

Lenovo ThinkAgile HX3375 Appliance and HX3376 Certified Node (AMD 7003)

Product Guide (withdrawn product)

The Lenovo ThinkAgile HX3375 Appliance and ThinkAgile HX3376 Certified Node are 2-socket 1U systems featuring the AMD EPYC 7003 and 7002 families of processors and are designed for deploying industry-leading hyperconvergence software from Nutanix on Lenovo enterprise platforms. Nutanix brings the benefits of web-scale technologies to enterprise applications through enterprise storage, data protection, infrastructure resilience, management and analytics, and security.

The 1U systems are available either as an Appliance (HXnnn5) or Certified Node (HXnnn6):

- The ThinkAgile HX3375 Appliance delivers fully validated and integrated Lenovo hardware and firmware, certified and preloaded with licensed Nutanix software. It also includes ThinkAgile Premier support with one single point of contact for support of the hardware and software.
- The ThinkAgile HX3376 Certified Node delivers fully validated Lenovo hardware and firmware, certified and can be preloaded with Nutanix software. Certified Nodes do not include licenses to Nutanix software and enhanced software support.

Common uses for these HX Series system include compute-heavy workloads such as virtual desktop infrastructure (VDI), server virtualization, private/hybrid clouds, enterprise applications, light databases, and remote office and branch office workloads.



Figure 1. ThinkAgile HX3375 Appliance and ThinkAgile HX3376 Certified Node

Did you know?

The ThinkAgile HX3375 and HX3376 systems are built on the Lenovo ThinkSystem SR645 server that features enterprise-class reliability, management, and security.

The systems have been designed to take advantage of the features of the EPYC 7003 "Milan" and EPYC 7002 "Rome" processors, such as the full performance of 64-core processors, support for 3200 MHz memory and PCIe Gen 4.0 support.

The systems are available as an Appliance or a Certified Node delivering greater virtualized workload consolidation with higher core count, GPU support and easy-to-use lifecycle management console.

Key features

Combining performance and flexibility, the ThinkAgile HX3375 and HX3376 systems are a great choice for enterprises of all sizes. The systems offer a broad selection of processors, memory and drives, and offers high performance features that industries such as finance, healthcare and telco need. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design can improve your business environment and can help save operational costs.

HX3375 Appliance

The HX3375 Appliance offers the following key features:

- Factory-integrated, pre-configured ready-to-go appliances built on proven and reliable Lenovo ThinkSystem servers that provide compute power for a variety of workloads and applications and powered by industry's most feature-rich hyperconverged infrastructure software from Nutanix.
- Provide quick and convenient path to implement a hyperconverged solution powered by Nutanix with "one stop shop" and a single point of contact provided by Lenovo for purchasing, deploying, and supporting the solution.
- Meet various workload demands with cost-efficient hybrid or performance-optimized all-flash storage configurations.
- Deliver fully validated and integrated hardware and firmware that is certified with Nutanix software.
- Include Lenovo ThinkAgile Premier Single Point of Support for quick 24/7 problem reporting and resolution.
- Offer Lenovo deployment services to get customers up and running quickly.

HX3376 Certified Node

The HX3376 Certified Node offers the following key features:

- Built on proven and reliable Lenovo ThinkSystem servers that provide compute power for a variety of workloads and applications.
- Deliver fully validated and integrated hardware and firmware that is certified with Nutanix software.
- Preloaded with Nutanix software and ready for out-of-box deployment (Note: software licenses are not included).
- Provide flexibility in using the existing Nutanix term-based software licenses and active support contracts or purchasing new software licenses and support contracts from Nutanix.
- Offer optional Lenovo Professional Services to get customers up and running quickly

The Nutanix software running on the HX3375 or HX3376 delivers the following key features:

- A natively integrated solution for data protection and continuous availability at VM granularity that gives administrators an affordable range of options to meet the recovery point objectives (RPO) and recovery time objectives (RTO) for different applications.
- A fault resistant platform, with no single point of failure and no bottlenecks with shared-nothing architecture, where all data, metadata and services are distributed to all nodes within the cluster, that is built to detect, isolate and recover from failures anywhere in the system.
- An intuitive user-centric management experience to simplify every aspect of the IT infrastructure lifecycle and provide a single pane of glass to monitor and control Nutanix clusters, with simplified workflows and rich automation for common administrative tasks.
- Powerful security features, such as two-factor authentication and data-at-rest encryption, with a security development lifecycle that is integrated into product development to help customers meet the most stringent security requirements.

Hardware features

The ThinkAgile HX3375 and HX3376 systems are based on the ThinkSystem SR645 and have the following hardware features:

Scalability and performance

The appliance and certified node offer numerous features to boost performance, improve scalability and reduce costs:

- Support the AMD EPYC 7003 and 7002 families of processors
- Support processors with up to 64 cores and 128 threads, core speeds of up to 3.7 GHz, and TDP ratings of up to 240W.
- Support for up to 32 TruDDR4 memory DIMMs with two processors (16 DIMMs per processor). Each processor has 8 memory channels and 2 DIMMs per channel. With 1 DIMM installed per channel (8 DIMMs total), memory operates at 3200 MHz. Using Performance+ RDIMMs, the server supports 2 DIMMs per channel (16 DIMMs total) operating at 3200 MHz.
- Using 128GB 3DS RDIMMs, the server supports up to 4TB of system memory.
- Support up to two single-width GPUs, each up to 75W for substantial processing power in a 1U system.
- Support up to 12x 2.5-inch hot-swap drive bays, by using combinations of front-accessible (up to 10 bays) and rear-accessible (2 bays).
- Support for 4x NVMe drives; The use of NVMe drives maximizes drive I/O performance, in terms of throughput, bandwidth, and latency.
- Support M.2 drives for convenient operating system boot functions or data storage. Support two M.2 drives in a RAID 1 configuration for performance and reliability.
- The systems have a dedicated industry-standard OCP 3.0 small form factor (SFF) slot, with a PCIe 4.0 x16 interface, supporting a variety of Ethernet network adapters. Simple-swap mechanism with thumbscrews and pull-tab enables tool-less installation and removal of the adapter. Supports shared BMC network sideband connectivity to enable out-of-band systems management.
- The systems offer PCI Express 4.0 I/O expansion capabilities that doubles the theoretical maximum bandwidth of PCIe 3.0 (16GT/s in each direction for PCIe 4.0, compared to 8 GT/s with PCIe 3.0). A PCIe 4.0 x16 slot provides 64 GB/s bandwidth, enough to support a 400GbE network connection.
- Up to three PCIe 4.0 slots, all with rear access, plus a slot dedicated to the OCP adapter.

The systems provide many features to simplify serviceability and increase system uptime:

- Available M.2 RAID Boot Adapters support RAID-1 which can enable two SATA M.2 drives to be configured as a redundant pair.
- The systems have two hot-swap redundant power supplies and up to eight hot-swap redundant fans to provide availability for business-critical applications.
- The power-source-independent light path diagnostics uses LEDs to lead the technician to failed (or failing) components, which simplifies servicing, speeds up problem resolution, and helps improve system availability.
- Solid-state drives (SSDs) offer more reliability than traditional mechanical HDDs for greater uptime.
- Proactive Platform Alerts (including PFA and SMART alerts): Processors, voltage regulators, memory, internal storage (SAS/SATA HDDs and SSDs, NVMe SSDs, M.2 storage, flash storage adapters), fans, power supplies, server ambient and subcomponent temperatures.
- Offer a diagnostics port on the front of the server to allow you to attach an external diagnostics handset for enhanced systems management capabilities.

Manageability and security

Systems management features simplify local and remote management:

- The systems include an XClarity Controller (XCC) to monitor server availability, provide remote control (keyboard video mouse) functions, and support for the mounting of remote media files (ISO and IMG

image files), boot capture, and power capping.

- Lenovo XClarity Administrator offers comprehensive hardware management tools that help to increase uptime, reduce costs and improve productivity through advanced server management capabilities.
- Support for Lenovo XClarity Energy Manager which captures real-time power and temperature data from the server and provides automated controls to lower energy costs.
- An integrated industry-standard Unified Extensible Firmware Interface (UEFI) enables improved setup, configuration, and updates, and simplifies error handling.
- Administrator and power-on passwords help protect from unauthorized access to the server.
- Support AMD Secure Root-of-Trust, Secure Run and Secure Move features to minimize potential attacks and protect data as the OS is booted, as applications are run and as applications are migrated from server to server.
- Industry-standard Advanced Encryption Standard (AES) NI support for faster, stronger encryption.
- Additional physical security features are a chassis intrusion switch (standard in all models) and a lockable front bezel (optional).

Components and connectors

The ThinkAgile HX3375 and HX3376 systems are based on the ThinkSystem SR645 server.

The following figure shows the front of the systems.

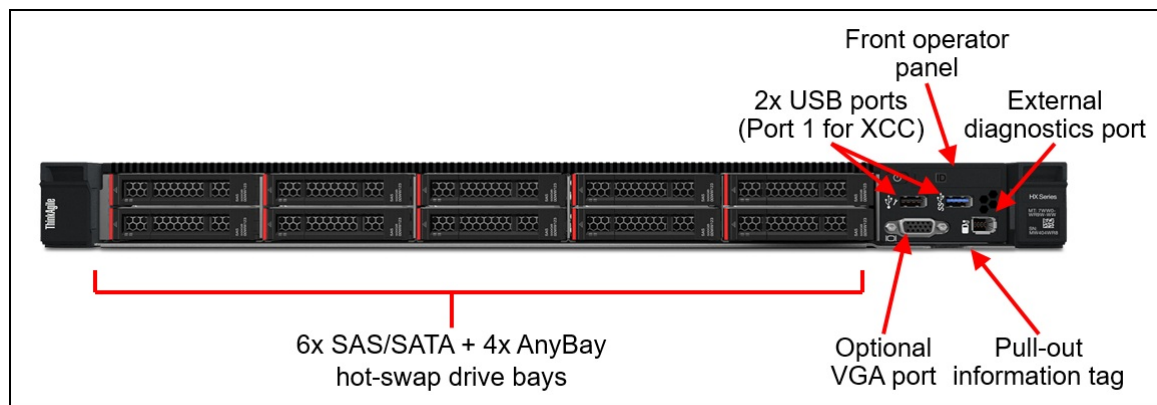


Figure 2. Front view of the Lenovo ThinkAgile HX3375 and HX3376

The following figure shows the components visible from the rear of the server. As shown, there are three different configurations available, including one with rear-mounted drive bays: two 2.5-inch hot-swap SAS/SATA drive bays.

