

LENOVO FOR THE DATA CENTRE

PORTFOLIO GUIDE

Lenovo



Intel® Xeon® processor Scalable family

Last update: December 2018

ThinkSystem

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ENABLING THE FUTURE-DEFINED DATA CENTRE

By providing the strongest foundation of performance, reliability and security in the industry, Lenovo delivers an end-to-end portfolio of compute, storage and networking capabilities that seamlessly integrate and interoperate with any environment. To accelerate deployment and reduce time-to-value, Lenovo offers a suite of pre-tested and pre-engineered solutions, ready-to-deploy clients' workloads. Every phase of the IT lifecycle is taken care of by Lenovo Services, which help clients deliver the most from their technology investment.

- **Most reliable:** Lenovo servers ranked No.1 in uptime of any x86 systems for the past 5.5 years running, according to 2017-2018 ITIC reliability survey.¹
- **Most secure:** Lenovo provides the best and most airtight platform security with our Trusted Platform Assurance. Even after adding options at additional cost, our competitors offer fewer security capabilities than come standard on Lenovo ThinkSystem.²
- **Highest satisfaction:** We currently rank first in 19 of 22 categories including performance, efficiency and support in TBR's Corporate IT Buying & Customer Satisfaction Study reports. Lenovo lists as top x86 vendor in customer satisfaction rating for the 8th consecutive study going back to January 2015.³
- **Strategic Relationships:** Unlike our major competitors, Lenovo does not have a proprietary software business and remains more open for industry leading partnerships. Because of this, Lenovo's customers can benefit from an open standards strategy that allows them to grow and change their IT systems as needed.

With our ever-growing portfolio, powered by the Intel® Xeon® processor Scalable family, with open, modular technologies designed to adapt easily and scale quickly, Lenovo's clients can excel and accelerate into the future.

ThinkSystem

ThinkSystem: Server, storage and networking solutions that deliver the industry's best combination of performance, flexibility, and reliability.

ThinkAgile

ThinkAgile: Next generation IT software-defined infrastructure that's easier to deploy and manage, and reduces costs and complexity.



Intel® Xeon® processor
Scalable family



Find out more

¹ ITIC 2017-2018 Global Hardware, Server OS Reliability Report

² Lenovo's Data Center Group is dual headquartered and managed from Morrisville, NC, USA. We are experienced with over 25 years in the data center business. We build our datacenter products in Lenovo owned and controlled factories in each of the regions we operate. This gives us greater control over quality and supply chain security than our competitors have.

³ TBR Corporate IT Buying Behavior and Customer Satisfaction 2H2017 Study, December 2017

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Intel® Xeon® processor Scalable family

Products images shown not to scale

Lenovo

DATA CENTRE INFRASTRUCTURE

By providing the strongest foundation of performance, reliability and security in the industry, Lenovo delivers an end-to-end portfolio of compute, storage and networking capabilities that seamlessly integrate and interoperate with any environment. Thanks to Lenovo Services expertise offered across every phase of the IT lifecycle, we can help clients deliver the most out of their technology investment.

RACK & TOWER SERVERS

Flexible for even the most demanding workloads

Driving new levels of storage density and connectivity, Lenovo ThinkSystem servers powered by Intel® Xeon® Scalable processor family are the ideal platform to host private and public cloud, virtualisation, VDI, web serving, analytics and big data solutions.

Purpose-built for availability.

Consistently ranking #1 in ITIC's reliability survey and equipped with predictive failure alerts.

Tools based on open standards for the real world.

Easy-to-use products with common parts across the portfolio to leverage open standards for bare metal deployments and firmware updates.

Trust Lenovo to be your expert.

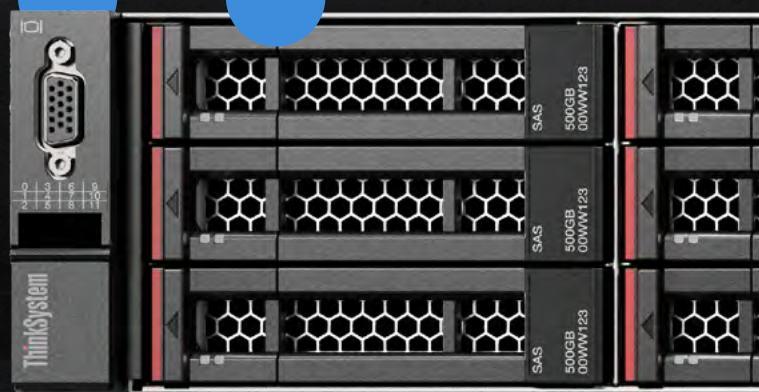
Single point of contact for hardware, firmware and software support.

ThinkSystem





Intel® Xeon® processor Scalable family

Lenovo



ThinkSystem SR550

RACK SERVERS

| | | |
|--------------------|--|---|
| Lenovo Models |  |  |
| Target Workload | Private / Public Cloud, Virtualisation HPC Analytics Big Data VDI Email, File & Print Web Serving Database | |
| Form Factor/Height | Rack/ 1U | Rack/ 2U |
| Processor | 1 or 2 Xeon® Bronze, Silver, Gold or Platinum processors, up to 205W | 1 or 2 Xeon® Bronze, Silver, Gold or Platinum processors, up to 205W |
| Memory | Up to 3TB in 24x slots, using 128GB DIMMs; 2666MHz TruDDR4 | Up to 3TB in 24x DIMM slots using 128GB DIMMs; 2666MHz TruDDR4 |
| Expansion slots | Up to 4x PCIe 3.0 slots (with two CPUs), incl. 1x dedicated PCIe for RAID adapter | Up to 7x PCIe 3.0 via multiple riser options, including 1x dedicated PCIe slot for RAID adapter |
| Drive Bays | Up to 12 SFF bays (10 front, 2 rear) or up to 4 LFF bays - plus up to 2 mirrored M.2 boot drives | Up to 24 HS bays, or up to 14 LFF bays (12 front, 2 rear) plus up to 2x mirrored M.2 boot drives |
| RAID Support | Hardware RAID (up to 16 ports) with flash cache; up to 16-port HBAs | Hardware RAID (up to 24 ports) with flash cache; up to 16-port HBAs |
| Network Interface | 2/4-port 1GbE LOM; 2/4-port 10GbE LOM with Base-T or SFP+; 1x dedicated 1GbE management port | 2/4-port 1GbE LOM; 2/4-port 10GbE LOM (Base-T or SFP+); 1x dedicated 1GbE management port |
| Power Supply | 2x hot-swap/redundant: 550W/750W/1100W AC 80 PLUS® Platinum; or 750W AC 80 PLUS® Titanium | 2x hot swap/redundant: 550W/750W/1100W/1600W 80 PLUS® Platinum; or 750W 80 PLUS® Titanium |
| Systems Management | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) |
| OS Support | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise server VMware vSphere. Visit lenovopress.com/osig for more information | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server VMware vSphere Visit lenovopress.com/osig for more details |
| Warranty | 1-year and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades | 1-year and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades |

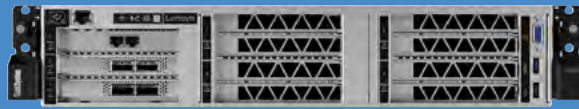
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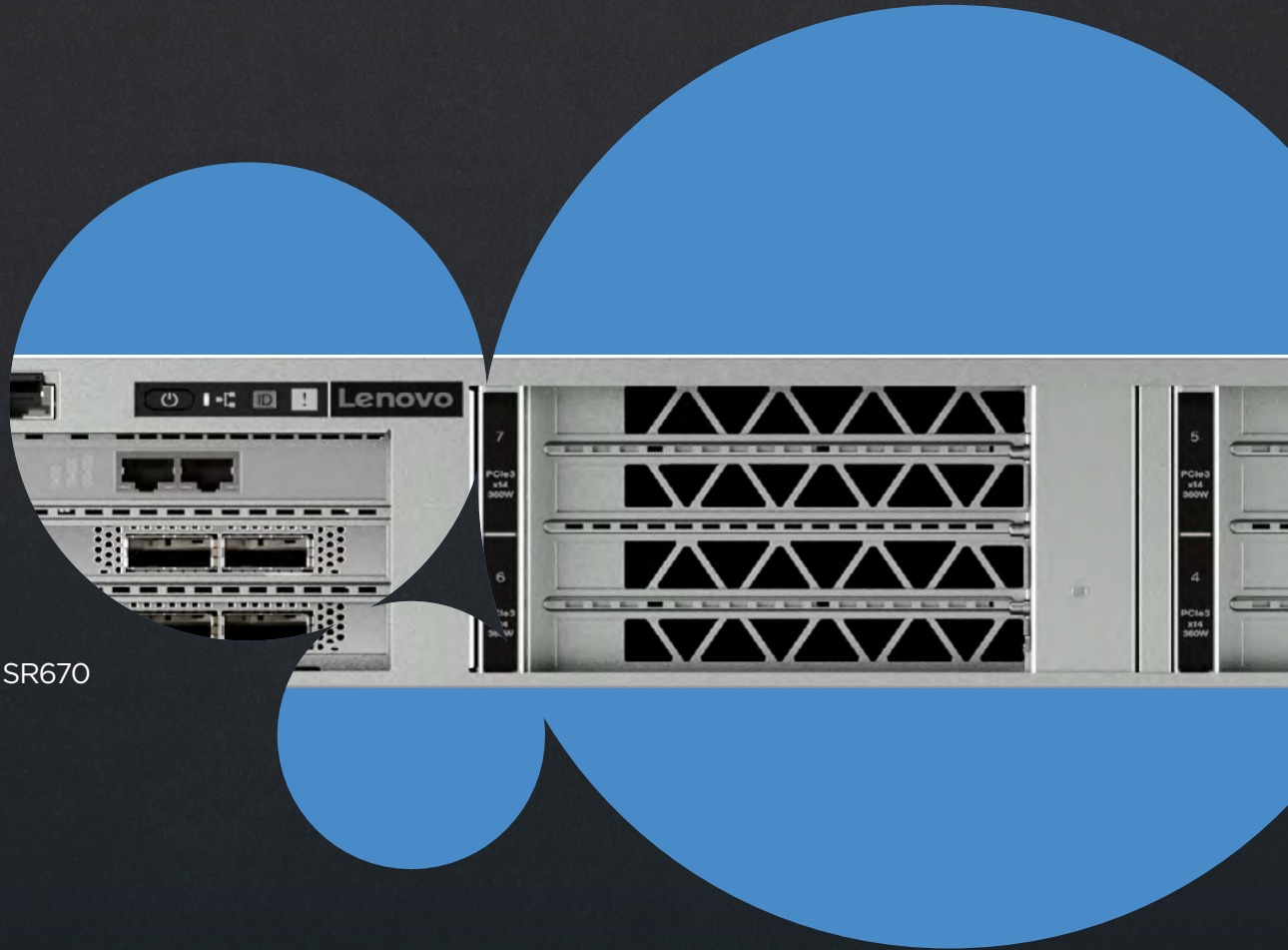
Intel® Xeon® processor Scalable family

ThinkSystem SR650





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|--------------------------|---|
| Lenovo Model | ThinkSystem SR670 |
| Target Workload | Artificial Intelligence (AI) Training / Model Development Machine Learning Deep Learning Hybrid Cluster (HPC & AI) |
| Form Factor/Height | Full-width 2U enclosure |
| Processor | 2x Intel® Xeon® processor Scalable family CPUs per node |
| Memory | Up to 768GB using 24x 2666MHz TruDDR4 DIMMs per node |
| Expansion Slots | 7 PCIe slots for flexible configuration including: 2x PCIe x16 + 1x PCIe x4 I/O adapter slots and 4x PCIe x16 2SFHFL GPU only slots |
| Maximum Internal Storage | Up to 8x 2.5-inch hot-swap SSD or HDD SATA drives in rear bays Up to 2x non-hot-swap M.2 SSDs, 6Gbps SATA in internal bays |
| RAID Support | Direct PCH Access Intel RSTe RAID / SW RAID |
| Network interface | 1x RJ-45 for dedicated 1GbE BMC Management; Additional high-speed network adapters can be installed in available front-accessible PCIe x16 adapter slot; Supports 2x 100GbE/EDR IB adapters, 2x 10GbE SFP+ adapters and 1Gb 2-Port RJ45 Ethernet adapters |
| Power Supply | Rack-level power capping and management via Extreme Cloud Administration Toolkit (xCAT) |
| OS Support | Red Hat Enterprise Linux 7.5; Visit lenovopress.com/osig for more information. |
| Warranty | 3-year customer replaceable unit and onsite limited warranty, next business day 9x5, service upgrades available |



ThinkSystem SR670



Intel® Xeon® processor Scalable family

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|--------------------|---|--|
| Lenovo Models |  ThinkSystem SR570 |  ThinkSystem SR590 |
| Target Workload | Email, File & Print Web Serving Private / Public Cloud Virtualisation Big Data VDI HPC | Email, File & Print Web Serving Private / Public Cloud Virtualisation Big Data VDI Database |
| Form Factor/Height | Rack/1U | Rack/2U |
| Processor | Up to 2x Xeon® Platinum processors, up to 150W | Up to 2x Xeon® Platinum processors, up to 150W |
| Memory | Up to 1TB in 16x slots, using 64GB DIMMs; 2666MHz TruDDR4 | Up to 1TB in 16x slots, using 64GB DIMMs; 2666MHz TruDDR4 |
| Expansion slots | Up to 3 PCIe 3.0 with multiple riser options | Up to 6 PCIe 3.0 with multiple riser options |
| Drive Bays | Up to 10 HS bays, or 4 LFF bays plus up to 2x mirrored M.2 boot drives | Up to 16 HS bays, or 14 LFF bays (12 front, 2 rear) plus up to 2x mirrored M.2 boot drives |
| RAID Support | Hardware RAID 0, 1, 5 standard on hot-swap models (optional Hardware RAID 0, 1, 5, 50, 6, 60 for 2.5"); Software RAID 0, 1, 5 on simple-swap 3.5" models (optional Hardware RAID 0, 1, 5) | Hardware RAID 0, 1, 5 standard on hot-swap models (optional hardware RAID 0, 1, 5, 50, 6, 60 for 2.5" models); Software RAID 0, 1, 5 on simple-swap 3.5" models (optional hardware RAID 0, 1, 5) |
| Network Interface | 2x Integrated 1GbE ports standard; opt. 1x (2-port) 1GbE or 10GbE LOM card; 2x 10GBase-T, or 2x 10GBase SFP+ | 2x Integrated 1GbE ports standard; opt. 1x (2-port) 1GbE or 10GbE LOM card; 2x 10GBase-T, or 2x 10GBase SFP+ |
| Power Supply | 2x hot swap/redundant: 550W/750W 80 PLUS® Platinum; or 750W 80 PLUS® Titanium | 2x hot swap/redundant: 550W/750W 80 PLUS® Platinum; or 750W 80 PLUS® Titanium |
| Systems Management | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) |
| OS Support | Microsoft SUSE Red Hat VMware Visit lenovopress.com/osig for more information | Microsoft SUSE Red Hat VMware Visit lenovopress.com/osig for more details |
| Warranty | 1-year and 3-year customer replaceable unit and onsite service, next business day 9x5, opt. service upgrades | 1-year and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades |





ThinkSystem



Intel® Xeon® processor Scalable family

ThinkSystem SR570

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|--------------------|--|---|
| Lenovo Models |  ThinkSystem SR530 |  ThinkSystem SR550 |
| Target Workload | Email, File & Print Private / Public Cloud Web Serving | Email, File & Print Private / Public Cloud Big Data Web Serving |
| Form Factor/Height | Rack/1U | Rack/2U |
| Processor | Up to 2x Xeon® Bronze, Silver, Gold or Platinum processors, up to 125W | Up to 2x Xeon® Bronze, Silver, Gold or Platinum processors, up to 125W |
| Memory | Up to 768GB in 12x slots, using 64GB DIMMs; 2666MHz TruDDR4 | Up to 768GB in 12x slots, using 64GB DIMMs; 2666MHz TruDDR4 |
| Expansion Slots | Up to 3x PCIe 3.0, via multiple riser options (either all-PCIe, or PCIe and ML2) | Up to 6x PCIe 3.0 (with 2x processors) via multiple riser options (PCIe-only or PCIe + ML2) |
| Drive Bays | Up to 8 bays. SFF: 8x HS SAS/SATA; or LFF: 4x HS SAS/SATA; or 4x simple-swap (SS) SATA; plus up to 2x mirrored M.2 boot (opt. RAID 1) | Up to 16x HS or 8x SS LFF; plus up to 2x mirrored M.2 boot (opt. RAID 1) SW RAID std. (up to 8 ports); up to 16-port HBAs/ or HW RAID with flash cache; plus up to 2x mirrored M.2 boot |
| RAID Support | Software RAID (up to 8 ports); optional hardware RAID (up to 8 ports) with flash cache; up to 8-port HBAs | Software RAID (up to 8 ports); up to 16-port HBAs/ or hardware RAID with flash cache |
| Network Interface | 2x 1GbE ports + 1x dedicated 1GbE management port; optional modular LOM supports 2x 1GbE Base-T or 2x 10GbE with Base-T or SFP+ | 2x 1GbE ports + 1x dedicated 1GbE management port; optional modular LOM supports 2x 1GbE Base-T or 2x 10GbE with Base-T or SFP+ |
| Power Supply | 2x hot-swap/redundant (Energy Star 2.1): 550W/750W 80 PLUS® Platinum; or 750W 80 PLUS® Titanium | 2x hot-swap/redundant (Energy Star 2.1): 550W/750W 80 PLUS® Platinum; or 750W 80 PLUS® Titanium |
| System Management | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) |
| OS Support | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise server VMware vSphere Visit lenovopress.com/osig for details | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise server VMware vSphere Visit lenovopress.com/osig for more information |
| Warranty | 1-year and 3-year customer replaceable unit and onsite service, next business day 9x5, opt. service upgrades | 1-year and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades |



ThinkSystem



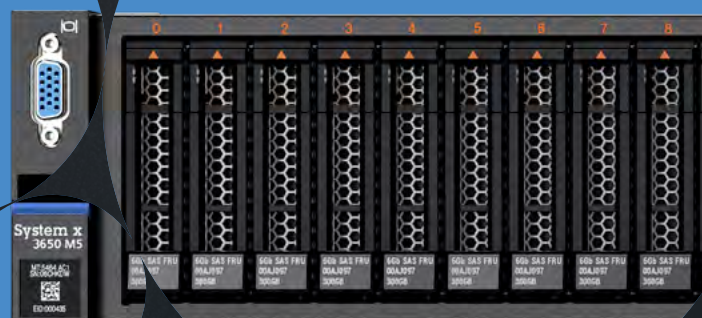
Intel® Xeon® processor Scalable family



ThinkSystem SR530

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|--------------------------|---|--|
| Lenovo Models |  System x3550 M5 |  System x3650 M5 |
| Target Workload | Email, File & Print Web Serving Private / Public Cloud Virtualisation Big Data VDI HPC | Email, File & Print Web Serving Private / Public Cloud Virtualisation Big Data VDI Database |
| Form Factor/Height | Rack/1U | Rack/2U |
| Processor | Up to 2x Intel® Xeon® processors E5-2600 v4 (22-core) up to 145W | Up to 2x Intel® Xeon® processors E5-2600 v4 (22-core) up to 145W |
| Memory | Up to 1.5TB in 24x slots, using 64GB DIMMs; 2400MHz | Up to 1.5TB in 24x slots, using 64GB DIMMs; 2400MHz |
| Expansion Slots | Up to 3x PCIe3.0 slots plus one dedicated RAID slot | Up to 8x PCIe 3.0 slots plus one dedicated RAID slot |
| Maximum Internal Storage | Up to 92TB with 7.68TB SAS SSDs | Up to 215TB with 10TB 3.5NL SAS or NL SATA and 7.68TB 2.5" SAS SSDs |
| RAID Support | 12 Gb SAS/SATA RAID: RAID 0, 1, 10 with M1215 or M5210. Optional upgrade to RAID 5, 50 is available for M1215. Optional upgrade to RAID 5, 50 is available for M5210 (zero-cache; 1 GB non-backed cache; 1 GB, 2 GB, or 4 GB flash-backed cache). Optional upgrade to RAID 6, 60 is available for M5210 (requires a cache upgrade). Optional SSD Caching and Performance Accelerator upgrades are available for M5210. 12 Gb SAS/SATA non-RAID: N2215 HBA | 12 Gb SAS/SATA RAID: RAID 0, 1, 10 with M1215 or M5210. Optional upgrade to RAID 5, 50 is available for M1215. Optional upgrade to RAID 5, 50 is available for M5210 (zero-cache; 1 GB non-backed cache; 1 GB, 2 GB or 4 GB flash-backed cache). Optional upgrade to RAID 6, 60 is available for M5210 (requires a cache upgrade). Optional SSD Caching and Performance Accelerator upgrades are available for M5210. 12 Gb SAS/SATA non-RAID: N2215 HBA |
| Network Interface | Quad-port GbE with additional port GbE for dedicated remote management | Quad-port GbE with additional port GbE for dedicated remote management |
| Power Supply | Redundant 550W/750W/900W/1500W AC 80 PLUS® Platinum, or redundant 750W AC 80 PLUS® Titanium | Redundant 550W/750W/900W/1500W AC 80 PLUS® Platinum, or redundant 750W/1300W AC 80 PLUS® Titanium. 900W -48VDC option |
| OS Support | Microsoft Windows Server 2016 SUSE Linux Enterprise Server RedHat Enterprise Linux Server VMware ESXi Visit lenovopress.com/osig for more information. | Microsoft Windows Server 2016 SUSE Linux Enterprise Server RedHat Enterprise Linux Server VMware ESXi Visit lenovopress.com/osig for more information. |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5 | 3-year customer replaceable unit and onsite service, next business day 9x5 |

System x3650 M5



Intel® Xeon® processor Scalable family

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|--------------------------|--|
| Lenovo Model | System x3250 M6 |
| Target Workload | Email, File & Print Virtualisation Private Cloud Web Serving |
| Form Factor/Height | Rack/1U |
| Processor | Intel® Xeon® processor E3-1200v6 series or Core i3 or Pentium or Celeron |
| Memory | Up to 64GB in 4x slots, using 16GB DIMMs; 2133/2400MHz |
| Expansion Slots | One PCIe 3.0 and one PCIe 3.0 slot dedicated for ServerRAID M1210 |
| Maximum internal storage | Up to 40TB storage with 10TB 3.5" NL SAS or NL SATA HDDs |
| RAID Support | 6 Gb SATA RAID: RAID 0, 1, 10, 5 with C110. 12 Gb SAS/6 Gb SATA RAID: RAID 0, 1, 10 with M1210, M1215, or M5210. Optional upgrade to RAID 5, 50 is available for M1210, M1215. Optional upgrade to RAID 5, 50 is available for M5210 (zero-cache; 1 GB non-backed cache; 1 GB, 2 GB, or 4 GB flash-backed cache). Optional upgrade to RAID 6, 60 is available for M5210 (requires a cache upgrade). Optional SSD Caching and Performance Accelerator upgrades are available for M5210. 12 Gb SAS/6 Gb SATA non-RAID: N2215 HBA |
| Network Interface | Two GbE ports with shared network/management or dedicated management on one port |
| Power Supply | Single 300W AC fixed 80 PLUS® Gold; or up to two redundant hot-swap 460W AC 80 PLUS® Gold |
| OS Support | Microsoft Windows Server 2016 Red Hat Enterprise Linux SUSE Linux Enterprise Server VMware/ESXi Ubuntu (certified) Visit lenovopress.com/osig for more information. |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5 |



Data Centre Portfolio at your fingertips




Take a 3D tour and get to know the broad portfolio of Lenovo's data centre offering by visiting lenovofiles.com/3dtours

