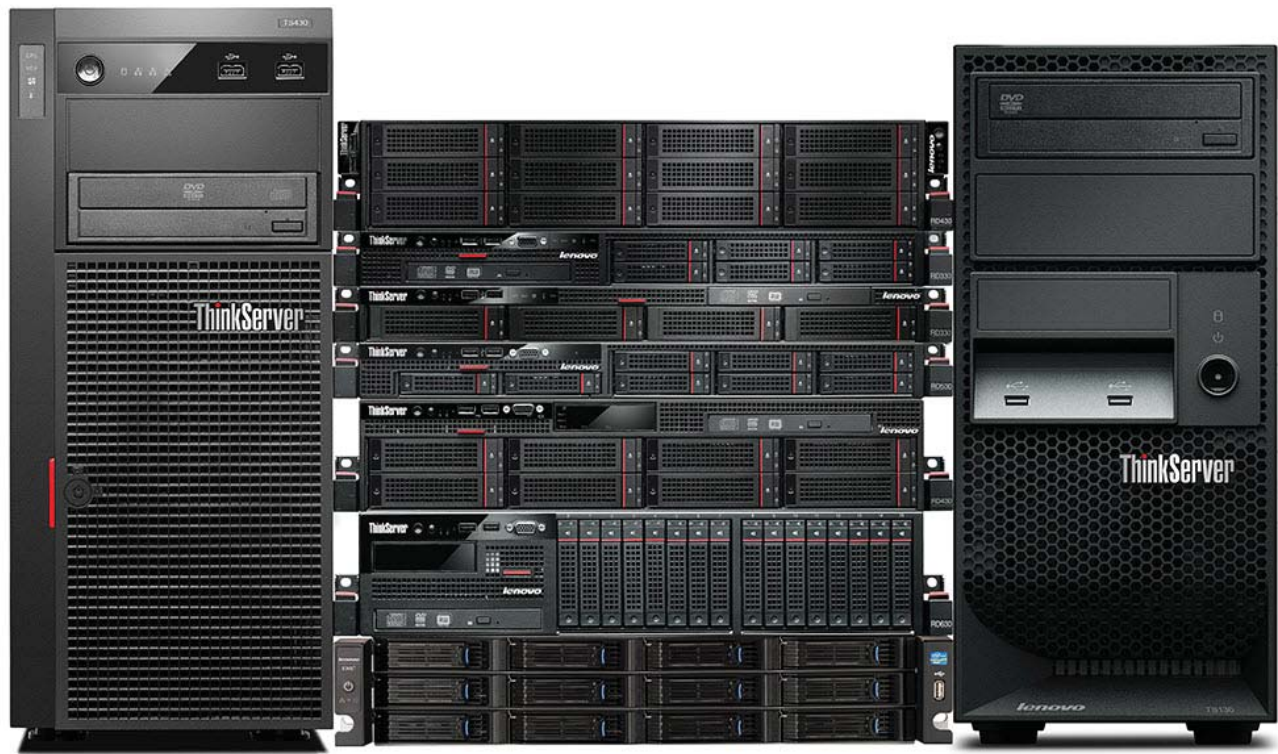




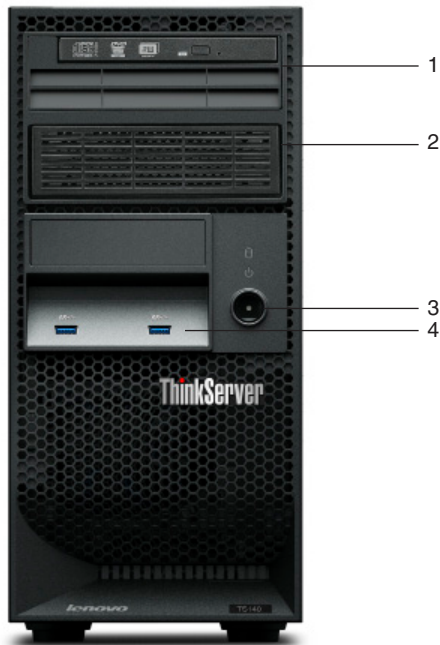
Product Specifications Reference Lenovo® ThinkServer® Servers

January 2014 - Version 449



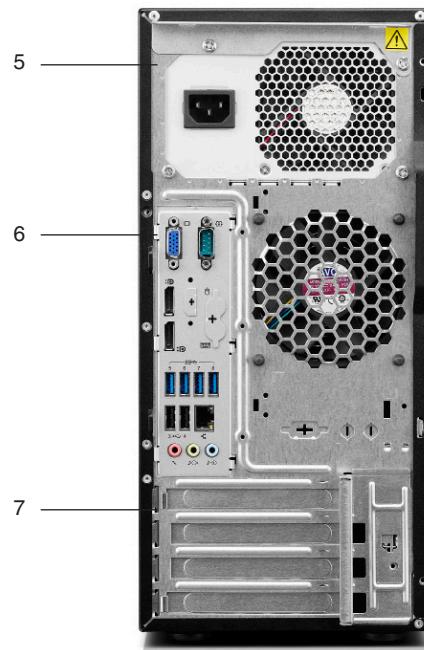
Visit www.lenovo.com/psref for the latest version

ThinkServer TS140 - Overview



Front view

1. Optional slim optical + 3.5" drive bay in standard 5.25" bay
2. Optional 3.5" hard drive bay
3. Power Button
4. Front I/O: 2 USB 3.0 (blue)



Rear view

5. Power Supply:
280 watts 80 PLUS Bronze/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 line-in
1 line-out
1 microphone-in
2 DisplayPort (for Intel HD Graphics)
1 VGA (for Intel HD Graphics)
7. 1 PCIe 3.0 x16
1 PCIe 2.0 x1
1 PCIe 2.0 x16 (x4 elec)
1 PCI

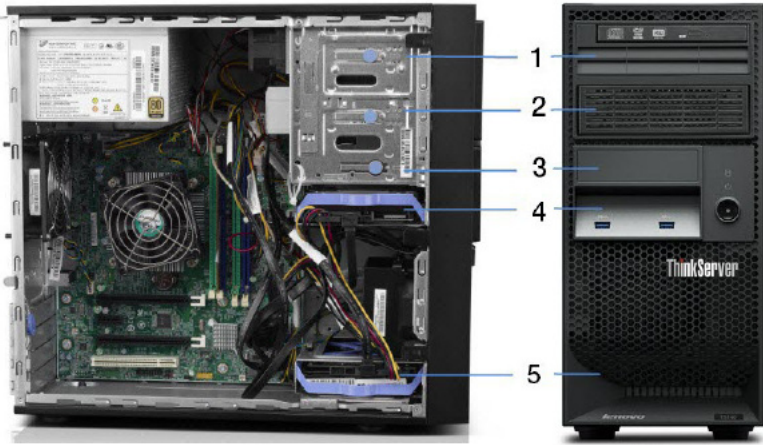
Internal

- One LGA1150 socket, supports one processor from Intel Xeon E3-1200 v3, Core-i3 4000, and Pentium families
- 4 DIMM sockets, supports up to 32GB ECC UDIMM memory
- Up to four 3.5" hard drive bays, two 3.5" hard drive bays standard

Mechanical

- Raven black color; metal case
- Rack-mountable to 5U
- 6.89"W x 16.97"D x 14.76"H
- 175mm W x 431mm D x 375mm H
- 28.66 lb (13kg) max configuration
- 25-liter

ThinkServer TS140 Platform Specifications - System 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 on models with Xeon processor (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, Core-i3 4000, and Pentium G3000 families, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected 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 4700</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 4600</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 4600</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 4600</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> <tr> <td>Core i3-4340</td> <td>2</td> <td>4</td> <td>3.6 GHz</td> <td></td> <td>4 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics 4600</td> </tr> <tr> <td>Core i3-4330</td> <td>2</td> <td>4</td> <td>3.5 GHz</td> <td></td> <td>4 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics 4600</td> </tr> <tr> <td>Core i3-4130</td> <td>2</td> <td>4</td> <td>3.4 GHz</td> <td></td> <td>3 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics 4400</td> </tr> <tr> <td>Pentium G3430</td> <td>2</td> <td>2</td> <td>3.3 GHz</td> <td></td> <td>3 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics</td> </tr> <tr> <td>Pentium G3420</td> <td>2</td> <td>2</td> <td>3.2 GHz</td> <td></td> <td>3 MB</td> <td>DDR3-1600</td> <td>Yes</td> <td>Intel HD Graphics</td> </tr> <tr> <td>Pentium G3220</td> <td>2</td> <td>2</td> <td>3 GHz</td> <td></td> <td>3 MB</td> <td>DDR3-1333</td> <td>Yes</td> <td>Intel HD Graphics</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 4700	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 4600	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 4600	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 4600	Xeon E3-1220 v3	4	4	3.1 GHz	3.5 GHz	8 MB	DDR3-1600	Yes		Core i3-4340	2	4	3.6 GHz		4 MB	DDR3-1600	Yes	Intel HD Graphics 4600	Core i3-4330	2	4	3.5 GHz		4 MB	DDR3-1600	Yes	Intel HD Graphics 4600	Core i3-4130	2	4	3.4 GHz		3 MB	DDR3-1600	Yes	Intel HD Graphics 4400	Pentium G3430	2	2	3.3 GHz		3 MB	DDR3-1600	Yes	Intel HD Graphics	Pentium G3420	2	2	3.2 GHz		3 MB	DDR3-1600	Yes	Intel HD Graphics	Pentium G3220	2	2	3 GHz		3 MB	DDR3-1333	Yes	Intel HD Graphics
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 4700																																																																																																																																									
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 4600																																																																																																																																									
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 4600																																																																																																																																									
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 4600																																																																																																																																									
Xeon E3-1220 v3	4	4	3.1 GHz	3.5 GHz	8 MB	DDR3-1600	Yes																																																																																																																																										
Core i3-4340	2	4	3.6 GHz		4 MB	DDR3-1600	Yes	Intel HD Graphics 4600																																																																																																																																									
Core i3-4330	2	4	3.5 GHz		4 MB	DDR3-1600	Yes	Intel HD Graphics 4600																																																																																																																																									
Core i3-4130	2	4	3.4 GHz		3 MB	DDR3-1600	Yes	Intel HD Graphics 4400																																																																																																																																									
Pentium G3430	2	2	3.3 GHz		3 MB	DDR3-1600	Yes	Intel HD Graphics																																																																																																																																									
Pentium G3420	2	2	3.2 GHz		3 MB	DDR3-1600	Yes	Intel HD Graphics																																																																																																																																									
Pentium G3220	2	2	3 GHz		3 MB	DDR3-1333	Yes	Intel HD Graphics																																																																																																																																									
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																																																																																																																																																
Drive bays	<p>Supports one 5.25" optical and two 3.5" disk drive bays in standard models, direct cable, no hot-swap up to one slim optical and four 3.5"/2.5" disk drive bays (pending 2.5" disk drives availability):</p>  <p>1: Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay 2: Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay 3: Optional 3rd 2.5" drive bay 4: Standard 3.5"/2.5" primary drive bay 5: Standard 3.5"/2.5" 2nd drive bay</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> Standard optical and hard drive bays are included in models; optional optical and hard drive bays are available on models with the corresponding drives only Image above is for reference only. Model in this image contains optional slim optical + 3.5" 2nd hard drive bay with supplemental fan (Bay 1) and optional 3.5" 3rd hard drive bay (Bay 2) Optional slim optical + 3.5" drive bay (Bay 1) and optional 3rd 2.5" drive bay (Bay 3) can not be supported concurrently on one model. 																																																																																																																																																

ThinkServer TS140 Platform Specifications (II of III)

Components	Specification		
Optical	Supports DVD±RW or DVD ROM, 1.6" high or slim, SATA interface		
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB 		
Front ports	Two USB 3.0 (blue)		
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
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 280 watts, autosensing, 85% PSU, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92% PSU, 80 PLUS Platinum qualified 		
Security	<ul style="list-style-type: none"> Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal) Power-on password 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"> Raven black color; metal case 6.89"W x 16.97"D x 14.76"H 175mm W x 431mm D x 375mm H 28.66 lb (13kg) max configuration 25-liter 		
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) 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	Min Configuration	Best Configuration
	CPU	1 CPU	1 CPU
	Optical Drive	0 DVD	1 DVD
	Drive Bays	Up to one	Up to three
	HDD	1x 500GB SATA	3x 500GB SATA
	Memory	1x 2GB UDIMM	1x 2GB UDIMM
	PSU	280W	450W
	RAID	Embedded SATA	Embedded RAID
	Add-on card	No	1xVGA
	Sound Pressure (operating)	26 dB(A)	35 dB(A)
Sound Pressure (idle)	25 dB(A)	34 dB(A)	

ThinkServer TS140 Platform Specifications - System 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 7• Windows 8• Windows Server 2008 R2 Standard• Windows Server 2008 R2 Enterprise• Windows Small Business Server 2011 Essentials• Windows Small Business Server 2011 Standard• Windows Small Business Server 2011 Premium Add-On <p><i>Notes:</i> 1. Supported only, no preloaded models 2. Windows 7 and Windows 8 are not supported by EasyStartup</p>

ThinkServer TS140 Optional Configurations

Memory	
ThinkServer 2GB DDR3L-1600MHz (1RX8) ECC UDIMM	0C19498
ThinkServer 4GB DDR3L-1600MHz (1RX8) ECC UDIMM	0C19499
ThinkServer 8GB DDR3L-1600MHz (2RX8) ECC UDIMM	0C19500
Disk Drive	
ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19501
ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19502
ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19503
ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19504
ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19505
Connectivity	
ThinkServer 1Gbps Ethernet I350-T2 Server Adapter by Intel	0C19506
ThinkServer 1Gbps Ethernet I350-T4 Server Adapter by Intel	0C19507
ThinkServer CT2 1Gbps Single Port Base-T Ethernet Adapter by Intel	4XC0F28725
Parallel/Serial Port Adapter	
ThinkServer Single Parallel Port PCI Adapter	0C19508
ThinkServer Single Serial Port PCI Adapter	0C19509
ThinkServer Dual Serial Port PCI Adatper	0C19510
ThinkServer Dual Serial Port PCIe Adatper	0C19511
Graphics	
ThinkServer 1GB Quadro 600 Graphic Adapter by NVIDIA	0C19512
ThinkServer 512MB NVS 300 PCIe x16 Graphic Adapter by NVIDIA	0C19513
3.5" Hard Drive Conversion Kit	
ThinkServer 3.5" HDD to 5.25" Tray Convertor Kit	0C19514
ThinkServer 3.5" HDD to 5.25" Tray Convertor with Slim ODD Kit	0C19529
Tower to Rack Shelf Conversion Kit	
ThinkServer Tower to Rack Shelf Conversion Kit	0C19515

For more information on server accessories, please visit:

www.lenovo.com/support/accessories

www.lenovo.com/support/thinkserveraccessories

www.lenovo.com/support/security

Other accessories at www.lenovo.com/accessories

Accessories Guide pdf at www.lenovo.com/accessoriesguide

ThinkServer TS140 (70A4) - TopSeller (September 2013)

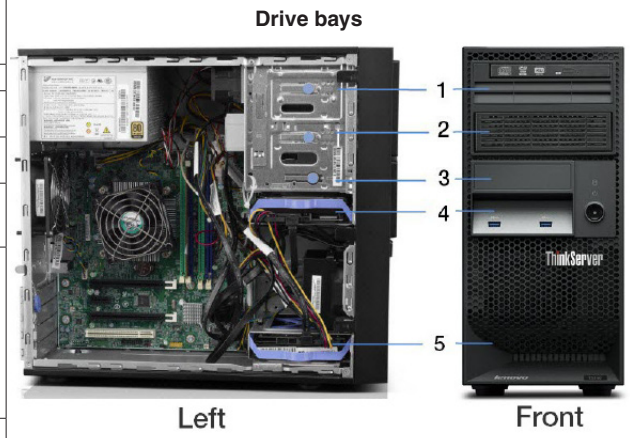
Product Specifications Reference (PSREF)

Type-model	Processor	Memory type	Memory DIMMs	Graphics	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Power Supply	Rack kit	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70A4001LUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD	No	No	280W	No	No	1
70A4001MUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	1x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD	No	No	280W	No	No	1
70A4001NUX	Xeon E3-1275 v3 (4C/3.5GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD	No	No	280W	No	No	1
70A4001PUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD	No	No	280W	No	No	1
70A4001QUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	RAID 1	2x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD	No	No	280W	No	Foundation	1
70A4001RUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	RAID 1	2x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD	No	No	280W	No	Essentials	1
70A4001SUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	1x1TB 3.5" SATA (4x3.5" Bay)	Slim DVD	No	No	280W	No	No	1

* Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system.

• For detailed ThinkServer TS140 platform specifications, please see [ThinkServer TS140 Platform Specifications sheet](#)

Systems management	EasyStartup, EasyUpdate on all models; Intel Active Management Technology 9 on models with Xeon processor (KVM function needs Intel Xeon E3-12x5 v3 processors)
Chipset	Intel C226 Chipset
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected processors
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, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support
Drive bays	Up to four 3.5" hard drive bays (see right)
Storage	3.5" SATA 6.0Gb/s hard drives, 7200 rpm
Optical	Supports DVD-ROM or DVD±RW, 1.6" high or slim, SATA interface
Front ports	Two USB 3.0 (blue)
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
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)
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 280 watts, autosensing, 85%, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified
Form factor/ Rack-mountable	Tower, rack-mountable to 5U via optional ThinkServer Tower to Rack Shelf Conversion Kit (Option PN: 0C19515)
Mechanical	<ul style="list-style-type: none"> 25-liter, raven black color; metal case (WxDxH) 6.89"x 16.97"x 14.76"/175mm x 431mm x 375mm 28.66 lb (13kg) max configuration
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) Toolless adapter retention Illuminated front icons
Base warranty	1 or 3-year parts and labor limited warranty ¹
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified/ RoHS-compliant More environmental information and requirements, please see ThinkServer TS140 Platform Specifications sheet



- Drive bays**
- Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay
 - Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay
 - Optional 3rd 2.5" drive bay
 - Standard 3.5"/2.5" primary drive bay
 - Standard 3.5"/2.5" 2nd drive bay

Note:
 4x3.5" bays models: Bay 1, 2, 4, 5 are included in models
 3x3.5" bays models: Bay 2, 4, 5 are included in models
 2x3.5" bays models: Bay 4, 5 are included in models

- 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

- Security**
- Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant
 - Padlock loop (in rear for opt padlock; padlock prohibits side cover removal)
 - Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal)
 - Power-on password
 - Boot sequence control
 - Boot without keyboard, mouse, diskette
 - Serial port I/O control
 - USB port disablement (front or all)

See footnotes for important warranty information
 Model(s) announced September 10, 2013

ThinkServer TS140 (70A5) - TopSeller (September 2013)

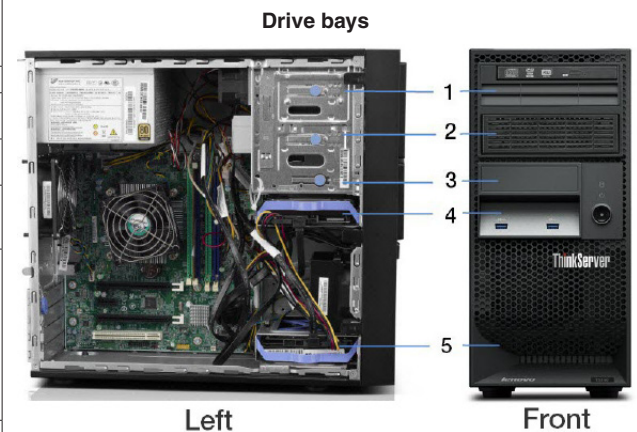
Product Specifications Reference (PSREF)

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Power Supply	Rack kit	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70A5000BUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	450W	No	No	1

¹ Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system.

• For detailed ThinkServer TS140 platform specifications, please see [ThinkServer TS140 Platform Specifications sheet](#)

Systems management	EasyStartup, EasyUpdate on all models; Intel Active Management Technology 9 on models with Xeon processor (KVM function needs Intel Xeon E3-12x5 v3 processors)
Chipset	Intel C226 Chipset
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected processors
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, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support
Drive bays	Up to four 3.5" hard drive bays (see right)
Storage	3.5" SATA 6.0Gb/s hard drives, 7200 rpm
Optical	Supports DVD-ROM or DVD±RW, 1.6" high or slim, SATA interface
Front ports	Two USB 3.0 (blue)
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
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)
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 280 watts, autosensing, 85%, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified
Form factor/ Rack-mountable	Tower, rack-mountable to 5U via optional ThinkServer Tower to Rack Shelf Conversion Kit (Option PN: 0C19515)
Mechanical	<ul style="list-style-type: none"> 25-liter, raven black color; metal case (WxDxH) 6.89"x 16.97"x 14.76"/175mm x 431mm x 375mm 28.66 lb (13kg) max configuration
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) Toolless adapter retention Illuminated front icons
Base warranty	1 or 3-year parts and labor limited warranty ¹
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified/ RoHS-compliant More environmental information and requirements, please see ThinkServer TS140 Platform Specifications sheet



- 1: Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay
 2: Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay
 3: Optional 3rd 2.5" drive bay
 4: Standard 3.5"/2.5" primary drive bay
 5: Standard 3.5"/2.5" 2nd drive bay

Note:
 4x3.5" bays models: Bay 1, 2, 4, 5 are included in models
 3x3.5" bays models: Bay 2, 4, 5 are included in models
 2x3.5" bays models: Bay 4, 5 are included in models

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

Security

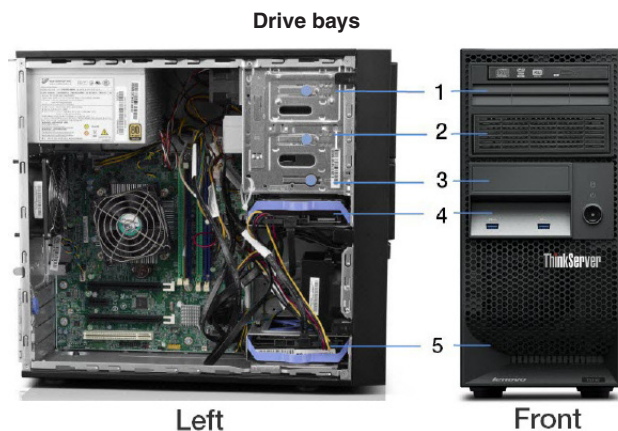
- Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant
- Padlock loop (in rear for opt padlock; padlock prohibits side cover removal)
- Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal)
- Power-on password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (front or all)

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Pre-conf RAID	Storage (Drive bays)	Optical	Add-on ports	Discrete ethernet	Power Supply	Rack kit	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70A00003US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	2GBx4	Intel HD P4600	RAID 0	4x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	1xParallel	1x350-T2	280W	No	Foundation	1
70A00006US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	2GBx4	Intel HD P4600	RAID 0	4x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	2xIntel CT	280W	No	Foundation	1
70A00009UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000AUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000BUX	Xeon E3-1275 v3 (4C/3.5GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000CUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	No	1x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000DUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	RAID 1	2x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	Foundation	1

¹ Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system.

• For detailed ThinkServer TS140 platform specifications, please see [ThinkServer TS140 Platform Specifications sheet](#)

Systems management	EasyStartup, EasyUpdate on all models; Intel Active Management Technology 9 on models with Xeon processor (KVM function needs Intel Xeon E3-12x5 v3 processors)
Chipset	Intel C226 Chipset
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected processors
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, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support
Drive bays	Up to four 3.5" hard drive bays (see right)
Storage	3.5" SATA 6.0Gb/s hard drives, 7200 rpm
Optical	Supports DVD-ROM or DVD±RW, 1.6" high or slim, SATA interface
Front ports	Two USB 3.0 (blue)
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
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)
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 280 watts, autosensing, 85%, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified
Form factor/ Rack-mountable	Tower, rack-mountable to 5U via optional ThinkServer Tower to Rack Shelf Conversion Kit (Option PN: 0C19515)
Mechanical	<ul style="list-style-type: none"> 25-liter, raven black color; metal case (WxDxH) 6.89" x 16.97" x 14.76"/175mm x 431mm x 375mm 28.66 lb (13kg) max configuration
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) Toolless adapter retention Illuminated front icons
Base warranty	1 or 3-year parts and labor limited warranty ¹
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified/ RoHS-compliant More environmental information and requirements, please see ThinkServer TS140 Platform Specifications sheet



- 1: Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay
 2: Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay
 3: Optional 3rd 2.5" drive bay
 4: Standard 3.5"/2.5" primary drive bay
 5: Standard 3.5"/2.5" 2nd drive bay

Note:
 4x3.5" bays models: Bay 1, 2, 4, 5 are included in models
 3x3.5" bays models: Bay 2, 4, 5 are included in models
 2x3.5" bays models: Bay 4, 5 are included in models

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

Security

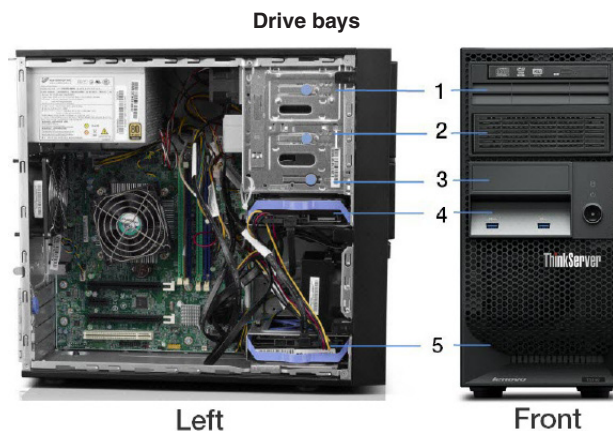
- Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant
- Padlock loop (in rear for opt padlock; padlock prohibits side cover removal)
- Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal)
- Power-on password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (front or all)

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Power Supply	Rack kit	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70A0000EUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	RAID 1	2x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	Essentials	1
70A0000FUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	RAID 1	2x500GB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	Standard	1
70A0000GUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000HUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000JUX	Xeon E3-1275 v3 (4C/3.5GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	No	Open (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	No	1
70A0000KUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	RAID 1	2x1TB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	Foundation	1
70A0000LUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	RAID 1	2x1TB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	Essentials	1

¹ Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system.

• For detailed ThinkServer TS140 platform specifications, please see [ThinkServer TS140 Platform Specifications sheet](#)

Systems management	EasyStartup, EasyUpdate on all models; Intel Active Management Technology 9 on models with Xeon processor (KVM function needs Intel Xeon E3-12x5 v3 processors)
Chipset	Intel C226 Chipset
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected processors
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, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support
Drive bays	Up to four 3.5" hard drive bays (see right)
Storage	3.5" SATA 6.0Gb/s hard drives, 7200 rpm
Optical	Supports DVD-ROM or DVD±RW, 1.6" high or slim, SATA interface
Front ports	Two USB 3.0 (blue)
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
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)
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 280 watts, autosensing, 85%, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified
Form factor/ Rack-mountable	Tower, rack-mountable to 5U via optional ThinkServer Tower to Rack Shelf Conversion Kit (Option PN: 0C19515)
Mechanical	<ul style="list-style-type: none"> 25-liter, raven black color; metal case (WxDxH) 6.89"x 16.97"x 14.76"/175mm x 431mm x 375mm 28.66 lb (13kg) max configuration
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) Toolless adapter retention Illuminated front icons
Base warranty	1 or 3-year parts and labor limited warranty ¹
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified/ RoHS-compliant More environmental information and requirements, please see ThinkServer TS140 Platform Specifications sheet



- 1: Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay
 2: Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay
 3: Optional 3rd 2.5" drive bay
 4: Standard 3.5"/2.5" primary drive bay
 5: Standard 3.5"/2.5" 2nd drive bay

Note:
 4x3.5" bays models: Bay 1, 2, 4, 5 are included in models
 3x3.5" bays models: Bay 2, 4, 5 are included in models
 2x3.5" bays models: Bay 4, 5 are included in models

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

Security

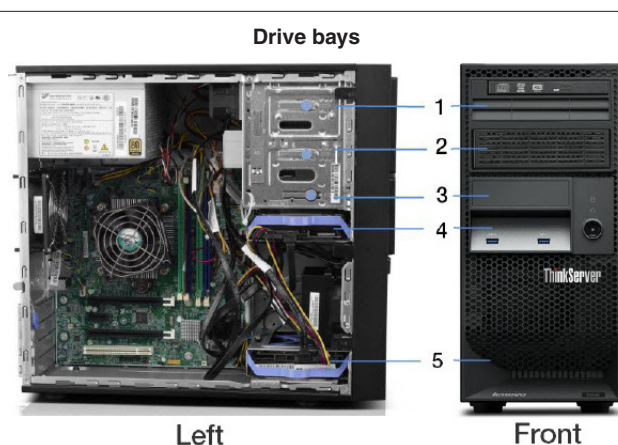
- Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant
- Padlock loop (in rear for opt padlock; padlock prohibits side cover removal)
- Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal)
- Power-on password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (front or all)

Type-model	Processor	Memory type	Memory DIMMs	Graphics	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Power Supply	Rack kit	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70A0000MUS	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	RAID 1	2x1TB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	No	280W	No	Standard	1
70A0000NUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	8GBx1	Intel HD P4600	No	2x2TB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	1x350-T2	280W	No	No	3
70A0000PUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	8GBx2	Intel HD P4600	No	2x2TB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	1x350-T2	280W	No	No	3
70A0000QUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	8GBx4	Intel HD P4600	No	2x2TB 3.5" SATA (4x3.5" Bay)	Slim DVD±RW	No	1x350-T2	280W	No	No	3

* Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system.

• For detailed ThinkServer TS140 platform specifications, please see [ThinkServer TS140 Platform Specifications sheet](#)

Systems management	EasyStartup, EasyUpdate on all models; Intel Active Management Technology 9 on models with Xeon processor (KVM function needs Intel Xeon E3-12x5 v3 processors)
Chipset	Intel C226 Chipset
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected processors
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, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support
Drive bays	Up to four 3.5" hard drive bays (see right)
Storage	3.5" SATA 6.0Gb/s hard drives, 7200 rpm
Optical	Supports DVD-ROM or DVD±RW, 1.6" high or slim, SATA interface
Front ports	Two USB 3.0 (blue)
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
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)
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 280 watts, autosensing, 85%, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified
Form factor/ Rack-mountable	Tower, rack-mountable to 5U via optional ThinkServer Tower to Rack Shelf Conversion Kit (Option PN: OC19515)
Mechanical	<ul style="list-style-type: none"> 25-liter, raven black color; metal case (WxDxH) 6.89" x 16.97" x 14.76"/175mm x 431mm x 375mm 28.66 lb (13kg) max configuration
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) Toolless adapter retention Illuminated front icons
Base warranty	1 or 3-year parts and labor limited warranty ¹
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified/ RoHS-compliant More environmental information and requirements, please see ThinkServer TS140 Platform Specifications sheet



- 1: Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay
- 2: Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay
- 3: Optional 3rd 2.5" drive bay
- 4: Standard 3.5"/2.5" primary drive bay
- 5: Standard 3.5"/2.5" 2nd drive bay

Note:
 4x3.5" bays models: Bay 1, 2, 4, 5 are included in models
 3x3.5" bays models: Bay 2, 4, 5 are included in models
 2x3.5" bays models: Bay 4, 5 are included in models

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

Security

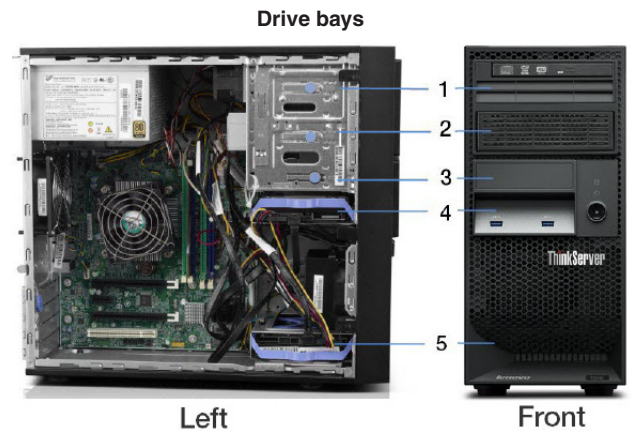
- Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant
- Padlock loop (in rear for opt padlock; padlock prohibits side cover removal)
- Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal)
- Power-on password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (front or all)

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Power Supply	Rack kit	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70A10000US	Xeon E3-1280 v3 (4C/3.6GHz/8MB/1600MHz)	1600MHz ECC	8GBx4	NVS 300	RAID 10	4x4TB 3.5 SATA (4x3.5" Bay)	Slim DVD±RW	1xParallel	2xIntel CT	450W	No	Foundation	1
70A10001US	Xeon E3-1280 v3 (4C/3.6GHz/8MB/1600MHz)	1600MHz ECC	8GBx4	Quadro 600	RAID 10	4x2TB 3.5 SATA (4x3.5" Bay)	Slim DVD±RW	No	1xIntel CT	450W	No	Foundation	1

¹ Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system.

