

## ThinkServer® TS440 - Overview

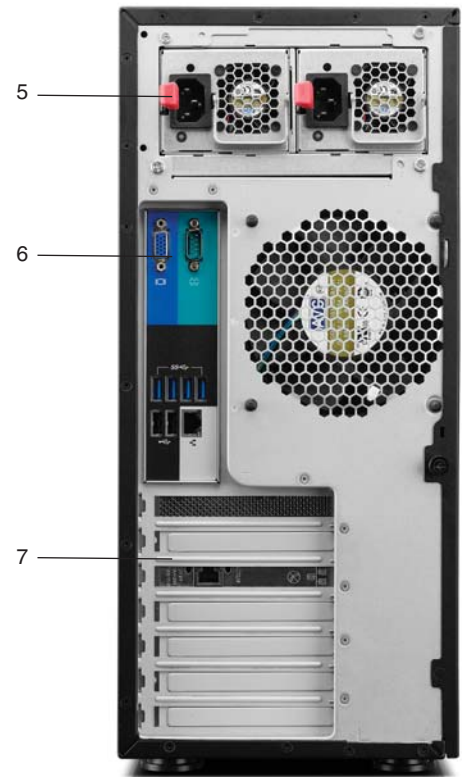


### Front view

1. Front I/O: 2 USB 3.0 (blue)
2. Power Button
3. Two 5.25" optical drive bays (up to one optical on models with onboard SATA controller)
4. Eight 3.5" hot-swap drive bays (Also supports:  
4 x 3.5" direct cable bays,  
or 4 x 3.5" hot-swap bays,  
or 8 x 2.5" hot-swap bays)

### Rear view

5. Power Supply:  
Up to two redundant 450 watts 80 PLUS Gold or  
fixed one 450 watts 80 PLUS Platinum
6. Rear I/O: 2 USB 2.0  
4 USB 3.0 (blue)  
1 serial (9-pin)  
1 RJ-45 (GbE)  
1 VGA (for Intel HD Graphics)
7. 1 PCIe 3.0 x16 (with optional RAID adapter)  
1 PCIe 2.0 x1  
1 PCIe 2.0 x16 (x4 elec, with optional ethernet adapter)  
1 PCI






### Internal

- One LGA1150 socket, supports one processor from Intel Xeon E3-1200 v3 family
- 4 DIMM sockets, supports up to 32GB ECC UDIMM memory
- Up to eight hard drive bays

### Mechanical

- Tower, business black color, metal case
- Rack-mountable to 5U
- W x H (without foot) x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm
- 61.7 lb (28kg) max configuration