System x3250 M6




Intel® Xeon® processor Scalable family

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|-----------------------------------|---|
| Lenovo Model |  ThinkSystem SR250 |
| Target Workload | IT Infrastructure: Email/ File/ Print/ FTP server Basic web serving System management Small Storage/ Near-side data backup Edge Server (IoT)/ Entry Cloud Gateway Server Virtualization Data Analytics |
| Form Factor/Height | Rack: 1SU MS Rack, 19.6" H: 43mm, W: 434.6mm, D: 497.8mm |
| # of Processors | Up to 1x Intel Xeon E processors, up to 6 cores @ 95W |
| Memory | Up to 64 GB in 4x UDIMM slots using 16GB UDIMMs; 2666MHz TruDDR4 |
| Expansion Slots | 1 x16-lane PCIe 3.0 slots or 2 x8 slots Plus one dedicated storage slot |
| Drive Bays | 4x 3.5" Simple Swap SATA drives or 4x 3.5" Hotswap SAS/SATA drives Or 10x2.5" hot swap SAS/SATA drives, of which up to 2 can be NVMe. |
| HBA / RAID Support | Intel RSTe software RAID for simple swap & hot swap Multiple RAID configuration support (common with ThinkSystem) Option of Intel RSTe SW RAID or optional ThinkSystem 430/530/930 HBA and RAID Cards |
| I/O Interface | Front: 1x USB 2.0 1x USB 3.1 Gen1 Support XCC mobile Rear: 2x USB 3.1 Gen2 1x Serial COM 1x VGA |
| Network Interface | 2x 1 GbE embedded port 1x dedicated management port |
| Power (Energy Star 2.1 Compliant) | Fixed PSU 300W Platinum Dual Redundant AC PSUs 450W Platinum |
| Systems Management | Lenovo ThinkSystem XClarity Controller; TPM 1.2/2.0 Standard |
| Supported OS | Microsoft Windows Server 2016, SLES, RHEL, VMware ESXi (visit LenovoPress for more information) |
| Limited Warranty | 1-year or 3-year base warranty |



Intel® Xeon® processor Scalable family

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|--------------------------|---|
| |  |
| Lenovo Model | ThinkServer RS160 |
| Target Workload | Email, File & Print Web Serving General purpose applications |
| Form Factor/Height | Rack/1U |
| Processor | Intel® Xeon® processor E3-1200 v6 product family with four cores up to 3.7 GHz, 8 MB cache, and up to 2133 MHz memory speed; or Intel® Core i3 processor 6100/6300 product families with two cores up to 3.9 GHz, up to 4 MB cache, and 2133 MHz memory speed; or Intel® Pentium processor G4400/G4500 product families with two cores up to 3.6 GHz, 3 MB cache, and up to 2133 MHz memory speed |
| Memory | Up to 64GB in 4x DIMM slots; 2400MHz |
| Expansion Slots | Up to one PCIe 3.0 x16 (x16 wired) low-profile slot with an optional riser card |
| Maximum Internal Storage | Up to 20TB with 2x10TB 3.5" SATA HDDs |
| RAID Support | RAID 0, 1, 10, 5, and 50 with RAID 720i or 720ix Optional (for 720i) or mandatory (for 720ix) cache memory upgrades are available: 1 GB non-backed; 1 GB, 2 GB, or 4 GB flash-backed. Cache upgrades include RAID 6 and 60 support. Flash backup upgrades include FastPath and Cache Cade Pro 2.0 features |
| Network interface | Two integrated GbE (10/100/1000 Mbps) RJ-45 ports (Intel I210) One GbE (10/100/1000 Mbps) RJ-45 port for systems management |
| Power Supply | One fixed 300W AC (100 - 240 V) power supply (80 PLUS® Gold) |
| OS Support | Windows Server 2012/2012 R2/2016 Red Hat Enterprise Linux (RHEL) Server 6 SUSE Linux Enterprise Server (SLES) 11 VMware vSphere (ESXi) 6.0 Visit lenovopress.com/osig for more information |
| Warranty | 1-year or 3-year (model dependent) customer replaceable unit and onsite service, next business day 9x5 |

Data Centre Portfolio at your fingertips




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Intel® Xeon® processor Scalable family

ThinkSystem SR250

TOWER SERVERS

| | |
|----------------------------------|---|
| Lenovo Models |  ThinkSystem ST550 |
| Target Workload | Email, File & Print Private Cloud Virtualisation VDI Web Serving |
| Form Factor/Height | Tower/4U |
| Processor | Up to 2x Xeon® Bronze, Silver, Gold or Platinum processors, up to 125W |
| Memory | Up to 1.5TB in 12x DIMM slots; 2666MHz TruDDR4 |
| Expansion Slots | Up to 6x PCIe 3.0 (with 2x processors) |
| Drive Bays | Up to 16 SFF (including 4 NVMe) or 8 LFF bays; plus up to 4 SFF (in optical bay) and 2x internal M.2 boot |
| RAID Support | Software RAID (4x ports) std; opt. hardware RAID (up to 24x ports); up to 16-port HBAs |
| Network Interface | 2x 1GbE ports std; optional 1GbE, 10GBASE-T, and 10Gb SFP+; 1x dedicated 1GbE management port |
| Power(Energy Star 2.1 compliant) | 1x 450W 80 PLUS® Gold (fixed); or 2x 550W/750W/1100W 80 PLUS® Platinum (hot-swap/redundant N+1); or 2x 750W 80 PLUS® Titanium (hot-swap/redundant) |
| Systems Management | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) |
| OS Supported | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise server VMware vSphere Visit lenovopress.com/osig for more information |
| Warranty | 1-year or 3-year (model dependent) customer replaceable unit and onsite service, next business day 9x5 |



Data Centre Portfolio at your finger tips

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Get Ready for the Future-Defined Data Centre





Intel® Xeon® processor Scalable family

ThinkSystem

ThinkSystem ST550





| Lenovo Models |  ThinkSystem ST250 |  ThinkSystem ST50 |
|-----------------------------------|---|---|
| Target Workload | IT Infrastructure: Email/ File/ Print/ FTP server Basic web serving General IT infrastructure & system management Near side data backup General business applications Retail Point-of-Sale | IT Infrastructure: Email/ File/ Print Basic web serving General IT infrastructure & system management Near side data backup Collaboration Retail Point-of-Sale |
| Form Factor/Height | Tower, 4U Chassis H: 430mm, W: 175mm, D: 565.7mm Optional ST250 / ST50 Rack Mount Kit | Tower, 28-liter H: 375mm, W: 175mm, D: 431mm Optional rack mount kit |
| # of Processors | 1x Intel Xeon E-21XX processor family | 1x Intel Xeon E-21XX processor family |
| Memory | Up to 64GB in 4x UDIMM slots using 16GB UDIMMs; 2666MHz TruDDR4 | Up to 64GB in 4x UDIMM slots using 16GB UDIMMs; 2666MHz TruDDR4 |
| Expansion Slots | Up to 4x PCIe Gen3 slots: x1 lane PCI-E Gen3 in x1 slot x16 lane PCI-E Gen3 in x16 slot x4 PCI-E Gen3 in x4 slot x4 PCI-E Gen3 in x8 slot | Up to 3 x PCIe Gen3 slots: x16 PCI-E Gen3 in x16 slot x1 PCI-E Gen3 in x1 slot x4 PCI-E Gen3 in x16 slot |
| Drive Bays | Up to 8x 3.5" simple swap & hot swap SATA / SAS bays Up to 16x 2.5" hot swap SATA / SAS 2x 5.25" media bay (for ODD or tape) 1x M.2 support | Up to 4 x 3.5-inch non-HS HDD bays (4th by 5.25" to 2.5" ODD conversion kit), support hybrid configuration with 3.5" HDDs & 2.5" SSDs, 1x 5.25" media bay (for ODD or tape), 2x SD card (32GB / 64GB), 1x SD card module |
| HBA / RAID Support | Intel RSTe software Raid for simple swap & hot swap Multiple RAID configuration support (common with ThinkSystem) | Software RAID support, multiple RAID configurations |
| I/O Interface | 1x front USB 3.1 G1 port & USB 2.0 port for XCC Mobile 2x rear USB 3.1 G2 ports & 2x rear USB 3.1 G1 ports 1x serial com port 1x VGA port | 2x front USB 3.1 G1 ports 2x rear USB 3.1 G1 ports & 2x rear USB 2.0 ports 1x serial com port 2x display ports (DP) Option for DP to VGA or DP to HDMI dongles 1x audio line out (for Microsoft Client OS only) |
| Network Interface | 2x 1 GbE embedded port 1x dedicated management port | 1x 1GbE port standard |
| Power (Energy Star 2.1 Compliant) | Dual-redundant 80+ PSU 550W Fixed PSU 250W Power efficiency up to Platinum | Fixed 80 plus PSU options, 250W & 400W Power efficiency up to Platinum |
| Systems Management | XClarity Administrator XClarity Controller (embedded hardware) XClarity Pro (optional) | Intel AMT12.0 server management, TPM 1.2 embedded (optional to TPM 2.0) Lenovo XClarity Provisioning Manager (USB version) |
| Supported OS | Microsoft Windows Server, SLES, RHEL, VMware ESXi (visit LenovoPress for more information) | Microsoft Windows Server, SLES, RHEL, VMware vSphere (visit LenovoPress for more information), Microsoft Windows Client OS - Windows 10 tested |
| Limited Warranty | 1-year & 3-year customer replaceable unit & onsite service, next business day 9x5, optional service upgrades | 1-year or 3-year base warranty |

ThinkSystem



Intel® Xeon® processor Scalable family



| | | |
|--------------------------|--|--|
| Lenovo Models |  ThinkServer TS150 |  ThinkServer TS460 |
| Target Workload | Email, File & Print Web Serving | |
| Form Factor/Height | Tower/4U | Tower/4U |
| Processor | Intel® Xeon® processor E3-1200 v6 series or Core i3 or Pentium or Celeron (4-core), | Intel® Xeon® processor E3-1200 v6 series; Core i3 and Pentium; up to 8MB cache maximum |
| Memory | Up to 64GB in 4x slots, using 16GB DIMMs; 2400MHz ECC TruDDR4 | Up to 64GB in 4x slots, using 16GB DIMMs; 2400MHz ECC TruDDR4 |
| Expansion Slots | 4x PCIe 3.0 slots | 4x PCIe 3.0 slots: x4/x4, x16/x16 (x8 when slot 4 is used), x1/x1, x8/x8 |
| Maximum Internal Storage | Up to 40TB with 4x 10TB 3.5" SATA HDD | Up to 80TB with 8x 10TB SAS HDDs |
| RAID Support | ThinkServer RAID 121i SW RAID 0/1/10/5 std; opt. PCIe ThinkServer RAID 520i 12Gb HW RAID 0/1/10/5 | ThinkServer RAID 121i software RAID; optional hardware PCIe RAID: ThinkServer RAID 520i 12Gb, ThinkServer RAID 720i 12Gb (optional cache and BBU), LSI 9300-8e 12Gb SAS (JBOD) |
| Network Interface | Up to 9 ports: 1x onboard 1Gbps Ethernet std; 2 optional 2/4-port 1Gb Ethernet adapters | 2x on-board 1Gb Ethernet standard; 2 optional 2/4-port 1Gb and 1/2-port 10Gb Ethernet adapters |
| Power Supply | One fixed 250W AC (100 - 240 V) power supply 80 PLUS® Bronze or one fixed 400 W AC (100 - 240 V) power supply 80 PLUS® Platinum | 1/1; 300W 80 PLUS® Bronze (non-hot-swap); 1/2 450W 80 PLUS® Gold (hot-swap/redundant) |
| OS Support | Microsoft Windows Server 2016 and 2012R2 VMware Vsphere (ESXi) Red Hat Enterprise Linux Server Client (Microsoft Windows 10) Visit lenovopress.com/osig for more information | Microsoft Windows Server & Hypervisor 2012 R2 and 2016 Microsoft Windows Storage 2012R2 and 2016 Client OS Windows 10 supported VMware Vsphere (ESXi) Red Hat Enterprise Linux Server SUSE Visit lenovopress.com/osig for more information |
| Warranty | 1-year or 3-year (model dependent) customer replaceable unit and onsite service, next business day 9x5 | 1-year or 3-year (model dependent) customer replaceable unit and onsite service, next business day 9x5 |

Get ready for the Future-Defined Data Centre



Data Centre Portfolio at your finger tips



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Intel® Xeon® processor Scalable family

HIGH END

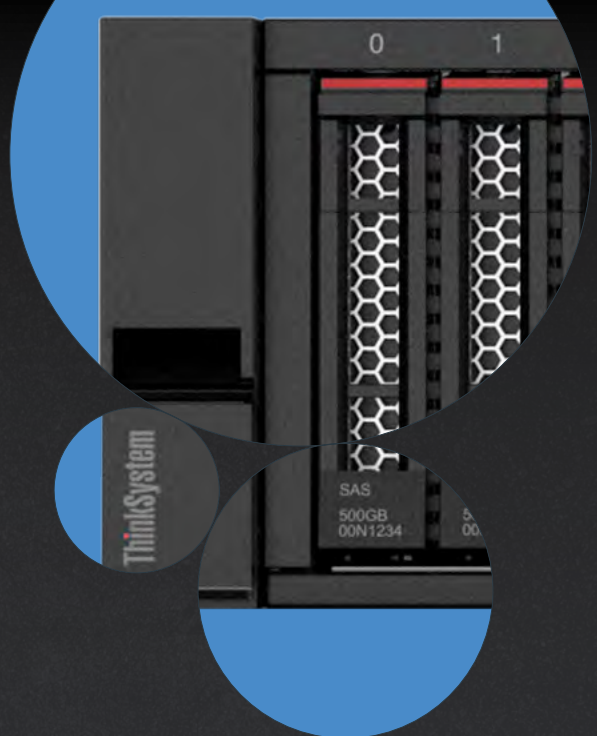
Designed with your mission-critical workloads in mind

Lenovo's high-end rack servers are suited for heavy vertical workloads, virtualisation and legacy system replacements. The ThinkSystem portfolio brings new models designed for your most demanding, mission-critical workloads, such as in-memory databases, large transactional databases, batch and realtime analytics, ERP, CRM, and virtualised server workloads.

Always on reliability on x86. Self-monitoring, error detection, and self-healing. Consistently ranked number 1 in reliability.⁴

Real time insights for real time business. 31% better TCO than competitors for analytics, leadership benchmarks, massive onboard storage, direct NVMe.


Everything within reach. Unmatched scalability with 4S & 8S in one 4U platform, modular drive tray, highest drive density, front and rear access for 12% faster serviceability.




ThinkSystem SR850




Intel® Xeon® processor
Scalable family

| | |
|--------------------------|--|
| Lenovo Model |  ThinkSystem SR850 |
| Target Workload | Virtualisation Analytics SMP Database |
| Form Factor/Height | Rack/2U |
| Processor | 2x or 4x Intel® Xeon® Gold or Platinum processors, up to 28x cores per processor, up to 205W |
| Memory | Up to 6TB in 48x slots using 128GB ¹ DIMMS; 2666MHz TruDDR4 |
| Expansion Slots | Up to 9x PCIe plus 1x LOM; optional 1x ML2 slot |
| Maximum Internal Storage | Up to 16x 2.5" storage bays supporting SAS/SATA HDD and SSDs or up to 8x 2.5" NVMe SSD; plus up to 2x mirrored M.2 boot |
| RAID Support | Hardware RAID (up to 16 ports) with flash cache; up to 16-port HBAs |
| Power Supply | 2x hot-swap/redundant: 750W/1100W/1600W AC 80 PLUS Platinum |
| RAID support | Hardware RAID (up to 16 ports) with flash cache; up to 16-port HBAs |
| Network Interface | One (2-/4-port) 1GbE or 10GbE LOM card; Multiple options with 1GbE, 10GbE, 25GbE, 40GbE or InfiniBand PCIe adapters; 1x dedicated 1GbE management port |
| Power Supply | 2x hot-swap/redundant: 750W/1100W/1600W AC 80 PLUS® Platinum |
| OS Supported | Microsoft Windows Server Red Hat Enterprise Linux Server SUSE Linux Enterprise Server VMware vSphere Visit lenovopress.com/osig for more information |
| Warranty | 1- year and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades |



⁴ ITIC 2017-2018 Global Hardware, Server OS Reliability Report

| | |
|--------------------------|--|
| Lenovo Model |  ThinkSystem SR860 |
| Target Workload | Virtualisation SMP VDI Database |
| Form Factor/Height | Rack/4U |
| Processor | 2x or 4x Intel® Xeon® Gold or Platinum processors, up to 28x cores per processor, up to 205W |
| Memory | Up to 6TB in 48x slots, using 128GB DIMMS; 2666MHz TruDDR4 |
| Expansion Slots | Up to 13x PCIe with multiple riser options |
| Maximum Internal Storage | Up to 16x 2.5" storage bays supporting SAS/SATA HDD and SSDs, or up to 8x 2.5" NVMe drives; plus up to 2x mirrored M.2 boot |
| RAID Support | Hardware RAID (up to 16 ports) with flash cache; up to 16-port HBAs |
| Network Interface | One (2-/4-port) 1GbE or 10GbE LOM card; Multiple options with 1GbE, 10GbE, 25GbE, 40GbE or InfiniBand PCIe adapters; 1x dedicated 1GbE management port |
| Power Supply | 2x hot-swap/redundant: 750W/1100W/1600W/2000W AC 80 PLUS® Platinum |
| OS Supported | Microsoft Red Hat SUSE VMware Visit lenovopress.com/osig for more information |
| Warranty | 1- year and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades |

| | |
|--------------------------|--|
| Lenovo Model |  ThinkSystem SR950 |
| Target Workload | Virtualisation Analytics SMP Database HPC VDI |
| Form Factor/Height | Rack/4U |
| Processor | 2x, 4x or 8x Intel® Xeon® Platinum processors, up to 28x cores per processor, up to 205W, or 2x or 4x Intel® Gold processors |
| Memory | Up to 12TB in 96 slots, using 128GB DIMMs; 2666MHz TruDDR4 |
| Expansion Slots | Up to 14x rear PCIe, (11x x16 +, 3x x8), 2x shared ML2 and PCIe (x16) and 1x LOM; plus 2x front dedicated RAID |
| Maximum Internal Storage | Up to 24x SFF bays supporting SAS/SATA HDDs/SSDs, including 12x SFF NVMe SSDs |
| RAID Support | Optional hardware RAID; M.2 boot support with optional RAID. |
| Network Interface | One (2-/4-port) 1GbE or 10GbE LOM card; Multiple options with 1GbE, 10GbE, 25GbE, 40GbE, 100GbE and InfiniBand FDR PCIe adapters; 1x dedicated 1GbE management port |
| Power Supply | Up to 4x shared 1100W or 1600W AC 80 PLUS® Platinum |
| OS Supported | Microsoft Windows Server Red Hat Enterprise Linux Server SUSE Linux Enterprise Server VMware vSphere Visit lenovopress.com/osig for more information |
| Warranty | 1-year or 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrade |



Intel® Xeon® processor Scalable family

| | | |
|--------------------------|---|---|
| Lenovo Models |  System x3850 X6 |  System x3950 X6 |
| Target Workload | Private / Public Cloud Analytics Big Data | |
| Form Factor/Height | Rack/4U | Rack/8U |
| Processor | Up to 24 cores per processor | Up to 24 cores per processor |
| Memory | Up to 6TB in 96x slots, using 64GB DIMMs; 1866MHz TruDDR4 / 1600MHz TruDDR3 | Up to 12TB in 192x slots, using 64GB DIMMs; 1866MHz Tru DDR4 / 1600 MHz DDR3 |
| Expansion Slots | Up to 11 PCIe; Gen3 (up to 11), Gen2 (up to 2), up to five x16 slots; up to six full-length, full-height | Up to 22 PCIe; Gen3 (up to 22), Gen2 (up to 4), up to ten x16 slots; up to 12 full-length, full-height |
| Maximum Internal Storage | Up to 61.44TB with 8x 3.84TB 2.5" SAS SSDs, Up to 16TB with 8x 2TB 2.5" NL SAS HDDs, or Up to 8TB with 4x 2TB 2.5" PCIe NVMe SSDs | Up to 122.9TB with 16x 7.68TB 2.5" SAS SSDs, Up to 32TB with 16x 2TB 2.5" SAS HDDs, Up to 16TB with 8x 2TB 2.5" PCIe NVMe SSDs |
| RAID Support | 12 Gb SAS/SATA RAID 0, 1, or 10 with ServeRAID M5210; optional upgrades to RAID 5 or 50 are available (zero-cache; 1 GB non-backed cache; 1 GB or 2 GB flash-backed cache). Upgrades to RAID 6 or 60 available for M5210 with 1 GB or 2 GB upgrades | 12 Gb SAS/SATA RAID 0, 1, or 10 with ServeRAID M5210; optional upgrades to RAID 5 or 50 are available (zero-cache; 1 GB non-backed cache; 1 GB or 2 GB flash-backed cache). Upgrades to RAID 6 or 60 available for M5210 with 1 GB or 2 GB upgrades |
| Network Interface | One ML2 Socket; ML2 card choices include: 4 x 1GbE copper or 2 x 10GbE SFP+ or 2 x 10GbE 10BaseT; Dedicated 1GbE on-board management port | Two ML2 Sockets; ML2 card choices include: 4x 1GbE copper or 2 x 10GbE SFP+ or 2 x 10GbE 10BaseT; Two dedicated 1GbE onboard management ports |
| Power Supply | Up to four redundant hot swap 900W or 1400W AC 80 PLUS® Platinum or -48V 750W DC | Up to Eight redundant hot swap 900W or 1400W AC 80 PLUS® Platinum, or -48V 750W DC |
| OS Support | Microsoft Windows Server 2016 Red Hat Enterprise Linux Server SUSE Linux Enterprise Server VMware ESXi Visit lenovopress.com/osig for more information | Microsoft Windows Server 2016 SUSE Linux Enterprise Server Red Hat Enterprise Linux Server VMware vSphere Hypervisor Visit lenovopress.com/osig for more information |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5 | 3-year customer replaceable unit and onsite service, next business day 9x5 |



System x3950 X6

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BLADES

The orchestration platform for conducting tomorrow's business

This integrated infrastructure platform supports a mix of compute, storage, systems management and networking resources to meet the demands of your applications. This robust enterprise chassis is designed to deploy simply now and scale to meet your needs in the future. Designed for major enterprise applications like virtualisation, cloud, database and analytics for clients across banking / finance, education, government, telecom and manufacturing, as well as SMB.

Flexible infrastructure for ever-changing workloads. Resource management that leverages both hardware and systems management.

Efficient on multiple levels. XClarity reduces time management; the modular, integrated design and zone adaptive cooling reduces data centre costs.

Proven platform, investment protection. An architecture that supports newly announced ThinkSystem blades powered by Intel® Xeon® processors and future server generations for leading investment protection.



