

# Dell EMC PowerEdge XR2

## 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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# Dell EMC PowerEdge XR2 overview

The PowerEdge XR2 is a 1U, dual socket rack system with 8 x 2.5 inch drives system and supports up to:

- Two Intel Xeon Processor Scalable Family processors
- 16 DIMM slots
- Integrated M.2 module
- Optional M.2 based Boot Optimized Storage Solution module
- Two redundant power supply units (PSU)

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

# Technical specifications

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

Topics:

- System dimensions
- Chassis weight
- Processor specifications
- PSU specifications
- System battery specifications
- Expansion bus specifications
- Memory specifications
- Drive specifications
- Ports and connectors specifications
- Video specifications
- Environmental specifications

# System dimensions

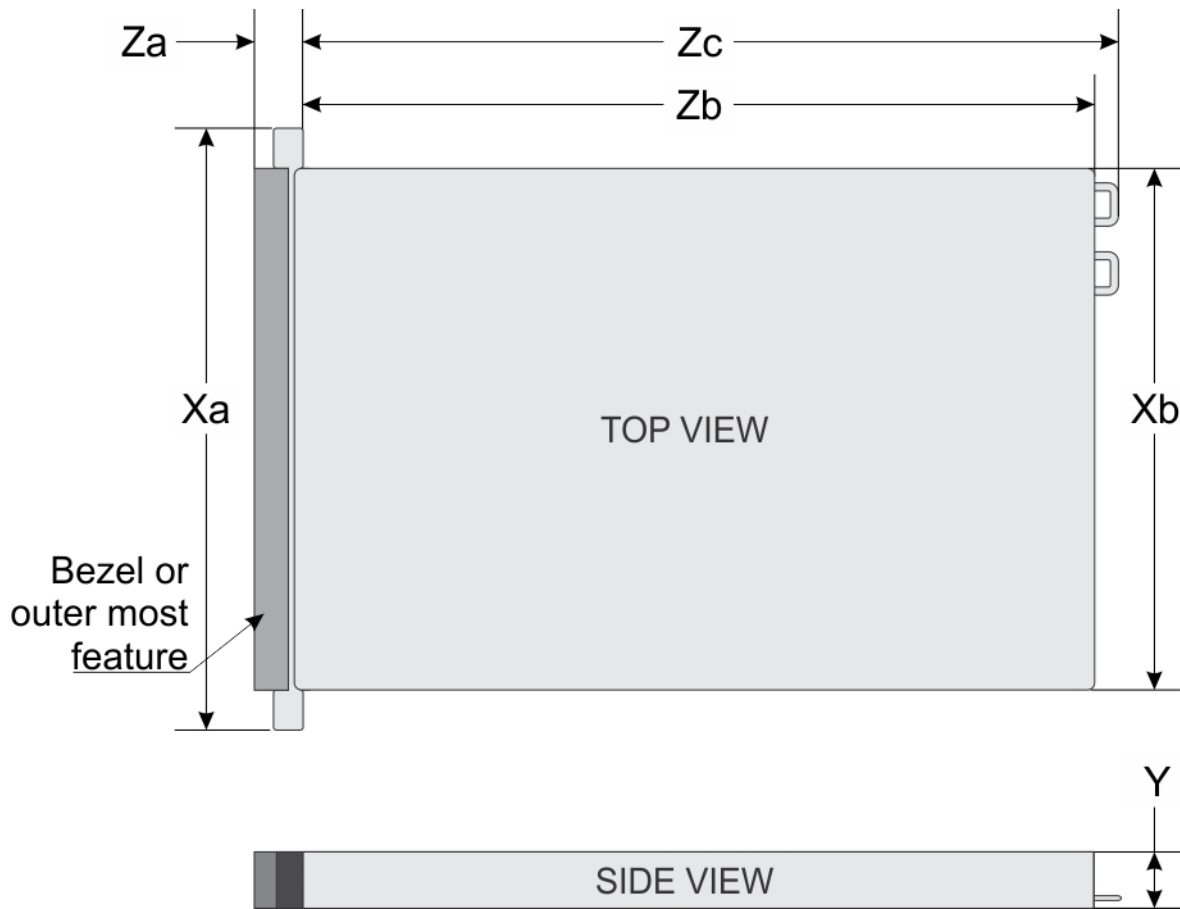


Figure 1. Dimensions of the PowerEdge XR2 system

Table 1. Dimensions of the PowerEdge XR2 system

Xa	Xb	Y	Za (with bezel)	Za (without bezel)	Zb	Zc
482.6 mm (19 inches)	434.0 mm (17.08 inches)	42.8 mm (1.68 inches)	60.0 mm (2.36 inches)	35.0 mm (1.45 inches)	511.0 mm (20.11 inches)	547.7 mm (22.62 inches)

# Chassis weight

Table 2. Chassis weight

System	Maximum weight (with all drives/SSDs)
8 x 2.5 inch drive system	13.00 Kg (28 lb)

# Processor specifications

The PowerEdge XR2 system supports up to two Intel Xeon Processor Scalable Family processors.

