

# Lenovo ThinkAgile VX635 V3 1U Integrated Systems and Certified Nodes (AMD EPYC 9004)

## Product Guide

The Lenovo ThinkAgile VX635 V3 Integrated Systems and Certified Node are 1-socket 1U systems that feature the AMD EPYC 9004 "Genoa" family of processors. With up to 96 cores per processor and support for the new PCIe 5.0 standard for I/O, the VX635 V3 system systems offer the ultimate in one-socket performance in a 1U form factor. VMware offers a unique, software-defined approach to hyper convergence, leveraging the hypervisor to deliver compute, storage and management in a tightly integrated software stack.

The 1U systems are available either as an Integrated System (VX635-IS) or Certified Node (VX635-CN) and suitable for:

- SMB, remote office and branch office
- Desktop Virtualization, Data Analytics, Backup

**Tip:** ThinkAgile *Integrated System* is the new name for ThinkAgile Appliance.



Figure 1. Lenovo ThinkAgile VX with 2.5-inch drive bays

## **Did you know?**

The ThinkAgile VX635 V3 Integrated Systems and Certified Node are built on the Lenovo ThinkSystem SR635 V3 server that features enterprise-class reliability, management, and security.

The ThinkAgile VX635 V3 Integrated Systems comes preinstalled with VMware software. The deployer tool provides for faster day 0 and day 1 operations. XClarity Integrator acting as the Hardware Support manager (HSM) for the vSphere Life Cycle Manager (vLCM), handles lifecycle management of both software and firmware updates via a single pane of glass that fully integrates VMware tools. The VX Integrated System comes paired with Premier Support that offers a single point of support for quick 24/7 problem reporting and resolution.

The systems have been designed to take advantage of the features of the AMD EPYC 9004 Series "Genoa" family of processors, such as the full performance of 96-core processors, support for 4800 MHz memory and PCIe Gen 5.0 support.

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

## Key features

### ThinkAgile features

The ThinkAgile VX635 V3 Integrated Systems and Certified Node offer the following key features:

- Factory-integrated, pre-configured ready-to-go integrated systems built on proven and reliable Lenovo ThinkSystem servers that provide compute power for a variety of workloads and applications and powered by industry-leading hyperconverged infrastructure software from VMware.
- Provide quick and convenient path to implement a hyperconverged solution powered by VMware vSAN 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 VMware software.
- ThinkAgile Integrated Systems are bundled with Premier Support providing a single-point-of-contact for quick 24/7 hardware and software support, problem reporting and resolution.
- Five-year hardware warranty, bundled with Premier Support that provides a 24x7 Single Point of Support
- Offer Lenovo deployment services to get customers up and running quickly.

The VMware software running on ThinkAgile VX635 V3 Integrated Systems and Certified Node delivers the following key features:

- Distributed architecture that allows "pay-as-you-grow", non-disruptive scaling by adding new nodes to the cluster (scale-out) to increase capacity and performance.
- Advanced capacity management, including deduplication, compression, and erasure coding (RAID 5/6), which helps deliver greater storage utilization with dramatically lower storage capacity and costs.
- Automation of VM storage provisioning and control of storage service levels (capacity, performance, availability) with VM-centric policies to load balance storage resources.
- Native HCI security solution with two-factor authentication (SecurID and CAC) and data-at-rest encryption that does not require self-encrypting drives (SEDs).
- Stretched cluster with local and site failure protection between two geographically dispersed sites for higher level of availability with near zero downtime.
- Centralized management with provisioning, administering, and monitoring virtual resources across multiple hosts and clusters from a centralized interface.
- Rapid workload provisioning, simplified data center operations, increased business efficiency, and decreased CAPEX and OPEX costs.
- VM and data protection with agent-less, image-level virtual machine backups and application-aware protection for business-critical Microsoft applications (Exchange, SQL Server, SharePoint) along with WAN-efficient, encrypted backup data replication.
- Reduced unplanned downtime and virtually eliminated planned downtime for server and storage maintenance with live workload migration, high availability, and fault tolerance.
- Enhanced application performance and availability with resource management, load balancing, and access prioritization.
- Intelligent operations management and automation to proactively monitor and manage compute, storage, and networking resources, identify performance bottlenecks, and re-balance workloads by leveraging predictive analytics.
- Capacity planning and optimization guidance to address future needs with performance trends, projections and extended forecasts.

- Managing remote offices and branch offices with rapid provisioning of servers through virtualization, minimization of host configuration drift, and enhanced visibility into regulatory compliance, across multiple sites.

## Hardware features

The VX635 V3 system are based on the SR635 V3 and have the following hardware features:

### Scalability and performance

The VX635 V3 system offer numerous features to boost performance, improve scalability and reduce costs:

- Supports the AMD EPYC 9004 family of processors
- Supports a processor with up to 96 cores and 192 threads, core speeds of up to 3.6 GHz, and TDP ratings of up to 360W.
- Support for up to 12 TruDDR5 memory DIMMs with one processor (12 DIMMs per processor). With 1 DIMM installed per channel (12 DIMMs total), memory operates at 4800 MHz.
- Using 128GB 3DS RDIMMs, the server supports up to 1.5TB of system memory.
- Supports up to three single-width GPUs, each up to 75W for substantial processing power in a 1U system.
- Supports 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).
- Supports 12x NVMe drives without oversubscription of PCIe lanes (1:1 connectivity) and without the need for additional NVMe adapters. The use of NVMe drives maximizes drive I/O performance, in terms of throughput, bandwidth, and latency.
- Supports up to two externally accessible 7mm hot-swap drives with RAID functionality for operating system boot functions
- Supports M.2 drives for convenient operating system boot functions or data storage.
- The server has a dedicated industry-standard OCP 3.0 small form factor (SFF) slot, with a PCIe 5.0 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 server offers PCI Express 5.0 I/O expansion capabilities that doubles the theoretical maximum bandwidth of PCIe 4.0 (32GT/s in each direction for PCIe 5.0, compared to 16 GT/s with PCIe 4.0). A PCIe 5.0 x16 slot provides 128 GB/s bandwidth, enough to support a 400GbE network connection.
- Up to three PCIe 5.0 slots, all with rear access, plus an internal bay for a cabled HBA, plus a slot dedicated to the OCP adapter.

## Availability and serviceability

The VX635 V3 system provide many features to simplify serviceability and increase system uptime:

- The server uses ECC memory and supports memory RAS features including Single Device Data Correction (SDDC, also known as Chipkill), Patrol/Demand Scrubbing, Bounded Fault, DRAM Address Command Parity with Replay, DRAM Uncorrected ECC Error Retry, On-die ECC, ECC Error Check and Scrub (ECS), and Post Package Repair.
- The server offers hot-swap drives for greater system uptime.
- The server has up to two hot-swap redundant power supplies and up to eight hot-swap redundant fans to provide availability for business-critical applications.
- Optional front-accessible slots and drives so that most major components and cables (except power) are located at the front of the server.
- 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, RAID controllers, server ambient and subcomponent temperatures. Alerts can be surfaced through the XClarity Controller to managers such as Lenovo XClarity Administrator and VMware vCenter. These proactive alerts let you take appropriate actions in advance of possible failure, thereby increasing server uptime and application availability.
- The built-in XClarity Controller 2 continuously monitors system parameters, triggers alerts, and performs recovery actions in case of failures to minimize downtime.
- Built-in diagnostics in UEFI, using Lenovo XClarity Provisioning Manager, speed up troubleshooting tasks to reduce service time.
- Lenovo XClarity Provisioning Manager supports diagnostics and can save service data to a USB key drive or remote CIFS share folder for troubleshooting and reduce service time.
- Auto restart in the event of a momentary loss of AC power (based on power policy setting in the XClarity Controller service processor)
- Offers a diagnostics port on the front of the server to allow you to attach an external diagnostics handset for enhanced systems management capabilities.
- Support for the XClarity Administrator Mobile app running on a supported smartphone and connected to the server through the service-enabled USB port, enables additional local systems management functions.
- Three-year or one-year customer-replaceable unit and onsite limited warranty, 9 x 5 next business day. Optional service upgrades are available.

