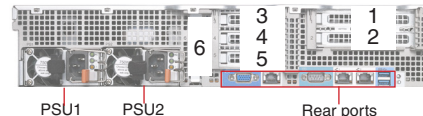


ThinkServer RD450 Platform Specifications

Product Specifications Reference (PSREF)

Components	Specification	Components	Specification
Dimensions	2U rack. Height: 87 mm (3.4 in), width: 482 mm (19 in), depth: 764 mm (30 in)	Network interfaces	One dedicated management port, two Gigabit Ethernet ports. Supports optional discrete network adapters via PCIe slots
Weight	Minimum configuration: 16 kg (35.3 lb), maximum: 27 kg (59.52 lb)	Security features	Power-on and administrator password. Optional TPM (TCG 1.2-compliant)
Processor	Up to two 105W Intel Xeon E5-2600 v4 or E5-2600 v3 family processors.	Systems management	Supports ThinkServer System Manager (TSM), optional TSM Premium. UEFI. Onboard Aspeed AST2400 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC). Control Panel LEDs shows the status of power, ID, network, system. Supports ThinkServer management software: Diagnostics, Deployment Manager, Energy Manager, System Manager, Partner Pack for VMware vCenter and Microsoft System Center Operations Manager, Power Planner
	E5-2660 v4 14C/2GHz/35MB/105W/DDR4-2400		Microsoft Windows Server 2016/2012 R2/2012/2008 R2. Windows Small Business Server 2011. Red Hat Enterprise Linux 6.5/6.6/7. SUSE Linux Enterprise Server 11. VMware vSphere (ESXi) 5.1 P5/5.5 U2/6.0
	E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	Base warranty	1 or 3-year limited onsite service with 9x5/NBD
	E5-2640 v4 10C/2.4GHz/25MB/90W/DDR4-2133		Up to two redundant hot-swap 450W/550W/750W/1100W power supplies. 450 W is 80 PLUS Gold qualified. 550W and 1100W are 80 PLUS Platinum qualified. 750W is 80 PLUS Platinum or Titanium qualified. 750W Titanium is 200V - 240V, others are 110V - 240V.
	E5-2630 v4 10C/2.2GHz/20MB/85W/DDR4-2133	Power supply	Disk bay configuration
	E5-2623 v4 4C/2.6GHz/10MB/85W/DDR4-2133		450W
	E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133		550W
	E5-2609 v4 8C/1.7GHz/20MB/85W/DDR4-1866		750W
	E5-2603 v4 6C/1.7GHz/15MB/85W/DDR4-1866		1100W
	E5-2650L v4 14C/1.7GHz/35MB/65W/DDR4-2400		8x3.5"
	E5-2630L v4 10C/1.8GHz/25MB/55W/DDR4-2133		8x2.5"
	E5-2660 v3 10C/2.6GHz/25MB/105W/DDR4-2133		8x2.5" + Tape
	E5-2650 v3 10C/2.3GHz/25MB/105W/DDR4-2133		16x2.5"
	E5-2640 v3 8C/2.6GHz/20MB/90W/DDR4-1866		24x2.5"
	E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	Graphics	Onboard Aspeed AST2400 with 16MB memory
	E5-2623 v3 4C/3GHz/10MB/105W/DDR4-1866		Front ports
	E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	Rear ports	Two USB 2.0. One DisplayPort (one VGA on E5-2600 v4 models instead)
	E5-2609 v3 6C/1.9GHz/15MB/85W/DDR4-1600		One VGA, two USB 3.0, one RJ-45 (dedicated mgmt), two ethernet, one serial (9-pin)
	E5-2603 v3 6C/1.6GHz/15MB/85W/DDR4-1600	Cooling	4 (3+1, dual processors) or 3 (2+1, single processor) fans, non-hot swap
	E5-2650L v3 12C/1.8GHz/30MB/65W/DDR4-2133	Noise emissions	Operating: < 6.5 Bels. Idle: < 5.6 Bels (Maximum configuration)
	E5-2630L v3 8C/1.8GHz/20MB/55W/DDR4-1866	Environmental specification	Temperature - operating
Chipset	Intel C610 Series Chipset		50 °F to 95 °F (10 °C to 35 °C)
Memory DIMMs	16 DIMM sockets with 8 channels. 4 channels per processor, 2 DIMMs per channel. RDIMM or LRDIMM (cannot be intermixed), DDR4, DDR4-2133 or DDR4-2400		Temperature - non operating (no package)
Memory capacity	512GB (RDIMM, 32GB x 16)/1024GB (LRDIMM, 64GB x 16), 2nd CPU is needed		-10 °C to 60 °C
Memory protection	ECC, memory mirroring, lockstep, and memory sparing		Temperature - non operating (with package)
RAID controller	RAID controller		-40 °C to 70 °C
	Drive type		Altitude - operating
	RAID support		(Unpressurized): 0-10000ft (0-3048m)
	Compatible models		Humidity - operating
	Onboard RAID110i		8%~90%, non-condensing
	RAID500 PCIe		Humidity - storage (with package)
	RAID520i PCIe		
	RAID710 PCIe (1GB memory)		
	RAID720i PCIe		
	AnyRAID 110i		
RAID controller	AnyRAID 510i		
	AnyRAID 720i		
	AnyRAID 720ix		
	Optional cache for RAID 710: CacheVault flash cache with super capacitor, CacheCade Pro, or FastPath.		
	Optional cache for RAID 720/AnyRAID 720i and 720ix: 1GB read-only memory or 1GB/2GB/4GB flash with super capacitor. Flash options include CacheVault, CacheCade Pro, and FastPath. 720ix must have cache.		
	Up to 8x3.5" hot-swap, 8x3.5" easy-swap, or 24x2.5" hot-swap disk bays on front. Up to one internal LTO-6 SAS tape drive on 8x2.5" and 720ix model, or external RDX tape drive via USB.		
	3.5" HS model: up to 64TB with 7.2K SATA or SAS HDD, up to 14.4TB with 10K SAS HDD, up to 4.8TB with 15K SAS HDD, or up to 12.8TB with SATA SSD.		
	3.5" ES model: up to 24TB with 7.2K SATA, up to 48TB with 7.2K SAS.		
	2.5" HS model: up to 48TB with 7.2K SATA HDD, up to 43.2TB with 10K SAS HDD, up to 14.4TB with 15K SAS HDD, or up to 38.4TB with SATA or SAS SSD		
	Up to 2 SDHC flash cards via optional SD module, 8GB or 32GB each		
SD module	Up to 2 SDHC flash cards via optional SD module, 8GB or 32GB each		
PCIe SSD adapter	Supports 1.6TB or 3.2TB SSD via PCIe adapter		
Optical drive	Optional one 9.5mm optical on 3.5" or 8/16 x 2.5" models, DVD-ROM or DVD±RW.		