• For detailed ThinkServer TS140 platform specifications, please see [ThinkServer TS140 Platform Specifications sheet](#)

Systems management	EasyStartup, EasyUpdate on all models; Intel Active Management Technology 9 on models with Xeon processor (KVM function needs Intel Xeon E3-12x5 v3 processors)
Chipset	Intel C226 Chipset
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated processor graphics on selected processors
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, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)
Graphics	<ul style="list-style-type: none"> Integrated Intel HD Graphics on Xeon E3-12x5 v3, Core i3, and Pentium processors, uses main memory, works along with discrete graphics to support multi-display, enables three display connectors (2 DisplayPort, 1 VGA) on rear ports (detailed information please see Rear ports section) Also supports the following optional discrete graphics adapters: <ul style="list-style-type: none"> NVIDIA Quadro NVS 300, PCIe x16 adapter, 512MB NVIDIA Quadro 600, PCIe x16 adapter, 1GB
Onboard SATA controller	Onboard ThinkServer RAID 100 SATA controller in chipset, SATA 6.0Gb/s, RAID 0, 1, 5, 10 support
Drive bays	Up to four 3.5" hard drive bays (see right)
Storage	3.5" SATA 6.0Gb/s hard drives, 7200 rpm
Optical	Supports DVD-ROM or DVD±RW, 1.6" high or slim, SATA interface
Front ports	Two USB 3.0 (blue)
Rear ports	One VGA and two DisplayPort for models with Intel HD Graphics, two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
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)
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 280 watts, autosensing, 85%, 80 PLUS Bronze qualified One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified
Form factor/ Rack-mountable	Tower, rack-mountable to 5U via optional ThinkServer Tower to Rack Shelf Conversion Kit (Option PN: 0C19515)
Mechanical	<ul style="list-style-type: none"> 25-liter, raven black color; metal case (WxDxH) 6.89"x 16.97"x 14.76"/175mm x 431mm x 375mm 28.66 lb (13kg) max configuration
Serviceability	<ul style="list-style-type: none"> Toolless side cover removal Toolless disk and optical drive removal (standard bays) Toolless adapter retention Illuminated front icons
Base warranty	1 or 3-year parts and labor limited warranty ¹
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD[®] certified Energy Star Server 1.1 qualified/ RoHS-compliant More environmental information and requirements, please see ThinkServer TS140 Platform Specifications sheet



- Drive bays**
- Standard 5.25", 1.6" high optical or optional slim optical + 4th 3.5" drive bay
 - Optional 3rd 3.5" drive bay or optional 4th 2.5" drive bay
 - Optional 3rd 2.5" drive bay
 - Standard 3.5"/2.5" primary drive bay
 - Standard 3.5"/2.5" 2nd drive bay

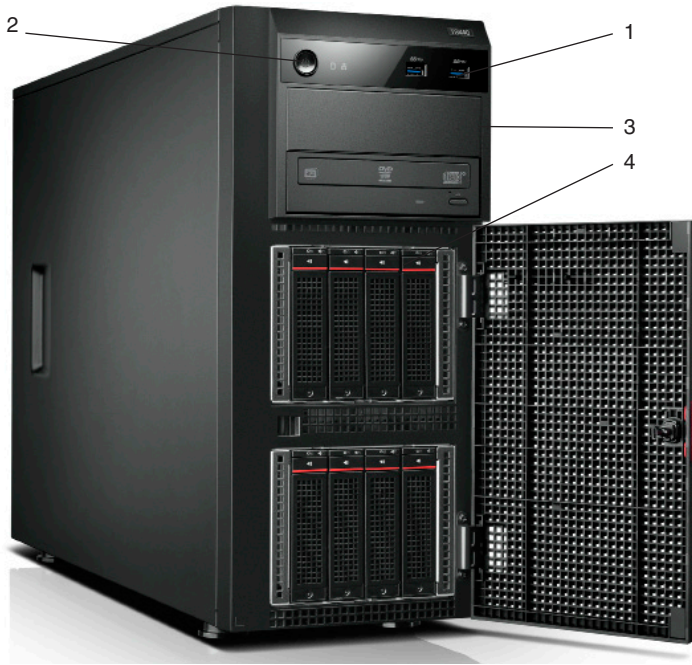
Note:
 4x3.5" bays models: Bay 1, 2, 4, 5 are included in models
 3x3.5" bays models: Bay 2, 4, 5 are included in models
 2x3.5" bays models: Bay 4, 5 are included in models

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

Security
<ul style="list-style-type: none"> Security chip: ST33ZP24AR28PVSP for TPM function, TCG 1.2-compliant Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional Kensington Microsaver cable; prohibits side cover removal) Power-on password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (front or all)

See footnotes for important warranty information
 Model(s) announced September 10, 2013

ThinkServer TS440 - Overview

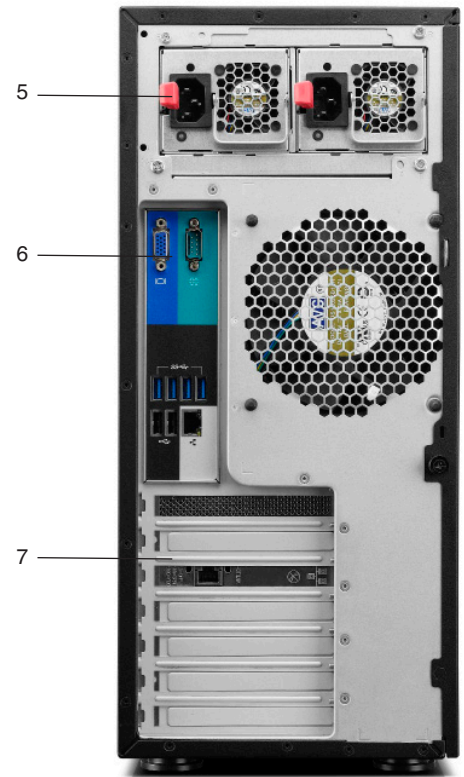


Front view

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><i>Notes:</i></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

ThinkServer TS440 Optional Configurations

Memory	
ThinkServer 2GB DDR3L-1600MHz (1RX8) ECC UDIMM	0C19498
ThinkServer 4GB DDR3L-1600MHz (1RX8) ECC UDIMM	0C19499
ThinkServer 8GB DDR3L-1600MHz (2RX8) ECC UDIMM	0C19500
Disk Drive	
ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19501
ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19502
ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19503
ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19504
ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hard Drive	0C19505
ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive	0A89473
ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive	0A89474
ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive	0A89475
ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive	0A89477
ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive	0C19520
ThinkServer 2.5" 300GB 10K SAS 6Gbps Hot Swap Hard Drive	67Y2619
ThinkServer 2.5" 600GB 10K SAS 6Gbps Hot Swap Hard Drive	67Y2621
ThinkServer 2.5" 900GB 10K SAS 6Gbps Hot Swap Hard Drive	0A89409
ThinkServer 2.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive	0C19494
ThinkServer 2.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive	0C19495
Connectivity	
ThinkServer RAID 500 Adapter II	0A89464
ThinkServer RAID 500 Upgrade Key for Advanced RAID	0A89407
ThinkServer RAID 700 Adapter II	0A89463
ThinkServer RAID 700 Battery	67Y2647
Connectivity	
ThinkServer 1Gbps Ethernet I350-T2 Server Adapter by Intel	0C19506
ThinkServer 1Gbps Ethernet I350-T4 Server Adapter by Intel	0C19507
Parallel/Serial Port Adapter	
ThinkServer Single Parallel Port PCI Adapter	0C19508
ThinkServer Single Serial Port PCI Adapter	0C19509
ThinkServer Dual Serial Port PCI Adatper	0C19510
ThinkServer Dual Serial Port PCIe Adatper	0C19511
Graphics	
ThinkServer 512MB NVS 300 PCIe x1 Graphic Adapter by NVIDIA	0C19528
3.5" Hard Drive Conversion Kit	
ThinkServer 3.5" HDD to 5.25" Tray Convertor Kit	0C19514
ThinkServer 3.5" HDD to 5.25" Tray Convertor with Slim ODD Kit	0C19529
Tower to Rack Shelf Conversion Kit	
ThinkServer Tower to Rack Shelf Conversion Kit	0C19515
Redundant Power Supply	
ThinkServer 450W Gold Hot Swap Redundant Power Supply	67Y2625

For more information on server accessories, please visit:

www.lenovo.com/support/accessories
www.lenovo.com/support/thinkserveraccessories
www.lenovo.com/support/security

Other accessories at www.lenovo.com/accessories

Accessories Guide pdf at www.lenovo.com/accessoriesguide


ThinkServer TS440 (70AQ) - TopSeller (September 2013)

Product Specifications Reference (PSREF)

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Disk Bays ²	RAID controller	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Windows Server 2012 Preloaded	Power Supply	Base on-site warranty (-year)
70AQ0005US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	RAID 1	2x500GB 3.5" SATA	1xDVD±RW	No	No	Foundation	1x450W (hot-swap, redundant with 2)	3
70AQ0006US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	RAID 1	2x500GB 3.5" SATA	1xDVD±RW	No	No	Essentials	1x450W (hot-swap, redundant with 2)	3
70AQ0007US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	RAID 1	2x500GB 3.5" SATA	1xDVD±RW	No	No	Standard	1x450W (hot-swap, redundant with 2)	3
70AQ0009UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	1
70AQ000AUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000BUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000CUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	8x3.5" HS	RAID 500 (discrete, 0/1/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3

1. Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system. 2. HS = Hot-swap, DC = Direct cable, non-hot swap

• For detailed ThinkServer TS440 platform specifications, please see [ThinkServer TS440 Platform Specifications sheet](#)

Systems management	<ul style="list-style-type: none"> Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12X5 v3 processors) EasyStartup EasyUpdate 	<p>Optical Bays</p> <ul style="list-style-type: none"> Two 5.25" optical bays for all models (Up to one optical on onboard SATA controller models) <p>Hard Drive Bays</p> <ul style="list-style-type: none"> Four 3.5" hard drive bays, no hot-swap, direct cable (4x3.5" DC) Four 3.5" hot-swap hard drive bays (4x3.5" HS) Eight 3.5" hot-swap hard drive bays (8x3.5" HS) Eight 2.5" hot-swap hard drive bays (8x2.5" HS)  <p>8 x 2.5" HS 4 x 3.5" HS 8 x 3.5" HS</p>
Chipset	Intel C226 Chipset	
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated Intel HD Graphics on selected processors	
Memory type	1600MHz UDIMM, DDR3, ECC, 2-channel capable	
Memory DIMM sockets	Four 240-pin DIMM sockets, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)	
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) Supports optional discrete NVIDIA NVS 300 adapter, PCIe x1, 512MB 	
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)	Supports the following: <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>	
Optical	Supports DVD±RW or DVD ROM, 1.6" high, SATA interface	
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) 	
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 	
Base warranty	1 or 3-year parts and labor limited warranty ¹	
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD certified Energy Star Server 1.1 qualified RoHS-compliant More environmental information and requirements, please see ThinkServer TS440 Platform Specifications sheet	
		<p>Mechanical</p> <ul style="list-style-type: none"> Tower, business black color, metal case W x H x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm 61.7 lb (28kg) max configuration Rack-mountable to 5U (via optional Tower to Rack Shelf Conversion Kit, not included in standard model) Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons <p>Expansion Slots</p> <p>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</p> <p>Security</p> <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)


See footnotes for important warranty information
Model(s) announced September 24, 2013

© Lenovo
(70AQ-1) October 2013

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Disk Bays ²	RAID controller	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Windows Server 2012 Preloaded	Power Supply	Base on-site warranty (-year)
70AQ000DUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	8x3.5" HS	RAID 500 (discrete, 0/1/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000EUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	8x2.5" HS	RAID 500 (discrete, 0/1/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000FUX	Xeon E3-1245 v3 (4C/3.4GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	8x2.5" HS	RAID 500 (discrete, 0/1/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000GUX	Xeon E3-1275 v3 (4C/3.5GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000HUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	8x3.5" HS	RAID 700 (discrete, 0/1/5/6/10/50/60)	No	Open	1xDVD±RW	No	No	No	1x450W (hot-swap, redundant with 2)	3
70AQ000NUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 500 (discrete, 0/1/10)	No	Open	1xDVD	No	No	No	1x450W (hot-swap, redundant with 2)	1
70AQ000PUX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 500 (discrete, 0/1/10)	No	Open	1xDVD	No	No	No	1x450W (hot-swap, redundant with 2)	3

1. Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system. 2. HS = Hot-swap, DC = Direct cable, non-hot swap

• For detailed ThinkServer TS440 platform specifications, please see [ThinkServer TS440 Platform Specifications sheet](#)

Systems management	<ul style="list-style-type: none"> Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12X5 v3 processors) EasyStartup EasyUpdate 	<p>Optical Bays</p> <ul style="list-style-type: none"> Two 5.25" optical bays for all models (Up to one optical on onboard SATA controller models) <p>Hard Drive Bays</p> <ul style="list-style-type: none"> Four 3.5" hard drive bays, no hot-swap, direct cable (4x3.5" DC) Four 3.5" hot-swap hard drive bays (4x3.5" HS) Eight 3.5" hot-swap hard drive bays (8x3.5" HS) Eight 2.5" hot-swap hard drive bays (8x2.5" HS)  <p>8 x 2.5" HS 4 x 3.5" HS 8 x 3.5" HS</p>
Chipset	Intel C226 Chipset	
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated Intel HD Graphics on selected processors	
Memory type	1600MHz UDIMM, DDR3, ECC, 2-channel capable	
Memory DIMM sockets	Four 240-pin DIMM sockets, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)	
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) Supports optional discrete NVIDIA NVS 300 adapter, PCIe x1, 512MB 	
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)	Supports the following: <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 Notes: RAID 50 and 60 are supported on 8 hard drive bays models only	
Optical	Supports DVD±RW or DVD ROM, 1.6" high, SATA interface	
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) 	
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 	
Base warranty	1 or 3-year parts and labor limited warranty ¹	
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD certified Energy Star Server 1.1 qualified RoHS-compliant More environmental information and requirements, please see ThinkServer TS440 Platform Specifications sheet	
		<p>Mechanical</p> <ul style="list-style-type: none"> Tower, business black color, metal case W x H x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm 61.7 lb (28kg) max configuration Rack-mountable to 5U (via optional Tower to Rack Shelf Conversion Kit, not included in standard model) Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons <p>Expansion Slots</p> 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
		<p>Security</p> <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)

See footnotes for important warranty information Model(s) announced September 24, 2013


ThinkServer TS440 (70AN) - TopSeller (September 2013)

Product Specifications Reference (PSREF)

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Disk Bays ²	RAID controller	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Windows Server 2012 Preloaded	Power Supply	Base on-site warranty (-year)
70AN0001UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD	No	No	No	Fixed 450W (non-hot swap, no redundant)	1
70AN0002UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD	No	No	No	Fixed 450W (non-hot swap, no redundant)	3

1. Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system. 2. HS = Hot-swap, DC = Direct cable, non-hot swap

• For detailed ThinkServer TS440 platform specifications, please see [ThinkServer TS440 Platform Specifications sheet](#)

Systems management	<ul style="list-style-type: none"> Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12X5 v3 processors) EasyStartup EasyUpdate 	<p>Optical Bays</p> <ul style="list-style-type: none"> Two 5.25" optical bays for all models <i>(Up to one optical on onboard SATA controller models)</i> <p>Hard Drive Bays</p> <ul style="list-style-type: none"> Four 3.5" hard drive bays, no hot-swap, direct cable (4x3.5" DC) Four 3.5" hot-swap hard drive bays (4x3.5" HS) Eight 3.5" hot-swap hard drive bays (8x3.5" HS) Eight 2.5" hot-swap hard drive bays (8x2.5" HS)  <p>8 x 2.5" HS 4 x 3.5" HS 8 x 3.5" HS</p>
Chipset	Intel C226 Chipset	
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated Intel HD Graphics on selected processors	
Memory type	1600MHz UDIMM, DDR3, ECC, 2-channel capable	
Memory DIMM sockets	Four 240-pin DIMM sockets, up to 32GB ECC UDIMM <i>(Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)</i>	
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) Supports optional discrete NVIDIA NVS 300 adapter, PCIe x1, 512MB 	
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)	Supports the following: <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>	
Optical	Supports DVD±RW or DVD ROM, 1.6" high, SATA interface	
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) 	
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 	
Base warranty	1 or 3-year parts and labor limited warranty ¹	
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD certified Energy Star Server 1.1 qualified RoHS-compliant More environmental information and requirements, please see ThinkServer TS440 Platform Specifications sheet	
		<p>Mechanical</p> <ul style="list-style-type: none"> Tower, business black color, metal case W x H x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm 61.7 lb (28kg) max configuration Rack-mountable to 5U (via optional Tower to Rack Shelf Conversion Kit, not included in standard model) Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons <p>Expansion Slots</p> <p>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</p> <p>Security</p> <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)


See footnotes for important warranty information
Model(s) announced September 24, 2013

© Lenovo
(70AN-1) October 2013

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Disk Bays ²	RAID controller	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Windows Server 2012 Preloaded	Power Supply	Base on-site warranty (-year)
70AM0000US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	2GBx2	Intel HD P4600	4x3.5" DC	RAID 100 (onboard, 0/1/5/10)	RAID 1	2x500GB 3.5" SATA	1xDVD	No	1xIntel CT	Foundation	1x450W (hot-swap, redundant with 2)	1
70AM0001US	Xeon E3-1275 v3 (4C/3.5GHz/8MB/1600MHz)	1600MHz ECC	2GBx4	Intel HD P4600	8x3.5" HS	RAID 500+key (discrete, 0/1/5/10/50)	RAID 50	8x2TB 3.5" SATA	2xDVD±RW	No	1xIntel CT	Foundation	2x450W (hot-swap, redundant with 2)	1
70AM0002UX	Xeon E3-1280 v3 (4C/3.6GHz/8MB/1600MHz)	1600MHz ECC	4GBx3	NVS 300	8x2.5 HS	RAID 700 (discrete, 0/1/5/6/10/50/60)	RAID 6	3x600GB 2.5" SAS	1xDVD	No	1x350-T4	No	1x450W (hot-swap, redundant with 2)	1
70AM0003US	Xeon E3-1285 v3 (4C/3.6GHz/8MB/1600MHz)	1600MHz ECC	8GBx4	Intel HD P4700	8x2.5 HS	RAID 700 (discrete, 0/1/5/6/10/50/60)	RAID 60	8x900GB 2.5" SAS	1xDVD±RW	No	1x350-T2	Foundation	2x450W (hot-swap, redundant with 2)	1
70AM0004UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD	No	No	No	1x450W (hot-swap, redundant with 2)	3

1. Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system. 2. HS = Hot-swap, DC = Direct cable, non-hot swap

• For detailed ThinkServer TS440 platform specifications, please see [ThinkServer TS440 Platform Specifications sheet](#)


Systems management	<ul style="list-style-type: none"> Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12X5 v3 processors) EasyStartup EasyUpdate 	<p>Optical Bays</p> <ul style="list-style-type: none"> Two 5.25" optical bays for all models (Up to one optical on onboard SATA controller models) <p>Hard Drive Bays</p> <ul style="list-style-type: none"> Four 3.5" hard drive bays, no hot-swap, direct cable (4x3.5" DC) Four 3.5" hot-swap hard drive bays (4x3.5" HS) Eight 3.5" hot-swap hard drive bays (8x3.5" HS) Eight 2.5" hot-swap hard drive bays (8x2.5" HS)  <p>8 x 2.5" HS 4 x 3.5" HS 8 x 3.5" HS</p>
Chipset	Intel C226 Chipset	
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated Intel HD Graphics on selected processors	
Memory type	1600MHz UDIMM, DDR3, ECC, 2-channel capable	
Memory DIMM sockets	Four 240-pin DIMM sockets, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)	
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) Supports optional discrete NVIDIA NVS 300 adapter, PCIe x1, 512MB 	
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)	Supports the following: <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 Notes: RAID 50 and 60 are supported on 8 hard drive bays models only	
Optical	Supports DVD±RW or DVD ROM, 1.6" high, SATA interface	
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) 	
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 	
Base warranty	1 or 3-year parts and labor limited warranty ¹	
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD certified Energy Star Server 1.1 qualified RoHS-compliant More environmental information and requirements, please see ThinkServer TS440 Platform Specifications sheet	
	<p>Mechanical</p> <ul style="list-style-type: none"> Tower, business black color, metal case W x H x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm 61.7 lb (28kg) max configuration Rack-mountable to 5U (via optional Tower to Rack Shelf Conversion Kit, not included in standard model) Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons <p>Expansion Slots</p> 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	
	<p>Security</p> <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) 	

See footnotes for important warranty information Model(s) announced September 24, 2013

Type-model ¹	Processor	Memory type	Memory DIMMs	Graphics	Disk Bays ²	RAID controller	Pre-conf RAID	Storage	Optical	Add-on ports	Discrete ethernet	Windows Server 2012 Preloaded	Power Supply	Base on-site warranty (-year)
70AL0000US	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	8GBx3	NVS 300	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	RAID 5	3x3TB 3.5" SATA	1xDVD±RW	No	1x350-T2	Foundation	Fixed 450W (non-hot swap, no redundant)	1
70AL0002UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	1x500GB 3.5" SATA	1xDVD	No	No	No	Fixed 450W (non-hot swap, no redundant)	3
70AL0003UX	Xeon E3-1225 v3 (4C/3.2GHz/8MB/1600MHz)	1600MHz ECC	4GBx1	Intel HD P4600	4x3.5" HS	RAID 100 (onboard, 0/1/5/10)	No	Open	1xDVD	No	No	No	Fixed 450W (non-hot swap, no redundant)	3

1. Model in italics shows that this is a Global Model. "UX" model does not include preloaded operating system. 2. HS = Hot-swap, DC = Direct cable, non-hot swap

• For detailed ThinkServer TS440 platform specifications, please see [ThinkServer TS440 Platform Specifications sheet](#)

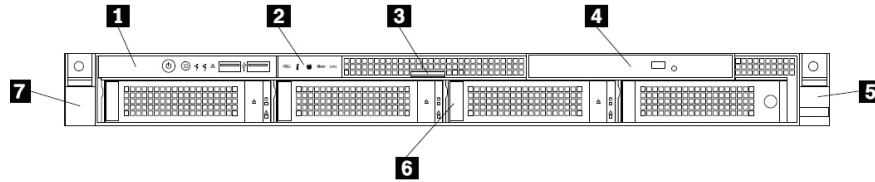
Systems management	<ul style="list-style-type: none"> Intel Active Management Technology 9 (KVM function needs Intel Xeon E3-12X5 v3 processors) EasyStartup EasyUpdate 	<p>Optical Bays</p> <ul style="list-style-type: none"> Two 5.25" optical bays for all models (Up to one optical on onboard SATA controller models) <p>Hard Drive Bays</p> <ul style="list-style-type: none"> Four 3.5" hard drive bays, no hot-swap, direct cable (4x3.5" DC) Four 3.5" hot-swap hard drive bays (4x3.5" HS) Eight 3.5" hot-swap hard drive bays (8x3.5" HS) Eight 2.5" hot-swap hard drive bays (8x2.5" HS) 
Chipset	Intel C226 Chipset	
Processor	One LGA1150 socket, integrated 2-channel DDR3 memory controller, optional integrated Intel HD Graphics on selected processors	
Memory type	1600MHz UDIMM, DDR3, ECC, 2-channel capable	
Memory DIMM sockets	Four 240-pin DIMM sockets, up to 32GB ECC UDIMM (Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs)	
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) Supports optional discrete NVIDIA NVS 300 adapter, PCIe x1, 512MB 	
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)	Supports the following: <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 Notes: RAID 50 and 60 are supported on 8 hard drive bays models only	
Optical	Supports DVD±RW or DVD ROM, 1.6" high, SATA interface	
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) 	
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 	
Base warranty	1 or 3-year parts and labor limited warranty ¹	
Environmental certifications	<ul style="list-style-type: none"> GREENGUARD certified Energy Star Server 1.1 qualified RoHS-compliant More environmental information and requirements, please see ThinkServer TS440 Platform Specifications sheet	
		<p>Mechanical</p> <ul style="list-style-type: none"> Tower, business black color, metal case W x H x D = 7.68"/195mm x 16.9"/430mm x 23.4"/595mm 61.7 lb (28kg) max configuration Rack-mountable to 5U (via optional Tower to Rack Shelf Conversion Kit, not included in standard model) Toolless side cover removal Toolless disk and optical drive removal Toolless adapter retention Illuminated front icons <p>Expansion Slots</p> 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
		<p>Security</p> <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)

See footnotes for important warranty information Model(s) announced September 24, 2013

ThinkServer RD340 Overview

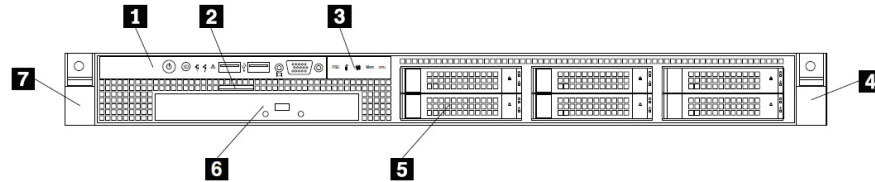
Front view - ThinkServer RD340 supports the following disk bay configurations:

ThinkServer RD340 with 4 x 3.5" Disk Drive Bays



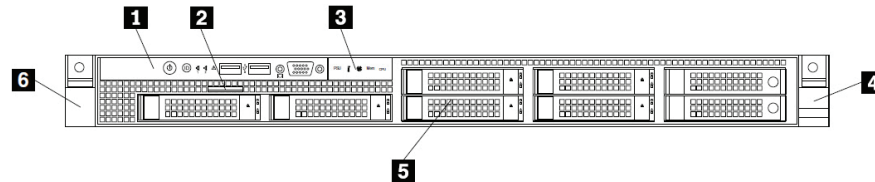
1. Front panel
 - Power Button with LED
 - ID button with LED
 - 2 Network interface status LEDs
 - System error LED
 - 2 USB 2.0
2. Intelligent Diagnostics Module (IDM basic only, optional)
3. Pull-out information card
4. Slim optical drive (optional)
5. Rack handle (right)
6. 4 x 3.5" hot-swap disk drive bays
7. Rack handle (left)

ThinkServer RD340 with 6 x 2.5" Disk Drive Bays



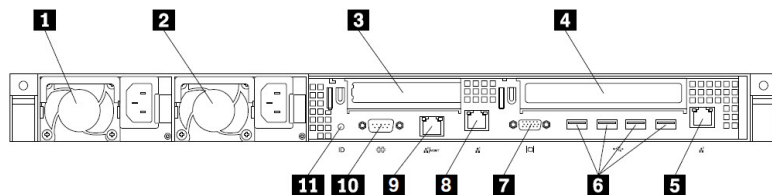
1. Front panel
 - Power Button with LED
 - ID button with LED
 - 2 Network interface status LEDs
 - System error LED
 - 2 USB 2.0
 - 1 VGA
2. Pull-out information card
3. Intelligent Diagnostics Module (IDM basic only, optional)
4. Rack handle (right)
5. 6 x 2.5" hot-swap disk drive bays
6. Slim optical drive (optional)
7. Rack handle (left)

ThinkServer RD340 with 8 x 2.5" Disk Drive Bays



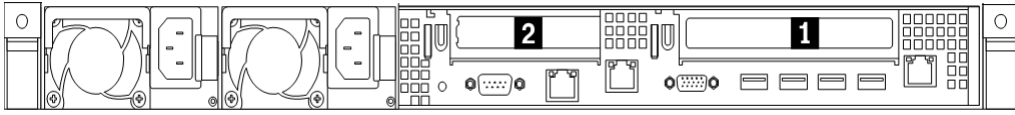
1. Front panel
 - Power Button with LED
 - ID button with LED
 - 2 Network interface status LEDs
 - System error LED
 - 2 USB 2.0
 - 1 VGA
2. Pull-out information card
3. Intelligent Diagnostics Module (IDM basic only, optional)
4. Rack handle (right)
5. 8 x 2.5" hot-swap disk drive bays
6. Rack handle (left)

Rear view



1. Hot-swap redundant power supply 2 (optional)
2. Hot-swap redundant power supply 1
3. Low profile PCI Express slot by riser card 2
4. PCI Express slot by riser card 1
5. Ethernet 2 (RJ-45)
6. Four USB 2.0
7. VGA DB-15 connector
8. Ethernet 1 (RJ-45)
9. Dedicate/share management connector (RJ-45)
10. Serial
11. ID LED

ThinkServer RD340 Platform Systems Specifications - I of II

Components	Specifications																									
Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 																									
Chipset	Intel C606 Chipset																									
Processors	Two LGA1356 sockets, supports up to two processors from Intel Xeon E5-2400 or Xeon E5-2400 v2 families, up to 8 cores (E5-2400 series)/10 cores (E5-2400 v2 series), one QPI links up to 8.0GT/s, up to 20MB (E5-2400 series)/25MB (E5-2400 v2 series) cache, integrated 3-channel DDR3 memory controller up to 1600MHz																									
Memory type	1600MHz, LV RDIMM*, DDR3, 3-channel per processor, 240-pin <small>* By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting</small>																									
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor																									
Memory protection	ECC, memory mirroring, memory sparing																									
Disk bays configurations	Supports one of the following configurations <ul style="list-style-type: none"> • 4 x 3.5" disk bays + 1 x slim optical bay • 6 x 2.5" disk bays + 1 x slim optical bay • 8 x 2.5" disk bays 																									
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key
	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																					
	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																					
	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																					
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																						
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																						
Optical drive (optional)	4 x 3.5"/6 x 2.5" models: one slim optical bay, supports one optional slim optical 8 x 2.5" models: none optical bay, optional external USB optical is needed																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																									
Front ports	One analog VGA DB-15 connector (for 6 x 2.5"/8 x 2.5" models), two USB 2.0																									
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																									
Expansion Slots	 <p>Two PCI-Express slots via two riser cards, riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)</p>																									
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; <i>Maximum resolution: 1920x1200@60Hz</i>																									
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																									
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Front control panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																									
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																									
Cable mgmt (opt)	Optional cable management arm on selected models																									

ThinkServer RD340 Platform Systems Specifications - II of II

Components	Specifications			
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies			
Hot-swap parts	Disk drives, power supplies, and cooling fans			
Security features	Power-on password/administrator password/Trusted Platform Module (TCG 1.2-compliant)			
Safety, environment, and certifications	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 		
	EMC	FCC Class A, CSA, CE		
	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	8%-80%, non-condensing		
	Humidity - non operating (no package)	8%-80%, non-condensing		
	Humidity - non operating (with package)	8%-90%, non-condensing		
	Acoustic noise (idle/working mode)	System Configuration		
		Category	Entry level	High-end
		CPU	1	2
		Memory	4GB x 1	4GB x 12
Optical Drive		Slim optical	Slim optical	
Drive Bays		4 x 3.5"	6 x 2.5"	
RAID		RAID500	RAID500	
HDD		2 x 500GB 3.5" SATA	6 x 300GB 2.5" SAS	
PSU		550Wx1	550Wx2	
Sound Pressure (operating)		45.28 dB(A)	44.74 dB(A)	
Sound Pressure (idle)	45.28 dB(A)	44.95 dB(A)		

ThinkServer RD340 Optional Configurations - Processor and Memory

Rack kit	Included in models									
Processor	The following processor options are available:									
	Processors Specifications*									Part Number
Processor Number	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed		
Intel Xeon E5-2400 v2 Series										
Xeon E5-2440 v2	8	16	1.9 GHz	2.4 GHz	20MB	7.2 GT/s	95W	DDR3-1600	0C19539	
Xeon E5-2450 v2	8	16	2.5 GHz	3.3 GHz	20MB	8 GT/s	95W	DDR3-1600	0C19538	
Xeon E5-2450L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	60W	DDR3-1600	0C19544	
Xeon E5-2470 v2	10	20	2.4 GHz	3.2 GHz	25MB	8 GT/s	95W	DDR3-1600	0C19537	
Xeon E5-2407 v2	4	4	2.4 GHz	2.4 GHz	10MB	6.4 GT/s	80W	DDR3-1333	0C19542	
Xeon E5-2420 v2	6	12	2.2 GHz	2.7 GHz	15MB	7.2 GT/s	80W	DDR3-1600	0C19541	
Xeon E5-2430 v2	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	80W	DDR3-1600	0C19540	
Xeon E5-2430L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60W	DDR3-1600	0C19545	
Xeon E5-2403 v2	4	4	1.8 GHz	1.8 GHz	10MB	6.4 GT/s	80W	DDR3-1333	0C19543	
Intel Xeon E5-2600 v2 Series										
Xeon E5-2450L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600	0A89450	
Xeon E5-2450	8	16	2.1 GHz	2.9 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89444	
Xeon E5-2440	6	12	2.4 GHz	2.9 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89445	
Xeon E5-2430L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333	0A89451	
Xeon E5-2407	4	4	2.2 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89448	
Xeon E5-2403	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89449	
Xeon E5-2430	6	12	2.2 GHz	2.7 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89446	
Xeon E5-2420	6	12	1.9 GHz	2.4 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89447	
Xeon E5-2470	8	16	2.3 GHz	3.1 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89443	
Notes: All processors specifications 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/										
Memory options	Memory options								Part Number	
	ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM								0C19533	
	ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM								0C19534	
	ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM								0C19535	

ThinkServer RD340 Optional Configurations - Storage and RAID

Disk drive options for 3.5" disk bay models (8 x 3.5"/12 x 3.5")	Hot-swap disk drive options for 3.5" bay		Part Number
	3.5" SATA Hard Drive		
	ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89473
	ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89474
	ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89475
	ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89477
	ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0C19520
	3.5" SAS Hard Drive		
	ThinkServer 3.5" 1TB 7.2K SAS 6Gbps Hot Swap Hard Drive		0C19530
	ThinkServer 3.5" 2TB 7.2K SAS 6Gbps Hot Swap Hard Drive		0C19531
	ThinkServer 3.5" 3TB 7.2K SAS 6Gbps Hot Swap Hard Drive		0C19532
	ThinkServer 3.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive		67Y2616
	ThinkServer 3.5" 600GB 15K SAS 6Gbps Hot Swap Hard Drive		4XB0F28644
	2.5" SSD for 3.5" disk bay		
	ThinkServer 2.5" 100GB MLC SATA Solid State Drive to 3.5" Kit		0C19571
	ThinkServer 2.5" 200GB MLC SATA Solid State Drive to 3.5" Kit		0C19572
ThinkServer 2.5" 400GB MLC SATA Solid State Drive to 3.5" Kit		0C19573	
Disk drive options for 2.5" disk bay models (8 x 2.5"/16 x 2.5")	Hot-swap disk drive options for 2.5" bay		Part Number
	2.5" SATA Hard Drive		
	ThinkServer 2.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0C19495
	ThinkServer 2.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0C19496
	2.5" SAS Hard Drive		
	ThinkServer 2.5" 300GB 10K SAS 6Gbps Hot Swap Hard Drive		67Y2619
	ThinkServer 2.5" 600GB 10K SAS 6Gbps Hot Swap Hard Drive		67Y2621
	ThinkServer 2.5" 900GB 10K SAS 6Gbps Hot Swap Hard Drive		0A89409
	ThinkServer 2.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive		0C19494
	2.5" SSD		
	ThinkServer 2.5" 100GB MLC SATA Solid State Drive		0A89420
	ThinkServer 2.5" 200GB MLC SATA Solid State Drive		0A89418
ThinkServer 2.5" 400GB MLC SATA Solid State Drive		0A89419	
RAID options	RAID controller and RAID upgrade options		Part Number
	ThinkServer RAID 300 Upgrade Key for Advanced RAID		0A89422
	ThinkServer RAID 500 Adapter II		0A89464
	ThinkServer RAID 500 Upgrade Key for Advanced RAID		0A89407
	ThinkServer RAID 700 Adapter II		0A89463
	ThinkServer RAID 700 Battery		67Y2647
	ThinkServer RAID 710 Adapter		0C19489
	ThinkServer RAID Super Capacitor Module		0C19490
	ThinkServer RAID FastPath Software Key		0C19491
	ThinkServer RAID CacheCade Pro 2.0 Software Key		0C19492

ThinkServer RD340 Optional Configurations - Network, System Management, Power Supply

Network and HBA options	Network and HBA options		Part Number
	ThinkServer 1Gbps Ethernet I350-T2 Server Adapter by Intel		0C19506
	ThinkServer 1Gbps Ethernet I350-T4 Server Adapter by Intel		0C19507
	Lenovo 10Gbps Ethernet X540-T2 Server Adapter by Intel		0C19497
	Lenovo 10Gbps Ethernet X520-DA2 Server Adapter by Intel		0C19486
	Lenovo 10Gbps Ethernet Fiber Module by Intel		0C19488
	Lenovo 10Gbps Ethernet X520-SR2 Server Adapter by Intel		0C19487
	ThinkServer QLE8242-CU-CK Dual Port CNA by QLogic		0C19483
	ThinkServer LPe1250 Single Port 8Gb Fibre Channel HBA by Emulex		0C19476
	ThinkServer LPe12002 Dual Port 8Gb Fibre Channel HBA by Emulex		0C19478
	ThinkServer QLE2562 Dual Port 8Gb Fibre Channel HBA by QLogic		0C19482
Security options	Trusted Platform Module options		Part Number
	ThinkServer Trusted Platform Module		0A89428
Systems management options	System Management option for iKVM		Part Number
	ThinkServer Management Module Premium		67Y2624
	Cable Management option		Part Number
	ThinkServer Cable management Arm		0A89476
Power supply options	Power supply option		Part Number
	ThinkServer 550W Gold Hot Swap Redundant Power Supply		4X20E54689

ThinkServer RD340 Operating System and Virtualization Supportability Matrix

List of operating system and virtualization software supported on ThinkServer RD340

Operating System/Virtualization	Certified	Support ROK	Supports EasyStartup	Preloaded
Windows Server 2008 x86 Edition				
Windows Server 2008 Standard Edition (x86)			•	
Windows Server 2008 Enterprise Edition (x86)			•	
Windows Server 2008 Datacenter Edition (x86)			•	
Windows Server 2008 x64 Edition				
Windows Server 2008 Standard Edition (x64) (including Hyper-V)	•		•	
Windows Server 2008 Enterprise Edition (x64) (including Hyper-V)	•		•	
Windows Server 2008 Datacenter Edition (x64) (including Hyper-V)	•		•	
Windows Server 2008 R2 (x64) with SP1				
Windows Server 2008 Standard Edition R2 with SP1 (including Hyper-V)	•	•	•	
Windows Server 2008 Enterprise Edition R2 with SP1 (including Hyper-V)	•	•	•	
Windows Server 2008 Datacenter Edition R2 with SP1 (including Hyper-V)	•	•	•	
Windows Small Business Server 2011				
Windows Small Business Server 2011 Essentials	•		•	
Windows Small Business Server 2011 Standard	•	•	•	
Windows Small Business Server Premium Add-On (including Hyper-V)	•	•	•	
Windows Server 2012				
Windows Server 2012 Standard (including Hyper-V)	•	•	•	•
Windows Server 2012 Datacenter (including Hyper-V)	•	•	•	•
Windows Server 2012 Essentials	•	•	•	•
Windows Server 2012 Hyper-V	•		•	
Windows Server 2012 R2				
Windows Server 2012 R2 Standard (including Hyper-V)	•	•	•	•
Windows Server 2012 R2 Datacenter (including Hyper-V)	•	•	•	•
Windows Server 2012 R2 Essentials	•	•	•	•
Windows Server 2012 R2 Hyper-V	•		•	
SUSE LINUX Enterprise Server x86				
SUSE LINUX Enterprise Server 10 sp4			•	
SUSE LINUX Enterprise Server 11 sp2	•		•	
SUSE LINUX Enterprise Server 11 sp3	•		•	
SUSE LINUX Enterprise Server x64				
SUSE LINUX Enterprise Server 10 sp4			•	
SUSE LINUX Enterprise Server 11 sp2	•		•	
RedHat Enterprise Linux Server (RHEL) x86				
RHEL 5.9	•		•	
RHEL 5.10	•		•	
RHEL 6.4	•		•	
RHEL 6.5	•		•	
RedHat Enterprise Linux Server x64				
RHEL 5.9	•		•	
RHEL 5.10	•		•	
RHEL 6.4	•		•	
RHEL 6.5	•		•	
Vmware x64				
Vmware ESXi 5.1 U1	•		•	•
Vmware ESXi 5.5	•	•	•	•
Microsoft Hyper V				
Microsoft Hyper-V server 2008	•		•	
Microsoft Hyper-v server 2008 R2 SP1	•		•	
Citrix				
Citrix XenServer 6.1	•		•	
Citrix XenServer 6.0.2	•		•	

Note:

- For more information on ThinkServer operating system and virtualization software, please visit ThinkServer Software page: <http://shop.lenovo.com/us/en/servers/thinkserver/server-software.html>
- For ThinkServer operating system and virtualization software options, please visit ThinkServer OS and virtualization Options document: http://www.lenovo.com/images/products/server/pdfs/datasheets/ThinkServer_OS_&Virtualization_Options_Datasheet.pdf

ThinkServer RD340 Services Upgrade Options

Partial list of Lenovo Services for ThinkServer RD340 with 3-year onsite base warranty models

For more information see: http://www.lenovo.com/services_warranty/us/en/lenovo-warranty.html

Upgrade Service Description	Part Number
Warranty	
3YR Onsite 24x7x4 Hour Response	5WS0F15458
3YR Onsite 24x7x8 Hour Response	5WS0F15392
3YR Onsite 9x5x4 Hour Response	5WS0F15355
4YR Onsite 24x7x4 Hour Response	5WS0F15443
4YR Onsite 24x7x8 Hour Response	5WS0F15395
4YR Onsite 9x5x4 Hour Response	5WS0F15394
4YR Onsite NBD	5WS0F15415
5YR Onsite 24x7x4 Hour Response	5WS0F15377
5YR Onsite 24x7x8 Hour Response	5WS0F15440
5YR Onsite 9x5x4 Hour Response	5WS0F15430
5YR Onsite NBD	5WS0F15419
Keep Your Drive (KYD) Service	
3YR Keep Your Drive	5PS0F15436
3YR Onsite 24x7x4 Hour Response + KYD	5PS0F15376
3YR Onsite 24x7x8 Hour Response + KYD	5PS0F15349
3YR Onsite 9x5x4 Hour Response + KYD	5PS0F15448
4YR Onsite 24x7x4 Hour Response + KYD	5PS0F15389
4YR Onsite 24x7x8 Hour Response + KYD	5PS0F15359
4YR Onsite 9x5x4 Hour Response + KYD	5PS0F15456
4YR Onsite NBD + KYD	5PS0F15459
5YR Onsite 24x7x4 Hour Response + KYD	5PS0F15402
5YR Onsite 24x7x8 Hour Response + KYD	5PS0F15381
5YR Onsite 9x5x4 Hour Response + KYD	5PS0F15366
5YR Onsite NBD + KYD	5PS0F15391
Priority Technical Support	
3YR KYD + Priority Support	5PS0F15417
3YR Onsite 24x7x4 Hour Response + KYD + Priority Support	5PS0F15352
3YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15399
3YR Onsite 24x7x8 Hour Response + KYD + Priority Support	5PS0F15444
3YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15418
3YR Onsite 9x5x4 Hour Response + KYD + Priority Support	5PS0F15398
3YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15468
3YR Priority Support	5WS0E76471
4YR Onsite 24x7x4 Hour Response + KYD + Priority Support	5PS0F15462
4YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15410
4YR Onsite 24x7x8 Hour Response + KYD + Priority Support	5PS0F15433
4YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15425
4YR Onsite 9x5x4 Hour Response + KYD + Priority Support	5PS0F15400
4YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15351
4YR Onsite NBD + KYD + Priority Support	5PS0F15373
4YR Onsite NBD + Priority Support	5WS0F15401
4YR Priority Support	5WS0E77170
5YR Onsite 24x7x4 Hour Response + KYD + Priority Support	5PS0F15350
5YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15412
5YR Onsite 24x7x8 Hour Response + KYD + Priority Support	5PS0F15471
5YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15447
5YR Onsite 9x5x4 Hour Response + KYD + Priority Support	5PS0F15437
5YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15382
5YR Onsite NBD + KYD + Priority Support	5PS0F15388
5YR Onsite NBD + Priority Support	5WS0F15463
5YR Priority Support	5WS0E77173

Upgrade Service Description	Part Number
Post Warranty	
1YR Onsite 24x7x4 Hour Response	5WS0F15435
1YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15370
1YR Onsite 24x7x8 Hour Response	5WS0F15427
1YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15361
1YR Onsite 9x5x4 Hour Response	5WS0F15416
1YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15348
1YR Onsite NBD	5WS0F15407
1YR Onsite NBD + Priority Support	5WS0F15465
TopSeller Priority (TopSeller models only)	
3YR Onsite 24x7x4 Hour Response	5WS0D73789
3YR Onsite 9x5x4 Hour Response	5WS0D73787
4YR Onsite 24x7x4 Hour Response	5WS0D73792
4YR Onsite 9x5x4 Hour Response	5WS0D73791
4YR Onsite NBD	5WS0F15470
3YR Onsite 24x7x4 Hour Response+Priority Support	5WS0F15414
3YR Onsite 9x5x4 Hour Response+Priority Support	5WS0F15423
3YR Priority Support	5WS0E76457
4YR Priority Support	5WS0E76482

Note:

24x7x4: 4 Hour Onsite Response Time in 24x7 Service Window (requires Location Activation)

- 24 hours a day, 7 days a week, including nights and weekends
- Once the need for on-site presence is confirmed, an on-site technician is dispatched to arrive within 4 hours.
- Best coverage for business critical work loads

9x5x4: 4 Hour Onsite Response Time in 9x5 Service Window (requires Location Activation)

- Once the need for on-site presence is confirmed, an on-site technician is dispatched to arrive within 4 hours.

