Dell EMC PowerEdge T440
Technical Specifications
Notes, cautions, and warnings

**NOTE:** A NOTE indicates important information that helps you make better use of your product.

**CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

**WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.
1 Dell EMC PowerEdge T440 overview

2 Technical specifications
   System dimensions
   Chassis weight
   Processor specifications
   PSU specifications
   System battery specifications
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   Memory specifications
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The PowerEdge T440 is a dual-socket, 5U rackable tower server that supports up to:

- Two Intel Xeon Scalable Processor Family processors
- Sixteen DIMM slots supporting up to a total of 16 x 64 GB = 1024GB of memory
- Five PCIe Gen 3 expansion cards, plus a dedicated PERC slot
- 4 or 8 x 3.5 inch SAS/SATA-hard drive or SSD, or 16 x 2.5 inch SAS/SATA drive bays (up to 12 Gbps SAS and 6 Gbps SATA)
- Redundant power supply units (PSUs)
- Cabled power supply units (PSUs)
The technical and environmental specifications of your system are outlined in this section.

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

Table 1. Dimensions of PowerEdge T440 system

<table>
<thead>
<tr>
<th>Xa</th>
<th>Xb</th>
<th>Ya</th>
<th>Yb</th>
<th>Yc</th>
<th>Za</th>
<th>Zb</th>
<th>Zc</th>
</tr>
</thead>
<tbody>
<tr>
<td>218 mm (8.58 in)</td>
<td>307.9 mm (12.12 in)</td>
<td>430.3 mm (16.94 in)</td>
<td>464.362 mm (18.28 in)</td>
<td>471.333 mm (17.37 in)</td>
<td>(with bezel) 37.065 mm (1.45 in)</td>
<td>538.4 mm (21.19 in)</td>
<td>573.636 mm (22.58 in)</td>
</tr>
<tr>
<td>21.165 mm (0.83 in)</td>
<td>(without bezel) 21.165 mm (0.83 in)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chassis weight

Table 2. Chassis weight

<table>
<thead>
<tr>
<th>System configuration</th>
<th>Maximum weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 3.5 inch drive system</td>
<td>23.9 Kg (52.69 lb)</td>
</tr>
<tr>
<td>8 x 3.5 inch drive system</td>
<td>29.5 Kg (65.03 lb)</td>
</tr>
<tr>
<td>16 x 2.5 inch drive system</td>
<td>27.7 Kg (61.06 lb)</td>
</tr>
</tbody>
</table>

Processor specifications

The PowerEdge T440 system supports up to two Intel Xeon Processor Scalable Family processors.

PSU specifications

The PowerEdge T440 system supports the following AC redundant power supply units (PSU).

Table 3. PSU specifications

<table>
<thead>
<tr>
<th>PSU</th>
<th>Class</th>
<th>Heat dissipation (maximum)</th>
<th>Frequency</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100 W AC</td>
<td>Platinum</td>
<td>4100 BTU/hr</td>
<td>50/60 Hz</td>
<td>100–240 V AC, autoranging</td>
</tr>
<tr>
<td>750 W AC</td>
<td>Platinum</td>
<td>2891 BTU/hr</td>
<td>50/60 Hz</td>
<td>100–240 V AC, autoranging</td>
</tr>
<tr>
<td>495 W AC</td>
<td>Platinum</td>
<td>1908 BTU/hr</td>
<td>50/60 Hz</td>
<td>100–240 V AC, autoranging</td>
</tr>
</tbody>
</table>

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

System battery specifications

The PowerEdge T440 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion bus specifications

The PowerEdge T440 system supports five PCI express (PCIe) generation 3 expansion cards.

Memory specifications

The PowerEdge T440 system supports DDR4 registered DIMM slots (RDIMMs) and load-reduced DIMM slots (LRDIMMs). Supported memory bus frequencies are 1866 MT/s, 2133 MT/s, 2400 MT/s, and 2666 MT/s. CPU1 supports up to 10 DIMM slots and CPU 2 supports up to 6 DIMM slots.
Table 4. Memory specifications

<table>
<thead>
<tr>
<th>Memory module sockets</th>
<th>Memory capacity</th>
<th>Minimum RAM</th>
<th>Maximum RAM</th>
</tr>
</thead>
</table>
| Sixteen 288-pin       | - 8 GB, 16 GB, or 32 GB single rank or dual rank (RDIMMs)  
- 64 GB quad rank (LRDIMMs) | 8 GB with dual processors (minimum one memory module per processor) | - Up to 512 GB RDIMM  
- Up to 1 TB LRDIMM |

Storage controller specifications

The T440 system supports:

  - HBA330, 12Gbps SAS HBA, and BOSS-S1  
- External storage controller cards: PERC H840  
  - 12Gbps SAS HBA

Drive specifications

Drives

The PowerEdge T440 system supports:

- Up to 4 x 3.5 inch cabled drives with drive adapter, internal, SATA, or Nearline SAS drives  
  or  
- Up to 8 x 3.5 inch hot swappable drives with drive adapter, internal, hot swappable SAS/SATA drives  
  or  
- Up to 16 x 2.5 inch hot swappable drives with drive adapter, internal, hot swappable SAS/SATA drives

Optical drive

The T440 system supports one optional slim SATA DVD-ROM drive or DVD +/-RW drive.