# ThinkServer® TS440 Platform Specifications - I of III

Components	Specification																																																																																										
Form factor	Tower, rack-mountable to 5U via ThinkServer Tower to Rack Shelf Conversion Kit ( <i>Option PN: 0C19515</i> )																																																																																										
Chipset	<b>Intel C226 Chipset</b>																																																																																										
Systems management	<ul style="list-style-type: none"> <li>Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12x5 v3 processors)</li> <li>EasyStartup</li> <li>EasyUpdate</li> </ul>																																																																																										
Processor	<p>One LGA1150 socket, supports one processor from Intel Xeon E3-1200 v3 family, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on Xeon E5-12X5 v3 processors.</p> <p>The following processors are supported:</p> <table border="1"> <thead> <tr> <th>Processor Number</th> <th># of Cores</th> <th># of Threads</th> <th>Clock Speed</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>Memory speed</th> <th>ECC Memory Supported</th> <th>Processor Graphics</th> </tr> </thead> <tbody> <tr> <td>Xeon E3-1285 v3</td> <td>4</td> <td>8</td> <td>3.6 GHz</td> <td>4 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics P4700</td> </tr> <tr> <td>Xeon E3-1280 v3</td> <td>4</td> <td>8</td> <td>3.6 GHz</td> <td>4 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td></td> </tr> <tr> <td>Xeon E3-1275 v3</td> <td>4</td> <td>8</td> <td>3.5 GHz</td> <td>3.9 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics P4600</td> </tr> <tr> <td>Xeon E3-1270 v3</td> <td>4</td> <td>8</td> <td>3.5 GHz</td> <td>3.9 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td></td> </tr> <tr> <td>Xeon E3-1245 v3</td> <td>4</td> <td>8</td> <td>3.4 GHz</td> <td>3.8 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics P4600</td> </tr> <tr> <td>Xeon E3-1240 v3</td> <td>4</td> <td>8</td> <td>3.4 GHz</td> <td>3.8 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td></td> </tr> <tr> <td>Xeon E3-1230 v3</td> <td>4</td> <td>8</td> <td>3.3 GHz</td> <td>3.7 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td></td> </tr> <tr> <td>Xeon E3-1225 v3</td> <td>4</td> <td>4</td> <td>3.2 GHz</td> <td>3.6 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics P4600</td> </tr> <tr> <td>Xeon E3-1220 v3</td> <td>4</td> <td>4</td> <td>3.1 GHz</td> <td>3.5 GHz</td> <td>8 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td></td> </tr> </tbody> </table> <p><i>Notes:</i> All information is provided by Intel and may be changed at any time without notice. The information herein is provided "as-is". Intel may update this information in non-scheduled. For latest information, please see <a href="http://ark.intel.com/">http://ark.intel.com/</a></p>	Processor Number	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	Memory speed	ECC Memory Supported	Processor Graphics	Xeon E3-1285 v3	4	8	3.6 GHz	4 GHz	8 MB	DDR3-1600	Yes	Intel HD Graphics P4700	Xeon E3-1280 v3	4	8	3.6 GHz	4 GHz	8 MB	DDR3-1600	Yes		Xeon E3-1275 v3	4	8	3.5 GHz	3.9 GHz	8 MB	DDR3-1600	Yes	Intel HD Graphics P4600	Xeon E3-1270 v3	4	8	3.5 GHz	3.9 GHz	8 MB	DDR3-1600	Yes		Xeon E3-1245 v3	4	8	3.4 GHz	3.8 GHz	8 MB	DDR3-1600	Yes	Intel HD Graphics P4600	Xeon E3-1240 v3	4	8	3.4 GHz	3.8 GHz	8 MB	DDR3-1600	Yes		Xeon E3-1230 v3	4	8	3.3 GHz	3.7 GHz	8 MB	DDR3-1600	Yes		Xeon E3-1225 v3	4	4	3.2 GHz	3.6 GHz	8 MB	DDR3-1600	Yes	Intel HD Graphics P4600	Xeon E3-1220 v3	4	4	3.1 GHz	3.5 GHz	8 MB	DDR3-1600	Yes	
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Memory type	1600MHz UDIMM, DDR3, ECC, 2-channel capable; 2GB, 4GB, and 8GB ECC UDIMMs are available																																																																																										
Memory DIMM sockets	Four 240-pin DIMM sockets																																																																																										
Memory capacity	Up to 32GB (8GBx4)																																																																																										
Memory protection	ECC																																																																																										
Additional memory disclaimers	<ul style="list-style-type: none"> <li>Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs</li> </ul>																																																																																										
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support																																																																																										
Discreted SATA/SAS controller (optional)	<p>Supports the following:</p> <ul style="list-style-type: none"> <li>ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support; optional upgrade key for ThinkServer RAID 500 adapter, add RAID 5, 50 support (RAID 50 is available on eight disk bays model only)</li> <li>ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support; optional Intelligent Battery Backup Unit (iBBU08) for ThinkServer RAID 700 adapter</li> </ul> <p><i>Notes:</i> RAID 50 and 60 are supported on 8 hard drive bays models</p>																																																																																										
Drive bays	<p>Supports two 5.25" optical bay, up to two optical drives (up to one optical on models with onboard SATA controller); supports up to eight hard drive bays, one of the following are supported:</p> <ul style="list-style-type: none"> <li>4 x 3.5" DC: Four 3.5" hard drive bays, no hot-swap, direct cable (onboard RAID 100 controller, SATA only)</li> <li>4 x 3.5" HS: Four 3.5" hot-swap hard drive bays (onboard RAID 100 controller for SATA, discrete RAID adapter for SATA/SAS)</li> <li>8 x 3.5" HS: Eight 3.5" hot-swap hard drive bays (needs discreted RAID adapter, supports SATA/SAS)</li> <li>8 x 2.5" HS: Eight 2.5" hot-swap hard drive bays (needs discreted RAID adapter, supports SATA/SAS)</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>8 x 2.5" hot-swap</p> </div> <div style="text-align: center;">  <p>4 x 3.5" hot-swap</p> </div> <div style="text-align: center;">  <p>8 x 3.5" hot-swap</p> </div> </div> <p><i>Notes:</i> Hard drive bays are behind front cover</p>																																																																																										

