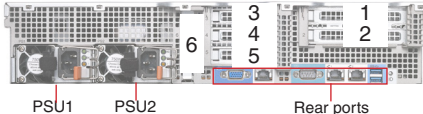


ThinkServer RD450 Platform Specifications

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																																								
	E5-2650 v4		12C/2.2GHz/30MB/105W/DDR4-2400																																								
	E5-2640 v4		10C/2.4GHz/25MB/90W/DDR4-2133																																								
	E5-2630 v4	10C/2.2GHz/20MB/85W/DDR4-2133	Operating systems supported	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																																							
	E5-2623 v4	4C/2.6GHz/10MB/85W/DDR4-2133																																									
	E5-2620 v4	8C/2.1GHz/20MB/85W/DDR4-2133																																									
	E5-2609 v4	8C/1.7GHz/20MB/85W/DDR4-1866																																									
	E5-2603 v4	6C/1.7GHz/15MB/85W/DDR4-1866																																									
	E5-2650L v4	14C/1.7GHz/35MB/65W/DDR4-2400																																									
	E5-2630L v4	10C/1.8GHz/25MB/55W/DDR4-2133																																									
	E5-2660 v3	10C/2.6GHz/25MB/105W/DDR4-2133																																									
	E5-2650 v3	10C/2.3GHz/25MB/105W/DDR4-2133																																									
	E5-2640 v3	8C/2.6GHz/20MB/90W/DDR4-1866																																									
	E5-2630 v3	8C/2.4GHz/20MB/85W/DDR4-1866																																									
	E5-2623 v3	4C/3GHz/10MB/105W/DDR4-1866																																									
	E5-2620 v3	6C/2.4GHz/15MB/85W/DDR4-1866																																									
	E5-2609 v3	6C/1.9GHz/15MB/85W/DDR4-1600																																									
	E5-2603 v3	6C/1.6GHz/15MB/85W/DDR4-1600																																									
E5-2650L v3	12C/1.8GHz/30MB/65W/DDR4-2133																																										
E5-2630L v3	8C/1.8GHz/20MB/55W/DDR4-1866																																										
Chipset	Intel C610 Series Chipset	Base warranty		1 or 3-year limited onsite service with 9x5/NBD																																							
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	Power supply		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.																																							
Memory capacity	512GB (RDIMM, 32GB x 16)/1024GB (LRDIMM, 64GB x 16), 2nd CPU is needed		<table><tr><td>Disk bay configuration</td><td colspan="4">PSU requirements</td></tr><tr><td></td><td>450W</td><td>550W</td><td>750W</td><td>1100W</td></tr><tr><td>8x3.5"</td><td>•</td><td>•</td><td>•</td><td>•</td></tr><tr><td>8x2.5"</td><td>•</td><td>•</td><td>•</td><td>•</td></tr><tr><td>8x2.5"+ Tape</td><td>•</td><td>•</td><td>•</td><td>•</td></tr><tr><td>16x2.5"</td><td></td><td>•</td><td>•</td><td>•</td></tr><tr><td>24x2.5"</td><td></td><td>•</td><td>•</td><td>•</td></tr></table>	Disk bay configuration	PSU requirements					450W	550W	750W	1100W	8x3.5"	•	•	•	•	8x2.5"	•	•	•	•	8x2.5"+ Tape	•	•	•	•	16x2.5"		•	•	•	24x2.5"		•	•	•					
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16x2.5"		•	•	•																																							
24x2.5"		•	•	•																																							
Memory protection	ECC, memory mirroring, lockstep, and memory sparing	Graphics	Onboard Aspeed AST2400 with 16MB memory																																								