ThinkSystem SN850

ThinkSystem



Intel® Xeon® processor Scalable family

Lenovo XClarity™

| Lenovo Models |  ThinkSystem SN550 |  ThinkSystem SN850 |
|--------------------------|--|--|
| Target Workload | Private Cloud Virtualisation VDI Service Provider Hosting | Private Cloud Virtualisation VDI Service Provider Hosting Database |
| Form Factor | Standard-width flex system compute node Up to 14 per chassis | Double-width flex system compute node Up to 7 per chassis |
| Processor | Up to two Intel Xeon processor Scalable family CPUs, Bronze, Silver, Gold or Platinum up to 165W: from 4 cores to 28 cores; core speeds from 1.7 GHz to 3.6 GHz; up to 38.5 MB L3 cache. Two UPI links up to 10.4 GT/s each. Up to 2666 MHz memory speed | Up to four Intel Xeon processor Scalable product family CPUs, Gold or Platinum, from 4 cores to 28 cores; core speeds from 1.7 GHz to 3.6 GHz; up to 38.5 MB L3 cache. Up to 3 UPI links with up to 10.4 GT/s each (processor dependent). Up to 2666 MHz memory speed. |
| Memory | Up to 3TB in 24x slots, using 128GB DIMMs (requires M-suffix processors that support greater than 786GB memory per processor); 2666MHz TruDDR4 | Up to 6TB in 48x slots, using 128GB DIMMs (requires M-suffix processors that support greater than 786GB memory per processor); 2666MHz TruDDR4 |
| Expansion Slots | Up to 2x PCIe 3.0 x16 I/O Adapters | Up to 4x PCIe 3.0 x16 I/O Adapters |
| Maximum Internal Storage | Up to 2x 2.5-inch storage bays supporting SAS/SATA HDDs/SSDs or U.2 NVMe SSDs; plus up to 2x mirrored M.2 boot drives (opt. RAID 1) | Up to 4x 2.5-inch storage bays supporting SAS/SATA HDDs/SSDs or U.2 NVMe SSDs; plus up to 2x mirrored M.2 boot drives (opt. RAID 1) |
| RAID Support | Software RAID std. (6Gbps SATA); optional hardware basic RAID (12Gbps SAS/SATA); optional hardware advanced RAID (12Gbps SAS/SATA 2GB flash-backed cache) | Software RAID std. (6Gbps SATA); opt. hardware basic RAID (12Gbps SAS/SATA); opt. hardware advanced RAID (12Gbps SAS/SATA 2GB flash-backed cache) |
| Network Interface | 4x 10GbE LOM, 10/25/40/50Gb Ethernet Adapters or FDR Infiniband adapters | 4x 10GbE LOM, 10/25/40/50Gb Ethernet Adapters or FDR Infiniband adapters |
| System Management | XClarity Controller embedded management, XClarity Administrator centralised infrastructure delivery, XClarity Integrator plugins, XClarity Energy Manager centralised server power management. Chassis level management using CMM (2nd redundant CMM optional) | XClarity Controller embedded management, XClarity Administrator centralised infrastructure delivery, XClarity Integrator plugins, XClarity Energy Manager centralised server power management. Chassis level management using CMM (2nd redundant CMM optional) |
| OS Support | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server VMware vSphere Visit lenovopress.com/osig for more information | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server VMware vSphere Visit lenovopress.com/osig for more information |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5 | 3-year customer replaceable unit and onsite service, next business day 9x5 |


ThinkSystem SN550



See more of the Blades offering including chassis



Intel® Xeon® processor Scalable family

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|----------------------------|---|
| Lenovo Models |  ThinkSystem NE2552E Flex Switch |
| Target Workload | High Bandwidth Switching to compliment SN550/SN850 25G/50G Adapters |
| Maximum Port Configuration | Internal: 28x 10/25 Gb Ethernet ports or 14x 50 Gb Ethernet ports supporting 2 and 4 port 10G, 25G and 50G adapters External: 8x SFP+/SFP28 ports and 4x QSFP+/QSFP28 ports supporting 10GbE, 25GbE, 40Gbe, 50GbE and 100GbE port speeds |
| Base Configuration Ports | All ports turned on |
| Key Features | CEE, RoCE, NAS, ISCI, FCOE Switch Partition, SPAR ENOS Easy Connect transparent network capability Virtualization, Unified Fabric Port Fault Tolerance Server Application Optimisation* |
| Management | XClarity, vRealize Log Insight, vRealize Network Orchestrator, OpenStack, Ansible |

Data Centre Portfolio at your fingertips



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ThinkSystem



Intel® Xeon® processor Scalable family

| Lenovo Models | FC5022 16Gb SAN Scalable Switch |
|----------------------------|---|
| Target Workload | Storage-Intensive Enterprise workloads |
| Maximum Port Configuration | 28 internal full-duplex 16/8 Gb FC ports supporting 2 and 4 port adapters 20 external ports for 16 Gb or 8 Gb SFP+ transceivers supporting 4 Gb, 8 Gb, and 16 Gb port speeds |
| Base Configuration Ports | 12 or 24 dynamic ports depending on model |
| Switch Upgrade 1 Ports | 12 additional dynamic ports |
| Switch Upgrade 2 Ports | 24 additional dynamic ports |
| Key Features | Full fabric Access Gateway Advanced zoning Enhanced Group Management Adaptive Networking ISL Trunking+ Fabric Vision* Advanced Performance Monitoring* Fabric Watch* Extended Fabrics* Server Application Optimisation* |
| Recommended for: | Storage-Intensive Enterprise workloads |
| Warranty | 1-year customer replaceable unit |

+Requires separate licence or ESB switch

*Requires ESB switch

| Lenovo Models | EN4093R 10GbE Scalable Switch | CN4093 10GbE Converged Switch | EN4091 10Gb Ethernet Pass-thru |
|------------------------------|--|--|--|
| Target Workload | Performance Virtualisation | Direct FCoE connectivity FC to external F SAN or in-chassis storage | Low-cost end host mode Simple management 10/40GbE scalability, performance |
| Base Configuration Ports | 14 x 10GbE internal 10 x 10GbE SFP+ external | 14 x 10GbE internal 2 x 10GbE SFP+ external 6 x Omni Port external | 14 x full duplex 1/10GbE internal ports 10 x 1/10GbE SFP+ external transceivers |
| Switch Upgrade 1 Ports | 28 x 10GbE internal 10 x 1GbE SFP+ external 2 x 40GbE QSFP+ external | 14 x 10GbE internal 2 x 40GbE external | N/A |
| Switch Upgrade 2 Ports | 42 x 10GbE internal 14 x 10GbE external 2 x 40GbE QSFP+ external | 14 x 10GbE internal 6 x Omni Port external | N/A |
| Max bidirectional throughput | 1,280Gbps | 1,280Gbps | N/A |
| Cloud Ready | VMready Switch Partitioning UFP OpenFlow | VMready Switch Partitioning UFP | N/A |
| Flexibility & Scalability | FPM FoD Stacking | FPM FoD Stacking | FPM FoD FSIF |
| Converged | DCB, CEE, FCoE transit | DCB, CEE, FCoE break out 8Gb FC | DCB, CEE, FCoE transit |
| Recommended for: | Performance, Virtualisation | Direct FCoE connectivity, FC to external F SAN or in-chassis storage | Low-cost end host mode, simple management, 10/40GbE scalability, performance |
| Warranty | 1-year customer replaceable unit | 1-year customer replaceable unit | 1-year customer replaceable unit |

| Lenovo Models | EN2092 1GbE Scalable Switch | SI4091 System Interconnect Module | SI4093 System Interconnect Module |
|------------------------------|--|---|---|
| Target Workload | Performance Virtualisation | Lowest cost end host mode Simple management | Low-cost end host mode simple management 10/40GbE scalability, performance |
| Base Configuration Ports | 14 x 1GbE internal 10 x 1GbE RJ-45 external | 14 x 10GbE internal 10 x 10GbE SFP+ external | 13 x 10GbE internal 10 x 10GbE SFP + external |
| Switch Upgrade 1 Ports | 28 x 1GbE internal 20 x 1GbE RJ-45 external | N/A | 28 x 10GbE internal 10 x 10GbE SFP + external 2 x 40GbE QSFP + external |
| Switch Upgrade 2 Ports | 4 x 10GbE SFP+ external | N/A | 42 x 10GbE internal 14 x 10GbE external 2x 40GbE QSFP + external |
| Max bidirectional throughput | 176 Gbps | 480 Gbps | 1,280 Gbps |
| Cloud Ready | VMready Switch Partitioning | N/A | VMready Switch Partitioning UFP |
| Flexibility & Scalability | FPM FoD | N/A | FPM FoD FSIF |
| Converged | N/A | DCB, CEE, FCoE transit | DCB, CEE, FCoE transit |
| Recommended for: | Performance, Virtualisation | Lowest cost end host mode, simple management | Low-cost end host mode, simple management, 10/40GbE scalability, performance |
| Warranty | 1-year customer replaceable unit | 1-year customer replaceable unit | 1-year customer replaceable unit |

| Features | EN6131 40Gb Ethernet Switch | Cisco Nexus B22 Fabric Extender |
|------------------------------|---|--|
| Target Workload | High Performance Applications | Cisco-Flex System Connectivity |
| Base Configuration Ports | 14 x internal full-duplex 40Gb ports 18 x external ports for 40Gb QSFP+ transceivers for QSFP+ DAC cables | 14 x internal full-duplex auto-serving 1/10G ports 8 x external ports for 10Gb SFP+ transceivers |
| Max bidirectional throughput | 1.44Tbps aggregated | 400Gbps aggregated |
| Scalability & Performance | Non-blocking architecture with wire-speed forwarding of traffic Up to 48,000 unicast and up to 16,000 multicast MAC addresses per subnet Static & LACP (IEEE 802.3ad) link aggregation Up to 720 Gb total uplink bandwidth per switch Up to 36 link aggregation groups (LAGs) Support for jumbo frames Broadcast/multicast storm control IGMP v1 and v2 snooping | Wire-speed forwarding of traffic Static and EtherChannel link aggregation Up to 80 Gb (160 Gb full-duplex) total fabric uplink bandwidth per module Support for jumbo frames PortChannel on server ports |
| Availability & Redundancy | IEEE 802.1D STP for L2 redundancy IEEE 802.1w Rapid STP (RSTP) | Redundant uplinks through Cisco EtherChannel hashing or static port pinning vPCs for dual-homed connectivity |
| Virtualisation | Up to 4094 VLANs per switch 802.1Q VLAN tagging support | 802.1Q VLAN tagging support Switch Independent Virtual NIC (vNIC2): Ethernet, iSCSI, or FCoE traffic |
| Warranty | 1-year customer replaceable unit | 1-year customer replaceable unit |

DENSE-OPTIMISED

Ready to adapt when you are

Lenovo's high-density systems were engineered to excel at a wide range of workloads and flexible architectures, to meet evolving needs. These are powerful platforms for compute-intensive workloads, ranging from technical computing, to grid deployments, to analytics workloads, to large-scale cloud and virtualisation infrastructures. They do it more cost-and energy-efficiently than ever before.

More in less space. Innovative chassis enables greater density for hyperconverged workloads.

Ready to adapt. Stackable node design that supports GPUs and specialised IO adapters.

Modularity to transform. Disaggregated IO design which allows for multiple fabrics, and the scalable management design simplifies infrastructure costs. Front and rear access for easy serviceability.

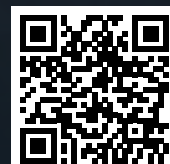


ThinkSystem SD530

ThinkSystem



Intel® Xeon® processor Scalable family



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|--------------------|---|
| Lenovo Model | ThinkSystem SD650 |
| Target Workload | Private / Public Cloud HPC Virtualisation Analytics |
| Form Factor/Height | Full-wide 1U tray (6 Tray's / 12 nodes per n1200 enclosure) |
| Processor | 2x Intel® Xeon® water-cooled Bronze, Silver, Gold or Platinum processors, up to 245W |
| Memory | Up to 768GB in 12x slots, using 64GB LRDIMMs; 2666MHz TruDDR4 |
| Expansion Slots | 1x 50mm width ML2 slot, 1x PCIe x16 slot for EDR InfiniBand, or Intel Omni Path (per node) |
| Drive Bays | Up to 2x 2.5" SATA SSDs or 1x 2.5" NVMe SSD (per node); optional M.2 adapter, supporting 1x or 2x M.2 drives (per node) |
| Network Interface | 1x 1GbE BaseT NIC (per node); additional high-speed network adapters (InfiniBand or Omni Path) can be installed in the available front-accessible PCIe x16 adapter slot |
| Power Supply | Rack-level power capping and management via Extreme Cloud Administration Toolkit (xCAT) |
| RAID Support | Onboard SATA controller with Software RAID; optional M.2 SSD adapter with HW RAID 1 |
| Systems Management | Remote management using Lenovo XClarity Controller 1Gb dedicated management NIC plus 1Gb share management NIC per node |
| OS Support | Red Hat Enterprise Linux SUSE Linux Enterprise Server CentOS (with LeSi support) Visit lenovopress.com/osig for details. |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |



Intel® Xeon® processor Scalable family

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|--------------------|---|
| Lenovo Model | ThinkSystem SD530 |
| Target Workload | HPC VDI Web Serving Private / Public Cloud Virtualisation |
| Form Factor/Height | 2U Enclosure; 4 nodes per enclosure |
| Processor | 1x or 2x Intel® Xeon® Bronze, Silver, Gold or Platinum processors, up to 205W CPUs |
| Memory | Up to 1TB in 16x slots, using 64GB LRDIMMs; 2666MHz TruDDR4 |
| Expansion Slots | 1x shuttle per D2 enclosure: either x8 PCIe Shuttle with 8x PCIe 3.0 x8 slots (2 per node); or x16 PCIe Shuttle with 4x PCIe 3.0 x16 slots (1 per node). Up to 2x external GPU trays per chassis (with up to 2 GPUs in each tray); one tray per node |
| Drive Bays | Up to 16x (4x per node) HS NVMe SSDs |
| Network Interface | Opt. 8-port E10M 10Gb SFP+ (two ports per node); Opt. 8-port E10M 10Gb RJ45 (two ports per node) |
| Power Supply | 1x or 2x hot-swap, redundant power supplies 2000W, 1600W or 1100W |
| RAID Support | SW RAID supports JBOD; Entry RAID; opt. HW RAID 12Gb supports JBOD; plus M.2 boot support with optional RAID |
| Systems Management | XClarity Controller embedded management XClarity Administrator centralised infrastructure delivery XClarity Integrator plugins XClarity Energy Manager centralised server power |
| OS Support | Microsoft Windows Server Red Hat Enterprise Linux SUSE Linux Enterprise Server VMware vSphere Visit lenovopress.com/osig for more information |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |

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Intel® Xeon® processor Scalable family

STORAGE

Thanks to a storage portfolio growing relentlessly stronger, Lenovo offers a wide range of enterprise grade storage solutions that address the ever-growing needs of businesses, fit into existing budget and ensure data is ready when it is needed. The offering includes key features that range from storage tiering to thin provisioning and data encryption, all through a user-friendly interface.

The Storage Portfolio at your fingertips



Take a 3D tour and get to know the broad portfolio by visiting www.lenovofiles.com/3dtours



ThinkSystem DM 5000H

SAN

Shared storage delivering high performance access to critical data



THINKSYSTEM DM SERIES

The ThinkSystem DM Series is a portfolio of enterprise class all-flash and hybrid-flash arrays. Set apart by industry-leading performance, unified architecture and data management powered by ONTAP.

Accelerate data: Deploy workloads in under 10 minutes, quicken response times with NVMe over Fabric and reach 4M IOPS and up to 57PB of storage.

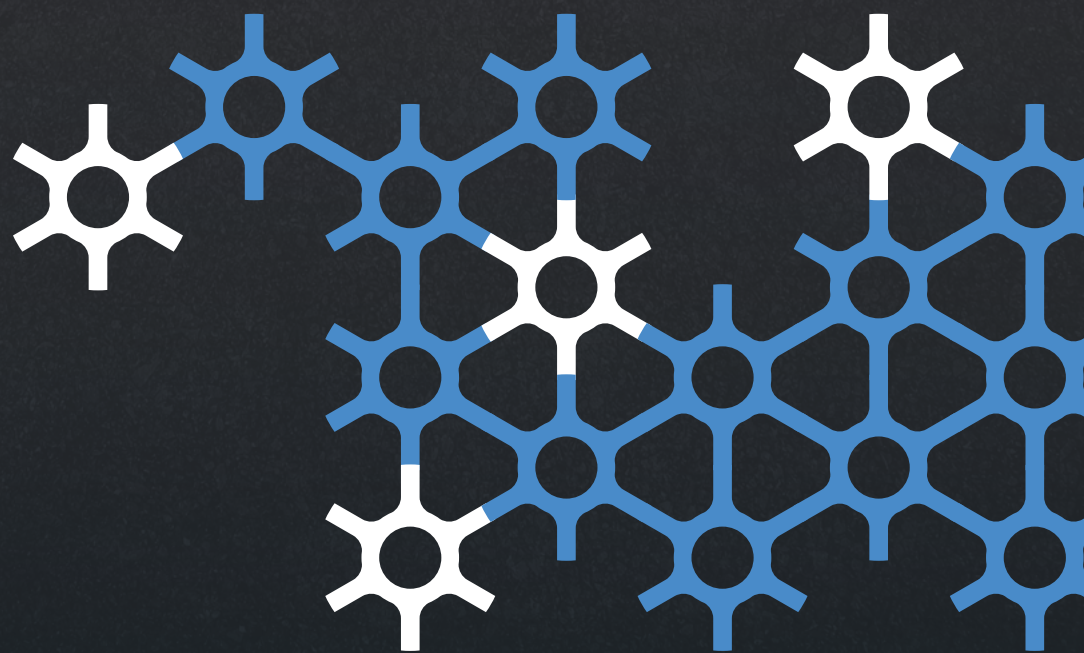
Scale to cloud and back: Easily consolidate legacy storage, scale without disruption, tier and manage data with major cloud vendors.

Protect your business: On-board encryption, multi-factor authentication and synchronous replication headline a host of leading defence features.

| Sub-Series |  | | |  | |
|---|--|--|---|---|---|
| Attribute / Model | DM7000H | DM5000H | DM3000H | DM7000F | DM5000F |
| Target Market / Workloads | Hybrid Cloud Artificial Intelligence Big Data Analytics Engineering and Design | Artificial Intelligence Data Analytics Enterprise Applications Engineering and Design | Virtualization Microsoft Solutions Backup & Recovery File Services | Virtualization Microsoft Solutions Backup & Recovery File Services | Virtualization Microsoft Solutions Backup & Recovery File Services |
| Controller Form Factor | 3U / 480 Drives | 2U / 144 drives | 2U / 144 drives | 3U (2 HA Controllers) | 180k |
| IOPS | 350k | 100k | 100K | 350k | 6 Gb/s(Read)/ 2.5 Gb/s (write) |
| NAS Scale-Out Capacity | 12 Arrays | | | 12 Arrays | 12 Arrays |
| Maximum HDDs/SSDs | 5760 | 1728 | | 4608 SSDs | 1728 SSDs |
| Maximum Raw Capacity | 57PB | 15PB | 17PB | 70.5PB/62.6PiB | 24.1PB / 21.5PiB |
| Effective Capacity | 228 PB | 60PB | 68PB | 281PB / 249.6PiB | 96.7PB / 85.8PiB |
| Maximum Onboard NVMe Flash Cache | 48TB | 24TB | | N/A | N/A |
| Maximum Flash Pool | 576TB | 288TB | | N/A | N/A |
| Maximum Memory | 3072TB | 768TB | | 3072TB | 768GB |
| SAN Scale-Out Capacity | 6 Arrays | | | 6 Arrays | 6 Arrays |
| Maximum HDDs/SSDs | 2880 / 1440 | 864 | | 2304 SSDs only | 864 SSDs only |
| Maximum Raw Capacity | 28PB | 7.5PB | 8.6PB | 35.3PB/31.3PiB | 12.1PB/10.7PiB |
| Effective Capacity | 112PB | 30PB | 34.4PB | 140.5PB/124.8PiB | 48.4PB/42.8PiB |
| Maximum Onboard NVMe Flash Cache | 24TB | 6TB | | N/A | N/A |
| Maximum Flash Pool | 288TB | 144TB | | N/A | N/A |
| Maximum Memory | 1536TB | 384TB | | 1536TB | 256TB |
| Cluster Interconnect | Four 10GbE | | | Two 10GbE | |
| Per High Availability Pair Specs | Active / Active Dual Controller | | | Active / Active Controller | |
| Maximum Drives (HDDs/SSDs) | 480 /480 | 144 / 144 | | 384 SSDs only | 144 SSDs only |
| Maximum Raw Capacity | 4.8PB | 1.2PB | 1.4PB | 5.9PB / 5.2PiB | 2.0PB / 1.8PiB |
| Effective Capacity | 19.2PB | 4.8PB | 5.6PB | 23.5PB / 20.9PiB | 8.4PB / 7.2PiB |
| Maximum Onboard NVMe Flash Cache | 4TB | 2TB | | N/A | N/A |
| Maximum Flash Pool | 48TB | 24TB | | N/A | N/A |
| ECC Memory | 256TB | 64TB | | 256TB | 64TB |
| NVRAM | 16TB | 8TB | | 16GB | 8GB |
| PCIe Expansion Slots | 4 | 0 | | 4 | 0 |
| Onboard UTA2 (8Gb/16Gb FC, 1GbE/10GbE, or FCVI ports-MetroCluster only) | 8 | | | 8 | 8 |
| Onboard 32GB FC(max) | 8 | N/A | | 8 | N/A |

Continued

| Sub-Series | DM Hybrid | | | DM All-Flash | |
|-----------------------------|---|--|---------|---|--|
| Attribute / Model | DM7000H | DM5000H | DM3000H | DM7000F | DM5000F |
| Onboard 40GbE (max.) | 8 | N/A | N/A | 8 | N/A |
| Onboard 10GbE (max.) | 4 | | | 32 | 8 |
| Onboard 10GbE Base-T (max.) | 4 | 8 | | 12 (1GbE autoranging) | N/A |
| Onboard 12GB SAS (max.) | 24 | 4 | | 24 | N/A |
| Onboard 12Gb SAS ports | 8 | 4 | | 8 | 4 |
| Cluster Interconnect | Four 10GbE | Four 10GbE | | Four 10GbE | |
| OS | ONTAP 9.4 or later | | | ONTAP 9.4 or later | |
| Host/Client Oses Supported | Microsoft Windows, Linux, Sun Solaris, AIX, HP-UX, Mac OS, VMware, ESX | | | Microsoft Windows, Linux, Sun Solaris, AIX, HP-UX, Mac OS, VMware, ESX | |
| Storage Protocols Supported | FC, iSCSI, NFS, pNFS, CIFS/SMB | | | FC, iSCSI, NFS, pNFS, SMB | |
| Shelves and Media | Shelves and Media See Shelves and Media page on www.lenovo.com for most current information | | | DM240S (2U; 24 drives, 2.5-inch SFF) | |
| Open Management | Web Services embedded REST API, PowerShell Toolkit Secure CLI | | | Web Services embedded REST API, PowerShell Toolkit Secure CLI | |
| System Maximums | Hosts/partitions: 512; Volumes:2048; Snapshot copies: 2048; Mirrors:128 | Hosts/partitions: 256; Volumes:512; Snapshot copies: 512; Mirrors:32 | | Hosts/partitions: 512; Volumes:2048; Snapshot copies: 2048; Mirrors:128 | Hosts/partitions: 256; Volumes:512; Snapshot copies: 512; Mirrors:32 |
| Limited Warranty | 3-year limited warranty, 9x5 next business day, onsite | | | 3-year limited warranty, 9x5 next business day, onsite | |




THINKSYSTEM DE SERIES


The ThinkSystem DE Series all-flash and hybrid-flash portfolio offers leadership price-performance and scale at unmatched value.