## Manageability and security

Systems management features simplify local and remote management of the VX635 V3 system:

- The server includes an XClarity Controller 2 (XCC2) to monitor server availability. Optional upgrade to XCC Platinum to provide remote control (keyboard video mouse) functions, support for the mounting of remote media files, FIPS 140-3 security, enhanced NIST 800-193 support, boot capture, power capping, and other management and security features.
- Lenovo XClarity Administrator offers comprehensive hardware management tools that help to increase uptime, reduce costs and improve productivity through advanced server management capabilities.
- UEFI-based Lenovo XClarity Provisioning Manager, accessible from F1 during boot, provides system inventory information, graphical UEFI Setup, platform update function, RAID Setup wizard, operating

system installation function, and diagnostic functions.

- 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.
- Support for industry standard management protocols, IPMI 2.0, SNMP 3.0, Redfish REST API, serial console via IPMI
- An integrated hardware Trusted Platform Module (TPM) supporting TPM 2.0 enables advanced cryptographic functionality, such as digital signatures and remote attestation.
- Administrator and power-on passwords help protect from unauthorized access to the server.
- Supports 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.
- Supports Secure Boot to ensure only a digitally signed operating system can be used.
- 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).

### **Energy efficiency**

The VX635 V3 system offer the following energy-efficiency features to save energy, reduce operational costs, and increase energy availability:

- Energy-efficient planar components help lower operational costs.
- Carbon offset is available at click of button. You can project the carbon emissions per device for an average lifecycle (up to 5 years). That information is available [here](#)
- High-efficiency power supplies with 80 PLUS Platinum and Titanium certifications
- Low-voltage 1.1 V DDR5 memory offers energy savings compared to 1.2 V DDR4 DIMMs, an approximately 20% decrease in power consumption
- Solid-state drives (SSDs) consume as much as 80% less power than traditional spinning 2.5-inch HDDs.
- The server uses hexagonal ventilation holes, which can be grouped more densely than round holes, providing more efficient airflow through the system and thus keeping your system cooler.
- Optional Lenovo XClarity Energy Manager provides advanced data center power notification and analysis to help achieve lower heat output and reduced cooling needs.

## Components and connectors

The ThinkAgile VX635 V3 Integrated Systems and Certified Node are based on the ThinkSystem SR635 V3 server.

The following figure shows the front of the ThinkAgile VX635 V3 system with 2.5-inch drives.

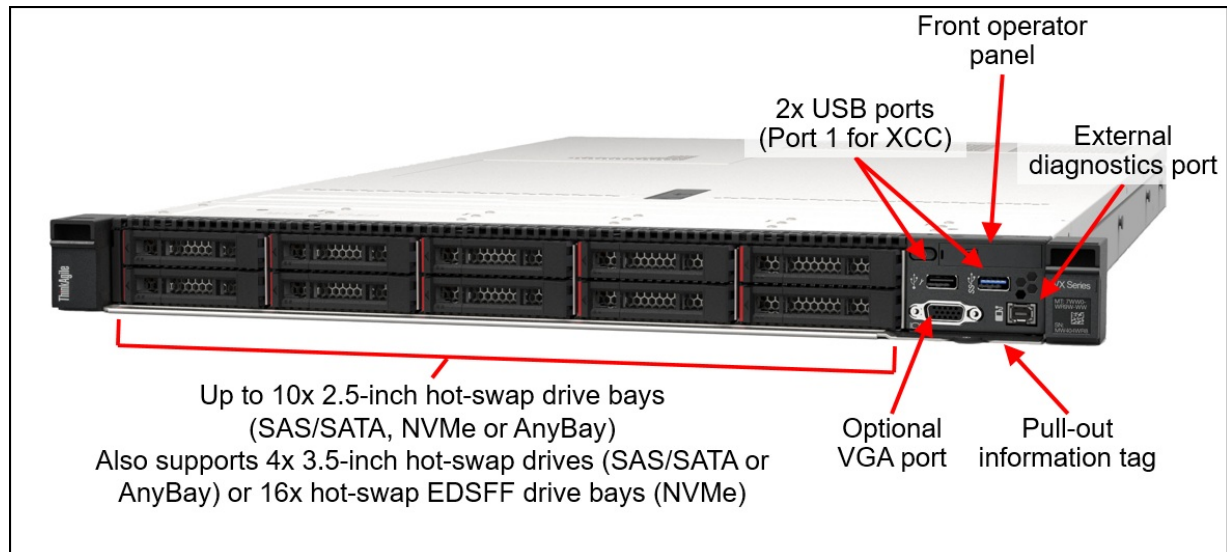


Figure 2. Front view of the ThinkAgile VX635 V3 system with 2.5-inch drives

The following figure shows the components visible from the rear of the server. As shown, there are four different configurations available, including two with rear-mounted drive bays: two 2.5-inch hot-swap drive bays (SAS, SATA or NVMe) or new 7mm thickness hot-swap drives (SATA or NVMe).