24x7x8: 8 Hour Onsite Response Time in 24x7 Service Window (requires Location Activation)

- 24 hours a day, 7 days a week, including nights and weekends
- Once the need for on-site presence is confirmed, an on-site technician is dispatched to arrive within 8 hours.

Priority Technical Support

Lenovo's Priority Technical Support provides direct access to an advanced level technician supporting all of hardware, operating system and software needs related to server issues, available 24 hours a day, 7 days a week.

Keep Your Drive (KYD) Service

Retain drive (hard drive or SSD) and confidential data if the drive must be replaced.

To confirm if 4hr services are available in a specified location, please use ThinkServer

Service Availability Tool: http://www.lenovo.com/services_warranty/us/en/locator.html

Once purchased, to activate the location of your 4hr/8hr ThinkServer Service, please use

ThinkServer Service Activation page: <http://www.lenovo.com/activation>

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AB0004US	Xeon E5-2407 v2 4C/2.4GHz/10MB/1333MHz	2nd	8GBx12 1600MHz LVRDIMM	4X3.5" HS	RAID700 +CacheVault +CacheCade	2x400GB SSD(RAID1,cache) +2x500GB 3.5" SATA(RAID0)	DVD±RW	350T2	No	iKVM	Cable	1	TPM	2012 Standard	3
70AB0005UX	Xeon E5-2403 v2 4C/1.8GHz/10MB/1333MHz	No	4GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0006UX	Xeon E5-2407 v2 4C/2.4GHz/10MB/1333MHz	No	4GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0008UX	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	No	4GBx2 1600MHz LVRDIMM	4X3.5" HS	RAID300 +upgrade	Open	DVD±RW	No	No	iKVM	No	1	TPM	No	3
70AB0009UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	4GBx4 1600MHz LVRDIMM	4X3.5" HS	RAID700 +Battery	Open	DVD±RW	No	No	iKVM	No	1	TPM	No	3
70AB001TUX	Xeon E5-2403 v2 4C/1.8GHz/10MB/1333MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB001UUX	Xeon E5-2407 v2 4C/2.4GHz/10MB/1333MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3

1. Model in *italics* is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5" </p> <p>Rear</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed	<p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AB001VUX	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB001WUX	Xeon E5-2430 v2 6C/2.5GHz/15MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB001XUX	Xeon E5-2440 v2 8C/1.9GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB001YUX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0020UX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID300	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0021UX	Xeon E5-2440 v2 8C/1.9GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID500	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0022UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID500	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3

1. Model in *italics* is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5" </p> <p>Rear</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed	<p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AB0023UX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID500	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0024UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID700	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0025UX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID700	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0026UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID710	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0027UX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID710	Open	DVD±RW	No	No	IPMI	No	1	TPM	No	3
70AB0028UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID710	Open	DVD±RW	No	No	iKVM	No	1	TPM	No	3
70AB0029UX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	4X3.5" HS	RAID710	Open	DVD±RW	No	No	iKVM	No	1	TPM	No	3

1. Model in *italics* is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations:</p> <p>4 x 3.5"</p> <p>6 x 2.5"</p> <p>8 x 2.5"</p> <p>Rear</p> <p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots:</p> <p>Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports:</p> <p>Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed																										
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AB002AUX	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	2nd	8GBx8 1600MHz LVRDIMM	4X3.5" HS	RAID300 +upgrade	4x1TB 3.5" SATA	DVD±RW	350T2	No	iKVM	No	1	TPM	No	3
70AB002BUX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	2nd	16GBx8 1600MHz LVRDIMM	4X3.5" HS	RAID500 +upgrade	4x1TB 3.5" SAS	DVD±RW	350T4	No	iKVM	No	1	TPM	No	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5" </p> <p>Rear</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed	<p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AC0000US	Xeon E5-2430L v2 6C/2.4GHz/15MB/1600MHz	2nd	16GBx12 1600MHz LVRDIMM	6X2.5" HS	RAID710 +CacheVault +FastPath	4x400GB SSD(RAID6) +2x400GB SSD(RAID0)	DVD±RW	350T2	No	iKVM	Cable	1	TPM	2012 Standard	3

1. Model in *italics* is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5"</p> <p>Rear</p> <p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed																										
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AD0000US	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	2nd	16GBx12 1600MHz LVRDIMM	8X2.5" HS	RAID500 +upgrade	8x900GB 2.5" SAS(RAID50)	N/A	X540T2	No	iKVM	Cable	1	TPM	2012 Standard	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5" </p> <p>Rear</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed	<p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70A90000US	Xeon E5-2440 v2 8C/1.9GHz/20MB/1600MHz	2nd	8GBx8 (lockstep) 1600MHz LVRDIMM	6X2.5 HS	RAID700 +Battery	6x400GB SSD(RAID50)	No	X540T2	No	iKVM	Cable	1	TPM	2012 Standard	1
70A90001UX	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	2nd	8GBx8 1600MHz LVRDIMM	6X2.5 HS	RAID700	6x1TB 2.5 SATA	DVD±RW	350T2	No	iKVM	No	1	TPM	No	3
70A90002UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	2nd	8GBx8 1600MHz LVRDIMM	6X2.5 HS	RAID700 +Battery	6x300GB 2.5 SAS	DVD±RW	350T2	No	iKVM	No	1	TPM	No	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5"</p> <p>Rear</p> <p>* Slim optical bay is not available on 8 x 2.5" models</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed																										
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AA0000US	Xeon E5-2403 v2 4C/1.8GHz/10MB/1333MHz	2nd	16GBx12 1600MHz LVRDIMM	8X2.5 HS	RAID700	4x300GB 2.5" SAS(RAID6) +4x400GB SSD(RAID5)	N/A	X520SR2	No	iKVM	Cable	1	TPM	2012 Standard	3
70AA0001UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	2nd	16GBx8 1600MHz LVRDIMM	8X2.5 HS	RAID700 +CacheVault	6x600GB 2.5 SAS	N/A	X540T2	No	iKVM	No	1	TPM	No	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD340 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD340 Optional Configurations sheets](#)

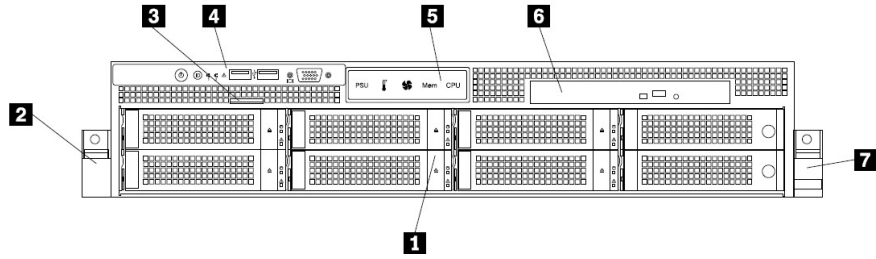
Mechanical	<ul style="list-style-type: none"> • 1U rack with rail kit • 19" W x 28.9" D x 1.72" H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300 (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 4 x 3.5" 6 x 2.5" 8 x 2.5"</p> <p>Rear</p> <p>Expansion Slots: Riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCIe 3.0 x16 Slot 2: Low Profile, PCIe 3.0 x8 (x4 elec)</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p> <p><small>* Slim optical bay is not available on 8 x 2.5" models</small></p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300 (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	4 x 3.5"/6 x 2.5" : one slim optical bay, supports one optional slim optical 8 x 2.5": none optical bay, optional external USB optical is needed																										
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic, IDM basic LED lights indicate failing component category																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	6 fans, non-hot swap, 5 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

ThinkServer RD440 Overview

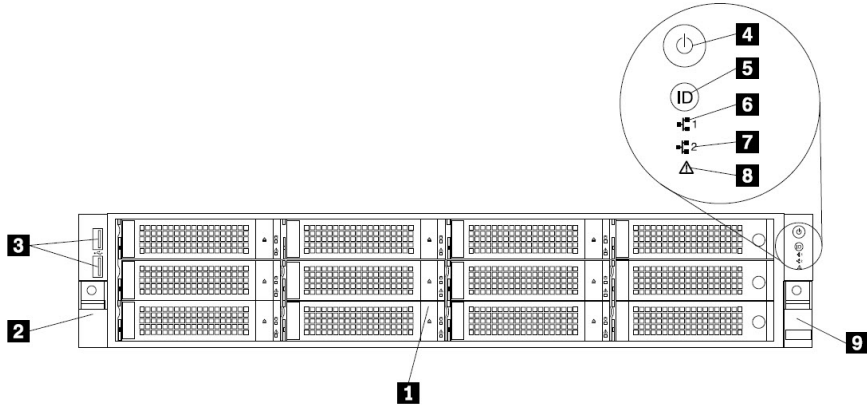
Front view - ThinkServer RD440 supports the following disk bay configurations:

ThinkServer RD440 with 8 x 3.5" Disk Drive Bays



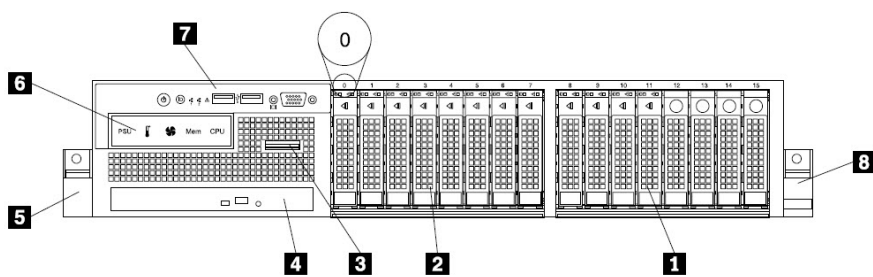
1. 8 x 3.5" hot-swap disk drive bays
2. Rack handle (left)
3. Pull-out information card
4. Front panel
 - Power Button with LED
 - ID button with LED
 - 2 Network interface status LEDs
 - System error LED
 - 2 USB 2.0
 - 1 VGA
5. Intelligent Diagnostics Module (optional)
6. Slim optical drive (optional)
7. Rack handle (right)

ThinkServer RD440 with 12 x 3.5" Disk Drive Bays



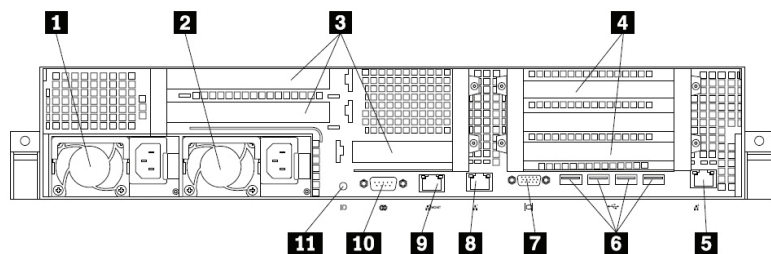
1. 12 x 3.5" hot-swap disk drive bays
2. Rack handle (left)
3. 2 USB 2.0
4. Power Button with LED
5. ID button with LED
6. Network interface status LED 1
7. Network interface status LED 2
8. System error LED
9. Rack handle (right)

ThinkServer RD440 with 2.5" Disk Drive Bays



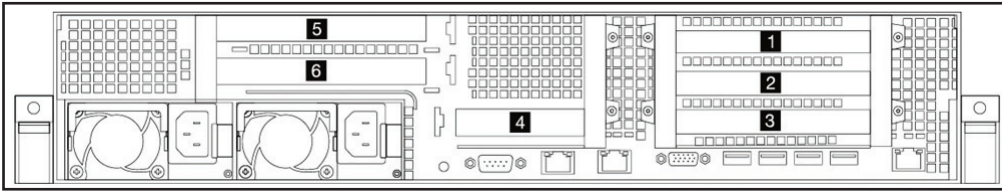
1. 8 x hot-swap disk drive bays (for 16x2.5" hard drive bays model)
2. 8 x Hot-swap disk drive bays
3. Pull-out information card
4. Slim optical drive (optional)
5. Rack handle (left)
6. Intelligent Diagnostics Module (basic or premium, optional)
7. Front panel
 - Power Button with LED
 - ID button with LED
 - 2 Network interface status LEDs
 - System error LED
 - 2 USB 2.0
 - 1 VGA
8. Rack handle (right)

Rear view



1. Hot-swap redundant power supply 2 (optional)
2. Hot-swap redundant power supply 1
3. Three PCI Express slots by riser card 2
4. Two PCI Express slots by riser card 1
5. Ethernet 2 (RJ-45)
6. Four USB 2.0
7. VGA DB-15 connector
8. Ethernet 1 (RJ-45)
9. Dedicate/share management connector (RJ-45)
10. Serial
11. ID LED

ThinkServer RD440 Platform Systems Specifications - I of II

Components	Specifications																									
Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 28 kg (61.73 lb) when fully configured 																									
Chipset	Intel C606 Chipset																									
Processors	Two LGA1356 sockets, supports up to two processors from Intel Xeon E5-2400 or Xeon E5-2400 v2 families, up to 8 cores (E5-2400 series)/10 cores (E5-2400 v2 series), one QPI links up to 8.0GT/s, up to 20MB (E5-2400 series)/25MB (E5-2400 v2 series) cache, integrated 3-channel DDR3 memory controller up to 1600MHz																									
Memory type	1600MHz, LV RDIMM*, DDR3, 3-channel per processor, 240-pin * By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting																									
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor																									
Memory capacity	Up to 192GB DDR3 LV RDIMM (16GB x 12)																									
Memory protection	ECC, memory mirroring, memory sparing																									
Disk bays configurations	Supports one of the following configurations: <ul style="list-style-type: none"> • 8 x 3.5" disk bays + 1 x slim optical bay • 12 x 3.5" disk bays • 8 x 2.5" disk bays + 1 x slim optical bay • 16 x 2.5" disk bays + 1 x slim optical bay 																									
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300** (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p>** RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300** (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																						
RAID 300** (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																						
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																						
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																						
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																						
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5" models: one slim optical bay, supports one optional slim optical 12 x 3.5" models: none optical bay, optional external USB optical is needed																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																									
Front ports	One analog VGA DB-15 connector (for 8 x 3.5", 8 x 2.5", and 16 x 2.5" models), two USB 2.0																									
Rear ports	Four USB 2.0, one ethernet (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																									
Expansion Slots	 <p>Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6 Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8</p>																									
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200 @60Hz																									

ThinkServer RD440 Platform Systems Specifications - II of II

Components	Specifications			
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) basic or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM basic LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part			
Systems management (iKVM is optional)	<ul style="list-style-type: none"> Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions Front control panel LEDs shows the status of power, ID, network, system Lenovo SmartGrid Manager ThinkServer EasyStartup/EasyManage/EasyUpdate 			
Security features	Power-on password/administrator password/Trusted Platform Module (TCG 1.2-compliant)			
Cooling fans	5 fans, hot-swap, 4 + 1 redundant			
Cable mgmt (opt)	Optional cable management arm on selected models			
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies			
Hot-swap parts	Disk drives, power supplies, and cooling fans			
Safety, environment, and certifications	Environmental certifications	<ul style="list-style-type: none"> Energy Star Server 2.0 qualified RoHS-compliant 		
	EMC	FCC Class A, CSA, CE		
	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	8%~80%, non-condensing		
	Humidity - non operating (no package)	8%~80%, non-condensing		
	Humidity - non operating (with package)	8%~90%, non-condensing		
	Acoustic noise (idle/working mode)		System Configuration	
			Category	
			Entry level	High-end
			CPU	1
		Memory	4GB x 1	4GB x 12
		Optical Drive	Slim optical	None
		Drive Bays	8 x 3.5"	12 x 3.5"
		RAID	RAID500	RAID500
		HDD	2 x 500GB 3.5" SATA	12 x 2TB 3.5" SAS
		PSU	800Wx1	800Wx2
	Sound Pressure (operating)	44.98 dB(A)	44.2 dB(A)	
	Sound Pressure (idle)	44.5 dB(A)	44.7 dB(A)	

ThinkServer RD440 Optional Configurations - Processor and Memory

Rack kit	Included in models																																																																																																																																																																																																																																																									
Processor	The following processor options are available:																																																																																																																																																																																																																																																									
	<table border="1"> <thead> <tr> <th rowspan="2">Processor Number</th> <th colspan="9">Processors Specifications*</th> <th rowspan="2">Part Number</th> </tr> <tr> <th># of Cores</th> <th># of Threads</th> <th>Clock Speed</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>QPI Speed</th> <th>Max TDP</th> <th>Memory Speed</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="11">Intel Xeon E5-2400 v2 Series</td> </tr> <tr> <td>Xeon E5-2440 v2</td> <td>8</td> <td>16</td> <td>1.9 GHz</td> <td>2.4 GHz</td> <td>20MB</td> <td>7.2 GT/s</td> <td>95W</td> <td>DDR3-1600</td> <td></td> <td>0C19539</td> </tr> <tr> <td>Xeon E5-2450 v2</td> <td>8</td> <td>16</td> <td>2.5 GHz</td> <td>3.3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95W</td> <td>DDR3-1600</td> <td></td> <td>0C19538</td> </tr> <tr> <td>Xeon E5-2450L v2</td> <td>10</td> <td>20</td> <td>1.7 GHz</td> <td>2.1 GHz</td> <td>25MB</td> <td>7.2 GT/s</td> <td>60W</td> <td>DDR3-1600</td> <td></td> <td>0C19544</td> </tr> <tr> <td>Xeon E5-2470 v2</td> <td>10</td> <td>20</td> <td>2.4 GHz</td> <td>3.2 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>95W</td> <td>DDR3-1600</td> <td></td> <td>0C19537</td> </tr> <tr> <td>Xeon E5-2407 v2</td> <td>4</td> <td>4</td> <td>2.4 GHz</td> <td>2.4 GHz</td> <td>10MB</td> <td>6.4 GT/s</td> <td>80W</td> <td>DDR3-1333</td> <td></td> <td>0C19542</td> </tr> <tr> <td>Xeon E5-2420 v2</td> <td>6</td> <td>12</td> <td>2.2 GHz</td> <td>2.7 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>80W</td> <td>DDR3-1600</td> <td></td> <td>0C19541</td> </tr> <tr> <td>Xeon E5-2430 v2</td> <td>6</td> <td>12</td> <td>2.5 GHz</td> <td>3 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>80W</td> <td>DDR3-1600</td> <td></td> <td>0C19540</td> </tr> <tr> <td>Xeon E5-2430L v2</td> <td>6</td> <td>12</td> <td>2.4 GHz</td> <td>2.8 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>60W</td> <td>DDR3-1600</td> <td></td> <td>0C19545</td> </tr> <tr> <td>Xeon E5-2403 v2</td> <td>4</td> <td>4</td> <td>1.8 GHz</td> <td>1.8 GHz</td> <td>10MB</td> <td>6.4 GT/s</td> <td>80W</td> <td>DDR3-1333</td> <td></td> <td>0C19543</td> </tr> <tr> <td colspan="11">Intel Xeon E5-2600 v2 Series</td> </tr> <tr> <td>Xeon E5-2450L</td> <td>8</td> <td>16</td> <td>1.8 GHz</td> <td>2.3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>70 W</td> <td>DDR3-1600</td> <td></td> <td>0A89450</td> </tr> <tr> <td>Xeon E5-2450</td> <td>8</td> <td>16</td> <td>2.1 GHz</td> <td>2.9 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td></td> <td>0A89444</td> </tr> <tr> <td>Xeon E5-2440</td> <td>6</td> <td>12</td> <td>2.4 GHz</td> <td>2.9 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td></td> <td>0A89445</td> </tr> <tr> <td>Xeon E5-2430L</td> <td>6</td> <td>12</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>60 W</td> <td>DDR3-1333</td> <td></td> <td>0A89451</td> </tr> <tr> <td>Xeon E5-2407</td> <td>4</td> <td>4</td> <td>2.2 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1066</td> <td></td> <td>0A89448</td> </tr> <tr> <td>Xeon E5-2403</td> <td>4</td> <td>4</td> <td>1.8 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1066</td> <td></td> <td>0A89449</td> </tr> <tr> <td>Xeon E5-2430</td> <td>6</td> <td>12</td> <td>2.2 GHz</td> <td>2.7 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td></td> <td>0A89446</td> </tr> <tr> <td>Xeon E5-2420</td> <td>6</td> <td>12</td> <td>1.9 GHz</td> <td>2.4 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td></td> <td>0A89447</td> </tr> <tr> <td>Xeon E5-2470</td> <td>8</td> <td>16</td> <td>2.3 GHz</td> <td>3.1 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td></td> <td>0A89443</td> </tr> </tbody> </table>										Processor Number	Processors Specifications*									Part Number	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed		Intel Xeon E5-2400 v2 Series											Xeon E5-2440 v2	8	16	1.9 GHz	2.4 GHz	20MB	7.2 GT/s	95W	DDR3-1600		0C19539	Xeon E5-2450 v2	8	16	2.5 GHz	3.3 GHz	20MB	8 GT/s	95W	DDR3-1600		0C19538	Xeon E5-2450L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	60W	DDR3-1600		0C19544	Xeon E5-2470 v2	10	20	2.4 GHz	3.2 GHz	25MB	8 GT/s	95W	DDR3-1600		0C19537	Xeon E5-2407 v2	4	4	2.4 GHz	2.4 GHz	10MB	6.4 GT/s	80W	DDR3-1333		0C19542	Xeon E5-2420 v2	6	12	2.2 GHz	2.7 GHz	15MB	7.2 GT/s	80W	DDR3-1600		0C19541	Xeon E5-2430 v2	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	80W	DDR3-1600		0C19540	Xeon E5-2430L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60W	DDR3-1600		0C19545	Xeon E5-2403 v2	4	4	1.8 GHz	1.8 GHz	10MB	6.4 GT/s	80W	DDR3-1333		0C19543	Intel Xeon E5-2600 v2 Series											Xeon E5-2450L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600		0A89450	Xeon E5-2450	8	16	2.1 GHz	2.9 GHz	20MB	8 GT/s	95 W	DDR3-1600		0A89444	Xeon E5-2440	6	12	2.4 GHz	2.9 GHz	15MB	7.2 GT/s	95 W	DDR3-1333		0A89445	Xeon E5-2430L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333		0A89451	Xeon E5-2407	4	4	2.2 GHz		10MB	6.4 GT/s	80 W	DDR3-1066		0A89448	Xeon E5-2403	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066		0A89449	Xeon E5-2430	6	12	2.2 GHz	2.7 GHz	15MB	7.2 GT/s	95 W	DDR3-1333		0A89446	Xeon E5-2420	6	12	1.9 GHz	2.4 GHz	15MB	7.2 GT/s	95 W	DDR3-1333		0A89447	Xeon E5-2470	8	16	2.3 GHz	3.1 GHz	20MB	8 GT/s	95 W	DDR3-1600		0A89443
	Processor Number	Processors Specifications*										Part Number																																																																																																																																																																																																																																														
		# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed																																																																																																																																																																																																																																																	
	Intel Xeon E5-2400 v2 Series																																																																																																																																																																																																																																																									
	Xeon E5-2440 v2	8	16	1.9 GHz	2.4 GHz	20MB	7.2 GT/s	95W	DDR3-1600		0C19539																																																																																																																																																																																																																																															
	Xeon E5-2450 v2	8	16	2.5 GHz	3.3 GHz	20MB	8 GT/s	95W	DDR3-1600		0C19538																																																																																																																																																																																																																																															
	Xeon E5-2450L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	60W	DDR3-1600		0C19544																																																																																																																																																																																																																																															
	Xeon E5-2470 v2	10	20	2.4 GHz	3.2 GHz	25MB	8 GT/s	95W	DDR3-1600		0C19537																																																																																																																																																																																																																																															
	Xeon E5-2407 v2	4	4	2.4 GHz	2.4 GHz	10MB	6.4 GT/s	80W	DDR3-1333		0C19542																																																																																																																																																																																																																																															
	Xeon E5-2420 v2	6	12	2.2 GHz	2.7 GHz	15MB	7.2 GT/s	80W	DDR3-1600		0C19541																																																																																																																																																																																																																																															
	Xeon E5-2430 v2	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	80W	DDR3-1600		0C19540																																																																																																																																																																																																																																															
	Xeon E5-2430L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60W	DDR3-1600		0C19545																																																																																																																																																																																																																																															
	Xeon E5-2403 v2	4	4	1.8 GHz	1.8 GHz	10MB	6.4 GT/s	80W	DDR3-1333		0C19543																																																																																																																																																																																																																																															
	Intel Xeon E5-2600 v2 Series																																																																																																																																																																																																																																																									
	Xeon E5-2450L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600		0A89450																																																																																																																																																																																																																																															
	Xeon E5-2450	8	16	2.1 GHz	2.9 GHz	20MB	8 GT/s	95 W	DDR3-1600		0A89444																																																																																																																																																																																																																																															
	Xeon E5-2440	6	12	2.4 GHz	2.9 GHz	15MB	7.2 GT/s	95 W	DDR3-1333		0A89445																																																																																																																																																																																																																																															
	Xeon E5-2430L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333		0A89451																																																																																																																																																																																																																																															
	Xeon E5-2407	4	4	2.2 GHz		10MB	6.4 GT/s	80 W	DDR3-1066		0A89448																																																																																																																																																																																																																																															
	Xeon E5-2403	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066		0A89449																																																																																																																																																																																																																																															
	Xeon E5-2430	6	12	2.2 GHz	2.7 GHz	15MB	7.2 GT/s	95 W	DDR3-1333		0A89446																																																																																																																																																																																																																																															
	Xeon E5-2420	6	12	1.9 GHz	2.4 GHz	15MB	7.2 GT/s	95 W	DDR3-1333		0A89447																																																																																																																																																																																																																																															
Xeon E5-2470	8	16	2.3 GHz	3.1 GHz	20MB	8 GT/s	95 W	DDR3-1600		0A89443																																																																																																																																																																																																																																																
<p>Notes: All processors specifications 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>																																																																																																																																																																																																																																																										
Memory options	Memory options									Part Number																																																																																																																																																																																																																																																
	ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM									0C19533																																																																																																																																																																																																																																																
	ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM									0C19534																																																																																																																																																																																																																																																
	ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM									0C19535																																																																																																																																																																																																																																																

ThinkServer RD440 Optional Configurations - Storage and RAID

Disk drive options for 3.5" disk bay models (8 x 3.5"/12 x 3.5")	Hot-swap disk drive options for 3.5" bay		Part Number
	3.5" SATA Hard Drive		
	ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89473
	ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89474
	ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89475
	ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0A89477
	ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0C19520
	3.5" SAS Hard Drive		
	ThinkServer 3.5" 1TB 7.2K SAS 6Gbps Hot Swap Hard Drive		0C19530
	ThinkServer 3.5" 2TB 7.2K SAS 6Gbps Hot Swap Hard Drive		0C19531
	ThinkServer 3.5" 3TB 7.2K SAS 6Gbps Hot Swap Hard Drive		0C19532
	ThinkServer 3.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive		67Y2616
	ThinkServer 3.5" 600GB 15K SAS 6Gbps Hot Swap Hard Drive		4XB0F28644
	2.5" SSD for 3.5" disk bay		
	ThinkServer 2.5" 100GB MLC SATA Solid State Drive to 3.5" Kit		0C19571
	ThinkServer 2.5" 200GB MLC SATA Solid State Drive to 3.5" Kit		0C19572
	ThinkServer 2.5" 400GB MLC SATA Solid State Drive to 3.5" Kit		0C19573
Disk drive options for 2.5" disk bay models (8 x 2.5"/16 x 2.5")	Hot-swap disk drive options for 2.5" bay		Part Number
	2.5" SATA Hard Drive		
	ThinkServer 2.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0C19495
	ThinkServer 2.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive		0C19496
	2.5" SAS Hard Drive		
	ThinkServer 2.5" 300GB 10K SAS 6Gbps Hot Swap Hard Drive		67Y2619
	ThinkServer 2.5" 600GB 10K SAS 6Gbps Hot Swap Hard Drive		67Y2621
	ThinkServer 2.5" 900GB 10K SAS 6Gbps Hot Swap Hard Drive		0A89409
	ThinkServer 2.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive		0C19494
	2.5" SSD		
	ThinkServer 2.5" 100GB MLC SATA Solid State Drive		0A89420
	ThinkServer 2.5" 200GB MLC SATA Solid State Drive		0A89418
ThinkServer 2.5" 400GB MLC SATA Solid State Drive		0A89419	
RAID options	RAID controller and RAID upgrade options		Part Number
	ThinkServer RAID 300 Upgrade Key for Advanced RAID		0A89422
	ThinkServer RAID 500 Adapter II		0A89464
	ThinkServer RAID 500 Upgrade Key for Advanced RAID		0A89407
	ThinkServer RAID 700 Adapter II		0A89463
	ThinkServer RAID 700 Battery		67Y2647
	ThinkServer RAID 710 Adapter		0C19489
	ThinkServer RAID Super Capacitor Module		0C19490
	ThinkServer RAID FastPath Software Key		0C19491
	ThinkServer RAID CacheCade Pro 2.0 Software Key		0C19492

ThinkServer RD440 Optional Configurations - Network, System Management, Power Supply

Network and HBA options	Network and HBA options	Part Number
	ThinkServer 1Gbps Ethernet I350-T2 Server Adapter by Intel	0C19506
	ThinkServer 1Gbps Ethernet I350-T4 Server Adapter by Intel	0C19507
	Lenovo 10Gbps Ethernet X540-T2 Server Adapter by Intel	0C19497
	Lenovo 10Gbps Ethernet X520-DA2 Server Adapter by Intel	0C19486
	Lenovo 10Gbps Ethernet Fiber Module by Intel	0C19488
	Lenovo 10Gbps Ethernet X520-SR2 Server Adapter by Intel	0C19487
	ThinkServer QLE8242-CU-CK Dual Port CNA by QLogic	0C19483
	ThinkServer LPe1250 Single Port 8Gb Fibre Channel HBA by Emulex	0C19476
	ThinkServer LPe12002 Dual Port 8Gb Fibre Channel HBA by Emulex	0C19478
ThinkServer QLE2562 Dual Port 8Gb Fibre Channel HBA by QLogic	0C19482	
Security options	Trusted Platform Module options	Part Number
	ThinkServer Trusted Platform Module	0A89428
Systems management options	System Management option for iKVM	Part Number
	ThinkServer Management Module Premium	67Y2624
	Cable Management option	Part Number
	ThinkServer Cable management Arm	0A89476
Power supply options	Power supply option	Part Number
	ThinkServer 800W Gold Hot Swap Redundant Power Supply for Rack	4X20E54690

ThinkServer RD440 Operating System and Virtualization Supportability Matrix

List of operating system and virtualization software supported on ThinkServer RD440

Operating System/Virtualization	Certified	Support ROK	Supports EasyStartup	Preloaded
Windows Server 2008 x86 Edition				
Windows Server 2008 Standard Edition (x86)			•	
Windows Server 2008 Enterprise Edition (x86)			•	
Windows Server 2008 Datacenter Edition (x86)			•	
Windows Server 2008 x64 Edition				
Windows Server 2008 Standard Edition (x64) (including Hyper-V)	•		•	
Windows Server 2008 Enterprise Edition (x64) (including Hyper-V)	•		•	
Windows Server 2008 Datacenter Edition (x64) (including Hyper-V)	•		•	
Windows Server 2008 R2 (x64) with SP1				
Windows Server 2008 Standard Edition R2 with SP1 (including Hyper-V)	•	•	•	
Windows Server 2008 Enterprise Edition R2 with SP1 (including Hyper-V)	•	•	•	
Windows Server 2008 Datacenter Edition R2 with SP1 (including Hyper-V)	•	•	•	
Windows Small Business Server 2011				
Windows Small Business Server 2011 Essentials	•		•	
Windows Small Business Server 2011 Standard	•	•	•	
Windows Small Business Server Premium Add-On (including Hyper-V)	•	•	•	
Windows Server 2012				
Windows Server 2012 Standard (including Hyper-V)	•	•	•	•
Windows Server 2012 Datacenter (including Hyper-V)	•	•	•	•
Windows Server 2012 Essentials	•	•	•	•
Windows Server 2012 Hyper-V	•		•	
Windows Server 2012 R2				
Windows Server 2012 R2 Standard (including Hyper-V)	•	•	•	•
Windows Server 2012 R2 Datacenter (including Hyper-V)	•	•	•	•
Windows Server 2012 R2 Essentials	•	•	•	•
Windows Server 2012 R2 Hyper-V	•		•	
SUSE LINUX Enterprise Server x86				
SUSE LINUX Enterprise Server 10 SP4			•	
SUSE LINUX Enterprise Server 11 SP2	•		•	
SUSE LINUX Enterprise Server 11 SP3	•		•	
SUSE LINUX Enterprise Server x64				
SUSE LINUX Enterprise Server 10 SP4			•	
SUSE LINUX Enterprise Server 11 SP2	•		•	
RedHat Enterprise Linux Server (RHEL) x86				
RHEL 5.9	•		•	
RHEL 5.10	•		•	
RHEL 6.4	•		•	
RHEL 6.5	•		•	
RedHat Enterprise Linux Server x64				
RHEL 5.9	•		•	
RHEL 5.10	•		•	
RHEL 6.4	•		•	
RHEL 6.5	•		•	
VMware x64				
VMware ESXi 5.1 U1	•		•	•
VMware ESXi 5.5	•	•	•	•
Microsoft Hyper V				
Microsoft Hyper-V server 2008	•		•	
Microsoft Hyper-v server 2008 R2 SP1	•		•	
Citrix				
Citrix XenServer 6.1	•		•	
Citrix XenServer 6.0.2	•		•	

Note:

- For more information on ThinkServer operating system and virtualization software, please visit ThinkServer Software page: <http://shop.lenovo.com/us/en/servers/thinkserver/server-software.html>
- For ThinkServer operating system and virtualization software options, please visit ThinkServer OS and virtualization Options document: http://www.lenovo.com/images/products/server/pdfs/datasheets/ThinkServer_OS_&Virtualization_Options_Datasheet.pdf

ThinkServer RD440 Services Upgrade Options

Partial list of Lenovo Services for ThinkServer RD440 with 3-year onsite base warranty models

For more information see: http://www.lenovo.com/services_warranty/us/en/lenovo-warranty.html

Upgrade Service Description	Part Number
Warranty	
3YR Onsite 24x7x4 Hour Response	5WS0F15458
3YR Onsite 24x7x8 Hour Response	5WS0F15392
3YR Onsite 9x5x4 Hour Response	5WS0F15355
4YR Onsite 24x7x4 Hour Response	5WS0F15443
4YR Onsite 24x7x8 Hour Response	5WS0F15395
4YR Onsite 9x5x4 Hour Response	5WS0F15394
4YR Onsite NBD	5WS0F15415
5YR Onsite 24x7x4 Hour Response	5WS0F15377
5YR Onsite 24x7x8 Hour Response	5WS0F15440
5YR Onsite 9x5x4 Hour Response	5WS0F15430
5YR Onsite NBD	5WS0F15419
Keep Your Drive (KYD) Service	
3YR Keep Your Drive	5PS0F15436
3YR Onsite 24x7x4 Hour Response + KYD	5PS0F15376
3YR Onsite 24x7x8 Hour Response + KYD	5PS0F15349
3YR Onsite 9x5x4 Hour Response + KYD	5PS0F15448
4YR Onsite 24x7x4 Hour Response + KYD	5PS0F15389
4YR Onsite 24x7x8 Hour Response + KYD	5PS0F15359
4YR Onsite 9x5x4 Hour Response + KYD	5PS0F15456
4YR Onsite NBD + KYD	5PS0F15459
5YR Onsite 24x7x4 Hour Response + KYD	5PS0F15402
5YR Onsite 24x7x8 Hour Response + KYD	5PS0F15381
5YR Onsite 9x5x4 Hour Response + KYD	5PS0F15366
5YR Onsite NBD + KYD	5PS0F15391
Priority Technical Support	
3YR KYD + Priority Support	5PS0F15417
3YR Onsite 24x7x4 Hour Response + KYD + Priority Support	5PS0F15352
3YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15399
3YR Onsite 24x7x8 Hour Response + KYD + Priority Support	5PS0F15444
3YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15418
3YR Onsite 9x5x4 Hour Response + KYD + Priority Support	5PS0F15398
3YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15468
3YR Priority Support	5WS0E76471
4YR Onsite 24x7x4 Hour Response + KYD + Priority Support	5PS0F15462
4YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15410
4YR Onsite 24x7x8 Hour Response + KYD + Priority Support	5PS0F15433
4YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15425
4YR Onsite 9x5x4 Hour Response + KYD + Priority Support	5PS0F15400
4YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15351
4YR Onsite NBD + KYD + Priority Support	5PS0F15373
4YR Onsite NBD + Priority Support	5WS0F15401
4YR Priority Support	5WS0E77170
5YR Onsite 24x7x4 Hour Response + KYD + Priority Support	5PS0F15350
5YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15412
5YR Onsite 24x7x8 Hour Response + KYD + Priority Support	5PS0F15471
5YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15447
5YR Onsite 9x5x4 Hour Response + KYD + Priority Support	5PS0F15437
5YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15382
5YR Onsite NBD + KYD + Priority Support	5PS0F15388
5YR Onsite NBD + Priority Support	5WS0F15463
5YR Priority Support	5WS0E77173

Upgrade Service Description	Part Number
Post Warranty	
1YR Onsite 24x7x4 Hour Response	5WS0F15435
1YR Onsite 24x7x4 Hour Response + Priority Support	5WS0F15370
1YR Onsite 24x7x8 Hour Response	5WS0F15427
1YR Onsite 24x7x8 Hour Response + Priority Support	5WS0F15361
1YR Onsite 9x5x4 Hour Response	5WS0F15416
1YR Onsite 9x5x4 Hour Response + Priority Support	5WS0F15348
1YR Onsite NBD	5WS0F15407
1YR Onsite NBD + Priority Support	5WS0F15465
TopSeller Priority (TopSeller models only)	
3YR Onsite 24x7x4 Hour Response	5WS0D73789
3YR Onsite 9x5x4 Hour Response	5WS0D73787
4YR Onsite 24x7x4 Hour Response	5WS0D73792
4YR Onsite 9x5x4 Hour Response	5WS0D73791
4YR Onsite NBD	5WS0F15470
3YR Onsite 24x7x4 Hour Response+Priority Support	5WS0F15414
3YR Onsite 9x5x4 Hour Response+Priority Support	5WS0F15423
3YR Priority Support	5WS0E76457
4YR Priority Support	5WS0E76482

Note:

24x7x4: 4 Hour Onsite Response Time in 24x7 Service Window (requires Location Activation)

- 24 hours a day, 7 days a week, including nights and weekends
- Once the need for on-site presence is confirmed, an on-site technician is dispatched to arrive within 4 hours.
- Best coverage for business critical work loads

9x5x4: 4 Hour Onsite Response Time in 9x5 Service Window (requires Location Activation)

- Once the need for on-site presence is confirmed, an on-site technician is dispatched to arrive within 4 hours.

