Dell EMC PowerEdge R840

Technical Specifications

Regulatory Model: E49S Series
Regulatory Type: E49S001

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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Rev. A01

Contents

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Dell EMC PowerEdge R840 system overview

The Dell EMC PowerEdge R840 system is a 2U server that supports up to:

- Four Intel Xeon scalable processors
- 48 DIMM slots
- Two AC or DC power supply units
- 26 SAS, SATA, Nearline SAS hard drives or SSDs including two rear accessible drives.

For more information about supported drives, see the Technical specifications section.

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

Topics:

Front view of the system

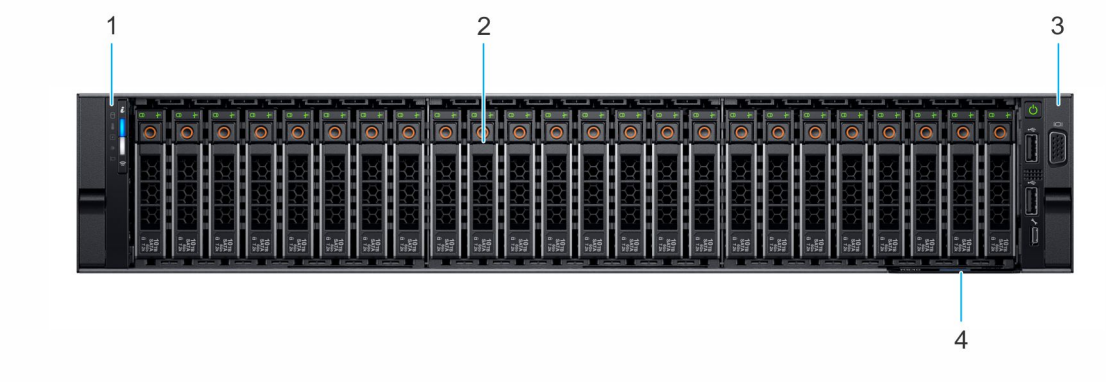


Figure 1. Front view 24 x 2.5-inch drive system

1. Left control panel
2. Drives
3. Right control panel
4. Service Tag

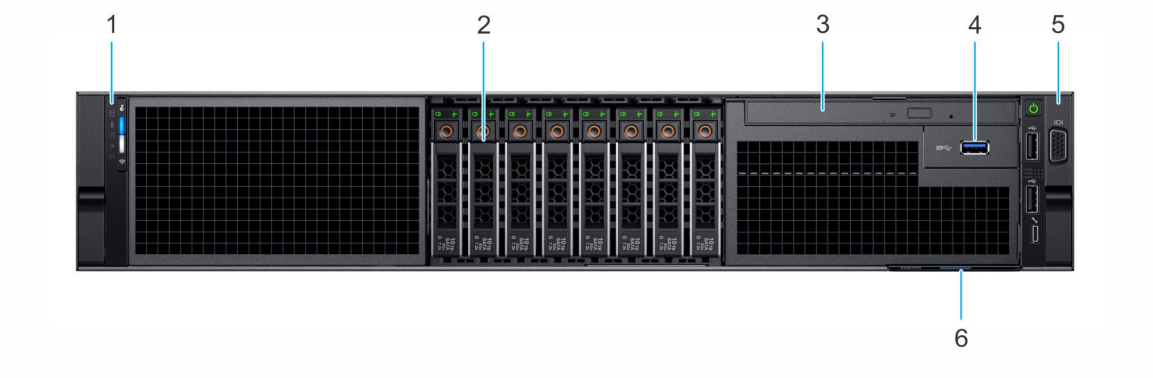


Figure 2. Front view 8 x 2.5-inch drive system

1. Left control panel
2. Drive slots
3. Optical drive (Optional)
4. USB 3.0 port (Optional)
5. Right control panel
6. Service Tag

For more information about the ports, see the Technical Specifications section.

Control panels

Left control panel

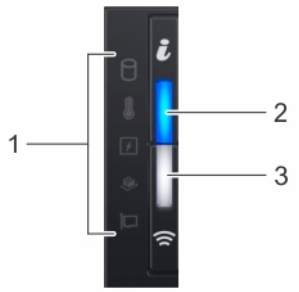


Figure 3. Left control panel view (with optional iDRAC Quick Sync 2.0 indicator)

1. Status LED indicators
2. System health and system ID indicator
3. iDRAC Quick Sync 2 wireless indicator (optional)

NOTE: iDRAC Quick Sync 2 feature allows you to manage your system using mobile devices. This feature is only available on certain configurations. For more information about the feature, see the Integrated Dell Remote Access Controller User's Guide at www.dell.com/idracmanuals.

Right control panel view

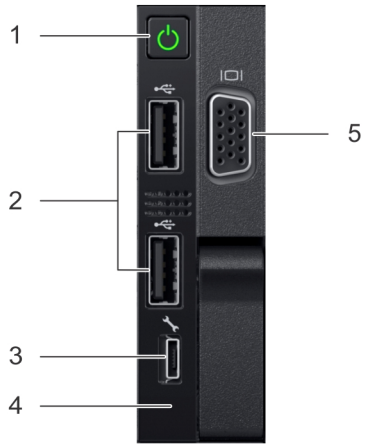


Figure 4. Right control panel view

1. Power button
2. USB 2.0 port (2)
3. iDRAC Direct port
4. iDRAC Direct LED
5. VGA port

NOTE: For more information on the ports, see the Technical Specifications section.

LCD panel

The LCD panel provides system information, status, and error messages to indicate if the system is functioning correctly or requires attention. The LCD panel can also be used to configure or view the system's iDRAC IP address. For information about the event and error messages generated by the system firmware and agents that monitor system components, see the Error Code Lookup page at qrl.dell.com.

The LCD panel is available only on the optional front bezel. The optional front bezel is hot pluggable.

The statuses and conditions of the LCD panel are outlined here:

- The LCD backlight is white during normal operating conditions.
- When the system needs attention, the LCD backlight turns amber, and displays an error code followed by descriptive text.

  NOTE: If the system is connected to a power source and an error is detected, the LCD turns amber regardless of whether the system is turned on or off.
- When the system turns off and there are no errors, LCD enters the standby mode after five minutes of inactivity. Press any button on the LCD to turn it on.
- If the LCD panel stops responding, remove the bezel and reinstall it.

  If the problem persists, see Getting help.
- The LCD backlight remains off if LCD messaging is turned off using the iDRAC utility, the LCD panel, or other tools.

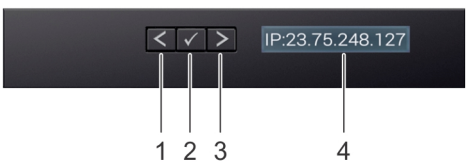


Figure 5. LCD panel features

Table 1. LCD panel features

Item	Button or display	Description
1	Left	Moves the cursor back in one-step increments.
2	Select	Selects the menu item highlighted by the cursor.

Item	Button or display	Description
3	Right	Moves the cursor forward in one-step increments. During message scrolling: · Press and hold the right button to increase scrolling speed. · Release the button to stop. **NOTE: The display stops scrolling when the button is released. After 45 seconds of inactivity, the display starts scrolling.**
4	LCD display	Displays system information, status, and error messages or iDRAC IP address.

Viewing Home screen

The **Home** screen displays user-configurable information about the system. This screen is displayed during normal system operation when there are no status messages or errors. When the system turns off and there are no errors, LCD enters the standby mode after five minutes of inactivity. Press any button on the LCD to turn it on.

Steps

1. To view the **Home** screen, press one of the three navigation buttons (Select, Left, or Right).
2. To navigate to the **Home** screen from another menu, complete the following steps:
   a) Press and hold the navigation button until the up arrow is displayed.
   b) Navigate to the **Home** icon using the up arrow .
   c) Select the **Home** icon.
   d) On the **Home** screen, press the **Select** button to enter the main menu.

Setup menu

NOTE: When you select an option in the Setup menu, you must confirm the option before proceeding to the next action.

Option	Description
iDRAC	Select **DHCP** or **Static IP** to configure the network mode. If **Static IP** is selected, the available fields are **IP**, **Subnet (Sub)**, and **Gateway (Gtw)**. Select **Setup DNS** to enable DNS and to view domain addresses. Two separate DNS entries are available.
Set error	Select **SEL** to view LCD error messages in a format that matches the IPMI description in the SEL. This enables you to match an LCD message with an SEL entry. Select **Simple** to view LCD error messages in a simplified user-friendly description. For information about the event and error messages generated by the system firmware and agents that monitor system components, see the Error Code Lookup page at qrl.dell.com
Set home	Select the default information to be displayed on the **Home** screen. See View menu section for the options and option items that can be set as the default on the **Home** screen.