# PSU specifications

The PowerEdge XR2 system supports the following AC power supply units (PSU).

**Table 3. PSU specifications**

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage
550 W AC	Platinum	2891 BTU/hr	50/60 Hz	115–230 V AC, autoranging

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

**NOTE:** This system is also designed to connect to the IT power systems with a phase-to-phase voltage not exceeding 230 V.

# System battery specifications

The PowerEdge XR2 system supports CR 2032 3.0-V lithium coin cell system battery.

# Expansion bus specifications

The PowerEdge XR2 system supports PCI express (PCIe) generation three expansion cards, which must be installed on the system board using expansion card risers. The XR2 system supports two types of expansion card risers.

**Table 4. Expansion card riser configurations**

Expansion card riser	PCIe slots on the riser	Processor connection	Height	Length	Slot width
Riser 1	Slot 1	Processor 1	Full Height	Half Length	x16
Riser 2	Slot 1	Processor 1	Low Profile	Half Length	x16
	Slot 2	Processor 2	Low Profile	Half Length	x16

# Memory specifications

The PowerEdge XR2 system supports 16 DDR4 registered DIMM (RDIMMs) slots. Supported memory bus frequencies are 2666 MT/s, 2400 MT/s, 2133 MT/s, and 1866 MT/s.

**Table 5. Memory specifications**

Memory module sockets	Memory capacity	Minimum RAM	Maximum RAM
Sixteen 288-pin	<ul style="list-style-type: none"><li>8 GB, 16 GB, 32 GB (RDIMMs) or 64 GB DDR4 (LRDIMMs) single rank, dual rank or quad rank</li></ul>	<ul style="list-style-type: none"><li>8 GB with single processor</li><li>16 GB with dual processors (minimum one memory module per processor)</li></ul>	<ul style="list-style-type: none"><li>Up to 320 GB with a single processor using RDIMM</li><li>Up to 640 GB with a single processor using LRDIMM</li><li>Up to 512 GB with a dual processor and RDIMM</li><li>Up to 1024 GB with a dual processor and LRDIMM</li></ul>

# Drive specifications

## Drives

The PowerEdge XR2 system supports:

- Up to 8 x 2.5 inch drives with drive adapter, internal, hot swappable SATA SSDs

# Ports and connectors specifications

## Common Access Card (CAC)

The integrated Common Access Card (CAC) reader or Smart card reader allows for an additional form of authentication for data encryption. The PowerEdge XR2 system supports one CAC on the front panel.

## USB ports

The PowerEdge XR2 system supports:

- USB 2.0-compliant port on the front panel
- USB 3.0-compliant port on the back panel

The following table provides more information about the USB specifications:

**Table 6. USB specifications**

<b>Front panel</b>	<b>Back panel</b>	<b>Internal USB</b>
<ul style="list-style-type: none"><li>• One USB 2.0-compliant port</li><li>• One iDRAC Direct (Micro-AB USB) port</li></ul>	<ul style="list-style-type: none"><li>• Two USB 3.0-compliant port</li></ul>	<ul style="list-style-type: none"><li>• One internal USB 2.0 port on the FIO board</li></ul>

## eSATA port

The PowerEdge XR2 system supports one eSATA port on the front panel of the system.

## NIC ports

The PowerEdge XR2 system supports two Network Interface Controller (NIC) ports on the back panel, which have two 1 Gbps configuration.

## Serial connector

The serial connector connects a serial device to the system. The PowerEdge XR2 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.



## VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display. The PowerEdge XR2 system supports two 15-pin VGA ports on the front and back panels .

## Internal Dual MicroSD Module

The PowerEdge XR2 system supports two optional flash memory card slots with an internal dual MicroSD module.

**NOTE:** One card slot is dedicated for redundancy.

## Video specifications

The PowerEdge XR2 system supports Matrox G200eR2 graphics card with 16 MB capacity.

**Table 7. Supported video resolution options**

Resolution	Refresh rate (Hz)	Color depth (bits)
640 x 480	60, 70	8, 16, 32
800 x 600	60, 75, 85	8, 16, 32
1024 x 768	60, 75, 85	8, 16, 32
1152 x 864	60, 75, 85	8, 16, 32
1280 x 1024	60, 75	8, 16, 32
1440 x 900	60	8, 16, 32

## Environmental specifications

**NOTE:** For additional information about environmental certifications, please refer to the Product Environmental Datasheet located with the Manuals & Documents on [support.dell.com](http://support.dell.com).