24x7x8: 8 Hour Onsite Response Time in 24x7 Service Window (requires Location Activation)

- 24 hours a day, 7 days a week, including nights and weekends
- Once the need for on-site presence is confirmed, an on-site technician is dispatched to arrive within 8 hours.

Priority Technical Support

Lenovo's Priority Technical Support provides direct access to an advanced level technician supporting all of hardware, operating system and software needs related to server issues, available 24 hours a day, 7 days a week.

Keep Your Drive (KYD) Service

Retain drive (hard drive or SSD) and confidential data if the drive must be replaced.

To confirm if 4hr services are available in a specified location, please use ThinkServer

Service Availability Tool: http://www.lenovo.com/services_warranty/us/en/locator.html

Once purchased, to activate the location of your 4hr/8hr ThinkServer Service, please use

ThinkServer Service Activation page: <http://www.lenovo.com/activation>

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AH001QUX	Xeon E5-2403 v2 4C/1.8GHz/10MB/1333MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001RUX	Xeon E5-2407 v2 4C/2.4GHz/10MB/1333MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001SUX	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001TUX	Xeon E5-2430 v2 6C/2.5GHz/15MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001UUX	Xeon E5-2440 v2 8C/1.9GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001VUX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001WUX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID300	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3

1. Model in *italics* is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD440 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD440 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features (TPM is optional)	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) on selected models																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300* (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p><i>**RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</i></p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 8 x 3.5" 12 x 3.5" 8 x 2.5"/16 x 2.5" (Bay 9-16 are available on 16 x 2.5" models) Rear </p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5": one slim optical bay, supports one slim optical none optical bay, external USB optical is needed	* Slim optical bay is not available on 12 x 3.5" models																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management	Expansion Slots: Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6: Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) <i>Slot 5-6 are available on dual processors models:</i> Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8																									
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2	Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA																									
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	5 fans, hot swap, 4 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AH001XUX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID700	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH001YUX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID700	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH0020UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID710	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH0021UX	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	No	8GBx1 1600MHz LVRDIMM	8X3.5" HS	RAID710	Open	DVD±RW	No	IDM Premium	IPMI	No	1	TPM	No	3
70AH0022UX	Xeon E5-2420 v2 6C/2.2GHz/15MB/1600MHz	2nd	8GBx8 1600MHz LVRDIMM	8X3.5" HS	RAID700	8x2TB 3.5" SAS	DVD±RW	350T2	IDM Premium	iKVM	No	1	TPM	No	3
70AH0023UX	Xeon E5-2450 v2 8C/2.5GHz/20MB/1600MHz	2nd	16GBx8 1600MHz LVRDIMM	8X3.5" HS	RAID710 +CacheVault	6x4TB 3.5" SATA	DVD±RW	350T4	IDM Premium	iKVM	No	1	TPM	No	3

1. Model in *italics* is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD440 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD440 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features (TPM is optional)	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) on selected models																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300* (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p><i>**RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</i></p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 8 x 3.5" 12 x 3.5" 8 x 2.5"/16 x 2.5" (Bay 9-16 are available on 16 x 2.5" models) Rear </p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5": one slim optical bay, supports one slim optical none optical bay, external USB optical is needed	* Slim optical bay is not available on 12 x 3.5" models																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management	Expansion Slots: Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6: Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) <i>Slot 5-6 are available on dual processors models:</i> Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8																									
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2	Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA																									
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	5 fans, hot swap, 4 + 1 redundant																										

See footnotes for more detailed information
Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AE0000US	Xeon E5-2403 v2 4C/1.8GHz/10MB/1333MHz	2nd	16GBx12 1600MHz LVRDIMM	8x3.5" HS	RAID700	8x500GB 3.5" SATA(RAID60)	DVD±RW	X520DA2 +X540T2	IDM Premium	iKVM	Cable	1	TPM	2012 Standard	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD440 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD440 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features (TPM is optional)	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) on selected models																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300* (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p><i>**RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</i></p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 8 x 3.5" 12 x 3.5" 8 x 2.5"/16 x 2.5" (Bay 9-16 are available on 16 x 2.5" models) Rear </p> <p>Expansion Slots: Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6: Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) <i>Slot 5-6 are available on dual processors models:</i> Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5": one slim optical bay, supports one slim optical 12 x 3.5": none optical bay, external USB optical is needed																										
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	5 fans, hot swap, 4 + 1 redundant																										

See footnotes for more detailed information
 Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AF0000US	Xeon E5-2470 v2 10C/2.4GHz/25MB/1600MHz	2nd	16GBx6 1600MHz LVRDIMM	12X3.5" HS	RAID700	6x500GB 3.5" SATA(RAID60) +6x1TB 3.5" SATA(RAID10)	N/A	X520DA2	N/A	iKVM	Cable	1	TPM	2012 Standard	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD440 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD440 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features (TPM is optional)	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) on selected models																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300* (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p><i>**RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</i></p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 8 x 3.5" 12 x 3.5" 8 x 2.5"/16 x 2.5" (Bay 9-16 are available on 16 x 2.5" models)</p> <p>Rear</p> <p>Expansion Slots: Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6: Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) <i>Slot 5-6 are available on dual processors models:</i> Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5": one slim optical bay, supports one slim optical 12 x 3.5" : none optical bay, external USB optical is needed	* Slim optical bay is not available on 12 x 3.5" models																									
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	5 fans, hot swap, 4 + 1 redundant																										

See footnotes for more detailed information
 Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70AG0000US	E5-2440 6C/2.4GHz/15MB/1333MHz	2nd	8GBx6+16GBx6 1600MHz LVRDIMM	8X2.5" HS	RAID500	8x600GB 2.5" SAS(RAID50)	DVD±RW	X540T2 +X520DA2	IDM Premium	iKVM	Cable	1	TPM	2012 Standard	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD440 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD440 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features (TPM is optional)	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) on selected models																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300* (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p><i>**RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</i></p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 8 x 3.5" 12 x 3.5" 8 x 2.5"/16 x 2.5" (Bay 9-16 are available on 16 x 2.5" models) Rear </p> <p>Expansion Slots: Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6: Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) <i>Slot 5-6 are available on dual processors models:</i> Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5": one slim optical bay, supports one slim optical 12 x 3.5" : none optical bay, external USB optical is needed																										
Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																										
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2																										
Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part																										
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																										
Cooling fans	5 fans, hot swap, 4 + 1 redundant																										

See footnotes for more detailed information
 Model(s) announced January 21, 2014

Type-model ¹	Intel Xeon Processor	2nd CPU	Memory	Disk Bays	RAID controller	Storage	Slim optical	Discrete ethernet	Intelligent Diagnostics	Remote mgmt	Cable mgmt	PSU qty	TPM module	Preloaded OS	Base warranty (-year, on-site)
70B20000US	Xeon E5-2450L v2 10C/1.7GHz/25MB/1600MHz	2nd	4GBx6+16GBx6 1600MHz LVRDIMM	16X2.5" HS	RAID700 +Battery	12x900GB 2.5" SAS(RAID10) +4x1TB 2.5" SATA(RAID1)	DVD±RW	X520DA2	IDM Premium	iKVM	Cable	1	TPM	2012 Standard	3

1. Model in italics is Global model 2. By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting

- For detailed platform specifications, please see [ThinkServer RD440 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD340, please see [ThinkServer RD440 Optional Configurations sheets](#)

Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19" W x 28.9" D x 3.45" H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 	Cable mgmt (opt)	Optional cable management arm on selected models																								
Chipset	Intel C606 Chipset, two LGA1356 sockets for processors	Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																								
Memory DIMMs	Twelve DIMM sockets, six DIMM sockets per processor	Security features (TPM is optional)	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) on selected models																								
Memory protection	ECC, memory mirroring, memory sparing	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																								
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 300* (onboard)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5 support</td> </tr> <tr> <td>RAID 500 (LSI 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table> <p><i>**RAID 300 is supported on 8 x 3.5" and 8 x 2.5" models only</i></p>	RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades	RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support	RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 	<p>Top</p> <p>Front: Supports the following disk bay configurations: 8 x 3.5" 12 x 3.5" 8 x 2.5"/16 x 2.5" (Bay 9-16 are available on 16 x 2.5" models)</p> <p>Rear</p> <p>Expansion Slots: Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6: Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 2.0 x8 (x4) Slot 4: Low Profile, PCIe 3.0 x8 (x4 elec) Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8</p> <p>Front/rear Ports: Front: 1 VGA (for 6 x 2.5"/8 x 2.5" models), 2 USB 2.0 Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>
RAID adapter	RAID support	Cache	Transfer rates	Optional upgrades																							
RAID 300* (onboard)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5 support																							
RAID 500 (LSI 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																							
RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																							
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade Pro 2.0 • optional FastPath key 																							
Optical drive (optional)	8 x 3.5"/8 x 2.5"/16 x 2.5": one slim optical bay, supports one slim optical 12 x 3.5": none optical bay, external USB optical is needed	Onboard network	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management																								
Discrete network (optional)	Supports the following Intel Server Adapter options on selected models: 1Gbps: 350-T2/I350-T4 10Gbps: X520-SR2/X520-DA2/X540-T2/Fiber Module for X520-DA2	Intelligent Diagnostics Module (optional)	Supports optional Intelligent Diagnostics Module (IDM) or IDM Premium on selected 8 x 3.5"/8 x 2.5"/16 x 2.5" models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part																								
Systems management (iKVM is optional)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 	Cooling fans	5 fans, hot swap, 4 + 1 redundant																								

See footnotes for more detailed information
 Model(s) announced January 21, 2014

ThinkServer RD330 Photography - 3.5" disk bays

ThinkServer™



ThinkServer RD330 Photography - 2.5" disk bays

ThinkServer™



ThinkServer RD330 with 3.5" Disk Bay (4304) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
4304-E1U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300		4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	1
4304-E2U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300		4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	1
4304-E3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500		4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	1
4304-E4U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500	4x1TB 3.5" SATA	4xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	No	2
4304-E5U	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade		4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	2
4304-E6U	2xE5-2420	1333MHz RDIMM	2x8GB	No	500+Upgrade		4xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	No	1
4304-E7U	1xE5-2420	1333MHz RDIMM	1x16GB	No	500		4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	2
4304-E8U	1xE5-2403	1333MHz RDIMM	1x4GB	No	500+Upgrade		4xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	No	1

Limited warranty **3-year** parts and labor; more services information see S-RAL sheet

Processor
Up to two Intel® Xeon® E5-2400 series processors,
Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1),
3-channel DDR3 memory controller (up to 1066MHz)
Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1),
3-channel DDR3 memory controller (up to 1066MHz)
Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1),
Turbo Boost 2.0 (up to 2.4GHz),
3-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1),
Turbo Boost 2.0 (up to 2.9GHz),
3-channel DDR3 memory controller (up to 1600MHz)

Implementation
Two LGA1356 sockets

Memory
UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over six DIMMs requires dual processors
- Mixing of UDIMM, RDIMM, or LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear;
Maximum resolution: 1920x1200@60Hz

Disk bays
Four 3.5" hot-swap SATA/SAS disk bays (see right)

Disk controller
RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support
Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support
RAID 500: ThinkServer RAID 500 adapter (LSI® SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support
RAID 700: 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 support
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter

Disk(s)
3.5" SATA: SATA 6.0Gb/s, 7200 rpm
3.5" SAS: SAS 6.0Gb/s, 15000 rpm

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C606 Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2

Riser card
Two USB 2.0

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Intelligent Diagnostics Module (IDM)
Supports IDM on selected models;
Basic: IDM LED lights indicate failing component category

Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

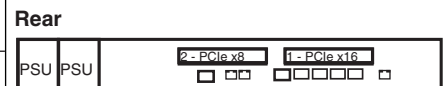
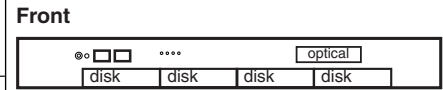
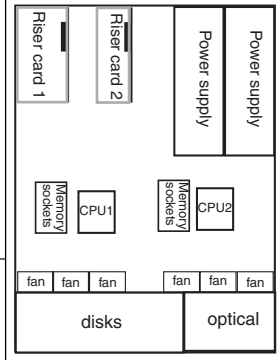
Power supply
One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

Cable management
Optional cable management arm on selected models

Cooling
Six fans, non-hot swap

1U Rack top



Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
Bay 2-5 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
US model(s) announced August 14, 2012

ThinkServer RD330 with 3.5" Disk Bay (4304) - TopSeller (June 2013)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory Pre-conf DIMMs	RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty																																																																																																																																																																																																																																																																																																																																																																																																																																																
4304-F5U	1xE5-2407	1600MHz RDIMM	1x8GB	No	300	2x1TB 3.5"	SATA	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1																																																																																																																																																																																																																																																																																																																																																																																																																																																
<table border="1"> <tr> <td>Limited warranty</td> <td colspan="15">3-year parts and labor; more services information see S-RAL sheet</td> </tr> <tr> <td>Processor</td> <td colspan="15">Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz)</td> </tr> <tr> <td>Implementation</td> <td colspan="15">Two LGA1356 sockets</td> </tr> <tr> <td>Memory</td> <td colspan="15">UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)</td> </tr> <tr> <td>Additional memory disclaimers</td> <td colspan="15"> <ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported </td> </tr> <tr> <td>Graphics</td> <td colspan="15">Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz</td> </tr> <tr> <td>Disk bays</td> <td colspan="15">Four 3.5" hot-swap SATA/SAS disk bays (see right)</td> </tr> <tr> <td>Disk controller</td> <td colspan="15"> RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700 </td> </tr> <tr> <td>RAID Support</td> <td colspan="15">Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter</td> </tr> <tr> <td>Disk(s)</td> <td colspan="15"> 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm </td> </tr> <tr> <td>Tape drive</td> <td colspan="15">None</td> </tr> <tr> <td>Optical</td> <td colspan="15">DVD±RW or DVD ROM, slim</td> </tr> <tr> <td>Diskette</td> <td colspan="15">None (use USB port)</td> </tr> <tr> <td>Chipset</td> <td colspan="15">Intel C606 Chipset</td> </tr> <tr> <td>Ethernet</td> <td colspan="15">Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2</td> </tr> <tr> <td>Riser card</td> <td colspan="15">Two USB 2.0</td> </tr> <tr> <td>Front ports</td> <td colspan="15">Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector</td> </tr> <tr> <td>Rear ports</td> <td colspan="15">Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector</td> </tr> <tr> <td>Intelligent Diagnostics Module (IDM)</td> <td colspan="15">Supports IDM on selected models; Basic: IDM LED lights indicate failing component category</td> </tr> <tr> <td>Systems mgmt</td> <td colspan="15">Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions</td> </tr> <tr> <td>Security chip</td> <td colspan="15">No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant</td> </tr> <tr> <td>Prerequisites</td> <td colspan="15">SATA/SAS disk, OS</td> </tr> <tr> <td>Keyboard/mouse</td> <td colspan="15">None (use USB port)</td> </tr> <tr> <td>Power supply</td> <td colspan="15">One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies</td> </tr> <tr> <td>Rack kit</td> <td colspan="15">Includes rack kit</td> </tr> <tr> <td>Cable management</td> <td colspan="15">Optional cable management arm on selected models</td> </tr> <tr> <td>Cooling</td> <td colspan="15">Six fans, non-hot swap</td> </tr> </table>																Limited warranty	3-year parts and labor; more services information see S-RAL sheet															Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz)															Implementation	Two LGA1356 sockets															Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)															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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 															Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz															Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)															Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700															RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter															Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm															Tape drive	None															Optical	DVD±RW or DVD ROM, slim															Diskette	None (use USB port)															Chipset	Intel C606 Chipset															Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2															Riser card	Two USB 2.0															Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector															Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector															Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category															Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions															Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant															Prerequisites	SATA/SAS disk, OS															Keyboard/mouse	None (use USB port)															Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies															Rack kit	Includes rack kit															Cable management	Optional cable management arm on selected models															Cooling	Six fans, non-hot swap														
Limited warranty	3-year parts and labor; more services information see S-RAL sheet																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz)																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Implementation	Two LGA1356 sockets																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700																																																																																																																																																																																																																																																																																																																																																																																																																																																														
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Tape drive	None																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Optical	DVD±RW or DVD ROM, slim																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Diskette	None (use USB port)																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Chipset	Intel C606 Chipset																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Riser card	Two USB 2.0																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Prerequisites	SATA/SAS disk, OS																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Keyboard/mouse	None (use USB port)																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Rack kit	Includes rack kit																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Cable management	Optional cable management arm on selected models																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Cooling	Six fans, non-hot swap																																																																																																																																																																																																																																																																																																																																																																																																																																																														

| **1U Rack top** **Front** **Rear** **Mechanical** - 1U rack - 19"W x 28.9"D x 1.72"H (with rack handles) - 482.4mm W x 734mm D x 43.6mm H (with rack handles) - 17kg (37.5 lb) when fully configured **Disk Bays** | | | | |---------|-----------------------------|-------------| | Bay 1 | 5.25", 0.5" high, external, | for optical | | Bay 2-5 | 3.5", 1" high, external, | for disk | **Expansion Slots** Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec) **Security** - Security chip (selected models, see information on left) - Administrator password - User password - Boot sequence control - Boot without keyboard, mouse, diskette - Serial port I/O control - USB port disablement (all) **Software Management Tools** - ThinkServer EasyStartup - ThinkServer EasyManage **Energy Management Technology** - Lenovo® SmartGrid Manager **ENERGY STAR® Server 1.1-compliant** RoHS-compliant For more accessories, see O-RAL sheet | | | | | | | | | | | | | | | |

ThinkServer RD330 with 3.5" Disk Bay (4305)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Memory Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
4305-B1U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	No	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1
4305-B2U	1xE5-2403	1333MHz RDIMM	1x8GB	No	300	No	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1
4305-B3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	300	No	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1
4305-B4U	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade	No	4xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	1
4305-B5U	1xE5-2450	1333MHz RDIMM	1x16GB	No	500+Upgrade	No	4xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more warranty information see S-RAL sheet	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)	
Implementation	Two LGA1356 sockets	
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)	
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)	
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: 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 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700	
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter	
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm	
Tape drive	None	
Optical	DVD±RW or DVD ROM, slim	
Diskette	None (use USB port)	
Chipset	Intel C606 Chipset	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2	
Riser card	Two USB 2.0	
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	
Intelligent Diagnostics Module (IDM)	Supports IDM on selected model; Basic: IDM LED lights indicate failing component category	
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions	
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	
Prerequisites	SATA/SAS disk, OS	
Keyboard/mouse	None (use USB port)	
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	
Rack kit	Includes rack kit	
Cable management	Cable: contains cable management arm	
Cooling	Six fans, non-hot swap	

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-5	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
US model(s) announced August 14, 2012

ThinkServer RD330 with 3.5" Disk Bay (4305) - September 2012

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
4305-F2U	1xE5-2407	1600MHz RDIMM	1x4GB	No	300		4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
4305-F3U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x500GB 3.5" SATA	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
4305-F4U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 3.5" SAS	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1), Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	<p>RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support</p> <p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support</p> <p>RAID 700: 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 support</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter
Disk(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>3.5" SAS: SAS 6.0Gb/s, 15000 rpm</p>
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1, riser card 2 for slot 2
Front ports	Two USB 2.0
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Six fans, non-hot swap

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-5	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
US model(s) announced September 11, 2012

ThinkServer RD330 with 2.5" Disk Bay (3073) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Memory Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3073-C1U	1xE5-2403	1333MHz	RDIMM 1x4GB	No	300		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
3073-C2U	1xE5-2407	1333MHz	RDIMM 1x4GB	No	300		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
3073-C3U	1xE5-2420	1333MHz	RDIMM 1x8GB	No	500		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
3073-C4U	1xE5-2450	1333MHz	RDIMM 1x8GB	No	500+Upgrade		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	2
3073-C5U	2xE5-2420	1333MHz	RDIMM 2x8GB	No	500+Upgrade		6xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	1
3073-C6U	2xE5-2420	1333MHz	RDIMM 2x8GB	No	500+Upgrade	2x200G SSD	6xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
3073-C7U	1xE5-2420	1333MHz	RDIMM 1x16GB	No	500		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	2
3073-C8U	1xE5-2450	1333MHz	RDIMM 1x8GB	No	300		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1

Limited warranty **3-year** parts and labor; more services information see S-RAL sheet

Processor
Up to two Intel® Xeon® E5-2400 series processors,
Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1),
3-channel DDR3 memory controller (up to 1066MHz)
Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1),
3-channel DDR3 memory controller (up to 1066MHz)
Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1),
Turbo Boost 2.0 (up to 2.4GHz),
3-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1),
Turbo Boost 2.0 (up to 2.9GHz),
3-channel DDR3 memory controller (up to 1600MHz)

Implementation
Two LGA1356 sockets

Memory
UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over six DIMMs requires dual processors
- Mixing of UDIMM, RDIMM, or LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz

Disk bays
Six 2.5" hot-swap SATA/SAS disk bays (see right)

Disk controller
RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support
Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support
RAID 700: 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 support
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter

Disk(s)
2.5" SAS: SAS 6.0Gb/s, 10000 rpm
SSD: Solid State Drive, 2.5"

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C606 Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2

Riser card
One analog VGA DB-15 connector, two USB 2.0

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Intelligent Diagnostics Module (IDM)
Supports IDM on selected models;
Basic: IDM LED lights indicate failing component category

Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); **iKVM:** add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

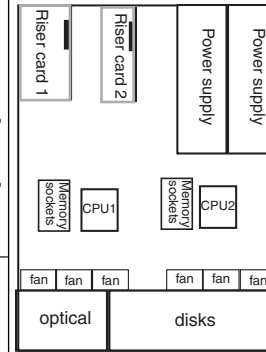
Power supply
One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

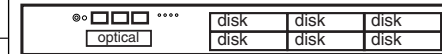
Cable management
Optional cable management arm on selected models

Cooling
Six fans, non-hot swap

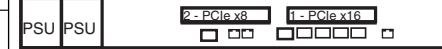
1U Rack top



Front



Rear



Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
Bay 2-7 2.5", 0.6" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

ThinkServer RD330 with 2.5" Disk Bay (3074)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Memory Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System TPM mgmt	Cable mgmt	Preload OS	PSU qty
3074-D1U	1xE5-2407	1333MHz	RDIMM 1x4GB	No	300	None	6xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1
3074-D2U	1xE5-2403	1333MHz	RDIMM 1x8GB	No	300	None	6xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1
3074-D3U	1xE5-2420	1333MHz	RDIMM 1x8GB	No	300	None	6xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	2
3074-D4U	1xE5-2450	1333MHz	RDIMM 1x8GB	No	500+Upgrade	None	6xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	1
3074-D5U	1xE5-2450	1333MHz	RDIMM 1x16GB	No	500+Upgrade	None	6xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)	
Implementation	Two LGA1356 sockets	
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)	
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	
Disk bays	Six 2.5" hot-swap SATA/SAS disk bays (see right)	
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter	
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"	
Tape drive	None	
Optical	DVD±RW or DVD ROM, slim	
Diskette	None (use USB port)	
Chipset	Intel C606 Chipset	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2	
Riser card	One analog VGA DB-15 connector, two USB 2.0	
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	
Rear ports		
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category	
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions	
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	
Prerequisites	SATA/SAS disk, OS	
Keyboard/mouse	None (use USB port)	
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	
Rack kit	Includes rack kit	
Cable management	Optional cable management arm on selected models	
Cooling	Six fans, non-hot swap	

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-7	2.5", 0.6" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

ThinkServer RD330 with 2.5" Disk Bay (3074) - September 2012

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3074-D6U	1xE5-2407	1600MHz RDIMM	1x4GB	No	300		6xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	1
3074-D7U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x300GB 2.5" SAS	6xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	No	2
3074-D8U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 2.5" SAS	6xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Six 2.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	<p>RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support</p> <p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p>RAID 700: 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 support</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1, riser card 2 for slot 2
Front ports	One analog VGA DB-15 connector, two USB 2.0
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Six fans, non-hot swap

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-7	2.5", 0.6" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
US model(s) announced September 11, 2012

ThinkServer RD430 Photography - Eight 3.5" disk bays

ThinkServer™



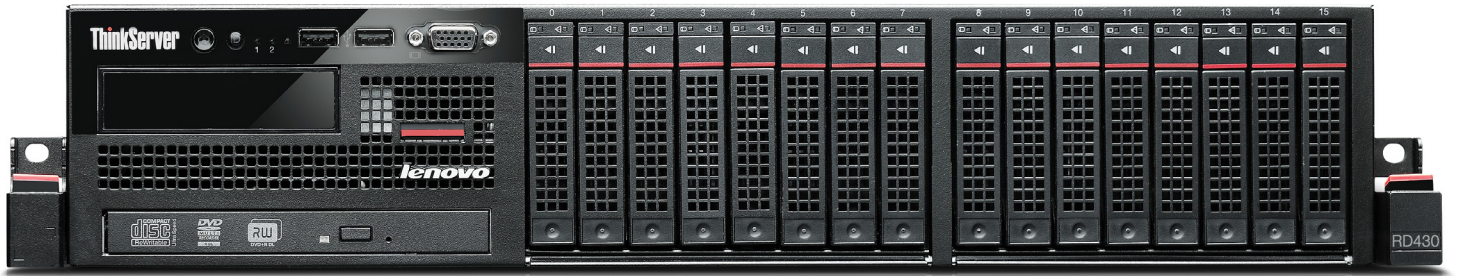
ThinkServer RD430 Photography - Twelve 3.5" disk bays

ThinkServer™



ThinkServer RD430 Photography - 2.5" disk bays

ThinkServer™



* Some models in pictures above contain optional add-in ethernet adapter or RAID adapter; some RD430 with 2.5" disk bay models may come with 8 disk bays

ThinkServer RD430 with eight 3.5" Disk Bays (3064) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3064-G2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3064-G3U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3064-G4U	1xE5-2420	1333MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	No	1
3064-G5U	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3064-G6U	2xE5-2420	1333MHz RDIMM	2x16GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Riser card	One analog VGA DB-15 connector, two USB 2.0
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Rear ports	
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
 Bay 2-9 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
 RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
 US model(s) announced August 14, 2012

ThinkServer RD430 with eight 3.5" Disk Bays (3065)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System mgmt	Cable mgmt	Preload OS	PSU qty	
3065-B1U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3065-B2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3065-B3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3065-B4U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3065-B5U	1xE5-2420	1333MHz RDIMM	1x8GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	One analog VGA DB-15 connector, two USB 2.0
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
 Bay 2-9 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
 Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
 US model(s) announced August 14, 2012

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk type	SATA optical	Intelligent Diagnostics	System mgmt	Cable mgmt	Preload OS	PSU qty
3065-A3U	1xE5-2420	1600MHz RDIMM	1x8GB	No	300		SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	1
3065-A4U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x500GB 3.5" SATA	SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	2
3065-A5U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 3.5" SAS	SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 300:</i> Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Riser card	One analog VGA DB-15 connector, two USB 2.0
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Rear ports	
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
 Bay 2-9 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
 RoHS-compliant

For more accessories, see O-RAL sheet

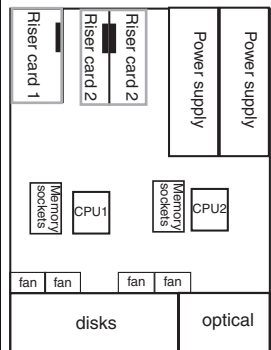
ThinkServer RD430 with eight 3.5" Disk Bays (3065) - October 2012

Product Specifications Reference (PSREF)

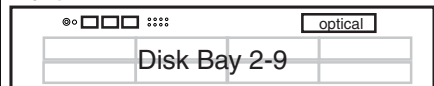
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3065-K1U	1xE5-2450	1600MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	1

Limited warranty	3-year parts and labor; more services information see S-RD sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	<p>RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support</p> <p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p>RAID 700: 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</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>3.5" SAS: SAS 6.0Gb/s, 15000 rpm</p>
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	One analog VGA DB-15 connector, two USB 2.0
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category; Premium: IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap


2U Rack top



Front



Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1: 5.25", 0.5" high, external, for optical
 Bay 2-9: 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
 RoHS-compliant

For more accessories, see O-RAL sheet

ThinkServer RD430 with twelve 3.5" Disk Bays (3057) - TopSeller

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	Preload OS	PSU qty	
3057-E1U	1xE5-2403	1333MHz RDIMM	1x4GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3057-E2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3057-E3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3057-E4U	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
3057-E5U	2xE5-2420	1333MHz RDIMM	2x16GB	No	700+Battery		12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
3057-E6U	2xE5-2420	1333MHz RDIMM	2x16GB	No	700+Battery	6x1TB 3.5" SATA	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm
Tape drive	None
Optical	None (use USB port)
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Riser card	Two USB 2.0
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Rear ports	
Intelligent Diagnostics Module (IDM)	None
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1-12 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

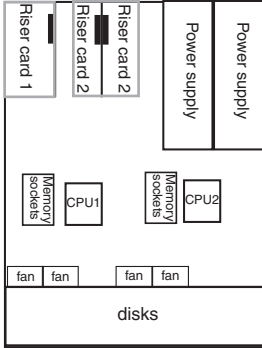
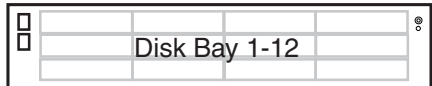
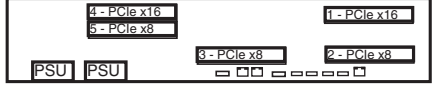
ENERGY STAR® Server 1.1-compliant
 RoHS-compliant

For more accessories, see O-RAL sheet

ThinkServer RD430 with twelve 3.5" Disk Bays (3059)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	Preload OS	PSU qty	
3059-F1U	1xE5-2420	1333MHz RDIMM	1x8GB	No	700+Battery	None	12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3059-F2U	1xE5-2403	1333MHz RDIMM	1x4GB	No	500+Upgrade	None	12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3059-F3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	None	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
3059-F4U	2xE5-2450	1333MHz RDIMM	2x8GB	No	700+Battery	None	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more warranty information see S-RAL sheet		 <p>2U Rack top</p>	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)			
Implementation	Two LGA1356 sockets			
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)			
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 			
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz			
Disk bays	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)			
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700			
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter			
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm			
Tape drive	None			
Optical	None (use USB port)			
Diskette	None (use USB port)			
Chipset	Intel C606 Chipset			
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management			
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5			
Front ports	Two USB 2.0			
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector			
Intelligent Diagnostics Module (IDM)	None			
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions			
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant			
Prerequisites	SATA/SAS disk, OS			
Keyboard/mouse	None (use USB port)			
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies			
Rack kit	Includes rack kit			
Cable management	Optional cable management arm on selected models			
Cooling	Four fans, hot-swap			
			<p>Front</p>  <p>Rear</p>  <p>Slot 4, 5 are available on dual processors models only</p>	
			<p>Mechanical</p> <ul style="list-style-type: none"> 2U rack 19"W x 28.9"D x 3.45"H (with rack handles) 482.4mm W x 734mm D x 87.6mm H (with rack handles) 26.5 kg (58.42 lb) when fully configured 	
			<p>Disk Bays</p> <p>Bay 1-12 3.5", 1" high, external, for disk</p>	
			<p>Expansion Slots</p> <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8</p>	
			<p>Security</p> <ul style="list-style-type: none"> Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all) 	
			<p>Software Management Tools</p> <ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 	
			<p>Energy Management Technology</p> <ul style="list-style-type: none"> Lenovo® SmartGrid Manager 	
			<p>ENERGY STAR® Server 1.1-compliant RoHS-compliant</p>	
			For more accessories, see O-RAL sheet	

See footnotes for important warranty information
US model(s) announced August 14, 2012

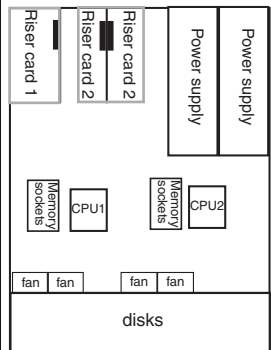
ThinkServer RD430 with twelve 3.5" Disk Bays (3059) - Sep 2012

Product Specifications Reference (PSREF)