Ports and connectors specifications

USB ports

The table provides information about the supported USB port specifications.

Table 5. USB specifications

<table>
<thead>
<tr>
<th>System</th>
<th>Front panel</th>
<th>Back panel</th>
</tr>
</thead>
</table>
| PowerEdge T440       | - One USB 2.0-compliant port  
- One USB 3.0-compliant port | - Four USB 2.0-compliant rear ports  
- Two USB 3.0-compliant rear ports |
NIC ports

The PowerEdge T440 system supports two Network Interface Controller (NIC) ports on the back panel each with 1 Gbps configuration.

NOTE: You can install up to six PCIe add-on NIC cards.

VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display. The T440 system supports one 15-pin VGA port on the back of the system.

Serial connector

The T440 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

Internal Dual microSD Module or vFlash card

The T440 system supports Internal Dual microSD module (IDSDM) and vFlash card. In 14th generation of PowerEdge servers, IDSDM and vFlash card are combined into a single card module, and are available in these configurations:

- vFlash or
- IDSDM or
- vFlash and IDSDM

The IDSDM/vFlash card sits in the back of the system, in a Dell-proprietary slot. IDSDM/vFlash card supports three micro SD cards (two cards for IDSDM and one card for vFlash). MicroSD cards capacity for IDSDM are 16/32/64 GB while for vFlash the microSD card capacity is 16 GB.

Micro SD cards are supported only on IDSDM SD card slots.

Video specifications

The PowerEdge T440 system supports Matrox G200eR2 graphics card with 16 MB capacity.

Table 6. Supported video resolution options

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Refresh rate (Hz)</th>
<th>Color depth (bits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>640x480</td>
<td>60,70</td>
<td>8, 16, 32</td>
</tr>
<tr>
<td>800x600</td>
<td>60,75, 85</td>
<td>8, 16, 32</td>
</tr>
<tr>
<td>1024x768</td>
<td>60,75, 85</td>
<td>8, 16, 32</td>
</tr>
<tr>
<td>1152x864</td>
<td>60,75, 85</td>
<td>8, 16, 32</td>
</tr>
<tr>
<td>1280x1024</td>
<td>60,75</td>
<td>8, 16, 32</td>
</tr>
<tr>
<td>1440x900</td>
<td>60</td>
<td>8, 16, 32</td>
</tr>
</tbody>
</table>
# Environmental specifications

**NOTE:** For additional information about environmental measurements for specific system configurations, see Dell.com/environmental_datasheets.

## Table 7. Temperature specifications

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>–40°C to 65°C (–40°F to 149°F)</td>
</tr>
<tr>
<td>Continuous operation (for altitude less than 950 m or 3117 ft)</td>
<td>Temperature specifications</td>
</tr>
<tr>
<td>Maximum temperature gradient (operating and storage)</td>
<td>20°C/h (68°F/h)</td>
</tr>
</tbody>
</table>

## Table 8. Relative humidity specifications

<table>
<thead>
<tr>
<th>Relative humidity</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.</td>
</tr>
<tr>
<td>Operating</td>
<td>10% to 80% relative humidity with 29°C (84.2°F) maximum dew point.</td>
</tr>
</tbody>
</table>

## Table 9. Maximum vibration specifications

<table>
<thead>
<tr>
<th>Maximum vibration</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>0.26 G&lt;sub&gt;rms&lt;/sub&gt; at 5 Hz to 350 Hz (all three axes).</td>
</tr>
<tr>
<td>Storage</td>
<td>1.88 G&lt;sub&gt;rms&lt;/sub&gt; at 10 Hz to 500 Hz for 15 min (all six sides tested).</td>
</tr>
</tbody>
</table>

## Table 10. Maximum shock specifications

<table>
<thead>
<tr>
<th>Maximum shock</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>Six consecutively executed shock pulses in the positive and negative x, y, and z axes of 6 G for up to 11 ms.</td>
</tr>
<tr>
<td>Storage</td>
<td>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.</td>
</tr>
</tbody>
</table>

## Table 11. Maximum altitude specifications

<table>
<thead>
<tr>
<th>Maximum altitude</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>3048 m (10,000 ft)</td>
</tr>
<tr>
<td>Storage</td>
<td>12,000 m (39,370 ft)</td>
</tr>
</tbody>
</table>
### Operating temperature de-rating specifications

<table>
<thead>
<tr>
<th>Operating temperature de-rating</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 35°C (95°F)</td>
<td>Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 m (3,117 ft).</td>
</tr>
<tr>
<td>35°C to 40°C (95°F to 104°F)</td>
<td>Maximum temperature is reduced by 1°C/175 m (1°F/319 ft) above 950 m (3,117 ft).</td>
</tr>
<tr>
<td>40°C to 45°C (104°F to 113°F)</td>
<td>Maximum temperature is reduced by 1°C/125 m (1°F/228 ft) above 950 m (3,117 ft).</td>
</tr>
</tbody>
</table>

### Standard operating temperature

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

10°C to 35°C (50°F to 95°F) with no direct sunlight on the equipment.