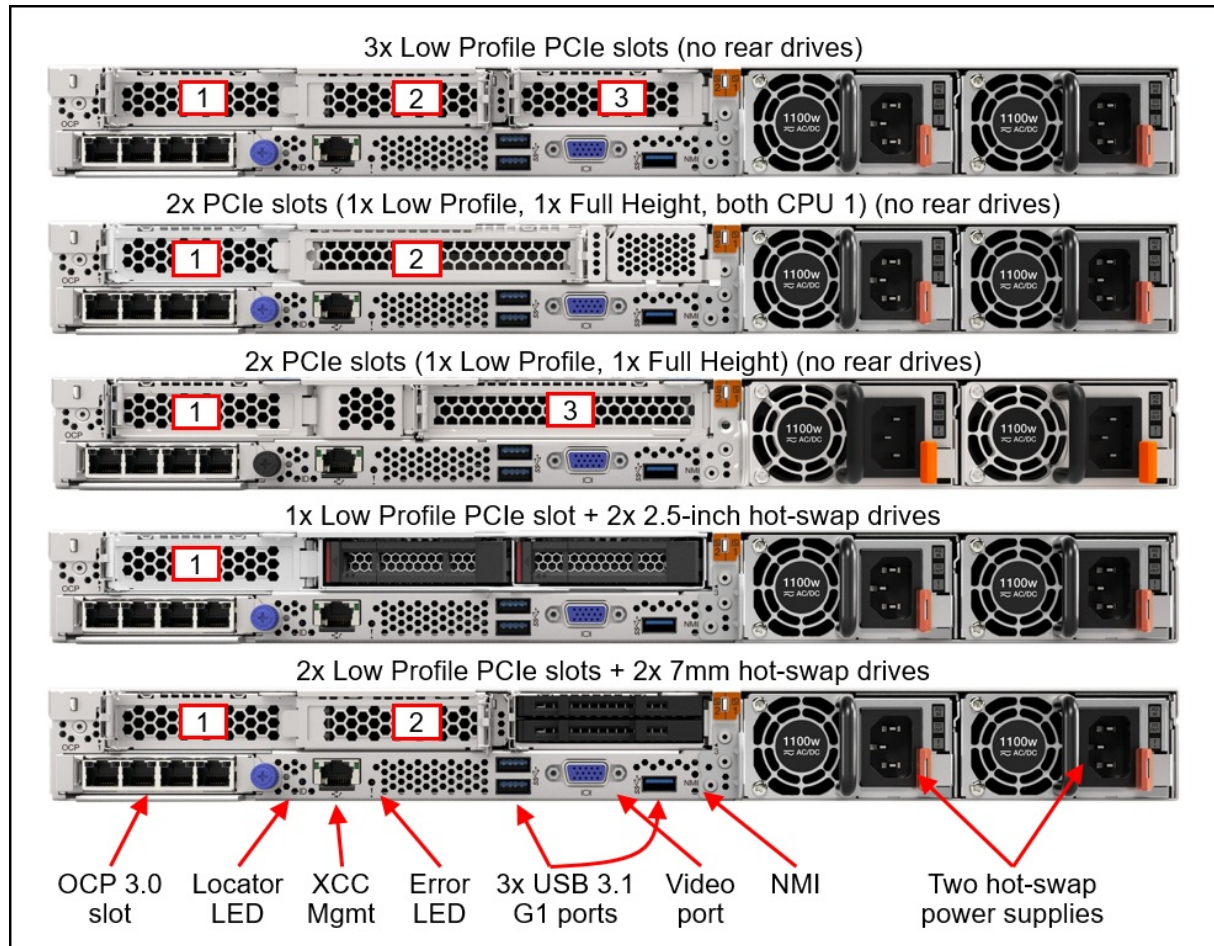


Figure 3. Rear views of the VX635 V3 system



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

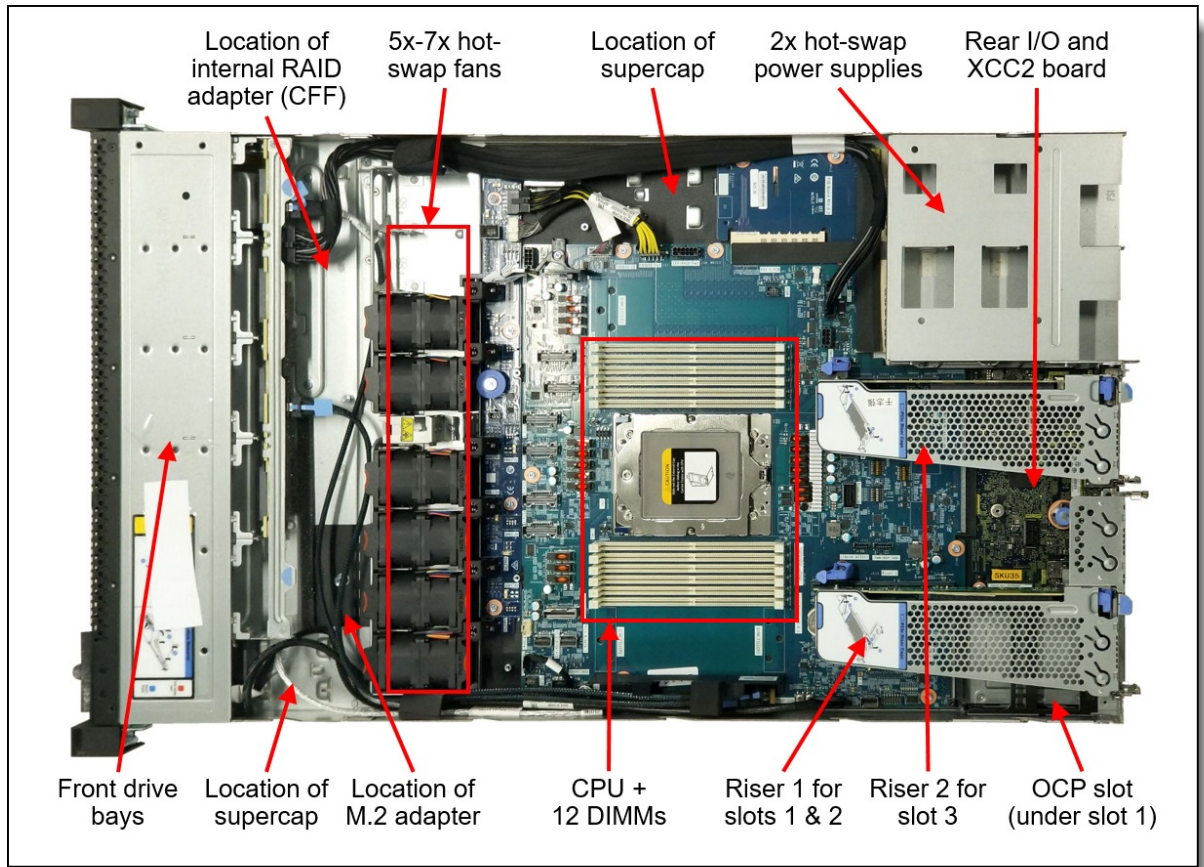


Figure 4. Internal view of VX635 V3 system

## Standard specifications

The ThinkAgile VX635 V3 Integrated Systems and Certified Node are based on the ThinkSystem SR635 V3 server.

The following table provides an overview comparison between the VX systems.

Table 1. Comparison of features

| Feature             | VX635 V3 IS  | VX635 V3 CN  |
|---------------------|--|--|
| VX offering type    | Integrated System  | Certified Node   |
| Base model          | 7D9VCTO1WW   | 7D9VCTO2WW   |
| Form factor         | 1U   | 1U   |
| Base platform       | SR635 V3   | SR635 V3   |
| CPU                 | 1x EPYC 9004   | 1x EPYC 9004   |
| Memory              | 12x DDR5 4800 MHz<br>(1.5TB maximum)   | 12x DDR5 4800 MHz<br>(1.5TB maximum)   |
| Drive bays          | <ul style="list-style-type: none"> <li>• Front: Up to 8x SAS/SATA hot-swap drives bays</li> <li>• Front: 10x 2.5" SAS/SATA/NVMe (up to 4 AnyBay or 10x NVMe)</li> <li>• Front: 4x 2.5" SAS/SATA + 3x PCIe slots (LP, FH, OCP)</li> <li>• Rear: Up to 2x 2.5" SAS/SATA or NVMe hot-swap drive bays</li> <li>• Rear: 2x 7mm SATA or NVMe hot-swap drive bays</li> <li>• 2x Internal M.2 (Hardware RAID Adapter needed for RAID Support)</li> </ul> | <ul style="list-style-type: none"> <li>• Front: Up to 8x SAS/SATA hot-swap drives bays</li> <li>• Front: 10x 2.5" SAS/SATA/NVMe (up to 4 AnyBay or 10x NVMe)</li> <li>• Front: 4x 2.5" SAS/SATA + 3x PCIe slots (LP, FH, OCP)</li> <li>• Rear: Up to 2x 2.5" SAS/SATA or NVMe hot-swap drive bays</li> <li>• Rear: 2x 7mm SATA or NVMe hot-swap drive bays</li> <li>• 2x Internal M.2 (Hardware RAID Adapter needed for RAID Support)</li> </ul> |
| Drive Configuration | All Flash or Hybrid  | All Flash or Hybrid  |
| Disk groups         | Up to 4 groups   | Up to 4 groups   |
| HBA                 | 440-8i SAS/SATA HBA<br>440-16i SAS/SATA HBA<br>440-16i SAS/SATA INTR HBA<br>4350-8i SAS/SATA HBA<br>4350-16i SAS/SATA HBA  | 440-8i SAS/SATA HBA<br>440-16i SAS/SATA HBA<br>440-16i SAS/SATA INTR HBA<br>4350-8i SAS/SATA HBA<br>4350-16i SAS/SATA HBA  |
| Boot drives         | 2x 7mm hot-swap SATA<br>2x 7mm hot-swap NVMe<br>2x M.2 SATA<br>2x M.2 NVME   | 2x 7mm hot-swap SATA<br>2x 7mm hot-swap NVMe<br>2x M.2 SATA<br>2x M.2 NVME   |
| OCP networking      | 1x OCP 3.0 adapter<br>1Gb, 10Gb, 25Gb, 100Gb   | 1x OCP 3.0 adapter<br>1Gb, 10Gb, 25Gb, 100Gb   |
| PCIe networking     | Up to 3x adapters<br>1Gb, 10Gb, 25Gb, 100Gb,   | Up to 3x adapters<br>1Gb, 10Gb, 25Gb, 100Gb,   |
| GPUs                | Up to 3x single-wide GPUs  | Up to 3x single-wide GPUs  |
| Hypervisor          | VMware ESXi  | VMware ESXi  |

The following table lists the standard specifications.

Table 2. Standard specifications

| Components         | Specification   |
|--------------------|---|
| Machine types      | 7D9V  |
| Form factor        | 1U rack   |
| Processor          | One AMD EPYC 9004 Series processor (formerly codenamed "Genoa"). Supported processors up to 96 cores, core speeds of up to 3.6 GHz, and TDP ratings of up to 360W.  |
| Chipset            | Not applicable (platform controller hub functions are integrated into the processor)  |
| Memory             | 12 DIMM slots. The processor has 12 memory channels, with 1 DIMM per channel (DPC). Lenovo TruDDR5 RDIMMs, 3DS RDIMMs, and 9x4 RDIMMs are supported, up to 4800 MHz   |
| Memory maximum     | Up to 1.5TB with 12x 128GB 3DS RDIMMs   |
| Persistent memory  | Not supported   |
| Memory protection  | ECC, SDDC, Patrol/Demand Scrubbing, Bounded Fault, DRAM Address Command Parity with Replay, DRAM Uncorrected ECC Error Retry, On-die ECC, ECC Error Check and Scrub (ECS), Post Package Repair  |
| Disk drive bays    | <p>Up to 12x 2.5-inch hot-swap drive bays:</p> <ul style="list-style-type: none"> <li>• Front bays can be one of the following: <ul style="list-style-type: none"> <li>◦ 10x 2.5-inch hot-swap SAS/SATA, AnyBay or NVMe, or combinations</li> </ul> </li> <li>• Rear can be one of the following: <ul style="list-style-type: none"> <li>◦ 2x 2.5-inch hot-swap SAS/SATA bays</li> <li>◦ 2x 2.5-inch hot-swap NVMe bays</li> <li>◦ 2x 7mm 2.5-inch hot-swap SATA bays</li> <li>◦ 2x 7mm 2.5-inch hot-swap NVMe bays</li> </ul> </li> <li>• Internal M.2 module supporting up to two M.2 drives, for OS boot</li> </ul> <p>See <a href="#">Supported drive bay combinations</a> for details. 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. The server supports up to 12x NVMe drives all with direct connections (no oversubscription).</p> |
| Storage controller | <ul style="list-style-type: none"> <li>• Onboard NVMe (no RAID) - 12 drives</li> <li>• NVMe Retimer Adapter (PCIe 4.0 or PCIe 5.0)</li> <li>• 12 Gb SAS/SATA HBA (non-RAID) <ul style="list-style-type: none"> <li>◦ 8-port and 16-port</li> <li>◦ PCIe 4.0 or PCIe 3.0 host interface</li> </ul> </li> </ul>   |
| Network interfaces | Dedicated OCP 3.0 SFF slot with PCIe 5.0 x16 host interface, either at the rear of the server (rear-accessible) . Supports a variety of 2-port and 4-port adapters with 1GbE, 10GbE, 25GbE and 100GbE network connectivity. One port can optionally be shared with the XClarity Controller 2 (XCC2) management processor for Wake-on-LAN and NC-SI support. Additional PCIe network adapters supported in PCIe slots.   |