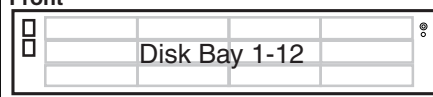
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	Preload OS	PSU qty
3059-F6U	1xE5-2420	1600MHz RDIMM	1x8GB	No	700		SATA/SAS	No	No	TPM	iKVM	No	1
3059-F8U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x500GB 3.5" SATA	SATA/SAS	No	No	TPM	iKVM	No	2
3059-F9U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 3.5" SAS	SATA/SAS	No	No	TPM	iKVM	No	2

Limited warranty	3-year parts and labor; more warranty information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1), Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm
Tape drive	None
Optical	None (use USB port)
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Riser card	Two USB 2.0
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Rear ports	
Intelligent Diagnostics Module (IDM)	None
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

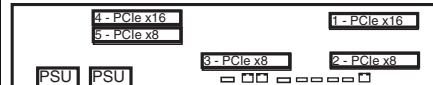
2U Rack top



Front



Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1-12 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
Slot 4-5 are available on dual processors models:
Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

ThinkServer RD430 with twelve 3.5" Disk Bays (3059) - October 2012

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System mgmt	Cable mgmt	Preload OS	PSU qty
3059-K5U	1xE5-2450	1600MHz RDIMM	1x8GB	No	700	No	12xHS	SATA/SAS	No	No	TPM iKVM	No	No	1

Limited warranty	3-year parts and labor; more warranty information see S-RD sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	<p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p>RAID 700: 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</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>3.5" SAS: SAS 6.0Gb/s, 15000 rpm</p>
Tape drive	None
Optical	None (use USB port)
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Riser card	Two USB 2.0
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Rear ports	
Intelligent Diagnostics Module (IDM)	None
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1-12 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
 RoHS-compliant

For more accessories, see O-RAL sheet

ThinkServer RD430 with 2.5" Disk Bay (3070) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3070-C1U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	300	8xHS	SATA/SAS DVD±RW	Basic	TPM	IPMI	No	No	No	1
3070-C2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	300	8xHS	SATA/SAS DVD±RW	Basic	TPM	IPMI	No	No	No	1
3070-C3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	500+Upgrade	8xHS	SATA/SAS DVD±RW	Premium	TPM	IPMI	No	No	No	1
3070-C4U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	700+Battery	8xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2
3070-C5U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	500+Upgrade	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	1
3070-C6U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	700+Battery	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2
3070-C7U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	6x300GB 2.5" SAS	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2
3070-C8U	1xE5-2450	1333MHz RDIMM	1x8GB	No	300	300	8xHS	SATA/SAS DVD±RW	Premium	TPM	IPMI	No	No	No	1
3070-C9U	1xE5-2450	1333MHz RDIMM	1x8GB	No	700+Battery	700+Battery	8xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (see right)
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	One analog VGA DB-15 connector, two USB 2.0
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Four fans, hot-swap

2U Rack top

Front

Bay 10-17 are available on sixteen disk bays models only

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
 Bay 2-9 2.5", 0.6" high, external, for disk
 Bay 10-17 are available on sixteen 2.5" disk bays model:
 Bay 10-17 2.5", 0.6" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
 Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
 RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
 US model(s) announced August 14, 2012

ThinkServer RD430 with 2.5" Disk Bay (3071)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics TPM	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3071-D1U	1xE5-2420	1333MHz RDIMM	1x8GB	No	700+Battery	None	8xHS	SATA/SAS DVD±RW	Premium	TPM	IPMI	No	No	1
3071-D2U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	None	8xHS	SATA/SAS DVD±RW	Basic	TPM	IPMI	No	No	1
3071-D3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	None	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet		2U Rack top	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz)			
Implementation	Two LGA1356 sockets			
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)			
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 			
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz		Front <p>Bay 10-17 are available on sixteen disk bays models only</p>	
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (see right)		Rear <p>Slot 4, 5 are available on dual processors models only</p>	
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700			
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter			
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"			
Tape drive	None			
Optical	DVD±RW or DVD ROM, slim			
Diskette	None (use USB port)			
Chipset	Intel C606 Chipset		Mechanical <ul style="list-style-type: none"> 2U rack 19"W x 28.9"D x 3.45"H (with rack handles) 482.4mm W x 734mm D x 87.6mm H (with rack handles) 26.5 kg (58.42 lb) when fully configured 	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5		Disk Bays Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 2.5", 0.6" high, external, for disk Bay 10-17 are available on sixteen 2.5" disk bays model: Bay 10-17 2.5", 0.6" high, external, for disk	
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5			
Front ports	One analog VGA DB-15 connector, two USB 2.0			
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector		Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) Slot 4-5 are available on dual processors models: Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8	
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part			
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions			
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant		Security <ul style="list-style-type: none"> Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all) 	
Prerequisites	SATA/SAS disk, OS			
Keyboard/mouse	None (use USB port)			
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies		Software Management Tools <ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 	
Rack kit	Includes rack kit			
Cable management	Optional cable management arm on selected models		Energy Management Technology <ul style="list-style-type: none"> Lenovo® SmartGrid Manager 	
Cooling	Four fans, hot-swap		ENERGY STAR® Server 1.1-compliant RoHS-compliant	
For more accessories, see O-RAL sheet				

See footnotes for important warranty information
US model(s) announced August 14, 2012

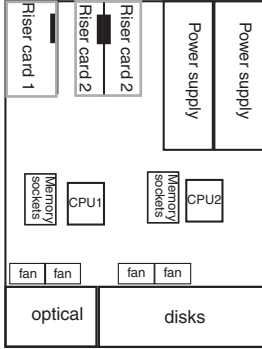
ThinkServer RD430 with 2.5" Disk Bay (3071) - September 2012

Product Specifications Reference (PSREF)

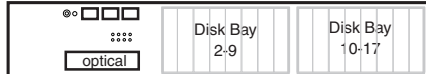
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	Sys mgmt TPM	Cable mgmt	Preload OS	PSU qty
3071-D4U	1xE5-2420	1600MHz RDIMM	1x8GB	No	300		8xHS	SATA/SAS DVD±RW		Premium TPM	iKVM	No	No	1
3071-D6U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x300GB 2.5" SAS	8xHS	SATA/SAS DVD±RW		Premium TPM	iKVM	No	No	2
3071-D7U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 2.5" SAS	8xHS	SATA/SAS DVD±RW		Premium TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1) , 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz)	
Implementation	Two LGA1356 sockets	
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)	
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (see right)	
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 300:</i> Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter	
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"	
Tape drive	None	
Optical	DVD±RW or DVD ROM, slim	
Diskette	None (use USB port)	
Chipset	Intel C606 Chipset	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management	
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5	
Front ports	One analog VGA DB-15 connector, two USB 2.0	
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part	
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions	
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant	
Prerequisites	SATA/SAS disk, OS	
Keyboard/mouse	None (use USB port)	
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	
Rack kit	Includes rack kit	
Cable management	Optional cable management arm on selected models	
Cooling	Four fans, hot-swap	

2U Rack top




Front



Bay 10-17 are available on sixteen disk bays models only

Rear



Slot 4, 5 are available on dual processors models only

Mechanical	
<ul style="list-style-type: none"> 2U rack 19"W x 28.9"D x 3.45"H (with rack handles) 482.4mm W x 734mm D x 87.6mm H (with rack handles) 26.5 kg (58.42 lb) when fully configured 	
Disk Bays	
Bay 1	5.25", 0.5" high, external, for optical
Bay 2-9	2.5", 0.6" high, external, for disk
<i>Bay 10-17 are available on sixteen 2.5" disk bays model:</i>	
Bay 10-17	2.5", 0.6" high, external, for disk
Expansion Slots	
Slot 1:	half-length, full-height, PCI Express 3.0 x16
Slot 2:	half-length, full-height, PCI Express 2.0 x8 (x4 elec)
Slot 3:	Low Profile, PCI Express 3.0 x8 (x4 elec)
<i>Slot 4-5 are available on dual processors models:</i>	
Slot 4:	half-length, full-height, PCI Express 3.0 x16 (x8 elec)
Slot 5:	half-length, full-height, PCI Express 3.0 x8
Security	
<ul style="list-style-type: none"> Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all) 	
Software Management Tools	
<ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 	
Energy Management Technology	
<ul style="list-style-type: none"> Lenovo® SmartGrid Manager 	
ENERGY STAR® Server 1.1-compliant RoHS-compliant	
For more accessories, see O-RAL sheet	

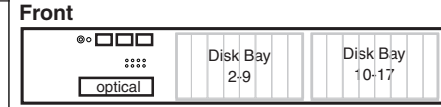
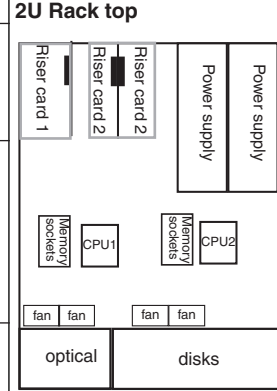
See footnotes for important warranty information
US model(s) announced September 11, 2012

ThinkServer RD430 with 2.5" Disk Bay (3071) - October 2012

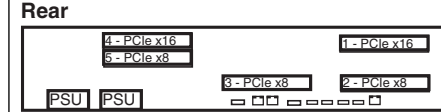
Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory Pre-conf DIMMs	RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics TPM	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3071-K4U	1xE5-2450	1600MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium TPM	iKVM	No	No	1

Limited warranty	3-year parts and labor; more services information see S-RD sheet	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz) Two LGA1356 sockets	
Implementation		
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)	
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 Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (see right)	
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter	
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"	
Tape drive	None	
Optical	DVD±RW or DVD ROM, slim	
Diskette	None (use USB port)	
Chipset	Intel C606 Chipset	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5	
Riser card	One analog VGA DB-15 connector, two USB 2.0	
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	
Rear ports		
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part	
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions	
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	
Prerequisites	SATA/SAS disk, OS	
Keyboard/mouse	None (use USB port)	
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	
Rack kit	Includes rack kit	
Cable management	Optional cable management arm on selected models	
Cooling	Four fans, hot-swap	



Bay 10-17 are available on sixteen disk bays models only



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

- Bay 1: 5.25", 0.5" high, external, for optical
- Bay 2-9: 2.5", 0.6" high, external, for disk
- Bay 10-17 are available on sixteen 2.5" disk bays model:
- Bay 10-17: 2.5", 0.6" high, external, for disk

Expansion Slots

- Slot 1: half-length, full-height, PCI Express 3.0 x16
- Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec)
- Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
- Slot 4-5 are available on dual processors models:
- Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
- Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RAL sheet

See footnotes for important warranty information
US model(s) announced October 16, 2012

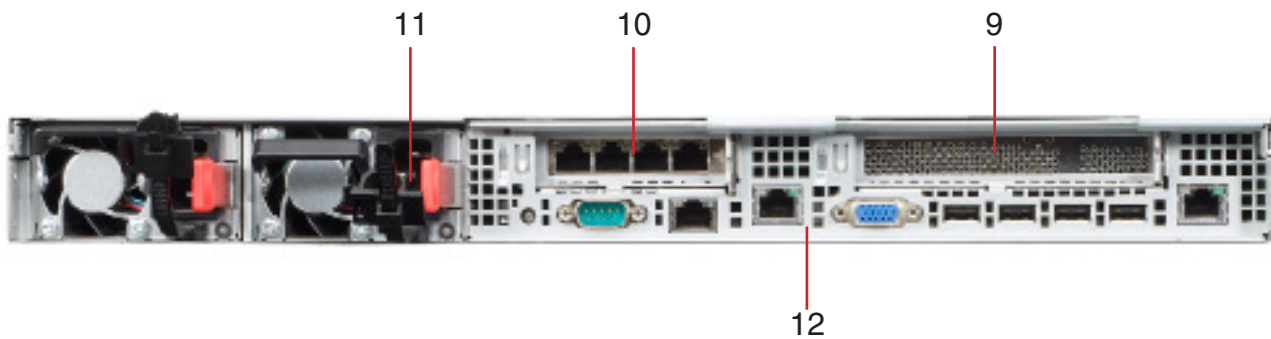
ThinkServer RD540 Overview - Front and Rear



ThinkServer RD540 with 4x3.5" Disk Drive Bays



ThinkServer RD540 with 8x2.5" Disk Drive Bays



Front View

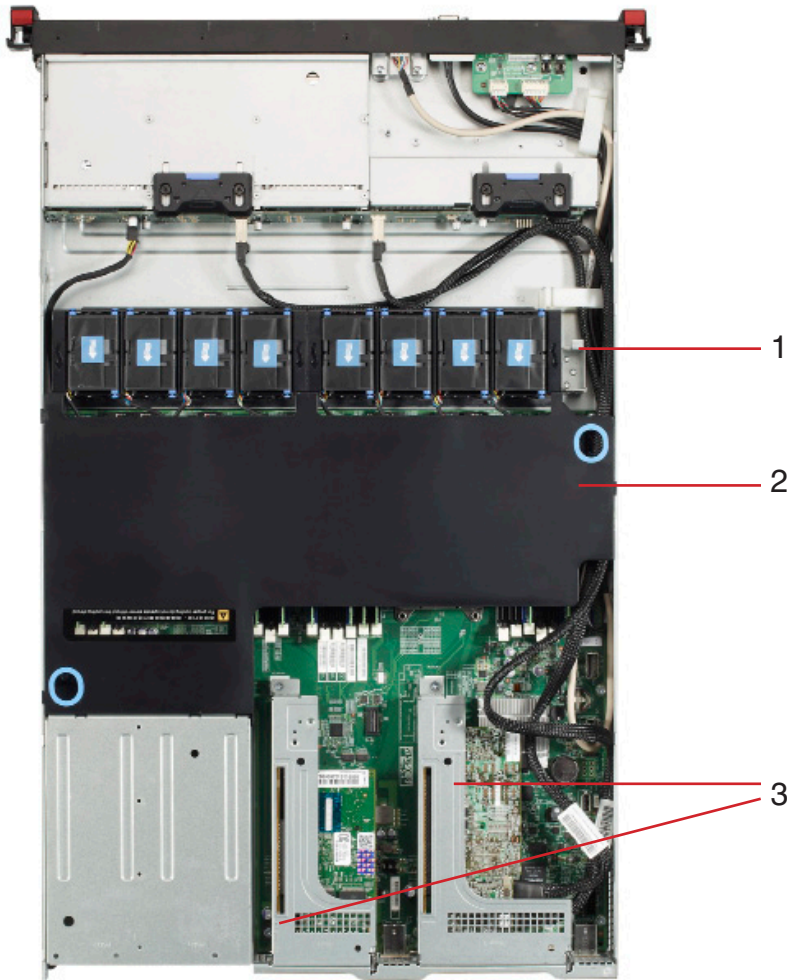
1. Hot-swap disk drive bays
2. Power Button with LED
3. ID button with LED
4. 2 Network interface status LEDs
5. 2 USB 2.0
6. Intelligent Diagnostics Module (optional)
7. Optical (optional, for 3.5" disk drive bay model)
8. VGA (for 2.5" disk drive bay model)

Rear View

9. PCI Express slots 1*
10. PCI Express slots 2*
11. Hot-swap power supplies
12. Rear ports:
 - 4 USB 2.0
 - 1 serial
 - 2 ethernet
 - 1 RJ-45 (dedicate/share mgmt)
 - 1 VGA

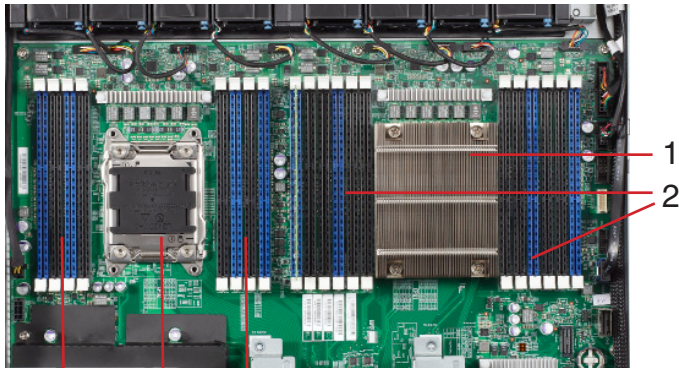
*Adapters are optional

ThinkServer RD540 Overview - Internal



Internal View

1. Non-hot swap cooling fans
2. Processors and memory DIMM sockets (under cooling shroud, see below)
3. PCI Express slots (*Adapters are optional)

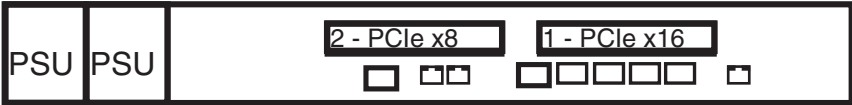


Processors and Memory DIMM Sockets (under cooling shroud)

1. CPU 1
2. 12 Memory DIMM sockets for CPU 1
3. CPU 2 (optional)
4. 8 Memory DIMM sockets for CPU 2 (for dual processors model)

4 3 4

ThinkServer RD540 Platform Specifications

Components	Specifications																											
Chipset	Intel C602J Chipset																											
Mechanical	<ul style="list-style-type: none"> • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 																											
Front ports	Two USB 2.0, one analog VGA DB-15 connector (for 8x2.5" disk bays models)																											
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																											
Expansion Slots	 <p>Two PCI-Express slots via two riser cards, riser card 1 for slot 1, riser card 2 for slot 2 Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8</p>																											
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front (for 8x2.5" disk bays models), one VGA DB-15 on rear; <i>Maximum resolution: 1920x1200@60Hz</i>																											
Hot-swap parts	Disk drives, power supplies																											
Safety, environment, and certifications	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant 																										
	EMC	FCC Class A, CSA CE																										
	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	8%~80%, non-condensing																										
	Humidity - non operating (no package)	8%~80%, non-condensing																										
	Humidity - non operating (with package)	8%~90%, non-condensing																										
Acoustic noise (idle/working mode)	<table border="1"> <thead> <tr> <th>Category</th> <th>Normal Configuration</th> <th>High Performance Configuration</th> </tr> </thead> <tbody> <tr> <td>CPU</td> <td>1</td> <td>2</td> </tr> <tr> <td>HDD</td> <td>2x 900GB 2.5" SAS 6Gb/s</td> <td>8x 900GB 2.5" SAS 6Gb/s</td> </tr> <tr> <td>Memory</td> <td>1x 8GB 1600MHz LVRDIMM</td> <td>20x 8GB 1600MHz LVRDIMM</td> </tr> <tr> <td>PCIe adapters</td> <td>I350</td> <td>I350</td> </tr> <tr> <td>PSU</td> <td>1x 800W</td> <td>2x 800W</td> </tr> <tr> <td>RAID</td> <td>RAID 700 adapter</td> <td>RAID 700 adapter</td> </tr> <tr> <td>Sound Pressure (operating)</td> <td>38.6 dB(A)</td> <td>38.7 dB(A)</td> </tr> <tr> <td>Sound Pressure (idle)</td> <td>39.0 dB(A)</td> <td>40.0 dB(A)</td> </tr> </tbody> </table>	Category	Normal Configuration	High Performance Configuration	CPU	1	2	HDD	2x 900GB 2.5" SAS 6Gb/s	8x 900GB 2.5" SAS 6Gb/s	Memory	1x 8GB 1600MHz LVRDIMM	20x 8GB 1600MHz LVRDIMM	PCIe adapters	I350	I350	PSU	1x 800W	2x 800W	RAID	RAID 700 adapter	RAID 700 adapter	Sound Pressure (operating)	38.6 dB(A)	38.7 dB(A)	Sound Pressure (idle)	39.0 dB(A)	40.0 dB(A)
Category	Normal Configuration	High Performance Configuration																										
CPU	1	2																										
HDD	2x 900GB 2.5" SAS 6Gb/s	8x 900GB 2.5" SAS 6Gb/s																										
Memory	1x 8GB 1600MHz LVRDIMM	20x 8GB 1600MHz LVRDIMM																										
PCIe adapters	I350	I350																										
PSU	1x 800W	2x 800W																										
RAID	RAID 700 adapter	RAID 700 adapter																										
Sound Pressure (operating)	38.6 dB(A)	38.7 dB(A)																										
Sound Pressure (idle)	39.0 dB(A)	40.0 dB(A)																										

ThinkServer RD540 Optional Configurations - Processor and Memory

Rack kit	Included in models																																																																																																																																																																																																																																																																																																																																								
Processor	<p>Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 or Xeon E5-2600 v2 families, up to 8 cores (E5-2600 series)/12 cores (E5-2600 v2 series), two QPI links up to 8.0GT/s each, up to 20MB (E5-2600 series)/30MB (E5-2600 v2 series) cache, integrated 4-channel DDR3 memory controller up to 1600MHz (E5-2600 series)/1866MHz (E5-2600 v2 series).</p> <p>The following processor options are available:</p> <table border="1"> <thead> <tr> <th rowspan="2">Processor Number</th> <th colspan="8">Processors Specifications*</th> <th rowspan="2">Part Number</th> </tr> <tr> <th># of Cores</th> <th># of Threads</th> <th>Clock Speed</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>QPI Speed</th> <th>Max TDP</th> <th>Memory Speed</th> </tr> </thead> <tbody> <tr> <td colspan="10">Intel Xeon E5-2600 Series</td> </tr> <tr> <td>Xeon E5-2680</td> <td>8</td> <td>16</td> <td>2.7 GHz</td> <td>3.5 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1600</td> <td>0A89430</td> </tr> <tr> <td>Xeon E5-2670</td> <td>8</td> <td>16</td> <td>2.6 GHz</td> <td>3.3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1600</td> <td>0A89431</td> </tr> <tr> <td>Xeon E5-2667</td> <td>6</td> <td>12</td> <td>2.9 GHz</td> <td>3.5 GHz</td> <td>15MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1600</td> <td>0A89435</td> </tr> <tr> <td>Xeon E5-2665</td> <td>8</td> <td>16</td> <td>2.4 GHz</td> <td>3.1 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1600</td> <td>0A89432</td> </tr> <tr> <td>Xeon E5-2660</td> <td>8</td> <td>16</td> <td>2.2 GHz</td> <td>3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td>0A89462</td> </tr> <tr> <td>Xeon E5-2650L</td> <td>8</td> <td>16</td> <td>1.8 GHz</td> <td>2.3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>70 W</td> <td>DDR3-1600</td> <td>0A89434</td> </tr> <tr> <td>Xeon E5-2650</td> <td>8</td> <td>16</td> <td>2 GHz</td> <td>2.8 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td>0A89433</td> </tr> <tr> <td>Xeon E5-2643</td> <td>4</td> <td>8</td> <td>3.3 GHz</td> <td>3.5 GHz</td> <td>10MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1600</td> <td>0A89440</td> </tr> <tr> <td>Xeon E5-2640</td> <td>6</td> <td>12</td> <td>2.5 GHz</td> <td>3 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td>0A89436</td> </tr> <tr> <td>Xeon E5-2630L</td> <td>6</td> <td>12</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>60 W</td> <td>DDR3-1333</td> <td>0A89439</td> </tr> <tr> <td>Xeon E5-2630</td> <td>6</td> <td>12</td> <td>2.3 GHz</td> <td>2.8 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td>0A89437</td> </tr> <tr> <td>Xeon E5-2620</td> <td>6</td> <td>12</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td>0A89438</td> </tr> <tr> <td>Xeon E5-2609</td> <td>4</td> <td>4</td> <td>2.4 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1066</td> <td>0A89441</td> </tr> <tr> <td>Xeon E5-2603</td> <td>4</td> <td>4</td> <td>1.8 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1066</td> <td>0A89442</td> </tr> <tr> <td colspan="10">Intel Xeon E5-2600 v2 Series</td> </tr> <tr> <td>Xeon E5-2697 v2</td> <td>12</td> <td>24</td> <td>2.7 GHz</td> <td>3.5 GHz</td> <td>30MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1866</td> <td>0C19546</td> </tr> <tr> <td>Xeon E5-2695 v2</td> <td>12</td> <td>24</td> <td>2.4 GHz</td> <td>3.2 GHz</td> <td>30MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1866</td> <td>0C19547</td> </tr> <tr> <td>Xeon E5-2690 v2</td> <td>10</td> <td>20</td> <td>3 GHz</td> <td>3.6 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1866</td> <td>0C19548</td> </tr> <tr> <td>Xeon E5-2680 v2</td> <td>10</td> <td>20</td> <td>2.8 GHz</td> <td>3.6 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1866</td> <td>0C19549</td> </tr> <tr> <td>Xeon E5-2670 v2</td> <td>10</td> <td>20</td> <td>2.5 GHz</td> <td>3.3 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1866</td> <td>0C19550</td> </tr> <tr> <td>Xeon E5-2667 v2</td> <td>8</td> <td>16</td> <td>3.3 GHz</td> <td>4 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1866</td> <td>0C19553</td> </tr> <tr> <td>Xeon E5-2660 v2</td> <td>10</td> <td>20</td> <td>2.2 GHz</td> <td>3 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1866</td> <td>0C19551</td> </tr> <tr> <td>Xeon E5-2650 v2</td> <td>8</td> <td>16</td> <td>2.6 GHz</td> <td>3.4 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1866</td> <td>0C19552</td> </tr> <tr> <td>Xeon E5-2650L v2</td> <td>10</td> <td>20</td> <td>1.7 GHz</td> <td>2.1 GHz</td> <td>25MB</td> <td>7.2 GT/s</td> <td>70 W</td> <td>DDR3-1600</td> <td>0C19554</td> </tr> <tr> <td>Xeon E5-2640 v2</td> <td>8</td> <td>16</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>20MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td>0C19555</td> </tr> <tr> <td>Xeon E5-2630 v2</td> <td>6</td> <td>12</td> <td>2.6 GHz</td> <td>3.1 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>80 W</td> <td>DDR3-1600</td> <td>0C19558</td> </tr> <tr> <td>Xeon E5-2630L v2</td> <td>6</td> <td>12</td> <td>2.4 GHz</td> <td>2.8 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>60 W</td> <td>DDR3-1600</td> <td>0C19556</td> </tr> <tr> <td>Xeon E5-2620 v2</td> <td>6</td> <td>12</td> <td>2.1 GHz</td> <td>2.6 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>80 W</td> <td>DDR3-1600</td> <td>0C19557</td> </tr> <tr> <td>Xeon E5-2609 v2</td> <td>4</td> <td>4</td> <td>2.5 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1333</td> <td>0C19559</td> </tr> <tr> <td>Xeon E5-2603 v2</td> <td>4</td> <td>4</td> <td>1.8 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1333</td> <td>0C19560</td> </tr> </tbody> </table> <p><i>Notes:</i> All processors specifications 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	Processors Specifications*								Part Number	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed	Intel Xeon E5-2600 Series										Xeon E5-2680	8	16	2.7 GHz	3.5 GHz	20MB	8 GT/s	130 W	DDR3-1600	0A89430	Xeon E5-2670	8	16	2.6 GHz	3.3 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89431	Xeon E5-2667	6	12	2.9 GHz	3.5 GHz	15MB	8 GT/s	130 W	DDR3-1600	0A89435	Xeon E5-2665	8	16	2.4 GHz	3.1 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89432	Xeon E5-2660	8	16	2.2 GHz	3 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89462	Xeon E5-2650L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600	0A89434	Xeon E5-2650	8	16	2 GHz	2.8 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89433	Xeon E5-2643	4	8	3.3 GHz	3.5 GHz	10MB	8 GT/s	130 W	DDR3-1600	0A89440	Xeon E5-2640	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89436	Xeon E5-2630L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333	0A89439	Xeon E5-2630	6	12	2.3 GHz	2.8 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89437	Xeon E5-2620	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89438	Xeon E5-2609	4	4	2.4 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89441	Xeon E5-2603	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89442	Intel Xeon E5-2600 v2 Series										Xeon E5-2697 v2	12	24	2.7 GHz	3.5 GHz	30MB	8 GT/s	130 W	DDR3-1866	0C19546	Xeon E5-2695 v2	12	24	2.4 GHz	3.2 GHz	30MB	8 GT/s	115 W	DDR3-1866	0C19547	Xeon E5-2690 v2	10	20	3 GHz	3.6 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19548	Xeon E5-2680 v2	10	20	2.8 GHz	3.6 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19549	Xeon E5-2670 v2	10	20	2.5 GHz	3.3 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19550	Xeon E5-2667 v2	8	16	3.3 GHz	4 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19553	Xeon E5-2660 v2	10	20	2.2 GHz	3 GHz	25MB	8 GT/s	95 W	DDR3-1866	0C19551	Xeon E5-2650 v2	8	16	2.6 GHz	3.4 GHz	20MB	8 GT/s	95 W	DDR3-1866	0C19552	Xeon E5-2650L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	70 W	DDR3-1600	0C19554	Xeon E5-2640 v2	8	16	2 GHz	2.5 GHz	20MB	7.2 GT/s	95 W	DDR3-1600	0C19555	Xeon E5-2630 v2	6	12	2.6 GHz	3.1 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19558	Xeon E5-2630L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60 W	DDR3-1600	0C19556	Xeon E5-2620 v2	6	12	2.1 GHz	2.6 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19557	Xeon E5-2609 v2	4	4	2.5 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19559	Xeon E5-2603 v2	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19560
Processor Number	Processors Specifications*								Part Number																																																																																																																																																																																																																																																																																																																																
	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed																																																																																																																																																																																																																																																																																																																																	
Intel Xeon E5-2600 Series																																																																																																																																																																																																																																																																																																																																									
Xeon E5-2680	8	16	2.7 GHz	3.5 GHz	20MB	8 GT/s	130 W	DDR3-1600	0A89430																																																																																																																																																																																																																																																																																																																																
Xeon E5-2670	8	16	2.6 GHz	3.3 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89431																																																																																																																																																																																																																																																																																																																																
Xeon E5-2667	6	12	2.9 GHz	3.5 GHz	15MB	8 GT/s	130 W	DDR3-1600	0A89435																																																																																																																																																																																																																																																																																																																																
Xeon E5-2665	8	16	2.4 GHz	3.1 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89432																																																																																																																																																																																																																																																																																																																																
Xeon E5-2660	8	16	2.2 GHz	3 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89462																																																																																																																																																																																																																																																																																																																																
Xeon E5-2650L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600	0A89434																																																																																																																																																																																																																																																																																																																																
Xeon E5-2650	8	16	2 GHz	2.8 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89433																																																																																																																																																																																																																																																																																																																																
Xeon E5-2643	4	8	3.3 GHz	3.5 GHz	10MB	8 GT/s	130 W	DDR3-1600	0A89440																																																																																																																																																																																																																																																																																																																																
Xeon E5-2640	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89436																																																																																																																																																																																																																																																																																																																																
Xeon E5-2630L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333	0A89439																																																																																																																																																																																																																																																																																																																																
Xeon E5-2630	6	12	2.3 GHz	2.8 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89437																																																																																																																																																																																																																																																																																																																																
Xeon E5-2620	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89438																																																																																																																																																																																																																																																																																																																																
Xeon E5-2609	4	4	2.4 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89441																																																																																																																																																																																																																																																																																																																																
Xeon E5-2603	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89442																																																																																																																																																																																																																																																																																																																																
Intel Xeon E5-2600 v2 Series																																																																																																																																																																																																																																																																																																																																									
Xeon E5-2697 v2	12	24	2.7 GHz	3.5 GHz	30MB	8 GT/s	130 W	DDR3-1866	0C19546																																																																																																																																																																																																																																																																																																																																
Xeon E5-2695 v2	12	24	2.4 GHz	3.2 GHz	30MB	8 GT/s	115 W	DDR3-1866	0C19547																																																																																																																																																																																																																																																																																																																																
Xeon E5-2690 v2	10	20	3 GHz	3.6 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19548																																																																																																																																																																																																																																																																																																																																
Xeon E5-2680 v2	10	20	2.8 GHz	3.6 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19549																																																																																																																																																																																																																																																																																																																																
Xeon E5-2670 v2	10	20	2.5 GHz	3.3 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19550																																																																																																																																																																																																																																																																																																																																
Xeon E5-2667 v2	8	16	3.3 GHz	4 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19553																																																																																																																																																																																																																																																																																																																																
Xeon E5-2660 v2	10	20	2.2 GHz	3 GHz	25MB	8 GT/s	95 W	DDR3-1866	0C19551																																																																																																																																																																																																																																																																																																																																
Xeon E5-2650 v2	8	16	2.6 GHz	3.4 GHz	20MB	8 GT/s	95 W	DDR3-1866	0C19552																																																																																																																																																																																																																																																																																																																																
Xeon E5-2650L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	70 W	DDR3-1600	0C19554																																																																																																																																																																																																																																																																																																																																
Xeon E5-2640 v2	8	16	2 GHz	2.5 GHz	20MB	7.2 GT/s	95 W	DDR3-1600	0C19555																																																																																																																																																																																																																																																																																																																																
Xeon E5-2630 v2	6	12	2.6 GHz	3.1 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19558																																																																																																																																																																																																																																																																																																																																
Xeon E5-2630L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60 W	DDR3-1600	0C19556																																																																																																																																																																																																																																																																																																																																
Xeon E5-2620 v2	6	12	2.1 GHz	2.6 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19557																																																																																																																																																																																																																																																																																																																																
Xeon E5-2609 v2	4	4	2.5 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19559																																																																																																																																																																																																																																																																																																																																
Xeon E5-2603 v2	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19560																																																																																																																																																																																																																																																																																																																																
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin																																																																																																																																																																																																																																																																																																																																								
Memory DIMM sockets	twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)																																																																																																																																																																																																																																																																																																																																								
Memory capacity	Up to 320GB (16GBx20)																																																																																																																																																																																																																																																																																																																																								
Memory protection	ECC, memory mirroring, memory sparing																																																																																																																																																																																																																																																																																																																																								
Memory options	<table border="1"> <thead> <tr> <th>Memory options</th> <th>Part Number</th> </tr> </thead> <tbody> <tr> <td>ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM</td> <td>0C19533</td> </tr> <tr> <td>ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM</td> <td>0C19534</td> </tr> <tr> <td>ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM</td> <td>0C19535</td> </tr> </tbody> </table> <p><i>Notes:</i> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting • When using Intel Xeon E5-2600 series processors, LV RIMM is needed to run at 1.5V to support all 20 memory DIMM sockets. If LV RIMM runs at 1.35V, only 16 memory DIMM sockets are functional (8 of 12 for CPU 1, 8 for CPU 2)</p>	Memory options	Part Number	ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM	0C19533	ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM	0C19534	ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM	0C19535																																																																																																																																																																																																																																																																																																																																
Memory options	Part Number																																																																																																																																																																																																																																																																																																																																								
ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM	0C19533																																																																																																																																																																																																																																																																																																																																								
ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM	0C19534																																																																																																																																																																																																																																																																																																																																								
ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM	0C19535																																																																																																																																																																																																																																																																																																																																								

ThinkServer RD540 Optional Configurations - Storage and RAID

Disk drive bays	Supports one of the following configurations: <ul style="list-style-type: none"> • 8 x 3.5" SAS/SATA disk drive bays • 8 x 2.5" SAS/SATA disk drive bays • 16 x 2.5" SAS/SATA disk drive bays 						
Disk drive options	Disk drive options						Part Number
	Hot-swap Disk drive for 3.5" bay						
	3.5" SATA Hard Drive						
	ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89473
	ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89474
	ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89475
	ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89477
	ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0C19520
	3.5" SAS Hard Drive						
	ThinkServer 3.5" 1TB 7.2K SAS 6Gbps Hot Swap Hard Drive						0C19530
	ThinkServer 3.5" 2TB 7.2K SAS 6Gbps Hot Swap Hard Drive						0C19531
	ThinkServer 3.5" 3TB 7.2K SAS 6Gbps Hot Swap Hard Drive						0C19532
	ThinkServer 3.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive						67Y2616
	ThinkServer 3.5" 600GB 15K SAS 6Gbps Hot Swap Hard Drive						67Y2618
	2.5" SSD for 3.5" disk bay						
	ThinkServer 2.5" 100GB MLC SATA Solid State Drive to 3.5" Kit						0C19571
	ThinkServer 2.5" 200GB MLC SATA Solid State Drive to 3.5" Kit						0C19572
	ThinkServer 2.5" 400GB MLC SATA Solid State Drive to 3.5" Kit						0C19573
	Hot-swap Disk drive for 2.5" bay						
	2.5" SATA Hard Drive						
	ThinkServer 2.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0C19495
	ThinkServer 2.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0C19496
	2.5" SAS Hard Drive						
	ThinkServer 2.5" 300GB 10K SAS 6Gbps Hot Swap Hard Drive						67Y2619
	ThinkServer 2.5" 600GB 10K SAS 6Gbps Hot Swap Hard Drive						67Y2621
	ThinkServer 2.5" 900GB 10K SAS 6Gbps Hot Swap Hard Drive						0A89409
	ThinkServer 2.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive						0C19494
	2.5" SSD						
ThinkServer 2.5" 100GB MLC SATA Solid State Drive						0A89420	
ThinkServer 2.5" 200GB MLC SATA Solid State Drive						0A89418	
ThinkServer 2.5" 400GB MLC SATA Solid State Drive						0A89419	
RAID support	RAID adapter	RAID support	Device Support	Cache	Host bus type	Data transfer rates (per port)	Optional upgrades
	ThinkServer RAID 500 (LSI® SAS 9240-8i)	0, 1, 10	SAS/SATA		PCI Express	6Gb/s	optional upgrade key, add RAID 5, 50 support
	ThinkServer RAID 700 (LSI SAS 9260-8i)	0, 1, 10, 5, 50, 6, 60	SAS/SATA	512MB	PCI Express	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)
	ThinkServer RAID 710 (LSI SAS 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	SAS/SATA	1GB	PCI Express	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath
RAID options	RAID controller and RAID upgrade options						Part Number
	ThinkServer RAID 500 Adapter II						0A89464
	ThinkServer RAID 500 Upgrade Key for Advanced RAID						0A89407
	ThinkServer RAID 700 Adapter II						0A89463
	ThinkServer RAID 700 Battery						67Y2647
	ThinkServer RAID 710 Adapter						0C19489
	ThinkServer RAID 710 Super Capacitor Module (CacheVault)						0C19490
	ThinkServer RAID 710 FastPath Software Key						0C19491
ThinkServer RAID 710 CacheCade Pro 2.0 Software Key						0C19492	