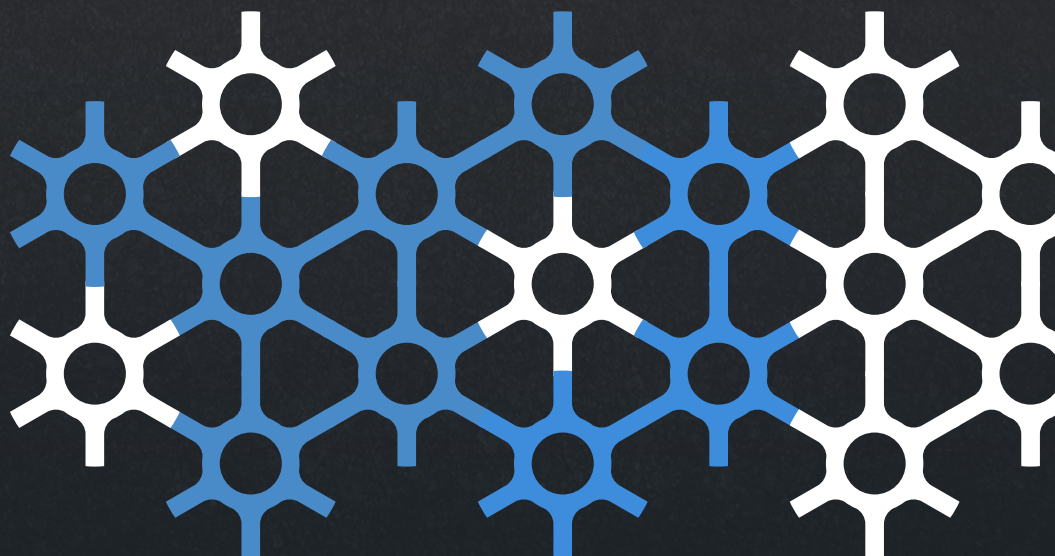
Optimise price-performance: With performance up to 1M IOPS and sub-millisecond latency, the DE Series leads the industry in SAN value.

Flex and scale: Easily integrate the DE Series within existing environments and meet changing business needs with extensive performance and expansion options.

Achieve always-on reliability: Maximise uptime with 99.9999% availability, synchronous replication and data encryption.

| Sub-Series |  | | |
|-------------------------------|--|---|--|
| Attribute / Model | DE6000H | DE4000H | DE2000H |
| Target Market / Workloads | High-performance databases Web and security applications Data analytics | Video Surveillance Backup & Recovery Technical Computing Big Data Analytics | Video Surveillance Backup & Recovery Technical Computing Big Data Analytics |
| Form Factor | 4U / 60 drives (mixed 2.5" and 3.5") or 2U / 24 drives (2.5" only) | 4U / 60 drives (mixed 2.5" and 3.5"); or 2U / 24 drives (2.5" only); or 2U / 12 drives (mixed 2.5" and 3.5") | 2U / 24 drives (2.5" only); or 2U / 12 drives (mixed 2.5" and 3.5") |
| IOPS | 1000000 | 300000 | 100000 |
| Sustained Throughput | 21Gbps | 10Gbps | 3GBps |
| Maximum Drives | 4U, 60 drives: 240* HDDs / 120 SSDs 2U, 24 drives: 192 HDDs / 120 SSDs | 4U, 60 drives: 192 HDDs / 120 SSDs 2U, 24 drives: 192 HDDs / 120 SSDs 2U, 12 drives: 96 HDDs/SSDs | 2U, 24 drives: 96 HDDs/SSDs 2U, 12 drives: 48 HDDs/SSDs |
| Maximum Capacity | 4U, 60 drives: 2.88PB 2U, 24 drives: 345.6TB | 4U, 60 drives: 2.3PB 2U, 12 drives: 1.15PB 2U 24 drives: 345.6TB | 2U, 24 drives: 1.47PB 2U, 12 drives: 576TB |
| Maximum Enclosures | 2U12 / 2U24: up to 7 expansions 4U60: up to 3 expansions | 2U12 / 2U24: up to 7 expansions 4U60: up to 3 expansions | 2U12 / 2U24: up to 7 expansions 4U60: up to 3 expansions |
| System memory | 32GB | 16GB | |
| Base IO Port (Per System) | 4 x 10Gb iSCSI (optical) 4 x 16Gb FC | 4 x 10Gb iSCSI (optical) 4 x 16Gb FC | 4 x 10Gb iSCSI (optical) 4 x 16Gb FC |
| Optional IO Port (Per System) | 8 x 16GB/32GB FC 8 x 10GB/25GB iSCSI optical 8 x 12GB SAS | 8 x 16GB/32GB FC 8 x 10GB/25GB iSCSI optical 8 x 12GB SAS | 4 x 10GB iSCSI Base-T 4 x 12GB SAS |
| Optional Software Feature | Snapshot upgrade Asynchronous mirroring Synchronous mirroring Drive Encryption | Snapshot upgrade Asynchronous mirroring Drive Encryption | Snapshot upgrade Asynchronous mirroring Drive Encryption |
| System Maximums | Hosts/partitions: 512 Volumes: 2,048 Snapshot copies: 2,048 (1,024 base) Mirrors: 128 | Hosts: 256 Volumes: 512 Snapshot copies: 512 (128 base) Mirrors: 32 | |
| Limited Warranty | 3-year limited warranty, 9x5 next business day, onsite | | |

| |  | |
|----------------------------------|---|--|
| Sub-Series | DE All-Flash | |
| Attribute / Model | DE6000F | DE4000F |
| Target Market / Workloads | High-performance databases Web and security applications Data analytics | Video Surveillance Backup & Recovery Technical Computing Big Data Analytics |
| Form Factor | 2U / 24 drives (2.5" SSD only) | 2U / 24 drives (2.5" SSD only) |
| IOPS | 1000000 | 300000 |
| Sustained Throughput | 21Gbps | 10Gbps |
| Maximum Drives | 192 SSDs | 192 SSDs |
| Maximum Capacity | 2.95PB | 2.95PB |
| Maximum Enclosures | Up to 7 DE240S expansions | Up to 7 DE240S expansions |
| System memory | 128GB | 16GB |
| Base IO Port (Per System) | 4 x 10Gb iSCSI (optical) 4 x 16Gb FC | 4 x 10Gb iSCSI (optical) 4 x 16Gb F |
| Optional IO Port (Per System) | 8 x 16GB/32GB FC 8 x 10GB/25GB iSCSI optical 8 x 12GB SAS | 8 x 16GB/32GB FC 8 x 10GB/25GB iSCSI optical 8 x 12GB SAS |
| Optional Software Feature | Drive Encryption | Synchronous Mirroring Drive Encryption |
| System Maximums | Hosts/partitions: 512; Volumes:2,048; Snapshot copies: 2,048; Mirrors:128 | Hosts/partitions: 256; Volumes 512; Snapshot copies: 512; Mirrors:32 |
| Limited Warranty | 3-year limited warranty, 9x5 next business day, onsite | |



THINKSYSTEM DS-SERIES

Lenovo developed the ThinkSystem DS-Series offering, all-flash & hybrid SAN arrays, to revolutionise storage economics – enterprise-class functionality at entry level price point.

Affordable. Industry leading in both price/performance and cost/GB without compromise.

Intuitive. Setup in less than 15 minutes, manage all storage arrays from common GUI, XClarity integrated hardware management.

Fast. Up to 600k IOPS at less than 1 millisecond latency.

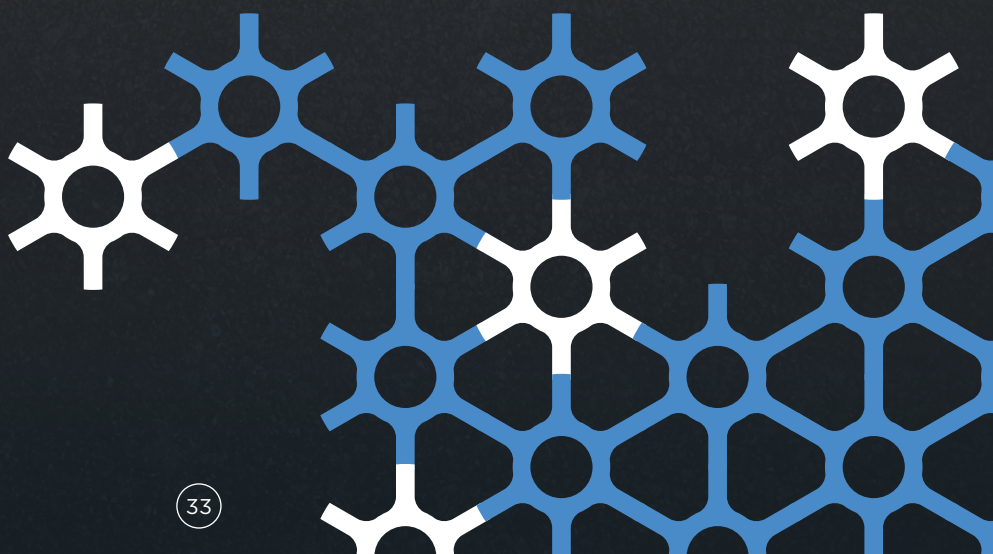
| Lenovo Models |  Lenovo ThinkSystem DS2200 |  Lenovo ThinkSystem DS4200 |  Lenovo ThinkSystem DS6200 |
|-------------------------------|---|---|---|
| Target Workload | Entry Shared Storage Remote & Branch Office (ROBO) | Primary Storage Remote & Branch Office (ROBO) Virtualisation Backup | Enterprise Storage Transaction & I/O Intensive OLTP Database |
| Form Factor/Height | 2U | 2U | 2U |
| Drive Bays | 12x 3.5"; 24x 2.5" | 12x 3.5"; 24x 2.5" | 24x 2.5" |
| Maximum Internal Storage | 1PB (3.5"); 659TB (2.5") | 3PB (3.5" and 2.5") | 3PB (2.5") |
| Controllers | Dual (active/active) | Dual (active/active) | Dual (active/active) |
| Maximum Enclosures | 1 node + 3 expansion units (2U12/2U24); mix-and-match expansion units in an array | 1 node + 9 expansion units (2U12/2U24); mix-and-match expansion units in an array or 1 node + three D3284 expansion units | 1 node + 9 expansion units (2U12/2U24); mix-and-match expansion units in an array or 1 node + three D3284 expansion units |
| Maximum Drives | 96 (using 2.5" drives and 3 expansion units) | 276 (three D3284 expansion units) or 240 (using 2.5" drives and 9 expansion units) | 276 (three D3284 expansion units) or 240 (using 2.5" drives and 9 SFF expansion units) |
| Drive Types Supported | All drives 12Gb SAS; 7,200rpm, 10,000rpm, and 15,000 rpm HDDs; MLC SSDs; SED HDDs and SSDs | All drives 12Gb SAS; 7,200rpm, 10,000rpm, and 15,000rpm HDDs; MLC SSDs; SED HDDs and SSDs | All drives 12Gb SAS; 7,200rpm, 10,000rpm, and 15,000rpm HDDs; MLC SSDs; SED HDDs and SSDs (mixed per chassis) |
| Host Ports | 2-port SAS, 2-port FC, 2-port iSCSI; single connectivity | 4-port SAS, 4-port FC, 4-port iSCSI, hybrid connectivity | 4-port SAS, 4-port FC, 4-port iSCSI, hybrid connectivity (FC/iSCSI) |
| Performance | Up to 100,000 random-read IOPS; up to 3.5GBps read throughput; up to 3GBps write throughput | Up to 325,000 random-read IOPS; up to 7.0GBps read throughput; up to 5.5GBps write throughput | Up to 600,000 random-read IOPS; up to 7GBps read throughput; up to 5.5GBps write throughput |
| RAID Support | RAID 0, 1, 10, 5, 6 | RAID 0, 1, 10, 5, 6 | RAID 0, 1, 10, 5, 6 |
| Fans and Power Supplies | Hot-swap/redundant | Hot-swap/redundant | Hot-swap/redundant |
| Total Dual Controller Memory | 16GB | 16GB | 32GB |
| Max Volumes per System | 1024 (up to 128TB each) | 1024 (up to 128TB each) | 1024 (up to 128TB each) |
| Energy Star Certified | Yes | Yes | Yes |
| Snapshots | Base 128; optional 512 or 1024 | Base 128; optional 512 or 1024 | Base 128; optional 512 or 1024 |
| SSD Support/Read Caching | Included | Included | Included |
| Asynchronous Replication | Optional (iSCSI) | Optional (iSCSI) | Optional (iSCSI or Fibre Channel) |
| Intelligent Real-Time Tiering | Base HDD; optional HDD+SSD | Base HDD; optional HDD+SSD | Base HDD; optional HDD+SSD |
| Rapid Tier | - | HDD Tiering included; SSD Tiering requires optional license | HDD Tiering included; SSD Tiering requires optional license |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |



LENOVO V SERIES

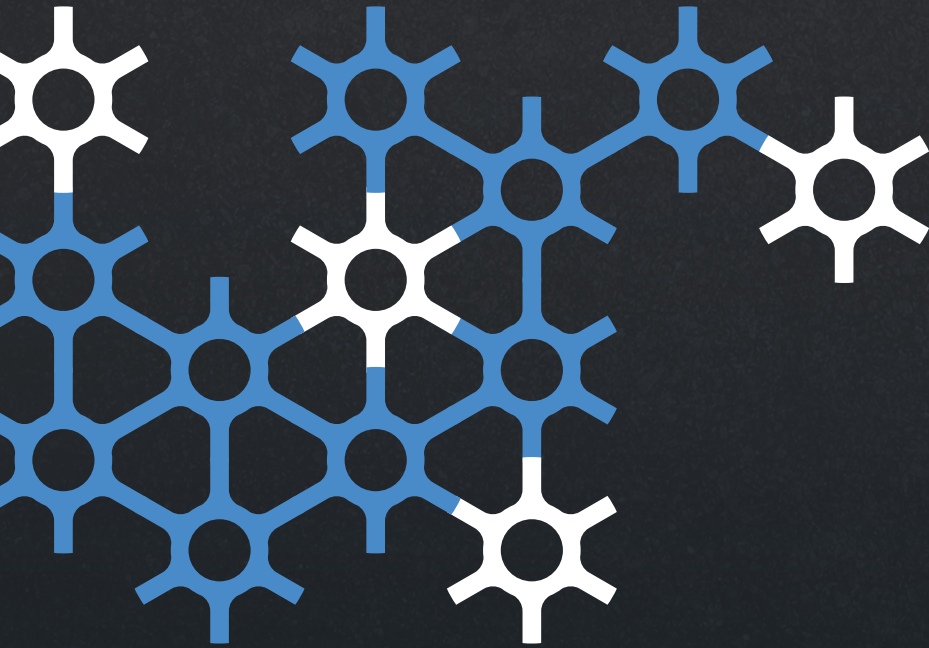
Lenovo V Series is a hybrid storage system designed with sophisticated capabilities, efficiency and flexibility through built-in thin provisioning and non-disruptive migration of data from existing storage. These enterprise-class SAN appliances provide excellent management for all types of data centres thanks to;

- Real-time compression.
- Data virtualisation.
- Hyper-swap.
- Extreme scalability.

| Lenovo Models | Lenovo Storage V3700 V2 | Lenovo Storage V5030 |
|---------------------------------|---|---|
| Target Workload | Shared Storage Remote & Branch Office (ROBO) | Enterprise Storage I/O Intensive Virtualisation Database |
| Connectivity (Standard) | 12Gb SAS 1Gb iSCSI | 10 Gb iSCSI |
| Connectivity (Optional) | 16GbFC 12Gb SAS 1Gb iSCSI 10Gb iSCSI / FCoE | 16 Gb FC 12 Gb SAS 1 Gb iSCSI 10 Gb iSCSI |
| Cache (per controller) | 16GB | 32GB |
| Max. number of drives | 240 drives (up to 9 expansions) | 504 drives (up to 20 expansions) |
| Capacity (per clustered system) | -- | Up to 1008 drives |
| Internal Virtualisation | Yes | Yes |
| Thin Prov. | Yes | Yes |
| Data Migration | Yes | Yes |
| FlashCopy | Yes | Yes |
| Remote Mirroring | Yes | Yes |
| Easy Tier | Yes | Yes |
| Encryption | -- | Yes |
| System Clustering | -- | Yes (2-way) |
| External Virtualisation | -- | Yes |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |




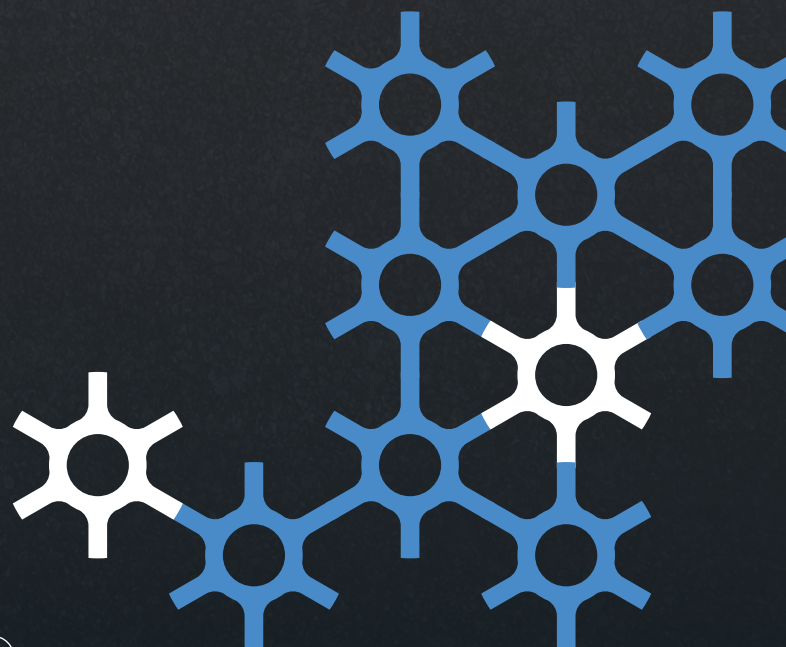
| Lenovo Models |  Lenovo Storage V3700 V2 XP |  Lenovo Storage V5030F |
|---------------------------------|---|--|
| Target Workload | Primary Storage Remote & Branch Office (ROBO) Virtualisation Backup | Enterprise Storage I/O Intensive Virtualisation Database |
| Connectivity (Standard) | 12 Gb SAS 1 Gb iSCSI | 10 Gb iSCSI |
| Connectivity (Optional) | 16 Gb FC 12 Gb SAS 1 Gb iSCSI 10 Gb iSCSI / FCoE | 16 Gb FC 12 Gb SAS 1 Gb iSCSI 10 Gb iSCSI |
| Cache (per controller) | 32 Gb | 64 GB |
| Max. number of drives | 240 drives (up to 9 expansions) | 504 drives (up to 20 expansions) |
| Capacity (per clustered system) | -- | Up to 1008 drives |
| Internal Virtualisation | Yes | Yes |
| Thin Prov. | Yes | Yes |
| Data Migration | Yes | Yes |
| FlashCopy | Yes | Yes |
| Remote Mirroring | Yes | Yes |
| Easy Tier | Yes | Yes |
| Encryption | -- | Yes |
| System Clustering | -- | Yes |
| External Virtualisation | -- | Yes |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |



IBM STORWIZE STORAGE SOLUTIONS

IBM Storwize V7000 Storage System is a virtualised, enterprise-class storage system that provides the foundation for implementing an effective storage infrastructure and transforming the economics of data storage. Designed to complement virtual server environments, this modular storage system delivers the flexibility and responsiveness required for changing business needs.

| | |
|---------------------------------|--|
| Lenovo Model |  IBM Storwize V7000 |
| Target Workload | Virtualisation Backup |
| Connectivity (Standard) | 1 Gb iSCSI 8 Gb FC 16 Gb FC |
| Connectivity (Optional) | 10 Gb iSCSI |
| Cache (per controller) | 64 GB (upgradable to 128 or 256GB) |
| Max. number of drives | 504 drives (up to 20 expansions) |
| Capacity (per clustered system) | Up to 1056 drives |
| Internal Virtualisation | Yes |
| Thin Prov. | Yes |
| Data Migration | Yes |
| FlashCopy | Yes |
| Remote Mirroring | Yes |
| Easy Tier | Yes |
| Encryption | Yes |
| System Clustering | Yes |
| External Virtualisation | Yes |
| Warranty | 3-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |



LENOVO FIBRE CHANNEL SWITCHES & DIRECTORS

Combining Lenovo Servers and Lenovo Storage with Lenovo Fibre Channel SAN switches and directors provides customers a complete, innovative and affordable end-to-end solution to address dynamic business needs.


Affordable innovation without boundaries. Faster data transfer, fewer links and devices reduce overall footprint and cost.

Implement with confidence. 99.999% reliability with non-disruptive, hot-pluggable components maximises uptime. Designed for high availability and reliability.

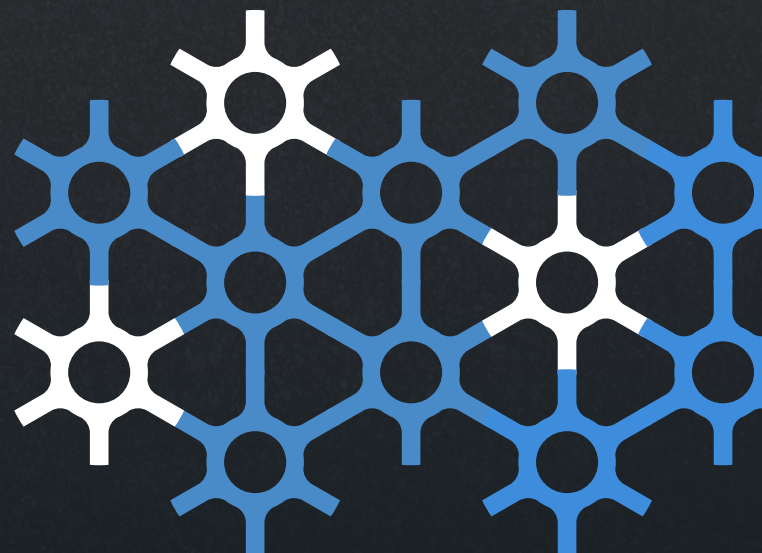
Management without complexity. Simply manage your network through integrated dashboards and easy-to-use GUI.


