Dell EMC PowerEdge XE8545

Technical Specifications

DELLTechnologies

Notes, cautions, and warnings

(i) **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.**

Contents

PowerEdge XE8545 system overview

The PowerEdge XE8545 system is a 4U server that supports:
- Two AMD EPYC SP3 processors
- Thirty-two DIMM slots
- Four redundant AC power supply units
- Up to ten universal U.2/SAS/SATA hot-plug drives (maximum eight NVMe drives)

ⓘ **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**.

ⓘ **NOTE:** All instances of SAS, SATA drives are seen as drives in this document, unless specified otherwise.

For more information about supported drives, see the www.dell.com/poweredgemanuals.

Topics:

- Front view of the system
- Rear view of the system

Front view of the system
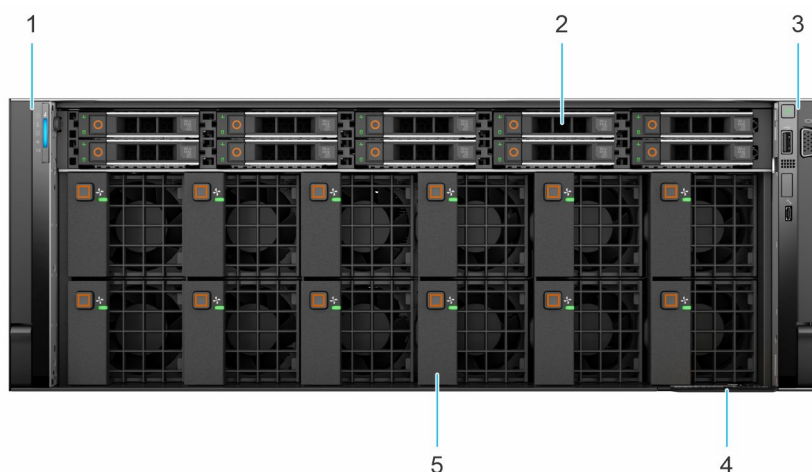
Figure 1. Front view of 10 x 2.5-inch drive system

Table 1. Features available on the front of the system

Item	Ports, panels, and slots	Icon	Description
1	Left control panel	N/A	Contains the system health, system ID, and the status LED. ● Status LED: Enables you to identify any failed hardware components. There are up to five status LEDs and a system health LED (Chassis health and system ID) bar. For more information, see the Status LED indicators section.
2	Drive (10)	N/A	Enables you to install drives that are supported on your system. For more information about drives, see the www.dell.com/poweredgemanuals

Table 1. Features available on the front of the system (continued)

Item	Ports, panels, and slots	Icon	Description
3	Right control panel	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
4	Information tag	N/A	The Information tag is a slide-out label panel that contains system information such as Service Tag, NIC, MAC address, and so on. If you have opted for the secure default access to iDRAC, the Information tag also contains the iDRAC secure default password.
5	GPU fan (12)	N/A	Enables you to install GPU fans for thermal regulation.

For more information about the ports, see the www.dell.com/poweredgemanuals section.

Rear view of the system
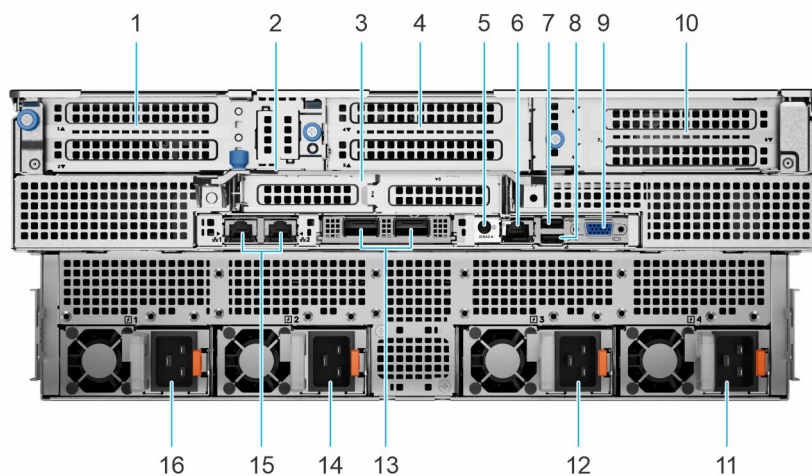
Figure 2. Rear view of the system

Table 2. Rear view of the system

Item	Ports, panels, or slots	Icon	Description
1	PCIe expansion card riser 1 (slot 2 only)	N/A	The expansion card riser enables you to connect PCI Express expansion cards. For more information on the expansion cards that are supported on your system, see www.dell.com/poweredgemanuals.
2	Rear Handle	N/A	The rear handle is used as a bracing bracket for chassis rigidity in a rack.
3	PCIe expansion card riser 2 (slot 6 only)	N/A	The expansion card riser enables you to connect PCI Express expansion cards. For more information on the expansion cards that are supported on your system, see www.dell.com/poweredgemanuals.
4	PCIe expansion card riser 3	N/A	This expansion card riser enables you to connect to the internal PCI Express device (GPU). For more information on the expansion cards that are supported on your system, see www.dell.com/poweredgemanuals.
5	System identification button	ⓘ	Press the system ID button: - To locate a particular system within a rack. - To turn the system ID on or off. To reset iDRAC, press and hold the button for more than 16 seconds.