| Components          | Specification  |
|---------------------|--|
| PCI Expansion slots | <p>Up to 3x PCIe 5.0 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.</p> <p>Four choices for rear-access slots:</p> <ul style="list-style-type: none"> <li>• 3x PCIe x16 low-profile slots</li> <li>• 1x PCIe x16 full-height half-length slot + 1x PCIe x16 low-profile slot</li> <li>• 1x PCIe x16 low-profile slot (also supports 2x rear 2.5-inch drive bays)</li> <li>• 2x PCIe x16 low-profile slot (also supports 2x rear 7mm 2.5-inch drive bays)</li> </ul> <p>For 2.5-inch front drive configurations, the server supports the installation of a HBA in a dedicated area that does not consume any of the PCIe slots.</p> <p>The server alternatively supports slots at the front of the server:</p> <ul style="list-style-type: none"> <li>• OCP slot</li> <li>• 1x PCIe x16 full-height half-length slot + 1x PCIe x16 low-profile slot</li> </ul> <p><b>Note:</b> Not all slots are available in a 1-processor configuration. See the <a href="#">I/O expansion</a> for details.</p> |
| Ports               | <p>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> <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 2nd XCC remote management port (installs in OCP slot). Optional DB-9 COM serial port (installs in slot 3).</p> <p>Internal: 1x USB 3.1 G1 (5 Gb/s) connector for operating system or license key purposes.</p>   |
| 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 or 80 PLUS Titanium certification. 500 W, 750 W, 1100 W and 1800 W AC options, supporting 220 V AC. 500 W, 750 W and 1100 W options also support 110V input supply. In China only, all power supply options support 240 V DC. Also available is a 1100W power supply with a -48V DC input.  |
| Video               | Embedded video 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. Models with 8x 2.5-inch front drive bays can optionally support an Integrated Diagnostics Panel. XClarity Controller 2 (XCC2) embedded management based on the ASPEED AST2600 baseboard management controller (BMC). Dedicated rear Ethernet port for XCC2 remote access for management. Optional 2nd redundant XCC2 remote port supported, installs in the OCP slot. XClarity Administrator for centralized infrastructure management, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management. Optional XCC Platinum to enable remote control functions and other features.  |
| Security features   | Chassis intrusion switch, Power-on password, administrator's password, Root of Trust module supporting TPM 2.0 and Platform Firmware Resiliency (PFR). Optional lockable front security bezel.   |

| <b>Components</b>     | <b>Specification</b>  |
|-----------------------|---|
| Software              | <p>Software licenses that can be purchased from Lenovo or provided by the customer:</p> <ul style="list-style-type: none"> <li>● VMware vSAN: Standard, Advanced, Enterprise, Enterprise Plus, ROBO or Desktop</li> <li>● VMware vSphere: Standard, Enterprise Plus or ROBO</li> <li>● HCI Kit: Essentials, Standard, Advanced, Enterprise or ROBO</li> <li>● VMware Horizon: Standard, Advanced or Enterprise</li> <li>● VMware Cloud Foundation (VCF): Basic, Standard, Advanced, Enterprise or for VDI</li> <li>● VMware vCenter Server: Foundation or Standard</li> </ul> |
| Hypervisors supported | VMware ESXi 7.0 U3 (factory install), ESXi 8.0 (Factory Install) See the <a href="#">Operating system support</a> section for specifics.  |
| Limited warranty      | Three-year customer-replaceable unit and onsite limited warranty with 9x5 next business day (NBD).  |
| Service and support   | Optional service upgrades are available through Lenovo Services: 4-hour or 2-hour response time, 6-hour fix time, 1-year or 2-year warranty extension, software support for Lenovo hardware and some third-party applications.  |
| Software maintenance  | One-, three-, or five-year software support and subscription is included with the VMware software licenses available from Lenovo (optional).  |
| Dimensions            | Width: 440 mm (17.3 in.), height: 43 mm (1.7 in.), depth: 773 mm (30.4 in.)   |
| Weight                | Maximum: 20.2 kg (44.6 lb)  |

## Models

Factory-integrated models of the ThinkAgile VX Series Integrated Systems 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 Configure-to-Order (CTO) base models first, and then you are adding components (processors, memory, drives, and network adapters) to the selected model.

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

The following table lists the CTO base models.

Table 3. CTO base models

| Machine Type/Model | Description                           |
|--------------------|---------------------------------------|
| 7D9VCTO1WW         | ThinkAgile VX635 V3 Integrated System |
| 7D9VCTO2WW         | ThinkAgile VX635 V3 Certified Node    |

Note: VX635V3 Integrated Systems will be available in 1H CY2024.

Models of the VX systems are defined based on the 2.5-inch drive bays at the front (called the 2.5-inch chassis). For models, the feature codes for these chassis bases are as listed in the following table.

Table 4. Chassis base feature codes

| Feature | Description                         | Maximum supported |
|---------|-------------------------------------|-------------------|
|         |                                     | VX635 V3 CN       |
| BRYA    | ThinkAgile VX V3 1U 10x2.5" Chassis | 1                 |
| BLK4    | ThinkSystem V3 1U 10x2.5" Chassis   | 1                 |

## Comparison with the ThinkSystem SR635 V3

The ThinkAgile VX635 V3 Integrated Systems and Certified Node are based on the ThinkSystem SR635 V3 server, however there are key differences between the base model and the Integrated System\Certified Node:

- No onboard SATA controller support
- No SATA HDDs
- Fibre Channel support for data migration only
- InfiniBand adapters only supports the Ethernet function
- Drives are categorized as Cache or Capacity drives and are formed as disk groups for OSA (Original Storage Architecture) configurations.

For details about the ThinkSystem SR635 V3, see the SR635 V3 product guide: <https://lenovopress.com/lp1609-thinksystem-sr635-v3-server>

To verify what specific hardware components are supported with the VX635 V3 system, see the DCSC configurator: <https://dcsc.lenovo.com>

## Processor options

The VX635 V3 system systems support the following third-generation AMD EPYC processors.