ThinkSystem DB610S



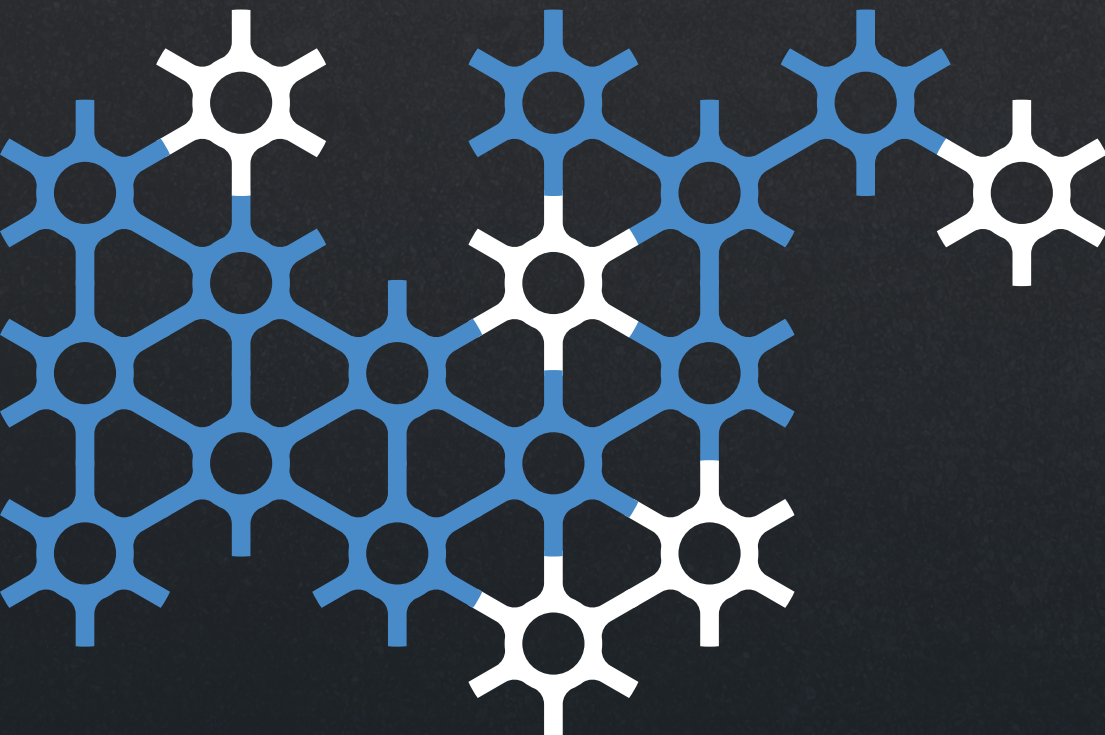
| | |
|------------------------|--|
| Features |  <p>Lenovo ThinkSystem DB610S</p> |
| Target Workload | <p>Cloud Database Analytics Virtualisation</p> |
| Base Models* | <p>6415H11 Lenovo ThinkSystem DB620S Gen6 FC Switch 24x32Gb SWL SFP (1yr) 6415H2A Lenovo ThinkSystem DB620S Gen6 FC Switch 48x32Gb SWL SFP (E.Bundle) (1yr)</p> |
| Scalability | <p>Full-fabric architecture with a maximum of 239 switches</p> |
| Certified Maximum | <p>9,000 active nodes; 56 switches, 19 hops in Brocade Fabric OS® fabrics; larger fabrics certified as required</p> |
| Fibre Channel Ports | <p>Maximum of 24 ports configuration Switch mode (default): 8-, 16-, and 24-port configs. can be an E, F, M and D ports Brocade Access Gateway default port mapping: 16 F Ports, 8 N Ports</p> |
| Port on Demand (PoD) | <p>8-Port SW Licence with no transceivers Part #01KP863</p> |
| Performance | <p>Fibre Channel: 4.25Gbps line speed, full duplex; 8.5Gbps line speed, full duplex; 14.025 Gbps line speed, full duplex; auto-sensing of 4, 8, 16 and 32Gbps port speeds</p> |
| Aggregate Bandwidth | <p>768Gbps end-to-end full duplex</p> |
| Maximum Fabric Latency | <p>Latency for locally switch ports is 900 µs (including FEC)</p> |
| Port Types | <p>F_Port, E_Port, M_Port, D_Port (ClearLink Diagnostic Port) on 24 SFP+ ports Brocade Access Gateway mode: F_Port and NPIV-enabled N_Port</p> |
| Media Types | <p>Support any combination of 16/32Gbps Short Wavelength (SWL) and 16/32Gbps Long Wavelength (LWL) or 16Gbps Extended Long Wavelength (ELWL) hot-pluggable transceivers.</p> |
| Rack-mount Rail Kits | <p>Fixed rail kit is included standard, Mid-mount rack kit (Part # 01KP864) – optional</p> |
| Software Offerings | <p>Enterprise Software Bundle includes Trunking, Fabric Vision, Extended Fabric: included standard or optional depending on model</p> |
| Power & Cooling | <p>Base switch includes a single, fixed power supply with four integrated system cooling fans.</p> |
| Power Consumption | <p>76.52W with all 24 ports populated with 32Gbps SWL optics 55.83W for idle configuration (all optics loaded but not initialized)</p> |
| Warranty | <p>1-year hardware and 3-year firmware/Fibre Operating System (upgrades available)</p> |

*Part of the Enterprise Bundle



| | |
|------------------------|--|
| Features |  Lenovo ThinkSystem DB620S |
| Target Workload | Cloud Database Analytics Virtualisation |
| Base Models | 6415H11 Lenovo ThinkSystem DB620S Gen6 FC Switch 24x32Gb SWL SFP (1yr) 6415H2A Lenovo ThinkSystem DB620S Gen6 FC Switch 48x32Gb SWL SFP (E.Bundle) (1yr) |
| Fibre Channel Ports | Minimum of 24 ports and maximum of 64 ports configuration. Both models reach 64 ports through one 4-port QSFP PoD, providing 16-port increments through a Q-Flex licence . Also supports: E_Ports, F_Ports, D_Ports, EX_Ports |
| Port on Demand Options | 7SOC000FWW Lenovo DB620S QSFP+ Port License (No Transceivers) 7SOC000EWW Lenovo DB620S 12-Port License (No Transceivers) |
| Performance | Fibre Channel: 4.25Gbps line speed, full duplex; 8.5Gbps line speed, full duplex; 10.53Gbps line speed, full duplex; 14.025Gbps line speed, full duplex; 28.05Gbps, full duplex; 112.2Gbps, full duplex; auto-sensing of 4, 8, 16, 32Gbps port speeds and capable of supporting 128Gbps speeds; 10Gbps optionally programmable to fixed port speed |
| ISL Trunking* | Frame-based trunking with up to eight 32Gbps SFP+ ports per ISL trunk or up to two 128Gbps QSFP ports per ISL trunk. Exchange-based load balancing across ISLs with DPS included in Brocade Fabric OS |
| Aggregate Bandwidth | 2Tbps |
| Maximum Fabric Latency | Latency for locally switched ports is 900 ns; compression is 1 µs per node |
| Media Types | 32Gbps SWL SFP Transceivers come standard with each switch or with ports on demand software licence packs. Optional transceivers are also supported for longer distances. Optional hot-pluggable QSFP+ options are also available for the 128Gbps Q-Flex ports |
| Rack-Mount Rail Kits | Fixed rail kit is included standard, midmount rack kit (Part # 01KN770) - optional |
| Software Offerings | Enterprise Software Bundle includes Trunking, Fabric Vision, Extended Fabric: included standard or optional depending on model Optional: Mainframe Enterprise Bundle Software (Trunking, Fabric Vision, Extended Fabric and Control Unit Port) Optional: Integrated Routing Software |
| Power Supply | Dual, hot-swappable redundant power supplies standard with integrated cooling fans |
| Warranty | 1-year hardware and 3-year firmware/Fibre Operating System (upgrades available) |

*Part of the Enterprise Bundle

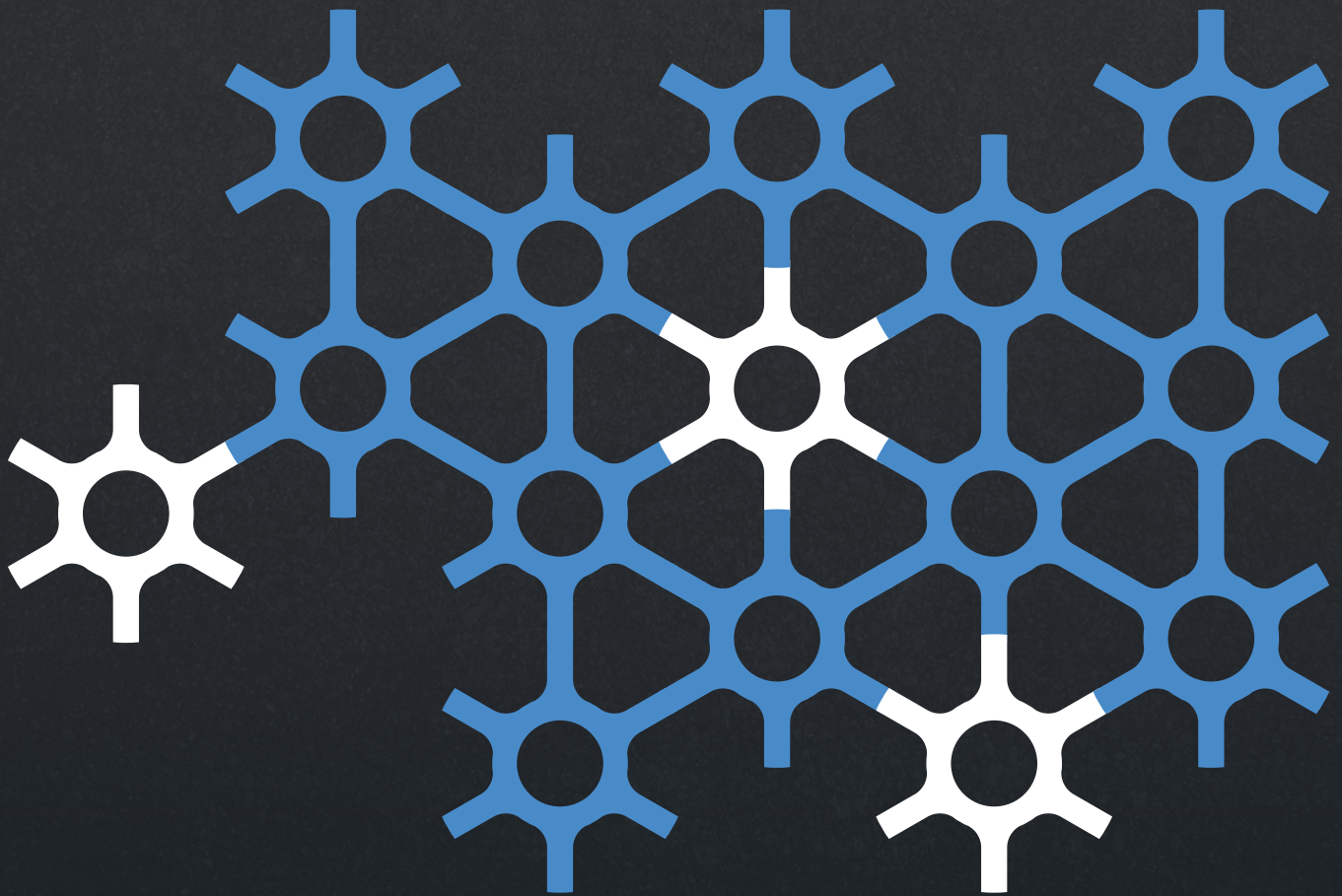




| | |
|---|---|
| Features | Lenovo ThinkSystem DB400D/DB800D |
| Target Workload | Cloud Database Analytics Virtualisation |
| Base Models | DB400D (6684-HC1/B2A) and DB800D (6682-HC1/B1A) include: 2 core routing blades, 2 control processor modules and enterprise software bundle (Fabric Vision, Trunking, Extended Fabrics and CUP) |
| Chassis | The DB400D has 4 open blade slots, while the DB800D has 8 open blade slots |
| Fibre Channel Blades | FC32-48-port blade provides 48 ports of 32Gbps Generation 6 FC <900 ns (including FEC); any-port-to any-port local switching and 2.7 μs blade to blade at 32Gbps, cut-through routing <ul style="list-style-type: none"> Part # 01KN845 includes 48-port licence , no optics Part # 01KN848 includes 48-port licence and 48 x 32Gbps SWL SFPs |
| Extension Blades | SX6 external blade provides FC extension (16x32Gbps FC ports) and IP extension over IP networks (16x1/10GbE and 2x40GbE ports). <900ns (including FEC) and 2.7 μs, cut-through routing <ul style="list-style-type: none"> Part # 01KN850 includes 16 x 32Gb SWL FC SFPs standard and no 1/10/40GbE SFPs Part # 01KN854 includes 16 x 32Gb LWL FC SFPs standard and no 1/10/40GbE SFPs |
| Performance | 4/8/10/16/32Gbps line speed, full duplex. Autosensing of 4/8/16/32Gbps port speeds depending on SFPs used, support for speed matching. 10Gbps port speeds with dedicated SFPs |
| Multi-chassis with UltraScale ICL ports | Up to 4,608 nonblocking 32Gbps FC ports; UltraScale ICL ports (32 for 8-slot or 16 per 4-slot chassis, optical QSFP). Up to 9 chassis in a full-mesh topology or 12 chassis in a core-edge topology |
| Chassis Bandwidth | DB800D: 12.2Tbps per chassis data rate + 4.096Tbps UltraScale ICL bandwidth (32x128Gbps) DB400D: 6.1Tbps per chassis data rate + 2.048Tbps UltraScale ICL bandwidth (16x128Gbps) |
| Chassis Power | DB800D: Minimum: requires 3 PSUs for 2+1 redundancy. Maximum 4 PSUs for 2+2 redundancy DB400D: Minimum: requires 2 PSUs for 1+1 redundancy |
| Cooling | DB800D: Requires 3 fan tray assemblies; DB400D: Requires 2 fan tray assemblies A fan assembly can be hot-swapped and should be replaced immediately in the event of a failure |
| Airflow | Non-port-side intake to port-side exhaust |
| Solution Availability | Designed to provide 99.999% uptime capabilities; hot-pluggable redundant power supplies, fans, WWN cards, processors, core switching, port blades, and optics; online diagnostics; nondisruptive firmware download and activation |
| Dimensions/Weight | DB400D: Height: 34.45cm (13.56in.); Width: 43.74cm (17.23in.); Depth: 61.05cm (24.04in.)/ Weight: 68.95kg (152lbs) fully loaded; DB800D: Height: 61.23cm (24.11in.); Width: 43.74cm (17.23in.); Depth: 61.05cm (24.04in.)/ Weight: 145.83kg (321.5lbs) fully loaded |
| Warranty | 1-year hardware and 3-year firmware/Fibre Operating System (upgrades available) |




| | |
|--------------------------------------|---|
| Features | Lenovo B300 |
| Target Workload | End-To-End IT Infrastructure |
| Total Bandwidth | 192Gbps |
| Total Line-Rate Ports | 24 Ports |
| Support Port Speed | 8, 4, or 2 Gbps |
| Full Fabric / Access Gateway (NPIV) | Optional / Included |
| Frame-Based ISL Trunking | 64 Gbps frame-based |
| Diagnostic Ports | Not Available |
| In-Flight Encryption and Compression | Not Available |
| 10Gbps Native Fibre Channel | Not Available |
| Forward Error Correction (FEC) | Not Available |
| Buffer Credit Loss Recovery | Included |
| Integrated Routing | Not Available |
| Virtual Fabrics | Not Available |
| Warranty | 1-year customer replaceable unit and onsite service, next business day 9x5, optional service upgrades |



DAS

Capacity expansion for servers or Software Defined Storage

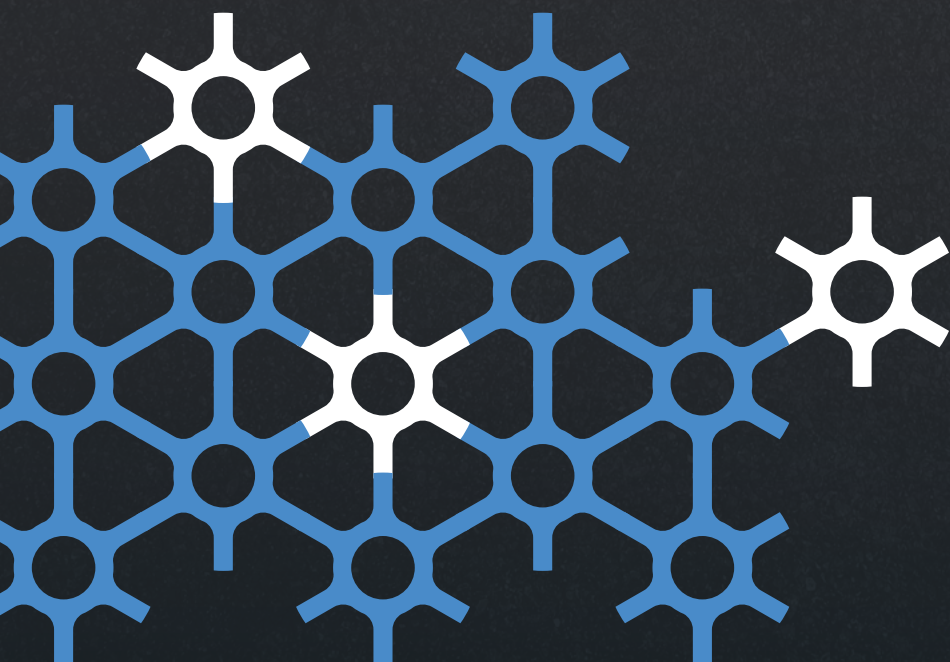
The Lenovo DAS portfolio provides traditional, D1212/D1224, as well as high density, D3284, storage for high capacity applications, such as digital media, big data, HPC and video surveillance, at an affordable price. At near limitless scalability with disruptive levels of performance, the DAS portfolio easily satisfies your ever-growing storage needs.

| | |
|-----------------------|--|
| Components |  <p>Lenovo D12 Series (D1212 / D1224)</p> |
| Target Workload | <ul style="list-style-type: none"> Big Data Business Analytics Video Surveillance Media Streaming Private Clouds File and Print Serving E-mail and Collaboration Databases SAP HANA Software-defined Storage Windows Storage Spaces |
| Form factor | Rack/2U |
| Number of controllers | 2 |
| Connectivity | 3x 12 Gb SAS x4 (Mini-SAS HD SFF-8644) ports (A, B, C) per ESM |
| Drive bays | <ul style="list-style-type: none"> • D1212: 12 LFF hot-swap drive bays • D1224: 24 SFF hot-swap drive bays Intermix of SFF and LFF enclosures is supported |
| Drive technologies | SAS and NL SAS HDDs and SEDs; SAS SSDs. Intermix of HDDs, SEDs, and SSDs is supported within an enclosure, but not within a RAID array |
| Drive connectivity | Dual-ported 12 Gb SAS drive attachment infrastructure. |
| Storage capacity | <ul style="list-style-type: none"> • D1212: Up to 120 TB • D1224: Up to 48 TB |
| Host adapters | RAID adapters: <ul style="list-style-type: none"> • ThinkSystem RAID 930-8e (2-port 12 Gb SAS; RAID 0, 1, 10, 5, 50, 6, 60) • ServeRAID M5225 (2-port 12 Gb SAS; RAID 0, 1, 10, 5, 50; optional RAID 6, 60) Host bus adapters (non-RAID) <ul style="list-style-type: none"> • ThinkSystem 430-8e HBA (2-port 12 Gb SAS) • ThinkSystem 430-16e HBA (4-port 12 Gb SAS) • ThinkServer 9300-8e (2-port 12 Gb SAS) • ThinkServer 8885e (2-port 12 Gb SAS) |
| Cooling | Redundant cooling with two fans built into power and cooling modules (PCMs) |
| Power supply | Two redundant hot-swap 580 W AC power supplies built into PCMs |
| Warranty | 3-year customer-replaceable unit, parts delivered limited warranty, next business day 9x5 |





| | |
|------------------------|---|
| Components | Lenovo High-Density D3284 |
| Target Workload | Big Data Business Analytics Video Surveillance Private and Hybrid Clouds File and Print Serving Backup and Archiving Software-defined Storage Windows Storage Spaces |
| Form Factor | Rack/5U |
| Number of controllers | 2 |
| Connectivity | 3x 12 Gb SAS x4 (Mini-SAS HD SFF-8644) ports (A, B, C) per controller |
| Drive Bays | 2 drawers, 3 rows per drawer, 14 drives per row, for a total of 84 drives per enclosure |
| Drive Technologies | NL SAS HDDs and SAS SSDs. Intermix of HDDs and SSDs is supported within an enclosure/drawer, but not within a row |
| Drive Connectivity | Dual-ported 12 Gb SAS drive attachment infrastructure |
| Drives | <ul style="list-style-type: none"> 4TB, 6TB, 8TB, 10TB and 12TB 7.2K rpm NL SAS HDDs 400GB, 3.84TB and 7.68TB SSDs |
| Storage Capacity | Up to 1PB |
| Host Adapters | RAID controllers: <ul style="list-style-type: none"> M5120 (8-port 6 Gbps SAS, 2x SFF-8088 connectors) M5225 (8-port 12 Gbps SAS, 2x SFF-8644 connectors) 9286CV-8e (8-port 6 Gbps SAS, 2x SFF-8088 connectors) 9380-8e (8-port 12 Gbps SAS, 2x SFF-8644 connectors) Host bus adapters (non-RAID): <ul style="list-style-type: none"> ThinkSystem 430-8e HBA (2-port 12 Gb SAS) ThinkSystem 430-16e HBA (4-port 12 Gb SAS) N2226 (16-port 12 Gbps SAS, 2x SFF-8644 connectors) 9300-8e (8-port 12 Gbps SAS, 2x SFF-8644 connectors) |
| Host Operating Systems | Microsoft Windows Server 2012 R2 and 2016 Red Hat Enterprise Linux (RHEL) 6 and 7 SUSE Linux Enterprise Server (SLES) 11 and 12 VMware vSphere ESXi 5.5 and 6.0 |
| Cooling | N+1 redundant cooling with five hot-swap fans |
| Power Supply | Two redundant hot-swap 2214 W AC power supplies |
| Hot-Swap Parts | Controllers, drives, sideplanes, power supplies, and fans |
| Warranty | 3-year customer-replaceable unit, parts delivered limited warranty, next business day 9x5 |



ARCHIVE

Cost-effective long-term retention or infrequent access

IBM Tape Series stores digital information on tape. Tape is the perfect choice for storing long term data, such as system back-up, disaster recovery or archive. Using less energy and space, infinitely scalable and media life of up to 30 years all speak in favour of the IBM TS Series portfolio.

| Features | IBM TS22XX Tape drives |
|-------------------------|---|
| Target Workload | Backup |
| Available Models | <ul style="list-style-type: none"> LTO Ultrium 8 6160S8E LTO Ultrium 7 6160S7E LTO Ultrium 6 6160S6E |
| Number of Tape Drives | 1 |
| Tape Cartridge Capacity | 1 |
| I/O Stations | 1 |
| Physical Capacity | <ul style="list-style-type: none"> LTO Ultrium 8: Up to 12TB (30TB with 2.5:1 compression) LTO Ultrium 7: Up to 6TB (15TB with 2.5:1 compression) LTO Ultrium 6: Up to 2.5TB (6.25TB with 2.5:1 compression) |
| Data Transfer Rate | <ul style="list-style-type: none"> LTO Ultrium 8: Up to 300MBps LTO Ultrium 7: Up to 300MBps LTO Ultrium 6: Up to 160 MBps |
| Warranty | 3-year limited warranty, customer replaceable unit and onsite service, next-business-day 9x5, service upgrades available |

| Features | TS2900 Tape Autoloader |
|-------------------------|---|
| Target Workload | Backup |
| Available Models | <ul style="list-style-type: none"> LTO Ultrium 8 6171S8R LTO Ultrium 7 LTO Ultrium 6 |
| Drive Options | <ul style="list-style-type: none"> Half-height LTO Ultrium 8: 6Gbps SAS Half-height LTO Ultrium 7: 6Gbps SAS Half-height LTO Ultrium 6: 6Gbps SAS |
| Number of Tape Drives | 1 |
| Tape Cartridge Capacity | 9 |
| I/O Stations | 1 |
| Physical Capacity | <ul style="list-style-type: none"> LTO Ultrium 8: Up to 135TB (270TB with 2.5:1 compression) LTO Ultrium 7: Up to 54TB (135TB with 2.5:1 compression) LTO Ultrium 6: Up to 22.5TB (56.25TB with 2.5:1 compression) |
| Data Transfer Rate | <ul style="list-style-type: none"> LTO Ultrium 8: Up to 300MBps LTO Ultrium 7: Up to 300MBps LTO Ultrium 6: Up to 160 MBps |
| Warranty | 1-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available |



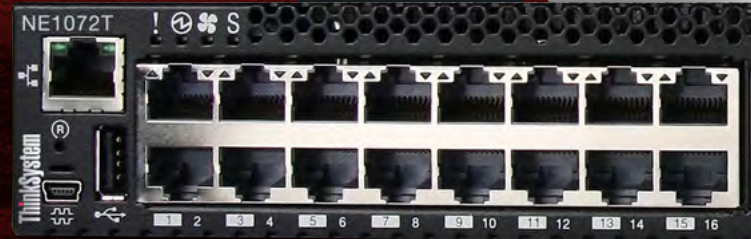
| Features | IBM TS4300 Tape Library |
|---------------------------------------|--|
| Target Workload | Tape automation |
| Available Models | TS4300 Tape Library Model L3U |
| Drive Options | LTO8: FH Fibre - B1ET/01KP954, HH SAS - B1ES/01KP953, HH Fibre - B1ER/01KP952 LTO7: FH Fibre - B16Y/01KP938, HH SAS - B16X/01KP937, HH Fibre - B16W/01KP936 LTO6: FH Fibre - B16V/01KP935, HH SAS - B16U/01KP934, HH Fibre - B16T/01KP933 |
| LTO Ultrium Tape Cartridges | LTO 8: B1EW/01KP955 LTO 7: AS24/00NA025 LTO 6: ATNZ/00WF771 |
| LTO Ultrium Cleaning Cartridge | AS1E/00NA017 |
| Number of Drives/Cartridges | 3 / 32 |
| Number of Mail Slots | 32 |
| Physical Capacity (compressed/native) | Cartridge capacity LTO 8: 30TB/12TB LTO 7: 15TB/6TB LTO 6: 6.25TB/2.5TB |
| Data Transfer Rate | LTO 8: up to 360MBps LTO 7: up to 300MBps LTO 6: up to 160MBps |
| Operating Systems Support | Native device driver support is available for selected Lenovo servers and other Linux and Microsoft Windows open-system servers. |
| Warranty | 3-year in-warranty coverage of select parts |

IBM TS4300 Tape Library



NETWORKING

Lenovo has specialised in data centre networking for more than 15 years. Our products are completely interoperable with other vendor's switches. This allows us to build customised solutions and integrate them into a client's infrastructure easily.