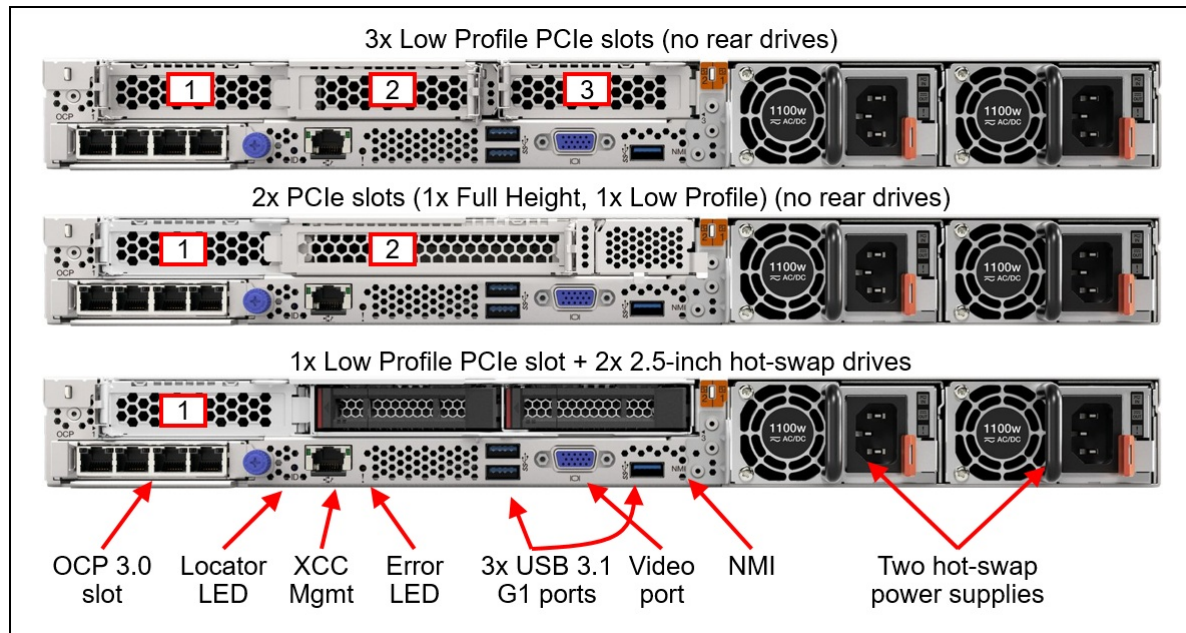


Figure 3. Rear view of the Lenovo ThinkAgile HX3375 and HX3376

The following figure shows the locations of key components inside the server.

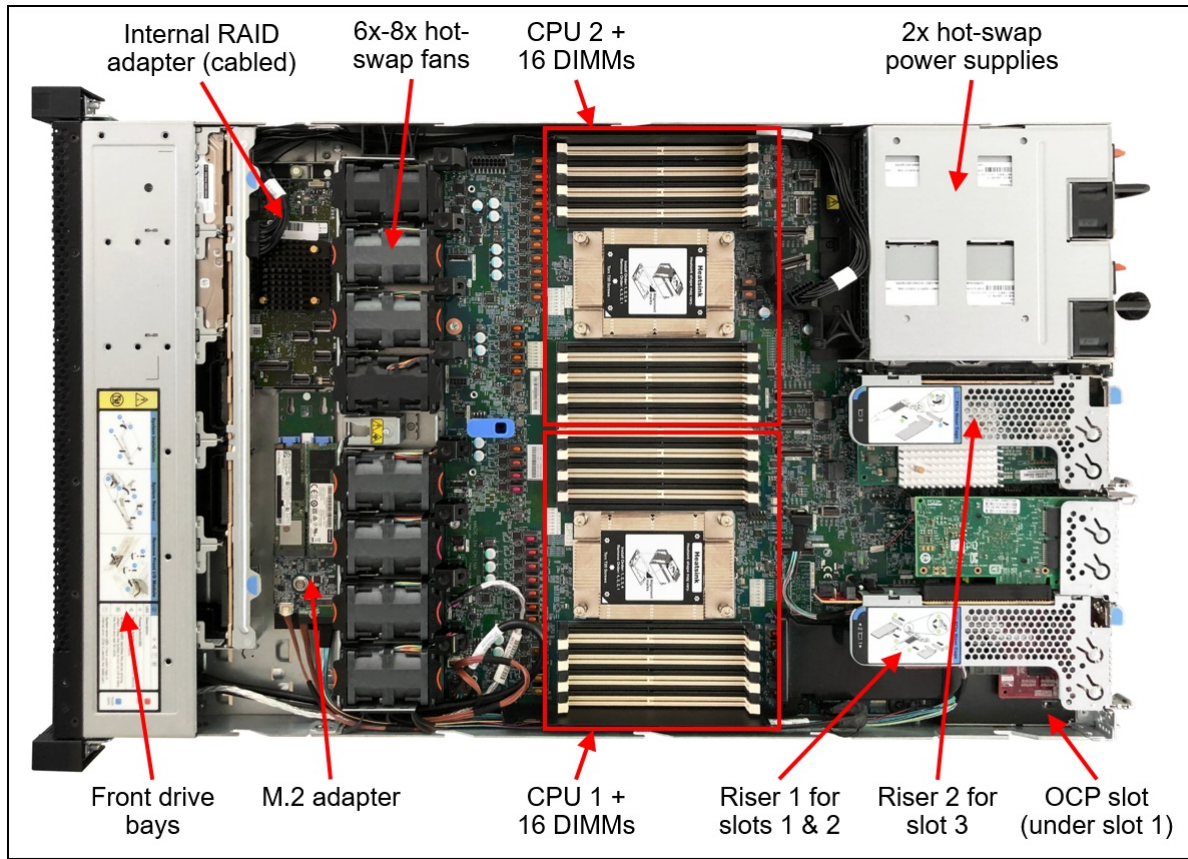


Figure 4. Internal view of the Lenovo ThinkAgile HX3375 and HX3376

Standard specifications

The following table lists the standard specifications.

Table 1. Standard specifications

| Components | Specification |
|---------------------|---|
| Machine types | 7D5U - 3 year warranty |
| Form factor | 1U rack. |
| Processor | One or two AMD EPYC 7003 Series or 7002 Series processors. Supports processors up to 64 cores, core speeds of up to 3.7 GHz, and TDP ratings of up to 240W. |
| Chipset | Not applicable (platform controller hub functions are integrated into the processor) |
| Memory | 32 DIMM slots with two processors (16 DIMM slots per processor). Each processor has 8 memory channels, with 2 DIMMs per channel (DPC). Lenovo TruDDR4 RDIMMs and 3DS RDIMMs are supported: <ul style="list-style-type: none"> • Performance+ RDIMMs: 1 DPC at 3200 MHz, 2 DPC at 3200 MHz • RDIMMs: 1 DPC at 3200 MHz, 2 DPC at 2933 MHz • 3DS RDIMMs: 1 DPC at 2933 MHz, 2 DPC at 2666 MHz |
| Memory maximum | Up to 4TB with 32x 128GB 3DS RDIMMs |
| Memory protection | ECC, SDDC, Patrol/Demand Scrubbing, DRAM Address Command Parity with Replay, DRAM Uncorrected ECC Error Retry, Post Package Repair |
| Disk drive bays | Up to 12x 2.5-inch hot-swap drive bays: <ul style="list-style-type: none"> • Front bays: 6x 2.5-inch hot-swap SAS/SATA + 4x 2.5-inch hot-swap AnyBay • Rear bays: 2x 2.5-inch hot-swap SAS/SATA bays • Internal M.2 module supporting two M.2 drives, for OS boot and drive storage support AnyBay bays support SAS, SATA or NVMe drives. NVMe bays only support NVMe drives. Rear drive bays can be used in conjunction with 2.5-inch front drive bays. |
| Storage controller | ThinkSystem 430-16i SAS HBA |
| Network interfaces | Dedicated OCP 3.0 SFF slot with PCIe 4.0 x16 host interface. Supports 25GbE network connectivity. One port can optionally be shared with the XClarity Controller (XCC) management processor for Wake-on-LAN and NC-SI support. |
| PCI Expansion slots | Up to 3x PCIe 4.0 slots, all with rear access, plus a slot dedicated to the OCP adapter. Slot availability is based on riser selection and rear drive bay selection. Slot 3 requires two processors. <p>Two choices for rear-access slots:</p> <ul style="list-style-type: none"> • 3x PCIe 4.0 x16 low-profile slots • 1x PCIe 4.0 x16 low-profile slot (also supports 2x rear 2.5-inch drive bays) |
| GPUs | Supports up to 2x NVIDIA Tesla T4 GPUs |
| Ports | Front: 1x USB 3.1 G1 (5 Gb/s) port, 1x USB 2.0 port (also for XCC local management), External diagnostics port, optional VGA port. <p>Rear: 3x USB 3.1 G1 (5 Gb/s) ports, 1x VGA video port, 1x RJ-45 1GbE systems management port for XCC remote management. Optional DB-9 COM serial port (installs in slot 3).</p> <p>Internal: 1x USB 3.1 G1 connector for operating system or license key purposes</p> |

| Components | Specification |
|-----------------------|--|
| Cooling | Up to 8x N+1 redundant hot swap 40 mm fans, configuration dependent. One fan integrated in each power supply. |
| Power supply | Up to two hot-swap redundant AC power supplies, 80 PLUS Platinum certification. 750 W and 1100 W AC options, supporting 220V and 110V input supply. |
| Video | G200 graphics with 16 MB memory with 2D hardware accelerator, integrated into the XClarity Controller. Maximum resolution is 1920x1200 32bpp at 60Hz. |
| Hot-swap parts | Drives, power supplies, and fans. |
| Systems management | Operator panel with status LEDs. Optional External Diagnostics Handset with LCD display. XClarity Controller (XCC) embedded management, XClarity Controller Enterprise is included, enabling remote control functions, XClarity Administrator centralized infrastructure delivery, and XClarity Energy Manager centralized server power management. |
| Security features | Chassis intrusion switch, Power-on password, administrator's password. Optional lockable front security bezel. |
| Software | <ul style="list-style-type: none"> • HX3375 Appliance: Nutanix Acropolis: Starter, Pro, and Ultimate editions. Nutanix Prism, Nutanix Calm (optional), Nutanix Flow (optional). • HX3376 Certified Node: Nutanix Acropolis Starter, Pro and Ultimate editions (licenses purchased separately from Nutanix or a Nutanix reseller). |
| Hypervisors supported | Nutanix AHV or VMware ESXi. See the Software section for details. |
| Hardware warranty | <ul style="list-style-type: none"> • HX3375 Appliance: Three-, four-, or five-year customer-replaceable unit and onsite limited hardware warranty with ThinkAgile Premier Support and selectable service levels: 9x5 next business day (NBD) parts delivered, 9x5 NBD onsite response, 24x7 coverage with 2-hour or 4-hour onsite response, or 6-hour or 24-hour committed repair (select areas). Also available are YourDrive YourData, Premier Support, and Enterprise Software Support. • HX3376 Certified Node: One, three, four, or five-year customer-replaceable unit and onsite limited warranty with selectable service levels: 9x5 coverage with next business day (NBD) parts delivered (base warranty), 9x5 coverage with NBD onsite response (Foundation Service), 24x7 coverage with 4-hour onsite response or 24-hour committed repair (select areas) (Essential Service), or 24x7 coverage with 2-hour onsite response or 6-hour committed repair (select areas) (Advanced Service). Also available are 1-year and 2-year post-warranty extensions, YourDrive YourData, and Enterprise Software Support. |
| Software maintenance | Three-, four-, or five-year software support and subscription (matches the duration of the selected warranty period). |
| Dimensions | Width: 440 mm (17.3 in.), height: 43 mm (1.7 in.), depth: 773 mm (30.4 in.). See Physical and electrical specifications for details. |
| Weight | Maximum: 20.2 kg (44.6 lb) |

Models

Factory-integrated models of the appliances and certified nodes are configured by using the Lenovo Data Center Solution Configurator (DCSC), <http://dcsc.lenovo.com>

During the configuration process, you are selecting one of the base Configure-to-Order (CTO) models first, and then you are adding components (processors, memory, drives, and network adapters) to the selected model according to the output from the Nutanix Sizer tool, <http://services.nutanix.com/>

Note: You are required to engage a Lenovo representative in the project that includes the ThinkAgile HX Series appliances. ThinkAgile HX certified nodes do not have this requirement.

The following table lists the base CTO models.

Table 2. Base CTO models

| Base model | Description |
|------------|----------------------------------|
| 7D5UCTO1WW | ThinkAgile HX3375 Appliance |
| 7D5UCTO2WW | ThinkAgile HX3376 Certified Node |

Processors

The HX3375 and HS3376 support the following processors.

