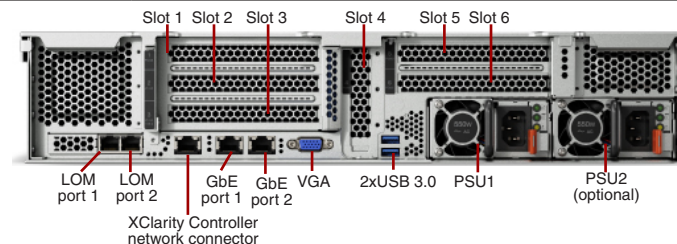


ThinkSystem SR590 Platform Specifications

Product Specifications Reference (PSREF)

Components	Specification																																																																																																						
Form factor	2U rack																																																																																																						
Dimensions	Height: 86.5 mm (3.4 in). Width: 482 mm (19.0 in) with rack latches. Depth: 763.7 mm (30.1 in)																																																																																																						
Weight	Maximum configuration: 61.7 lb (28 kg)																																																																																																						
Processor	Up to two 150W Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum. Up to 26 cores at 2.0GHz, up to 3.6GHz with 4 cores. Two processors are connected with two UPI (Ultra Path Interconnect) links up to 10.4GT/s each																																																																																																						
Chipset	Intel C622 Platform Controller Hub																																																																																																						
Memory	Up to 16 DIMM sockets. Each processor supports up to 8 DIMM sockets with 6 channels. DDR4-2666. RDIMMs and LRDIMMs are supported, but memory types cannot be intermixed																																																																																																						
Memory capacity	With RDIMMs: Up to 512GB with 16 x 32 GB RDIMMs and two processors With LRDIMMs: Up to 1TB with 16 x 64 GB LRDIMMs and two processors																																																																																																						
Memory protection	ECC, memory mirroring, and memory sparing																																																																																																						
Storage controllers	Supports the following RAID/HBA adapters:																																																																																																						
	<table border="1"> <thead> <tr> <th></th> <th>RAID adapter</th> <th>Interface</th> <th>Drive type</th> <th>RAID levels</th> <th>JBOD</th> <th>Cache</th> <th>Cache protection</th> <th>FastPath</th> <th>Max qty</th> </tr> </thead> <tbody> <tr> <td rowspan="3">For SS bays</td> <td>Onboard SATA</td> <td>6Gb SATA</td> <td>SATA</td> <td>0/1/10/5</td> <td>Yes</td> <td>None</td> <td>None</td> <td>No</td> <td>-</td> </tr> <tr> <td>530-8i</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>0/1/10/5/50</td> <td>Yes</td> <td>None</td> <td>None</td> <td>Yes</td> <td>2</td> </tr> <tr> <td>730-8i</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>0/1/10/5/50</td> <td>Yes</td> <td>1GB</td> <td>None</td> <td>No</td> <td>2</td> </tr> <tr> <td rowspan="7">For HS bays</td> <td>930-8i</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>0/1/10/5/50/6/60</td> <td>Yes</td> <td>2GB</td> <td>Flash backup</td> <td>Yes</td> <td>2</td> </tr> <tr> <td>930-16i</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>0/1/10/5/50/6/60</td> <td>Yes</td> <td>4GB</td> <td>Flash backup</td> <td>Yes</td> <td>1</td> </tr> <tr> <td>430-8i</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>-</td> <td>Yes</td> <td>None</td> <td>None</td> <td>-</td> <td>2</td> </tr> <tr> <td>430-16i</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>-</td> <td>Yes</td> <td>None</td> <td>None</td> <td>-</td> <td>1</td> </tr> <tr> <td>430-8e</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>-</td> <td>Yes</td> <td>None</td> <td>None</td> <td>-</td> <td>5</td> </tr> <tr> <td>430-16e</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>-</td> <td>Yes</td> <td>None</td> <td>None</td> <td>-</td> <td>5</td> </tr> <tr> <td>930-8e</td> <td>12Gbs SAS</td> <td>SATA/SAS</td> <td>0/1/10/5/50/6/60</td> <td>Yes</td> <td>4GB</td> <td>Flash backup</td> <td>Yes</td> <td>3</td> </tr> </tbody> </table>		RAID adapter	Interface	Drive type	RAID levels	JBOD	Cache	Cache protection	FastPath	Max qty	For SS bays	Onboard SATA	6Gb SATA	SATA	0/1/10/5	Yes	None	None	No	-	530-8i	12Gbs SAS	SATA/SAS	0/1/10/5/50	Yes	None	None	Yes	2	730-8i	12Gbs SAS	SATA/SAS	0/1/10/5/50	Yes	1GB	None	No	2	For HS bays	930-8i	12Gbs SAS	SATA/SAS	0/1/10/5/50/6/60	Yes	2GB	Flash backup	Yes	2	930-16i	12Gbs SAS	SATA/SAS	0/1/10/5/50/6/60	Yes	4GB	Flash backup	Yes	1	430-8i	12Gbs SAS	SATA/SAS	-	Yes	None	None	-	2	430-16i	12Gbs SAS	SATA/SAS	-	Yes	None	None	-	1	430-8e	12Gbs SAS	SATA/SAS	-	Yes	None	None	-	5	430-16e	12Gbs SAS	SATA/SAS	-	Yes	None	None	-	5	930-8e	12Gbs SAS	SATA/SAS	0/1/10/5/50/6/60	Yes	4GB	Flash backup	Yes	3
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<i>Note: 730-8i is available in China only</i>																																																																																																							
Disk drive bays	Supports 3.5" Simple-swap bay up to 8, or 3.5" HS bay up to 12, or 2.5" HS bay up to 12. On 12x 3.5", 8x 2.5", or 16x 2.5" bay models, 4 bays can be upgrade to AnyBay. Optional 2 rear 3.5" HS bays are supported on 12 x 3.5" model, takes place in riser card 1 location. Optional one or two internal M.2 SSD for boot, dual M.2 SSD supports mirroring																																																																																																						
Internal storage	For 3.5" SS bay	3.5" HDD, SATA6Gbs, 7.2K	1TB/2TB/4TB/6TB/8TB																																																																																																				
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	For 3.5" bay (3.5" disks or 2.5" disks with 3.5" tray)	3.5" HDD, SAS12Gbs, 7.2K	1TB/2TB/4TB/6TB/10TB																																																																																																				
		3.5" HDD, SAS12Gbs, 15K	300GB/600GB/900GB																																																																																																				
		2.5" SSD, SATA6Gbs	240GB/480GB																																																																																																				
		2.5" NVMe SSD, AnyBay	960GB/1.92TB/3.84TB																																																																																																				
	For 2.5" bay	2.5" HDD, SATA6Gbs, 7.2K	1TB/2TB																																																																																																				
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M.2 boot drive	M.2 SATA SSD	32GB/128GB																																																																																																					