View menu

NOTE: When you select an option in the View menu, you must confirm the option before proceeding to the next action.

Option	Description
iDRAC IP	Displays the **IPv4** or **IPv6** addresses for iDRAC9. Addresses include **DNS** (**Primary** and **Secondary**), **Gateway**, **IP**, and **Subnet** (IPv6 does not have Subnet).
MAC	Displays the MAC addresses for **iDRAC**, **iSCSI**, or **Network** devices.
Name	Displays the name of the **Host**, **Model**, or **User String** for the system.
Number	Displays the **Asset tag** or the **Service tag** for the system.

Option	Description
Power	Displays the power output of the system in BTU/hr or Watts. The display format can be configured in the **Set home** submenu of the **Setup** menu.
Temperature	Displays the temperature of the system in Celsius or Fahrenheit. The display format can be configured in the **Set home** submenu of the **Setup** menu.

Rear view of the system

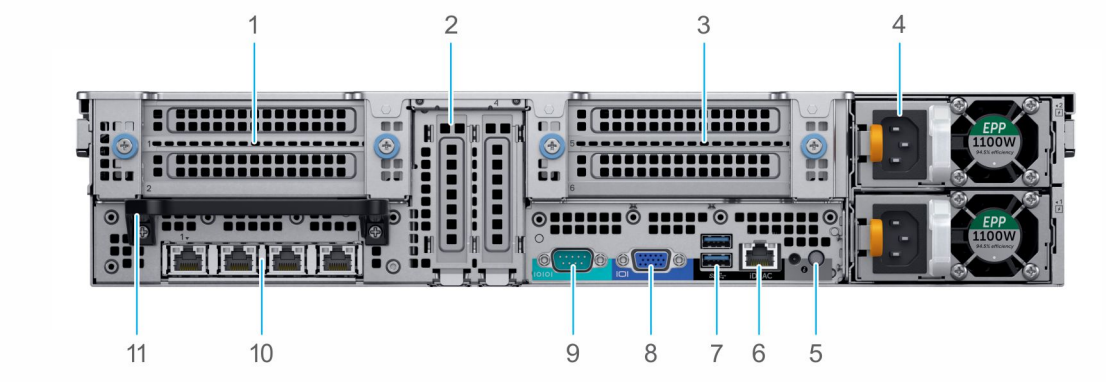


Figure 6. Rear view of the 24 x 2.5-inch drive system

1. Riser 1 - Full-height PCIe expansion card (Slot 1 and 2)
2. Half-height PCIe expansion card slots located on the system board (Slot 3 and 4)
3. Riser 2 -Full-height PCIe expansion card slots (Slot 5 and 6)
4. Power supply units (2)
5. System identification button
6. iDRAC9 dedicated port
7. USB 3.0 ports (2)
8. VGA port
9. Serial port
10. NIC ports (4)
11. Rear handle

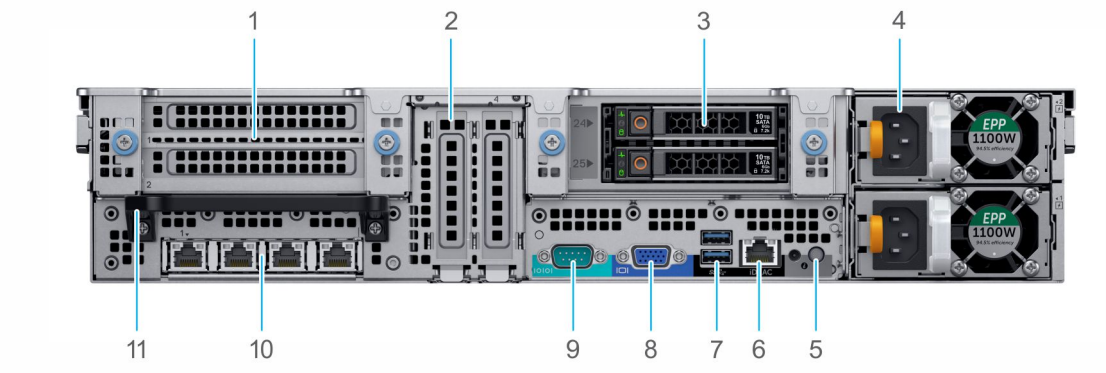


Figure 7. Rear view of the 24 x 2.5-inch + 2 x 2.5-inch (rear) drive system

1. Riser 1 - Full-height PCIe expansion card slots (Slot 1 and 2)
2. Half-height PCIe expansion card slots located on the system board (Slot 3 and 4)
3. Rear drives (2)
4. Power supply units (2)
5. System identification button
6. iDRAC9 dedicated port
7. USB 3.0 ports (2)
8. VGA port
9. Serial port
10. NIC ports (4)
11. Rear handle

NOTE: For more information about the ports and connectors, see the Technical Specifications section.

Inside the system

NOTE: Components that are hot swappable have orange touch points and the components that are not hot swappable have blue touch points.

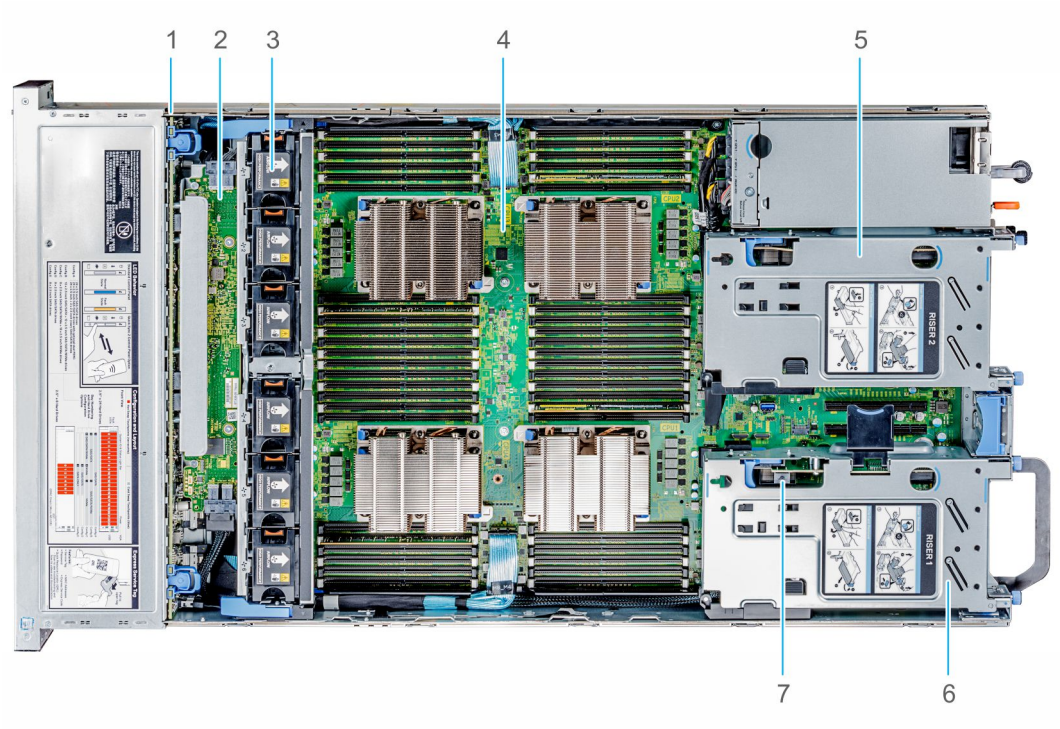


Figure 8. Inside the system without rear drive cage

1. Drive backplane
2. SAS Expander board
3. Cooling fans (6)
4. System board
5. Full-height expansion card Riser 2
6. Full-height expansion card Riser 1
7. Intrusion switch