For details about these options, see the SR645 product guide:

<https://lenovopress.com/lp1280-thinksystem-sr645-server#processors>

Support for additional processors: The table below lists the processors supported across all configurations. Additional processors may also be supported. Please contact your Lenovo representative regarding the support of additional options through our Special Bid ordering process.

Table 3. Processors

| Feature | Description | Maximum supported | |
|---|---|-------------------|--------|
| | | HX3375 | HX3376 |
| Third-generation AMD EPYC processors | | | |
| BF76 | ThinkSystem AMD EPYC 7313 16C 155W 3.0GHz Processor | 2 | 2 |
| BF7B | ThinkSystem AMD EPYC 7313P 16C 155W 3.0GHz Processor | 1 | 1 |
| BF7E | ThinkSystem AMD EPYC 7343 16C 190W 3.2GHz Processor | 2 | 2 |
| BF7D | ThinkSystem AMD EPYC 73F3 16C 240W 3.5GHz Processor | 2 | 2 |
| BF78 | ThinkSystem AMD EPYC 7413 24C 180W 2.65GHz Processor | 2 | 2 |
| BF72 | ThinkSystem AMD EPYC 7443 24C 200W 2.85GHz Processor | 2 | 2 |
| BF79 | ThinkSystem AMD EPYC 7443P 24C 200W 2.85GHz Processor | 1 | 1 |
| BF74 | ThinkSystem AMD EPYC 7453 28C 225W 2.75GHz Processor | 2 | 2 |
| BF7G | ThinkSystem AMD EPYC 74F3 24C 240W 3.2GHz Processor | 2 | 2 |
| BF7A | ThinkSystem AMD EPYC 7513 32C 200W 2.6GHz Processor | 2 | 2 |
| BF77 | ThinkSystem AMD EPYC 7543 32C 225W 2.8GHz Processor | 2 | 2 |
| BF71 | ThinkSystem AMD EPYC 7543P 32C 225W 2.8GHz Processor | 1 | 1 |
| BGQ5 | ThinkSystem AMD EPYC 7643 48C 225W 2.3GHz Processor | 2 | 2 |
| BF75 | ThinkSystem AMD EPYC 7663 56C 240W 2.0GHz Processor | 2 | 2 |
| BF7C | ThinkSystem AMD EPYC 7713 64C 225W 2.0GHz Processor | 2 | 2 |

| Feature | Description | Maximum supported | |
|--|---|-------------------|--------|
| | | HX3375 | HX3376 |
| BF70 | ThinkSystem AMD EPYC 7713P 64C 225W 2.0GHz Processor | 1 | 1 |
| Second-generation AMD EPYC processors | | | |
| B6VU | ThinkSystem AMD EPYC 7252 8C 120W 3.1GHz Processor | 2 | 2 |
| B6TS | ThinkSystem AMD EPYC 7262 8C 155W 3.2GHz Processor | 2 | 2 |
| B767 | ThinkSystem AMD EPYC 7272 12C 120W 2.9GHz Processor | 2 | 2 |
| B6VZ | ThinkSystem AMD EPYC 7282 16C 120W 2.8GHz Processor | 2 | 2 |
| B6TV | ThinkSystem AMD EPYC 7302 16C 155W 3.0GHz Processor | 2 | 2 |
| B6W0 | ThinkSystem AMD EPYC 7352 24C 155W 2.3GHz Processor | 2 | 2 |
| B6VW | ThinkSystem AMD EPYC 7402 24C 180W 2.8GHz Processor | 2 | 2 |
| B6TU | ThinkSystem AMD EPYC 7452 32C 155W 2.35 GHz Processor | 2 | 2 |
| B5XG | ThinkSystem AMD EPYC 7502 32C 180W 2.5GHz Processor | 2 | 2 |
| BABP | ThinkSystem AMD EPYC 7532 32C 200W 2.4GHz Processor | 2 | 2 |
| B6W2 | ThinkSystem AMD EPYC 7542 32C 225W 2.9GHz Processor | 2 | 2 |
| B6W1 | ThinkSystem AMD EPYC 7552 48C 200W 2.2GHz Processor | 2 | 2 |
| B6W3 | ThinkSystem AMD EPYC 7642 48C 225W 2.3GHz Processor | 2 | 2 |
| BABN | ThinkSystem AMD EPYC 7662 64C 225W 2.0GHz Processor | 2 | 2 |
| B6TR | ThinkSystem AMD EPYC 7702 64C 200W 2.0GHz Processor | 2 | 2 |
| B5XF | ThinkSystem AMD EPYC 7742 64C 225W 2.25 GHz Processor | 2 | 2 |
| BCE9 | ThinkSystem AMD EPYC 7F32 8C 180W 3.7GHz Processor | 2 | 2 |
| BCE8 | ThinkSystem AMD EPYC 7F52 16C 240W 3.5GHz Processor | 2 | 2 |
| BCEA | ThinkSystem AMD EPYC 7F72 24C 240W 3.2GHz Processor | 2 | 2 |

Memory

The HX3375 and HS3376 support the following memory options.

For details about these options, see the SR645 product guide:

<https://lenovopress.com/lp1280-thinksystem-sr645-server#memory-options>

Table 4. Memory

| Part number | Feature | Description | Maximum supported | |
|--|---------|--|-------------------|--------|
| | | | HX3375 | HX3376 |
| RDIMMs (3200 MHz at 1 DPC, 2933 MHz at 2 DPC) | | | | |
| 4ZC7A15121 | B5XD | ThinkSystem 16GB TruDDR4 3200MHz (2Rx8 1.2V) RDIMM-A | 32 | 32 |
| 4ZC7A15122 | B5XE | ThinkSystem 32GB TruDDR4 3200MHz (2Rx4 1.2V) RDIMM-A | 32 | 32 |
| 4ZC7A15123 | B8NU | ThinkSystem 32GB TruDDR4 3200 MHz (2Rx8 1.2V) RDIMM-A | 32 | 32 |
| 4ZC7A15124 | B5XC | ThinkSystem 64GB TruDDR4 3200MHz (2Rx4 1.2V) RDIMM-A | 32 | 32 |
| 3DS RDIMMs (2933 MHz at 1 DPC, 2666 MHz at 2 DPC) | | | | |
| 4ZC7A15125 | B8NT | ThinkSystem 128GB TruDDR4 3200MHz (4Rx4, 1.2V) 3DS RDIMM-A | 32 | 32 |
| Performance+ RDIMMs (3200 MHz at 1 DPC and 2 DPC) | | | | |
| 4X77A12188 | BCZY | ThinkSystem 32GB TruDDR4 Performance+ 3200 MHz (2Rx8 1.2V) RDIMM-A | 32 | 32 |
| 4X77A12189 | BCZZ | ThinkSystem 64GB TruDDR4 Performance+ 3200 MHz (2Rx4 1.2V) RDIMM-A | 32 | 32 |

Internal storage

The HX3375 and HS3376 support up to 12x 2.5-inch drive bays.

The two drive bay zones are as follows:

- Front: Up to 10x 2.5-inch hot-swap bays
 - 6x SAS/SATA + 4x AnyBay hot-swap drive bays (only with configurations with 2 processors)
 - 10x SAS/SATA hot-swap drive bays (only with configurations with 1 processor)
- Rear: 2x 2.5-inch SAS/SATA hot-swap bays

All drives are hot-swap and are accessible from the front or from the rear. AnyBay drive bays support SAS, SATA or NVMe drives.

For Hybrid configurations, SATA and SAS SSDs are supported for cache, however NVMe drives are not supported for cache.

The systems also support two M.2 drives, installed in an M.2 adapter, as an OS boot drive alternative.

Backplanes

The choice of backplanes supported varies by system, as listed in the following table.

For details about these options, including configuration rules, see the SR645 product guide:

<https://lenovopress.com/lp1280-thinksystem-sr645-server#internal-storage>

Table 5. Drive backplanes

| Feature | Description | Maximum supported | |
|---|---|-------------------|--------|
| | | HX3375 | HX3376 |
| Front 2.5-inch drive backplanes | | | |
| B8MX | ThinkSystem 1U 2.5" 6 SAS/SATA 4 AnyBay Backplane | 1† | 1† |
| BHU8 | ThinkSystem 1U 2.5" 10 SAS/SATA Backplane | 1* | 1* |
| Rear - 2.5-inch drive backplanes | | | |
| B8MY | ThinkSystem 1U 2x2.5" SAS/SATA Rear Backplane | 1 | 1 |

† Only supported when 2 processors are installed

* Only supported when 1 processor is installed

Boot drive enablement

For OS boot functions, the systems also support two M.2 drives installed on an adapter internal to the server. The following table lists the supported controllers/enablement kits for boot drives.

For details about these options, including configuration rules, see the SR645 product guide:

<https://lenovopress.com/lp1280-thinksystem-sr645-server#internal-storage>

Table 6. Boot drive enablement

| Part number | Feature | Description | Maximum supported | |
|-----------------------|---------|--|-------------------|--------|
| | | | HX3375 | HX3376 |
| M.2 enablement | | | | |
| 4Y37A09739 | B5XH | ThinkSystem M.2 SATA 2-Bay RAID Enablement Kit | 1 | 1 |

Controllers for internal storage

The HX3375 and HS3376 support the following internal storage controllers.

For details about these options, see the see the SR645 product guide:

<https://lenovopress.com/lp1280-thinksystem-sr645-server#controllers-for-internal-storage>

Table 7. Controllers for internal storage

| Part number | Feature | Description | Maximum supported | |
|---|---------|---------------------------------------|-------------------|--------|
| | | | HX3375 | HX3376 |
| SAS/SATA HBA - PCIe 3.0 adapters | | | | |
| 7Y37A01089 | AUNM | ThinkSystem 430-16i SAS/SATA 12Gb HBA | 1 | 1 |

Internal drive options

The following table lists the supported drive options for the HX3375 and HS3376.

Table 8. Internal drive options

| Part number | Feature | Description | Maximum supported | |
|---|---------|---|-------------------|--------|
| | | | HX3375 | HX3376 |
| 2.5-inch hot-swap 12 Gb SAS HDDs | | | | |
| 7XB7A00069 | B0YS | ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD | 10 | 10 |
| 2.5-inch hot-swap 6 Gb SATA HDDs | | | | |
| 7XB7A00036 | AUUE | ThinkSystem 2.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD | 10 | 10 |
| 7XB7A00037 | AUUJ | ThinkSystem 2.5" 2TB 7.2K SATA 6Gb Hot Swap 512e HDD | 10 | 10 |
| 2.5-inch hot-swap 24 Gb SAS SSDs | | | | |
| 4XB7A80320 | BNWF | ThinkSystem 2.5" PM1653 3.84TB Read Intensive SAS 24Gb HS SSD | 12 | 12 |
| 4XB7A80321 | BP3E | ThinkSystem 2.5" PM1653 7.68TB Read Intensive SAS 24Gb HS SSD | 12 | 12 |
| 4XB7A80342 | BNW6 | ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD | 12 | 12 |
| 2.5-inch hot-swap 12 Gb SAS SSDs | | | | |
| 2.5-inch hot-swap 6 Gb SATA SSDs | | | | |
| 4XB7A17126 | BA4T | ThinkSystem 2.5" S4620 960GB Mixed Use SATA 6Gb HS SSD | 12 | 12 |
| 4XB7A17127 | BA4U | ThinkSystem 2.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD | 12 | 12 |
| 4XB7A72440 | BM89 | ThinkSystem 2.5" PM893 1.92TB Read Intensive SATA 6Gb HS SSD | 12 | 12 |
| 4XB7A72441 | BM88 | ThinkSystem 2.5" PM893 3.84TB Read Intensive SATA 6Gb HS SSD | 12 | 12 |
| 4XB7A17103 | BA7J | ThinkSystem 2.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD | 12 | 12 |
| 4XB7A17104 | BK77 | ThinkSystem 2.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD | 12 | 12 |
| 2.5-inch hot-swap PCIe 4.0 NVMe SSDs | | | | |
| 4XB7A13967 | BNEJ | ThinkSystem 2.5" U.3 7450 MAX 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A13970 | BNEY | ThinkSystem 2.5" U.3 7450 MAX 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A13971 | BNEL | ThinkSystem 2.5" U.3 7450 MAX 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |

| Part number | Feature | Description | Maximum supported | |
|------------------------|---------|--|-------------------|--------|
| | | | HX3375 | HX3376 |
| 4XB7A79647 | BNF2 | ThinkSystem 2.5" U.3 7450 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A79648 | BNF5 | ThinkSystem 2.5" U.3 7450 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A79649 | BNF4 | ThinkSystem 2.5" U.3 7450 PRO 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A83097 | BQAV | ThinkSystem 2.5" U.3 7450 PRO 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A17145 | BCFT | ThinkSystem 2.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A17146 | BCFW | ThinkSystem 2.5" U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| 4XB7A17147 | BCFU | ThinkSystem 2.5" U.2 P5500 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 4 | 4 |
| M.2 SATA drives | | | | |
| 4XB7A82286 | BQ1Z | ThinkSystem M.2 5400 PRO 240GB Read Intensive SATA 6Gb NHS SSD | 2 | 2 |
| 4XB7A82287 | BQ1Y | ThinkSystem M.2 5400 PRO 480GB Read Intensive SATA 6Gb NHS SSD | 2 | 2 |
| 4XB7A90105 | BXMK | ThinkSystem M.2 ER2 240GB Read Intensive SATA 6Gb NHS SSD | 2 | 2 |
| 4XB7A90106 | BXMJ | ThinkSystem M.2 ER2 480GB Read Intensive SATA 6Gb NHS SSD | 2 | 2 |

Note: NVMe serviceability has improvements planned for AOS 6.8. Before AOS 6.8 some features, like hot-swap, are not enabled. To replace a NVMe drive, please follow Nutanix's documentation for drive replacement without VMD on the portal –<https://my.nutanix.com/>

I/O expansion

The HX3375 and HS3376 support a total of up to 3 PCIe 4.0 slots, all with rear access, plus a dedicated OCP 3.0 SFF slot for networking. Slot availability is based on riser selection. The use of slot 3 requires that both processors be installed.

- Slot 1: PCIe 4.0 x16 LP (CPU 1)
- Slot 2: PCIe 4.0 x16 LP or FHHL (CPU 1)
- Slot 3: PCIe 4.0 x16 LP (CPU 2)

Slots 1 and 2 are also available as PCIe 3.0 adapter slots, using a lower-cost PCIe 3.0 riser, if desired.

The following figure shows the locations of the rear-accessible slots for each configuration selection. The OCP slot is located in the lower-left corner.

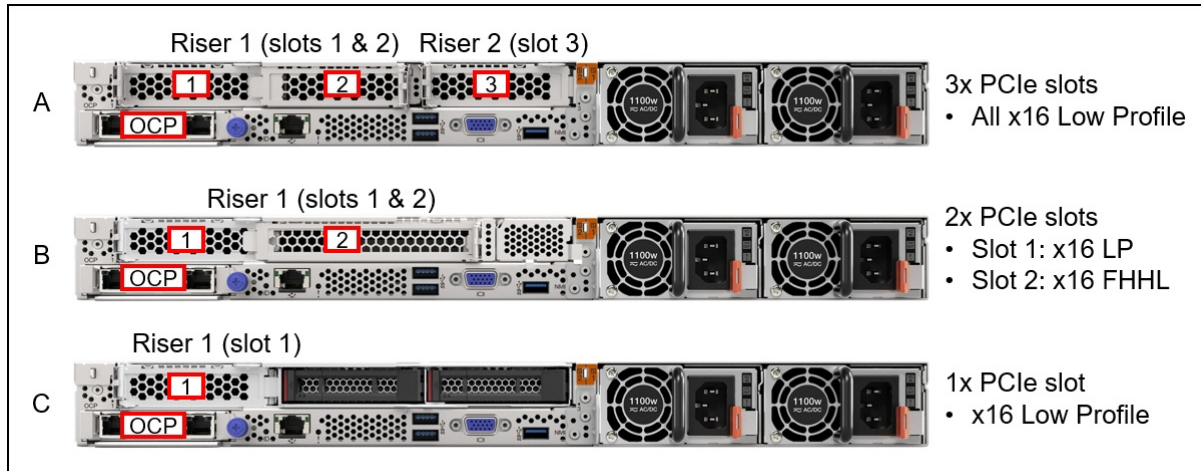


Figure 5. Slot configurations

The slots and riser cards are as follows:

- Riser 1: Slots 1 & 2
 - Slot 1: Low Profile, PCIe 4.0 x16
 - Slot 2: Low Profile or FHHL, PCIe 4.0 x16 (not available in configuration C in the above figure)
- Riser 2: Slot 3 (requires CPU 2)
 - Slot 3: Low Profile, PCIe 4.0 x16 (only available in configuration A)

The riser cards and slot brackets used to provide the above slot combinations are listed in the following table. The table also lists the Serial port option which installs in PCIe slot 3.

Table 9. Riser slot selections - Feature codes for CTO

| Feature code | Description | Maximum Supported | Purpose |
|----------------------------------|--|-------------------|--|
| Riser 1 (slots 1 & 2) | | | |
| B8N2 | ThinkSystem 1U PCIe Gen4 x16/x16 Riser 1 | 1 | PCIe 4.0 Riser 1 for Configuration A, B |
| B8MW | ThinkSystem 1U PCIe Gen3 x16/x16 Riser 1 | 1 | PCIe 3.0 Riser 1 for Configuration A, B |
| B91Z | ThinkSystem 1U PCIe Gen4 x16 Riser 1 w/ Rear Drive | 1 | PCIe 4.0 Riser 1 for Configuration C |
| B8NC | ThinkSystem 1U LP+LP BF Riser Cage Riser 1 | 1 | Bracket for Configuration A |
| B8NG | ThinkSystem 1U LP+FH BF Riser Cage Riser1 | 1 | Bracket for Configuration B |
| B8N7 | ThinkSystem 1U MS LP Riser Cage Riser1&2 | 1 | Bracket for Configuration C (slot 1) |
| Riser 2 (slot 3) | | | |
| B8MV | ThinkSystem 1U PCIe Gen4 x16 Riser 2 | 1 | PCIe 4.0 Riser 2 for Configuration A |
| B8N7 | ThinkSystem 1U MS LP Riser Cage Riser1&2 | 1 | Bracket for Configuration A (slot 3) |
| Serial port | | | |
| BMNJ | ThinkSystem COM Port Upgrade Kit v2 | 1 | Enables the Serial port (installs in slot 3) |
| AUSL | ThinkSystem COM Port Upgrade Kit | 1 | Enables the Serial port (installs in slot 3) |

Network adapters

The HX3375 and HS3376 support the following networking options.

For details about the implementation of these networking options, see the SR645 product guide:
<https://lenovopress.com/lp1280-thinksystem-sr645-server#network-adapters>

Mixing vendors is not supported : HX configurations only support network adapters from one vendor. For example, if you select a Broadcom OCP adapter, you cannot select a Mellanox PCIe network adapter.

Table 10. OCP adapters

| Part number | Feature | Description | Maximum supported | |
|-----------------------|---------|---|-------------------|--------|
| | | | HX3375 | HX3376 |
| 25 Gb Ethernet | | | | |
| 4XC7A08242 | B5SV | ThinkSystem Broadcom 57454 10/25GbE SFP28 4-port OCP Ethernet Adapter | 1 | 1 |
| 4XC7A62582 | BE4T | ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port OCP Ethernet Adapter | 1 | 1 |

Table 11. PCIe adapters

| Part number | Feature | Description | Maximum supported | |
|-----------------------|---------|--|-------------------|--------|
| | | | HX3375 | HX3376 |
| 10 Gb Ethernet | | | | |
| 4XC7A08245 | B5SU | ThinkSystem Broadcom 57454 10GBASE-T 4-port PCIe Ethernet Adapter | 2 | 2 |
| 25 Gb Ethernet | | | | |
| 4XC7A08316 | BD49 | ThinkSystem Broadcom 57454 10/25GbE SFP28 4-port PCIe Ethernet Adapter V2 | 1 | 1 |
| 4XC7A62580 | BE4U | ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port PCIe Ethernet Adapter | 2 | 2 |
| 100Gb Ethernet | | | | |
| 4XC7A08248 | B8PP | ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter | 2 | 2 |

GPU adapters

The HX3375 and HS3376 support the following GPU options.

For details about these options, see the SR645 product guide:
<https://lenovopress.com/lp1280-thinksystem-sr645-server#gpu-adapters>

Table 12. GPU adapters

| Part number | Feature | Description | Maximum supported | |
|-------------|---------|--|-------------------|--------|
| | | | HX3375 | HX3376 |
| 4X67A81547 | BP05 | ThinkSystem NVIDIA A2 16GB PCIe Gen4 Passive GPU | 2 | 2 |
| 4X67A14926 | B4YB | ThinkSystem NVIDIA T4 16GB PCIe Passive GPU | 2 | 2 |

Software

The systems support the hypervisors listed in the following table. Hypervisors are installed on the 2x M.2 SSDs configured in a RAID-1 drive group.

Table 13. Hypervisors

| Description | Feature code | Quantity |
|--|--------------|----------|
| Nutanix SW Stack on Nutanix AHV | B15S* | 1 |
| Nutanix SW Stack on VMware ESXi 6.7 U3 | BFT7 | 1 |
| Nutanix SW Stack on VMware ESXi 7.0 | BFT6 | 1 |

* Nutanix AHV is currently not supported with AMD EPYC 7003 processors

Configuration notes:

- In ESXi-based environments, HX Series Appliances require VMware vCenter Server.
- The HX systems support the Nutanix Software Starter, Pro and Ultimate editions.
- The HX systems can be deployed as a cluster of 1, 2 or 3+ nodes
- The HX systems support firmware updates from Nutanix Prism with the ThinkAgile HX Lifecycle Manager (UEFI, XCC, drives, network adapters, and SAS HBAs)

Nutanix licenses on certified nodes : The certified node ships with the Nutanix software preloaded, however Nutanix software licenses and software support are not included. Customers can use the existing Nutanix term-based software licenses and active support contracts, or they can purchase term-based software licenses and support contracts from Nutanix.

For the information on appliance firmware levels, hypervisor versions, and software versions that have been tested for interoperability, refer to the Lenovo ThinkAgile HX Series Best Recipes:

<https://support.lenovo.com/us/en/solutions/ht511487>

The ThinkAgile HX3375 Appliance supports the following software components except Nutanix Portfolio 2.0 (PnP) Licensing Model which is only supported by ThinkAgile HX3376 Certified Node:

- [Nutanix Acropolis](#)
- [Nutanix Prism](#)
- [Nutanix Calm](#)
- [Nutanix Flow](#)
- [Nutanix Portfolio 2.0 \(PnP\) Licensing Model](#)

Nutanix Acropolis

The integrated system can be configured with one of the Nutanix software editions that are listed in the following table. The Nutanix software is factory-preloaded and the appropriate license for the selected software edition can be downloaded from the Nutanix website to match the serial number of the integrated system.