For details about these processors, see the SR635 V3 product guide:

<https://lenovopress.lenovo.com/lp1609-thinksystem-sr635-v3-server#processor-options>

Table 5. Processors

| Part number | Feature | Description   | Maximum supported |
|-------------|---------|---|-------------------|
|             |         |   | VX635 V3 CN       |
| None        | BREE    | ThinkSystem AMD EPYC 9124 16C 200W 3.0GHz Processor   | 1                 |
| None        | BREJ    | ThinkSystem AMD EPYC 9174F 16C 320W 4.1GHz Processor  | 1                 |
| None        | BREH    | ThinkSystem AMD EPYC 9224 24C 200W 2.5GHz Processor   | 1                 |
| None        | BRED    | ThinkSystem AMD EPYC 9254 24C 200W 2.9GHz Processor   | 1                 |
| None        | BREF    | ThinkSystem AMD EPYC 9274F 24C 320W 4.05GHz Processor | 1                 |
| None        | BREC    | ThinkSystem AMD EPYC 9334 32C 210W 2.7GHz Processor   | 1                 |
| None        | BR30    | ThinkSystem AMD EPYC 9354 32C 280W 3.25GHz Processor  | 1                 |
| None        | BREG    | ThinkSystem AMD EPYC 9354P 32C 280W 3.25GHz Processor | 1                 |
| None        | BR32    | ThinkSystem AMD EPYC 9374F 32C 320W 3.85GHz Processor | 1                 |
| None        | BREB    | ThinkSystem AMD EPYC 9454 48C 290W 2.75GHz Processor  | 1                 |
| None        | BREM    | ThinkSystem AMD EPYC 9454P 48C 290W 2.75GHz Processor | 1                 |
| None        | BR31    | ThinkSystem AMD EPYC 9474F 48C 360W 3.6GHz Processor  | 1                 |
| None        | BREA    | ThinkSystem AMD EPYC 9534 64C 280W 2.45GHz Processor  | 1                 |
| None        | BPVJ    | ThinkSystem AMD EPYC 9554 64C 360W 3.1GHz Processor   | 1                 |
| None        | BREL    | ThinkSystem AMD EPYC 9554P 64C 360W 3.1GHz Processor  | 1                 |
| None        | BR2Z    | ThinkSystem AMD EPYC 9634 84C 290W 2.25GHz Processor  | 1                 |
| None        | BPVK    | ThinkSystem AMD EPYC 9654 96C 360W 2.4GHz Processor   | 1                 |
| None        | BREK    | ThinkSystem AMD EPYC 9654P 96C 360W 2.4GHz Processor  | 1                 |

## Memory options

The VX635 V3 system systems support the following memory options.

For details about these options, see the SR635 V3 product guide:

<https://lenovopress.lenovo.com/lp1609-thinksystem-sr635-v3-server#memory-options>

Table 6. Memory

| Part number | Feature | Description   | Maximum supported |
|-------------|---------|---|-------------------|
|             |         |   | VX635 V3 CN       |
| 4X77A81437  | BQ3C    | ThinkSystem 16GB TruDDR5 4800MHz (1Rx8) RDIMM-A         | 12                |
| 4X77A81438  | BQ39    | ThinkSystem 32GB TruDDR5 4800MHz (1Rx4) 10x4 RDIMM-A    | 12                |
| 4X77A81439  | BQ3E    | ThinkSystem 32GB TruDDR5 4800MHz (1Rx4) 9x4 RDIMM-A     | 12                |
| 4X77A81440  | BQ37    | ThinkSystem 32GB TruDDR5 4800MHz (2Rx8) RDIMM-A         | 12                |
| 4X77A81441  | BQ3D    | ThinkSystem 64GB TruDDR5 4800MHz (2Rx4) 10x4 RDIMM-A    | 12                |
| 4X77A81442  | BQ36    | ThinkSystem 64GB TruDDR5 4800MHz (2Rx4) 9x4 RDIMM-A     | 12                |
| 4X77A81448  | BUVV    | ThinkSystem 96GB TruDDR5 4800MHz (2Rx4) 10x4 RDIMM-A    | 12                |
| 4X77A81443  | BQ3A    | ThinkSystem 128GB TruDDR5 4800MHz (4Rx4) 3DS RDIMM-A v2 | 12                |
| CTO Only    | BYEE    | ThinkSystem 128GB TruDDR5 4800MHz (4Rx4) 3DS RDIMM-A v1 | 12                |

## Internal storage

Internal storage configurations of the VX635 V3 system are as follows. All drives are hot-swap and are accessible from the front or rear of the system.

- VX635 V3 Integrated System and Certified Node:
  - Front drive bays:
    - Up to 10 x 2.5-inch SAS/SATA or NVMe or 8x 2.5-inch Anybay
  - Rear drive bays:
    - Up to 2x 2.5-inch SAS/SATA
    - Up to 2x 2.5-inch Anybay
    - Up to 2x (7mm) SATA/NVME

Specific choices of drive backplane are listed in the table below.

For details about these options, including configuration rules, see the SR635 V3 product guide:

<https://lenovopress.com/lp1609-thinksystem-sr635-v3-server#internal-storage>



Table 7. Drive backplanes

| Feature                                 | Description  | Maximum supported |
|---|--|-------------------|
|   |  | VX635 V3 CN       |
| <b>Front 2.5-inch drive backplanes</b>  |  |                   |
| BCQP                                    | ThinkSystem 1U 10x2.5" (6x SAS/SATA 2x AnyBay 2x NVMe) Backplane | 1                 |
| B8MX                                    | ThinkSystem 1U 10x2.5" (6x SAS/SATA 4x AnyBay) Backplane         | 1                 |
| BB3T                                    | ThinkSystem 1U 10x2.5" AnyBay Backplane                          | 1                 |
| BCQQ                                    | ThinkSystem 1U 10x2.5" NVMe Backplane                            | 1                 |
| BHU8                                    | ThinkSystem 1U 10x2.5" SAS/SATA Backplane                        | 1                 |
| <b>Front EDSFF drive backplanes</b>     |  |                   |
| B981                                    | ThinkSystem 1U 16xEDSFF Backplane                                | 1                 |
| <b>Rear - 2.5-inch drive backplanes</b> |  |                   |
| BDY6                                    | ThinkSystem 1U 2x2.5" NVMe Rear Backplane                        | 1                 |
| B8MY                                    | ThinkSystem 1U 2x2.5" SAS/SATA Rear Backplane                    | 1                 |

For OS boot functions, the systems also supports two 7mm hot-swap drives at the rear, or one or two M.2 drives installed on an adapter internal to the server. The following table lists the supported controllers/enabement kits for M.2 and 7mm boot drives.

Table 8. Boot drive enablement

| Part number                              | Feature | Description   | Maximum supported |
|--|---------|---|-------------------|
|  |         |   | VX635 V3 CN       |
| <b>M.2 enablement kits</b>               |         |   |                   |
| 4Y37A09750                               | B8P9    | ThinkSystem M.2 NVMe 2-Bay RAID Adapter                           | 1                 |
| 4Y37A90063                               | BYFF    | ThinkSystem M.2 RAID B540i-2i SATA/NVMe Adapter                   | 1                 |
| 4Y37A79663                               | BM8X    | ThinkSystem M.2 SATA/x4 NVMe 2-Bay Adapter                        | 1                 |
| <b>7MM enablement kits</b>               |         |   |                   |
| 4Y37A90062                               | BYFG    | ThinkSystem 7mm SATA/NVMe 2-Bay Rear Hot-Swap RAID Enablement Kit | 1                 |
| None                                     | BU0N    | ThinkSystem 7mm SATA/NVMe 2-Bay Rear Enablement Kit v2            | 1                 |
| <b>RAID adapters M.2/7MM - Boot Only</b> |         |   |                   |
| None                                     | BT7N    | ThinkSystem Raid 5350-8i for M.2/7MM SATA boot Enablement         | 1                 |
| None                                     | BT7P    | ThinkSystem Raid 540-8i for M.2/7MM NVMe boot Enablement          | 1                 |

For details about these options, including configuration rules, see the SR635 V3 product guide: <https://lenovopress.com/lp1609-thinksystem-sr635-v3-server#internal-storage>

Configuration notes:

- The support of RAID-1 with the M.2 drives requires an additional RAID adapter that is installed in PCIe slot 2:
  - RAID support for 7MM/M.2 SATA drives requires a RAID 5350-8i adapter (feature BT7N) for Boot only
  - RAID support for 7MM/M.2 NVMe or SATA drives requires a RAID 540-8i adapter (feature

BT7P) for Boot Only

- The RAID adapter used for M.2 drive support cannot be configured for use with other drive bays for VSAN data

## Disk Groups

The following table lists the supported Disk Groups for each VX system.

Table 9. Disk Groups

| Drive Selection Rules                    | VX635 - CN                    |
|--|-------------------------------|
| Model type                               | Hybrid (HY) or All Flash (AF) |
| Maximum number of drives                 | 12                            |
| Number of Disk Groups                    | 1 - 4                         |
| Number of Cache Drives per Disk Group    | 1                             |
| Number of Capacity Drives per Disk Group | 2 - 7                         |
| Allowed Capacity Drive Quantities        |                               |
| 1 Disk Group (1 Cache Drive)             | 2, 3, 4, 5, 6 or 7            |
| 2 Disk Groups (2 Cache Drives)           | 4, 6, 8 or 10                 |
| 3 Disk Groups (3 Cache Drives)           | 6 or 9                        |
| 4 Disk Groups (4 Cache Drives)           | 8                             |

## Controllers for internal storage

The VX635 V3 system support the following internal storage controllers.