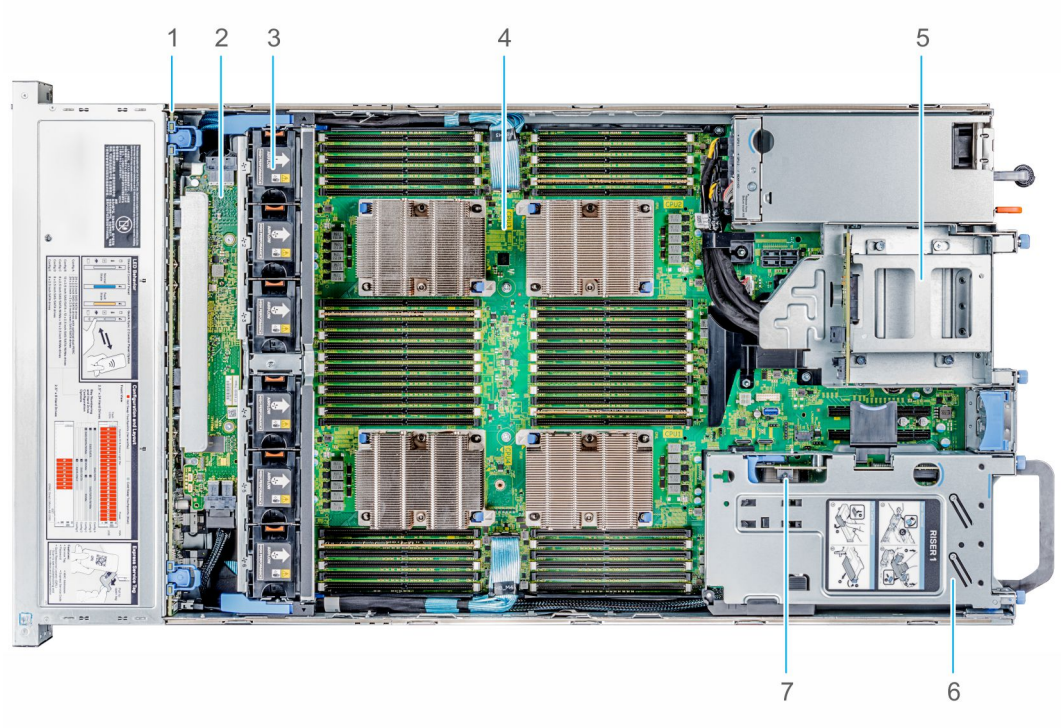


Figure 9. Inside the system with rear drive cage

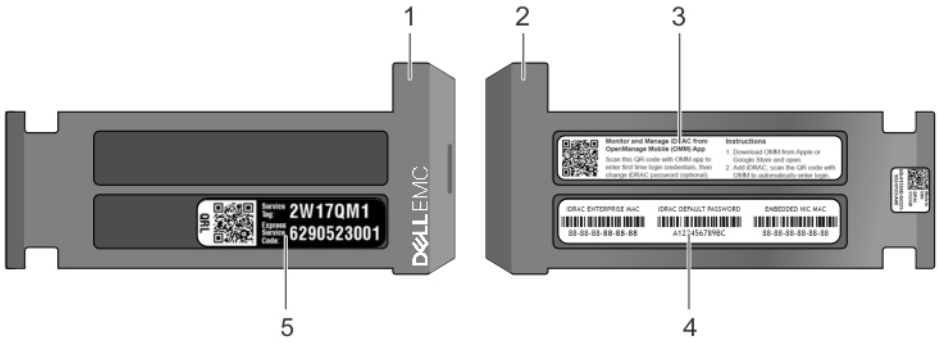
1. Drive backplane
2. SAS Expander board
3. Cooling fans (6)
4. System board
5. Drive cage (rear)
6. Full-height expansion card Riser 1
7. Intrusion switch

Locating the Service Tag of your system

You can identify your system using the unique Express Service Code and Service Tag. Pull out the information tag in the front of the system to view the Express Service Code and Service Tag. Alternatively, the information may be on a sticker on the chassis of the system.

The mini Enterprise Service Tag (EST) is found on the back of the system. This information is used by Dell to route support calls to the appropriate personnel.

Figure 10. Locating Service Tag of your system



1. Information tag (top view)
2. Information tag (bottom view)
3. OpenManage Mobile (OMM) label (optional)
4. iDRAC MAC address and iDRAC secure password label

NOTE: If you have opted for secure default access to iDRAC, the iDRAC secure default password is available on the back of the system Information tag. This section of label will be blank, if you have not opted for secure default access to iDRAC, then the default user name and password are root and calvin.