Table 14. Nutanix software options (HX Integrated System only)

| Feature code | Description | Quantity (per node) |
|--------------|--------------------------|---------------------|
| B0VU | Nutanix Starter Edition | 1 |
| B0VV | Nutanix Pro Edition | 1 |
| B0VW | Nutanix Ultimate Edition | 1 |

The editions have the following characteristics:

- The Starter edition offers the core set of Nutanix software functionality. This edition is ideal for small-scale deployments with a limited set of workloads.
- The Pro edition offers rich data services, along with resilience and management features. This edition is ideal for enterprises running multiple applications on a Nutanix cluster or with large-scale single workload deployments.
- The Ultimate edition offers the full suite of Nutanix software capabilities to tackle complex infrastructure challenges. This edition is ideal for multi-site deployments.

The following table compares key features of the Nutanix software editions. For more information, see the following web page:

<https://www.nutanix.com/products/software-options>

Table 15. Nutanix software editions feature comparison

| Feature | Starter Edition | Pro Edition | Ultimate Edition |
|---|---------------------|---|---|
| Enterprise Storage | | | |
| Cluster Size | 12 | No enforced limits on-prem. 16 nodes validated in AWS | No enforced limits on-prem. 16 nodes validated in AWS |
| Heterogeneous Clusters | Included | Included | Included |
| VM-centric Snapshots & Clones | Included | Included | Included |
| Data Tiering | Included | Included | Included |
| Online Cluster Grow/Shrink | Included | Included | Included |
| Data Path Redundancy | Included | Included | Included |
| Tunable Redundancy Factor | 2 | 2 or 3 | 2 or 3 |
| Availability Domains | Node | Node, Block, Rack | Node, Block, Rack |
| Basic Compression (LZ4) - Inline and post process | Included | Included | Included |
| Deep Compression (LZ4HC) - Greater efficiency for cold data | No | Included | Included |
| Cache Deduplication | Included | Included | Included |
| Capacity Tier Deduplication | No | Included | Included |
| Erasur Coding (EC-X) | No | Included | Included |
| VM Centric Storage QoS | No | Included | Included |
| VM Flash Mode | No | No | Included |
| Consolidated Storage Services | | | |
| Volume Groups - for in-cluster VMs | Included | Included | Included |
| Volume Groups - external access | No | Included | Included |
| Nutanix Files | 1 TiB Free Capacity | 1 TiB Free Capacity | 1 TiB Free Capacity |
| Nutanix Objects | 2 TiB Free Capacity | 2 TiB Free Capacity | 2 TiB Free Capacity |
| Data Protection and Disaster Recovery | | | |
| Async Replication (RPO = 1 hr or greater) | Included | Included | Included |
| Application Consistent Snapshots | Included | Included | Included |

| Feature | Starter Edition | Pro Edition | Ultimate Edition |
|---|-----------------|--------------------------------|------------------|
| Self Service Restore | No | Included | Included |
| Multiple Site DR (many to one, one to many, many to many) | No | Adv Replication add-on license | Included |
| Metro Availability | No | Adv Replication add-on license | Included |
| Sync Replication (RPO = 0) | No | Adv Replication add-on license | Included |
| NearSync Replication (RPO = 1-15 min) | No | Adv Replication add-on license | Included |
| Advanced Orchestration with Runbook Automation | No | Adv Replication add-on license | Included |
| Security | | | |
| Client Authentication | Included | Included | Included |
| Cluster Lockdown | No | Included | Included |
| Data-at-Rest Encryption (Software-based & SED) | No | Add-on license available | Included |
| Native KMS | No | Add-on license available | Included |
| Management & Analytics | | | |
| Prism Starter | Included | Included | Included |
| Insights | Included | Included | Included |
| LCM | Included | Included | Included |
| Foundation | Included | Included | Included |
| Foundation Central | Included | Included | Included |
| Supported Hypervisors | | | |
| Nutanix AHV | Included | Included | Included |
| VMware ESXi | Included | Included | Included |
| Included Hypervisor and Container Runtime | | | |
| Nutanix AHV (All Hypervisor Features Included) | Included | Included | Included |
| Nutanix Karbon | Included | Included | Included |

Configuration notes:

- When adding software licenses after the initial deployment, customers should request a quote for the selected license part numbers from Lenovo and provide additional details on the existing installation.
- The total file/object storage capacity in Tebibytes (TiB) can be calculated by multiplying the total file/object storage capacity in Terabytes (TB) by 0.909495.

Nutanix Prism

Nutanix Prism gives administrators an easy way to manage virtual environments running on Acropolis, and it simplifies and streamlines common workflows for hypervisor and virtual machine lifecycle management.

Nutanix Prism is a part of the Nutanix software preloaded on the integrated system, and it includes the following components:

- Prism Starter (included in Starter, Pro, and Ultimate Nutanix software editions): Provides ability to configure, manage, and monitor a Nutanix cluster and centralized management of multiple local and remote Nutanix clusters.
- Prism Pro (selectable software license; optional): Enables efficiency evaluation, capacity planning, expansion recommendations, custom dashboards, and advanced search capabilities.
- Prism Ultimate (selectable software license; optional): Multiple Site DR, Sync Replication (RPO = 0), Data-at-Rest Encryption, VM Flash Mode, Metro Availability, Native KMS

The Prism Pro or Prism Ultimate software license can be added during the initial purchase by selecting one of the software options listed in the following table. These feature codes are only for HX integrated systems, not for certified nodes.

Table 16. Prism Pro selection options (HX Integrated Systems only)

| Feature code | Description | Quantity (per node) |
|--------------|---------------------------------|---------------------|
| B0W4 | Prism Pro | 1 |
| B0W5 | XClarity Pro and Prism Pro | 1 |
| BMUM | Prism Ultimate | 1 |
| BMUN | XClarity Pro and Prism Ultimate | 1 |

Also, Prism Starter can be upgraded to Prism Pro or Prism Ultimate after the initial deployment by purchasing one of the software license options listed in the following table. These part numbers are only for HX Integrated Systems, not for certified nodes.

Table 17. Prism Pro software license options (HX Integrated Systems only)

| Part number | Feature code | Description | Quantity (per node) |
|--------------------------------|--------------|--|---------------------|
| Prism Pro licenses | | | |
| 7S0P000UWW | AW87 | Nutanix Prism Pro with 1Yr Support | 1 |
| 7S0P000VWW | AW88 | Nutanix Prism Pro with 2Yr Support | 1 |
| 7S0P000WWW | AW89 | Nutanix Prism Pro with 3Yr Support | 1 |
| 7S0P000XWW | AW8A | Nutanix Prism Pro with 4Yr Support | 1 |
| 7S0P000YWW | AW8B | Nutanix Prism Pro with 5Yr Support | 1 |
| Prism Ultimate licenses | | | |
| 7S0P002BWW | S6Q6 | Nutanix Prism Ultimate per Node 1 Year | 1 |
| 7S0P002CWW | S6Q7 | Nutanix Prism Ultimate per Node 2 Year | 1 |
| 7S0PCTO1WW | S6Q9 | Nutanix Prism Ultimate per Node 4 Year | 1 |
| 7S0PCTO1WW | S6Q8 | Nutanix Prism Ultimate per Node 3 Year | 1 |
| 7S0PCTO1WW | S6QA | Nutanix Prism Ultimate per Node 5 Year | 1 |

Configuration note: When upgrading Prism Starter after the initial deployment, customers should request a quote for the selected Prism part numbers from Lenovo and provide additional details on the existing installation.

Nutanix Prism offers the following features:

- Single point of control
 - Accelerates enterprise-wide deployment
 - Manages capacity centrally
 - Adds nodes in minutes
 - Supports non-disruptive software upgrades with zero downtime
 - Integrates with REST APIs and PowerShell
 - Manages firmware updates with the ThinkAgile HX Lifecycle Manager (UEFI, XCC, drives, network adapters, and SAS HBAs)
- Monitoring and alerting
 - Tracks infrastructure utilization (storage, processor, memory)
 - Centrally monitors multiple clusters across multiple sites
 - Monitors per-VM performance and resource usage
 - Checks system health
 - Generates alerts and notifications
- Integrated data protection
 - Offers customizable RPO/RTO and retention policies
 - Supports configurable per-VM replication (1:1, 1:many and many:1)
 - Provides efficient VM recovery
 - Deploys affordable DR and backup to the cloud
- Diagnostics and troubleshooting
 - Provides time-based historical views of VM activity
 - Performs proactive alert analysis
 - Correlates alerts and events to quickly diagnose issues
 - Generates actionable alerts and reduces resolution times
 - Analyzes trending patterns for accurate capacity planning

Nutanix Calm

Nutanix Calm enables advanced application-level orchestration by providing a powerful, common management framework that can be leveraged by IT teams to rapidly create and deliver applications. The Calm software offers the following key features:

- Fully automates the provisioning, scaling, and deletion of traditional multi-tiered applications and distributed services.
- Simplifies the set-up and management of custom enterprise applications by incorporating all elements of each application, including relevant VMs, configurations, and related binaries, into an easy-to-use-blueprint.
- Publishes blueprints through the Nutanix Marketplace, giving end users the ability to request IT services that can then be instantly provisioned.
- Maintains control with role-based governance that limits user operations based on permissions and logs all activities for end-to-end traceability.

The Calm software is licensed on a per-VM basis in 25 VM packs. The Calm software licenses can be added during the initial purchase by selecting the software option listed in the following table. Calm licenses are only for HX integrated systems, not for certified nodes.

Table 18. Calm software selection options (HX Integrated Systems only)

| Feature code | Description | Quantity (per 25 VMs) |
|--------------|----------------------|-----------------------|
| B4E4 | Calm 25 License Pack | 1 |

Also, Calm licenses can be added after the initial deployment by purchasing one of the software license options listed in the following table.

Table 19. Calm software license options (HX Integrated Systems only)

| Part number | Feature code | Description | Quantity (per 25 VMs) |
|-------------|--------------|---|-----------------------|
| 7S0P000ZWW | B3D7 | Nutanix Calm Standard, Per 25 VMs w/1Yr Support | 1 |
| 7S0P0010WW | B3D8 | Nutanix Calm Standard, Per 25 VMs w/2Yr Support | 1 |
| 7S0P0011WW | B3D9 | Nutanix Calm Standard, Per 25 VMs w/3Yr Support | 1 |
| 7S0P0012WW | B3DA | Nutanix Calm Standard, Per 25 VMs w/4Yr Support | 1 |
| 7S0P0013WW | B3DB | Nutanix Calm Standard, Per 25 VMs w/5Yr Support | 1 |

Configuration notes:

- Calm supports the AHV hypervisors.
- When adding the Calm software licenses after the initial deployment, customers should request a quote for the selected Calm part numbers from Lenovo and provide additional details on the existing installation.

Nutanix Flow

Nutanix Flow delivers advanced networking and security services, providing visibility into the virtual network, application-centric protection from network threats, and automation of common networking operations. The Flow software offers the following key features:

- Real-time visualization of communications between VMs helps implement appropriate network policies in a Nutanix environment.
- Micro-segmentation provides granular control and governance of all traffic into and out of a virtual machine with network policies attached to individual VMs and applications, rather than specific network segments.
- API-based notifications enable third party network devices to automate network configuration changes, such as VLAN provisioning or policy updates, in response to VM lifecycle events, such as adding a new VM.
- Service insertion and chaining enables virtualized network functions from third-party software (such as virtual firewalls and load balancers) to be deployed with VM traffic in a Nutanix environment.

The Flow software is licensed on a per-node basis. The Flow software license can be added during the initial purchase by selecting the software option listed in the following table, These part numbers are only for HX integrated systems, not for certified nodes.

Table 20. Flow software selection options (HX Integrated Systems only)

| Feature code | Description | Quantity (per node) |
|--------------|--------------------------|---------------------|
| B4E5 | Flow Single Node License | 1 |

Also, Flow licenses can be added after the initial deployment by purchasing one of the software license options listed in the following table.