Networking Portfolio at your fingertips



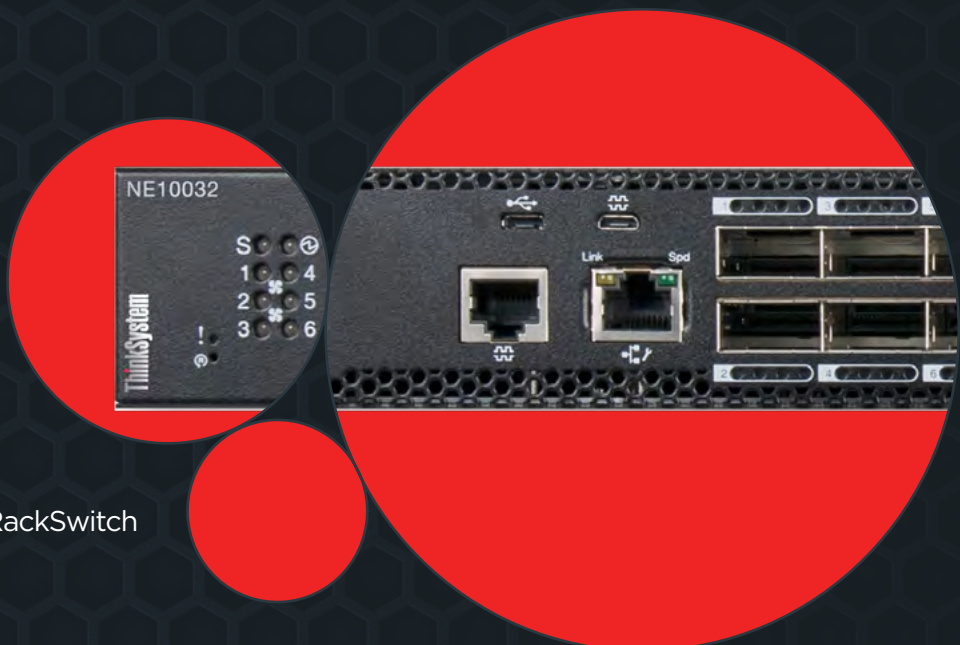
Take a 3D tour and get to know the broad portfolio by visiting lenovofiles.com/3dtours

ThinkSystem NE1072T RackSwitch

ETHERNET RACKSWITCH (Top of Rack)


Deliver speed and intelligence to the edge of your network, where it's closer to your business and your users. The product line ranges from low-cost 1/10 GbE switches to 2U 25/10/40/100 GbE switch/routers, with all 10 GbE and faster switches supporting DCB/ROCE. The new Cloud NOS (CNOS) for the Lenovo Top of Rack (ToR) switches is based on open, Linux industry standards to enable support of the most common automation and orchestration applications for simple and tight integration into the data centre ecosystem.

Lenovo



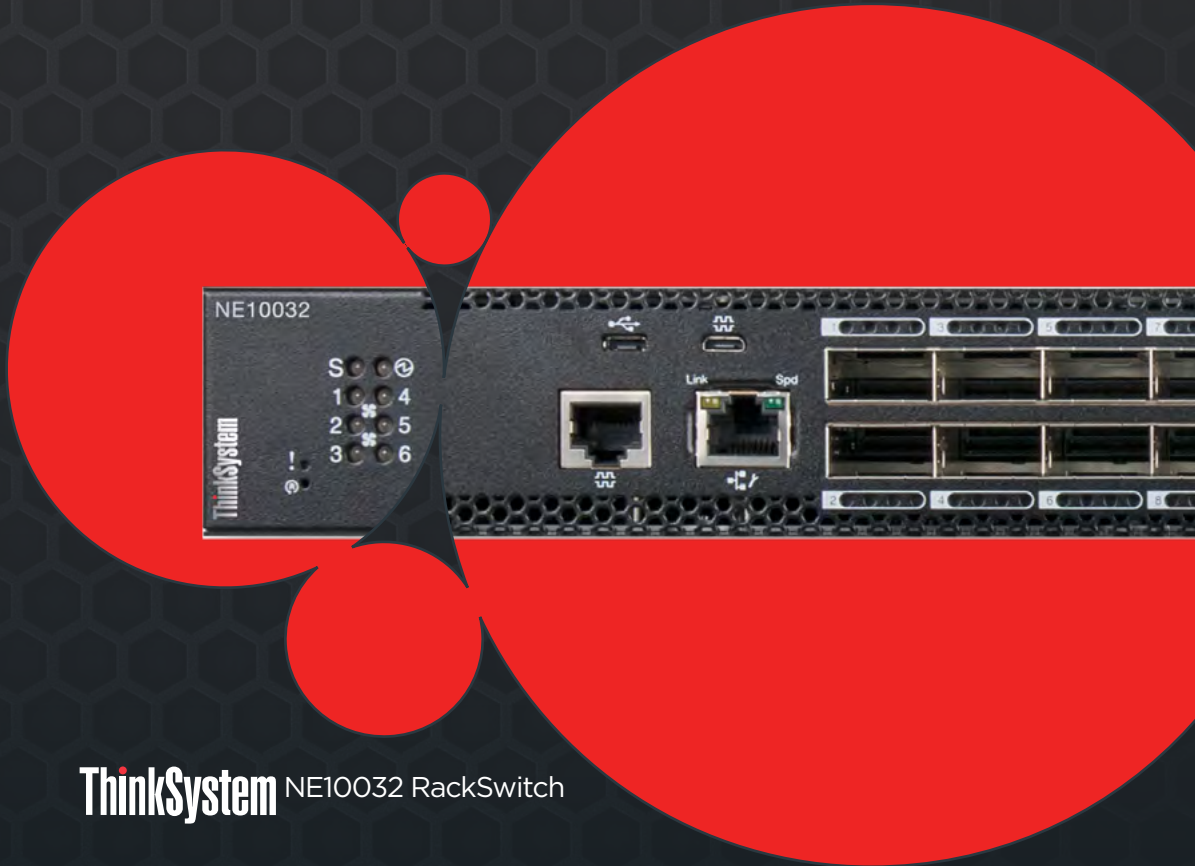
ThinkSystem NE10032 RackSwitch

| Lenovo Models |  G7028 |  G7052 |  G8052 |
|----------------------|--|--|--|
| Recommended for | Low Cost Management Redundant Power Option | | Management with hot swap power/fans Layer 3, 10G uplink |
| Performance | 100% line rate performance, 128Gbps nonblocking switching throughput | 176Gbps nonblocking switching throughput | 176Gbps nonblocking switching throughput |
| Ports | 24 x 1GbE RJ-45 4 x 10GbE SFP+ | 48 x 1GbE RJ-45 4 x 10GbE SFP+ | 48 x 1GbE RJ-45 4 x 10GbE SFP+ |
| Latency | 3.3 μ s | 3.3 μ s | 1.8 μ s |
| Virtualisation / SDN | - | - | VMready, OpenFlow |
| Availability | Layer 2 Failover, Option Ext. redundant power | Layer 2 Failover, Option Ext. redundant power | vLAG, Hot-swap redundant power/fans |
| Other | - | - | Stacking |
| Power | Single power, 50 - 60 Hz, 100 - 240 V AC, optional external Lenovo RackSwitch G7000 Redundant Power Supply with support for up to four RackSwitch G7028 switches | Single power, 50 - 60 Hz, 100 - 240 V AC, optional external Lenovo RackSwitch G7000 Redundant Power Supply with support for up to four RackSwitch G7052 switches | Redundant load-sharing hot-swap power modules, 50 - 60 Hz, 100 - 240 V AC auto switching per module |
| Warranty | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available |

| Lenovo Model |  G8272 |
|----------------------|--|
| Recommended for | Rack leaf aggregation Low cost |
| Performance | 100% line rate performance, 1.44Tbps nonblocking switching throughput |
| Ports | 48 x 10GbE SFP+ 6 x 40GbE QSFP+ |
| Latency | 0.6 μ s |
| Virtualisation / SDN | VMready Virtual Fabric OpenFlow VXLAN |
| Availability | vLAG Hot-swap redundant power/fans |
| Other | DCB/CEE |
| Power | Dual load-sharing hot-swap internal power modules, 50 - 60 Hz, 100 - 240 V ac auto-switching per module |
| Warranty | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available |





| | |
|-------------------------------|--|
| Features | Lenovo ThinkSystem NE10032 RackSwitch |
| Recommended for | High Speed Leaf / Spine Aggregation |
| Performance | 100% line rate performance, up to 6.4Tbps switching throughput |
| Ports | 32x 40Gb QSFP+/100Gb QSFP28 |
| Interface Configurations | <ul style="list-style-type: none"> 32x 100Gb Ethernet ports supporting various combinations: <ul style="list-style-type: none"> Up to 32x QSFP28 100GbE QSFP28 transceivers Up to 32x QSFP 40GbE QSFP transceivers Up to 32x QSFP28 100Gb DAC cable or AOC cable. (Various lengths: 1m, 3m, 5m, etc.) Up to 128x SFP28 25GbE ports using special (QSFP28-to-4xQSFP28) break-out DAC cable or optics with break-out fibres. (Various lengths: 1m, 3m, 5m, etc.) Up to 64x QSFP28 50GbE ports using special (QSFP28-to-2xQSFP28) break-out DAC cable or optics with break-out fibres. (Various lengths: 1m, 3m, 5m, etc.) Up to 128x SFP+ 10GbE ports using special (QSFP-to-4xSFP+) break-out DAC cable or optics with break-out fibres. (Various lengths: 1m, 3m, 5m, etc.) 1x 10/100/1000 MbE RJ-45 port for out-of-band management Standard mini-USB RS232 port or Standard RJ-45 RS232 port USB 2.0 interface type A connection (processor on CPU-board is host) |
| Latency | 0.49 μ s |
| Virtualisation | vLAG VM-aware network automation and integration |
| Cooling | Front-to-rear or rear-to-front cooling, redundant hot-swappable field-replaceable fans with variable speed to reduce power draw |
| Power | Dual load-sharing hot-swap internal power modules, 50 - 60Hz, 100 - 240V AC auto-switching per module |
| Management Software Supported | Lenovo XClarity VMware OpenStack |
| Automation / API | Ansible, Python, REST, Telemetry |
| Associated Options | For details on the NE10032, transceivers, cables, and other associated options, refer to the Lenovo ThinkSystem NE10032 RackSwitch Product Guide |
| Warranty | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available |



ThinkSystem NE10032 RackSwitch

| |  |  |
|-------------------------------|--|--|
| Features | Lenovo ThinkSystem NE1032 RackSwitch | Lenovo ThinkSystem NE1032T RackSwitch |
| Recommended for | Replace G8124E Low price aggregation for cloud | RJ45 server connectivity |
| Performance | 100% line rate performance, 1.44Tbps nonblocking switching throughput (full duplex), 1Bpps | 100% line rate performance, 1.44Tbps nonblocking switching throughput (full duplex), 1Bpps |
| Interface Configurations | 32x 10Gb Ethernet SFP+ ports | 24x 10GBase-T + 8x 10Gb SFP+ Ethernet ports |
| Latency | <1.0 μ s | 0.76 μ s (SFP+) or 2.3 μ s (10GBASE-T) |
| Virtualisation | vLAG VM-aware network automation and integration | vLAG VM-aware network automation and integration |
| Cooling | Front-to-rear or rear-to-front cooling, redundant hot-swappable field-replaceable fans with variable speed to reduce power draw | Front-to-rear or rear-to-front cooling, redundant hot-swappable field-replaceable fans with variable speed to reduce power draw |
| Power | Dual load-sharing hot-swap internal power modules, 50 - 60Hz, 100 - 240V AC auto-switching per module | Dual load-sharing hot-swap internal power modules, 50 - 60Hz, 100 - 240V AC auto-switching per module |
| Management Software Supported | Lenovo XClarity VMware OpenStack | Lenovo XClarity VMware OpenStack |
| Automation / API | Ansible, Python, REST, Telemetry | Ansible, Python, REST, Telemetry |
| Associated Options | For details on the NE1032, transceivers, cables, and other associated options, refer to the Lenovo ThinkSystem NE1032 RackSwitch Product Guide | For details on the NE1032T, transceivers, cables, and other associated options, refer to the Lenovo ThinkSystem NE1032T RackSwitch Product Guide |
| Warranty | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available |

| |  |  |
|-------------------------------|--|--|
| Features | Lenovo ThinkSystem NE2572 RackSwitch | Lenovo ThinkSystem NE1072T RackSwitch |
| Target Workload | High Speed Leaf Aggregation | RJ45 server connectivity |
| Performance | 100% line rate performance, 3.66Tbps nonblocking switching throughput (full duplex), 1Bpps | 100% line rate performance, 1.44Tbps nonblocking switching throughput (full duplex), 1Bpps |
| Interface Configurations | 48x 10Gb Ethernet SFP + 6x 40Gb QSFP + Ethernet ports | 48x 10GBase-T + 6x 40Gb QSFP+ Ethernet ports |
| Latency | 0.48 μ s (QSFP28) or 0.535 μ s (SFP28) | 0.7 μ s (QSFP+) or 2.4 μ s (10GBASE-T) |
| Virtualisation | vLAG VM-aware network automation and integration | vLAG VM-aware network automation and integration |
| Cooling | Front-to-rear or rear-to-front cooling, redundant hot-swappable field-replaceable fans with variable speed to reduce power draw | Front-to-rear or rear-to-front cooling, redundant hot-swappable field-replaceable fans with variable speed to reduce power draw |
| Power | Dual load-sharing hot-swap internal power modules, 50 - 60Hz, 100 - 240V AC auto-switching per module | Dual load-sharing hot-swap internal power modules, 50 - 60Hz, 100 - 240V AC auto-switching per module |
| Management Software Supported | Lenovo XClarity VMware OpenStack Prism | Lenovo XClarity VMware OpenStack |
| Automation / API | Ansible, Python, REST, Telemetry | Ansible, Python, REST, Telemetry |
| Associated Options | For details on the NE2572, transceivers, cables, and other associated options, refer to the Lenovo ThinkSystem NE2572 RackSwitch Product Guide | For details on the NE1072T, transceivers, cables, and other associated options, refer to the Lenovo ThinkSystem NE1072T RackSwitch Product Guide |
| Warranty | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available | 3-year warranty, customer replaceable unit and onsite, next business day 9x5, opt. service upgrade available |

LENOVO XCLARITY ADMINISTRATOR

Lenovo XClarity Administrator is a centralised resource management solution that is aimed at reducing complexity, speeding response and enhancing the availability of Lenovo server systems and solutions. Lenovo XClarity Administrator provides agent-free hardware management for our servers, storage, network switches and HX Series appliances.

Lenovo XClarity Administrator delivers Lenovo resources faster. With a simplified administration dashboard, the following functions can be easily achieved:

- **Discovery** of existing or new Lenovo System x rack servers and Flex System infrastructure.
- **Inventory** of the discovered endpoints is gathered, so the managed hardware inventory and its status can be viewed-at-a-glance.
- **Monitoring** alerts and events are visible via the XClarity Administrator Dashboard, the status bar, and the alerts and events detail for the specific systems.
- **Firmware updates** can be applied and activated for all managed endpoints.
- **Firmware compliance** can be started to flag managed endpoints that do not comply with the defined firmware rules.
- **Configuration management** uses pattern-based configurations to quickly provision and re-provision a single server or multiple servers and compute nodes, all with a single set of configuration settings.
- **Deployment of operating systems and hypervisors to bare metal servers.** VMwareESXi, Windows Server, SUSE Linux Enterprise Server (SLES) and Red Hat Linux images can be imported and held in a repository for images. Up to 28 OS images can be deployed concurrently.

Lenovo XClarity can be integrated into external, higher level management, automation, and orchestration platforms through open REST application programming interfaces (APIs) with Lenovo XClarity Integrators.



[Download](#) the free
Lenovo XClarity
trial version

Lenovo XClarity™

SOFTWARE-DEFINED DATA CENTRE

Engineered to simplify the user experience, software-defined infrastructure is designed to adapt to changing IT needs while reducing complexity and cost created by silos in traditional IT. Pre-integrated, pre-built and pre-tested offerings accelerate application deployment and add robust capabilities to your data centre faster.



ThinkAgile CP Series

SOFTWARE-DEFINED INFRASTRUCTURE

ThinkAgile CP Series

ThinkAgile CP Series is a premium, composable private cloud experience in your data centre. Growing numbers of devices, applications and customers are testing the limits of traditional infrastructures. ThinkAgile CP Series gives you greater scalability, responsiveness and cost-efficiency, in an automated self-service cloud. Unlike hyperconverged infrastructure (HCI), you can scale, compute and store resources independently. ThinkAgile CP Series is a turnkey private cloud system that's easy to deploy, manage and scale – with an application marketplace that puts the enterprise software you need at your fingertips.

- Fully integrated, all-in-one turnkey cloud with curated integrated marketplace.
- End-users control their own virtual data centre and are empowered to consume their allocated resources on-demand.
- Delivers the capabilities of a public cloud at a lower and predictable cost.
- Central IT retains infrastructure resources while empowering users to innovate without sacrificing security and compliance.

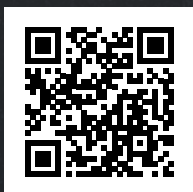
| Lenovo Models | ThinkAgile CP400 | ThinkAgile CP600 |
|--------------------------------|--|--|
| Target workloads | Homegrown applications Big Data Analytics Cost Optimised Virtualisation DevOps OLTP and OLAP Cloud Services Containers Dev/Test/QA | |
| Compute Block | 1x 2U compute node enclosure <ul style="list-style-type: none"> Fully populated 220V power supply unit, fan 10Gb SFP+ network modules | <ul style="list-style-type: none"> Minimum 1x, up to 10x compute node enclosures, up to 4 nodes per enclosure 10Gb SFP+ network module |
| Compute Node | 2 to 4 compute nodes Per node: <ul style="list-style-type: none"> 1-2 Intel® Xeon® Bronze, Silver, Gold, or Platinum processors 128-256GB 2666MHz DDR4 memory | Minimum 2, up to 40 compute nodes* Per node: <ul style="list-style-type: none"> 1-2 Intel Xeon Bronze, Silver, Gold, or Platinum processors 128-1,536GB 2666MHz DDR4 memory |
| Storage Block | 1 storage block <ul style="list-style-type: none"> 2x 220V power supply unit 32GB memory 4.8TB - 28.8TB usable capacity | 1-5 storage blocks* Per block: <ul style="list-style-type: none"> 2x 220V power supply unit 32GB memory 9.6TB - 115.2TB usable capacity |
| CP Interconnect | 1x - 2x CP-I-10 Interconnects Each interconnect: 48x 10Gb SFP+ fabric ports 6x 40Gb QSFP+ uplink ports | |
| Management Switch (Optional)** | Lenovo RackSwitch G7052 | |
| License Options | Cloudistics Standard or Cloudistics Guardian Edition 3-5 years software license and maintenance (Cloud Controller included) | |
| Warranty | 3-year customer replaceable unit and onsite services, next business day 9x5 with optional service upgrades | |
| Support Services | Lenovo ThinkAgile Advantage single point of contact support*** | |
| Additional Services | Bundled with the product: Deployment and network integration Optional services: Cloud assessment, cloud design, basic hardware installation, data migration, managed services, maintenance support services | |

*The maximum number of compute and storage nodes in the ThinkAgile CP600 will be limited by the number of available ports on the CP Interconnects.

**A dedicated out-of-band management switch is required for this solution. If the optional Lenovo RackSwitch G7052 is not used, the customer must provide an out-of-band management switch with the correct configuration.

*** Check for availability in your country.

Own your cloud experience with ThinkAgile CP Series



<https://youtu.be/dwZuPOQTY9w>

Intel® Xeon® processor Scalable family



ThinkAgile CP Series

ThinkAgile SX for Microsoft Azure Stack

ThinkAgile SX for Microsoft Azure Stack is a turnkey, rack scale hybrid cloud solution optimised with resilient, high performing, and secure software-defined infrastructure. It's the perfect platform to:

- Deliver Azure cloud services from the security of your own data centre.
- Enable rapid development and iteration of apps with on-premises deployment tools to help transform your organisation.
- Unify app development across the hybrid cloud environment.
- Easily move apps and data across private and public clouds.

Lenovo and Microsoft have worked closely together to co-engineer the solution components - Azure Stack software and Lenovo software-defined infrastructure - so you can be confident the solution components will perform seamlessly.

| Lenovo Models | ThinkAgile Entry SXM4400 | ThinkAgile Enterprise Starter SXM4400 | ThinkAgile Enterprise Full SXM6400 |
|------------------------------|--|--|---|
| Target workloads | Virtualized workloads DevOps - Dev/Test/QA SQL as a service Enterprise backup IOT BigData/Analytics Containers | | |
| Rack | 9565-RCH (25U) | 9565-RCJ (42U) | 9565-RCK (42U) |
| Compute Nodes | 4-8 - SR650 servers 2x - Intel Xeon (12C-28C) CPUs 384GB, 576GB, 768GB or 1,536GB RAM/node Mellanox CX-4 Dual Port 10/25GbE | 4-16 - SR650 servers 2x - Intel Xeon (12C-28C) CPUs 384GB, 576GB, 768GB or 1,536GB RAM/node Mellanox CX-4 Dual Port 10/25GbE | 16x - SR650 servers 2x - Intel Xeon (12C-28C) CPUs 384GB, 576GB, 768GB or 1,536GB RAM/node Mellanox CX-4 Dual Port 10/25GbE |
| Expandability | Per Microsoft - Node Expansion will be available in 3Q18. Then: Field upgradable to the Microsoft maximum of 12 servers All Servers in a Scale Unit (rack) must have identical configurations | | |
| Management | XClarity Pro / 1x - SR630 2- Intel 3106 (8C) CPUs, 64GB Memory 1x 1Gbps Lenovo RackSwitch G8052 | | |
| Hyperconverged Storage | Hybrid - 14x 3.5" Storage Bays - 10x HDDs and 4x Cache Tier (SSD or NVMe) HDDs = 4TB, 6TB, 8TB, 10TB or 12TB Cache Tier = 4x 800GB or 1.6TB SSD or 3.2TB NVMe U.2 (hot plug) All Flash - 24x 2.5" Storage Bays - up to 20x SSDs and 4x NVMe Cache Tier SSDs = 10x, 15x or 20x 3.84TB Cache Tier = 4x 1.6TB NVMe or 4x 3.2TB NVMe U.2 (hot plug) | | |
| Network | 2x 25GbE Lenovo RackSwitch NE2572 (Compute/Storage traffic)c Mellanox ConnectX-4 Dual Port 10/25GbE Network Controller | | |
| Integrated Solution Software | Azure Stack - Integrated Solution Core technology includes: Windows Server 2016, Hyper-V, Storage Spaces Direct (S2D) | | |

ThinkAgile SX for Microsoft Azure Stack



[ThinkAgile SX for MS Azure Stack](#)



Intel® Xeon® processor Scalable family




HYPERCONVERGED INFRASTRUCTURE

Lenovo's hyperconverged solutions leverage virtualisation and software-defined storage to natively collapse core storage, compute, and networking functions into a single pool of resources that are deployed as a scale-out cluster.