For details about these options, see the SR635 V3 product guide:

<https://lenovopress.com/lp1609-thinksystem-sr635-v3-server#controllers-for-internal-storage>

Table 10. Controllers for internal storage

| Part number                      | Feature | Description  | Maximum supported |
|----------------------------------|---------|--|-------------------|
|                                  |         |  | VX635 V3 CN       |
| Onboard Controllers              |         |  |                   |
| CTO Only                         | BC4V    | Non RAID NVMe  | 1                 |
| SAS/SATA HBA - PCIe 3.0 adapters |         |  |                   |
| 4Y37A72480                       | BJHH    | ThinkSystem 4350-8i SAS/SATA 12Gb HBA                    | 1                 |
| 4Y37A72481                       | BJHJ    | ThinkSystem 4350-16i SAS/SATA 12Gb HBA                   | 1                 |
| SAS/SATA HBA - PCIe 4.0 adapters |         |  |                   |
| 4Y37A78601                       | BM51    | ThinkSystem 440-8i SAS/SATA PCIe Gen4 12Gb HBA           | 1                 |
| 4Y37A78602                       | BM50    | ThinkSystem 440-16i SAS/SATA PCIe Gen4 12Gb HBA          | 1                 |
| 4Y37A09725                       | B8P1    | ThinkSystem 440-16i SAS/SATA PCIe Gen4 12Gb Internal HBA | 1                 |

## Internal drive options

This section lists the supported drives:

- [Boot drives](#)
- [Internal drives for VX635 V3 CN](#)

#### Configuration Note:

- VMware will no longer support higher capacity hard drives greater than 8TB
- Express Storage Architecture (ESA) supports a minimum of 2 drives and a maximum of 24 drives. Please reference the [vSAN ESA ReadyNode Hardware Guidance](#) for additional requirements.
- VMware vSAN certification for Generic NVMe drives: The drives are listed in the [VMware Compatibility Guide](#) (VCG) under the drive vendor company name instead of Lenovo. To check a drive for vSAN certification, search the VCG using the Supplier part number. Part numbers can be found using the Product Guide for the corresponding Drive Family on Lenovo Press [https://lenovopress.lenovo.com/servers/options/drives#sort=last\\_update](https://lenovopress.lenovo.com/servers/options/drives#sort=last_update).

#### **Boot drives**

The following table lists the supported 7mm and M.2 drives suitable for OS boot functions.

Table 11. Boot drives

| Part number                                 | Feature | Description  | Maximum supported |
|---|---------|--|-------------------|
|   |         |  | VX635 V3 CN       |
| <b>7mm 2.5-inch hot-swap 6 Gb SATA SSDs</b> |         |  |                   |
| 4XB7A82264                                  | BQ1U    | ThinkSystem 7mm 5400 PRO 240GB Read Intensive SATA 6Gb HS SSD              | 2                 |
| 4XB7A82265                                  | BQ1V    | ThinkSystem 7mm 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD              | 2                 |
| 4XB7A82266                                  | BQ1W    | ThinkSystem 7mm 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD              | 2                 |
| 4XB7A17106                                  | BK79    | ThinkSystem 7mm S4520 240GB Read Intensive SATA 6Gb HS SSD                 | 2                 |
| 4XB7A17107                                  | BK7A    | ThinkSystem 7mm S4520 480GB Read Intensive SATA 6Gb HS SSD                 | 2                 |
| 4XB7A17108                                  | BK7B    | ThinkSystem 7mm S4520 960GB Read Intensive SATA 6Gb HS SSD                 | 2                 |
| <b>7mm PCIe 4.0 NVMe Drives</b>             |         |  |                   |
| 4XB7A82853                                  | BPZ4    | ThinkSystem 7mm U.3 7450 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD  | 2                 |
| 4XB7A82855                                  | BPZ5    | ThinkSystem 7mm U.3 7450 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 2                 |
| 4XB7A82856                                  | BPZ6    | ThinkSystem 7mm U.3 7450 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 2                 |
| <b>M.2 SATA drives</b>                      |         |  |                   |
| 4XB7A82286                                  | BQ1Z    | ThinkSystem M.2 5400 PRO 240GB Read Intensive SATA 6Gb NHS SSD             | 2                 |
| 4XB7A82287                                  | BQ1Y    | ThinkSystem M.2 5400 PRO 480GB Read Intensive SATA 6Gb NHS SSD             | 2                 |
| 4XB7A82288                                  | BQ20    | ThinkSystem M.2 5400 PRO 960GB Read Intensive SATA 6Gb NHS SSD             | 2                 |
| 4XB7A89422                                  | BYF7    | ThinkSystem M.2 ER3 240GB Read Intensive SATA 6Gb NHS SSD                  | 3                 |
| 4XB7A90049                                  | BYF8    | ThinkSystem M.2 ER3 480GB Read Intensive SATA 6Gb NHS SSD                  | 2                 |
| 4XB7A90230                                  | BYF9    | ThinkSystem M.2 ER3 960GB Read Intensive SATA 6Gb NHS SSD                  | 2                 |
| <b>M.2 PCIe NVMe drives</b>                 |         |  |                   |
| 4XB7A13999                                  | BKSR    | ThinkSystem M.2 7450 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 NHS SSD     | 2                 |
| 4XB7A90102                                  | BXMH    | ThinkSystem M.2 PM9A3 960GB Read Intensive NVMe PCIe 4.0 x4 NHS SSD        | 2                 |

**7mm Configuration notes:**

The use of the 7mm rear drive bays has the following rules:

- The 7mm drive bays support either SATA drives or NVMe drives but not both. You specify SATA or NVMe in the configurator using feature codes BTTV (SATA) or BTTW (NVMe).
- 7mm rear drive bays occupy slot 3; slots 1 and 2 are available and slot 2 is a low profile slot. Slot 3 is not available.
- Select feature code BS7A in the configurator to enable RAID
- The support of RAID-1 with the 7mm drives requires an additional RAID adapter that is installed in

PCIe slot 2:

- RAID support for 7mm SATA drives requires a RAID 5350-8i adapter (feature BT7N)
- RAID support for 7mm NVMe drives requires a RAID 540-8i adapter operating in Tri-Mode (feature BT7P)
- The RAID adapter used for 7mm drive support cannot be configured for use with other drive bays (not even with M.2)
- M.2 RAID and 7mm RAID are mutually exclusive: they are not supported together in the same configuration

### M.2 Configuration notes:

- The support of RAID-1 with the M.2 drives requires an additional RAID adapter that is installed in PCIe slot 2:
  - RAID support for M.2 SATA drives requires a RAID 5350-8i adapter (feature BT7N)
  - RAID support for M.2 NVMe drives requires a RAID 540-8i adapter operating in Tri-Mode (feature BT7P)
- The RAID adapter used for M.2 drive support cannot be configured for use with other drive bays (not even with 7mm)
- M.2 RAID and 7mm RAID are mutually exclusive: they are not supported together in the same configuration

### Internal drives for VX635 V3 CN

The following table lists the drives supported in the VX635 V3 CN. For both All Flash Storage and Hybrid Storage configurations, drives are classified as either Cache drives, Capacity drives, or both.

