDSDM

The PowerEdge R6515 system supports Internal Dual SD module (IDSDM) with the below storage capacity:

- 16 GB
- 32 GB
- 64 GB

NOTE: One IDSDM card slot is dedicated for redundancy.

NOTE: Use Dell EMC branded microSD cards that are associated with the IDSDM configured systems.

Video specifications

The PowerEdge R6515 system supports integrated Matrox G200eR2 graphics controller with 16 MB of video frame buffer.

Table 11. Supported front 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 12. Supported rear video resolution options

Resolution	Refresh rate (Hz)	Color depth (bits)
1024 x 768	60	8, 16, 32
1280 x 800	60	8, 16, 32
1280 x 1024	60	8, 16, 32
1360 x 768	60	8, 16, 32
1440 x 900	60	8, 16, 32
1600 x 900	60	8, 16, 32

Table 12. Supported rear video resolution options (continued)

Resolution	Refresh rate (Hz)	Color depth (bits)
1600 x 1200	60	8, 16, 32
1680 x 1050	60	8, 16, 32
1920 x 1080	60	8, 16, 32
1920 x 1200	60	8, 16, 32

Environmental specifications

NOTE: For additional information about environmental certifications, refer to the *Product Environmental Datasheet* located with the Manuals & Documents on <https://www.dell.com/support>.

Operational climatic range category A2

Table 13. Operational climatic range category A2

Allowable continuous operations	
Temperature ranges for altitude ≤900 meters (≤2,953 feet)	10 to 35°C (50 to 95°F) with no direct sunlight on the platform
Humidity percent ranges (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 meters (1.8°F/984 feet) above 900 meters (2,953 feet)

Operational climatic range category A3

Table 14. Operational climatic range category A3

Allowable continuous operations	
Temperature ranges for altitude ≤900 meters (≤2,953 ft)	5°C- 40°C (41°F-104°F) with no direct sunlight on the platform
Humidity percent ranges (Noncondensing 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 meters (1.8°F/574 feet) above 900 meters (2,953 feet)

Shared requirements across all categories

Table 15. Shared requirements across all categories

Allowable operations	
Maximum temperature gradient (applies to both operation and nonoperation)	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
Nonoperational temperature limits	-40°C-65°C (-40°F-149°F)
Nonoperational humidity limits	5% to 95% RH with 27°C (80.6°F) maximum dew point
Maximum nonoperational altitude	12,000 meters (39,370 feet)

Table 15. Shared requirements across all categories (continued)

Allowable operations	
Maximum operational altitude	3,048 meters (10,000 feet)

*: Per ASHRAE thermal guidelines, these are not instantaneous rates of temperature change.

Table 16. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 G _{rms} at 5 Hz to 350 Hz (all operation orientations)
Storage	1.88 G _{rms} at 10 Hz to 500 Hz for 15 minutes (all six sides tested)

Table 17. Maximum shock pulse specifications

Maximum shock pulse	Specifications
Operating	24 run shock pulses in the positive and negative x, y, and z axis of 6 G for up to 11 ms. (4 pulse on each side of the system)
Storage	Six consecutively run 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 damages to the IT equipment and/or, or both failure from particulate and gaseous contamination. If the levels of particulate or gaseous pollution exceed the specified limitations and results in equipment damage or failure, you must rectify the environmental conditions. Remediation of environmental conditions is the responsibility of the customer.

Table 18. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	<p>Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.</p> <p>i 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.</p> <p>i NOTE: Air entering the data center must have MERV11 or MERV13 filtration.</p> <p>i NOTE: Air filtering can also be accomplished by filtering room air with MERV8 filter per ANSI/ASHARE Standard 127.</p>
Conductive dust	<p>Air must be free of conductive dust, zinc whiskers, or other conductive particles.</p> <p>i NOTE: This condition applies to data center and non-data center environments.</p> <p>i NOTE: Common sources of conductive dust include manufacturing processes, and zinc whiskers from the plating on the bottom of raised floor tiles.</p>
Corrosive dust	<ul style="list-style-type: none"> Air must be free of corrosive dust. Residual dust present in the air must have a deliquescent point less than 60% relative humidity.