**Table 8. Temperature specifications**

Temperature	Specifications
Storage	-40°C to 70°C (-40°F to 158°F) per Mil-Std 810G Method 501.5, Proc 1
Continuous operation (for altitude less than 950 m or 3117 ft)	5°C to 45°C (41°F to 104°F), with no direct sunlight on the equipment
Fresh air	For information about fresh air, see <a href="#">Expanded Operating Temperature</a> section.
Excursion temperature	55°C per Mil-Std 810G
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

**Table 9. Relative humidity specifications**

Relative humidity	Specifications
Storage	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.
Operating	5% to 85% relative humidity with 29°C (84.2°F) maximum dew point.

**Table 10. Maximum vibration specifications**

Maximum vibration	Specifications
Operating	Random vibration per Mil-Std 810G method 514.6, 0.00220783 g <sup>2</sup> /Hz at 10 Hz to 500 Hz (overall 1.04 <sub>rms</sub> ), all 3 axes, 1 hour per axis
Storage	Mil-Std 810G Procedure I, Cat 4, Fig 514.6C-1 (US highway truck vibration), 1 hour per axes

**Table 11. Maximum shock specifications**

Maximum shock	Specifications
Operating	Mil-Std 810G method 516.6, Proc I, 40G, 11 ms, 3 shocks in +/- directions in 3 axes (total 18 shocks)
Storage	Mil-Std 810G method 516.6, Proc I, 40G, 11 ms, 3 shocks in +/- directions in 3 axes (total 18 shocks)

**Table 12. Maximum altitude specifications**

Maximum altitude	Specifications
Operating	Mil-Std 810G method 500.5, Proc. II, air carriage, 15,000 ft for 1 hour after stabilization
Storage	Mil-Std 810G method 500.5, Proc. I, 40,000 ft for 1 hour after stabilization

## 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. Re-mediation of environmental conditions is the responsibility of the customer.

**Table 13. 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.

## Particulate contamination

## Specifications

Conductive dust

**NOTE:** Air entering the data center must have MERV11 or MERV13 filtration.

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.

**NOTE:** PowerEdge XR2 offers an optional kit to meet the dust and sand requirements per MIL-STD-810G, Method 510.5, Procedure I.

**Table 14. Gaseous contamination specifications**

### Gaseous contamination

### Specifications

Copper coupon corrosion rate

<300 Å/month per Class G1 as defined by ANSI/ISA71.04-1985.

Silver coupon corrosion rate

<200 Å/month as defined by AHSRAE TC9.9.

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

## Standard operating temperature

**Table 15. Standard operating temperature specifications**

### Standard operating temperature

### Specifications

Continuous operation (for altitude less than 950 m or 3117 ft)

+5°C to 45°C (41°F to 113°F) with no direct sunlight on the equipment.

**NOTE:** The chassis supports a maximum of 140 W processors.

## Expanded operating temperature

**Table 16. Expanded operating temperature specifications**

### Expanded operating temperature

### Specifications

Continuous operation

5°C to 45°C at 5% to 85% RH with 29°C dew point.

**NOTE:** Outside the standard operating temperature (10°C to 35°C), the system can operate continuously in temperatures as low as 5°C and as high as 45°C.

## Expanded operating temperature

## Specifications

≤ 1% of annual operating hours

For temperatures between 35°C and 45°C, de-rate maximum allowable temperature by 1°C per 175 m above 950 m (1°F per 319 ft).

–5°C to 55°C at 5% to 90% RH with 29°C dew point.

**NOTE:** Outside the standard operating temperature (10°C to 35°C), the system can operate down to –5°C or up to 55°C for a maximum of 1% of its annual operating hours.

For temperatures between 45°C and 55°C, de-rate maximum allowable temperature by 1°C per 125 m above 950 m (1°F per 228 ft).

**NOTE:** When operating in the expanded temperature range, system performance may be impacted.

**NOTE:** When operating in the expanded temperature range, ambient temperature warnings may be reported on the LCD panel and in the System Event Log.

## Expanded operating temperature restrictions

- Do not perform cold start below -15C Per IEC 60945.
- The operating temperature specified is for a maximum altitude of 950 m.
- Redundant power supplies are required.
- Non-Dell qualified peripheral cards and/or peripheral cards greater than 25 W are not supported.

## Documentation resources

This section provides information about the documentation resources for your system.

To view the document that is listed in the documentation resources table:

- From the Dell EMC support site:
  - a Click the documentation link that is provided in the Location column in the table.
  - b Click the required product or product version.
- **i | NOTE: To locate the product name and model, see the front of your system.**
  - c On the Product Support page, click **Manuals & documents**.
- Using search engines:
  - Type the name and version of the document in the search box.