Configuration Note:

- Maximum drive quantities depend on Disk Group configurations.
- VMware will no longer support higher capacity drives greater than 8TB

Table 12. Drives supported in the VX635 V3 CN

| Part number                             | Feature | Description   | All Flash | All Flash |          | Hybrid |          |
|---|---------|---|-----------|-----------|----------|--------|----------|
|   |         |   | ESA       | Cache     | Capacity | Cache  | Capacity |
| <b>2.5-inch hot-swap 12 Gb SAS HDDs</b> |         |   |           |           |          |        |          |
| 7XB7A00027                              | AUM1    | ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD         | No        | No        | No       | No     | 12       |
| 7XB7A00028                              | AUM2    | ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD         | No        | No        | No       | No     | 12       |
| 4XB7A83970                              | BRG7    | ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD v2      | No        | No        | No       | No     | 12       |
| <b>2.5-inch hot-swap 24 Gb SAS SSDs</b> |         |   |           |           |          |        |          |
| 4XB7A80318                              | BNWC    | ThinkSystem 2.5" PM1653 960GB Read Intensive SAS 24Gb HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A80319                              | BNWE    | ThinkSystem 2.5" PM1653 1.92TB Read Intensive SAS 24Gb HS SSD | No        | No        | 12       | No     | No       |
| 4XB7A80320                              | BNWF    | ThinkSystem 2.5" PM1653 3.84TB Read Intensive SAS 24Gb HS SSD | No        | No        | 12       | No     | No       |

| Part number                             | Feature | Description   | All Flash | All Flash |          | Hybrid |          |
|---|---------|---|-----------|-----------|----------|--------|----------|
|   |         |   | ESA       | Cache     | Capacity | Cache  | Capacity |
| 4XB7A80321                              | BP3E    | ThinkSystem 2.5" PM1653 7.68TB Read Intensive SAS 24Gb HS SSD   | No        | No        | 12       | No     | No       |
| 4XB7A80322                              | BP3J    | ThinkSystem 2.5" PM1653 15.36TB Read Intensive SAS 24Gb HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A80323                              | BP3D    | ThinkSystem 2.5" PM1653 30.72TB Read Intensive SAS 24Gb HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A80340                              | BNW8    | ThinkSystem 2.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD         | No        | 12        | 12       | 12     | No       |
| 4XB7A80341                              | BNW9    | ThinkSystem 2.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD         | No        | 12        | 12       | 12     | No       |
| 4XB7A80342                              | BNW6    | ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD         | No        | 12        | 12       | 12     | No       |
| 4XB7A80343                              | BP3K    | ThinkSystem 2.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD         | No        | 12        | 12       | 12     | No       |
| <b>2.5-inch hot-swap 6 Gb SATA SSDs</b> |         |   |           |           |          |        |          |
| 4XB7A82289                              | BQ21    | ThinkSystem 2.5" 5400 MAX 480GB Mixed Use SATA 6Gb HS SSD       | No        | 12        | 12       | 12     | No       |
| 4XB7A82290                              | BQ24    | ThinkSystem 2.5" 5400 MAX 960GB Mixed Use SATA 6Gb HS SSD       | No        | 12        | 12       | 12     | No       |
| 4XB7A82291                              | BQ22    | ThinkSystem 2.5" 5400 MAX 1.92TB Mixed Use SATA 6Gb HS SSD      | No        | 12        | 12       | 12     | No       |
| 4XB7A82292                              | BQ23    | ThinkSystem 2.5" 5400 MAX 3.84TB Mixed Use SATA 6Gb HS SSD      | No        | 12        | 12       | 12     | No       |
| 4XB7A17125                              | BA7Q    | ThinkSystem 2.5" S4620 480GB Mixed Use SATA 6Gb HS SSD          | No        | 12        | 12       | 12     | No       |
| 4XB7A17126                              | BA4T    | ThinkSystem 2.5" S4620 960GB Mixed Use SATA 6Gb HS SSD          | No        | 12        | 12       | 12     | No       |
| 4XB7A17127                              | BA4U    | ThinkSystem 2.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD         | No        | 12        | 12       | 12     | No       |
| 4XB7A17128                              | BK7L    | ThinkSystem 2.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD         | No        | 12        | 12       | 12     | No       |
| 4XB7A82258                              | BQ1Q    | ThinkSystem 2.5" 5400 PRO 240GB Read Intensive SATA 6Gb HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A82259                              | BQ1P    | ThinkSystem 2.5" 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A82260                              | BQ1R    | ThinkSystem 2.5" 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A82261                              | BQ1X    | ThinkSystem 2.5" 5400 PRO 1.92TB Read Intensive SATA 6Gb HS SSD | No        | No        | 12       | No     | No       |
| 4XB7A82262                              | BQ1S    | ThinkSystem 2.5" 5400 PRO 3.84TB Read Intensive SATA 6Gb HS SSD | No        | No        | 12       | No     | No       |
| 4XB7A82263                              | BQ1T    | ThinkSystem 2.5" 5400 PRO 7.68TB Read Intensive SATA 6Gb HS SSD | No        | No        | 12       | No     | No       |
| 4XB7A72441                              | BM88    | ThinkSystem 2.5" PM893 3.84TB Read Intensive SATA 6Gb HS SSD    | No        | No        | 12       | No     | No       |

| Part number                                   | Feature | Description  | All Flash | All Flash |          | Hybrid |          |
|---|---------|--|-----------|-----------|----------|--------|----------|
|   |         |  | ESA       | Cache     | Capacity | Cache  | Capacity |
| 4XB7A17101                                    | BA7G    | ThinkSystem 2.5" S4520 480GB Read Intensive SATA 6Gb HS SSD                  | No        | No        | 12       | No     | No       |
| 4XB7A17102                                    | BA7H    | ThinkSystem 2.5" S4520 960GB Read Intensive SATA 6Gb HS SSD                  | No        | No        | 12       | No     | No       |
| 4XB7A17103                                    | BA7J    | ThinkSystem 2.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD                 | No        | No        | 12       | No     | No       |
| 4XB7A17104                                    | BK77    | ThinkSystem 2.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD                 | No        | No        | 12       | No     | No       |
| 4XB7A17105                                    | BK78    | ThinkSystem 2.5" S4520 7.68TB Read Intensive SATA 6Gb HS SSD                 | No        | No        | 12       | No     | No       |
| <b>2.5-inch hot-swap PCIe 4.0 NVMe SSDs</b>   |         |  |           |           |          |        |          |
| 4XB7A17158                                    | BKKY    | ThinkSystem 2.5" U.2 P5800X 400GB Write Intensive NVMe PCIe 4.0 x4 HS SSD    | No        | 12        | 12       | No     | No       |
| 4XB7A17159                                    | BKKZ    | ThinkSystem 2.5" U.2 P5800X 800GB Write Intensive NVMe PCIe 4.0 x4 HS SSD    | No        | 12        | 12       | No     | No       |
| 4XB7A17160                                    | BMM8    | ThinkSystem 2.5" U.2 P5800X 1.6TB Write Intensive NVMe PCIe 4.0 x4 HS SSD    | No        | 12        | 12       | No     | No       |
| 4XB7A79639                                    | BNF1    | ThinkSystem 2.5" U.3 7450 MAX 800GB Mixed Use NVMe PCIe 4.0 x4 HS SSD        | No        | 12        | 12       | No     | No       |
| 4XB7A13967                                    | BNEJ    | ThinkSystem 2.5" U.3 7450 MAX 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD        | No        | 12        | 12       | No     | No       |
| 4XB7A13970                                    | BNEY    | ThinkSystem 2.5" U.3 7450 MAX 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD        | 12        | 12        | 12       | No     | No       |
| 4XB7A13971                                    | BNEL    | ThinkSystem 2.5" U.3 7450 MAX 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD        | 12        | 12        | 12       | No     | No       |
| 4XB7A84056                                    | BRG0    | ThinkSystem 2.5" U.3 7450 MAX 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD       | 12        | No        | 12       | No     | No       |
| 4XB7A79646                                    | BNF3    | ThinkSystem 2.5" U.3 7450 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD   | No        | No        | 12       | No     | No       |
| 4XB7A79647                                    | BNF2    | ThinkSystem 2.5" U.3 7450 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD  | No        | No        | 12       | No     | No       |
| 4XB7A79648                                    | BNF5    | ThinkSystem 2.5" U.3 7450 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD  | 12        | No        | 12       | No     | No       |
| 4XB7A79649                                    | BNF4    | ThinkSystem 2.5" U.3 7450 PRO 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD  | 12        | No        | 12       | No     | No       |
| 4XB7A83097                                    | BQAV    | ThinkSystem 2.5" U.3 7450 PRO 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD | 12        | No        | 12       | No     | No       |
| <b>E1.S EDSFF hot-swap PCIe 4.0 NVMe SSDs</b> |         |  |           |           |          |        |          |

| Part number | Feature | Description   | All Flash | All Flash |          | Hybrid |          |
|-------------|---------|---|-----------|-----------|----------|--------|----------|
|             |         |   | ESA       | Cache     | Capacity | Cache  | Capacity |
| 4XB7A13998  | BP3L    | ThinkSystem E1.S 5.9mm 7450 PRO<br>3.84TB Read Intensive NVMe PCIe 4.0<br>x4 HS SSD | 12        | No        | No       | No     | No       |
| 4XB7A80499  | BPKW    | ThinkSystem E1.S 5.9mm 7450 PRO<br>7.68TB Read Intensive NVMe PCIe 4.0<br>x4 HS SSD | 12        | No        | No       | No     | No       |

Note: VX servers utilize generic drives and Firmware. VCG support will be listed under the drive vendor instead of Lenovo. Please check Lenovo Press for the Drive family to obtain Supplier PN if checking the VCG for compliance



## Network adapters

The VX635 V3 system systems support the following networking options.