Table 2. Rear view of the system (continued)

Item	Ports, panels, or slots	Icon	Description
			ⓘ **NOTE:** ● To reset iDRAC using system ID, ensure that the system ID button is enabled in the iDRAC setup. ● If the system stops responding during POST, press and hold the system ID button (for more than 5 seconds) to enter the BIOS progress mode.
6	iDRAC dedicated port	**iDRAC**	Enables you to remotely access iDRAC. For more information, see the iDRAC User's Guide at www.dell.com/poweredgemanuals.
7	USB 2.0 port (1)	⋅⟵⟶	This port is USB 2.0-compliant.
8	USB 3.0 port (1)	ss⟵	This port is USB 3.0-compliant.
9	VGA port	Ⅰ�ⅢⅠ	Enables you to connect a display device to the system. For more information, see the www.dell.com/poweredgemanuals.
10	PCIe expansion card riser 4 (slot 7 and slot 8)	N/A	The expansion card riser enables you to connect PCI Express expansion cards. For more information on the expansion cards that are supported on your system, see www.dell.com/poweredgemanuals.
11	Power supply unit (PSU 4)	⚡	For more information on the PSU configurations, see the www.dell.com/poweredgemanuals.
12	Power supply unit (PSU 3)	⚡	For more information on the PSU configurations, see the www.dell.com/poweredgemanuals.
13	OCP NIC port (optional)	N/A	This port supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board.
14	Power supply unit (PSU 2)	⚡	For more information on the PSU configurations, see the www.dell.com/poweredgemanuals.
15	NIC port (1,2)	品	The NIC ports are embedded on the LOM card that is connected to the system board.
16	Power supply unit (PSU 1)	⚡	For more information on the PSU configurations, see the www.dell.com/poweredgemanuals.

For more information on the ports and connectors, see the www.dell.com/poweredgemanuals.

Technical specifications

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

Chassis dimensions
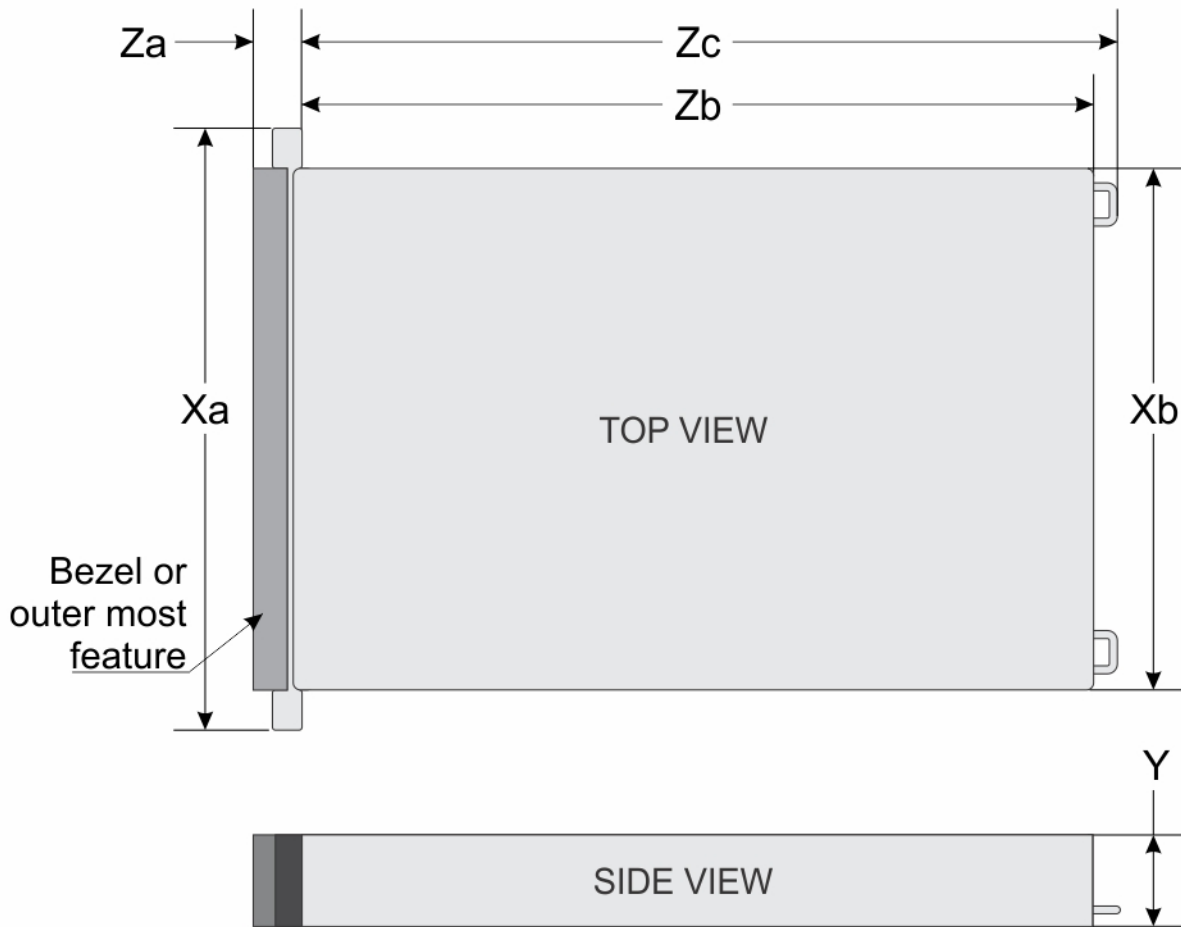
Figure 3. Chassis dimensions