### Expanded operating temperature

#### Continuous operation

5°C to 40°C at 5% to 85% RH with 29°C dew point.

1. **NOTE:** Outside the standard operating temperature (10°C to 35°C), the system can operate continuously in temperatures as low as 5°C and as high as 40°C.

   For temperatures between 35°C to 40°C, de-rate maximum allowable temperature by 1°C per 175 m above 950 m (1°F per 319 ft).

#### ≤ 1% of annual operating hours

-5°C to 45°C at 5% to 90% RH with 29°C dew point.

1. **NOTE:** Outside the standard operating temperature (10°C to 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 between 40°C and 45°C, de-rate maximum allowable temperature by 1°C per 125 m above 950 m (1°F per 228 ft).

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

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

### Expanded operating temperature restrictions

- Do not perform a cold startup below 5°C.
- The operating temperature specified is for a maximum altitude of 3048 m (10,000 ft).
- Two non-redundant power supply units are required.
- Two non-redundant system fans are required.
- Non-Dell qualified peripheral cards and/or peripheral cards greater than 25 W are not supported.
- GPU is not supported.
- Tape backup unit is not supported.

Particulate and gaseous contamination specifications

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

Table 15. Particulate contamination specifications

<table>
<thead>
<tr>
<th>Particulate contamination</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air filtration</td>
<td>Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.</td>
</tr>
<tr>
<td></td>
<td>NOTE: The ISO Class 8 condition applies to data center environments only. This air filtration requirement does not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.</td>
</tr>
<tr>
<td></td>
<td>NOTE: Air entering the data center must have MERV11 or MERV13 filtration.</td>
</tr>
<tr>
<td>Conductive dust</td>
<td>Air must be free of conductive dust, zinc whiskers, or other conductive particles.</td>
</tr>
<tr>
<td></td>
<td>NOTE: This condition applies to data center and non-data center environments.</td>
</tr>
</tbody>
</table>
| 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 16. Gaseous contamination specifications

<table>
<thead>
<tr>
<th>Gaseous contamination</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper coupon corrosion rate</td>
<td>&lt;300 Å/month per Class G1 as defined by ANSI/ISA71.04-2013.</td>
</tr>
<tr>
<td>Silver coupon corrosion rate</td>
<td>&lt;200 Å/month as defined by ANSI/ISA71.04-2013.</td>
</tr>
<tr>
<td></td>
<td>NOTE: Maximum corrosive contaminant levels measured at ≤50% relative humidity.</td>
</tr>
</tbody>
</table>
Documentation resources

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

<table>
<thead>
<tr>
<th>Table 17. Additional documentation resources for your system</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task</strong></td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Setting up your system</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Configuring your system</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
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<tr>
<td>Managing your system</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Task</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.</td>
</tr>
<tr>
<td>Working with the Dell PowerEdge RAID controllers</td>
</tr>
<tr>
<td>Understanding event and error messages</td>
</tr>
<tr>
<td>Troubleshooting your system</td>
</tr>
</tbody>
</table>
Getting help

Topics:
• Contacting Dell
• Documentation feedback
• Accessing system information by using QRL
• Receiving automated support with SupportAssist

Contacting Dell

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

1 Go to Dell.com/support.
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 documentation pages and click Send Feedback to send your feedback.

Accessing system information by using QRL

Prerequisites
Ensure that your smartphone or tablet has the QR code scanner installed.
The QRL includes the following information about your system:
• How-to videos
• Reference materials, including the Owner’s Manual, LCD diagnostics, and mechanical overview
• Your system service tag to quickly access your specific hardware configuration and warranty information
A direct link to Dell to contact technical assistance and sales teams

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

Quick Resource Locator for T440

Quick Resource Locator for PowerEdge T440

Receiving automated support with SupportAssist

Dell SupportAssist is an optional Dell Services offering that automates technical support for your Dell 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 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 Technical Support.
- **Automated diagnostic collection** — SupportAssist automatically collects system state information from your devices and uploads it securely to Dell. This information is used by Dell Technical Support to troubleshoot the issue.
- **Proactive contact** — A Dell Technical Support agent contacts you about the support case and helps you resolve the issue.

The available benefits vary depending on the Dell Service entitlement purchased for your device. For more information about SupportAssist, go to Dell.com/SupportAssist.