## ThinkServer® TS440 Platform Specifications - II of III

Components	Specification																																				
Optical	Supports DVD±RW or DVD ROM, 1.6" high, SATA interface																																				
Graphics	<ul style="list-style-type: none"> <li>Integrated Intel HD Graphics on Xeon E3-12X5 v3 processors, uses main memory, works along with discrete graphics to support multi-display, enables VGA connector on rear (detailed information please see <b>Rear ports</b> section)</li> <li>Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> <li>NVIDIA Quadro NVS 300, PCIe x1 adapter, 512MB</li> </ul> </li> </ul>																																				
Front ports	Two USB 3.0 (blue)																																				
Rear ports	One VGA for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45)																																				
Expansion Slots	Slot 1: half-length, full-height, PCIe 3.0 x16 (near CPU) Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, PCIe 2.0 x16 (x4 elec) Slot 4: half-length, full-height, PCI 2.3																																				
Onboard Ethernet	One onboard gigabit ethernet, Intel I217																																				
Discrete Ethernet (optional)	Supports the following: <ul style="list-style-type: none"> <li>Intel Gigabit CT Desktop Adapter (1xGbE, RJ-45)</li> <li>Intel Ethernet Server Adapter I350-T2 (2xGbE, RJ-45)</li> <li>Intel Ethernet Server Adapter I350-T4 (4xGbE, RJ-45)</li> </ul>																																				
Keyboard/mouse	None (use USB port)																																				
Power supply	Supports one of the following, depending on models: <ul style="list-style-type: none"> <li>One fixed 450 watts, universal, 80 PLUS® Platinum qualified</li> <li>Up to two redundant 450 watts, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies</li> </ul>																																				
Security	<ul style="list-style-type: none"> <li>Security chip (selected models, see information on left)</li> <li>Administrator password</li> <li>User password</li> <li>Front panel key lock</li> <li>Boot sequence control</li> <li>Boot without keyboard, mouse, diskette</li> <li>Serial port I/O control</li> <li>USB port disablement (front or all)</li> </ul>																																				
Mechanical	<ul style="list-style-type: none"> <li>Tower, business black color, metal case</li> <li>W x H (without foot) x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm</li> <li>61.7 lb (28kg) max configuration</li> <li>Rack-mountable to 5U</li> </ul>																																				
Serviceability	<ul style="list-style-type: none"> <li>Toolless side cover removal</li> <li>Toolless disk and optical drive removal</li> <li>Toolless adapter retention</li> <li>Illuminated front icons</li> </ul>																																				
Environmental certifications	<ul style="list-style-type: none"> <li>GREENGUARD® certified</li> <li>Energy Star Server 1.1 qualified</li> <li>RoHS-compliant</li> </ul>																																				
EMC	FCC Class A																																				
240VA	Supports																																				
Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)																																				
Temperature - non operating (no package)	-10 °C to 60 °C																																				
Temperature - non operating (with package)	-40 °C to 70 °C																																				
Altitude - operating	Supported Altitude (unpressurized): 0-10000ft (0-3048m)																																				
Humidity - operating	10%~80%, non-condensing																																				
Humidity - non operating (no package)	10%~90%, non-condensing																																				
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Acoustic noise (idle/working mode)	<table border="1"> <thead> <tr> <th>Category</th> <th>Mainstream Configuration</th> <th>Full Configuration</th> </tr> </thead> <tbody> <tr> <td>CPU</td> <td>Xeon</td> <td>Xeon</td> </tr> <tr> <td>Optical Drive</td> <td>DVD-ROM</td> <td>DVD-ROM</td> </tr> <tr> <td>HDD Controller</td> <td>onboard SATA</td> <td>SAS Controller</td> </tr> <tr> <td>HDD Bays</td> <td>4 x 3.5" SATA (direct cable)</td> <td>8 x 3.5" SAS (hot-swap)</td> </tr> <tr> <td>HDD</td> <td>4x 1TB SATA</td> <td>8x 600GB SAS</td> </tr> <tr> <td>Memory</td> <td>1 x 2GB UDIMM ECC</td> <td>4 x 4GB UDIMM ECC</td> </tr> <tr> <td>PSU</td> <td>Fixed</td> <td>Redundant</td> </tr> <tr> <td>Management</td> <td>Basic IPMI mgmt, reporting</td> <td>Basic IPMI mgmt, reporting</td> </tr> <tr> <td>RAID</td> <td>SATA RAID 0/1</td> <td>SAS RAID 5</td> </tr> <tr> <td>Sound Pressure (operating)</td> <td>40.5 dB(A)</td> <td>42.0 dB(A)</td> </tr> <tr> <td>Sound Pressure (idle)</td> <td>32.0 dB(A)</td> <td>38.0 dB(A)</td> </tr> </tbody> </table>	Category	Mainstream Configuration	Full Configuration	CPU	Xeon	Xeon	Optical Drive	DVD-ROM	DVD-ROM	HDD Controller	onboard SATA	SAS Controller	HDD Bays	4 x 3.5" SATA (direct cable)	8 x 3.5" SAS (hot-swap)	HDD	4x 1TB SATA	8x 600GB SAS	Memory	1 x 2GB UDIMM ECC	4 x 4GB UDIMM ECC	PSU	Fixed	Redundant	Management	Basic IPMI mgmt, reporting	Basic IPMI mgmt, reporting	RAID	SATA RAID 0/1	SAS RAID 5	Sound Pressure (operating)	40.5 dB(A)	42.0 dB(A)	Sound Pressure (idle)	32.0 dB(A)	38.0 dB(A)
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## ThinkServer® TS440 Platform Specifications - III of III