Table 3. Chassis dimension for the system

Drives	Xa	Xb	Y	Za	Zb	Zc
10 drives	482.0 mm (18.97 inches)	447.0 mm (15.59 inches)	174.8 mm (6.88 inches)	35.84 mm (1.4 inches)With bezel22.0 mm (0.87 inches)Without bezel	810 mm (31.88 inches)Ear to rear wall	845.59 mm (33.29 inches)Ear to PSU handle

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

System weight

Table 4. System weight of the PowerEdge XE8545 system

System configuration	Maximum weight (with all drives/SSDs)
10 x 2.5-inch	48.61 kg (107.17 lb)

Processor specifications

Table 5. Processor specifications for the system

Supported processor	Number of processors supported
AMD EPYC 7003 Series processorwith up to 64 cores	Two

PSU specifications

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

⚠️ **WARNING: Instructions for the qualified electricians only:**

System using -(48-60) V DC or 240 V DC power supplies are intended for restricted access locations in accordance with Articles 110-5, 110-6, 110-11, 110-14, and 110-17 of the National Electrical Code, American National Standards Institute (ANSI)/National Fire Protection Association (NFPA) 70.

240 V DC power supplies shall be connected to the 240 V DC outlet from certified power distribution units if applicable in country of use.

Power supply cords/jumper cords and the associated plugs/inlets/connectors shall have appropriate electrical ratings referencing the rating label on the system when used for connection.

Table 6. PSU specifications for the system

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	Current
2400 W Mixed Mode AC/HVDC	Platinum	9000 BTU/hr	50/60 Hz	100 - 240 VAC autoranging	16 - 13.5 A
2400 W Mixed Mode AC/HVDC	N/A	9000 BTU/hr	DC	240 V DC	11.2 A

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

ⓘ **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**.

Cooling fan specifications

The PowerEdge XE8545 system supports up to six very high performance gold grade (HPR (Gold)) cooling fans connected to the system board directly. The system also supports 12 very high performance fans in the front, for GPU cooling.

Table 7. Cooling fan specifications

Fan type	Abbreviation	Also known as	Label color	Label image
High-performance fan (Gold grade) fan	HPR (Gold)	VHP - Very High Performance	Gold	ⓘ **NOTE:** New cooling fans comes with the High Performance Gold Grade label. While the older cooling fans has the High Performance label.

Table 7. Cooling fan specifications

Fan type	Abbreviation	Also known as	Label color	Label image
				 Figure 4. Very high performance fan **Figure 5. High performance (Gold grade) fan**

(i) **NOTE:** For more information about the supported fan configuration or matrix, see Thermal restriction matrix.

Supported operating systems

The PowerEdge XE8545 supports the following operating systems:

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

System battery specifications

The PowerEdge XE8545 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion card riser specifications

The system supports up to four PCI express (PCIe) Gen 4 expansion cards.

Table 8. Expansion card slots supported for Riser Configuration 1

PCIe slot	Risers	Riser width	PCIe slot height	PCIe slot length	PCIe slot width
Slot 2	R1A	x16 PCIe	Full height	Half length	x16
Slot 6	R2C	x16 PCIe	Low profile	Half length	x16
Slot 7	R4B	x8 PCIe	Full height	Half length	x8
Slot 8	R4B	x8 PCIe	Full height	Half length	x8

Table 9. Expansion card slots supported for Riser Configuration 2

PCIe slot	Risers	Riser width	PCIe slot height	PCIe slot length	PCIe slot width
Slot 2	R1A	x16 PCIe	Full height	Half length	x16
Slot 6	R2C	x16 PCIe	Low profile	Half length	x16
Slot 7	R4A	x16 PCIe	Full height	Half length	x16

Memory specifications

The system supports the following memory specifications for optimized operation.

