



ThinkServer TS440 - Overview

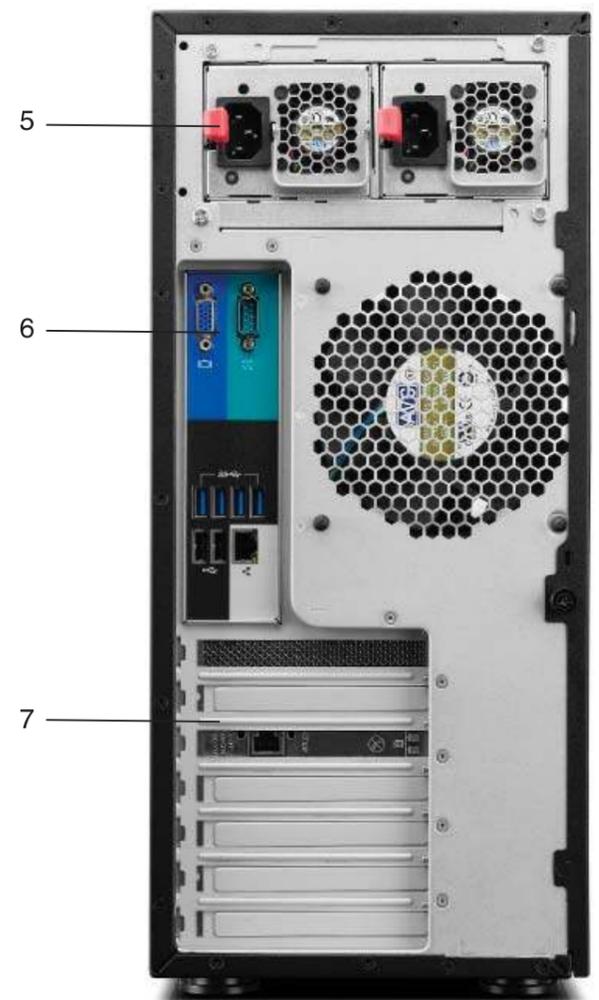


Front view

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	Intel C226 Chipset																																																																																										
Systems management	<ul style="list-style-type: none"> Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12X5 v3 processors) EasyStartup EasyUpdate 																																																																																										
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 http://ark.intel.com/</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	
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																																																																																				
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"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs 																																																																																										
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"> 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 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 <p><i>Notes:</i> RAID 50 and 60 are supported on 8 hard drive bays models only</p>																																																																																										
Drive bays	<p>Supports two 5.25" optical bays, 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"> 4 x 3.5" DC: Four 3.5" hard drive bays, no hot-swap, direct cable (onboard RAID 100 controller, SATA only) 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) 8 x 3.5" HS: Eight 3.5" hot-swap hard drive bays (needs discreted RAID adapter, supports SATA/SAS) 8 x 2.5" HS: Eight 2.5" hot-swap hard drive bays (needs discreted RAID adapter, supports SATA/SAS) <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"> 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 Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA NVS 300, PCIe x1 adapter, 512MB 		
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)		
Add-on ports (optional)	Supports the following: <ul style="list-style-type: none"> Single Parallel Port PCI Adapter (1xParallel) Single Serial Port PCI Adapter (1xSerial) Dual Serial Ports PCI Adapter (2xSerial PCI) Dual Serial Ports PCIe Adapter(2xSerial PCIe) 		
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"> Intel Gigabit CT Desktop Adapter (1xGbE, RJ-45) Intel Ethernet Server Adapter I350-T2 (2xGbE, RJ-45) Intel Ethernet Server Adapter I350-T4 (4xGbE, RJ-45) 		
Keyboard/mouse	None (use USB port)		
Power supply	Supports one of the following, depending on models: <ul style="list-style-type: none"> One fixed 450 watts, universal, 80 PLUS[®] Platinum qualified Up to two redundant 450 watts, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies 		
Security	<ul style="list-style-type: none"> Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant Administrator password User password Front panel key lock Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (front or all) 		
Mechanical	<ul style="list-style-type: none"> Tower, business black color, metal case W x H (without foot) x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm 61.7 lb (28kg) max configuration Rack-mountable to 5U 		
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons 		
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified RoHS-compliant 		
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		
Humidity - non operating (with package)	10%~90%, non-condensing		
Acoustic noise (idle/working mode)	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)	

ThinkServer TS440 Platform Specifications - III of III

Components	Specification
Warranty	1 or 3-year limited warranty, parts and labor, more services information see S-TS1 and S-TS3 sheet
Preloaded operating systems	<ul style="list-style-type: none">• Windows Server[®] 2012 Foundation• Windows Server 2012 Essentials• Windows Server 2012 Standard
Supported operating systems and virtualization software	<ul style="list-style-type: none">• Windows Server 2008 R2 Standard• Windows Server 2008 R2 Enterprise• Windows Server 2012 Datacenter• Windows Small Business Server 2011 Essentials• Windows Small Business Server 2011 Standard• Windows Small Business Server 2011 Premium Add-On• Red Hat Enterprise Linux 6.4• VMware ESXi 5.1 U1 (Discrete RAID controller, add-on ethernet controller, and Intel Xeon E3-12x5 v3 processors are needed) <p>Notes:</p> <ol style="list-style-type: none">1. Supported only, no preloaded models2. For latest VMware compatibility list for ThinkServer, please see http://www.vmware.com/resources/compatibility/search.php3. For latest Red Hat compatibility list for ThinkServer, please see https://hardware.redhat.com/4. These supported operating systems are also supported by EasyStartup