Table 21. Flow software license options (HX Integrated Systems only)

| Part number | Feature code | Description | Quantity (per node) |
|-------------|--------------|--------------------------------------|---------------------|
| 7S0P0014WW | B3DC | Nutanix Flow, Per Node w/1Yr Support | 1 |
| 7S0P0015WW | B3DD | Nutanix Flow, Per Node w/2Yr Support | 1 |
| 7S0P0016WW | B3DE | Nutanix Flow, Per Node w/3Yr Support | 1 |
| 7S0P0017WW | B3DF | Nutanix Flow, Per Node w/4Yr Support | 1 |
| 7S0P0018WW | B3DG | Nutanix Flow, Per Node w/5Yr Support | 1 |

Configuration notes:

- Flow supports the AHV hypervisors only.
- When adding the Flow software licenses after the initial deployment, customers should request a quote for the selected Flow part numbers from Lenovo and provide additional details on the existing installation.

Nutanix Portfolio 2.0 (PnP) Licensing Model

Nutanix is introducing an enterprise-ready unified cloud platform with our HCI solution as the foundation. The new, simplified product portfolio includes: Nutanix Cloud Platform (NCP), Nutanix Cloud Infrastructure (NCI) and Nutanix Cloud Manager (NCM), NCI-Data with 3 license tiers for each software edition. There are additional packages, Nutanix Unified Storage, Nutanix Database Service (NDB), and Nutanix Desktop Services (NDS), Virtual Desktop Infrastructure (VDI) & Nutanix Frame that are available.

The Nutanix software is available for all base CTO models.

The editions have the following characteristics:

Table 22. Software Editions

| License Tier | Nutanix Cloud Platform (NCP) | Nutanix Cloud Infrastructure (NCI) | Nutanix Cloud Manager (NCM) | NCI-Data |
|--------------|--|--|--|--|
| Ultimate | <ul style="list-style-type: none"> • NCI Ultimate • NCM Ultimate | <ul style="list-style-type: none"> • Advanced DR: Sync, Near-Sync, • Runbook Security: Micro-segmentation, Encryption • Cloud Native: Kubernetes Services | <ul style="list-style-type: none"> • Application Automation • Security General | <ul style="list-style-type: none"> • No Mseg • No Karbon |
| Pro | <ul style="list-style-type: none"> • NCI Ultimate • NCM Pro | <ul style="list-style-type: none"> • Multisite Async DR • Overlay Networking | <ul style="list-style-type: none"> • Self Service Cost Governance | <ul style="list-style-type: none"> • No Flow Networking |
| Starter | <ul style="list-style-type: none"> • NCI Pro • NCM Pro | <ul style="list-style-type: none"> • AOS Storage + Compression + Dedup | <ul style="list-style-type: none"> • AI Operations | <ul style="list-style-type: none"> • No AHV Support |

Nutanix Cloud Platform (NCP)

Nutanix Cloud Platform is the complete software edition package that includes both Nutanix Cloud Infrastructure (NCI) and Nutanix Cloud Manager (NCM). It is available in several editions to meet your infrastructure needs with the right set of capabilities.

Nutanix Cloud Infrastructure (NCI)

Nutanix Cloud Infrastructure (NCI) is a complete software stack to unify your hybrid cloud infrastructure including compute, storage and network, hypervisors and containers, in public or enterprise clouds; all with built-in resilience, self-healing, disaster recovery capabilities, and security. It includes enterprise data services and consolidated storage, data protection and disaster recovery, native virtualization and container management, networking and security.

For details on software editions see <https://www.nutanix.com/products/cloud-platform/software-options#nci>

Nutanix Cloud Manager (NCM)

Nutanix Cloud Manager (NCM) offers our customers simplicity and ease of use to build and grow their cloud deployments faster and realize rapid ROI, by providing intelligent operations, self service and orchestration, visibility and governance of spend, security and teams, all through a unified Multi-cloud management solution.

For details on software editions see <https://www.nutanix.com/products/cloud-platform/software-options#ncm>

Nutanix Unified Storage

Nutanix Unified Storage provides software-defined, scale-out storage solutions for enterprise NAS and object workloads for unstructured data, block storage for structured data, and backup storage. Nutanix Unified Storage replaces traditional independent storage services and brings NAS, object, and block workloads into a consolidated unified storage platform with all its benefits, including a unified control plane.

Nutanix Data Lens delivers cloud-based data governance for unstructured data stored in the Nutanix Unified Storage platform, including data lifecycle management, data security, ransomware protection, and audit compliance.

Nutanix Unified Storage and Data Lens are purchased and licensed on a per TiB usable basis.

For details on software editions see <https://www.nutanix.com/products/cloud-platform/software-options#nus>

Nutanix Database Service

Nutanix Database Service (NDB) is a Hybrid Multicloud DBaaS that enables small, nimble teams of DBAs to easily manage large fleets of databases using a single console and API, while enabling developers to self-service their database requests. NDB is purchased and licensed on a per core basis and is available either as a standalone or as an add-on to NCI. In the standalone version, NDB includes NCI Ultimate functionality in addition to database-specific capabilities and is licensed on a per-core basis.

For details on software editions see <https://www.nutanix.com/products/cloud-platform/software-options#database>

Nutanix Virtual Desktop Infrastructure (VDI) & Nutanix Frame

The Nutanix VDI per user model offers hybrid cloud infrastructure capabilities appropriate for on-prem virtual desktop infrastructure (VDI) and Desktop as a Service (DaaS) use cases with pricing based on a Maximum Concurrent User basis (maximum number of provisioned end-user VMs). VDI per user is an alternative to the core-based NCI licensing option and is designed to provide simple, transparent licensing for all VDI users, regardless of the underlying hardware, hypervisor, or cloud.

- Agnostic: Works with any EUC management platform including Citrix Virtual Apps & Desktops and VMware Horizon
- Term license: 1-year through 5-year options
 - Term license must run on a dedicated software licensed VDI cluster with no core-based licensing. Mixing of non-VDI workloads is not supported.
- Unified Storage: Built-in and also available as a per TiB base add-on
- No additional license cost for DR site
- Portable across on-premises and public cloud, public cloud use requires Ultimate edition
- Available in Starter, Pro, and Ultimate editions
- Cloud Native and Database Service Add-ons not available with NCI VDI. Advanced Replication and Security Add-on features require NCI Ultimate edition

For details on software editions see <https://www.nutanix.com/products/cloud-platform/software-options#vdi>

License Options

ThinkAgile HX can be configured with one of the latest Nutanix software editions that are listed in the following table.

Table 23. Nutanix license options

| Feature code | Description | Quantity Required |
|--------------|---|----------------------------------|
| BVKU | Nutanix Cloud Platform Starter Edition | 1 per node |
| BVKW | Nutanix Cloud Platform Pro Edition | 1 per node |
| BVKY | Nutanix Cloud Platform Ultimate Edition | 1 per node |
| BSPJ | Nutanix Cloud Infrastructure Starter Edition | 1 per node |
| BSPG | Nutanix Cloud Infrastructure Pro Edition | 1 per node |
| BSPL | Nutanix Cloud Infrastructure Ultimate Edition | 1 per node |
| BSQ0 | Nutanix Cloud Manager Starter Edition | 1 per node |
| BSPY | Nutanix Cloud Manager Pro Edition | 1 per node |
| BSQ2 | Nutanix Cloud Manager Ultimate Edition | 1 per node |
| BSPQ | NCI-Data Starter Edition | 1 per node |
| BSPN | NCI-Data Pro Edition | 1 per node |
| BSPS | NCI-Data Ultimate Edition | 1 per node |
| BSQH | Nutanix Database Service (NDB) Platform | 1 per node |
| BSQ7 | End User Computing (EUC) Starter | 1 for every 200 concurrent users |
| BSQ5 | End User Computing (EUC) Pro | 1 for every 200 concurrent users |
| BSQ9 | End User Computing (EUC) Ultimate | 1 for every 200 concurrent users |
| BSQD | Nutanix Unified Storage (NUS) Starter | 1 per Tib |
| BSQB | Nutanix Unified Storage (NUS) Pro | 1 per Tib |

Warranty and Support

The ThinkAgile HX Series appliances can be configured with a three-, four, or five-year hardware warranty with 24x7 ThinkAgile Premier Single Point of Support (Lenovo appliance hardware and Nutanix software) and various levels of coverage with a well-defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions.

The Lenovo local support centers perform problem determination and resolution for hardware-related issues and escalate to Nutanix, on behalf of the customer, for software-related problem determination. Nutanix will contact the customer and will own the software-related problem resolution until closure.

For more information refer to the Lenovo Support Plan - ThinkAgile HX Appliance and Lenovo Converged HX Series

<https://datacentersupport.lenovo.com/us/en/solutions/ht505404>

The ThinkAgile HX Certified Nodes can be configured with three-, four, or five-year hardware warranty and various levels of service coverage with a well-defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions.

The base warranty provides 9x5 Next Business Day response with parts delivered. Lenovo's additional support services provide a sophisticated, unified support structure for a customer's data center, with an experience consistently ranked number one in customer satisfaction worldwide.

For more information refer to the Lenovo Support Plan - ThinkAgile HX Certified Nodes

<https://support.lenovo.com/us/en/solutions/HT510301>

Hardware warranty

The systems have a 3-year warranty:

- 7D5U - 3 year warranty

Our global network of regional support centers offers consistent, local-language support enabling you to vary response times and level of service to match the criticality of your support needs:

- **Standard Next Business Day** – Best choice for non-essential systems requiring simple maintenance.
- **Premier Next Business Day** – Best choice for essential systems requiring technical expertise from senior-level Lenovo engineers.
- **Premier 24x7 4-Hour Response** – Best choice for systems where maximum uptime is critical.
- **Premier Enhanced Storage Support 24x7 4-Hour Response** – Best choice for storage systems where maximum uptime is critical.

For more information, consult the brochure [Lenovo Operational Support Services for Data Centers Services](#).

Deployment services

The following optional Lenovo Professional Services are available to get customers up and running quickly.

- Basic Hardware Installation Services
 - Unpacking and inspecting the systems
 - Installing options and mounting the systems in a rack cabinet
 - Connecting the systems to electrical power and network
 - Checking and updating firmware to the latest levels
 - Verifying operations
 - Disposal of the packaging materials (within the customer site)

- Nutanix deployment services - Base (per node)
 - Conducting remote preparation and planning
 - Verifying firmware versions and performing firmware updates, if needed
 - Installing and configuring hypervisor and Nutanix controller VM
 - Creating Nutanix cluster
 - Configuring storage
 - Configuring administrative features
- Nutanix deployment services - Advanced (per cluster)
 - Configuring and integrating a virtualized environment
 - Nutanix containers and Acropolis (AHV) cluster
 - VMware vCenter Server and vSphere cluster (for VMware installations)
 - Transferring knowledge
- Nutanix deployment services - Advanced with XClarity (per cluster)
 - Nutanix deployment services - Advanced
 - Installing Lenovo XClarity
 - Configuring Lenovo XClarity network settings and performing discovery and inventory
 - Installing system updates

The following table lists ThinkAgile Health Check & Deployment offerings are available for ThinkAgile HX customers. These offerings are performed by Lenovo Professional Services.

- **Onsite Deployment:** Install, configure, and validate solution on-site, and conduct knowledge transfer.
- **Remote Deployment:** Install, configure, and validate solution remotely, and conduct knowledge transfer.
- **Remote Health Check:** Report & remediation of hardware and cluster health issues, including firmware and software updates.

Note: For custom Hardware Installation and Deployment Services, please contact the Lenovo Professional Services team for sizing and pricing.