ThinkServer RD540 Optional Configurations - Network, System Management, Power Supply

Network options	Network and HBA options		Part Number
	ThinkServer 1 Gbps Ethernet I350-T2 Server Adapter by Intel		0C19506
	ThinkServer 1 Gbps Ethernet I350-T4 Server Adapter by Intel		0C19507
	Lenovo 10Gbps Ethernet X540-T2 Server Adapter by Intel		0C19497
	Lenovo 10Gbps Ethernet X520-DA2 Server Adapter by Intel		0C19486
	Lenovo 10Gbps Ethernet Fiber Module by Intel		0C19488
	Lenovo 10Gbps Ethernet X520-SR2 Server Adapter by Intel		0C19487
	ThinkServer QLE8242-CU-CK Dual Port CNA by QLogic		0C19483
	HBA		
	ThinkServer LPe1250 Single Port 8Gb Fibre Channel HBA by Emulex		0C19476
ThinkServer LPe12002 Dual Port 8Gb Fibre Channel HBA by Emulex		0C19478	
Security options	Trusted Platform Module options		Part Number
	ThinkServer Trusted Platform Module		0A89428
Systems management options for iKVM	System Management options		Part Number
	ThinkServer Management Module Premium		67Y2624
Power supply options	Power supply options		Part Number
	ThinkServer 800W Gold Hot Swap Redundant Power Supply for Rack		4X20E54690

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AT0004UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	4x3.5"	RAID710	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AT0008UX	1xE5-2603 v2 4C/1.8GHz/ 10MB/1333MHz	4GBx1	4x3.5"	RAID500	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AT0009UX	1xE5-2609 v2 4C/2.5GHz/ 10MB/1333MHz	8GBx1	4x3.5"	RAID500	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AT000BUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	4x3.5"	RAID700	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AT000CUX	1xE5-2650L v2 10C/1.7GHz/ 25MB/1600MHz	8GBx1	4x3.5"	RAID700	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AT000AUX	1xE5-2609 v2 4C/2.5GHz/ 10MB/1333MHz	8GBx1	4x3.5"	RAID700	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AT0006UX	2xE5-2630 v2 6C/2.6GHz/ 15MB/1600MHz	16Gx4	4x3.5"	RAID700 +Battery	3x500GB 3.5" SATA(RAID5)	DVD	No	iKVM	350T4	Cable	800Wx2	No	1
70AT0005US	2xE5-2650 v2 8C/2.6GHz/ 20MB/1866MHz	4GBx20	4x3.5"	RAID710 +CacheVault +CacheCade	2x400GB SSD(cache,RAID1) +2x3TB 3.5" SAS (RAID1)	DVD±RW	No	iKVM	X520SR2	Cable	800Wx2	Standard	1

1. Model in italics is Global 2. 8 x 2.5" disk bays models do not support optical bay, external USB optical is needed

- For detailed platform specifications, please see [ThinkServer RD540 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD540, please see [ThinkServer RD540 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors																					
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin																					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)																					
Memory protection	ECC, memory mirroring, memory sparing																					
Disk drive bays	Supports 4 x 3.5" or 8 x 2.5" disk drive bays																					
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter*</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 500 (LSI® 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional Intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>		RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional Intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key
	RAID adapter*		RAID support	Cache	Transfer rates	Optional upgrades																
	RAID 500 (LSI® 9240-8i)		0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																
	RAID 700 (LSI 9260-8i)		0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional Intelligent Battery Backup Unit (iBBU08)																
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60		1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 																	
	* All RAID adapters supports SAS and SATA drives																					
	** RAID 50 and 60 are supported on 8x2.5" disk bays models																					
Optical (optional)	4x3.5" bay models: one DVD±RW or DVD ROM, slim, SATA interface 8x2.5" bay models: no optical bay, use optional external USB optical																					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management																					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 																					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM on selected models, IDM LED lights indicate failing component category,																					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																					
Cable mgmt (opt)	Optional cable management arm on selected models																					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies																					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, see ThinkServer RD540 Platform Specifications																					
2U Rack top																						
Front - 3.5" bay																						
Front - 2.5" bay																						
Rear																						
Front and Rear Ports																						
Front: 2 USB 2.0 1 VGA (for 8x2.5" disk bays models) Rear: 4 USB 2.0 1 serial (9-pin) 2 ethernet (RJ-45) 1 RJ-45 (dedicate/share mgmt) 1 VGA																						
Expansion Slots																						
Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8																						
Mechanical																						
<ul style="list-style-type: none"> • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 																						

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AU000CUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID500	Open	No	No	IPMI	No	No	800Wx1	No	3
70AU000SUX	1xE5-2609 v2 4C/2.5GHz/ 10MB/1333MHz	8GBx1	8x2.5"	RAID700	Open	No	No	IPMI	No	No	800Wx1	No	3
70AU000TUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID700	Open	No	No	IPMI	No	No	800Wx1	No	3
70AU000UUX	1xE5-2640 v2 8C/2GHz/ 20MB/1600MHz	8GBx1	8x2.5"	RAID700	Open	No	No	IPMI	No	No	800Wx1	No	3
70AU000VUX	1xE5-2650 v2 8C/2.6GHz/ 20MB/1866MHz	8GBx1	8x2.5"	RAID700	Open	No	No	IPMI	No	No	800Wx1	No	3
70AU000WUX	1xE5-2690 v2 10C/3GHz/ 25MB/1866MHz	8GBx1	8x2.5"	RAID700	Open	No	No	IPMI	No	No	800Wx1	No	3

1. Model in italics is Global 2. 8 x 2.5" disk bays models do not support optical bay, external USB optical is needed

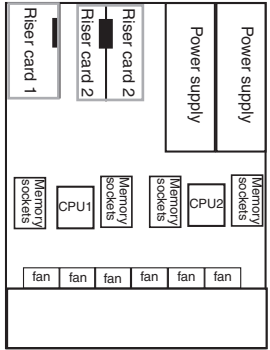
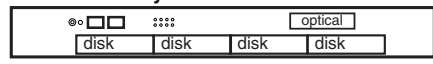
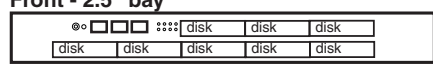

- For detailed platform specifications, please see [ThinkServer RD540 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD540, please see [ThinkServer RD540 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors																					
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin																					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)																					
Memory protection	ECC, memory mirroring, memory sparing																					
Disk drive bays	Supports 4 x 3.5" or 8 x 2.5" disk drive bays																					
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter*</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 500 (LSI® 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>		RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key
	RAID adapter*		RAID support	Cache	Transfer rates	Optional upgrades																
	RAID 500 (LSI® 9240-8i)		0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																
	RAID 700 (LSI 9260-8i)		0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60		1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 																	
	* All RAID adapters supports SAS and SATA drives																					
	** RAID 50 and 60 are supported on 8x2.5" disk bays models																					
Optical (optional)	4x3.5" bay models: one DVD±RW or DVD ROM, slim, SATA interface 8x2.5" bay models: no optical bay, use optional external USB optical																					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management																					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 																					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM on selected models, IDM LED lights indicate failing component category,																					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)																					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																					
Cable mgmt (opt)	Optional cable management arm on selected models																					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies																					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, see ThinkServer RD540 Platform Specifications																					
		2U Rack top Front - 3.5" bay Front - 2.5" bay Rear Front and Rear Ports Front: 2 USB 2.0 1 VGA (for 8x2.5" disk bays models) Rear: 4 USB 2.0 1 serial (9-pin) 2 ethernet (RJ-45) 1 RJ-45 (dedicate/share mgmt) 1 VGA Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8 Mechanical <ul style="list-style-type: none"> • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 																				

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AU000XUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID710 +CacheVault	Open	No	No	iKVM	No	No	800Wx2	No	3
70AU000YUX	1xE5-2670 v2 10C/2.5GHz/ 25MB/1866MHz	8GBx1	8x2.5"	RAID710 +FastPath	Open	No	No	iKVM	No	No	800Wx2	No	3
70AU000FUX	2xE5-2690 v2 10C/3GHz/ 25MB/1866MHz	4GBx2	8x2.5"	RAID700	2x500GB 2.5" SATA(RAID1)	No	No	IPMI	350T2	No	800Wx2	No	1
70AU000DUS	2xE5-2660 v2 10C/2.2GHz/ 25MB/1866MHz	8GBx20	8x2.5"	RAID500 +upgrade	2x300GB 2.5" SAS(RAID1) +6x300GB 2.5" SAS(RAID50)	No	No	iKVM	X520SR2	Cable	800Wx2	Standard	1
70AU000EUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	16Gx4	8x2.5"	RAID710 +FastPath	6x100GB SSD(RAID50)	No	No	IPMI	350T4	No	800Wx2	No	1

1. Model in italics is Global 2. 8 x 2.5" disk bays models do not support optical bay, external USB optical is needed

- For detailed platform specifications, please see [ThinkServer RD540 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD540, please see [ThinkServer RD540 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors	<p>2U Rack top</p>  <p>Front - 3.5" bay</p>  <p>Front - 2.5" bay</p>  <p>Rear</p> 																				
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin																					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)																					
Memory protection	ECC, memory mirroring, memory sparing																					
Disk drive bays	Supports 4 x 3.5" or 8 x 2.5" disk drive bays																					
RAID support	<table border="1"> <thead> <tr> <th>RAID adapter*</th> <th>RAID support</th> <th>Cache</th> <th>Transfer rates</th> <th>Optional upgrades</th> </tr> </thead> <tbody> <tr> <td>RAID 500 (LSI® 9240-8i)</td> <td>0, 1, 10</td> <td></td> <td>6Gb/s</td> <td>optional upgrade key, add RAID 5, 50 support</td> </tr> <tr> <td>RAID 700 (LSI 9260-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>512MB</td> <td>6Gb/s</td> <td>optional intelligent Battery Backup Unit (iBBU08)</td> </tr> <tr> <td>RAID 710 (LSI 9270CV-8i)</td> <td>0, 1, 10, 5, 50, 6, 60</td> <td>1GB</td> <td>6Gb/s</td> <td> <ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key </td> </tr> </tbody> </table>		RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key
	RAID adapter*		RAID support	Cache	Transfer rates	Optional upgrades																
	RAID 500 (LSI® 9240-8i)		0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support																
	RAID 700 (LSI 9260-8i)		0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)																
RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60		1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 																	
	* All RAID adapters supports SAS and SATA drives																					
	** RAID 50 and 60 are supported on 8x2.5" disk bays models																					
Optical (optional)	4x3.5" bay models: one DVD±RW or DVD ROM, slim, SATA interface 8x2.5" bay models: no optical bay, use optional external USB optical																					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management																					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter i350-T2 • Intel Ethernet Server Adapter i350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 																					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM on selected models, IDM LED lights indicate failing component category,																					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant) <i>70AU000FUX does not include TPM, additional TPM option is needed</i>																					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 																					
Cable mgmt (opt)	Optional cable management arm on selected models																					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies																					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant <p>More environmental information and requirements, see ThinkServer RD540 Platform Specifications</p>																					
		<p>Front and Rear Ports</p> <p>Front: 2 USB 2.0 1 VGA (for 8x2.5" disk bays models) Rear: 4 USB 2.0 1 serial (9-pin) 2 ethernet (RJ-45) 1 RJ-45 (dedicate/share mgmt) 1 VGA</p> <p>Expansion Slots</p> <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8</p> <p>Mechanical</p> <ul style="list-style-type: none"> • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 																				

See footnotes for important warranty information
Model(s) announced October 29, 2013

ThinkServer RD540 (70AR)

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AR0000UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	4x3.5"	RAID500	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3
70AR0001UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	4x3.5"	RAID500	Open	DVD±RW	No	IPMI	No	No	800Wx1	No	3

1. Model in italics is Global 2. 8 x 2.5" disk bays models do not support optical bay, external USB optical is needed

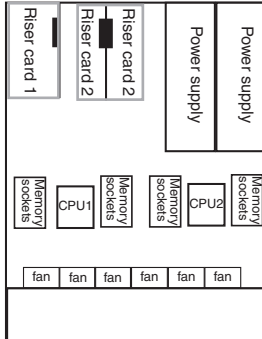
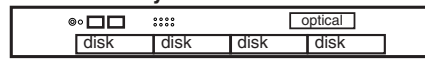
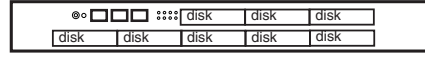
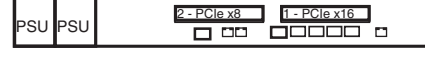
- For detailed platform specifications, please see [ThinkServer RD540 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD540, please see [ThinkServer RD540 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					<h3>2U Rack top</h3>
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 4 x 3.5" or 8 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives ** RAID 50 and 60 are supported on 8x2.5" disk bays models					
Optical (optional)	4x3.5" bay models: one DVD±RW or DVD ROM, slim, SATA interface 8x2.5" bay models: no optical bay, use optional external USB optical					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM on selected models, IDM LED lights indicate failing component category,					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, see ThinkServer RD540 Platform Specifications					
	<h3>Front - 3.5" bay</h3>					
	<h3>Front - 2.5" bay</h3>					
	<h3>Rear</h3>					
	<h3>Front and Rear Ports</h3> Front: 2 USB 2.0 1 VGA (for 8x2.5" disk bays models) Rear: 4 USB 2.0 1 serial (9-pin) 2 ethernet (RJ-45) 1 RJ-45 (dedicate/share mgmt) 1 VGA					
	<h3>Expansion Slots</h3> Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8					
	<h3>Mechanical</h3> <ul style="list-style-type: none"> • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 					

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AS0008UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID500	Open	No	No	IPMI	No	No	800Wx1	No	3
70AS000GUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID700	Open	No	No	iKVM	No	No	800Wx1	No	3

1. Model in italics is Global 2. 8 x 2.5" disk bays models do not support optical bay, external USB optical is needed

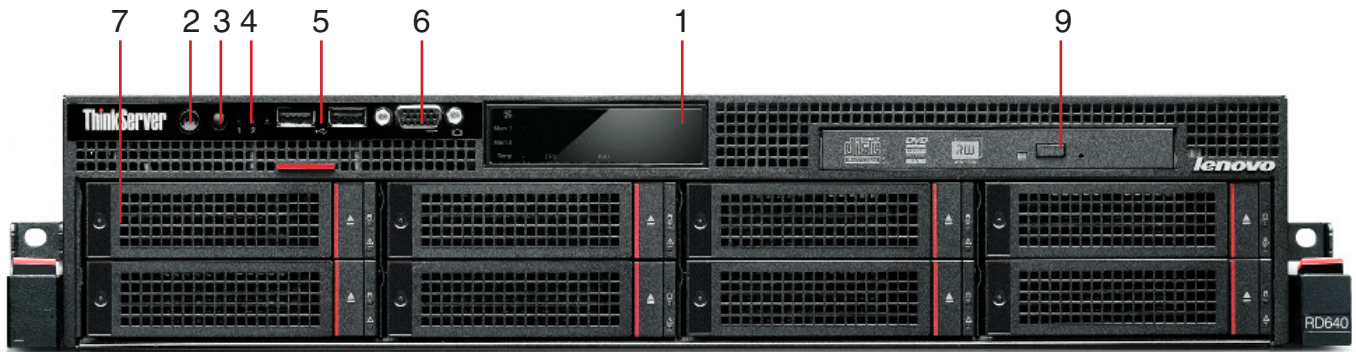
- For detailed platform specifications, please see [ThinkServer RD540 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD540, please see [ThinkServer RD540 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 4 x 3.5" or 8 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives ** RAID 50 and 60 are supported on 8x2.5" disk bays models					
Optical (optional)	4x3.5" bay models: one DVD±RW or DVD ROM, slim, SATA interface 8x2.5" bay models: no optical bay, use optional external USB optical					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM on selected models, IDM LED lights indicate failing component category,					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, see ThinkServer RD540 Platform Specifications					
Front - 3.5" bay 						
Front - 2.5" bay 						
Rear 						
Front and Rear Ports Front: 2 USB 2.0 1 VGA (for 8x2.5" disk bays models) Rear: 4 USB 2.0 1 serial (9-pin) 2 ethernet (RJ-45) 1 RJ-45 (dedicate/share mgmt) 1 VGA						
Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8						
Mechanical <ul style="list-style-type: none"> • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles) • 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured 						

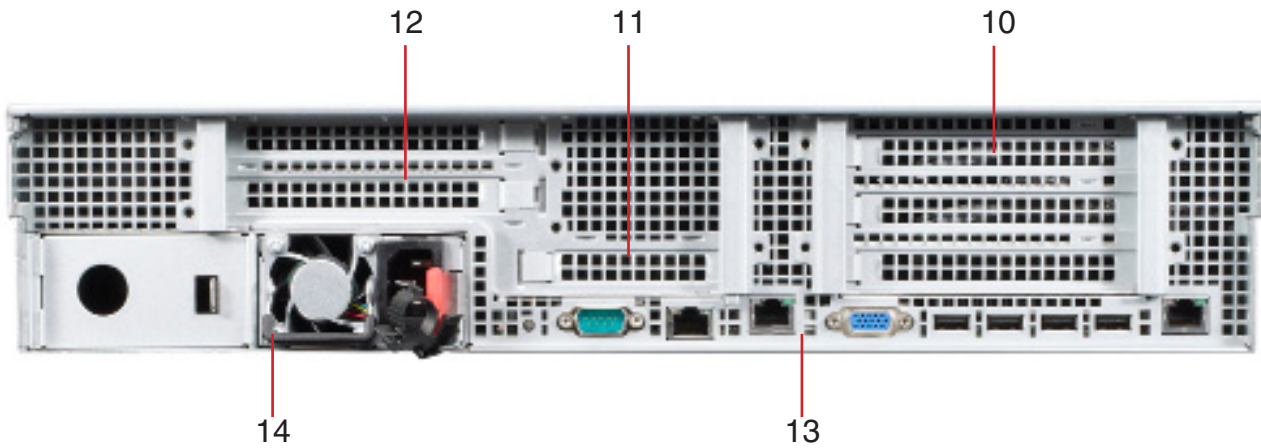
ThinkServer RD640 Overview - Front and Rear



ThinkServer RD640 with 8x2.5"/16x2.5" Disk Drive Bays



ThinkServer RD640 with 8x3.5" Disk Drive Bays



Front View

Rear View

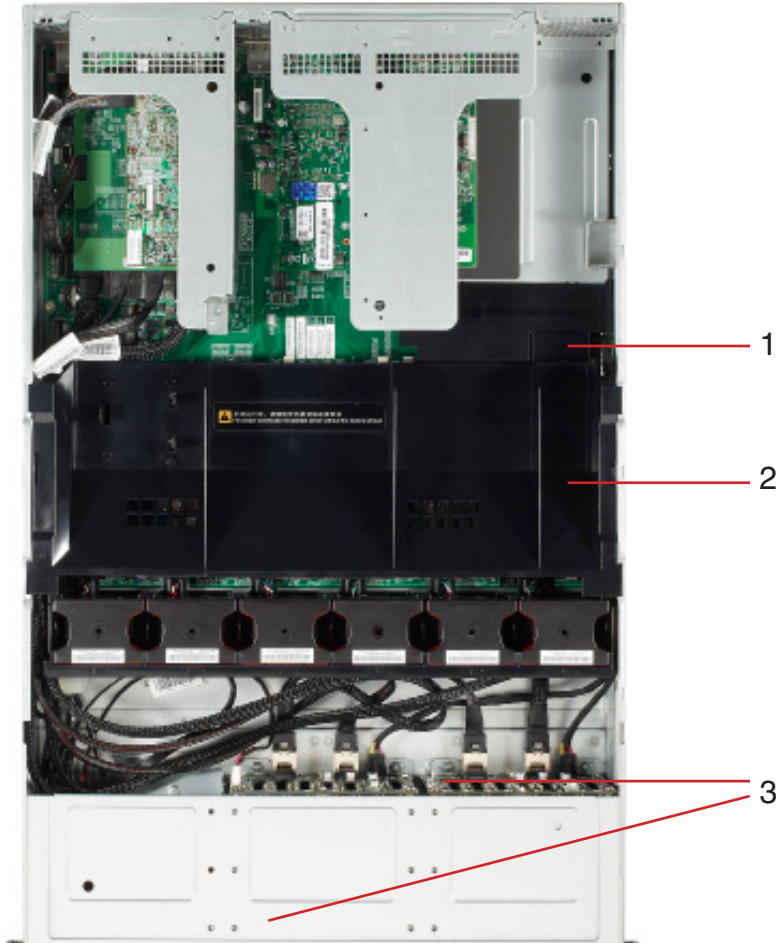
1. Intelligent Diagnostics Premium Module (optional)
2. Power Button with LED
3. ID button with LED
4. 2 Network interface status LEDs
5. 2 USB 2.0
6. 1 VGA
7. Hot-swap disk drive bays
8. Hot-swap disk drive bays for 16x2.5" hard drive bays model
9. Optical (optional)

10. PCI Express slots 1-3
11. PCI Express slots 4
12. PCI Express slots 5-6 (for dual processors model)
13. Rear ports:
 - 4 USB 2.0
 - 1 serial
 - 2 ethernet
 - 1 RJ-45 (dedicate/share mgmt)
 - 1 VGA
14. Hot-swap power supplies

ThinkServer RD640 Overview - Internal

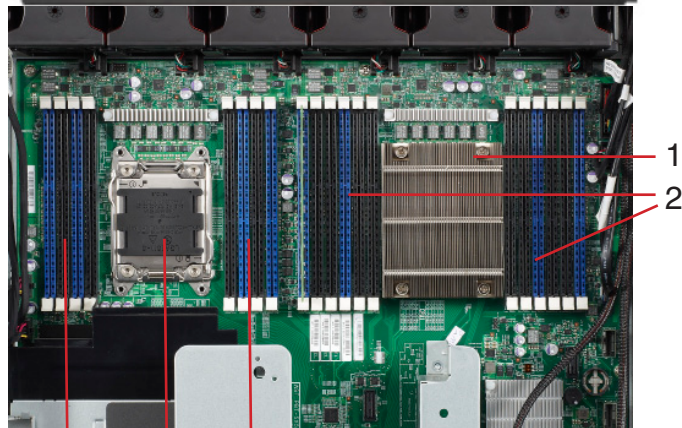
Internal View

1. Hot-swap cooling fans
2. Processors and memory DIMM sockets (under cooling shroud, see below)
3. PCI Express slots



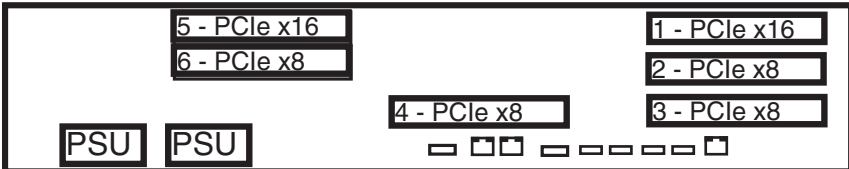
Processors and Memory DIMM Sockets (under cooling shroud)

1. CPU 1
2. 12 Memory DIMM sockets for CPU 1
3. CPU 2 (optional)
4. 8 Memory DIMM sockets for CPU 2 (for dual processors model)



4 3 4

ThinkServer RD640 Platform Specifications

Components	Specifications																											
Chipset	Intel C602J Chipset																											
Mechanical	<ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 																											
Front ports	Two USB 2.0, one analog VGA DB-15 connector																											
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																											
Expansion Slots	 <p>Up to six PCI-Express slots via two riser cards, riser card 1 for slot 1-3, riser card 2 for slot 4-6</p> <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 (x8 elec)</p> <p>Slot 2: half-length, full-height, PCI Express 3.0 x8</p> <p>Slot 3: half-length, full-height, PCI Express 3.0 x8</p> <p>Slot 4: Low Profile, PCI Express 3.0 x8</p> <p><i>Slot 5-6 are available on dual processors models:</i></p> <p>Slot 5: half-length, full-height, PCI Express 3.0 x16 (x8 elec)</p> <p>Slot 6: half-length, full-height, PCI Express 3.0 x8</p>																											
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; <i>Maximum resolution: 1920x1200@60Hz</i>																											
Hot-swap parts	Disk drives, power supplies, and cooling fans																											
Safety, environment, and certifications	Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 1.1 qualified • RoHS-compliant 																										
	EMC	FCC Class A, CSA CE																										
	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	8%~80%, non-condensing																										
	Humidity - non operating (no package)	8%~80%, non-condensing																										
	Humidity - non operating (with package)	8%~90%, non-condensing																										
Acoustic noise (idle/working mode)	<table border="1"> <thead> <tr> <th>Category</th> <th>Normal Configuration</th> <th>Best Configuration</th> </tr> </thead> <tbody> <tr> <td>CPU</td> <td>1</td> <td>2</td> </tr> <tr> <td>HDD</td> <td>2x 900GB 2.5" SAS 6Gb/s</td> <td>16x 900GB 2.5" SAS 6Gb/s</td> </tr> <tr> <td>Memory</td> <td>1x 8GB 1600MHz LVRDIMM</td> <td>20x 8GB 1600MHz LVRDIMM</td> </tr> <tr> <td>PCIe adapters</td> <td>I350 X520-DA2 Emulex LPe16002</td> <td>I350 X520-DA2 Emulex LPe16002</td> </tr> <tr> <td>PSU</td> <td>1x 800W</td> <td>2x 800W</td> </tr> <tr> <td>RAID</td> <td>RAID 700 adapter</td> <td>RAID 700 adapter</td> </tr> <tr> <td>Sound Pressure (operating)</td> <td>44.1 dB(A)</td> <td>42.91 dB(A)</td> </tr> <tr> <td>Sound Pressure (idle)</td> <td>44.4 dB(A)</td> <td>43.8 dB(A)</td> </tr> </tbody> </table>	Category	Normal Configuration	Best Configuration	CPU	1	2	HDD	2x 900GB 2.5" SAS 6Gb/s	16x 900GB 2.5" SAS 6Gb/s	Memory	1x 8GB 1600MHz LVRDIMM	20x 8GB 1600MHz LVRDIMM	PCIe adapters	I350 X520-DA2 Emulex LPe16002	I350 X520-DA2 Emulex LPe16002	PSU	1x 800W	2x 800W	RAID	RAID 700 adapter	RAID 700 adapter	Sound Pressure (operating)	44.1 dB(A)	42.91 dB(A)	Sound Pressure (idle)	44.4 dB(A)	43.8 dB(A)
Category	Normal Configuration	Best Configuration																										
CPU	1	2																										
HDD	2x 900GB 2.5" SAS 6Gb/s	16x 900GB 2.5" SAS 6Gb/s																										
Memory	1x 8GB 1600MHz LVRDIMM	20x 8GB 1600MHz LVRDIMM																										
PCIe adapters	I350 X520-DA2 Emulex LPe16002	I350 X520-DA2 Emulex LPe16002																										
PSU	1x 800W	2x 800W																										
RAID	RAID 700 adapter	RAID 700 adapter																										
Sound Pressure (operating)	44.1 dB(A)	42.91 dB(A)																										
Sound Pressure (idle)	44.4 dB(A)	43.8 dB(A)																										

ThinkServer RD640 Optional Configurations - Processor and Memory

Rack kit	Included in models																																																																																																																																																																																																																																																																																																																																																		
Processor	<p>Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 or Xeon E5-2600 v2 families, up to 8 cores (E5-2600 series)/12 cores (E5-2600 v2 series), two QPI links up to 8.0GT/s each, up to 20MB (E5-2600 series)/30MB (E5-2600 v2 series) cache, integrated 4-channel DDR3 memory controller up to 1600MHz (E5-2600 series)/1866MHz (E5-2600 v2 series).</p> <p>The following processor options are available:</p> <table border="1"> <thead> <tr> <th rowspan="2">Processor Number</th> <th colspan="8">Processors Specifications*</th> <th rowspan="2">Part Number</th> </tr> <tr> <th># of Cores</th> <th># of Threads</th> <th>Clock Speed</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>QPI Speed</th> <th>Max TDP</th> <th>Memory Speed</th> </tr> </thead> <tbody> <tr> <td colspan="10">Intel Xeon E5-2600 Series</td> </tr> <tr> <td>Xeon E5-2690</td> <td>8</td> <td>16</td> <td>2.9 GHz</td> <td>3.8 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>135 W</td> <td>DDR3-1600</td> <td>0A89429</td> </tr> <tr> <td>Xeon E5-2680</td> <td>8</td> <td>16</td> <td>2.7 GHz</td> <td>3.5 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1600</td> <td>0A89430</td> </tr> <tr> <td>Xeon E5-2670</td> <td>8</td> <td>16</td> <td>2.6 GHz</td> <td>3.3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1600</td> <td>0A89431</td> </tr> <tr> <td>Xeon E5-2667</td> <td>6</td> <td>12</td> <td>2.9 GHz</td> <td>3.5 GHz</td> <td>15MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1600</td> <td>0A89435</td> </tr> <tr> <td>Xeon E5-2665</td> <td>8</td> <td>16</td> <td>2.4 GHz</td> <td>3.1 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1600</td> <td>0A89432</td> </tr> <tr> <td>Xeon E5-2660</td> <td>8</td> <td>16</td> <td>2.2 GHz</td> <td>3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td>0A89462</td> </tr> <tr> <td>Xeon E5-2650L</td> <td>8</td> <td>16</td> <td>1.8 GHz</td> <td>2.3 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>70 W</td> <td>DDR3-1600</td> <td>0A89434</td> </tr> <tr> <td>Xeon E5-2650</td> <td>8</td> <td>16</td> <td>2 GHz</td> <td>2.8 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td>0A89433</td> </tr> <tr> <td>Xeon E5-2643</td> <td>4</td> <td>8</td> <td>3.3 GHz</td> <td>3.5 GHz</td> <td>10MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1600</td> <td>0A89440</td> </tr> <tr> <td>Xeon E5-2640</td> <td>6</td> <td>12</td> <td>2.5 GHz</td> <td>3 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td>0A89436</td> </tr> <tr> <td>Xeon E5-2630L</td> <td>6</td> <td>12</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>60 W</td> <td>DDR3-1333</td> <td>0A89439</td> </tr> <tr> <td>Xeon E5-2630</td> <td>6</td> <td>12</td> <td>2.3 GHz</td> <td>2.8 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td>0A89437</td> </tr> <tr> <td>Xeon E5-2620</td> <td>6</td> <td>12</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1333</td> <td>0A89438</td> </tr> <tr> <td>Xeon E5-2609</td> <td>4</td> <td>4</td> <td>2.4 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1066</td> <td>0A89441</td> </tr> <tr> <td>Xeon E5-2603</td> <td>4</td> <td>4</td> <td>1.8 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1066</td> <td>0A89442</td> </tr> <tr> <td colspan="10">Intel Xeon E5-2600 v2 Series</td> </tr> <tr> <td>Xeon E5-2697 v2</td> <td>12</td> <td>24</td> <td>2.7 GHz</td> <td>3.5 GHz</td> <td>30MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1866</td> <td>0C19546</td> </tr> <tr> <td>Xeon E5-2695 v2</td> <td>12</td> <td>24</td> <td>2.4 GHz</td> <td>3.2 GHz</td> <td>30MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1866</td> <td>0C19547</td> </tr> <tr> <td>Xeon E5-2690 v2</td> <td>10</td> <td>20</td> <td>3 GHz</td> <td>3.6 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1866</td> <td>0C19548</td> </tr> <tr> <td>Xeon E5-2680 v2</td> <td>10</td> <td>20</td> <td>2.8 GHz</td> <td>3.6 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1866</td> <td>0C19549</td> </tr> <tr> <td>Xeon E5-2670 v2</td> <td>10</td> <td>20</td> <td>2.5 GHz</td> <td>3.3 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>115 W</td> <td>DDR3-1866</td> <td>0C19550</td> </tr> <tr> <td>Xeon E5-2667 v2</td> <td>8</td> <td>16</td> <td>3.3 GHz</td> <td>4 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>130 W</td> <td>DDR3-1866</td> <td>0C19553</td> </tr> <tr> <td>Xeon E5-2660 v2</td> <td>10</td> <td>20</td> <td>2.2 GHz</td> <td>3 GHz</td> <td>25MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1866</td> <td>0C19551</td> </tr> <tr> <td>Xeon E5-2650 v2</td> <td>8</td> <td>16</td> <td>2.6 GHz</td> <td>3.4 GHz</td> <td>20MB</td> <td>8 GT/s</td> <td>95 W</td> <td>DDR3-1866</td> <td>0C19552</td> </tr> <tr> <td>Xeon E5-2650L v2</td> <td>10</td> <td>20</td> <td>1.7 GHz</td> <td>2.1 GHz</td> <td>25MB</td> <td>7.2 GT/s</td> <td>70 W</td> <td>DDR3-1600</td> <td>0C19554</td> </tr> <tr> <td>Xeon E5-2640 v2</td> <td>8</td> <td>16</td> <td>2 GHz</td> <td>2.5 GHz</td> <td>20MB</td> <td>7.2 GT/s</td> <td>95 W</td> <td>DDR3-1600</td> <td>0C19555</td> </tr> <tr> <td>Xeon E5-2630 v2</td> <td>6</td> <td>12</td> <td>2.6 GHz</td> <td>3.1 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>80 W</td> <td>DDR3-1600</td> <td>0C19558</td> </tr> <tr> <td>Xeon E5-2630L v2</td> <td>6</td> <td>12</td> <td>2.4 GHz</td> <td>2.8 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>60 W</td> <td>DDR3-1600</td> <td>0C19556</td> </tr> <tr> <td>Xeon E5-2620 v2</td> <td>6</td> <td>12</td> <td>2.1 GHz</td> <td>2.6 GHz</td> <td>15MB</td> <td>7.2 GT/s</td> <td>80 W</td> <td>DDR3-1600</td> <td>0C19557</td> </tr> <tr> <td>Xeon E5-2609 v2</td> <td>4</td> <td>4</td> <td>2.5 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1333</td> <td>0C19559</td> </tr> <tr> <td>Xeon E5-2603 v2</td> <td>4</td> <td>4</td> <td>1.8 GHz</td> <td></td> <td>10MB</td> <td>6.4 GT/s</td> <td>80 W</td> <td>DDR3-1333</td> <td>0C19560</td> </tr> </tbody> </table> <p><i>Notes:</i> All processors specifications 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	Processors Specifications*								Part Number	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed	Intel Xeon E5-2600 Series										Xeon E5-2690	8	16	2.9 GHz	3.8 GHz	20MB	8 GT/s	135 W	DDR3-1600	0A89429	Xeon E5-2680	8	16	2.7 GHz	3.5 GHz	20MB	8 GT/s	130 W	DDR3-1600	0A89430	Xeon E5-2670	8	16	2.6 GHz	3.3 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89431	Xeon E5-2667	6	12	2.9 GHz	3.5 GHz	15MB	8 GT/s	130 W	DDR3-1600	0A89435	Xeon E5-2665	8	16	2.4 GHz	3.1 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89432	Xeon E5-2660	8	16	2.2 GHz	3 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89462	Xeon E5-2650L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600	0A89434	Xeon E5-2650	8	16	2 GHz	2.8 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89433	Xeon E5-2643	4	8	3.3 GHz	3.5 GHz	10MB	8 GT/s	130 W	DDR3-1600	0A89440	Xeon E5-2640	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89436	Xeon E5-2630L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333	0A89439	Xeon E5-2630	6	12	2.3 GHz	2.8 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89437	Xeon E5-2620	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89438	Xeon E5-2609	4	4	2.4 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89441	Xeon E5-2603	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89442	Intel Xeon E5-2600 v2 Series										Xeon E5-2697 v2	12	24	2.7 GHz	3.5 GHz	30MB	8 GT/s	130 W	DDR3-1866	0C19546	Xeon E5-2695 v2	12	24	2.4 GHz	3.2 GHz	30MB	8 GT/s	115 W	DDR3-1866	0C19547	Xeon E5-2690 v2	10	20	3 GHz	3.6 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19548	Xeon E5-2680 v2	10	20	2.8 GHz	3.6 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19549	Xeon E5-2670 v2	10	20	2.5 GHz	3.3 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19550	Xeon E5-2667 v2	8	16	3.3 GHz	4 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19553	Xeon E5-2660 v2	10	20	2.2 GHz	3 GHz	25MB	8 GT/s	95 W	DDR3-1866	0C19551	Xeon E5-2650 v2	8	16	2.6 GHz	3.4 GHz	20MB	8 GT/s	95 W	DDR3-1866	0C19552	Xeon E5-2650L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	70 W	DDR3-1600	0C19554	Xeon E5-2640 v2	8	16	2 GHz	2.5 GHz	20MB	7.2 GT/s	95 W	DDR3-1600	0C19555	Xeon E5-2630 v2	6	12	2.6 GHz	3.1 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19558	Xeon E5-2630L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60 W	DDR3-1600	0C19556	Xeon E5-2620 v2	6	12	2.1 GHz	2.6 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19557	Xeon E5-2609 v2	4	4	2.5 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19559	Xeon E5-2603 v2	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19560
Processor Number	Processors Specifications*								Part Number																																																																																																																																																																																																																																																																																																																																										
	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	QPI Speed	Max TDP	Memory Speed																																																																																																																																																																																																																																																																																																																																											
Intel Xeon E5-2600 Series																																																																																																																																																																																																																																																																																																																																																			
Xeon E5-2690	8	16	2.9 GHz	3.8 GHz	20MB	8 GT/s	135 W	DDR3-1600	0A89429																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2680	8	16	2.7 GHz	3.5 GHz	20MB	8 GT/s	130 W	DDR3-1600	0A89430																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2670	8	16	2.6 GHz	3.3 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89431																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2667	6	12	2.9 GHz	3.5 GHz	15MB	8 GT/s	130 W	DDR3-1600	0A89435																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2665	8	16	2.4 GHz	3.1 GHz	20MB	8 GT/s	115 W	DDR3-1600	0A89432																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2660	8	16	2.2 GHz	3 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89462																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2650L	8	16	1.8 GHz	2.3 GHz	20MB	8 GT/s	70 W	DDR3-1600	0A89434																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2650	8	16	2 GHz	2.8 GHz	20MB	8 GT/s	95 W	DDR3-1600	0A89433																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2643	4	8	3.3 GHz	3.5 GHz	10MB	8 GT/s	130 W	DDR3-1600	0A89440																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2640	6	12	2.5 GHz	3 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89436																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2630L	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	60 W	DDR3-1333	0A89439																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2630	6	12	2.3 GHz	2.8 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89437																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2620	6	12	2 GHz	2.5 GHz	15MB	7.2 GT/s	95 W	DDR3-1333	0A89438																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2609	4	4	2.4 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89441																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2603	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1066	0A89442																																																																																																																																																																																																																																																																																																																																										
Intel Xeon E5-2600 v2 Series																																																																																																																																																																																																																																																																																																																																																			
Xeon E5-2697 v2	12	24	2.7 GHz	3.5 GHz	30MB	8 GT/s	130 W	DDR3-1866	0C19546																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2695 v2	12	24	2.4 GHz	3.2 GHz	30MB	8 GT/s	115 W	DDR3-1866	0C19547																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2690 v2	10	20	3 GHz	3.6 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19548																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2680 v2	10	20	2.8 GHz	3.6 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19549																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2670 v2	10	20	2.5 GHz	3.3 GHz	25MB	8 GT/s	115 W	DDR3-1866	0C19550																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2667 v2	8	16	3.3 GHz	4 GHz	25MB	8 GT/s	130 W	DDR3-1866	0C19553																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2660 v2	10	20	2.2 GHz	3 GHz	25MB	8 GT/s	95 W	DDR3-1866	0C19551																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2650 v2	8	16	2.6 GHz	3.4 GHz	20MB	8 GT/s	95 W	DDR3-1866	0C19552																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2650L v2	10	20	1.7 GHz	2.1 GHz	25MB	7.2 GT/s	70 W	DDR3-1600	0C19554																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2640 v2	8	16	2 GHz	2.5 GHz	20MB	7.2 GT/s	95 W	DDR3-1600	0C19555																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2630 v2	6	12	2.6 GHz	3.1 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19558																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2630L v2	6	12	2.4 GHz	2.8 GHz	15MB	7.2 GT/s	60 W	DDR3-1600	0C19556																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2620 v2	6	12	2.1 GHz	2.6 GHz	15MB	7.2 GT/s	80 W	DDR3-1600	0C19557																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2609 v2	4	4	2.5 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19559																																																																																																																																																																																																																																																																																																																																										
Xeon E5-2603 v2	4	4	1.8 GHz		10MB	6.4 GT/s	80 W	DDR3-1333	0C19560																																																																																																																																																																																																																																																																																																																																										
Memory type	1600MHz, RDIMM and LV RDIMM, DDR3, 4-channel per processor, 240-pin																																																																																																																																																																																																																																																																																																																																																		
Memory DIMM sockets	twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)																																																																																																																																																																																																																																																																																																																																																		
Memory capacity	Up to 320GB (16GBx20)																																																																																																																																																																																																																																																																																																																																																		
Memory protection	ECC, memory mirroring, memory sparing																																																																																																																																																																																																																																																																																																																																																		
Memory options	<table border="1"> <thead> <tr> <th>Memory options</th> <th>Part Number</th> </tr> </thead> <tbody> <tr> <td>ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM</td> <td>0C19533</td> </tr> <tr> <td>ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM</td> <td>0C19534</td> </tr> <tr> <td>ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM</td> <td>0C19535</td> </tr> </tbody> </table> <p><i>Notes:</i> <ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs By default, the voltage of LV RDIMM is 1.5V and can be changed to 1.35V in BIOS setting When using Intel Xeon E5-2600 series processors, LV RIMM is needed to run at 1.5V to support all 20 memory DIMM sockets. If LV RIMM runs at 1.35V, only 16 memory DIMM sockets are functional (8 of 12 for CPU 1, 8 for CPU 2) </p>	Memory options	Part Number	ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM	0C19533	ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM	0C19534	ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM	0C19535																																																																																																																																																																																																																																																																																																																																										
Memory options	Part Number																																																																																																																																																																																																																																																																																																																																																		
ThinkServer 4GB DDR3L-1600MHz (1RX8) RDIMM	0C19533																																																																																																																																																																																																																																																																																																																																																		
ThinkServer 8GB DDR3L-1600MHz (2RX8) RDIMM	0C19534																																																																																																																																																																																																																																																																																																																																																		
ThinkServer 16GB DDR3L-1600MHz (2RX4) RDIMM	0C19535																																																																																																																																																																																																																																																																																																																																																		