5. Service Tag

System Information Label

PowerEdge R840 – Front system information label

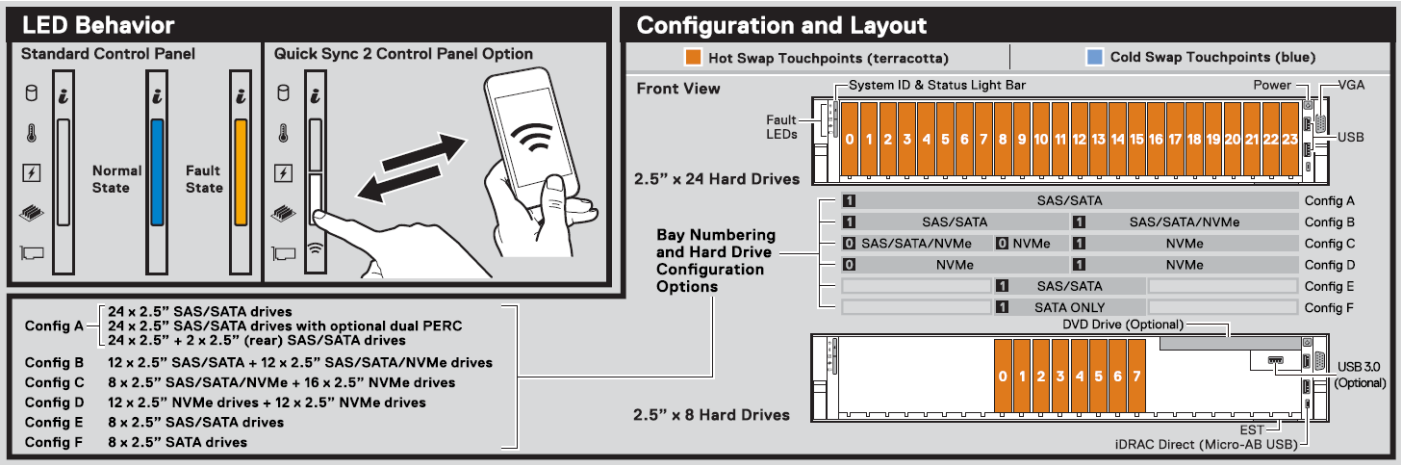


Figure 11. LED behavior, and Configuration and Layout

PowerEdge R840 – Service information

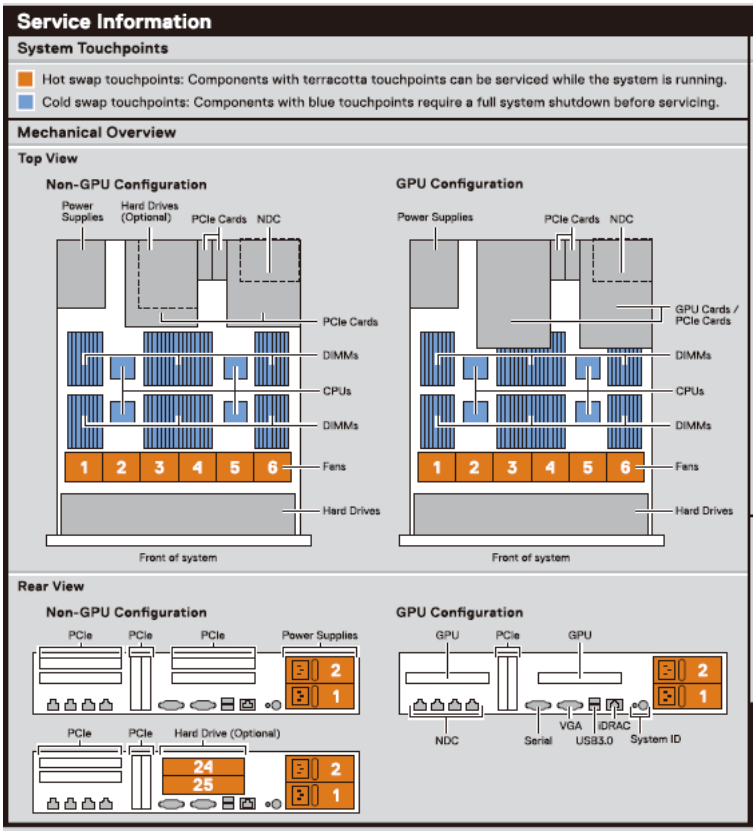


Figure 12. Mechanical overview

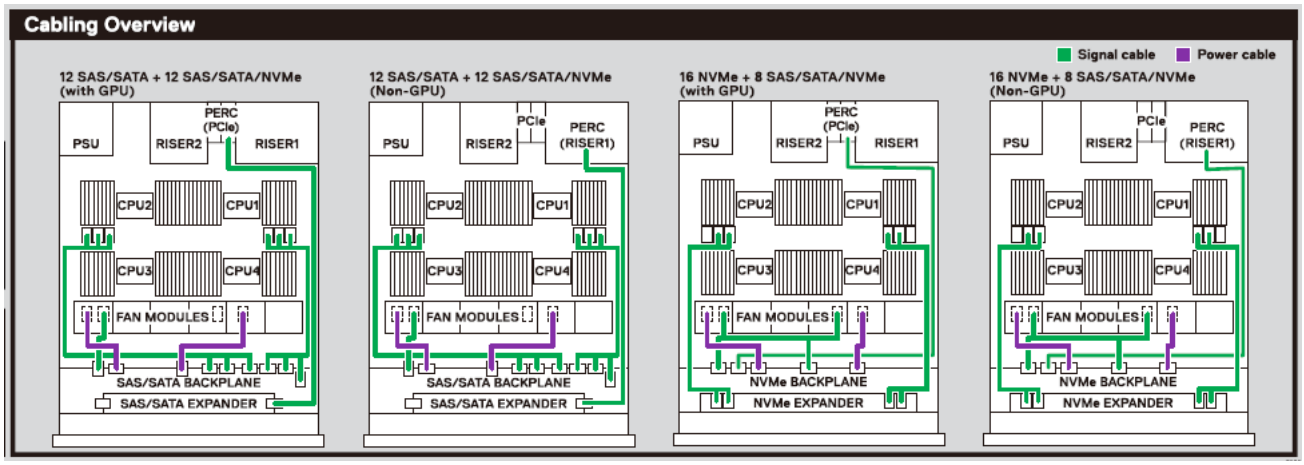


Figure 13. Signal and power cable routing

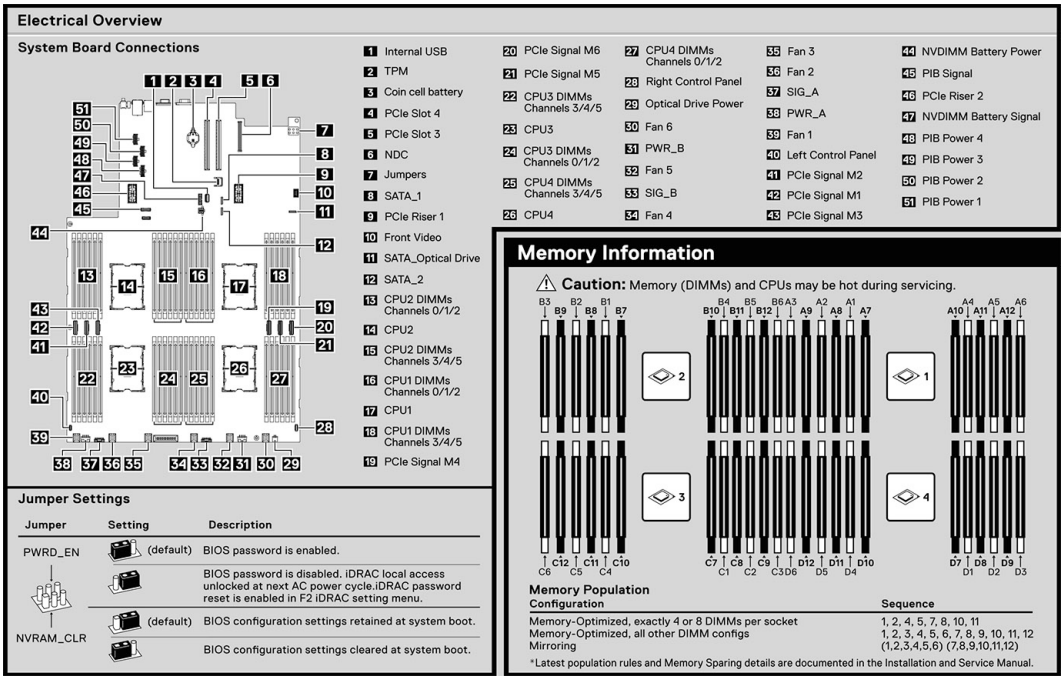


Figure 14. Electrical overview

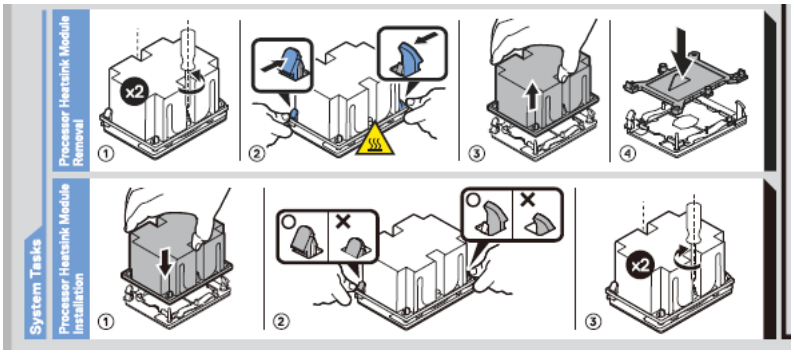


Figure 15. CPU installation

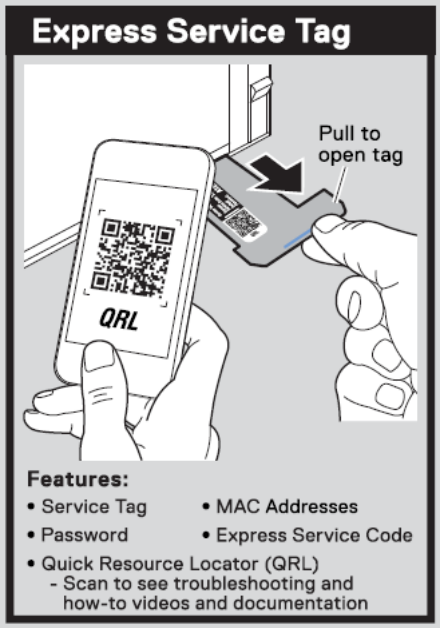


Figure 16. Express service tag

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Technical specifications

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

Topics:

Chassis dimensions

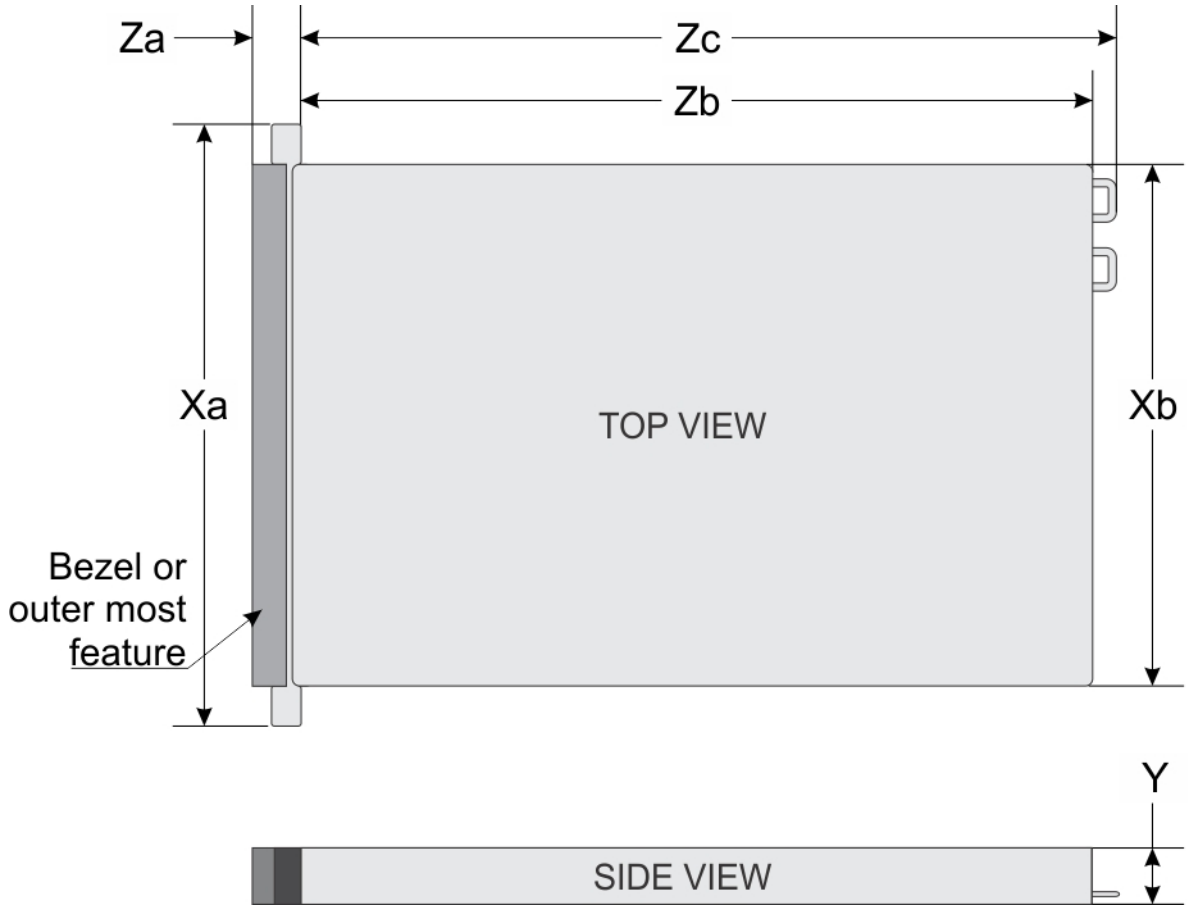

Figure 17. Dimensions of PowerEdge R840 system

Table 2. Dimensions of PowerEdge R840 system

Xa	Xb (without brackets)	Xb (w brackets)	Y	Za (with bezel)	Za (without bezel)	Zb*	Zc (with PSU handle)	Zc (with chassis rear wall handle)
482 mm (18.97 inches)	434 mm (17.08 inches)	444.0 (17.48 inches)	86.8 mm (3.41 inches)	37.84 mm (1.41 inches)	23.9 mm (0.94 inches)	812 mm (31.96 inches)	842 mm (33.14 inches)	902 mm (35.51 inches)

* - Zb refers to the nominal rear wall external surface, where the system board I/O connectors are located.

Chassis weight

Table 3. Chassis weight

System	Maximum weight (with all drives/SSDs)
2.5 inch	36.6 kg (80.68 lb)

Processor specifications

The PowerEdge R840 system supports four processors - Intel Xeon Scalable Processor family.

Supported operating systems

The PowerEdge R840 supports the following operating systems:

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

For more information on the specific versions and additions, see https://www.dell.com/support/home/Drivers/SupportedOS/poweredge-r840.

PSU specifications

The PowerEdge R840 system supports up to two AC or DC power supply units (PSUs).

Table 4. PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	High line 200V–240 V	Low line 100 V– 140 V	DC	Current
750 W AC	Platinum	2891 BTU/hr	50/60 Hz	100–240 V AC, autoranging	750 W	750 W	NA	10 A-5 A
750 W AC	Titanium	2843 BTU/hr	50/60 Hz	200–240 V AC, autoranging	750 W	NA	NA	5 A
750 W Mixed Mode HVDC (for China only)	Platinum	2891 BTU/hr	50/60 Hz	100–240 V AC, autoranging	750 W	750 W	NA	NA
	N/A	2891 BTU/hr	N/A	240 V DC, autoranging	NA	NA	750 W	4.5 A
750 W Mixed Mode AC	Platinum	2891 BTU/hr	50/60 Hz	100–240 V AC	750 W	750 W	N/A	10 A-5 A

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	High line 200V–240 V	Low line 100 V– 140 V	DC	Current
750 W Mixed Mode DC (for China only)	Platinum	2891 BTU/hr	50/60 Hz	240 V DC	750 W	N/A	750 W	5 A
1100 W AC	Platinum	4100 BTU/hr	50/60 Hz	100–240 V AC, autoranging	1100 W	1050 W	NA	12 A-6.5 A
1100 W DC	N/A	4416 BTU/hr	N/A	–(48–60) V DC, autoranging	NA	NA	1100 W	32 A
1100 W 10 A-5 A Mixed Mode HVDC (for China and Japan only)	Platinum	4100 BTU/hr	50/60 Hz	100–240 V AC, autoranging	1100 W	1050 W	NA	12 A-6.5 A
	N/A	4100 BTU/hr	N/A	200–380 V DC, autoranging	NA	NA	1100 W	6.4 A-3.2 A
1600 W AC	Platinum	6000 BTU/hr	50/60 Hz	100–240 V AC, autoranging	1600 W	800 W	NA	10 A
2000 W AC	Platinum	7500 BTU/hr	50/60 Hz	100–240 V AC, autoranging	2000 W	1000 W	NA	11.5 A
2400 W AC	Platinum	9000 BTU/hr	50/60 Hz	100–240 V AC, autoranging	2400 W	1400 W	NA	16 A

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 240 V.

NOTE: PSUs rated for 1100 W AC or 1100 W Mixed Mode HVDC and higher require high-line voltage (200–240 V AC) to supply their rated capacity.

System battery specifications

The PowerEdge R840 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion card riser specifications

The PowerEdge R840 system supports up to six PCI express (PCIe) generation 3 expansion cards that can be installed on the system board and expansion card risers.

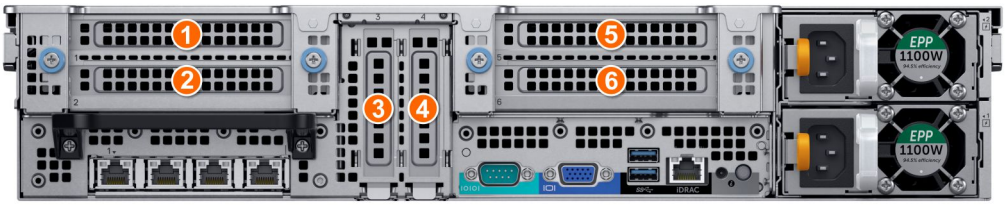

Figure 18. 24 x 2.5-inch drive system

Figure 19. 24 x 2.5-inch + 2 x 2.5-inch (rear) drive system

The following table provides detailed information about the expansion card riser specifications:

Table 5. Expansion card riser specifications

PCIe slot	Riser	Processor connection	Height	Length	Slot width
1	X8 PCIe Riser 1	Processor 1	Full height	Half length	x8
2	X16 PCIe Riser 1	Processor 1	Full height	Full length	x16
	X8 PCIe Riser 1	Processor 1	Full height	Half length	x8
3	On the system board	Processor 1	Low profile	Half length	x16
4	On the system board	Processor 2	Low profile	Half length	x16
5	X8 PCIe Riser 2	Processor 2	Full height	Half length	x8
6	X16 PCIe Riser 2	Processor 2	Full height	Full length	x16
	X8 PCIe Riser 2	Processor 2	Full height	Half length	x8

Memory specifications

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Table 6. Memory specifications

Memory module sockets	DIMM type	DIMM rank	DIMM capacity	Dual processors		Quad processors	
				Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
48 288-pins	LRDIMM	Octal rank	128 GB	256 GB	3072 GB	512 GB	6144 GB

Memory module sockets	DIMM type	DIMM rank	DIMM capacity	Dual processors		Quad processors	
				Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
	LRDIMM	Quad rank	64 GB	128 GB	1536 GB	256 GB	3072 GB
	RDIMM	Dual rank	64 GB	128 GB	1536 GB	256 GB	3072 GB
	RDIMM	Dual rank	32 GB	64 GB	768 GB	128 GB	1536 GB
	RDIMM	Dual rank	16 GB	32 GB	384 GB	64 GB	768 GB
	RDIMM	Single rank	8 GB	16 GB	192 GB	32 GB	384 GB
	NVDIMM-N	Single rank	16 GB	RDIMM: 192 GB	RDIMM: 384 GB	RDIMM: 384 GB	RDIMM: 1152 GB
				NVDIMM-N: 16 GB	NVDIMM-N: 192 GB	NVDIMM-N: 16 GB	NVDIMM-N: 192 GB
	DCPMM	N/A	128 GB	RDIMM: 384 GB	LRDIMM: 1536 GB	RDIMM: 768 GB	LRDIMM: 3072 GB
				DCPMM: 1536 GB	DCPMM: 1536 GB	DCPMM: 3072 GB	DCPMM: 3072 GB
		N/A	256 GB	RDIMM: 384 GB	LRDIMM: 1536 GB	RDIMM: 768 GB	LRDIMM: 3072 GB
				DCPMM: 2048 GB	DCPMM: 3072 GB	DCPMM: 4096 GB	DCPMM: 6144 GB
		N/A	512 GB	RDIMM: 384 GB	LRDIMM: 1536 GB	RDIMM: 768 GB	LRDIMM: 3072 GB
				DCPMM: 4096 GB	DCPMM: 6144 GB	DCPMM: 8192 GB	DCPMM: 12288 GB

NOTE: Do not mix 8 GB RDIMMs and 16 GB NVDIMM-Ns.