Table 24. Deployment offerings

| Part number | Description |
|-----------------------------------|--|
| Onsite deployment services | |
| 5MS7B00043 | ThinkAgile HX Onsite Deployment (up to 3 nodes) |
| 5MS7B00044 | ThinkAgile HX Onsite Deployment (additional node) |
| Remote deployment services | |
| 5MS7B00045 | ThinkAgile HX Remote Deployment (up to 3 nodes) |
| 5MS7B00046 | ThinkAgile HX Remote Deployment (additional node) |
| 5MS7A27430 | ThinkAgile HX SAP HANA Deployment - Custom |
| Remote Health Check | |
| 5MS7B00065 | ThinkAgile HX 1X Remote Health Check (up to 3 node cluster) |
| 5MS7B00066 | ThinkAgile HX 1X Remote Health Check (additional node) |
| 5MS7B00067 | ThinkAgile HX 1X Remote Health Check & Update (up to 3 node cluster) |
| 5MS7B00068 | ThinkAgile HX 1X Remote Health Check & Update (additional node) |

For more information, refer to the Data Center Implementation Services web page:
<https://www.lenovo.com/us/en/data-center/services/implementation-services/>

Lenovo TruScale

Lenovo TruScale XaaS is your set of flexible IT services that makes everything easier. Streamline IT procurement, simplify infrastructure and device management, and pay only for what you use – so your business is free to grow and go anywhere.

Lenovo TruScale is the unified solution that gives you simplified access to:

- The industry's broadest portfolio – from pocket to cloud – all delivered as a service
- A single-contract framework for full visibility and accountability
- The global scale to rapidly and securely build teams from anywhere
- Flexible fixed and metered pay-as-you-go models with minimal upfront cost
- The growth-driving combination of hardware, software, infrastructure, and solutions – all from one single provider with one point of accountability.

For information about Lenovo TruScale offerings that are available in your region, contact your local Lenovo sales representative or business partner.

Lenovo Financial Services

Why wait to obtain the technology you need now? No payments for 90 days and predictable, low monthly payments make it easy to budget for your Lenovo solution.

- **Flexible**

Our in-depth knowledge of the products, services and various market segments allows us to offer greater flexibility in structures, documentation and end of lease options.

- **100% Solution Financing**

Financing your entire solution including hardware, software, and services, ensures more predictability in your project planning with fixed, manageable payments and low monthly payments.

- **Device as a Service (DaaS)**

Leverage latest technology to advance your business. Customized solutions aligned to your needs. Flexibility to add equipment to support growth. Protect your technology with Lenovo's Premier Support service.

- **24/7 Asset management**

Manage your financed solutions with electronic access to your lease documents, payment histories, invoices and asset information.

- **Fair Market Value (FMV) and \$1 Purchase Option Leases**

Maximize your purchasing power with our lowest cost option. An FMV lease offers lower monthly payments than loans or lease-to-own financing. Think of an FMV lease as a rental. You have the flexibility at the end of the lease term to return the equipment, continue leasing it, or purchase it for the fair market value. In a \$1 Out Purchase Option lease, you own the equipment. It is a good option when you are confident you will use the equipment for an extended period beyond the finance term. Both lease types have merits depending on your needs. We can help you determine which option will best meet your technological and budgetary goals.

Ask your Lenovo Financial Services representative about this promotion and how to submit a credit application. For the majority of credit applicants, we have enough information to deliver an instant decision and send a notification within minutes.

Seller training courses

The following sales training courses are offered for employees and partners (login required). Courses are listed in date order.

1. **Family Portfolio: ThinkAgile Systems**

2025-04-30 | 45 minutes | Employees and Partners

This course covers the foundational components of the ThinkAgile family, including server configurations, key system differences, and the unique features of the HX, MX, and VX product families.

By the end of this course, you should be able to:

- List the ThinkSystem and ThinkEdge servers that the ThinkAgile family is based on
- Explain the difference between Certified Nodes and Integrated Systems
- List two features each of the HX, MX, and VX families

Tags: ThinkAgile, ThinkSystem

Published: 2025-04-30

Length: 45 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: SXS2150r2

2. **Partner Technical Webinar - Storage Announcements**

2025-04-29 | 60 minutes | Employees and Partners

In this 60-minute replay, the April 23 Storage Announcement was presented. Adam Mandelbloom, Lenovo Technical Marketing Manager, presented the ThinkAgile announcements. Next, Roger Yarosh, Senior Storage Product Manager, presented the DG and DM announcements.

Tags: Data Management, ThinkAgile

Published: 2025-04-29

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: 042525

3. **Think AI Weekly: Simplifying AI Deployments with ThinkAgile**

2025-04-11 | 54 minutes | Employees Only

Please view this session to hear Adam Mandelbloom, Technical Marketing Manager for ISG explain these topics:

- Overall value proposition of ThinkAgile in AI solutions
- Use cases for ThinkAgile HX
- Use cases for ThinkAgile VX and MX

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2025-04-11

Length: 54 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DTAIW137

4. **Lenovo TruScale for Hosted Desktops with Nutanix**

2025-02-04 | 15 minutes | Employees and Partners

By exemplifying the case of a customer who wants to move to a remote desktop public cloud solution, this 15-minute course offers an overview of the Lenovo TruScale for Hosted Desktops with Nutanix solution, including benefits, architecture, and value proposition.

After completing this course, you will be able to describe the Lenovo TruScale for Hosted Desktops with Nutanix solution, articulate the value proposition of this Hosted Desktops solution, and identify opportunities for this Lenovo-Nutanix solution.

Tags: ThinkAgile, TruScale

Published: 2025-02-04

Length: 15 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DSOLO109

5. **Selling On Prem Value - Private Cloud and Private AI**

2024-12-13 | 40 minutes | Employees Only

This course provides Lenovo Sellers with a series of five videos that are designed to help you better articulate our joint value in the Private Cloud and Private AI solution opportunity. After completing this course, Lenovo Sellers should be prepared to elevate customer discussions by transitioning from product features to explaining value-driven benefits, enabling a deeper understanding of the strategic impact for their business.

Tags: Artificial Intelligence (AI), Industry solutions, Technology solutions, ThinkAgile, VMware

Published: 2024-12-13

Length: 40 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DVMB101

6. **Partner Technical Webinar - Data Center 101 - Why HCI? Why 3-tier?**

2024-11-14 | 60 minutes | Employees and Partners

October 11, 2024 – In this 60-minute webinar Alex Docherty, Channel Technical Strategist, discussed When to HCI vs 3 Tier.

Tags: ThinkAgile, ThinkSystem

Published: 2024-11-14

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: 101124

7. ThinkAgile Solutions for AI - Security and Compliance Considerations

2024-10-01 | 15 minutes | Employees and Partners

This course, tailored specifically for Lenovo and its partner technical sellers, is designed to equip participants with essential knowledge and skills to effectively assess security measures and address compliance considerations for ThinkAgile Solutions for AI.

Upon completion of this training, you will be able to:

- Describe security features of ThinkAgile for AI data protection.
- Explain how to mitigate risk and address compliance considerations in AI deployments.

Last Updated: September 2024

Tags: Artificial Intelligence (AI), High-Performance Computing (HPC), ThinkAgile

Published: 2024-10-01

Length: 15 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDAI203

8. Integration of ThinkAgile and AI

2024-09-11 | 25 minutes | Employees and Partners

Designed specifically for Lenovo and its partner technical sellers, this course aims to equip you with the knowledge and skills to effectively communicate the integration of ThinkAgile Solutions and AI.

Upon completion of this training, you will be able to:

- Highlight the advantages of using ThinkAgile for AI workloads
- Explore how ThinkAgile platforms are specifically optimized for AI

Last Updated: September 2024

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-09-11

Length: 25 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDAI204

9. **Key Features of Lenovo ThinkAgile Solutions for AI**

2024-09-10 | 15 minutes | Employees and Partners

Designed specifically for Lenovo and its partner technical sellers, this course aims to equip you with the knowledge and skills to effectively communicate the key features of ThinkAgile Solutions for AI. By completing this course, you'll be better prepared to understand customer needs and present the most suitable AI solutions, ensuring successful engagements and driving value for your clients.

In this course, you will learn how to:

- Present compute capabilities for AI processing
- Articulate optimized storage solutions with ThinkAgile for high-speed AI performance
- Identify essential networking considerations for ThinkAgile AI workloads
- Present ThinkAgile AI Ready solutions

Last Updated: September 2024

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-09-10

Length: 15 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDAI201

10. **ThinkAgile Solutions for AI - Sales Strategies and Messaging**

2024-09-06 | 15 minutes | Employees and Partners

This course is designed exclusively for Lenovo and its partner technical sales teams, with the goal of empowering you with the knowledge and strategies necessary to effectively engage customers in conversations about ThinkAgile Solutions for AI.

In this course, you'll learn how to:

- Identify customer pain points.
- Recommend ThinkAgile Solutions for AI tailored to those needs. And lastly,
- Communicate the benefits of ThinkAgile for AI to key stakeholders.

Last Updated: September 2024

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-09-06

Length: 15 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDAI202

11. **Position Lenovo ThinkAgile Solutions for AI**
2024-08-19 | 10 minutes | Employees and Partners

Designed specifically for Lenovo and partner technical sellers, this course aims to equip you with the knowledge and skills necessary to effectively evaluate and position ThinkAgile Solutions for AI to your customers. By completing this course, you will be better prepared to understand customer needs and present the most suitable AI solutions, ensuring successful engagements and driving value for your clients.

In this course, you will learn how to position ThinkAgile Solutions for AI to your customers by:

- Evaluating the key challenges in the enterprise landscape
- Advocating the value proposition of ThinkAgile Hyper-Converged Infrastructure
- Exploring use cases of ThinkAgile in AI environments
- Implementing ThinkAgile-based AI deployments

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-08-19

Length: 10 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDAI200

12. **ThinkAgile Roadshow for Account Managers**
2024-06-21 | 60 minutes | Employees Only

As customers transition through technology refresh and modernize their IT, learn how to win and position ThinkAgile portfolio. Get an overview of current ThinkAgile momentum and strategy along with best practices in product positioning

Tags: Artificial Intelligence (AI), Cloud, Microsoft, Nutanix, ThinkAgile, VMware

Published: 2024-06-21

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DTAO101

13. **SAP Webinar for Lenovo Sellers: Lenovo Portfolio Update for SAP Landscapes**
2024-06-04 | 60 minutes | Employees Only

Join Mark Kelly, Advisory IT Architect with the Lenovo Global SAP Center of Competence as he discusses:

- Challenges in the SAP environment
- Lenovo On-premise Solutions for SAP
- Lenovo support resources for SAP solutions

Tags: SAP, ThinkAgile, ThinkEdge, ThinkSystem

Published: 2024-06-04

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DSAPF101

14. **Lenovo Data Center Product Portfolio**
2024-05-29 | 20 minutes | Employees and Partners

This course introduces the Lenovo data center portfolio, and covers servers, storage, storage networking, and software-defined infrastructure products. After completing this course about Lenovo data center products, you will be able to identify product types within each data center family, describe Lenovo innovations that this product family or category uses, and recognize when a specific product should be selected.

Tags: Advanced DataCenter, DataCenter Products, ThinkAgile, ThinkEdge, ThinkSystem

Published: 2024-05-29

Length: 20 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: SXXW1110r7

15. **VTT Cloud Architecture: NVIDIA Using Cloud for GPUs and AI**
2024-05-22 | 60 minutes | Employees Only

Join JD Dupont, NVIDIA Head of Americas Sales, Lenovo partnership and Veer Mehta, NVIDIA Solution Architect on an interactive discussion about cloud to edge, designing cloud Solutions with NVIDIA GPUs and minimizing private\hybrid cloud OPEX with GPUs. Discover how you can use what is done at big public cloud providers for your customers. We will also walk through use cases and see a demo you can use to help your customers.