Components	Specification
Warranty	1 or 3-year limited warranty, parts and labor, more services information see <a href="#">S-TS1</a> and <a href="#">S-TS3</a> sheet
Preloaded operating systems	<ul style="list-style-type: none"><li>• Windows Server® 2012 Foundation</li><li>• Windows Server 2012 Essentials</li><li>• Windows Server 2012 Standard</li></ul>
Supported operating systems and virtualization software	<ul style="list-style-type: none"><li>• Windows Server 2008 R2 Standard</li><li>• Windows Server 2008 R2 Enterprise</li><li>• Windows Server 2012 Datacenter</li><li>• Windows Small Business Server 2011 Essentials</li><li>• Windows Small Business Server 2011 Standard</li><li>• Windows Small Business Server 2011 Premium Add-On</li><li>• Red Hat Enterprise Linux 6.4</li><li>• VMware ESXi 5.1 U1 (Discrete RAID controller, add-on ethernet controller, and Intel Xeon E3-12x5 v3 processors are needed)</li></ul> <p><i>Notes:</i></p> <ol style="list-style-type: none"><li>1. Supported only, no preloaded models</li><li>2. For latest VMware compatibility list for ThinkServer, please see <a href="http://www.vmware.com/resources/compatibility/search.php">http://www.vmware.com/resources/compatibility/search.php</a></li><li>3. For latest Red Hat compatibility list for ThinkServer, please see <a href="https://hardware.redhat.com/">https://hardware.redhat.com/</a></li><li>4. These supported operating systems are also supported by EasyStartup</li></ol>