Expansion slots



Slot 1 (riser card 1)	PCIe 3.0 x8, half length, full height, CPU1
Slot 2 (riser card 1)	PCIe 3.0 x8, half length, full height, CPU1
Slot 3 (riser card 2)	PCIe 3.0 x8, low-profile, half length, CPU2, requires 2nd riser card and 2nd CPU
Slot 4 (riser card 2)	PCIe 3.0 x8, low-profile, half length, CPU2, requires 2nd riser card and 2nd CPU
Slot 5 (riser card 2)	PCIe 3.0 x8, low-profile, half length, CPU1, requires 2nd riser card
Slot 6 (onboard)	PCIe 3.0 x16 (x8 elec), low-profile, half length, requires 2nd CPU

For a list of all supported options, please see https://download.lenovo.com/pccbbs/options_iso/ocm_september_2016_thinkserver.xlsx sheet

Model	70Q9000XEA
Product	ThinkServer RD450
Region	EMEA
Machine Type	70Q9
TopSeller	TopSeller
Processor	1xE5-2603 v4 6C/1.7GHz/15MB/85W/DDR4-1866
2nd CPU	4XG0G89090
Memory	1x16GB RDIMM DDR4-2400 ECC
RAID Controller	520i (PCIe)
Disk Bays	8x2.5" HS
Storage	Open
Slots	2xFH HL
Optical	9.5mm DVD±RW
Add-on NIC	None
TPM	None
System Management	TSM
Operating System	None
Warranty	3-year
Power Supply	450Wx1 Gold
Ann Date (mm/yy)	03/16