Table 10. Memory specifications

DIMM type	DIMM rank	DIMM capacity	DIMM Rated Voltage and supported speed	Speed	
				Single Processor	Dual Processor
RDIMM	Dual rank	32 GB, 64 GB	DDR4 (1.2 V), 3200	3200	2933

Table 11. Memory module sockets

Memory module sockets	Speed
32, 288-pin	3200 MT/s, 2933 MT/s, 2666 MT/s

Storage controller specifications

The system supports the following controller cards:

Table 12. Storage controller cards for the system

Internal controllers
PERC H745 , H755

Drive specifications

Drives

The PowerEdge XE8545 system supports:
- 10 x 2.5-inch hot-swappable SAS, SATA drives.

- 8 x 2.5-inch hot-swappable NVMe drives.

ⓘ **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**.

Ports and connectors specifications

USB ports specifications

Table 13. USB specifications

Front		Rear	
USB port type	**No. of ports**	**USB port type**	**No. of ports**
USB 2.0-compliant port	One	USB 3.0-compliant port	One
Micro-USB 2.0 compliant port	One	USB 2.0-compliant port	One

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

ⓘ **NOTE:** The USB 2.0 specifications provide a 5 V supply on a single wire to power connected USB devices. A unit load is defined as 100 mA in USB 2.0, and 150 mA in USB 3.0. A device may draw a maximum of 5 unit loads (500 mA) from a port in USB 2.0; 6 (900 mA) in USB 3.0.

ⓘ **NOTE:** The USB 2.0 interface can provide power to low-power peripherals but must adhere to USB specification. An external power source is required for higher-power peripherals to function, such as external CD/DVD Drives.

NIC port specifications

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

Table 14. NIC port specification for the system

Feature	Specifications
LOM card	1 GB x 2
OCP card (OCP 3.0)	1

VGA ports specifications

The system supports One DB-15 VGA port one each on the front and back panels.

Video specifications

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

Table 15. Supported front video resolution options for the system

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

Table 15. Supported front video resolution options for the system (continued)

Resolution	Refresh rate (Hz)	Color depth (bits)
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

Table 16. Supported rear video resolution options for the system

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

Environmental specifications

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

Table 17. Operational climatic range category A2

Temperature	Specifications
Allowable continuous operations	
Temperature ranges for altitudes <= 900 m (<= 2953 ft)	10–35ºC (50–95ºF) with no direct sunlight on the equipment
Humidity percent ranges (non-condensing at all times)	8% RH with -12ºC minimum dew point to 80% RH with 21ºC (69.8ºF) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1ºC/300 m (33.8ºF/984 Ft) above 900 m (2953 Ft)

(i) **NOTE:** Certain system hardware configurations may require operating temperatures to be less than 28ºC. For more information, see the Thermal air restrictions section.

Table 18. Shared requirements across all categories

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

Table 19. Maximum vibration specifications

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

Table 20. Maximum shock pulse specifications

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

Thermal restriction matrix

Table 21. Thermal restriction matrix

TDP (W)	Heat sink type	Fan Type	2 x 2.5" SAS + 8 x 2.5" NVMe			
-			ASHRAE A2 (Max 35° C)	Ambient Limit (Max 30° C)	Ambient Limit (Max 25° C)	Ambient Limit (Max 20° C)
AMD Milan 64C 280W 2.5-2.6 GHz 256 MB	2U CPU Heat sink	Very High Performance Fan	Supported			
AMD Milan 24C 240W 3.15 GHz 256 MB						
AMD Milan 64C 225W 2.05-2.15 GHz 256 MB						
AMD Milan 32C 225W 2.7-2.8 GHz 256 MB						
AMD Milan 64C 225W 2.0 GHz 256 MB						
AMD Milan 48C 225W 2.2-2.3 GHz 256 MB						

Table 21. Thermal restriction matrix (continued)

TDP (W)	Heat sink type	Fan Type	2 x 2.5" SAS + 8 x 2.5" NVMe
AMD Milan 24C 180W 2.55-2.65 GHz 128 MB			

Table 22. GPU/FPGA thermal restriction matrix

TDP (W)	Heat sink type	Fan Type	ASHRAE A2 (Max 35° C)	Ambient Limit (Max 30° C)	Ambient Limit (Max 25° C)	Ambient Limit (Max 20° C)
Nvidia 500 W A100 80 GB GPU	2.5U GPU Heat sink	Very High Performance Fan	Not supported	Not supported (Max ambient support limit = 28° C)	Supported	Supported
Nvidia 400 W A100 40 GB GPU			Supported	Supported	Supported	Supported

ⓘ **NOTE:** When the 80 GB GPUs are installed, the iDRAC sets the thermal warning threshold to 28° C instead of the normal 38° C.

ⓘ **NOTE:** If System Board Inlet Temp reaches 28° C - 32° C, a warning message is logged. It is possible the GPUs may lower power consumption to avoid thermal damage. This results in lower GPU performance.

Table 23. Processor and heat sink matrix

Heat sink	Processor TDP
2U HPR (Silver) HSK	Supports all TDP

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 24. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit. ⓘ **NOTE:** This condition applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor. ⓘ **NOTE:** Air entering the data center must have MERV11 or MERV13 filtration. ⓘ **NOTE:** Air filtering can also be accomplished by filtering room air with MERV8 filter per ANSI/ASHRAE Standard 127
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.