ThinkAgile MX Certified Node

Microsoft WSSD solutions provide pre-engineered, validated Storage Spaces Direct solutions. ThinkAgile MX Certified Nodes take this a step further, packaging WSSD solutions into easy-to-use machine types. ThinkAgile MX Certified Node is an SR650 with a unique part number and its own configurator page to make ordering, firmware control, support and optional services easier and more convenient. ThinkAgile MX Certified Node includes:

- Fully validated and integrated hardware and firmware.
- Pre-loaded with Windows Server 2016 Datacenter edition, with Storage Spaces Direct enabled.
- ThinkAgile Advantage and Single Point of Support.
- Enterprise Support Services.
- Optional deployment services.

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| |  |
| Lenovo Models | ThinkAgile MX Certified Node |
| Form Factor | 2U (SR650) |
| Number of Nodes | 2 - 16 |
| Segment | Hyperconverged infrastructure - Microsoft WSSD solutions for Storage Spaces Direct |
| Processor | 2x Intel Xeon Scalable family processors, 8-28 cores |
| Memory | 192GB to 1,536GB in 24x slots (8, 16, 32 or 64GB - 24x or 12x+12x) |
| Network | Mellanox (RoCE) or Cavium (iWARP) 10/25GbE adapters, 25GbE recommended Lenovo recommends the ThinkSystem NE2572 RackSwitch |
| Drive bays | 14x 3.5-inch (Hybrid) 24x 2.5-inch (All Flash) |
| Storage options - Capacity Tier | 4x - 10x HDDs: 4TB, 6TB, 8TB, 10TB, 12TB (Hybrid) 4x - 20x SSDs: 3.84TB (All Flash) |
| Cache Tier | 2x - 4x SSDs or NVMe - 800GB, 1.6TB or 3.2TB (Hybrid) 2x - 4x NVMe (U.2 - Hot Pluggable) - 1.6TB or 3.2TB (All Flash) |
| Systems management | Optional hardware management via Lenovo XClarity and resource management through Microsoft Windows Admin Center |
| License options | Included in Microsoft Windows Server 2016 and 2019 - Datacenter version |
| Support | Lenovo ThinkAgile Advantage support, where available. Standard hardware support elsewhere Lenovo Enterprise Software Support (ESS) |

ThinkAgile



Discover the HX Series in high definition, from any angle with the [Lenovo 3D Tour](#)



Intel® Xeon® processor Scalable family



ThinkAgile HX Series

Lenovo's ThinkAgile HX Series is an hyperconverged solution that fully integrates Lenovo x86 servers with core Nutanix software to provide:

- Application mobility.
- Distributed storage fabric and a hypervisor (all part of Nutanix Acropolis).
- System management software (Nutanix Prism to manage the cluster and virtual machines and Lenovo XClarity to manage the hardware resources).

ThinkAgile HX Appliances

Ideal for all virtual applications, HX Series appliances deliver extreme reliability, dependable security, extensive and predictable scalability, simplified management, and faster time-to-value. At the same time, it reduces total cost of ownership (TCO), which enables your IT to focus on innovation and deliver value to your business.

| | | |
|--------------------------|---|---|
| Lenovo Models | HX1320 | HX1520-R |
| Target Workload | Remote Office/Branch Office (ROBO) Replication Target | |
| Form Factor | 1U | 2U |
| Processor | Up to 2x Intel® Xeon® Gold processors, up to 125W | 2x Intel® Xeon® Platinum processors, up to 150W |
| Memory (TruDDR4 2666MHz) | 128GB, 256GB, 384GB, 512GB, 768GB | 192GB, 384GB |
| Drive Bays | 4x 3.5" | 12 or 14x 3.5" |
| SSD Options (Cache) | 1-2x 480GB, 960GB, 1.92TB, 3.84TB | 2x 900GB, 1.92TB |
| HDD Options | 2-3x 4TB, 6TB, 8TB | 10-12x 4TB, 6TB, 8TB |
| Network Interface | 2-4x dual-port NIC 10Base-T 2-6x dual-port NIC 10GbE 0-2x dual-port NIC 25GbE | 2-4x dual-port NIC 10Base-T 2-8x dual-port NIC 10GbE 0-2x dual-port NIC 25GbE |
| Hypervisor Supported | Nutanix Acropolis pre-loaded VMware ESXi (pre-loaded) | |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) | |
| License Options | Nutanix Starter, Pro or Ultimate | |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty | |





Discover the HX Series in high definition, from any angle with the [Lenovo 3D Tour](#)



Intel® Xeon® processor Scalable family





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| Lenovo Models | HX2320-E | HX2720-E |
| Target Workloads | Small and Medium Businesses | |
| Form Factor | 1U | 2U 4-node |
| Processor | Up to 2 x Intel® Xeon® Gold processors, up to 125W | |
| Memory (TruDDR4 2666MHz) | 96GB, 192GB, 384GB | |
| Drive Bays per node | 8x 2.5" | 6x 2.5" |
| SSD Options | 1-2x 480GB, 1-2x 960GB, 1-2x 1920GB | |
| HDD Options | 6-7x 1TB, 6-7x 2TB | 4-5x 1TB, 4-5x 2TB |
| Network Interface | 2 x dual-port NIC standard 10GbE/10Base-T 2 x dual-port NIC optional 10GbE/10Base-T 0-2x dual-port NIC 25GbE | |
| Hypervisor Supported | Nutanix Acropolis pre-loaded VMware ESXi pre-loaded (optional) | |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) | |
| License Options | Nutanix Express | |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty | |




ThinkAgile HX2720-E



Intel® Xeon® processor Scalable family



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| Lenovo Models | HX3320 | HX3520-G |
| Target Workloads | General Virtualization and VDI | |
| Form Factor | 1U | 2U |
| Processor | 2 x Intel® Xeon® Platinum processors, up to 165W | |
| Memory (TruDDR4 2666MHz) | 192GB, 384GB, 768GB, 1532GB | |
| Drive Bays | 10-12x 2.5" | 8-16x 2.5" |
| SSD Options (Hybrid) | 2-4x 480GB, 2-4x 960GB, 2-4x 1920GB, 2-4x 3840GB | |
| SSD Options (All Flash) | 12-14x 480GB, 12-14x 960GB, 12-14x 1920GB, 12-14x 3840GB | 8-16x 480GB, 8-16x 960GB, 8-16x 1920GB, 8-16x 3840GB |
| HDD Options (Hybrid) | 6-10x 1TB, 6-10x 2.4TB | 6-14x 1TB, 6-14x 2TB |
| Network Interface | 2 x dual-port NIC standard 10GbE/10Base-T 6 x dual-port NIC optional 10GbE/10Base-T | |
| | 0-4x dual-port NIC 25GbE | 0-2x dual-port NIC 25GbE |
| Hypervisor Supported | Nutanix Acropolis pre-loaded VMware ESXi pre-loaded (optional) | |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) | |
| License Options | Nutanix Starter, Pro and Ultimate | |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty | |


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| |  |
| Lenovo Models | HX3720 |
| Target Workloads | General Virtualization and VDI |
| Form Factor | 2U 4-node |
| Processor | 2 x Intel® Xeon® Platinum processors, up to 165W |
| Memory (TruDDR4 2666MHz) | 192GB, 384GB, 768GB |
| Drive Bays | 6x 2.5" |
| SSD Options (Hybrid) | 2x 480GB, 2x 960GB, 2x 1920GB, 2x 3840GB |
| SSD Options (All Flash) | 6x 480GB, 6x 960GB, 6x 1920GB, 6x 3840GB |
| HDD Options (Hybrid) | 4x 1TB, 4x 2TB |
| Network Interface | 2 x dual-port NIC standard 10GbE/10Base-T 2 x dual-port NIC optional 10GbE/10Base-T 0-4x dual-port NIC 25GbE |
| Hypervisor Supported | Nutanix Acropolis pre-loaded VMware ESXi pre-loaded (optional) |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) |
| License Options | Nutanix Starter, Pro and Ultimate |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty |



Intel® Xeon® processor Scalable family

ThinkAgile

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| Lenovo Models | HX5520 | HX5520-C |
| Target Workloads | Big Data and High Capacity | |
| Form Factor | 2U | 2U |
| Processor | 2 x Intel® Xeon® Platinum processors, up to 165W | 1 x Intel® Xeon® Gold processor, up to 130W |
| Memory (TruDDR4 2666MHz) | 192GB, 384GB, 768GB, 1532GB | 64GB, 96GB |
| Drive Bays | 12-14x 3.5" | |
| SSD Options (Hybrid) | 2-4x 480GB, 2-4x 960GB, 2-4x 1920GB, 2-4x 3840GB | 2x 480GB, 2x 960GB, 2x 1920GB, 2x 3840GB |
| SSD Options (All Flash) | - | 2x 480GB, 2x 960GB |
| HDD Options | 8-12x 2TB, 8-12x 4TB, 8-12x 6TB, 8-12x 8TB | 10-12x 4TB, 10-12x 6TB, 10-12x 8TB |
| Network Interface | 2 x dual-port NIC standard 10GbE/10Base-T 6 x dual-port NIC optional 10GbE/10Base-T | |
| | 0-4x dual-port NIC 25GbE | 0-2x dual-port NIC 25GbE |
| Hypervisor Supported | Nutanix Acropolis pre-loaded VMware ESXi pre-loaded (optional) | |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) | |
| License Options | Nutanix Starter, Pro and Ultimate | |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty | |

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| |  |
| Lenovo Models | HX7520 |
| Target Workloads | Databases and High Performance |
| Form Factor | 2U |
| Processor | 2 x Intel® Xeon® Platinum processors, up to 165W |
| Memory (TruDDR4 2400MHz) | 192GB, 384GB, 768GB, 1532GB |
| Drive Bays | 24x 2.5" |
| SSD Options (Hybrid) | 4-8x 480GB, 4-8x 960GB, 16-24x 1920GB, 16-24x 3840GB |
| SSD Options (Flash) | 16-24x 480GB, 16-24x 960GB, 16-24x 1920GB, 16-24x 3840GB |
| HDD Options | 16-20x 1TB, 16-20x 2TB |
| Network Interface | 2 x dual-port NIC standard 10GbE/10Base-T 6 x dual-port NIC optional 10GbE/10Base-T 0-4x dual-port NIC 25GbE |
| Hypervisor Supported | Nutanix Acropolis pre-loaded VMware ESXi pre-loaded (optional) |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) |
| License Options | Nutanix Starter, Pro and Ultimate |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty |



Intel® Xeon® processor Scalable family



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|--------------------------|---|
| Lenovo Models | HX7820 and HX7820 for SAP HANA* |
| Target Workloads | Databases and High Performance |
| Form Factor | 4U |
| Processor | 4 x Intel® Xeon® Gold or Platinum processors |
| Memory (TruDDR4 2666MHz) | Up to 48 DIMMs and up to 128 GB TruDDR. |
| Drive Bays | 16x 2.5" and 8x AnyBay 2.5" |
| SSD Options (Hybrid) | - |
| SSD Options (Flash) | 2 cache drives (NVMe PCIe SSDs) and from 4 to 10 capacity drives (SAS SSDs) in increments of 2 drives; or 4 cache drives (NVMe PCIe SSDs) and from 4 to 20 capacity drives (SAS SSDs) in increments of 2 drives. |
| HDD Options | - |
| Network Interface | 2-8 |
| Network Interface | 2x or 4x 1/10 GbE RJ-45 or 10 GbE SFP+ network ports. 4x 10/25 GbE SFP28 network ports. |
| Hypervisor Supported | Nutanix Acropolis Hypervisor (factory pre-load). |
| Systems Management | XClarity Controller (XCC) Enterprise (Pilot 4 chip), proactive platform alerts, light path diagnostics, XClarity Provisioning Manager, XClarity Administrator and XClarity Pro, XClarity Integrators for Nutanix and vCenter Server (optional). XClarity Energy Manager (optional). |
| License Options | Nutanix Acropolis: Starter, Pro, and Ultimate editions. Nutanix Prism, Nutanix Calm (optional), Nutanix Flow (optional). *SAP HANA (licenses are purchased separately from SAP) |
| Warranty | Lenovo 3-year or 5-year limited hardware warranty |



ThinkAgile HX7820

Intel® Xeon® processor Scalable family



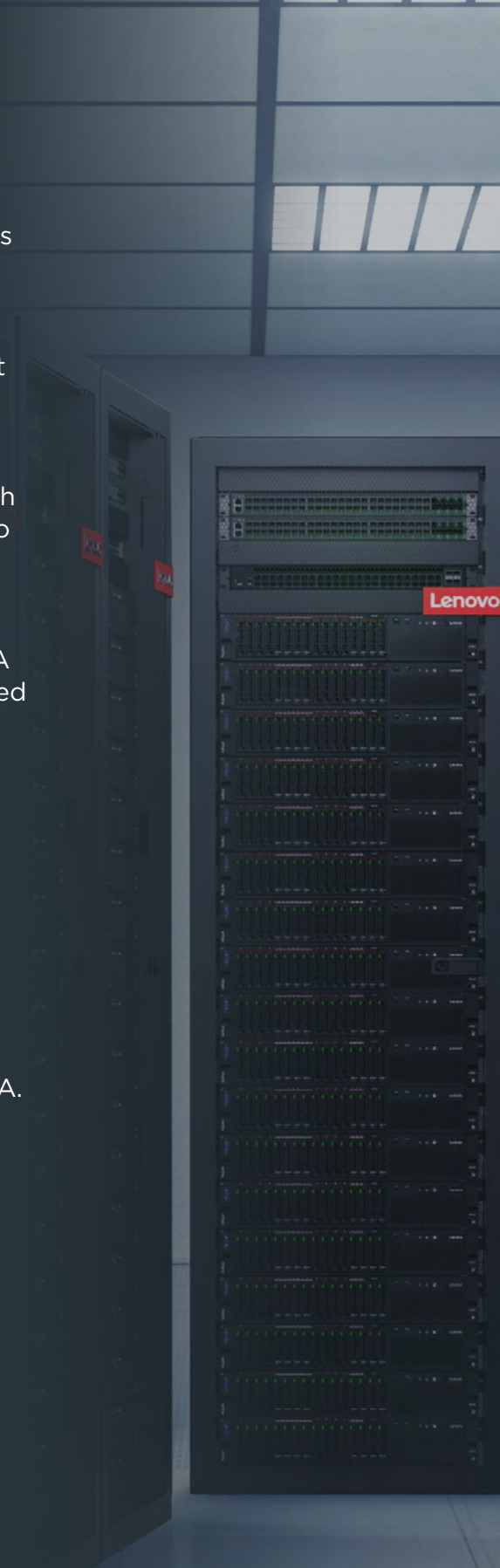
ThinkAgile HX Solution for SAP HANA

For decades, customers have trusted their mission-critical workloads to run on Lenovo's ultra-reliable, high-performing platforms. Now Lenovo offers businesses with SAP deployments an opportunity to reap the efficiencies and cost savings of hyperconverged clusters. By migrating HANA workloads from complex, three-tiered legacy architectures to hyperconverged clusters, customers can enjoy the simplicity, scalability, and cost savings of hyperconverged infrastructure, which consolidates storage and compute into a single virtual pool with a single, simple management interface. The result is a streamlined data center with reduced overhead and maintenance. Customers with hyperconverged architectures who require real-time analytics to guide their business decisions also have the option to leverage their existing IT to deploy SAP HANA.

The new Lenovo ThinkAgile HX Series, optimized for SAP HANA workloads, delivers world record HANA speed in hyperconverged clusters. Developed in close collaboration with Lenovo's long-standing partners SAP and Nutanix, the ThinkAgile HX Solution for SAP HANA series offers customers the mission-critical performance and uptime of SAP HANA workloads on Lenovo's blazing-fast, ultra-reliable platforms, plus the data center efficiencies of Nutanix's industry-leading hyperconverged software.

ThinkAgile HX7820 for SAP HANA as appliance & ThinkAgile HX7821 for SAP Hana as certified node

- Built on 4-socket HX7820 platform, optimized for SAP HANA.
- Best recipe firmware, plus pre-loaded Nutanix software, integrated and validated in Lenovo factory; SAP HANA software loaded onsite.
- Lenovo ThinkAgile Advantage Single Point of Support and SAP solutions support.



ThinkAgile HX Certified Nodes




For customers who do not require prebundled Nutanix software licenses or deployment services, Lenovo offers another fully validated and certified choice: the ThinkAgile HX Certified Node, which includes:



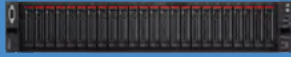
- Fully validated and integrated hardware and firmware, certified with Nutanix software.
- Pre-loaded Nutanix software for ready deployment, Nutanix software license obtained separately.
- ThinkAgile Advantage Single Point of Support for quick 24/7 problem reporting and resolution.
- Optional deployment services.

| Lenovo Models | ThinkAgile HX1321 | ThinkAgile HX1521-R |
|--------------------------|--|--|
| Target Workloads | Remote Office/Branch Office (ROBO) Replication Target | |
| Form Factor | 1U | 2U |
| Processor | 2 x Intel® Xeon® Gold processors, up to 85W | 2 x Intel® Xeon® Platinum processors, up to 125W |
| Memory (TruDDR4 2666MHz) | 64GB, 96GB, 128GB, 192GB, 256GB, 384GB | 128GB, 192GB, 256GB, 384GB, 512GB, 768GB |
| Drive Bays | 4x 3.5-inch | 12 or 14 x 3.5-inch |
| SSD Options (Cache) | 2x 480GB, 960GB, 1.92TB, 3.84TB | 2x 480GB, 960GB, 1.92TB, 3.84TB |
| HDD Options | 2x 4TB, 6TB, 8TB | 6-12x 4TB, 6TB 6-10x 8TB |
| Network Interface | 2-6x 10BASE-T/10GbE SFP+ 0-2x 25GbE SFP28 Ports | 2-6x 10BASE-T/10GbE SFP+ 0-2x 25GbE SFP28 Ports |
| Hypervisor Supported | Nutanix Acropolis Hypervisor VMware ESXI | Nutanix Acropolis Hypervisor |
| Systems Management | Hardware Management via Lenovo XClarity or ThinkAgile XClarity Integrator for Nutanix Software Management via Nutanix Prism | |
| ThinkAgile Advantage* | Lenovo 3-year limited hardware warranty with Single Point of Support 24/7 | |




Intel® Xeon® processor Scalable family

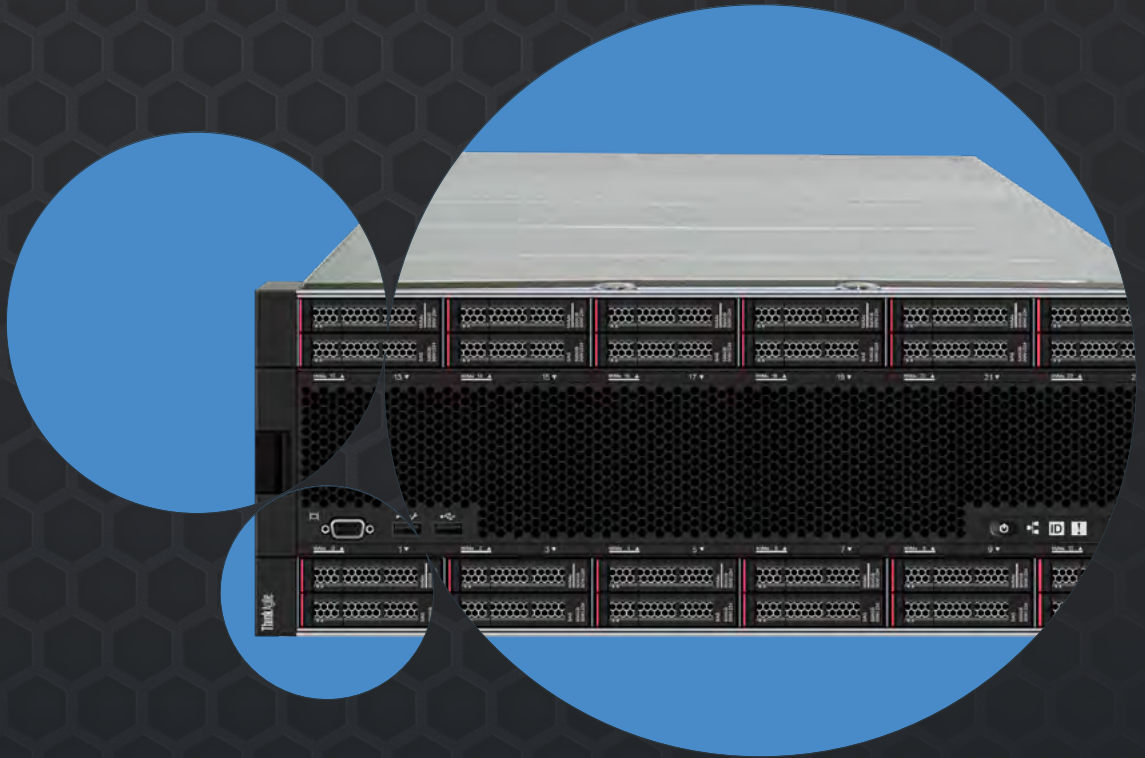
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| Lenovo Models | ThinkAgile HX3321 | ThinkAgile HX3521-G | ThinkAgile HX3721 |
| Target Workloads | General Virtualisation VDI | | |
| Form Factor | 1U | 2U | 2U 4-node |
| Processor | 2 x Intel® Xeon® Platinum processors, up to 165W | 2 x Intel® Xeon® Platinum processors, up to 125W | 2 x Intel® Xeon® Platinum processors, up to 140W |
| Memory (TruDDR4 2666MHz) | 128GB, 192GB, 256GB, 384GB, 512GB, 768GB, 1.536TB | 128GB, 192GB, 256GB, 384GB, 512GB, 768GB, 1.536TB | 192GB, 384GB, 768GB |
| Drive Bays | 10-12x 2.5-inch | 8-16x 2.5-inch | 6x 2.5-inch |
| SSD Options (Hybrid) | 2-4x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB | 2-4x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB | 2x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB |
| SSD Options (Flash) | 6-12x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB | 8-16x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB | 4-6x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB 960GB, 1.6TB, 1.92TB, 3.84TB |
| HDD Options (Hybrid) | 4-10x 1TB, 2TB | 6-14x 1TB, 2TB | 4x 1TB, 2TB |
| GPU Options | None | 1-2x NVIDIA M60 1-2x NVIDIA M10 | None |
| Network Interface | 2-8x 10BASE-T/10GbE SFP+ 0-4x 25GbE SFP28 Ports | 2-8x 10BASE-T/10GbE SFP+ 0-4x 25GbE SFP28 Ports | 2-4x 10BASE-T/10GbE SFP+ 0-2x 25GbE SFP28 Ports |
| Hypervisor Supported | Nutanix Acropolis Hypervisor VMware ESXI | | |
| Systems Management | Hardware Management via Lenovo XClarity or ThinkAgile XClarity Integrator for Nutanix Software Management via Nutanix Prism | | |
| ThinkAgile Advantage* | Lenovo 3-year limited hardware warranty with Single Point of Support 24/7 | | |