Table 18. Particulate contamination specifications (continued)

Particulate contamination	Specifications
	i NOTE: This condition applies to data center and non-data center environments.

Table 19. 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

i **NOTE:** Maximum corrosive contaminant levels measured at ≤50% relative humidity.

Thermal restriction matrix

Table 20. Thermal restriction matrix for processor and fans

Configuration		4 x 3.5-inch	8 x 2.5-inch	10 x 2.5-inch drives (NVMe)
Processor TDP	Processor cTDP Max			
120 W	150 W	STD fan STD heat sink	STD fan STD heat sink	HPR fan STD heat sink
155 W	180 W	STD fan STD heat sink	STD fan STD heat sink	HPR fan STD heat sink
180 W	200 W	STD fan HPR heat sink	STD fan HPR heat sink	HPR fan HPR heat sink
200 W	200 W	STD fan HPR heat sink	STD fan HPR heat sink	HPR fan HPR heat sink
225 W	240 W	HPR fan HPR heat sink	HPR fan HPR heat sink	HPR fan HPR heat sink
280 W	280 W	HPR fan HPR HSK with DIMM Blank	HPR fan HPR HSK with DIMM Blank	Not supported

i **NOTE:** To ensure proper cooling in the system with 280 W processor, memory module blank should be installed in the memory sockets that are not populated.

i **NOTE:** For 280 W processor, maximum supported ambient temperature is 35°C.

i **NOTE:** For 10 x 2.5-inch drives (NVMe), maximum supported ambient temperature is 30°C.

Table 21. Thermal restriction matrix for T4 GPGPU

Riser configurations	Configuration type and ambient temperature support		
	4 x 3.5-inch drives	8 x 2.5-inch drives	10 x 2.5-inch drives (NVMe)
	2 LP	2 LP	2 LP
Ambient = 30°C			

Table 21. Thermal restriction matrix for T4 GPGPU (continued)

Riser configurations	Configuration type and ambient temperature support		
Slot 2	HPR fan	HPR fan	NA
Slot 3	HPR fan	HPR fan	HPR fan + NVMe drives from slot 6-9 + SAS or SATA drives from slot 0-5

Table 22. Label reference

Label	Description
STD	Standard
HPR	High performance
HSK	Heat sink
LP	Low profile

Thermal restriction for ASHRAE A3/Fresh air environment

- Processor TDP equal or greater than 180 W are not supported.
- 128 GB or greater capacity LRDIMMs are not supported.
- Redundant power supply configuration is required, but PSU failure is not supported
- Non-Dell qualified peripheral cards greater than 25 W are not supported.
- GPU card is not supported.
- PCIe SSD is not supported.

Thermal restriction for ASHRAE A4/Fresh air environment

- Processor TDP equal or greater than 155 W are not supported within A4.
- 128 GB or greater capacity LRDIMMs are not supported within A4.
- Two PSUs are required in redundant mode, but PSU failure is not supported.
- Non Dell qualified peripheral cards and/or peripheral cards greater than 25W are not supported.
- GPU is not supported within A4.
- PCIeSSD is not supported within A4.
- 25G OCP is not supported within A4.

Other thermal restrictions

1. SolarFlare, Mellanox CX4/CX5/CX6, P4800 AIC can only support up to 35°C ambient.
2. Mellanox CX6 on 10x2.5-inch configuration can only support on slot 3.
3. 25G OCP card does not support with 128 GB LRDIMM on 10 x 2.5-inch configuration.
4. HPR fan is required with 128 GB LRDIMM.
5. T4 GPGPU is not supported with 128 GB LRDIMM.
6. T4 GPGPU supports up to 30°C ambient temperature with HPR fans and 4 x 3.5-inch or 8 x 2.5-inch configurations.
7. T4 GPGPU supports up to 30°C ambient temperature with HPR fan and 10 x 2.5-inch configuration (NVMe(slot 6-9) and SAS or SATA drives (slot 0-5)) on slot 3 only.