Table 24. Particulate contamination specifications (continued)

Particulate contamination	Specifications
	ⓘ **NOTE:** Common sources of conductive dust include manufacturing processes, and zinc whiskers from the plating on the bottom of raised floor tiles
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 25. 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

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

Thermal air restrictions

ASHRAE A2 environment

- CPU TDP > 280 W are not supported.
- PCIe card TDP > 25 W is not supported.
- Nvidia A100 80 GB GPU (Max TDP with 500 W) is not supported within ASHRAE A2. Maximum Ambient temperature supported is 28°C.

System diagnostics and indicator codes

This section describes the diagnostic indicators on the system front panel that displays the system status during system startup.

The following sections contain information about the chassis LEDs and indicator codes for the PowerEdge XE8545 system.

Topics:

- Status LED indicators
- System health and system ID indicator codes
- GPU fan LED indicator codes
- iDRAC Direct LED indicator codes
- LCD panel
- NIC indicator codes
- Power supply unit indicator codes
- Drive indicator codes
- Using system diagnostics
- System board diagnostic LED indicators

Status LED indicators

(i) **NOTE:** The indicators display solid amber if any error occurs.

Figure 6. Status LED indicators

Table 26. 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, or back filler bracket is removed. - Ambient temperature is too high. - External airflow is obstructed.

Table 26. Status LED indicators and descriptions (continued)

Icon	Description	Condition	Corrective action
			If the problem persists, see the Getting help section.
	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 the Getting help section.
	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 the Getting help section.
	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 the Getting help section. ⓘ **NOTE:** For more information about the supported PCIe cards, see the Expansion card installation guidelines section.

System health and system ID indicator codes

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

Figure 7. System health and system ID indicator

Table 27. System health and system ID indicator codes

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is powered on, 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 for specific error messages. For information about the event and error messages generated by the system firmware and agents that monitor system components, go to qrl.dell.com > **Look Up** > **Error Code**, type the error code, and then click **Look it up**.

GPU fan LED indicator codes

The GPU fan LED indicators are on the GPU fans in front of the system.

Table 28. GPU fan LED indicators codes

State	GPU fan LED indicator code	Condition
S0	Solid Green	Indicates that the fan is healthy.

Table 28. GPU fan LED indicators codes (continued)

State	GPU fan LED indicator code	Condition
-	Amber with 2s on and 1s off	Indicates fan failure.
S5	Off	Indicates there is no fault with the fan.
-	Blinking Amber from fan 7-12	Indicates Hot-swap controller (HSC) failure / 48 V Voltage Regulator Module (VRM) failure / other PDB fault.
-	Blinking Amber from fan 13-18	Indicates GPU power failure related to the GPU board.
-	Blinking Amber on all GPU fans	Indicates GPU over temperature protection (OTP) related to fans or GPU heat sink.

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. Cable length should not exceed 3 feet (0.91 meters). Performance could be affected by cable quality. The following table describes iDRAC Direct activity when the iDRAC Direct port is active:

Table 29. iDRAC Direct LED indicator codes

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

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 is used to configure or view the iDRAC IP address of the system. For information about the event and error messages generated by the system firmware and agents that monitor system components, go to qrl.dell.com > **Look Up** > **Error Code**, type the error code, and then click **Look it up**..

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

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

● The LCD backlight is white during normal operating conditions.
● If there is an issue, 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 powered on or off.
● When the system powers off and there are no errors, the LCD enters the standby mode after five minutes of inactivity. Press any button on the LCD to power 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 powered off using the iDRAC utility, the LCD panel, or other tools.
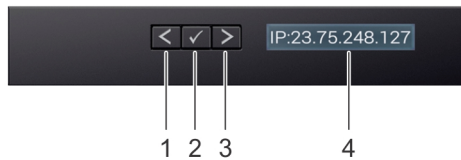
Figure 8. LCD panel features

Table 30. 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.
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 the 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 till 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.

Table 31. Setup menu

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

Table 31. Setup menu (continued)

| Option	Description
	generated by the system firmware and agents that monitor system components, go to qrl.dell.com > **Look Up** > **Error Code**, type the error code, and then click **Look it up**..
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.

Table 32. View menu

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.
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.

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.
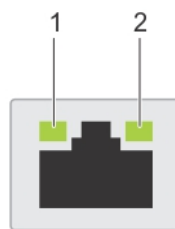
Figure 9. NIC indicator codes

1. Link LED indicator
2. Activity LED indicator

Table 33. NIC indicator codes

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

Table 33. NIC indicator codes (continued)

NIC indicator codes	Condition
Link indicator is green, and activity indicator is off.	Indicates that 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.	Indicates that the NIC is connected to a valid network at less than its maximum port speed, and data is mot being sent or received.
Link indicator is blinking green, and activity is off.	Indicates that the 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 indicator shows if power is present or if a power fault has occurred.

Drive indicator codes

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

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

(i) **NOTE:** Drive status indicator behavior is managed by Storage Spaces Direct. Not all drive status indicators may be used.