Tags: Artificial Intelligence (AI), Cloud, Nvidia, Software Defined Infrastruture (SDI), Technical Sales

Published: 2024-05-22

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DVCLD212

16. **Start the Conversation - Lenovo Cloud Strategy**

2024-05-20 | 25 minutes | Employees and Partners

The purpose of this course is to help sellers use the Lenovo cloud strategy as a foundation to start the customer cloud conversation.

Course Objectives:

- Understand why customers choose the cloud
- Describe the Lenovo Cloud Strategy
- Be able to start the customer cloud conversation

Tags: Cloud, Technology solutions

Published: 2024-05-20

Length: 25 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDS103r3

17. **Partner Technical Webinar - Thinkagile HX Update**

2024-05-08 | 60 minutes | Employees and Partners

In this 60-minute replay, Adam Mandelbloom, Technical Product Manager - ISG SDI, educated us with an update on Thinkagile HX. He also touched on “What’s New” as well as gave HX strategic positioning.

Tags: Nutanix

Published: 2024-05-08

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: 042624

18. **VTT Cloud and Edge Architecture: Principal Consultant Overview**

2024-04-10 | 50 minutes | Employees Only

Join Ruth Miller, Lenovo Principal Consultant, SSG Services for a data-led discussions to examine in detail customer IT environments, highlighting pain points, performance issues, edge and hybrid cloud strategy and carbon reduction capability.

Examples of workshop deliverables and outcomes will be discussed to illustrate the value of early engagement and discovery.

Tags: Cloud, Services, Sustainability, Technology solutions, TruScale Infrastructure as a Service

Published: 2024-04-10

Length: 50 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DVCLD211

19. **VTT Data Management How to sell storage - April 2024**

2024-04-10 | 60 minutes | Employees Only

In this course, you will know:

- Why do we sell storage?
- What are the basics you need to get an opportunity rolling?
- Why Lenovo for Storage?
- What is happening in the market today?
- How to determine traction?

Tags: Data Management, Storage

Published: 2024-04-10

Length: 60 minutes

Start the training:

Employee link: [Grow@Lenovo](#)

Course code: DVDAT209

20. **Data management Overview**

2024-03-14 | 25 minutes | Employees and Partners

After completing this course you will be able to:

1. Know more about the data management trends and challenges
2. Understand the data management portfolio
3. Find out how data drives business value

Tags: Data Management, Storage, ThinkSystem

Published: 2024-03-14

Length: 25 minutes

Start the training:

Employee link: [Grow@Lenovo](#)

Partner link: [Lenovo Partner Learning](#)

Course code: DSTOO201

21. **Technical Overview: ThinkAgile HCI and Cloud Platforms**

2024-03-07 | 35 minutes | Employees and Partners

This course is designed to give Lenovo sales and partner representatives a technical overview of Lenovo's ThinkAgile hyperconverged infrastructure and cloud platforms. Turnkey cloud platforms along with their architectural makeup, and container and data protection solutions are also covered.

Learning Objectives:

- Describe Lenovo's ThinkAgile hyperconverged infrastructure and cloud platforms
- Explain do-it-yourself and turnkey cloud platforms along with their architectural makeup
- Describe container and data protection solutions

Tags: Architecture, Engineering & Construction, Cloud, Technical Sales, ThinkAgile

Published: 2024-03-07

Length: 35 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDT2001r3

22. **Lenovo HX Business Conversations**

2024-03-06 | 20 minutes | Employees and Partners

This course covers business conversations for Lenovo HX Hyperconverged solutions.

Course objectives:

- Identify a potential Lenovo HX opportunity
- Conduct effective discovery to reveal the customer's data center needs
- Probe the customer
- Ensure the customer knows you understand their issue(s)

Tags: DataCenter Products, Nutanix, Storage

Published: 2024-03-06

Length: 20 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCGHXB001

23. **Family Introduction: Converged and Hyperconverged**

2024-01-25 | 15 minutes | Employees and Partners

This course is designed to give Lenovo sales a foundation on the characteristics of the Converged and Hyperconverged family. As an introduction to each family, this course also includes positioning, when to use a family and product, and keywords a client may use when discussing a converged or hyperconverged product.

Objectives:

- Family characteristics
- Priority positioning
- Product usage
- Key words and phrases

Tags: Sales, Storage

Published: 2024-01-25

Length: 15 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: SXSW1101r2

24. **VEEAM Solutions Sales Training**

2023-09-27 | 20 minutes | Employees and Partners

In this course you will learn about Hyper-availability for the Always-On Enterprise.

By the end of this training, you should be able to:

Identify and explain the core products and solutions offered by Veeam.

Explain the key benefits and value propositions of integrating Veeam solutions with Lenovo products.

Tags: Sales

Published: 2023-09-27

Length: 20 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DSTOO100

25. **A Seller's Guide to Nutanix OEM 2.0**
2023-08-24 | 90 minutes | Employees Only

In this Sales Team webinar, Mike Tilt, Ritu Jain and Brandon Saxton will cover the new Nutanix 2.0 pricing and packaging options to guide sellers on what the different types of offers, sales process and how to sell Nutanix 2.0. You will get an overview of OEM 2.0, Sales Process, PNP Pricing and Zone Information, and additional resources on Upgrade & Renewal SKUs and process.

Course Objectives

- Defining Nutanix 2.0 Pricing and Packaging
- Describing OEM 2.0 Sales Process
- Identifying resources and support

Tags: Nutanix, OEM, Sales

Published: 2023-08-24

Length: 90 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DSXNS101

26. **Empowering Technical Sellers: Excelling In Transactional Workloads**
2023-08-18 | 60 minutes | Employees and Partners

This training abstract outlines a comprehensive program designed to equip technical sellers with the knowledge and expertise required to effectively promote and sell Lenovo and Nutanix solutions for transactional workloads. By focusing on the unique capabilities and advantages of Lenovo and Nutanix infrastructure in handling high-performance transactional applications, this training program empowers technical sellers to engage with customers, understand their specific workload requirements, and articulate the value proposition of Lenovo and Nutanix offerings in this domain.

The training program encompasses the following key areas:

1. Transactional Workloads Overview:
2. Lenovo and Nutanix Solutions for Transactional Workloads:
3. Product Portfolio Deep Dive:
4. Addressing Customer Requirements:
5. Solution Positioning and Sales Techniques:
6. Competitor Analysis:

Through this training, technical sellers will acquire the expertise necessary to engage with customers, understand their transactional workload requirements, and effectively position Lenovo and Nutanix solutions as the ideal choice for high-performance, mission-critical applications. By understanding the intricacies of Lenovo and Nutanix offerings in the transactional workload space, technical sellers will be empowered to drive successful sales engagements, build strong customer relationships, and contribute to the growth and success of their organization.

Tags: Cloud, Nutanix, ThinkAgile

Published: 2023-08-18

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DHXD201

27. **Empowering Technical Sellers: Accelerating Lenovo and Nutanix Cloud Native-Container Application Solutions**

2023-08-18 | 60 minutes | Employees and Partners

This training abstract outlines a comprehensive program specifically designed to equip technical sellers with the knowledge and expertise needed to effectively promote and sell Lenovo and Nutanix cloud native/container application solutions. By focusing on the integration of Lenovo and Nutanix technologies with modern application development practices, this training enables tech sellers to engage with customers, understand their requirements, and articulate the unique value proposition of Lenovo and Nutanix offerings in the cloud native and containerization landscape.

The training encompasses the following key areas:

1. Cloud Native and Containerization Fundamentals:
2. Lenovo and Nutanix Solutions Overview:
3. Product Portfolio Deep Dive:
4. Addressing Customer Needs:
5. Solution Positioning and Sales Techniques:
6. Competitor Analysis:
7. Technical Demonstration and Proof-of-Concept:

Throughout the training, tech sellers will gain the expertise necessary to engage with customers, understand their unique requirements, and effectively position Lenovo and Nutanix solutions as the go-to choice for cloud native and containerized application needs. By learning the intricacies of Lenovo and Nutanix offerings, technical sellers will be equipped to drive successful sales engagements, strengthen customer relationships, and contribute to the overall growth and success of the organization.

Tags: Business solutions, Cloud, Nutanix, ThinkAgile

Published: 2023-08-18

Length: 60 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DHXC201

28. **ThinkAgile Accelerating Cloud Agility: HX Series Technical Presentation**

2023-07-28 | 40 minutes | Employees and Partners

Amalu Santhosh, Lenovo Technical Product Manager, reviews the ThinkAgile HX product portfolio. She will walk you through a technical deep dive into HX workloads and discuss technical details and performance of the latest ThinkAgile HX solutions.

Tags: ThinkAgile

Published: 2023-07-28

Length: 40 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DHXT201

29. **Cloud and HCI or Somewhere in Between**

2023-07-11 | 40 minutes | Employees and Partners

Provides a brief overview of Lenovo Portfolio for HCI and Cloud including ThinkAgile HX, VX, MX Certified Nodes and Appliances, Azure, and Engineered Cloud Solutions. Review Scenarios and complete questions "choose your own adventure" to identify and qualify an opportunity as HCI or Cloud and which portfolio solution would be the best option.

Course objectives:

- Where in the Sales Cycle we are
- What is Cloud
- What is Hyperconverged Infrastructure (HCI)
- Review Lenovo Offerings in Cloud and HCI
- Scenarios

Tags: Cloud

Published: 2023-07-11

Length: 40 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDS104r2

30. **What's New with Nutanix 2.0? Portfolio and Licensing**

2023-06-08 | 15 minutes | Employees and Partners

Nutanix has updated and simplified their licensing for our joint customers. This course is created to give sales and partners representatives an overview for the recent Nutanix licensing changes and their current options.

Course Objectives:

After completing this course, you should be able to:

- Describe the new Nutanix licensing rollout
- List the new pricing and packaging options

Tags: Cloud, Nutanix, Software Defined Infrastructure (SDI), ThinkAgile

Published: 2023-06-08

Length: 15 minutes

Start the training:

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: DHXL001

31. **Data Infrastructure Management - DM Series Storage**

2022-10-28 | 25 minutes | Employees Only

This course provides a technical overview of the ThinkSystem DM series products. Course DDMO101 – Lenovo ThinkSystem DM & DE Series Overview is recommended prior to this course.

By the end of this course, you should be able to:

- Recognize the components of the Lenovo Data Management portfolio
- Discuss the features of the Lenovo Data Management components
- Describe the features of the SnapCenter software components

Tags: Sales, Storage, Technical Sales, ThinkSystem

Published: 2022-10-28

Length: 25 minutes

Start the training:

Employee link: Grow@Lenovo

Course code: DDM200

Related publications and links

For more information, see these resources:

- Lenovo ThinkAgile HX Series
<https://www.lenovo.com/us/en/data-center/software-defined-infrastructure/ThinkAgile-HX-Series/p/WMD00000326>
- Interactive 3D Tour of ThinkAgile HX Series offerings:
<https://lenovopress.com/lp0454-lenovo-thinkagile-hx-series-interactive-3d-tour>
- Lenovo Data Center Solution Configurator (DCSC):
<http://dcsc.lenovo.com>
- Lenovo ThinkAgile product publications (user manuals):
<https://thinkagile.lenovofiles.com/help/index.jsp>
- Nutanix documentation
<https://my.nutanix.com/>
- Lenovo ThinkAgile HX Series Best Recipes
<https://support.lenovo.com/us/en/solutions/HT515725>
- Lenovo Data Center Support
<http://datacentersupport.lenovo.com>

Related product families

Product families related to this document are the following:

- [Hyperconverged Infrastructure](#)
- [ThinkAgile HX Series for Nutanix](#)

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