NOTE: Do not mix 64 GB LRDIMMs and 128 GB LRDIMMs.

Table 7. DIMM blank population rules

Processor configuration	Processor 1	Processor 2	Processor 3	Processor 4
Dual processor	Required	Required	Not required	Not required
Quad processor	Required	Required	Required	Required

RAID controller specifications

The PowerEdge R840 system supports:

- Internal storage controller cards: PowerEdge RAID Controller (PERC) H330, PERC H730P, H740P, HBA330, and Boot Optimized Server Storage (BOSS-S1)
- External storage controller cards: S140 and 12 Gbps SAS HBA

Drive specifications

Drives

The PowerEdge R840 system supports SAS, SATA, Nearline SAS hard drives/SSDs, or NVMe drives.

Table 8. Supported drive options for PowerEdge R840 system

Chassis options	Configurations
Eight hard drive chassis	Up to eight 2.5-inch SAS/SATA front accessible drives in slots 0–7 Up to eight 2.5-inch SATA front accessible drives in slots 0–7
Twenty-four drive chassis	Up to twenty-four 2.5-inch SAS/SATA front accessible drives in slots 0–23 Up to twelve 2.5-inch SAS/SATA front accessible drives in slots 0–11 + twelve SAS/SATA/NVMe front accessible drives in slots 12–23 Up to twenty-four 2.5-inch NVMe front accessible drives in slots 0–23
Twenty four front + two rear drive chassis	Up to twenty-four 2.5 inch SAS/SATA front accessible drives in slots 0–23 + up to two 2.5-inch SAS/SATA rear accessible drives

Optical drives

The PowerEdge R840 system supports one optional slim SATA DVD-ROM drive or DVD +/-RW drive.

NOTE: DVD devices support only data.

Tape drives

The PowerEdge R840 system supports external tape backup devices.

NOTE: The PowerEdge R840 system does not support internal tape drives.

Supported external tape drives:

- External RD1000 USB
- External LTO-5, LTO-6,LTO-7, and 6 Gb SAS tape drives
- 114X rack mount chassis with LTO-5, LTO-6, and LTO-7, 6 Gb SAS tape drives
- TL1000 with LTO-5, LTO-6, and LTO-7 6 Gb SAS tape drives
- TL2000 with LTO-5, LTO-6, and LTO-7 6 Gb SAS tape drives
- TL2000 with LTO-5, LTO-6, and LTO-7 8 Gb FC tape drives
- TL4000 with LTO-5, LTO-6, and LTO-7 6 Gb SAS tape drives
- TL4000 with LTO-5, LTO-6, and LTO-7 8 Gb FC tape drives
- ML6000 with LTO-5, LTO-6, 6 Gb SAS tape drives
- ML6000 with LTO-5, LTO-6, LTO-7 8 Gb FC tape drives

Ports and connectors specifications

USB ports

The PowerEdge R840 system supports both USB 2.0-compliant ports and USB 3.0-compliant ports:

The following table provides more information about the USB specifications:

Table 9. USB specifications

Front panel	Back panel	Internal USB
• Two USB 2.0-compliant ports • One micro USB 2.0-compliant port for iDRAC Direct **NOTE: The micro USB 2.0 compliant port can only be**	• Two USB 3.0-compliant ports	• One internal USB 3.0-compliant port

Front panel	Back panel	Internal USB
used as an iDRAC Direct or a management port. • One optional USB 3.0-compliant port		

NIC ports

The PowerEdge R840 system supports up to four Network Interface Controller (NIC) ports that are integrated on the network daughter card (NDC), and are available in the following configurations:

- Four RJ-45 ports that support 10 Mbps, 100 Mbps, and 1000 Mbps
- Four RJ-45 ports that support 100 M, 1 G, and 10 Gbps
- Four RJ-45 ports, where two ports support maximum of 10 G and the other two ports maximum of 1 G
- Two RJ-45 ports that support up to 1 Gbps and 2 SFP+ ports that support up to 10 Gbps
- Four SFP+ ports that support up to 10 Gbps
- Two SFP28 ports that support up to 25 Gbps

VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display.

The PowerEdge R840 system supports two 15-pin VGA ports, one each, on the front and back of the system.

Serial connector

The serial connector on the rear of system for serial device connection and console redirection.

The PowerEdge R840 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

IDSDM or vFlash module

The PowerEdge R840 system supports optional Internal Dual SD module (IDSDM) or vFlash module. In 14th generation of PowerEdge servers, IDSDM or vFlash module is combined into a single card module, and are available in these configurations:

- vFlash or
- vFlash and IDSDM

The IDSDM or vFlash module is located in a slot on the back of the system. The module supports three microSD cards; two cards for IDSDM and one card for vFlash. The following capacities are supported:

- IDSDM: 16 GB, 32 GB, 64 GB
- vFlash: 16 GB

NOTE: There are two dip switches on the IDSDM or vFlash module for write-protection.

NOTE: One IDSDM card slot is dedicated for redundancy.

NOTE: Use Dell branded microSD cards associated with the IDSDM or vFlash configured systems.

Video specifications

R840 servers support the integrated Matrox G200eW3 graphics controller with 16 MB of video frame buffer.

The following table describes the supported video resolution options.

Table 10. Supported video resolution options

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

NOTE: 1920 x 1080 and 1920 x 1200 resolutions are supported only in reduced blanking mode.

Environmental specifications

NOTE: For additional information about environmental certifications, see the *Product Environmental Datasheet* located with the Manuals & Documents at Dell.com/poweredgemanuals.

Table 11. Temperature specifications

Temperature	Specifications
Storage	–40–65°C (–40 °F–149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10–35°C (50 °F–95°F) with no direct sunlight on the equipment
Maximum temperature gradient (operating and storage)	20°C/h (36°F/h)

Table 12. Relative humidity specifications

Relative humidity	Specifications
Storage	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be noncondensing at all times.
Operating	10% to 80% RH with 29°C (84.2°F) maximum dew point.

Table 13. 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 14. Maximum shock pulse specifications

Maximum shock pulse	Specifications
Operating	Six consecutively executed shock pulses in the positive and negative x, y, and z axes of 6 G for up to 11 ms.
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for up to 2 ms.

Table 15. Maximum altitude specifications

Maximum altitude	Specifications
Operating	3048 m (10,000 ft)
Storage	12,000 m (39,370 ft)

Table 16. Operating temperature derating specification

Operating temperature derating	Specifications
Up to 35°C (95°F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft), above 950 m (3,117 ft).
35–40 °C (95–104 °F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft), above 950 m (3,117 ft).
40–45 °C (104 °F–113 °F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft), above 950 m (3,117 ft).

Standard operating temperature

Table 17. Standard operating temperature specifications

Standard operating temperature	Specifications
Continuous operation (for altitude less than 950 m or 3117 ft)	10 °C–35°C (50 °F–95°F) with no direct sunlight on the equipment.

Expanded operating temperature

Table 18. Expanded operating temperature specifications

Expanded operating temperature	Specifications
Continuous operation	5 °C–40°C at 5% to 85% RH with 29°C dew point. **NOTE: Outside the standard operating temperature (10 °C–35°C), the system can operate continuously in temperatures as low as 5°C and as high as 40°C.** For temperatures 35 °C – 40°C, derate maximum allowable temperature by 1°C per 175 m (1°F per 319 ft.) above 950 m (3,1171 ft.).
≤ 1% of annual operating hours	–5 °C–45°C at 5% to 90% RH with 29°C dew point. **NOTE: Outside the standard operating temperature (10 °C–35°C), the system can operate down to –5°C or up to 45°C for a maximum of 1% of its annual operating hours.** For temperatures 40 °C – 45°C, derate maximum allowable temperature by 1°C per 125 m (1°F per 228 ft.) above 950 m (3.117 ft.).

NOTE: When operating in the expanded temperature range, the performance of the system 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

- The operating temperature is specified for a maximum altitude of 950 m for Fresh Air Cooling.
- Do not perform cold start below 5°C due to hard drive constraints.

