# ThinkSystem SR590 7X99A03PEA

**Product**
ThinkSystem SR590

**Region**
EMEA

**Machine Type**
7X99

**TopSeller**
TopSeller

**Processor**
1x Xeon Silver 4110 8C/2.1GHz/11MB/85W/DDR4-2400

**Memory**
1x 16GB RDIMM DDR4-2666 (2Rx8)

**Storage Controller**
1x 930-8i 2GB Flash

**Chassis**
16x 2.5"

**Disk Bays**
8x 2.5" SATA/SAS HS

**Disks**
3x600GB HDD 10K 2.5" SAS12Gbps

**M.2 Drives**
None

**Onboard Networking Ports**
2x GbE RJ-45, 1x Mgmt

**Additional Networking (LOM/ML2/PCIe)**
None

**Standard Extension Slots**
1x LOM, 1x PCIe x8 LP

**Available Extension Slots via Riser Cards**
3x PCIe x8 FHHL

**Front VGA**
None

**Optical**
None

**TPM**
TPM 1.2

**System Management**
XClarity Advanced

**Power Supply**
2x750W Platinum

**Preload**
None

**Warranty**
3-year

**Ann Date (mm/yy)**
12/17

Note:

* Country Code "US" is for United States, "++" is for EMEA countries (e.g. AD - Saudi, Arabia, AT - Austria, BM - Bulgaria, etc.), "xx" is for EAST countries (e.g. BM - Bulgaria, CX - Hungary, CY - Cyprus, etc.), and "**" is for MEA countries (e.g. AD - Saudi, Arabia, ED - Egypt, EQ - Sweden, etc.). Please be aware that the EMEA/ EAST/MEA models listed above might not be available in all countries

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# ThinkSystem SR590 Platform Specifications



| 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<br>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: |

| | 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 | - |
| For HS bays | 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 |
| | 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 |

*Note: 730-8i is available in China only*

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|---|---|
| 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.<br>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 |
| For 3.5" bay (3.5" disks or 2.5" disks with 3.5" tray) | 3.5" HDD, SATA6Gbs, 7.2K | 1TB/2TB/4TB/6TB/8TB/10TB |
| | 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 |
| | 2.5" HDD, SAS12Gbs, 7.2K | 1TB/2TB |
| | 2.5" HDD, SAS12Gbs, 10K | 300GB/600GB/900GB/1.2TB/1.8TB |
| | 2.5" HDD, SAS12Gbs, 10K, SED | 300GB/600GB |
| | 2.5" HDD, SAS12Gbs, 15K | 300GB/600GB/900GB |
| | 2.5" SSD, SAS12Gbs | 400GB/800GB/3.84TB |
| | 2.5" SSD, SATA6Gbs | 240GB/480GB |
| | 2.5" NVMe SSD, AnyBay | 960GB/1.6TB/1.92TB/3.84TB |
| M.2 boot drive | M.2 SATA SSD | 32GB/128GB |

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| Optical | No internal optical bay. Using USB DVD±RW optical drive |
| Network interfaces | Integrated one dedicated management port plus two GbE ports. One LOM slot for customized LOM with two RJ-45 or SFP+ ports, up to 10GbE. Optional ML2 or PCIe adapters are supported. ML2 adapter requires riser card with ML2 slot.<br>Up to two ports supports Wake-on-LAN and NC-SI (see right) |
| Security features | Power-on and admin password. Trusted Platform Module, TCG 1.2 compliant, upgrade to 2.0 via UEFI setting. Optional TCM in China only. Optional lockable security bezel |
| Operating systems supported | Microsoft Windows Server 2016/2012 R2. Red Hat Enterprise Linux 7.3/6.9. SUSE Linux Enterprise Server 12 SP2/11 SP4. VMware ESXi 6.5/6.0 U3 |
| Systems management | XClarity Controller Standard, optional upgrades to Advanced or Enterprise are available. Energy Manager. XClarity Administrator. Lenovo Capacity Planner. Provisioning Manager. Essentials. Light Path Diagnostics |
| GPU support | None |
| Base warranty | MT 7X98: 1-year limited onsite service with 9x5/NBD<br>MT 7X99: 3-year limited onsite service with 9x5/NBD |

| 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. |

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| Temperature - operating | A4: 5°C to 45°C (41°F to 113°F)<br>A3: 5°C to 40°C (41°F to 104°F)<br>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% |

*Models should meet the following requirements to support A3 and A4:*
- *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. mo M.2 drives*

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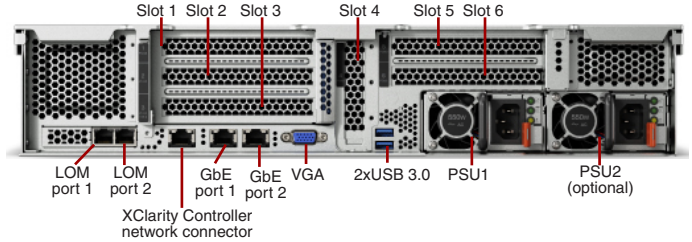
|---|---|
| Environmental certification | Energy Star Server 2.1 certified. More environmental information please see: www.lenovo.com/social_responsibility/us/en/environment/ |




*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

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|---|---|
| Slot 1-3 (riser card 1) | Supports one of the following for riser card 1:<br>Option 1: PCIe 3.0 x8/x8/x8 (slot 1-3). Full height, half length.<br>Option 2: PCIe 3.0 x16/x8 (slot 1 and 3). Full height, half length<br>Option 3: PCIe 3.0 x8/x8/x8 ML2 (slot 1-3). Full height, half length<br>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

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|---|---|
| 7XH7A06253 | ThinkSystem SR590/SR650 Rear HDD Kit |
| 4XH7A08778 | ThinkSystemSR550/SR590/SR650 x8/x8/x8ML2 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 | ThinkSystemSR550/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 |

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