Components	Specification	
Power supply	Up to two redundant hot-swap 550W and 750W 80 PLUS Platinum qualified AC power supplies. Or up to two redundant hot-swap 750W Titanium qualified AC power supplies. 750W Titanium is 200V - 240V, others are 100V - 240V	
Video	Integrated Matrox G200 in XClarity Controller	
Cooling	Three fans (2+1) for single processor model, four fans (3+1) for dual processor model	
Front ports	One XClarity Controller USB, one USB 3.0, one optional VGA	
Rear ports	One VGA, two USB 3.0, two ethernet (RJ-45), one XClarity Controller connector. Optional COM port	
Environmental specification	Supports ASHRAE A4 with limitations.	
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)
	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)
	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)
	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%
	Humidity - storage (with package), non-condensing	8%~90%
	<i>Models should meet the following requirements to support A3 and A4:</i>	
	<ul style="list-style-type: none"> • Redundant power supplies required • No system fan fails • No NVMe drive • No rear two HS bays • Processor TDP is less than or equal to 140 watts, and no Intel Xeon 6140 or 6152 processor is installed • On 12x 3.5" models, no M.2 drives 	
	Environmental certification	Energy Star Server 2.1 certified. More environmental information please see: www.lenovo.com/social_responsibility/us/en/environment/



Note: GbE port 1 and LOM port 1 support Wake-on-LAN and NC-SI. Riser cards, expansion cards, and LOM adapters are optional.

Expansion slots	
Slot 1-3 (riser card 1)	Supports one of the following for riser card 1: Option 1: PCIe 3.0 x8/x8/x8 (slot 1-3). Full height, half length. Option 2: PCIe 3.0 x16/x8 (slot 1 and 3). Full height, half length Option 3: PCIe 3.0 x8/x8/x8 ML2 (slot 1-3). Full height, half length Option 4: Two rear 3.5" disk bays, 12 x 3.5" models only
Slot 4 (onboard)	PCIe 3.0 x8, low profile
Slot 5 (riser card 2)	PCIe 3.0 x16, full height, half length, requires 2nd CPU
Slot 6 (riser card 2)	PCIe 3.0 x8, full height, half length

System unique options	
7XH7A06253	ThinkSystem SR590/SR650 Rear HDD Kit
4XH7A08778	ThinkSystem SR550/SR590/SR650 x8/x8/x8 ML2 PCIe FH Riser 1 Kit
4XH7A08779	ThinkSystem SR550/SR590/SR650 x16/x8 PCIe FH Riser 1 Kit
4XH7A08777	ThinkSystem SR550/SR590/SR650 x8/x8/x8 PCIe FH Riser 1 Kit
4XH7A08780	ThinkSystem SR550/SR590/SR650 x16/x8 (or x16) PCIe FH Riser 2 Kit
7Z17A02578	ThinkSystem SR550/SR590/SR650 EIA Latch w/ VGA Upgrade Kit
7Z17A02580	ThinkSystem 2U Security Bezel
7Z17A02577	ThinkSystem COM Port Upgrade Kit
4XH7A08764	ThinkSystem SR590 2.5" Anybay 8-Bay Backplane Kit
4XH7A08763	ThinkSystem SR590 2.5" SATA/SAS 8-Bay Backplane Kit