Table 34. Drive indicator codes

Drive status indicator code	Condition
Blinks green twice per second	Indicates that the drive is being identified or preparing for removal.
Off	Indicates that the drive is ready for removal. (i) **NOTE:** The drive status indicator remains off until all drives are initialized after the system is powered on. Drives are not ready for removal during this time.
Blinks green, amber, and then powers off	Indicates that there is an expected drive failure.
Blinks amber four times per second	Indicates that the drive has failed.
Blinks green slowly	Indicates that the drive is rebuilding.
Solid green	Indicates that the drive is online.
Blinks green for three seconds, amber for three seconds, and then powers off after six seconds	Indicates that the rebuild has stopped.

Using system diagnostics

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

Dell Embedded System Diagnostics

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

The Embedded System Diagnostics provide 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 issues encountered during testing

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.

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

System diagnostic controls

Table 35. 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.

System board diagnostic LED indicators

The system board LED indicators provide status of the system when it is powered on, which help identify POST and hardware issues.

For information about the different LED indicator sequences and description, see the interactive **LED pattern decoder tool** -https://internal.software/blink/.

Table 36. LED status

Indicator	Indicator description
○	**LED Off**
●	**LED on**
B	**Blinking LED**
*	**LED Off : PFAULT**
	LED Blink : FAILSAFE Timeout
	LED On : FAILSAFE Strike Out

Table 37. Power-up LED sequence

							Power-Up Sequence
LED7	LED6	LED5	LED4	LED3	LED2	LED1	Description
○	○	○	○	○	○	●	2.5V_AUX EN. Waiting for 2.5V_AUX PG
○	○	○	○	○	●	○	1.8V_AUX EN. Waiting for 1.8V_AUX PG
○	○	○	○	○	●	●	5V SW EN. CKMNG EN. Waiting for 5V SW PG
○	○	○	○	●	○	○	V_PVNN EN. Waiting for V_PVNN PG
○	○	○	○	●	○	●	1.05V SW EN. Waiting for 1.05V SW PG
○	○	○	○	●	●	○	V_VSBM EN. Waiting for V_VSBM PG
○	○	○	○	●	●	●	V_VSB11 EN. Waiting for V_VSB11 PG
○	○	○	●	○	○	●	Waiting for PCH_SLP_SUS_N. PCH_RSMRST_N still asserted
○	○	○	●	○	●	○	Config check. Waiting for BMC to boot. PCH_RSMRST_N de-asserted
○	○	○	●	○	●	●	Waiting for PWR button
○	○	○	●	●	○	○	12V EN. Waiting for PSU* PG
○	○	○	●	●	●	●	3.3V_AB EN. Waiting for 3.3V A+B PG
○	○	●	○	○	○	○	BP VRs EN. Waiting for BP* PG
○	○	●	○	○	○	●	MEM VPP EN. Waiting for MEM VPP PGs
○	○	●	○	○	●	○	MEM VDDQ EN. Waiting for MEM VDDQ PGs
○	○	●	○	○	●	●	MEM VTT EN. Waiting for MEM VTT PGs
○	○	●	○	●	○	○	CPU* VCCIO and PCle clocks EN. Waiting for CPU VCCIO PGs
○	○	●	○	●	○	●	CPU* VCORE/VSA EN. Waiting for CPU* VCORE+VSA PGs
○	○	●	○	●	●	○	Waiting for NDC PG
○	○	●	○	●	●	●	Waiting for PCH PROCPWRGD
○	○	●	●	○	○	○	CPU* PG Asserted. SYS PWRGOOD Asserted
●	●	●	●	●	●	●	RUN State
○	○	●	●	○	●	○	PLTRST_N Asserted
○	○	●	●	○	●	●	CPU & MEM VR's Shutdown
○	○	●	●	●	○	○	MAIN Rails Shutdown (7 seconds)

Table 38. NvDIMM LED sequence

							NvDIMM
LED7	LED6	LED5	LED4	LED3	LED2	LED1	Description

Table 38. NvDIMM LED sequence (continued)

							NvDIMM
●	●	●	●	●	●	●	RUN State – System operating normally
●	○	○	○	●	○	○	System powered down, NVsave in progress
●	○	○	●	●	○	●	NVsave complete. Asserting EMMC_PWROFF_NOTIFY_N to BMC
○	○	○	○	○	○	○	V_12V_SW powered down. System in G3, waiting for AC power

Table 39. System board LED sequence

							Error
LED7	LED6	LED5	LED4	LED3	LED2	LED1	Description
B	○	○	○	○	○	B	Config Error: CPU1 present? DIMMs OK? Install DBG JMPR1 to bypass
B	B	○	○	○	B	B	CPU IERR
○	●	●	●	●	●	○	CPU COMBINED MCERR
B	B	B	B	B	B	B	Thermal Issue on CPU* or MEM
B	○	B	B	B	○	B	Internal VR Issue on CPU*
B	○	○	●	○	○	B	AUX Power Failsafe