ThinkServer RD640 Optional Configurations - Storage and RAID

Disk drive bays	Supports one of the following configurations: <ul style="list-style-type: none"> • 8 x 3.5" SAS/SATA disk drive bays • 8 x 2.5" SAS/SATA disk drive bays • 16 x 2.5" SAS/SATA disk drive bays 						
Disk drive options	Disk drive options						Part Number
	Hot-swap Disk drive for 3.5" bay						
	3.5" SATA Hard Drive						
	ThinkServer 3.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89473
	ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89474
	ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89475
	ThinkServer 3.5" 3TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0A89477
	ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0C19520
	3.5" SAS Hard Drive						
	ThinkServer 3.5" 1TB 7.2K SAS 6Gbps Hot Swap Hard Drive						0C19530
	ThinkServer 3.5" 2TB 7.2K SAS 6Gbps Hot Swap Hard Drive						0C19531
	ThinkServer 3.5" 3TB 7.2K SAS 6Gbps Hot Swap Hard Drive						0C19532
	ThinkServer 3.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive						67Y2616
	ThinkServer 3.5" 600GB 15K SAS 6Gbps Hot Swap Hard Drive						67Y2618
	2.5" SSD for 3.5" disk bay						
	ThinkServer 2.5" 100GB MLC SATA Solid State Drive to 3.5" Kit						0C19571
	ThinkServer 2.5" 200GB MLC SATA Solid State Drive to 3.5" Kit						0C19572
	ThinkServer 2.5" 400GB MLC SATA Solid State Drive to 3.5" Kit						0C19573
	Hot-swap Disk drive for 2.5" bay						
	2.5" SATA Hard Drive						
	ThinkServer 2.5" 500GB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0C19495
	ThinkServer 2.5" 1TB 7.2K Enterprise SATA 6Gbps Hot Swap Hard Drive						0C19496
	2.5" SAS Hard Drive						
	ThinkServer 2.5" 300GB 10K SAS 6Gbps Hot Swap Hard Drive						67Y2619
	ThinkServer 2.5" 600GB 10K SAS 6Gbps Hot Swap Hard Drive						67Y2621
	ThinkServer 2.5" 900GB 10K SAS 6Gbps Hot Swap Hard Drive						0A89409
	ThinkServer 2.5" 300GB 15K SAS 6Gbps Hot Swap Hard Drive						0C19494
	2.5" SSD						
ThinkServer 2.5" 100GB MLC SATA Solid State Drive						0A89420	
ThinkServer 2.5" 200GB MLC SATA Solid State Drive						0A89418	
ThinkServer 2.5" 400GB MLC SATA Solid State Drive						0A89419	
RAID support	RAID adapter	RAID support	Device Support	Cache	Host bus type	Data transfer rates (per port)	Optional upgrades
	ThinkServer RAID 500 (LSI® SAS 9240-8i)	0, 1, 10	SAS/SATA		PCI Express	6Gb/s	optional upgrade key, add RAID 5, 50 support
	ThinkServer RAID 700 (LSI SAS 9260-8i)	0, 1, 10, 5, 50, 6, 60	SAS/SATA	512MB	PCI Express	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)
	ThinkServer RAID 710 (LSI SAS 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	SAS/SATA	1GB	PCI Express	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath
RAID options	RAID controller and RAID upgrade options						Part Number
	ThinkServer RAID 500 Adapter II						0A89464
	ThinkServer RAID 500 Upgrade Key for Advanced RAID						0A89407
	ThinkServer RAID 700 Adapter II						0A89463
	ThinkServer RAID 700 Battery						67Y2647
	ThinkServer RAID 710 Adapter						0C19489
	ThinkServer RAID 710 Super Capacitor Module (CacheVault)						0C19490
	ThinkServer RAID 710 FastPath Software Key						0C19491
ThinkServer RAID 710 CacheCade Pro 2.0 Software Key						0C19492	

ThinkServer RD640 Optional Configurations - Network, System Management, Power Supply

Network options	Network and HBA options	Part Number
	ThinkServer 1 Gbps Ethernet I350-T2 Server Adapter by Intel	0C19506
	ThinkServer 1 Gbps Ethernet I350-T4 Server Adapter by Intel	0C19507
	Lenovo 10Gbps Ethernet X540-T2 Server Adapter by Intel	0C19497
	Lenovo 10Gbps Ethernet X520-DA2 Server Adapter by Intel	0C19486
	Lenovo 10Gbps Ethernet Fiber Module by Intel	0C19488
	Lenovo 10Gbps Ethernet X520-SR2 Server Adapter by Intel	0C19487
	ThinkServer QLE8242-CU-CK Dual Port CNA by QLogic	0C19483
	HBA	
	ThinkServer LPe1250 Single Port 8Gb Fibre Channel HBA by Emulex	0C19476
ThinkServer LPe12002 Dual Port 8Gb Fibre Channel HBA by Emulex	0C19478	
Security options	Trusted Platform Module options	Part Number
	ThinkServer Trusted Platform Module	0A89428
Systems management options for iKVM	System Management options	Part Number
	ThinkServer Management Module Premium	67Y2624
Power supply options	Power supply options	Part Number
	ThinkServer 800W Gold Hot Swap Redundant Power Supply for Rack	4X20E54690

ThinkServer RD640 (70AY) - TopSeller

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AY0001US	2xE5-2609 v2 4C/2.5GHz/ 10MB/1333MHz	4GBx20	8x3.5"	RAID710 +CacheVault +CacheCade	2x400GB SSD(cache,RAID1) +6x1TB 3.5" SAS(RAID50)	DVD±RW	IDM Premium	iKVM	X520SR2 +350T2 +350T2	Cable	800Wx2	Standard	1
70AY0002UX	2xE5-2670 v2 10C/2.5GHz/ 25MB/1866MHz	16GBx4	8x3.5"	RAID500 +Upgrade	6x3TB 3.5" SATA(RAID50) +2x3TB 3.5" SAS(RAID1)	DVD±RW	IDM	IPMI	350T4	No	800Wx2	No	1
70AY0003UX	1xE5-2630L v2 6C/2.4GHz/ 15MB/1600MHz	8GBx2	8x3.5"	RAID700	2x500GB 3.5" SATA(RAID1)	No	IDM	IPMI	350T2	No	800Wx2	No	1
70AY0005UX	1xE5-2609 v2 4C/2.5GHz/ 10MB/1333MHz	8GBx1	8x3.5"	RAID500	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70AY0006UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x3.5"	RAID700	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70AY0007UX	1xE5-2650 v2 8C/2.6GHz/ 20MB/1866MHz	8GBx1	8x3.5"	RAID700	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70AY0008UX	1xE5-2690 v2 10C/3GHz/ 25MB/1866MHz	8GBx1	8x3.5"	RAID700	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3

1. Model in italics is Global model

- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

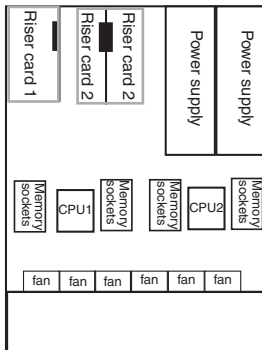

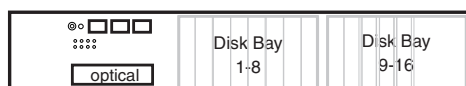
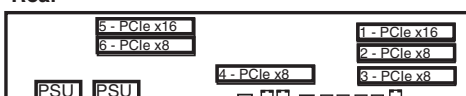
Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					<p>2U Rack top</p>
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
* All RAID adapters supports SAS and SATA drives						
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications - Specifications of Standard Models sheet					
	<p>Front - 3.5" bay</p>					
	<p>Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models)</p>					
	<p>Rear</p>					
	<p>Front and Rear Ports</p> <p>Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA</p>					
	<p>Expansion Slots</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8</p>					
	<p>Mechanical</p> <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 					

ThinkServer RD640 (70B1) - TopSeller

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70B10000US	2xE5-2630 v2 6C/2.6GHz/ 15MB/1600MHz	16GBx4	8x2.5"	RAID700 +Battery	3x300GB 2.5" SAS(RAID5)	DVD±RW	IDM	iKVM	350T2	Cable	800Wx2	Standard	1
70B10004UX	1xE5-2609 v2 4C/2.5GHz/ 10MB/1333MHz	8GBx1	8x2.5"	RAID500	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70B10005UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID700	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70B10006UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x2.5"	RAID710	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70B10007UX	1xE5-2640 v2 8C/2GHz/ 20MB/1600MHz	8GBx1	8x2.5"	RAID700	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70B10008UX	1xE5-2670 v2 10C/2.5GHz/ 25MB/1866MHz	8GBx1	8x2.5"	RAID710	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70B10009UX	1xE5-2690 v2 10C/3GHz/ 25MB/1866MHz	8GBx1	8x2.5"	RAID710	Open	DVD±RW	IDM Premium	iKVM	No	No	800Wx1	No	3

1. Model in italics is Global model

- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives					
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications					
	Front - 3.5" bay 					
	Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models) 					
	Rear 					
	Front and Rear Ports Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA					
	Expansion Slots Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8					
	Mechanical <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 					

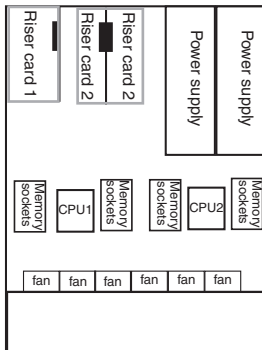
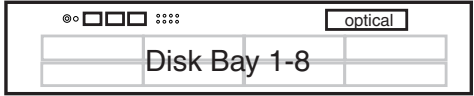
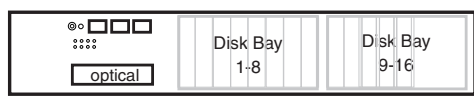

ThinkServer RD640 (70B0) - TopSeller

Product Specifications Reference (PSREF)

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70B00003US	2xE5-2690 v2 10C/3GHz/ 25MB/1866MHz	8GBx19+ 4GBx1	16x2.5"	RAID710 +CacheCade	2x100GB SSD(cache,RAID1) +14x1TB 2.5" SATA(RAID50)	DVD	IDM Premium	iKVM	X520SR2 +350T4+350T4	Cable	800Wx2	Standard	1
70B00004US	1xE5-2650 v2 8C/2.6GHz/ 20MB/1866MHz	4GBx2	16x2.5"	RAID500	2x900GB 2.5" SAS(RAID1)	No	IDM	IPMI	350T4	No	800Wx2	Standard	1
70B0000FUX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	16x2.5"	RAID700 +Battery	Open	DVD±RW	IDM Premium	iKVM	No	No	800Wx1	No	3
70B0000GUX	1xE5-2650 v2 8C/2.6GHz/ 20MB/1866MHz	8GBx1	16x2.5"	RAID710	Open	DVD±RW	IDM Premium	iKVM	No	No	800Wx1	No	3

1. Model in italics is Global model

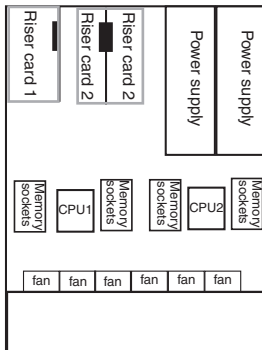

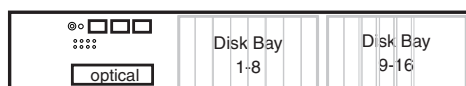
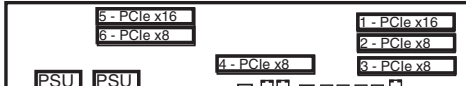
- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
* All RAID adapters supports SAS and SATA drives						
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications					
Front - 3.5" bay 						
Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models) 						
Rear 						
Front and Rear Ports Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA						
Expansion Slots Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8						
Mechanical <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 						

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70B0000LUX	1xE5-2650v2 8C/2.6GHz /20MB/1866MHz	8GBx1	16x2.5"	RAID710	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3

1. Model in italics is Global model

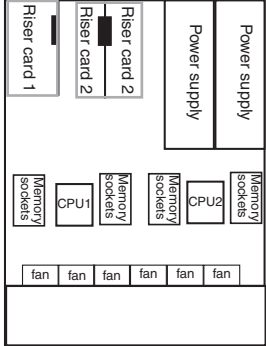

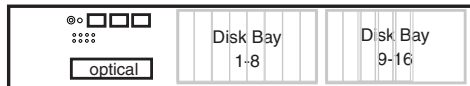
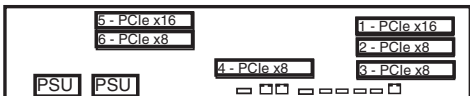
- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives					
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications					
	Front - 3.5" bay 					
	Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models) 					
	Rear 					
	Front and Rear Ports Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA					
	Expansion Slots Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8					
	Mechanical <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 					

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AV0000UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x3.5"	RAID500	Open	DVD±RW	IDM Premium	IPMI	No	No	800Wx1	No	3
70AV0001UX	1xE5-2620 v2 6C/2.1GHz/ 15MB/1600MHz	8GBx1	8x3.5"	RAID700	Open	DVD±RW	IDM Premium	iKVM	No	No	800Wx1	No	3

1. Model in italics is Global model

- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives					
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications					
	Front - 3.5" bay 					
	Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models) 					
	Rear 					
	Front and Rear Ports Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA					
	Expansion Slots Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8					
	Mechanical <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 					

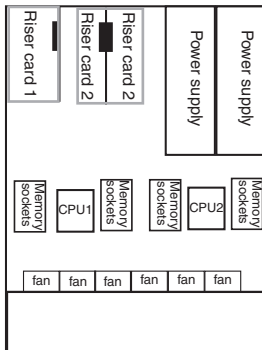

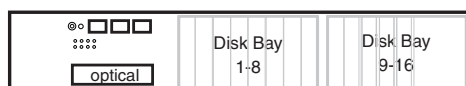
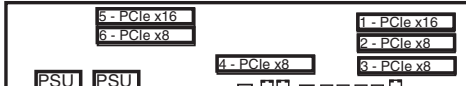
ThinkServer RD640 (70AX)

Product Specifications Reference (PSREF)

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AX0000UX	1xE5-2620 6C/2GHz/ 15MB/1333MHz	8GBx1	8x2.5"	RAID700	Open	DVD±RW	IDM Premium	iKVM	No	No	800Wx1	No	3

1. Model in italics is Global model

- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

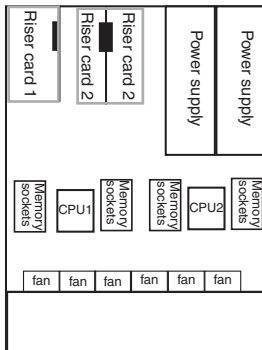

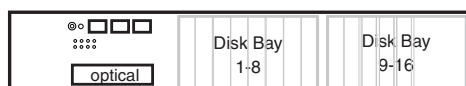
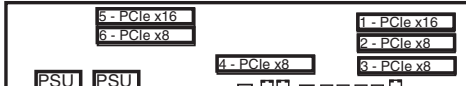
Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives					
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications					
	Front - 3.5" bay 					
	Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models) 					
	Rear 					
	Front and Rear Ports Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA					
	Expansion Slots Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8					
	Mechanical <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 					

ThinkServer RD640 (70AW)

Type-model ¹	Intel Xeon Processor(s)	1600MHz LV RDIMM memory	Disk Bays	RAID controller	Storage	Slim optical	Intelligent Diagnostics	Remote mgmt	Discrete ethernet	Cable mgmt	PSU	Windows Server 2012 Preloaded	Base on-site warranty (-year)
70AW0005UX	1xE5-2620 v2 6C/2.1GHz/15MB/1600MHz	8GBx1	16x2.5"	RAID700	Open	DVD±RW	IDM Premium	iKVM	No	No	800Wx1	No	3

1. Model in italics is Global model

- For detailed platform specifications, please see [ThinkServer RD640 Platform Specifications sheets](#)
- For optional configurations of ThinkServer RD640, please see [ThinkServer RD640 Optional Configurations sheets](#)

Chipset	Intel C602J Chipset, two LGA2011 sockets for processors					2U Rack top 
Memory type	1600MHz, LV RDIMM, DDR3, 4-channel per processor, 240-pin					
Memory DIMMs	Twenty DIMM sockets (12 sockets for CPU 1, 8 sockets for CPU 2)					
Memory protection	ECC, memory mirroring, memory sparing					
Disk drive bays	Supports 8 x 3.5", or 8 x 2.5", or 16 x 2.5" disk drive bays					
RAID support	RAID adapter*	RAID support	Cache	Transfer rates	Optional upgrades	
	RAID 500 (LSI® 9240-8i)	0, 1, 10		6Gb/s	optional upgrade key, add RAID 5, 50 support	
	RAID 700 (LSI 9260-8i)	0, 1, 10, 5, 50, 6, 60	512MB	6Gb/s	optional intelligent Battery Backup Unit (iBBU08)	
	RAID 710 (LSI 9270CV-8i)	0, 1, 10, 5, 50, 6, 60	1GB	6Gb/s	<ul style="list-style-type: none"> • optional CacheVault (CV) flash cache with super capacitor • optional CacheCade® Pro 2.0 • optional FastPath key 	
	* All RAID adapters supports SAS and SATA drives					
Optical (optional)	One DVD±RW or DVD ROM, slim, SATA interface					
Onboard network	Three onboard Gigabit Ethernet ports (RJ-45): Two Gigabit Ethernet ports by Intel i350; one Gigabit Ethernet port by Intel 82574L, dedicate/share management					
Discrete network (optional)	<ul style="list-style-type: none"> • Intel Ethernet Server Adapter I350-T2 • Intel Ethernet Server Adapter I350-T4 • Intel 10Gbps Ethernet X520-SR2 Server adapter • Intel 10Gbps Ethernet X520-DA2 Server adapter • Intel 10Gbps Ethernet Fiber Module for X520-DA2 adapter • Intel 10Gbps Ethernet X540-T2 Server adapter 					
Intelligent Diagnostics Module (IDM, opt)	Supports IDM or IDM Premium on selected models, IDM LED lights indicate failing component category, IDM Premium LED lights indicate individual failing part					
Security features	Power-on password/administrator password, Trusted Platform Module (TCG 1.2-compliant)					
Systems management (Optional iKVM)	<ul style="list-style-type: none"> • Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); optional ThinkServer Management Module Premium for iKVM functions • Control Panel LEDs shows the status of power, ID, network, system • Lenovo SmartGrid Manager • ThinkServer EasyStartup/EasyManage/EasyUpdate 					
Cable mgmt (opt)	Optional cable management arm on selected models					
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					
Environmental certifications	<ul style="list-style-type: none"> • Energy Star Server 2.0 qualified • RoHS-compliant More environmental information and requirements, please see ThinkServer RD640 Platform Specifications					
	Front - 3.5" bay 					
	Front - 2.5" bay (Bay 9-16 comes with 16x2.5" models) 					
	Rear 					
	Front and Rear Ports Front: 2 USB 2.0, 1 VGA Rear: 4 USB 2.0, 1 serial (9-pin), 2 ethernet (RJ-45), 1 RJ-45 (dedicate/share mgmt), 1 VGA					
	Expansion Slots Slot 1: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 2: half-length, full-height, PCIe 3.0 x8 Slot 3: half-length, full-height, PCIe 3.0 x8 Slot 4: Low Profile, PCIe 3.0 x8 Slot 5-6 are available on dual processors models: Slot 5: half-length, full-height, PCIe 3.0 x16 (x8 elec) Slot 6: half-length, full-height, PCIe 3.0 x8					
	Mechanical <ul style="list-style-type: none"> • 2U rack with rail kit • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 					

ThinkServer RD530 Photography - 3.5" disk bays *

*Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD530 accessories



- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to four 3.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to eight fans (7+1 redundant), non hot-swap

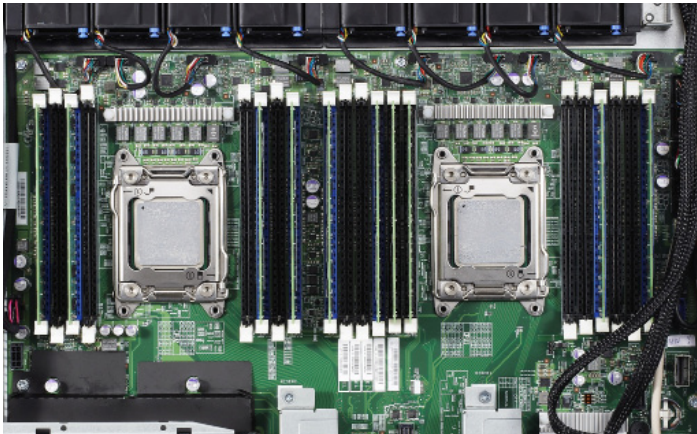
ThinkServer RD530 Photography - 2.5" disk bays *

* Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD530 accessories

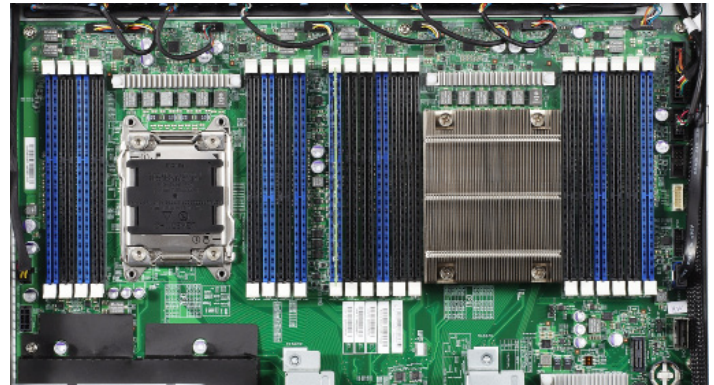


- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to eight 2.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to eight fans (7+1 redundant), non hot-swap

ThinkServer RD530 Photography - Details



Dual processors



Single processor



ThinkServer 800W Hot-Swap power supply
for ThinkServer RD530/RD630
(80 PLUS® Gold qualified,
redundant with two power supplies)



2.5" Hot-swap disk bay



ThinkServer RD530 rear I/O ports

ThinkServer RD530 with 3.5" Disk Bay (2570) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2570-A2U	1xE5-2620	1333MHz RDIMM	1x8GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
2570-A3U	1xE5-2640	1333MHz RDIMM	1x8GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
2570-A4U	2xE5-2640	1333MHz RDIMM	2x8GB	No	700+Battery	None	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
2570-A5U	1xE5-2650	1333MHz RDIMM	1x8GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
2570-A6U	1xE5-2670	1333MHz RDIMM	2x8GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
2570-A7U	1xE5-2640	1333MHz RDIMM	1x16GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	2

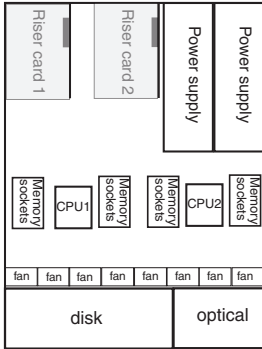
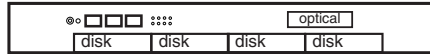
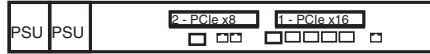
Limited warranty	3-year parts and labor; more Lenovo Services see S-RDS sheet		1U Rack top	
Processor	Up to two processors, one or two processors standard. Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz) Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)			
Implementation	Two LGA2011 sockets		Front	
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)			
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported 		Rear	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz			
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays		Mechanical	
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: 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 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700		<ul style="list-style-type: none"> 1U rack 19"W x 28.9"D x 1.72"H (with rack handles) 482.4mm W x 734mm D x 43.6mm H (with rack handles) 17kg (37.5 lb) when fully configured 	
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter		Disk Bays	
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm		Bay 1 5.25", 0.5" high, external, for optical Bay 2-5 3.5", 1" high, external, for disk	
Tape drive	None		Expansion Slots	
Optical	DVD±RW or DVD ROM, slim		Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8	
Diskette	None (use USB port)		Security	
Chipset	Intel C602J Chipset		<ul style="list-style-type: none"> Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all) 	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2		Software Management Tools	
Riser card	Two USB 2.0		<ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 	
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector		Energy Management Technology	
Rear ports	Supports IDM on selected models <i>Basic:</i> IDM LED lights indicate failing component category		<ul style="list-style-type: none"> Intel Power Node Manager Lenovo SmartGrid Manager 	
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions		ENERGY STAR Server 1.1-compliant	
Systems mgmt	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant		RoHS-compliant	
Security chip	SATA/SAS disk, OS		For more accessories, see O-RDS sheet	
Prerequisites	None (use USB port)			
Keyboard/mouse	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies			
Power supply	Includes rack kit			
Rack kit	<i>Cable:</i> contains cable management arm			
Cable management	Up to eight fans (7+1 redundant), non-hot swap			
Cooling				

See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD530 with 3.5" Disk Bay (2569) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System mgmt	Cable mgmt	Preload OS	PSU qty			
2569-A1U	2xE5-2640	1333MHz	RDIMM	2x8GB	5	700+Battery	3x500GB	3.5" SATA	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	1-year parts and labor; more Lenovo Services see S-RDS sheet		1U Rack top																					
Processor	Up to two processors, one or two processors standard, Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)																							
Implementation	Two LGA2011 sockets		Front																					
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)																							
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported 		Rear																					
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz																							
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays		Mechanical																					
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: 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 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700		<ul style="list-style-type: none"> 1U rack 19"W x 28.9"D x 1.72"H (with rack handles) 482.4mm W x 734mm D x 43.6mm H (with rack handles) 17kg (37.5 lb) when fully configured 																					
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter		Disk Bays																					
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm		<table border="1"> <tr> <td>Bay 1</td> <td>5.25"</td> <td>0.5" high, external,</td> <td>for optical</td> </tr> <tr> <td>Bay 2-5</td> <td>3.5"</td> <td>1" high, external,</td> <td>for disk</td> </tr> </table>														Bay 1	5.25"	0.5" high, external,	for optical	Bay 2-5	3.5"	1" high, external,	for disk
Bay 1	5.25"	0.5" high, external,	for optical																					
Bay 2-5	3.5"	1" high, external,	for disk																					
Tape drive	None		Expansion Slots																					
Optical	DVD±RW or DVD ROM, slim		Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8																					
Diskette	None (use USB port)		Security																					
Chipset	Intel C602J Chipset		<ul style="list-style-type: none"> Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all) 																					
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2		Software Management Tools																					
Riser card	Two USB 2.0		<ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 																					
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector		Energy Management Technology																					
Rear ports	Supports IDM on selected models Basic: IDM LED lights indicate failing component category		<ul style="list-style-type: none"> Intel Power Node Manager Lenovo SmartGrid Manager 																					
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions		ENERGY STAR Server 1.1-compliant																					
Systems mgmt	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant		RoHS-compliant																					
Security chip	SATA/SAS disk, OS		For more accessories, see O-RDS sheet																					
Prerequisites	None (use USB port)																							
Keyboard/mouse	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS Gold qualified, redundant with two power supplies																							
Power supply	Includes rack kit																							
Rack kit	Optional cable management arm on selected models																							
Cable management	Up to eight fans (7+1 redundant), non-hot swap																							
Cooling																								

See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD530 with 3.5" Disk Bay (2573)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2573-A1U	1xE5-2620	1333MHz	RDIMM 1x8GB	No	700		4xHS	SATA/SAS DVD±RW	No	No	TPM	iKVM	No	No	1
2573-A2U	1xE5-2670	1333MHz	RDIMM 2x8GB	No	700+Battery		4xHS	SATA/SAS DVD±RW	No	No	TPM	iKVM	No	No	2
2573-A3U	1xE5-2640	1333MHz	RDIMM 1x16GB	No	700		4xHS	SATA/SAS DVD±RW	No	No	TPM	iKVM	No	No	1
2573-A4U	1xE5-2650	1333MHz	RDIMM 2x8GB	No	700+Battery		4xHS	SATA/SAS DVD±RW	No	No	TPM	iKVM	No	No	2
2573-A5U	1xE5-2620	1333MHz	RDIMM 2x8GB	No	700+Battery	4x500GB 3.5" SATA	4xHS	SATA/SAS DVD±RW	No	No	TPM	iKVM	No	No	2
2573-A6U	1xE5-2650	1333MHz	RDIMM 4x8GB	No	700+Battery	4x300GB 3.5" SAS	4xHS	SATA/SAS DVD±RW	No	No	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more Lenovo Services see S-RDS sheet

Processor
Up to two processors, one or two processors standard.
Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)

Implementation
Two LGA2011 sockets

Memory
RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin;
RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB)
LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over twelve RDIMMs requires dual processors
- Over eight LV RDIMMs requires dual processors
- Mixing of RDIMM and LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear;
Maximum resolution: 1920x1200@60Hz

Disk bays
Four 3.5" hot-swap SATA/SAS disk bays

Disk controller
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support
RAID 700: 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 support
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter

Disk(s)
3.5" SATA: SATA 6.0Gb/s, 7200 rpm
3.5" SAS: SAS 6.0Gb/s, 15000 rpm

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C602J Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2

Riser card
Two USB 2.0

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Rear ports
Supports IDM on selected models
Basic: IDM LED lights indicate failing component category
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Intelligent Diagnostics Module (IDM)
Supports IDM on selected models

Systems mgmt
Basic: IDM LED lights indicate failing component category
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

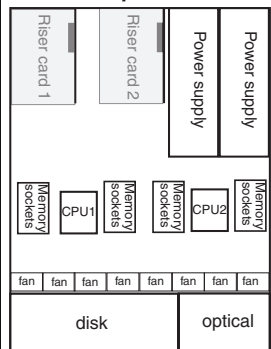
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

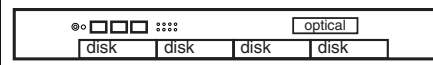
Cable management
Optional cable management arm on selected models

Cooling
Up to eight fans (7+1 redundant), non-hot swap

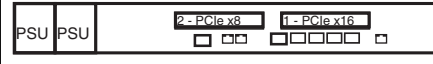
1U Rack top



Front



Rear



Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
Bay 2-5 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD530 with 2.5" Disk Bay (2575) - TopSeller

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2575-A1U	1xE5-2620	1333MHz RDIMM	1x4GB	No	500	None	8xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
2575-A2U	1xE5-2640	1333MHz RDIMM	2x4GB	No	700+Battery	None	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2575-A4U	1xE5-2620	1333MHz RDIMM	1x8GB	No	700	None	8xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
2575-A6U	1xE5-2640	1333MHz RDIMM	2x8GB	No	700	None	8xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
2575-A7U	1xE5-2650	1333MHz RDIMM	3x8GB	No	700+Battery	None	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2575-A8U	1xE5-2670	1333MHz RDIMM	3x8GB	No	700+Battery	None	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2575-A9U	2xE5-2650	1333MHz RDIMM	4x8GB	No	700+Battery	None	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more Lenovo Services see S-RDS sheet

Processor
Up to two processors, one or two processors standard, **Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2)**, Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)

Implementation
Two LGA2011 sockets

Memory
RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin;
RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB)
LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over twelve RDIMMs requires dual processors
- Over eight LV RDIMMs requires dual processors
- Mixing of RDIMM and LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz

Disk bays
Eight 2.5" hot-swap SATA/SAS disk bays

Disk controller
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support
RAID 700: 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
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter

Disk(s)
2.5" SAS: SAS 6.0Gb/s, 10000 rpm
SSD: Solid State Drive, 2.5"

Tape drive
None

Optical
None (use USB port)

Diskette
None (use USB port)

Chipset
Intel C602J Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2

Riser card
Two USB 2.0, one analog VGA DB-15 connector

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share sys mgmt), one analog VGA DB-15 connector

Intelligent Diagnostics Module (IDM)
Supports IDM on selected models
Basic: IDM LED lights indicate failing component category

Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); *iKVM:* add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