- Apache Pass DIMM, NVDIMM, PCIe SSD, and NVMe are not supported.
- Tape Backup Unit (TBU) is not supported in Fresh Air.
- LRDIMM >32 GB is not supported in x4 sockets configuration.
- Rear installed drives and GPU configuration are not supported.
- Redundant power supplies are required.
- Non Dell qualified peripheral cards and /or peripheral cards greater than 25 W are not supported.
- Intel FPGA is not supported.
- 205 W SKUs, 200W/18C, 165W/12C, and 150W_8C processor are not supported on all x4 socket processor configurations.
- 165 W SKUs, 130W/8C, 115W/6C, and 105W_4C are not supported on the x4 socket processor configurations except front x8 inch SAS/SATA drives configurations.

Ambient temperature limitations

NOTE: The ambient temperature limit must be adhered to ensure proper cooling and to avoid excess processor throttling, which may impact system performance.

Table 19. Configuration-based ambient temperature restrictions with GPGPU

TDP(W)	R840 • 8 x 2.5 inch SAS/SATA • 2 x CPU • 2 x GPGPU			R840 • 8 x 2.5 inch SAS/SATA • 4 x CPU • 2 x GPGPU			R840 • 24 x 2.5 inch SAS/SATA • 2 x CPU • 2 x GPGPU			R840 • 24 x 2.5 inch SAS/SATA • 4 x CPU • 2 x GPGPU			R840 • 24 x 2.5 inch NVme • 4 x CPU • 2 x GPGPU		
	C40E45	35	30	C40E45	35	30	C40E45	35	30	C40E45	35	30	C40E45	35	30
205	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
200	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
165 (Gold 6146)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
150 (Gold 6144 and 6244)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
150 (Gold 6240Y)	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y
165	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
150	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
140	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
130 (Gold 6134)	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
125	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
115 (Gold 6128)	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
115	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
105(Gold 5122 and 8156)	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
105(Gold 5222 and 8256)	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
105	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
100	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
85	N	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	N	Y
70	N	Y	Y	N	Y	Y	N	Y	Y	N	N	N	N	N	N

N= Not Supported

Y= Supported

Table 20. Configuration-based ambient temperature restrictions with PCIe

TDP(W)	R840 • 8 x 2.5 inch SAS/SATA • 2 x CPU • 6 x PCIe			R840 • 8 x 2.5 inch SAS/SATA • 4 x CPU • 6 x PCIe			R840 • 24 x 2.5 inch SAS/SATA • 2 x CPU • 6 x PCIe			R840 • 24 x 2.5 inch SAS/SATA • 4 x CPU • 6 x PCIe			R840 • 24 x 2.5 inch NVMe • 4 x CPU • 6 x PCIe		
	C40E45	35	30	C40E45	35	30	C40E45	35	30	C40E45	35	30	C40E45	35	30
205	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y
200	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y
165 (Gold 6146)	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y
150 (Gold 6144 and 6244)	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y
150 (Gold 6240Y)	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
165	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
150	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
140	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
130 (Gold 6134)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
125	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
115 (Gold 6128)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
115	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
105(Gold 5122 and 8156)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
105(Gold 5222 and 8256)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
105	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
100	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
85	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
70	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y

N= Not Supported

Y= Supported

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 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 21. 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.

Particulate contamination	Specifications
	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 22. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper Coupon Corrosion	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-1985.
Silver Coupon Corrosion	<200 Å/month as defined by AHSRAE TC9.9.

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

3

System diagnostics and indicator codes

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

Topics:

Status LED indicators

NOTE: The indicators display solid amber if any error occurs.

Table 23. Status LED indicators and descriptions

Icon	Description	Condition	Corrective action
	Drive indicator	The indicator turns solid amber if there is a drive error.	• Check the System Event Log to determine if the drive has an error. • Run the appropriate Online Diagnostics test. Restart the system and run embedded diagnostics (ePSA). • If the drives are configured in a RAID array, restart the system, and enter the host adapter configuration utility program.
	Temperature indicator	The indicator turns solid amber if the system experiences a thermal error (for example, the ambient temperature is out of range or there is a fan failure).	Ensure that none of the following conditions exist: • A cooling fan has been removed or has failed. • System cover, air shroud, memory module blank, or back filler bracket is removed. • Ambient temperature is too high. • External airflow is obstructed. If the problem persists, see Getting help.
	Electrical indicator	The indicator turns solid amber if the system experiences an electrical error (for example, voltage out of range, or a failed power supply unit (PSU) or voltage regulator).	Check the System Event Log or system messages for the specific issue. If it is due to a problem with the PSU, check the LED on the PSU. Reseat the PSU. If the problem persists, see Getting help.
	Memory indicator	The indicator turns solid amber if a memory error occurs.	Check the System Event Log or system messages for the location of the failed memory. Reseat the memory module. If the problem persists, see Getting help.
	PCIe indicator	The indicator turns solid amber if a PCIe card experiences an error.	Restart the system. Update any required drivers for the PCIe card. Reinstall the card. If the problem persists, see Getting help.

System health and system ID indicator codes

The system health and system ID indicator is located on the left control panel of your system.

Figure 20. System health and system ID indicators

Table 24. System health and system ID indicator codes

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is turned on, system is healthy, and system ID mode is not active. Press the system health and system ID button to switch to system ID mode.
Blinking blue	Indicates that the system ID mode is active. Press the system health and system ID button to switch to system health mode.
Solid amber	Indicates that the system is in fail-safe mode. If the problem persists, see the Getting help section.
Blinking amber	Indicates that the system is experiencing a fault. Check the System Event Log or the LCD panel, if available on the bezel, for specific error messages. For more information about error messages, see the *Dell Event and Error Messages Reference Guide* at www.dell.com/openmanagemanuals.

iDRAC Quick Sync 2 indicator codes

iDRAC Quick Sync 2 module (optional) is located on the left control panel of your system.

Figure 21. iDRAC Quick Sync 2 indicators

Table 25. iDRAC Quick Sync 2 indicators and descriptions

iDRAC Quick Sync 2 indicator code	Condition	Corrective action
Off (default state)	Indicates that the iDRAC Quick Sync 2 feature is turned off. Press the iDRAC Quick Sync 2 button to turn on the iDRAC Quick Sync 2 feature.	If the LED fails to turn on, reseat the left control panel flex cable and check. If the problem persists, see the Getting help section.
Solid white	Indicates that iDRAC Quick Sync 2 is ready to communicate. Press the iDRAC Quick Sync 2 button to turn off.	If the LED fails to turn off, restart the system. If the problem persists, see the Getting help section.
Blinks white rapidly	Indicates data transfer activity.	If the indicator continues to blink indefinitely, see the Getting help section.
Blinks white slowly	Indicates that firmware update is in progress.	If the indicator continues to blink indefinitely, see the Getting help section.
Blinks white five times rapidly and then turns off	Indicates that the iDRAC Quick Sync 2 feature is disabled.	Check if iDRAC Quick Sync 2 feature is configured to be disabled by iDRAC. If the problem persists, see the Getting help section. For more information, see *Integrated Dell Remote Access Controller User's*

iDRAC Quick Sync 2 indicator code	Condition	Corrective action
		Guide at www.dell.com/idracmanuals or *Dell OpenManage Server Administrator User's Guide* atwww.dell.com/openmanagemanuals .
Solid amber	Indicates that the system is in fail-safe mode.	Restart the system. If the problem persists, see the Getting help section.
Blinking amber	Indicates that the iDRAC Quick Sync 2 hardware is not responding properly.	Restart the system. If the problem persists, see the Getting help section.

iDRAC Direct LED indicator codes

The iDRAC Direct LED indicator lights up to indicate that the port is connected and is being used as a part of the iDRAC subsystem.

You can configure iDRAC Direct by using a USB to micro USB (type AB) cable, which you can connect to your laptop or tablet. The following table describes iDRAC Direct activity when the iDRAC Direct port is active:

Table 26. iDRAC Direct LED indicator codes

iDRAC Direct LED indicator code	Condition
Solid green for two seconds	Indicates that the laptop or tablet is connected.
Flashing green (on for two seconds and off for two seconds)	Indicates that the laptop or tablet connected is recognized.
Turns off	Indicates that the laptop or tablet is unplugged.

NIC indicator codes

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

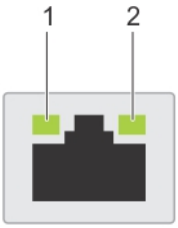

Figure 22. NIC indicator codes

1. Link LED indicator
2. Activity LED indicator

Table 27. NIC indicator codes

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

Status	Condition
Link indicator is blinking green, and activity is off.	NIC identify is enabled through the NIC configuration utility.

Power supply unit indicator codes

AC power supply units (PSUs) have an illuminated translucent handle that serves as an indicator.