Table 40. Pfault or failsafe errors LED sequence

							Pfault or Failsafe Errors
LED7	LED6	LED5	LED4	LED3	LED2	LED1	Description
*	B	○	○	○	○	○	12V Failure
*	B	○	○	○	○	●	5V BP0 Failure
*	B	○	○	○	●	○	5V BP1 Failure
*	B	○	○	○	●	●	5V BP2 Failure
*	B	○	○	●	○	○	3.3V A Failure
*	B	○	○	●	○	●	3.3V B Failure
*	B	○	○	●	●	○	5V SW Failure
*	B	○	○	●	●	●	1.05V SW Failure
*	B	○	●	○	○	○	CPU1 VCORE Failure
*	B	○	●	○	○	●	CPU2 VCORE Failure
*	B	○	●	○	●	○	CPU1 VCCIO Failure
*	B	○	●	○	●	●	CPU2 VCCIO Failure
*	B	○	●	●	○	○	CPU1 VSA Failure
*	B	○	●	●	○	●	CPU2 VSA Failure
*	B	○	●	●	●	○	CPU1 MEM012 VTT Failure
*	B	○	●	●	●	●	CPU1 MEM345 VTT Failure
*	B	●	●	○	○	○	CPU2 MEM012 VTT Failure
*	B	●	○	○	○	●	CPU2 MEM345 VTT Failure
*	B	●	○	○	●	○	CPU1 MEM012 VPP Failure
*	B	●	○	○	●	●	CPU1 MEM345 VPP Failure
*	B	●	○	●	○	○	CPU2 MEM012 VPP Failure

Table 40. Pfault or failsafe errors LED sequence (continued)

							Pfault or Failsafe Errors
*	B	●	○	●	○	●	CPU2 MEM345 VPP Failure
*	B	●	○	●	●	○	CPU1 MEM012 VDDQ Failure
*	B	●	○	●	●	●	CPU1 MEM345 VDDQ Failure
*	B	●	○	○	○	○	CPU2 MEM012 VDDQ Failure
*	B	●	●	○	○	●	CPU2 MEM345 VDDQ Failure
*	B	●	●	○	●	○	V_PVNN SW Failure
*	B	●	●	○	●	●	1.8V SW Failure
*	B	●	●	●	○	○	V_VSB11 SW Failure
*	B	●	●	●	○	●	V_VSBM SW Failure
*	B	●	●	●	●	○	NDC Failure
*	B	●	●	●	●	●	2.5V SW Failure

Enhanced Preboot System Assessment

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

Dell Embedded system diagnostics

ⓘ **NOTE:** The Dell Embedded System Diagnostics is also known as Enhanced Preboot System Assessment (ePSA) diagnostics.

The embedded system diagnostics provides a set of options for particular device groups or devices that allow you to:

- Run tests automatically or in an interactive mode.
- Repeat tests
- Display or save test results.
- Introduce more test options for extra information about the failed devices, run a thorough test.
- View status messages that inform you if tests are completed successfully.
- View error messages that inform you of issues encountered during testing.

Running the Embedded system diagnostics from Boot Manager

To run the embedded system diagnostics from Boot Manager:
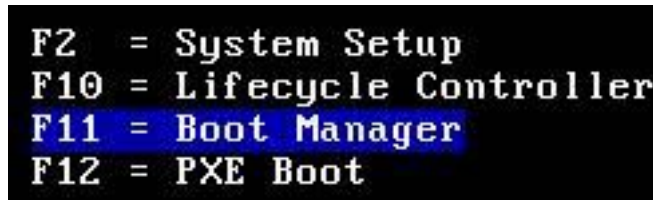
1. As the system boots, press `<F11>`.
2. Using the arrow keys select **System Utilities** → **Launch Diagnostics**.
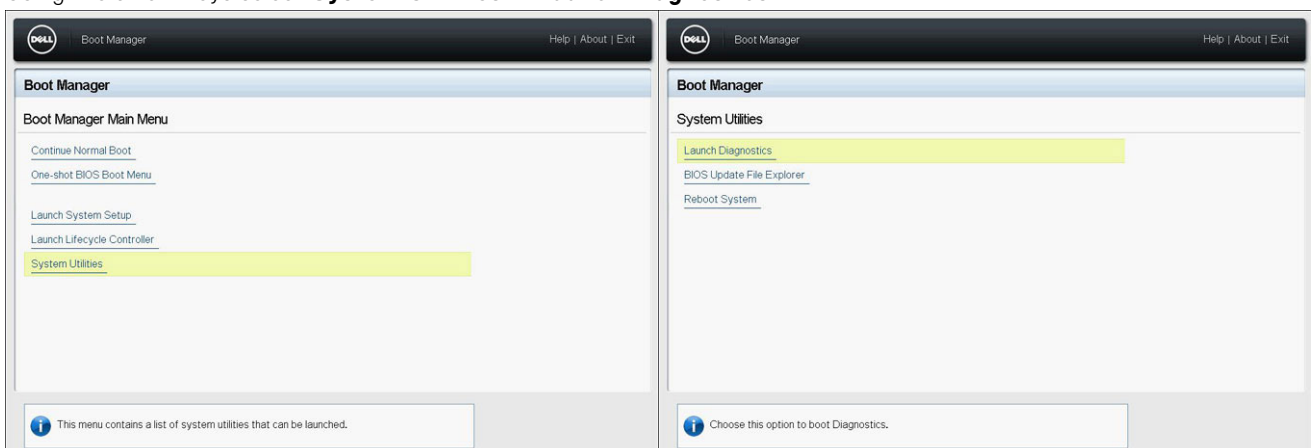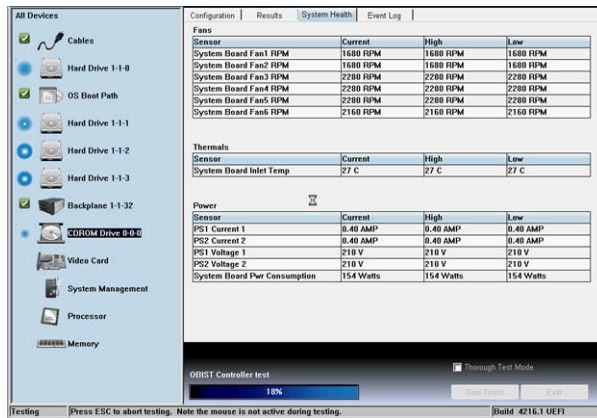
3. Wait while the Quick Tests automatically run.
4. Once the tests have been completed, you can view the results and additional information on the **Results** tab, the **System Health** tab, the **Configuration** tab, and the **Event Log** tab.
5. Close the **Embedded System Diagnostics** utility.
6. To leave the diagnostics, click **Exit.**
7. Click **OK** when prompted, and the system reboots.