**Table 17. Additional documentation resources for your system**

Task	Document	Location
Setting up your system	For more information about installing and securing the system into a rack, see the Rail Installation Guide included with your rack solution.  For information about setting up your system, see the <i>Getting Started Guide</i> document that is shipped with your system.	<a href="http://Dell.com/poweredgemanuals">Dell.com/poweredgemanuals</a>
Configuring your system	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your system remotely, see the Integrated Dell Remote Access Controller User's Guide.  For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM CLI Guide for iDRAC.  For information about Redfish and its protocol, supported schema, and Redfish Eventing implemented in iDRAC, see the Redfish API Guide.  For information about iDRAC property database group and object descriptions, see the Attribute Registry Guide.	<a href="http://Dell.com/poweredgemanuals">Dell.com/poweredgemanuals</a>
	For information about earlier versions of the iDRAC documents.  To identify the version of iDRAC available on your system, on the iDRAC web interface, click <b>? &gt; About</b> .	<a href="http://Dell.com/idracmanuals">Dell.com/idracmanuals</a>
		<a href="http://Dell.com/operatingsystemmanuals">Dell.com/operatingsystemmanuals</a>

Task	Document	Location
	For information about updating drivers and firmware, see the <a href="#">Methods to download firmware and drivers</a> section in this document.	<a href="http://Dell.com/support/drivers">Dell.com/support/drivers</a>
Managing your system	For information about systems management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide.	<a href="http://Dell.com/poweredgemanuals">Dell.com/poweredgemanuals</a>
	For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.	<a href="http://Dell.com/openmanagemanuals">Dell.com/openmanagemanuals</a> > <a href="#">OpenManage Server Administrator</a>
	For information about installing, using, and troubleshooting Dell OpenManage Essentials, see the Dell OpenManage Essentials User's Guide.	<a href="http://Dell.com/openmanagemanuals">Dell.com/openmanagemanuals</a> > <a href="#">OpenManage Essentials</a>
	For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide.	<a href="http://Dell.com/serviceabilitytools">Dell.com/serviceabilitytools</a>
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	<a href="http://Dell.com/openmanagemanuals">Dell.com/openmanagemanuals</a>
Working with the Dell PowerEdge RAID controllers	For information about understanding the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card and deploying the cards, see the Storage controller documentation.	<a href="http://Dell.com/storagecontrollermanuals">Dell.com/storagecontrollermanuals</a>
Understanding event and error messages	For information about checking the event and error messages generated by the system firmware and agents that monitor system components, see the Event and Error Message Reference Guide for 14th Generation Dell EMC PowerEdge Servers.	<a href="http://Dell.com/qrl">Dell.com/qrl</a>
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	<a href="http://Dell.com/poweredgemanuals">Dell.com/poweredgemanuals</a>

# Getting help

Topics:

- [Contacting Dell](#)
- [Documentation feedback](#)
- [Accessing system information by using QRL](#)
- [Receiving automated support with SupportAssist](#)

## Contacting Dell

Dell provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical assistance, or customer service issues:

- 1 Go to [Dell.com/support/home](https://Dell.com/support/home)
- 2 Select your country from the drop-down menu on the lower right corner of the page.
- 3 For customized support:
  - a Enter your system Service Tag in the **Enter your Service Tag** field.
  - b Click **Submit**.The support page that lists the various support categories is displayed.
- 4 For general support:
  - a Select your product category.
  - b Select your product segment.
  - c Select your product.The support page that lists the various support categories is displayed.
- 5 For contact details of Dell Global Technical Support:
  - a Click [Global Technical Support](#)
  - b The **Contact Technical Support** page is displayed with details to call, chat, or e-mail the Dell Global Technical Support team.

## Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.

## Accessing system information by using QRL

### Prerequisites

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

The QRL includes the following information about your system:

- How-to videos
- Reference materials, including the Owner's Manual, LCD diagnostics, and mechanical overview
- Your system service tag to quickly access your specific hardware configuration and warranty information
- A direct link to Dell to contact technical assistance and sales teams

### Steps

- 1 Go to [Dell.com/qrl](https://Dell.com/qrl) and navigate to your specific product or
- 2 Use your smartphone or tablet to scan the model-specific Quick Resource (QR) code on your system or in the Quick Resource Locator section.

## Quick Resource Locator for PowerEdge XR2



Figure 2. Quick Resource Locator

## Receiving automated support with SupportAssist

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

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

The available benefits vary depending on the Dell EMC Service entitlement purchased for your device. For more information about SupportAssist, go to [Dell.com/supportassist](https://Dell.com/supportassist).