The DC PSUs have an LED that serves as an indicator.

For more information about the PSU specifications, see Technical Specifications.

For information about the event and error messages generated during POST, when a 2400W PSU is connected to a 110 V power source, see the Dell Event and Error Messages Reference Guide at www.dell.com/openmanagemanuals.

The indicator shows whether power is present or if a power fault has occurred.

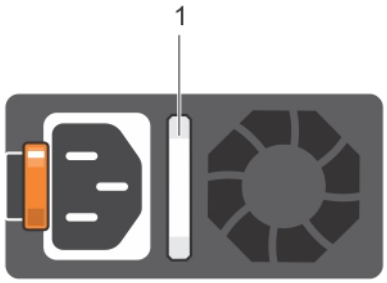

Figure 23. AC PSU status indicator

1. AC PSU status indicator/handle

Table 28. AC PSU status indicator codes

Power indicator codes	Condition
Green	A valid power source is connected to the PSU, and the PSU is operational.
Blinking amber	Indicates a problem with the PSU.
Not illuminated	Power is not connected to the PSU.
Blinking green	When the firmware of the PSU is being updated, the PSU handle blinks green. **CAUTION: Do not disconnect the power cable, or unplug the PSU when updating firmware. If firmware update is interrupted, the PSUs do not function.**
Blinking green and turns off	When hot-plugging a PSU, the PSU handle blinks green five times at a rate of 4 Hz and turns off. This indicates a PSU mismatch concerning efficiency, feature set, health status, or supported voltage. **CAUTION: If two PSUs are installed, both the PSUs must have the same type of label; for example, Extended Power Performance (EPP) label. Mixing PSUs from previous generations of PowerEdge servers is not supported, even if the PSUs have the same power rating. This results in a PSU mismatch condition, or failure to turn on the system.** **CAUTION: When correcting a PSU mismatch, replace only the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and unexpected system shutdown. To change from a high output configuration to a low output**

Power indicator codes	Condition
	configuration or conversely, you must turn off the system. **CAUTION: AC PSUs support both 240 V and 120 V input voltages except for Titanium PSUs, which support only 240 V. When two identical PSUs receive different input voltages, they can output different wattages, and trigger a mismatch.** **CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** **CAUTION: Combining AC and DC PSUs is not supported and triggers a mismatch.**

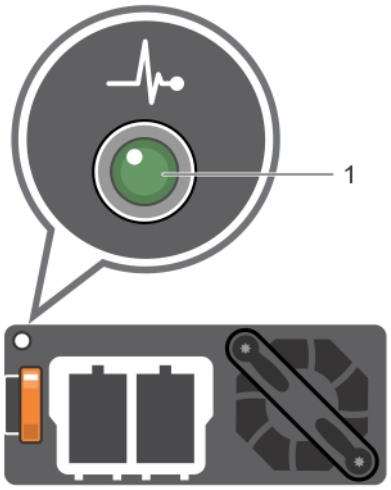

Figure 24. DC PSU status indicator

1. DC PSU status indicator

Table 29. DC PSU status indicator codes

Power indicator codes	Condition
Green	A valid power source is connected to the PSU, and the PSU is operational.
Blinking amber	Indicates a problem with the PSU.
Not illuminated	Power is not connected to the PSU.
Blinking green	When hot-plugging a PSU, the PSU indicator blinks green. This indicates that there is a PSU mismatch about efficiency, feature set, health status, or supported voltage. **CAUTION: If two PSUs are installed, both the PSUs must have the same type of label; for example, Extended Power Performance (EPP) label. Mixing PSUs from previous generations of PowerEdge servers is not supported, even if the PSUs have the same power rating. This results in a PSU mismatch condition, or failure to turn on the system.** **CAUTION: When correcting a PSU mismatch, replace only the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and unexpected system shutdown. To change**

Power indicator codes	Condition
	from a High Output configuration to a Low Output configuration or conversely, you must turn off the system. **CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** **CAUTION: Combining AC and DC PSUs is not supported and triggers a mismatch.**

Drive indicator codes

The LEDs on the drive carrier indicates the state of each drive. Each drive carrier in your system has two LEDs: an activity LED (green) and a status LED (bicolor, green/amber). The activity LED flashes whenever the drive is accessed.

Figure 25. Drive indicators on the drive and the mid drive tray backplane

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

NOTE: If the drive is in the Advanced Host Controller Interface (AHCI) mode, the status LED indicator does not turn on.

Table 30. Drive indicator codes

Drive status indicator code	Condition
Flashes green twice per second	Identifying drive or preparing for removal.
Off	Drive ready for removal. **NOTE: The drive status indicator remains off until all drives are initialized after the system is turned on. Drives are not ready for removal during this time.**
Flashes green, amber, and then turns off	Predicted drive failure.
Flashes amber four times per second	Drive failed.
Flashes green slowly	Drive rebuilding.
Solid green	Drive online.
Flashes green for three seconds, amber for three seconds, and then turns off after six seconds	Rebuild stopped.

System diagnostics

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

Dell Embedded System Diagnostics

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

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

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

Running the Embedded System Diagnostics from Boot Manager

Run the Embedded System Diagnostics (ePSA) if your system does not boot.

Steps

1. When the system is booting, press F11.
2. Use the up arrow and down arrow keys to select **System Utilities** > **Launch Diagnostics**.
3. Alternatively, when the system is booting, press F10, select **Hardware Diagnostics** > **Run Hardware Diagnostics**.
   The ePSA Pre-boot System Assessment window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

Results

Running the Embedded System Diagnostics from the Dell Lifecycle Controller

Steps

1. As the system boots, press F10.
2. Select **Hardware Diagnostics** → **Run Hardware Diagnostics**.
   The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

System diagnostic controls

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

4

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:
  1. Click the documentation link that is provided in the Location column in the table.
  2. Click the required product or product version.

     NOTE: To locate the product name and model, see the front of your system.
  3. On the Product Support page, click **Manuals & documents**.
- Using search engines:
  - Type the name and version of the document in the search box.

Table 31. 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 *Getting Started Guide* document that is shipped with your system.	www.dell.com/poweredgemanuals
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 are implemented in iDRAC, see the Redfish API Guide. For information about iDRAC property database group and object descriptions, see the Attribute Registry Guide.	www.dell.com/poweredgemanuals
	For information about earlier versions of the iDRAC documents, see the iDRAC documentation. To identify the version of iDRAC available on your system, on the iDRAC web interface, click **?** > **About**.	www.dell.com/idracmanuals
	For information about installing the operating system, see the operating system documentation.	www.dell.com/operatingsystemmanuals
	For information about updating drivers and firmware, see the Methods to download firmware and drivers section in this document.	www.dell.com/support/drivers
Managing your system	For information about systems management software offered by Dell, see the Dell	www.dell.com/poweredgemanuals

Task	Document	Location
	OpenManage Systems Management Overview Guide.	
	For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.	www.dell.com/openmanagemanuals > OpenManage Server Administrator
	For information about installing, using, and troubleshooting Dell OpenManage Essentials, see the Dell OpenManage Essentials User's Guide.	www.dell.com/openmanagemanuals > OpenManage Essentials
	For information about installing, using, and troubleshooting Dell OpenManage Enterprise, see the Dell OpenManage Enterprise User's Guide.	www.dell.com/openmanagemanuals > OpenManage Enterprise
	For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide.	www.dell.com/serviceabilitytools
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	www.dell.com/openmanagemanuals
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.	www.dell.com/storagecontrollermanuals
Understanding event and error messages	For information about the event and error messages that are generated by the system firmware and agents that monitor system components, see the Error Code Lookup.	www.dell.com/qrl
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	www.dell.com/poweredgemanuals

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Getting help

Topics:

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:

Steps

1. Go to www.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

You can use the Quick Resource Locator (QRL) to get immediate access to the information about your system.

Prerequisites

Ensure that your smart phone 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
- Service Tag to quickly access the specific hardware configuration and warranty information
- A direct link to Dell to contact technical support and sales teams

Steps

1. Go to www.dell.com/qrl, and navigate to your specific product or
2. Use your smart phone or tablet to scan the model-specific Quick Resource (QR) code on your Dell system or in the Quick Resource Locator section.

Quick Resource Locator for PowerEdge R840 system

Figure 26. Quick Resource Locator for PowerEdge R840 system

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 www.dell.com/supportassist.

Recycling or End-of-Life service information

Take back and recycling services are offered for this product in certain countries. If you want to dispose of system components, visit www.dell.com/recyclingworldwide and select the relevant country.