Running the Embedded System Diagnostics from the Dell Lifecycle Controller

To run the embedded system diagnostics from the Dell Lifecycle Controller:
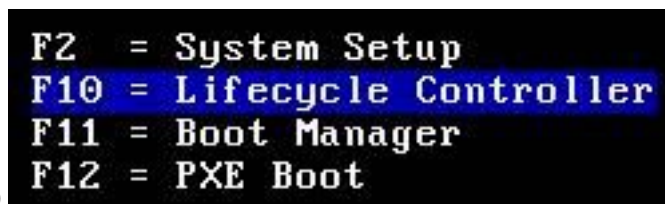
1. As the system boots, press **F10**.
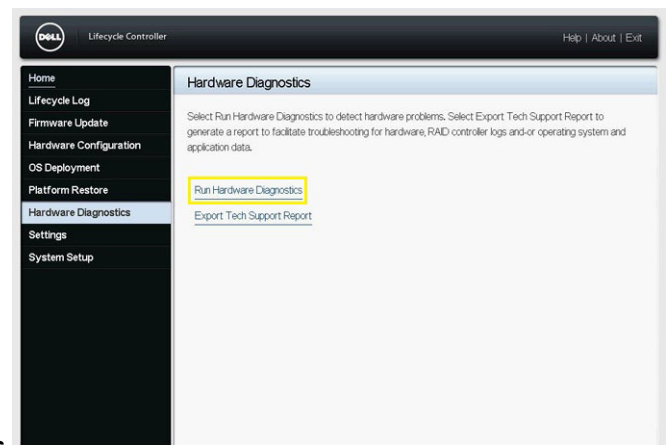
2. Select **Hardware Diagnostics → Run Hardware Diagnostics**.

Safety instructions

ⓘ **NOTE:** Whenever you need to lift the system, get others to assist you. To avoid injury, do not attempt to lift the system by yourself.

⚠ **WARNING: Opening or removing the system cover while the system is powered on may expose you to a risk of electric shock.**

⚠ **CAUTION: Do not operate the system without the cover for a duration exceeding five minutes.**

⚠ **CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that are shipped with your product.**

ⓘ **NOTE:** It is recommended that you always use an antistatic mat and antistatic strap while working on components inside the system.

ⓘ **NOTE:** To ensure proper operation and cooling, all bays in the system and system fans must be populated always with either a component or with a blank.

6

Getting help

Topics:

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.

Contacting Dell

Dell provides online and telephone based support and service options. If you do not have an active internet connection, you can find Dell contact information on your purchase invoice, packing slip, bill or Dell product catalog. The availability of services varies depending on the 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 the system Service Tag in the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** 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 Contact Technical Support.
   b. The **Contact Technical Support** page is displayed with details to call, chat, or e-mail the Dell Global Technical Support team.

Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) located on the information tag in the of the XE8545 system, to access information about Dell EMC PowerEdge XE8545.

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 Installation and Service Manual, and mechanical overview
- The system service tag to quickly access the specific hardware configuration and warranty information
- A direct link to Dell to contact technical assistance 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 system or in the Quick Resource Locator section.

Quick Resource Locator for PowerEdge XE8545 system

Figure 10. Quick Resource Locator for PowerEdge XE8545 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.