RAID controller	<table><tr><th>RAID controller</th><th>Drive type</th><th>RAID support</th><th>Compatible models</th></tr><tr><td>Onboard RAID110i</td><td>6Gbs SATA</td><td>0/1/10, 5 with optional key</td><td>8x3.5" HS/ES, 8x2.5" HS</td></tr><tr><td>RAID500 PCIe</td><td>6Gbs SAS/SATA</td><td>0/1/10, 5/50 with optional key</td><td>8x3.5" HS</td></tr><tr><td>RAID520i PCIe</td><td>12Gbs SAS/SATA</td><td>0/1/10, 5/50 with optional key</td><td>8x3.5" HS/ES, 8x2.5" HS</td></tr><tr><td>RAID710 PCIe (1GB memory)</td><td>6Gbs SAS/SATA</td><td>0/1/10/5/50/6/60</td><td>8x3.5" HS</td></tr><tr><td>RAID720i PCIe</td><td>12Gbs SAS/SATA</td><td>0/1/10/5/50, 6/60 with optional cache</td><td>8x3.5" HS/ES, 8x2.5" HS</td></tr><tr><td>AnyRAID 110i</td><td>6Gbs SATA</td><td>0/1/10, 5 with optional key</td><td>8x2.5" HS</td></tr><tr><td>AnyRAID 510i</td><td>6Gbs SAS/SATA</td><td>0/1/10, 5/50 with optional key</td><td>8x2.5" HS</td></tr><tr><td>AnyRAID 720i</td><td>12Gbs SAS/SATA</td><td>0/1/10/5/50, 6/60 with optional cache</td><td>8x2.5" HS</td></tr><tr><td>AnyRAID 720ix</td><td>12Gbs SAS/SATA</td><td>0/1/10/5/50/6/60</td><td>16/24x2.5" HS, 8x2.5" HS+optional tape</td></tr></table>	RAID controller	Drive type	RAID support	Compatible models	Onboard RAID110i	6Gbs SATA	0/1/10, 5 with optional key	8x3.5" HS/ES, 8x2.5" HS	RAID500 PCIe	6Gbs SAS/SATA	0/1/10, 5/50 with optional key	8x3.5" HS	RAID520i PCIe	12Gbs SAS/SATA	0/1/10, 5/50 with optional key	8x3.5" HS/ES, 8x2.5" HS	RAID710 PCIe (1GB memory)	6Gbs SAS/SATA	0/1/10/5/50/6/60	8x3.5" HS	RAID720i PCIe	12Gbs SAS/SATA	0/1/10/5/50, 6/60 with optional cache	8x3.5" HS/ES, 8x2.5" HS	AnyRAID 110i	6Gbs SATA	0/1/10, 5 with optional key	8x2.5" HS	AnyRAID 510i	6Gbs SAS/SATA	0/1/10, 5/50 with optional key	8x2.5" HS	AnyRAID 720i	12Gbs SAS/SATA	0/1/10/5/50, 6/60 with optional cache	8x2.5" HS	AnyRAID 720ix	12Gbs SAS/SATA	0/1/10/5/50/6/60	16/24x2.5" HS, 8x2.5" HS+optional tape	Front ports	Two USB 2.0. One DisplayPort (one VGA on E5-2600 v4 models instead)
	RAID controller	Drive type	RAID support	Compatible models																																							
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	AnyRAID 720ix	12Gbs SAS/SATA	0/1/10/5/50/6/60	16/24x2.5" HS, 8x2.5" HS+optional tape																																							
			Rear ports	One VGA, two USB 3.0, one RJ-45 (dedicated mgmt), two ethernet, one serial (9-pin)																																							
			Cooling	4 (3+1, dual processors) or 3 (2+1, single processor) fans, non-hot swap																																							
		Noise emissions	Operating: < 6.5 Bels. Idle: < 5.6 Bels (Maximum configuration)																																								
		Environmental specification	<table><tr><td>Temperature - operating</td><td>50 °F to 95 °F (10 °C to 35 °C)</td></tr><tr><td>Temperature - non operating (no package)</td><td>-10 °C to 60 °C</td></tr><tr><td>Temperature - non operating (with package)</td><td>-40 °C to 70 °C</td></tr><tr><td>Altitude - operating</td><td>(Unpressurized): 0-10000ft (0-3048m)</td></tr><tr><td>Humidity - operating</td><td>8%~90%, non-condensing</td></tr><tr><td>Humidity - storage (with package)</td><td>8%~90%, non-condensing</td></tr></table>	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	(Unpressurized): 0-10000ft (0-3048m)	Humidity - operating	8%~90%, non-condensing	Humidity - storage (with package)	8%~90%, non-condensing																												
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		Expansion slots																																									
																																											
		PSU1	PSU2																																								
		Rear ports																																									
		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

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Model	70QQ000YEA
Product	ThinkServer RD450
Region	EMEA
Machine Type	70QQ
TopSeller	TopSeller
Processor	1xE5-2630 v4 10C/2.2GHz/20MB/85W/DDR4-2133
2nd CPU	4XG0G89075
Memory	1x16GB RDIMM DDR4-2400 ECC
RAID Controller	720i+2GB Flash (PCIe)
Disk Bays	8x3.5" HS
Storage	Open
Slots	2xFH HL
Optical	None
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