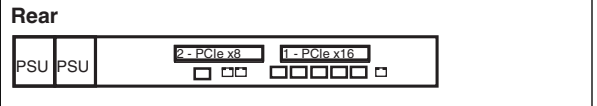
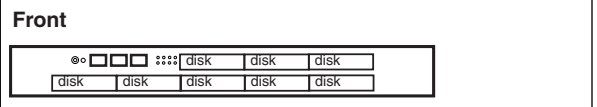
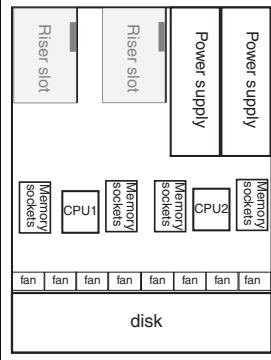
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

Cable management
Optional cable management arm on selected models

Cooling
Up to eight fans (7+1 redundant), non-hot swap

1U Rack top



- Mechanical**
- 1U rack
 - 19"W x 28.4"D x 1.72"H (with rack handles)
 - 482.4mm W x 734mm D x 43.6mm H (with rack handles)
 - 17kg (37.5 lb) when fully configured

Disk Bays
Bay 1-8 2.5", 0.6" high, external, for disk

Expansion Slots
Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

- Security**
- Security chip (selected models, see information on left)
 - Administrator password
 - User password
 - Boot sequence control
 - Boot without keyboard, mouse, diskette
 - Serial port I/O control
 - USB port disablement (all)

- Software Management Tools**
- ThinkServer EasyStartup
 - ThinkServer EasyManage

- Energy Management Technology**
- Intel Power Node Manager
 - Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD530 with 2.5" Disk Bay (2574) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2574-A1U	2xE5-2640	1333MHz RDIMM	2x8GB		700+Battery	2x300GB 2.5" SAS	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2574-A2U	2xE5-2640	1333MHz RDIMM	2x8GB	5	700+Battery	3x300GB 2.5" SAS	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty	1-year parts and labor; more Lenovo Services see S-RDS sheet
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA2011 sockets
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 2.5" hot-swap SATA/SAS disk bays
Disk controller	<p><i>RAID 500:</i> ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p><i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p><i>RAID 700:</i> 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</p> <p><i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"
Tape drive	None
Optical	None (use USB port)
Diskette	None (use USB port)
Chipset	Intel C602J Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2
Riser card	Two USB 2.0, one analog VGA DB-15 connector
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share sys mgmt), one analog VGA DB-15 connector
Rear ports	Supports IDM on selected models <i>Basic:</i> IDM LED lights indicate failing component category
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Systems mgmt	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Security chip	SATA/SAS disk, OS
Prerequisites	None (use USB port)
Keyboard/mouse	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Power supply	Includes rack kit
Rack kit	Optional cable management arm on selected models
Cable management	Up to eight fans (7+1 redundant), non-hot swap
Cooling	

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.4"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1-8 2.5", 0.6" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD530 with 2.5" Disk Bay (2576)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	Preload OS	PSU qty	
2576-A1U	1xE5-2620	1333MHz RDIMM	1x8GB	No	700		8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	1
2576-A2U	1xE5-2640	1333MHz RDIMM	1x8GB	No	700+Battery		8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2576-A3U	1xE5-2650	1333MHz RDIMM	2x8GB	No	700+Battery		8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2576-A4U	1xE5-2650	1333MHz RDIMM	6x8GB	No	700+Battery	4x300GB 2.5" SAS	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2576-A5U	1xE5-2620	1333MHz RDIMM	3x8GB	No	700+Battery	4x300GB 2.5" SAS	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
2576-A6U	2xE5-2670	1333MHz RDIMM	6x16GB	No	700+Battery	4x300GB 2.5" SAS	8xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more Lenovo Services see S-RDS sheet
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz) Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA2011 sockets
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 2.5" hot-swap SATA/SAS disk bays
Disk controller	<i>RAID 500:</i> ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support <i>RAID 700:</i> 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 <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"
Tape drive	None
Optical	None (use USB port)
Diskette	None (use USB port)
Chipset	Intel C602J Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2
Riser card	Two USB 2.0, one analog VGA DB-15 connector
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share sys mgmt), one analog VGA DB-15 connector
Rear ports	Supports IDM on selected models <i>Basic:</i> IDM LED lights indicate failing component category
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Systems mgmt	
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Up to eight fans (7+1 redundant), non-hot swap

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.4"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1-8 2.5", 0.6" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD630 Photography - Eight 3.5" disk bays*

*Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD630 accessories

ThinkServer™



- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to eight 3.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to six fans (5+1 redundant), hot-swap

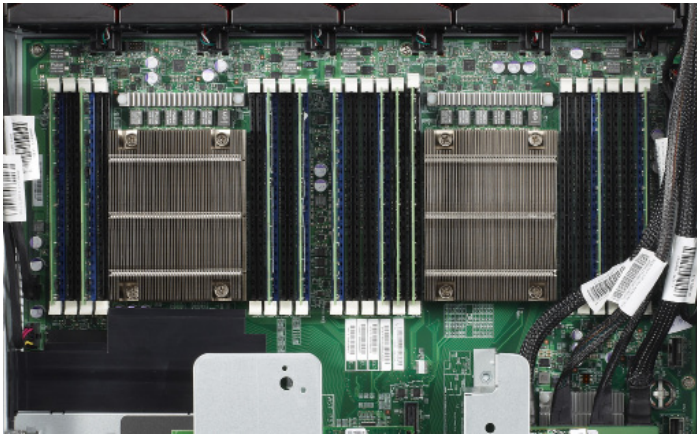
ThinkServer RD630 Photography - 2.5" disk bays *

* Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD630 accessories

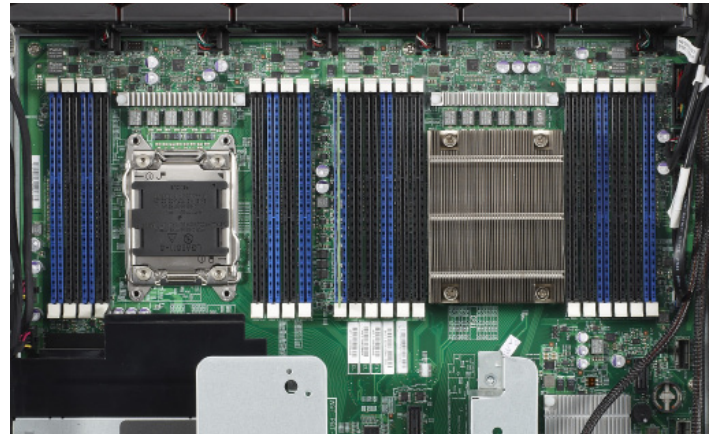


- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to sixteen 2.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to six fans (5+1 redundant), hot-swap

ThinkServer RD630 Photography - Details - I



Dual processors



Single processor



2.5" Hot-swap disk bay



2.5" Hot-swap disk bay



2.5" Hot-swap SAS 6.0Gb/s hard drive



3.5" Hot-swap SAS 6.0Gb/s hard drive

ThinkServer RD630 Photography - Details - II



ThinkServer RAID 700 Adapter with battery
(LSI® SAS 9260-8i with iBBU08)



ThinkServer RAID 700 Adapter with battery
(LSI SAS 9260-8i with iBBU08)



ThinkServer 800W Hot-Swap power supply
for ThinkServer RD530/RD630
(80 PLUS® Gold qualified,
redundant with two power supplies)



Intelligent Diagnostics Module Premium



ThinkServer RD630 rear I/O ports

ThinkServer RD630 with 3.5" Disk Bay (2579) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2579-A2U	1xE5-2640	1333MHz RDIMM	1x4GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iPMI	No	No	1
2579-A3U	1xE5-2640	1333MHz RDIMM	1x4GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	1
2579-A4U	1xE5-2650	1333MHz RDIMM	1x8GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iPMI	No	No	1
2579-A5U	1xE5-2650	1333MHz RDIMM	2x8GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2579-A6U	1xE5-2620	1333MHz RDIMM	1x4GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iPMI	No	No	1
2579-A7U	1xE5-2670	1333MHz RDIMM	1x16GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2579-A8U	1xE5-2670	1333MHz RDIMM	1x8GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more Lenovo Services see S-RDS sheet

Processor
Up to two processors, one or two processors standard, **Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2)**, Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)

Implementation
Two LGA2011 sockets

Memory
RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin;
RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB)
LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over twelve RDIMMs requires dual processors
- Over eight LV RDIMMs requires dual processors
- Mixing of RDIMM and LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear;
Maximum resolution: 1920x1200@60Hz

Disk bays
Eight 3.5" hot-swap SATA/SAS disk bays

Disk controller
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support
RAID 700: 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
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter

Disk(s)
3.5" SATA: SATA 6.0Gb/s, 7200 rpm
3.5" SAS: SAS 6.0Gb/s, 15000 rpm

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C602J Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5

Riser card
Two USB 2.0, one analog VGA DB-15 connector

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Intelligent Diagnostics Module (IDM)
Supports IDM or IDM Premium on selected models
Basic: IDM LED lights indicate failing component category
Premium: IDM Premium LED lights indicate individual failing part

Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

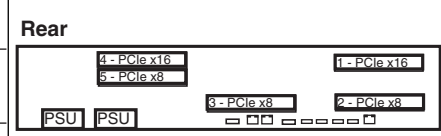
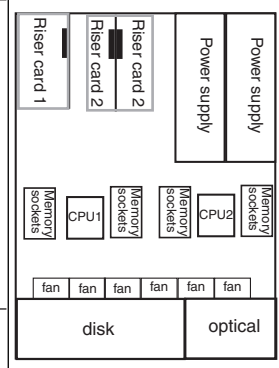
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

Cable management
Optional cable management arm on selected models

Cooling
Up to six fans (5+1 redundant), hot-swap

2U Rack top



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-9	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: half-length, full-height, PCI Express 3.0 x8
Slot 3: Low Profile, PCI Express 3.0 x8
Slot 4-5 are available on dual processors models:
Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

See footnotes for important warranty information
US model(s) announced June 5, 2012

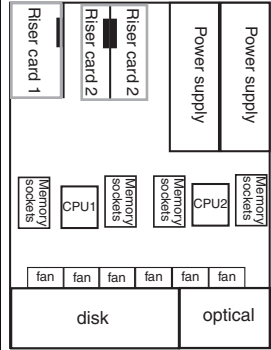
ThinkServer RD630 with 3.5" Disk Bay (2577) - TopSeller

Product Specifications Reference (PSREF)

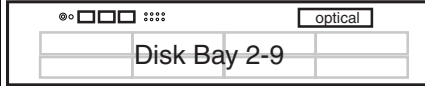
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2577-A1U	2xE5-2620	1333MHz RDIMM	2x8GB	5	700+Battery	6x500GB 3.5"	SATA 8xHS	SATA/SAS	DVD	Premium	TPM	iKVM	No	No	2

Limited warranty	1-year parts and labor; more Lenovo Services see S-RDS sheet
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA2011 sockets
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C602J Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	Two USB 2.0, one analog VGA DB-15 connector
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Up to six fans (5+1 redundant), hot-swap

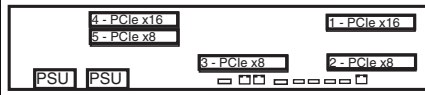
2U Rack top



Front



Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-9	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: half-length, full-height, PCI Express 3.0 x8
 Slot 3: Low Profile, PCI Express 3.0 x8
Slot 4-5 are available on dual processors models:
 Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
 Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

ThinkServer RD630 with 3.5" Disk Bay (2592)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2592-A1U	1xE5-2650	1333MHz	RDIMM 1x8GB	No	700+Battery		8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2592-A2U	1xE5-2620	1333MHz	RDIMM 1x4GB	No	700		8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	1
2592-A3U	1xE5-2670	1333MHz	RDIMM 1x16GB	No	700+Battery		8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2592-A4U	1xE5-2650	1333MHz	RDIMM 6x8GB	No	700+Battery	4x300GB 3.5" SAS	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2592-A5U	1xE5-2620	1333MHz	RDIMM 3x8GB	No	700+Battery	3x500GB 3.5" SAS	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2592-A6U	2xE5-2670	1333MHz	RDIMM 6x16GB	No	700+Battery	4x300GB 3.5" SAS	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more Lenovo Services see S-RDS sheet

Processor
Up to two processors, one or two processors standard, **Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2)**, Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)

Implementation
Two LGA2011 sockets

Memory
RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin;
RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB)
LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over twelve RDIMMs requires dual processors
- Over eight LV RDIMMs requires dual processors
- Mixing of RDIMM and LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear;
Maximum resolution: 1920x1200@60Hz

Disk bays
Eight 3.5" hot-swap SATA/SAS disk bays

Disk controller
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support
RAID 700: 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
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter

Disk(s)
3.5" SATA: SATA 6.0Gb/s, 7200 rpm
3.5" SAS: SAS 6.0Gb/s, 15000 rpm

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C602J Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5

Riser card
Two USB 2.0, one analog VGA DB-15 connector

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Intelligent Diagnostics Module (IDM)
Supports IDM or IDM Premium on selected models
Basic: IDM LED lights indicate failing component category
Premium: IDM Premium LED lights indicate individual failing part

Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

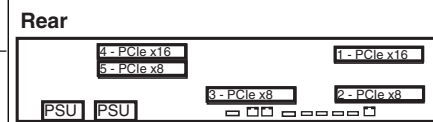
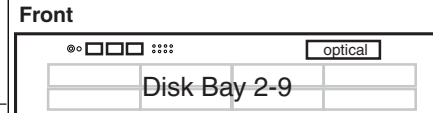
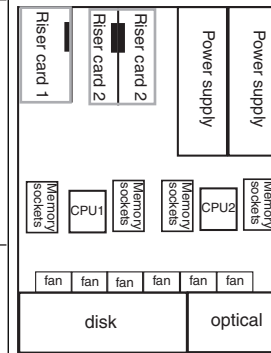
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

Cable management
Optional cable management arm on selected models

Cooling
Up to six fans (5+1 redundant), hot-swap

2U Rack top



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
Bay 2-9 3.5", 1" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: half-length, full-height, PCI Express 3.0 x8
Slot 3: Low Profile, PCI Express 3.0 x8
Slot 4-5 are available on dual processors models:
Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

ThinkServer RD630 with 2.5" Disk Bay (2594) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System Cable mgmt	Preload OS	PSU qty	
2594-A1U	1xE5-2620	1333MHz RDIMM	2x4GB	No	500	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	1
2594-A2U	1xE5-2640	1333MHz RDIMM	2x4GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	2
2594-A3U	1xE5-2660	1333MHz RDIMM	2x8GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	2
2594-A4U	1xE5-2620	1333MHz RDIMM	1x4GB	No	500	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	1
2594-A5U	1xE5-2640	1333MHz RDIMM	1x4GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	2
2594-A6U	1xE5-2640	1333MHz RDIMM	1x8GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	2
2594-A7U	1xE5-2670	1333MHz RDIMM	1x16GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	2
2594-A9U	1xE5-2620	1333MHz RDIMM	1x4GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	1
2594-ADU	1xE5-2670	1333MHz RDIMM	1x8GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	1
2594-AEU	1xE5-2690	1333MHz RDIMM	1x16GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	2

Limited warranty **3-year** parts and labor; more Lenovo Services see S-RDS sheet

Processor
Up to two processors, one or two processors standard,
Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2660 processor (8C/16T, 2.2GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2690 processor (8C/16T, 2.9GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Two LGA2011 sockets

Implementation
Two LGA2011 sockets

Memory
RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin;
RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB)
LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over twelve RDIMMs requires dual processors
- Over eight LV RDIMMs requires dual processors
- Mixing of RDIMM and LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear;
Maximum resolution: 1920x1200@60Hz

Disk bays
Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (Sixteen 2.5" disk bays availability on August 2012)

Disk controller
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support
RAID 700: 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
Battery for 700: Intelligent Battery Backup Unit (IBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter

Disk(s)
2.5" SAS: SAS 6.0Gb/s, 10000 rpm
SSD: Solid State Drive, 2.5"

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C602J Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5

Riser card
Two USB 2.0, one analog VGA DB-15 connector

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Rear ports
Supports IDM or IDM Premium on selected models
Basic: IDM LED lights indicate failing component category
Premium: IDM Premium LED lights indicate individual failing part

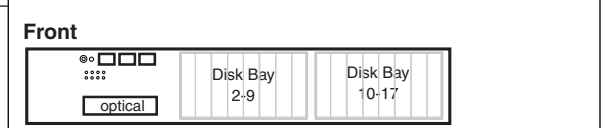
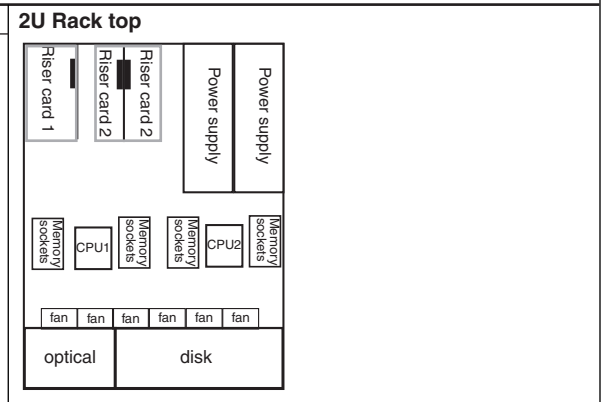
Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

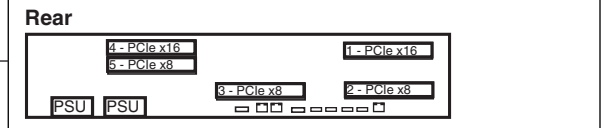
Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies



Bay 10-17 are available on sixteen disk bays models only



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

Bay 1 5.25", 0.5" high, external, for optical
Bay 2-9 2.5", 0.6" high, external, for disk
Bay 10-17 are available on sixteen 2.5" disk bays models:
Bay 10-17 2.5", 0.6" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: half-length, full-height, PCI Express 3.0 x8
Slot 3: Low Profile, PCI Express 3.0 x8
Slot 4-5 are available on dual processors models:
Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

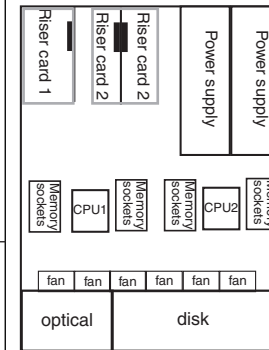
ThinkServer RD630 with 2.5" Disk Bay (2594) - TopSeller (August 2012)

Product Specifications Reference (PSREF)

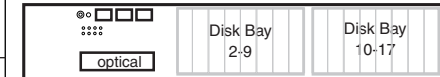
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System Cable mgmt	Preload OS	PSU qty	
2594-A8U	1xE5-2620	1333MHz RDIMM	1x8GB	No	700+Battery	No	16xHS	SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	1
2594-AAU	1xE5-2640	1333MHz RDIMM	1x8GB	No	700+Battery	No	16xHS	SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	1
2594-ABU	2xE5-2650	1333MHz RDIMM	2x8GB	No	700+Battery	No	16xHS	SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	2
2594-ACU	1xE5-2650	1333MHz RDIMM	1x8GB	No	700+Battery	No	16xHS	SATA/SAS	DVD±RW	Premium	TPM iKVM	No	No	2

Limited warranty	3-year parts and labor; more Lenovo Services see S-RDS sheet
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Implementation	Two LGA2011 sockets
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported
Graphics	Onboard Asped AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C602J Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Riser card	Two USB 2.0, one analog VGA DB-15 connector
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Rear ports	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part
Intelligent Diagnostics Module (IDM)	Onboard Asped AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Systems mgmt	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Security chip	SATA/SAS disk, OS None (use USB port)
Prerequisites	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Keyboard/mouse	Includes rack kit Optional cable management arm on selected models
Power supply	Up to six fans (5+1 redundant), hot-swap
Rack kit	
Cable management	
Cooling	

2U Rack top



Front



Bay 10-17 are available on sixteen disk bays models only

Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

- Bay 1 5.25", 0.5" high, external, for optical
- Bay 2-9 2.5", 0.6" high, external, for disk
- Bay 10-17 are available on sixteen 2.5" disk bays models:
- Bay 10-17 2.5", 0.6" high, external, for disk

Expansion Slots

- Slot 1: half-length, full-height, PCI Express 3.0 x16
- Slot 2: half-length, full-height, PCI Express 3.0 x8
- Slot 3: Low Profile, PCI Express 3.0 x8
- Slot 4-5 are available on dual processors models:
- Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
- Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

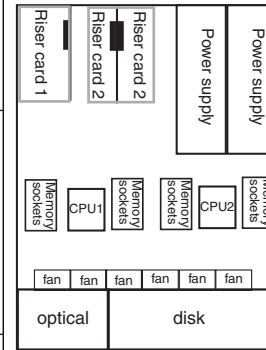
ThinkServer RD630 with 2.5" Disk Bay (2593) - TopSeller

Product Specifications Reference (PSREF)

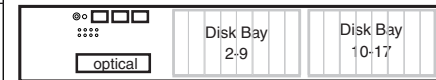
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2593-A1U	2xE5-2620	1333MHz	RDIMM 2x8GB		700+Battery	5x600GB 2.5" SAS	8xHS	SATA/SAS	DVD	Premium	TPM	iKVM	No	No	2
2593-A2U	2xE5-2620	1333MHz	RDIMM 2x8GB	5	700+Battery	6x600GB 2.5" SAS	8xHS	SATA/SAS	DVD	Premium	TPM	iKVM	No	No	2

Limited warranty	1-year parts and labor; more Lenovo Services see S-RDS sheet
Processor	Up to two processors, one or two processors standard, Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Implementation	Two LGA2011 sockets
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (Sixteen 2.5" disk bays availability on August 2012)
Disk controller	<i>RAID 500:</i> ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support <i>RAID 700:</i> 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 <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	<i>2.5" SAS:</i> SAS 6.0Gb/s, 10000 rpm <i>SSD:</i> Solid State Drive, 2.5"
Tape drive	None
Optical	DVD±RW or DVD ROM, slim
Diskette	None (use USB port)
Chipset	Intel C602J Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	Two USB 2.0, one analog VGA DB-15 connector
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant
Prerequisites	SATA/SAS disk, OS
Keyboard/mouse	None (use USB port)
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies
Rack kit	Includes rack kit
Cable management	Optional cable management arm on selected models
Cooling	Up to six fans (5+1 redundant), hot-swap

2U Rack top



Front



Bay 10-17 are available on sixteen disk bays models only

Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

- Bay 1 5.25", 0.5" high, external, for optical
- Bay 2-9 2.5", 0.6" high, external, for disk
- Bay 10-17 are available on sixteen 2.5" disk bays models:
- Bay 10-17 2.5", 0.6" high, external, for disk

Expansion Slots

- Slot 1: half-length, full-height, PCI Express 3.0 x16
- Slot 2: half-length, full-height, PCI Express 3.0 x8
- Slot 3: Low Profile, PCI Express 3.0 x8
- Slot 4-5 are available on dual processors models:
- Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
- Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

ThinkServer RD630 with 2.5" Disk Bay (2595)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2595-A1U	1xE5-2620	1333MHz RDIMM	1x8GB	No	700		8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
2595-A2U	1xE5-2650	1333MHz RDIMM	1x16GB	No	700+Battery		8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2595-A5U	1xE5-2650	1333MHz RDIMM	6x8GB	No	700+Battery	4x300GB 2.5" SAS	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2595-A6U	1xE5-2620	1333MHz RDIMM	3x8GB	No	700+Battery	4x300GB 2.5" SAS	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2595-A7U	2xE5-2670	1333MHz RDIMM	6x16GB	No	700+Battery	4x300GB 2.5" SAS	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more Lenovo Services see S-RDS sheet

Processor
Up to two processors, one or two processors standard,
Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2), Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz)
Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2), Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)
Two LGA2011 sockets

Memory
RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin;
RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB)
LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)

Additional memory disclaimers

- Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs
- Over twelve RDIMMs requires dual processors
- Over eight LV RDIMMs requires dual processors
- Mixing of RDIMM and LV RDIMM is not supported

Graphics
Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear;
Maximum resolution: 1920x1200@60Hz

Disk bays
Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (Sixteen 2.5" disk bays availability on August 2012)

Disk controller
RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support
Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support
RAID 700: 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
Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700

RAID Support
Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter

Disk(s)
2.5" SAS: SAS 6.0Gb/s, 10000 rpm
SSD: Solid State Drive, 2.5"

Tape drive
None

Optical
DVD±RW or DVD ROM, slim

Diskette
None (use USB port)

Chipset
Intel C602J Chipset

Ethernet
Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5

Riser card
Two USB 2.0, one analog VGA DB-15 connector

Front ports
Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

Rear ports
Supports IDM or IDM Premium on selected models

Intelligent Diagnostics Module (IDM)
Basic: IDM LED lights indicate failing component category
Premium: IDM Premium LED lights indicate individual failing part

Systems mgmt
Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC);
iKVM: add-on ThinkServer Management Module Premium for iKVM functions

Security chip
No onboard TPM chip;
TPM: additional add-on card for TPM function, TCG 1.2-compliant

Prerequisites
SATA/SAS disk, OS

Keyboard/mouse
None (use USB port)

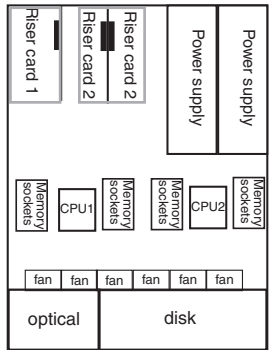
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

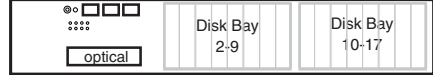
Cable management
Optional cable management arm on selected models

Cooling
Up to six fans (5+1 redundant), hot-swap

2U Rack top

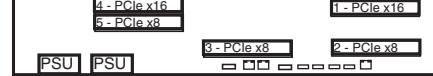


Front



Bay 10-17 are available on sixteen disk bays models only

Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

- Bay 1 5.25", 0.5" high, external, for optical
- Bay 2-9 2.5", 0.6" high, external, for disk
- Bay 10-17 are available on sixteen 2.5" disk bays models:
- Bay 10-17 2.5", 0.6" high, external, for disk

Expansion Slots

- Slot 1: half-length, full-height, PCI Express 3.0 x16
- Slot 2: half-length, full-height, PCI Express 3.0 x8
- Slot 3: Low Profile, PCI Express 3.0 x8
- Slot 4-5 are available on dual processors models:
- Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
- Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

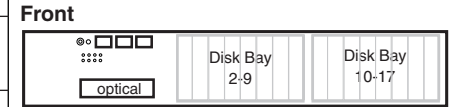
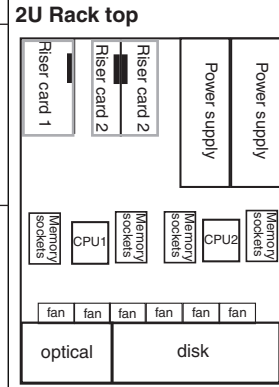
See footnotes for important warranty information
US model(s) announced June 5, 2012

ThinkServer RD630 with 2.5" Disk Bay (2595) - August 2012

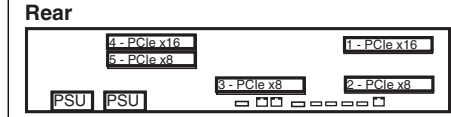
Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System mgmt	Cable mgmt	Preload OS	PSU qty
2595-A3U	1xE5-2650	1333MHz	RDIMM 1x8GB	No	700+Battery	No	16xHS	SATA/SAS DVD±RW		Premium TPM	iKVM	No	No	2
2595-A4U	1xE5-2620	1333MHz	RDIMM 1x8GB	No	700+Battery	No	16xHS	SATA/SAS DVD±RW		Premium TPM	IPMI	No	No	2

Limited warranty	3-year parts and labor; more Lenovo Services see S-RDS sheet	
Processor	Up to two processors, one or two processors standard, Intel Xeon E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz) Two LGA2011 sockets	
Implementation	Two LGA2011 sockets	
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)	
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 Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported 	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays	
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter	
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"	
Tape drive	None	
Optical	DVD±RW or DVD ROM, slim	
Diskette	None (use USB port)	
Chipset	Intel C602J Chipset	
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5	
Riser card	Two USB 2.0, one analog VGA DB-15 connector	
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	
Rear ports	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part	
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions	
Systems mgmt	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant	
Security chip	SATA/SAS disk, OS None (use USB port)	
Prerequisites	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	
Keyboard/mouse	Includes rack kit	
Power supply	Optional cable management arm on selected models	
Rack kit	Up to six fans (5+1 redundant), hot-swap	
Cable management		
Cooling		



Bay 10-17 are available on sixteen disk bays models only



Slot 4, 5 are available on dual processors models only

Mechanical

- 2U rack
- 19"W x 28.9"D x 3.45"H (with rack handles)
- 482.4mm W x 734mm D x 87.6mm H (with rack handles)
- 26.5 kg (58.42 lb) when fully configured

Disk Bays

- Bay 1: 5.25", 0.5" high, external, for optical
- Bay 2-9: 2.5", 0.6" high, external, for disk
- Bay 10-17 are available on sixteen 2.5" disk bays models:
- Bay 10-17: 2.5", 0.6" high, external, for disk

Expansion Slots

- Slot 1: half-length, full-height, PCI Express 3.0 x16
- Slot 2: half-length, full-height, PCI Express 3.0 x8
- Slot 3: Low Profile, PCI Express 3.0 x8
- Slot 4-5 are available on dual processors models:
- Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec)
- Slot 5: half-length, full-height, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo SmartGrid Manager

ENERGY STAR Server 1.1-compliant
RoHS-compliant

For more accessories, see O-RDS sheet

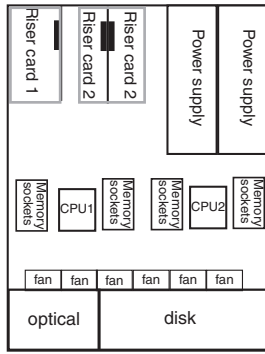
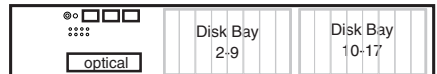
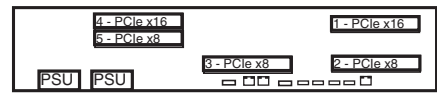
See footnotes for important warranty information
US model(s) announced August 21, 2012

ThinkServer RD630 with 2.5" Disk Bay (2595) - Vectorwise Appliance

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2595-A8U	1xE5-2643	1333MHz	RDIMM 8x8GB	10	700+Battery	4x300GB 2.5" SAS	8xHS	DVD±RW	Premium	TPM	iKVM	No	Win2008E R2	2
2595-A9U	2xE5-2667	1333MHz	RDIMM 16x8GB	6	700+Battery	8x300GB 2.5" SAS	8xHS	DVD±RW	Premium	TPM	iKVM	No	Win2008E R2	2
2595-AAU	2xE5-2667	1333MHz	RDIMM 16x8GB	6	700+Battery	8x300GB 2.5" SAS	8xHS	DVD±RW	Premium	TPM	iKVM	No	RHEL 6.0	2

- **These models are ThinkServer solutions for Vectorwise Data Mart Appliance for more information please see www.actian.com/products/vectorwise/vectorwise-datamart-appliance**

Limited warranty	3-year parts and labor; more Lenovo Services see S-RDS sheet		<h3>2U Rack top</h3>  <h3>Front</h3>  <p>Bay 10-17 are available on sixteen disk bays models only</p> <h3>Rear</h3>  <p>Slot 4, 5 are available on dual processors models only</p> <h3>Mechanical</h3> <ul style="list-style-type: none"> • 2U rack • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured <h3>Disk Bays</h3> <p>Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 2.5", 0.6" high, external, for disk Bay 10-17 are available on sixteen 2.5" disk bays models: Bay 10-17 2.5", 0.6" high, external, for disk</p> <h3>Expansion Slots</h3> <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 3.0 x8 Slot 3: Low Profile, PCI Express 3.0 x8 Slot 4-5 are available on dual processors models: Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8</p> <h3>Security</h3> <ul style="list-style-type: none"> • Security chip (selected models, see information on left) • Administrator password • User password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O control • USB port disablement (all) <h3>Software Management Tools</h3> <ul style="list-style-type: none"> • ThinkServer EasyStartup • ThinkServer EasyManage <h3>Energy Management Technology</h3> <ul style="list-style-type: none"> • Intel Power Node Manager • Lenovo® SmartGrid Manager <h3>ENERGY STAR® Server 1.1-compliant</h3> <p>RoHS-compliant</p> <p>For more accessories, see O-RDS sheet</p>
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2643 processor (4C/8T, 3.3GHz, 10MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.5GHz), 4-channel DDR3 memory controller (up to 1600MHz) Intel Xeon E5-2667 processor (6C/12T, 2.9GHz, 15MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.5GHz), 4-channel DDR3 memory controller (up to 1600MHz)		
Implementation	Two LGA2011 sockets		
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)		
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 • Over twelve RDIMMs requires dual processors • Over eight LV RDIMMs requires dual processors • Mixing of RDIMM and LV RDIMM is not supported 		
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz		
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays		
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: 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 <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700		
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter		
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"		
Tape drive	None		
Optical	DVD±RW or DVD ROM, slim		
Diskette	None (use USB port)		
Chipset	Intel C602J Chipset		
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5		
Riser card	Two USB 2.0, one analog VGA DB-15 connector		
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector		
Rear ports	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions		
Intelligent Diagnostics Module (IDM)			
Systems mgmt			
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant		
Prerequisites	SATA/SAS disk, OS		
Keyboard/mouse	None (use USB port)		
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies		
Rack kit	Includes rack kit		
Cable management	Optional cable management arm on selected models		
Cooling	Up to six fans (5+1 redundant), hot-swap		
Preloaded Operating System			
A8U:	Genuine Windows Server® 2008 R2 Enterprise, Vectorwise 100GB limitation per unit		
A9U:	Genuine Windows Server 2008 R2 Enterprise, Vectorwise 1TB limitation per unit		
AAU:	Red Hat® Enterprise Linux® 6.0, Vectorwise 1TB limitation per unit		

See footnotes for important warranty information
US model(s) announced August 28, 2012

© Lenovo (RDSB3-3) August 2012

Disclaimer

Lenovo provides the information in the Product Specifications Reference (PSREF) withdrawn product books on an "AS-IS" basis. Because the actual products have been withdrawn from marketing, the information in these withdrawn product books is no longer maintained or updated. The referenced footnote numbering may not correspond with the listed footnotes.

PSREF books for the withdrawn systems:

http://www.lenovo.com/psref/psrefs_withdrawn.html

Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

Warranty: For a copy of applicable product warranties, write to: Warranty Support Dept., EMEA Services, Lenovo, Eisteinova 21, 851 01 Bratislava, Slovakia. Lenovo makes no representation or warranty regarding third party products or services.

¹ **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

² **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less.

³ **Systems with limited onsite service** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. Support phone list available at www-307.ibm.com/pc/support/site.wss/document.do?Indocid=MIGR-70552

⁴ **SATA/SAS:** The system configuration supports the installation of either SATA or SAS disks. A configuration including both SATA and SAS disks is not supported.

⁷ **Lenovo Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part will be express shipped to you for quick replacement. See Lenovo Warranty Services terms and conditions for complete details and restrictions.

⁸ **RAID:** Supported RAID levels for a system will vary from the stated capabilities of the RAID controller due to dependencies on the number and capacity of physical disks in the system and on customer requirements for performance, fault tolerance, or data redundancy.

RAID levels and requirements:

- **RAID 0 (striping)** provides increased performance by writing data across multiple drives.
- **RAID 1 (mirroring)** provides fault tolerance by writing the data on two drives.
- **RAID 5 (striping with parity)** uses distributed parity data to provide fault tolerance more efficiently than RAID 1. Requires three or more drives.
- **RAID 6 (striped set with dual distributed parity)** provides fault tolerance from two drive failures; array continues to operate with up to two failed drives. Requires four drives.
- **RAID 10 (or RAID 1+0)** combines RAID 1 and RAID 0 to create a stripe of mirrors that is fault tolerant while offering increased performance. Requires four drives.
- **RAID 50 (or RAID 5+0)** combines RAID 5 and RAID 0 to create block-level striping with distributed parity improving performance over RAID 5. Requires six drives.
- **RAID 60 (or RAID 6+0)** combines RAID 6 and RAID 0 to create block-level striping with distributed double parity improving performance over RAID 6. Requires eight drives.

¹⁴ **Response times may vary.** Response time is an average target and committed service level. May exclude some holidays. Telephone support may be subject to additional charges.

ThinkServer™

This publication was developed for products and services offered in Europe, Middle East, and Africa. Lenovo may not offer the products, services or features discussed in this document in other countries. Lenovo may withdraw an offering at any time. Information is subject to change without notice. Consult your local representative for information on offerings available in your area.

Lenovo reserves the right to change specifications and other product information at any time without prior notice. Lenovo is not responsible for photographic or typographical errors. LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions; therefore this disclaimer may not apply to you.

Trademarks: Lenovo, the Lenovo logo, New World, New Thinking., Access Connections, Rescue and Recovery, ThinkCentre, ThinkPad, ThinkServer, ThinkStation, ThinkVantage, and ThinkVision are trademarks of Lenovo. Microsoft, Windows, and Vista are registered trademarks of Microsoft Corporation. Intel, the Intel logo, Intel Inside logo, Intel Core and Core Inside are trademarks of Intel Corporation in the US and other countries. Other company, product, or service names may be trademarks or service marks of others.

Visit www.lenovo.com/safecomputing periodically for the latest information on safe and effective computing.

Visit www.lenovo.com/psref for the latest version of Product Specifications Reference.

© Lenovo, 2014.
All rights reserved.

Lenovo
1009 Think Place
Morrisville, NC 27560
U.S.A.