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| Lenovo Models | ThinkAgile HX5521 | ThinkAgile HX5521-G | ThinkAgile HX7521 |
| Target Workloads | Big Data High Capacity | Database HPC | |
| Form Factor | 1U | 2U | 2U |
| Processor | 2 x Intel® Xeon® Platinum processors, up to 165W | 2 x Intel® Xeon® Gold processors, up to 125W | 2 x Intel® Xeon® Platinum processors, up to 165W |
| Memory (TruDDR4 2666MHz) | 128GB, 192GB, 256GB, 384GB, 512GB, 768GB, 1.5TB | 64GB, 96GB | 256GB, 384GB, 512GB, 768GB, 1.5TB |
| Drive Bays | 12-14x 3.5-inch | 12 or 14x 3.5-inch | 24x 2.5-inch |
| SSD Options (Hybrid) | 2-6x 480GB, 960GB, 1.92TB, 3.84TB | 2x 480GB, 960GB, 1.92TB, 3.84TB | 4-8x 480GB, 800GB, 960GB, 1.6TB, 1.92TB, 3.84TB |
| SSD Options (Flash) | 6-14x 480GB, 960GB, 1.92TB, 3.84TB | 6-14x 480GB, 960GB, 1.92TB, 3.84TB | 12-24x 480GB, 800GB, 960GB, 1.92TB, 3.84TB |
| HDD Options | 6-12x 4TB, 6TB 6-10x 8TB | 6-12x 4TB, 6TB 6-10x 8TB | 12-20x 1TB, 2TB |
| Network Interface | 2-8x 10BASE-T/10GbE SFP+ 0-4x 25GbE SFP28 Ports | 2-6x 10BASE-T/10GbE SFP+ 0-2x 25GbE SFP28 Ports | 2-8x 10BASE-T/10GbE SFP+ 0-4x 25GbE SFP28 Ports |
| Hypervisor Supported | Nutanix Acropolis Hypervisor VMware ESXI | | |
| Systems Management | Hardware Management via Lenovo XClarity or ThinkAgile XClarity Integrator for Nutanix Software Management via Nutanix Prism | | |
| ThinkAgile Advantage* | Lenovo 3-year limited hardware warranty with Single Point of Support 24/7 | | |



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| Lenovo Models | HX7821 Certified Nodes and HX7821 Certified Nodes for SAP HANA* |
| Target Workloads | SAP HANA |
| Form Factor | 4U |
| Processor | 4x Intel Xeon Gold and Platinum processors, up to 205W |
| Memory | 384GB, 768GB, 1.2TB, 1.5TB, 2.3TB, 3TB (TruDDR4 2400MHz) |
| Drive Bays | Up to 24 2.5-inch |
| SAS SSD Options | 12-24x 1.6TB, 1.92TB, 3.84TB SAS SSDs |
| NVMe Options | 2-4x 1.6TB or 3.2TB\$ NVMe drives |
| 10GBASE-T Ports | 2-8 |
| 10GbE SFP+ Ports | 2-8 |
| P25GbE SFP28 Ports | 2-4 |
| Hypervisors Pre-loaded and Supported | Nutanix Acropolis Hypervisor |
| Systems Management | Lenovo XClarity (hardware) Nutanix Prism (software) |
| Software Licenses | Nutanix Pro or Ultimate license obtained separately SAP HANA license obtained separately |
| Lenovo Deployment Services | Optional Lenovo Professional Services deployment of Nutanix software Optional Lenovo Professional Services of SAP HANA onsite |
| Warranty | 24/7 Lenovo ThinkAgile Advantage Single Point of Support in available countries Lenovo SAP Solution Support Lenovo 3-year, 4-year, or 5-year limited hardware warranty |



Discover the HX Series hot-spots in high definition, from any angle with the [Lenovo 3D Tour](#)

ThinkAgile HX7821



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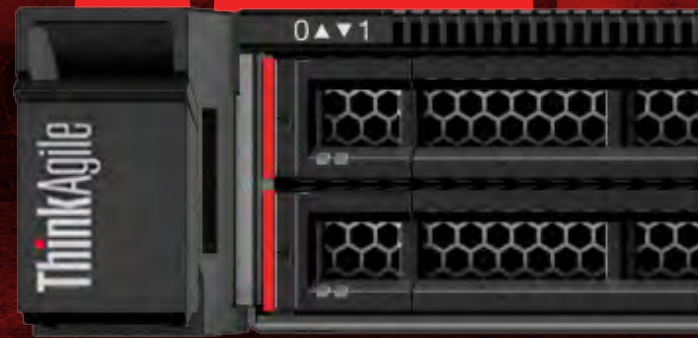
THINKAGILE VX SERIES

The Lenovo ThinkAgile VX Series, powered by VMware and built on Lenovo ThinkSystem hardware, is a hyperconverged solution, optimised to provide the simplest way to bring a new VMware hyperconverged environment online.

ThinkAgile VX Series comes in pre-validated models targeting different workload scenarios and offers full configure-to-order (CTO) flexibility to meet any use-case. All systems are available in either all-flash or hybrid configurations.

ThinkAgile VX Appliance

The appliance comes preconfigured and pretested, ready to deploy with ease and speed. Versatile in its positioning, the VX appliance can be used as infrastructure for remote office/branch office (ROBO) and retail stores as well as virtual desktop infrastructure (VDI) and enterprise applications.



ThinkAgile VX3320


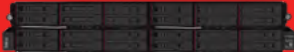
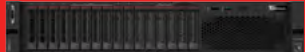
| Lenovo Models | ThinkAgile VX2320 |
|--------------------------|--|
| Target Workloads | Small and medium-sized business |
| Form Factor | 1U |
| Processor | Up to 2 x Intel® Xeon® Platinum processors, up to 165W |
| Memory (TruDDR4 2666MHz) | Up to 3TB in 24x slots, using 128GB DIMMs |
| GPU | None |
| Drive Bays | 4x 2.5" |
| Cache Drive Options | 1 or 2x 400GB, 800GB, 1600GB, 1.92TB |
| Number of Disk Groups | 1 |
| HDD Options | 3 x 8TB, 10TB, 12 TB |
| Hypervisor Supported | VMware ESXi, vSAN pre-loaded |
| Systems Management | Lenovo XClarity (hardware) Lenovo XClarity Integrator for VMware Center (software) |
| License Options | VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; HCI Kit Advanced, HCI Kit Enterprise; 3- or 5-year support subscription |
| Warranty | 3-year or 5-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades |
| Support | ThinkAgile Advantage* |

Lenovo

*Check for availability in your country



Intel® Xeon® processor Scalable family

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| Lenovo Models | ThinkAgile VX3320 | ThinkAgile VX3720 | ThinkAgile VX5320-G |
| Target Workloads | Compute-Heavy, High-Performance Virtualisation, and VDI | | |
| Form Factor | 1U | 2U 4-Node | 2U |
| Processor | Up to 2 x Intel® Xeon® Platinum processors, up to 165W | Up to 2 x Intel® Xeon® Platinum processors, up to 165W | Up to 2 x Intel® Xeon® Platinum processors, up to 125W with GPU |
| Memory (TruDDR4 2666MHz) | Up to 3TB in 24x slots, using 1.5TB max DIMMs | Up to 1TB in 16x slots, using 1.5TB max DIMMs | Up to 3TB in 24x slots, using 1.5TB max DIMMs |
| GPU | None | None | 1 or 2 Nvidia M10 or M60 |
| Drive Bays | 10x 2.5" | 6x 2.5" | 16x 2.5" |
| Cache Drive Options | 1 or 2x 400GB, 800GB, 1600GB | 1 or 2x 400GB, 800GB, 1600GB | 1 or 2x 400GB, 800GB, 1600GB |
| Number of Disk Groups | 1 or 2 | 1 to 3 | 1 to 4 |
| SSD Options per group | 900GB, 1.6TB, 3.84TB, 7.68TB 1.92TB, performance Optane 357GB and 750GB | 900GB, 1.6TB, 3.84TB, 7.68TB | up to 7.68TB (SSD) or (2.4TB (HDD) |
| HDD Options per group | 900GB, 1.2TB, 1.8TB, 2.4TB | 900GB, 1.2TB, 1.8TB, 2.4TB | 900GB, 1.2TB, 1.8TB, 2.4TB |
| Hypervisor Supported | VMware ESXi pre-loaded | | |
| Systems Management | Lenovo XClarity (hardware) Lenovo XClarity Integrator for VMware Center (software) | | |
| License Options | VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; 3- or 5-year support subscription | | |
| Warranty | Lenovo 3-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades | | |
| Support | ThinkAgile Advantage* | | |

*Check for availability in your country




Simplify IT Infrastructure with the Lenovo ThinkAgile VX Series



ThinkAgile VX3720



Intel® Xeon® processor Scalable family

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| Lenovo Models | ThinkAgile VX5520 |
| Target Workloads | Big Data/Analytics, Email, Large Databases and other high-capacity storage needs |
| Form Factor | 2U |
| Processor | Up to 2 x Intel® Xeon® Platinum processors, up to 165W |
| Memory (TruDDR4 2666MHz) | Up to 3TB in 24x slots, using 128GB DIMMs |
| Drive Bays | 12x 3.5" |
| Number of Disk Groups | 1 or 2 |
| Cache Drive Options | 1 or 2x 400GB, 800GB, 1600GB SSDs |
| Capacity HDD Options (per drive group) | 6x, 8TB, 10TB, 12TB |
| Hypervisor Supported | VMware ESXi pre-loaded |
| Systems Management | Lenovo XClarity (hardware) Lenovo XClarity Integrator for VMWare Center (software) |
| License Options | VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; 3- or 5-year support subscription |
| Warranty | Lenovo 3-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades |
| Support | ThinkAgile Advantage* |

*Check for availability in your country

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| Lenovo Models | ThinkAgile VX7320-N | ThinkAgile VX7520 |
| Target Workloads | Optimized for high-performance workloads, such as databases, e-mail and collaboration, and load-balancing clusters. | In-Memory Databases and other high-performance storage |
| Form Factor | 1U | 2U |
| Processor | Up to 2 x Intel Xeon Platinum processors, up to 165W | Up to 2 x Intel® Xeon® Platinum processors, up to 165W |
| Memory (TruDDR4 2666MHz) | Up to 1.5TB in 24x slots, using 64GB DIMMs | Up to 3TB in 24x slots, using 128GB DIMMs |
| Drive Bays | 10x 2.5" | 24x 2.5" |
| Cache and NVMe Drive Options | Up to 2x 375GB, 750GB SSD (NVMe only) | Up to 4x 400GB, 800GB, 1600GB SSDs |
| Number of Disk Groups | 1 or 2 | 1 to 4 |
| SSD Options per group | up to 1.5TB in 24 slots, using 64GB DIMM | 5x 16TB, 3.84TB, 768TB |
| Capacity HDD Options per group | Not supported (All NVMe model) | 5x 12TB, 18TB, 24TB |
| Hypervisor Supported | VMware ESXi pre-loaded | VMware ESXi pre-loaded |
| Systems Management | Lenovo XClarity (hardware) Lenovo XClarity Integrator for VMWare Center (software) | Lenovo XClarity (hardware) Lenovo XClarity Integrator for VMWare Center (software) |
| License Options | VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; 3-year or 5-year support subscription | VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; 3- year or 5-year support subscription |
| Warranty | Lenovo 3-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades | Lenovo 3-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades |
| Support | ThinkAgile Advantage (where eligible) | ThinkAgile Advantage* |

*Check for availability in your country



**Simplify IT Infrastructure with
the Lenovo ThinkAgile VX Series**

Intel® Xeon® processor Scalable family



ThinkAgile VX Certified Nodes

For customers who do not require VMware software licenses or deployment services, Lenovo offers another fully validated and certified choice: the ThinkAgile VX Certified Node, which includes:

- Integrated hardware and firmware, that is fully validated and certified with VMware vSAN.
- ThinkAgile Advantage Single Point of Support for quick 24/7 problem reporting and resolution.
- Optional vSphere and vSAN Licenses.
- Optional deployment services.

The ThinkAgile VX Certified Nodes provide customers with a simple and easy to order way, to obtain a fully certified VMware vSAN Solution with the additional flexibility of being able to use their existing licenses, while leveraging outstanding Lenovo platform reliability, performance, and ThinkAgile Advantage Single Point of Support.

| Lenovo Models | ThinkAgile VX 1U Certified Node | ThinkAgile VX 2U Certified Node | ThinkAgile VX 2U4N Certified Node |
|--------------------------|---|---|---|
| Target Workloads | Ideal for small businesses up to large enterprises that need industry-leading reliability, management, and security, as well as maximizing performance and flexibility for future growth | For medium to large enterprises, and managed and cloud service providers, engineered to deliver high performance with 205W CPUs, low latency NVMe drives, and high-powered GPUs. | The innovative design of the D2 Enclosure provides the flexibility to meet varied needs in the modern data center. |
| Form Factor | 1U | 2U | 2U, 4 nodes |
| Processor | Up to 2x Intel® Xeon® Platinum processors, up to 205W | Up to 2x Intel® Xeon® Platinum processors, up to 205W | Up to 2x Intel® Xeon® Platinum processors, up to 165W |
| Memory (2666MHz TruDDR4) | Up to 3TB in 24x slots, using 128GB DIMMs | Up to 3TB in 24x slots, using 128GB DIMMs | Up to 1TB in 16x slots, using 64GB DIMMs |
| Drive Bays | Up to 12 bays (including 4x AnyBay): LFF: 4x hot-swap SAS/SATA; SFF: 4x hot-swap AnyBay + 6x hot-swap SAS/SATA + 2x rear; or 8x hot-swap SAS/SATA or 10x U.2 NVMe; plus up to 2x mirrored M.2 boot | Up to 24 hot-swap bays (including 4 or 8 AnyBay): LFF: 12x hot-swap SAS/SATA + 2x rear;; SFF: 8, 16 or 24 hot-swap SAS/SATA (up to 8x AnyBay); plus up to 2x mirrored M.2 boot (optional RAID 1) | Up to 24x (6x per node) hot-swap SFF SAS/SATA HDDs/SSDs; up to 8x (2x per node) hot-swap SFF NVMe SSDs |
| GPU | None | Up to 2 Nvidia M10 or M60 | None |
| Hypervisor Supported | VMware ESXi | VMware ESXi | VMware ESXi |
| Systems Management | Lenovo XClarity (hardware) VMware vCenter and Lenovo XClarity Integrator for VMWare Center (software) | Lenovo XClarity (hardware) VMware vCenter and Lenovo XClarity Integrator for VMWare Center (software) | Hardware management via Lenovo XClarity and software management through VMware vCenter and Lenovo XClarity Integrator for VMware vCenter |
| License Options | Optional VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; HCI Kit Advanced, HCI Kit Enterprise; 3- or 5-year support subscription Deployment Services | Optional VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; HCI Kit Advanced, HCI Kit Enterprise; 3- or 5-year support subscription Deployment Services | Optional VMware vSphere 6 Standard, Enterprise or Enterprise Plus with Operations Management; VMware vSAN Standard, Advanced, Enterprise; HCI Kit Advanced, HCI Kit Enterprise; 3- or 5-year support subscription Deployment Services |
| Warranty | 3-year or 5-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades | 3-year or 5-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades | 3-year or 5-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades |
| Support | ThinkAgile Advantage* | ThinkAgile Advantage* | ThinkAgile Advantage* |

*Check for availability in your country



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ENGINEERED SOLUTIONS

Accelerate cloud service delivery, extract insights from your data, and improve business outcomes with Lenovo Engineered Solutions. Developed to simplify configuration and deployment, Lenovo Engineered Solutions are designed, tested and certified to provide faster time-to-value and lower TCO. To meet your desired business outcomes, Lenovo partners with market leaders and technology leaders worked to develop high-performance, scalable offerings based on foundational ThinkSystem platforms and tested for enterprise applications matching your needs.



Cloud Solutions

to provide on-demand access to resources when you need it utilising Microsoft-, VMware-, Red Hat- or SUSE-based offerings.



Big Data & Analytics

to make sure information and analysis flow seamlessly to support real-time insight and facilitate better decisionmaking. Utilising Apache Hadoop and Spark platforms from Cludera, IBM, Hortonworks and MapR.



Business Applications

including SAP and Microsoft can benefit from improved productivity with Lenovo high-performance, scalable, extremely reliable hardware for business critical workloads.



Database Solutions

to take advantage of optimized data management built on top-tier software from Microsoft, Oracle and MongoDB.



High-Performance Computing & AI Solutions

powered by Lenovo platforms with Intel® technology can help you put your business at the forefront of tomorrow. Lenovo's high-performance, high-density infrastructure has made it a leader in HPC and provides an ideal platform for AI solutions with ANSYS, CONSOL and MPI.



Client Virtualisation

with Citrix or VMware to help IT managers easily deploy, secure and manage their technology. Allows mobile and remote workers access to corporate resources from a variety of devices.

LENOVO DSS-G

Lenovo Distributed Storage Solution for IBM Spectrum Scale (DSS-G) is a software-defined storage (SDS) solution for dense scalable file and object storage suitable for high-performance and data-intensive environments. Enterprises or organisations running HPC, BigData or cloud workloads will benefit the most from the DSS-G implementation. DSS-G combines the performance of Lenovo latest generation x3650 M5 (ThinkSystem SR650 per March 2018) servers, Lenovo D1224 and D3284 storage enclosures and industry leading IBM Spectrum Scale software to offer a high performance, scalable building block approach to modern storage needs.



Lenovo DSS-G

Lenovo



| Project | DSS-G for IBM Spectrum Scale |
|---------------------|---|
| Solution Definition | <ul style="list-style-type: none"> • 2 ThinkSystem SR650 Servers • Software: RedHat Enterprise Linux, IBM Spectrum Scale for DSS Standard or Data Management Edition • 2, 4 or 6 Storage Enclosures <ul style="list-style-type: none"> • Lenovo D3284 12Gb JBOD (5U84) or 4TB, 6TB, 8TB, 10TB, 12TB NL-SAS • 1, 2, 4 or 6 Storage Enclosures <ul style="list-style-type: none"> • Lenovo D1224 12Gb JBOD (2U24) or 0.3TB - 1.8TB SAS, 0.4TB - 3.8TB SSD • Connectivity: 10GbE/25GbE/40GbE/100GbE/FDR IB/EDR IB/OPA |
| Target Market | HPC, Big Data, Cloud, Media & Entertainment, Digital Surveillance |
| Target Workloads | HPC and Distributed File Systems |
| Value Proposition | High storage density and I/O performance with superior availability, reliability and resiliency |



Intel® Xeon® processor Scalable family

LENOVO SERVICES

Maximize your ROI with award-winning services that ensure you have the best solution for every stage of your IT lifecycle

Lenovo offers a comprehensive portfolio of services that support the full lifecycle of a customer's Lenovo IT assets. Lenovo offers support at every stage; plan, fulfil, deploy, support, optimise, and end of life. Lenovo offer the expertise and services clients need to more accurately budget for IT expenses, deliver better service-level agreements and generate greater end-user satisfaction. With Lenovo Professional Services expertise we can help clients gain the most from their technology investment.



Solution Services

From the simple to the complex, our experts work with you to find the right solution for your one-of-a-kind strategic and business needs.

- Assessment Services.
- Design Services.



Implementation Services

Accelerate your time to productivity so you can focus on taking care of your customers and growing your business.

- Hardware Installation.
- Deployment Service.
- Factory Integrated Service.

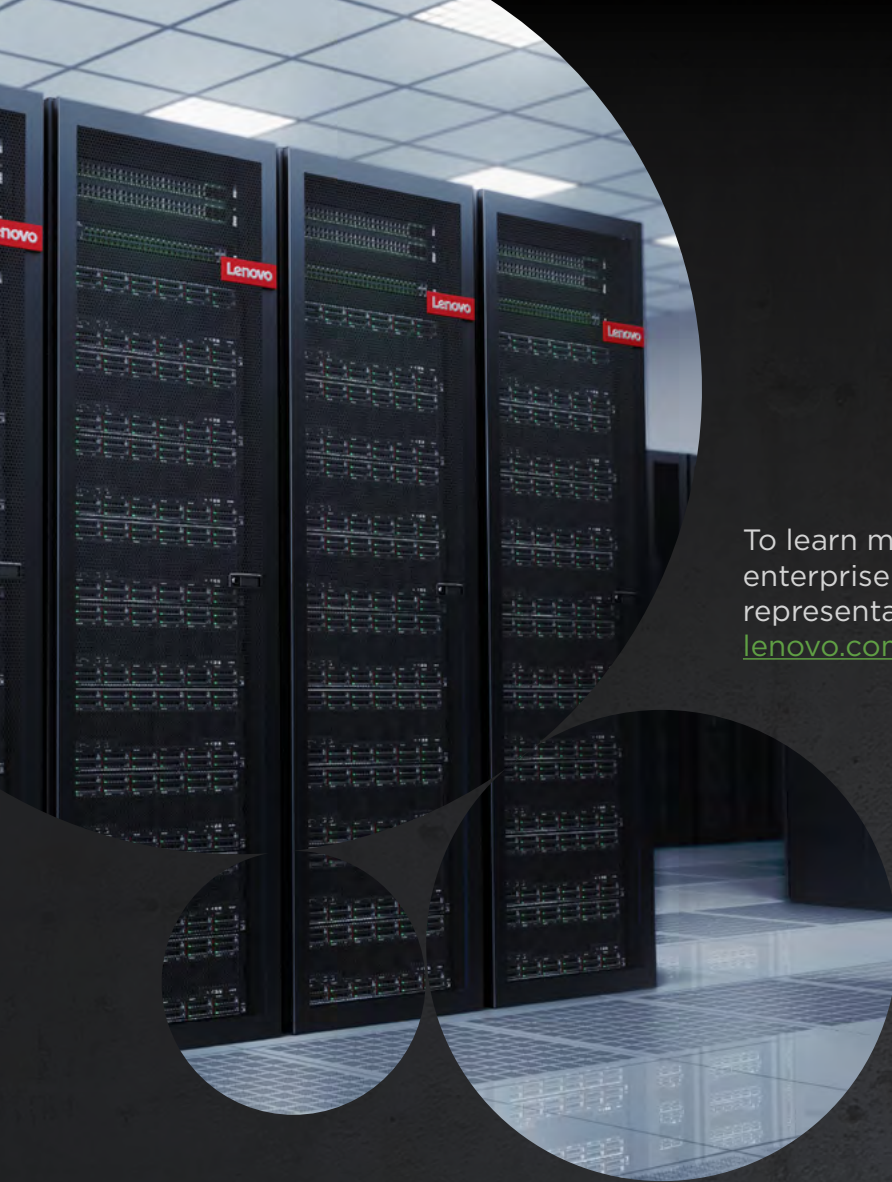


Support Services

Around the world and around the clock, our experts are standing by 24x7 to safeguard your IT investment.

- Premier Support.
- Preconfigured Support.
- Managed Services.
- Technical Account Manager.
- Enterprise Server Software Support.

For more information on Lenovo Services please visit www.lenovo.com



To learn more about Lenovo server, storage and enterprise services portfolio, contact your Lenovo representative or Business Partner, or visit lenovo.com/datacenter and lenovopress.com

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ThinkSystem

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