For details about these options, see the SR635 V3 product guide:

<https://lenovopress.com/lp1609-thinksystem-sr635-v3-server#i-o-expansion>

<https://lenovopress.com/lp1609-thinksystem-sr635-v3-server#network-adapters>

Table 13. OCP networking options

| Part number             | Feature | Description   | Maximum supported |
|-------------------------|---------|---|-------------------|
|                         |         |   | VX635 V3 CN       |
| <b>Gigabit Ethernet</b> |         |   |                   |
| 4XC7A08235              | B5T1    | ThinkSystem Broadcom 5719 1GbE RJ45 4-port OCP Ethernet Adapter               | 1                 |
| 4XC7A08277              | B93E    | ThinkSystem Intel I350 1GbE RJ45 4-port OCP Ethernet Adapter                  | 1                 |
| <b>10 GbE</b>           |         |   |                   |
| 4XC7A08236              | B5ST    | ThinkSystem Broadcom 57416 10GBASE-T 2-port OCP Ethernet Adapter              | 1                 |
| 4XC7A08240              | B5T4    | ThinkSystem Broadcom 57454 10GBASE-T 4-port OCP Ethernet Adapter              | 1                 |
| 4XC7A08278              | BCD5    | ThinkSystem Intel X710-T2L 10GBASE-T 2-port OCP Ethernet Adapter              | 1                 |
| 4XC7A80268              | BPPY    | ThinkSystem Intel X710-T4L 10GBase-T 4-Port OCP Ethernet Adapter              | 1                 |
| <b>25 GbE</b>           |         |   |                   |
| 4XC7A08237              | BN2T    | ThinkSystem Broadcom 57414 10/25GbE SFP28 2-Port OCP Ethernet Adapter         | 1                 |
| 4XC7A80567              | BPPW    | ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port OCP Ethernet Adapter         | 1                 |
| 4XC7A08294              | BCD4    | ThinkSystem Intel E810-DA2 10/25GbE SFP28 2-Port OCP Ethernet Adapter         | 1                 |
| 4XC7A80269              | BP8L    | ThinkSystem Intel E810-DA4 10/25GbE SFP28 4-Port OCP Ethernet Adapter         | 1                 |
| 4XC7A62582              | BE4T    | ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port OCP Ethernet Adapter | 1                 |
| <b>100 GbE</b>          |         |   |                   |
| 4XC7A08243              | BPPX    | ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port OCP Ethernet Adapter          | 1                 |

Table 14. PCIe networking options

| Part number             | Feature | Description  | Maximum supported |
|-------------------------|---------|--|-------------------|
|                         |         |  | VX635 V3 CN       |
| <b>Gigabit Ethernet</b> |         |  |                   |
| 7ZT7A00535              | AUZW    | ThinkSystem I350-T4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter                      | 3                 |
| 7ZT7A00484              | AUZV    | ThinkSystem Broadcom 5719 1GbE RJ45 4-Port PCIe Ethernet Adapter               | 3                 |
| <b>10 GbE</b>           |         |  |                   |
| 7ZT7A00496              | AUKP    | ThinkSystem Broadcom 57416 10GBASE-T 2-Port PCIe Ethernet Adapter              | 3                 |
| 4XC7A08245              | B5SU    | ThinkSystem Broadcom 57454 10GBASE-T 4-port PCIe Ethernet Adapter              | 3                 |
| 4XC7A08236              | BNWL    | ThinkSystem Intel X710-T2L 10GBase-T 2-Port PCIe Ethernet Adapter              | 3                 |
| 4XC7A79699              | BMXB    | ThinkSystem Intel X710-T4L 10GBase-T 4-Port PCIe Ethernet Adapter              | 3                 |
| <b>25 GbE</b>           |         |  |                   |
| 4XC7A08237              | BK1H    | ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter         | 3                 |
| 4XC7A80566              | BNWM    | ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port PCIe Ethernet Adapter         | 1                 |
| 4XC7A08295              | BCD6    | ThinkSystem Intel E810-DA2 10/25GbE SFP28 2-Port PCIe Ethernet Adapter         | 3                 |
| 4XC7A80267              | BP8M    | ThinkSystem Intel E810-DA4 10/25GbE SFP28 4-Port PCIe Ethernet Adapter         | 3                 |
| 4XC7A62580              | BE4U    | ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port PCIe Ethernet Adapter | 3                 |
| <b>100 GbE</b>          |         |  |                   |
| 4XC7A08297              | BK1J    | ThinkSystem Broadcom 57508 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter        | 3                 |
| 4XC7A08248              | B8PP    | ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter  | 3                 |
| <b>200 GbE</b>          |         |  |                   |
| 4C57A15326              | B4RC    | ThinkSystem Mellanox ConnectX-6 HDR/200GbE QSFP56 1-port PCIe 4 VPI Adapter    | 3                 |
| <b>400 Gb</b>           |         |  |                   |
| 4XC7A80289              | BQ1N    | ThinkSystem NVIDIA ConnectX-7 NDR400 OSFP 1-Port PCIe Gen5 Adapter             | No                |

## GPU adapters

The VX635 V3 system systems support the following GPU options.

For details about these options, see the SR635 V3 product guide:

<https://lenovopress.com/lp1609-thinksystem-sr635-v3-server#gpu-adapters>

Table 15. GPU options

| Part number             | Feature | Description  | Maximum supported |
|-------------------------|---------|--|-------------------|
|                         |         |  | VX635 V3 CN       |
| <b>Single-wide GPUs</b> |         |  |                   |
| 4X67A81547              | BP05    | ThinkSystem NVIDIA A2 16GB PCIe Gen4 Passive GPU         | 3                 |
| CTO Only                | BQZT    | ThinkSystem NVIDIA A2 16GB PCIe Gen4 Passive GPU w/o CEC | 3                 |

## Fibre Channel host bus adapters

Table 16. Fibre Channel host bus adapters

| Part number                     | Feature | Description   | Maximum supported |
|---------------------------------|---------|---|-------------------|
|                                 |         |   | VX635 V3 CN       |
| <b>64 Gb Fibre Channel HBAs</b> |         |   |                   |
| 4XC7A77485                      | BLC1    | ThinkSystem Emulex LPe36002 64Gb 2-port PCIe Fibre Channel Adapter    | 3                 |
| <b>32 Gb Fibre Channel HBAs</b> |         |   |                   |
| 4XC7A76498                      | BJ3G    | ThinkSystem Emulex LPe35000 32Gb 1-port PCIe Fibre Channel Adapter v2 | 3                 |
| 4XC7A76525                      | BJ3H    | ThinkSystem Emulex LPe35002 32Gb 2-port PCIe Fibre Channel Adapter V2 | 3                 |
| 4XC7A08279                      | BA1G    | ThinkSystem QLogic QLE2770 32Gb 1-Port PCIe Fibre Channel Adapter     | 3                 |
| 4XC7A08276                      | BA1F    | ThinkSystem QLogic QLE2772 32Gb 2-Port PCIe Fibre Channel Adapter     | 3                 |
| <b>16 Gb Fibre Channel HBAs</b> |         |   |                   |
| 01CV840                         | ATZV    | Emulex 16Gb Gen6 FC Dual-port HBA                                     | 3                 |
| 01CV830                         | ATZU    | Emulex 16Gb Gen6 FC Single-port HBA                                   | 3                 |
| 01CV760                         | ATZC    | QLogic 16Gb Enhanced Gen5 FC Dual-port HBA                            | 3                 |
| 01CV750                         | ATZB    | QLogic 16Gb Enhanced Gen5 FC Single-port HBA                          | 3                 |

## Operating system support

The ThinkAgile VX635 V3 CN supports the following operating systems:

Server: ThinkAgile VX635 V3 CN (7D9K, EPYC 9004)

- VMware ESXi 7.0 U3
- VMware ESXi 8

Configuration Note:

VMware vSAN certification for Generic NVMe drives: The drives are listed in the [VMware Compatibility Guide](#) (VCG) under the drive vendor company name instead of Lenovo. To check a drive for vSAN certification, search the VCG using the Supplier part number. Part numbers can be found using the Product Guide for the corresponding Drive Family on Lenovo Press [https://lenovopress.lenovo.com/servers/options/drives#sort=last\\_update](https://lenovopress.lenovo.com/servers/options/drives#sort=last_update).

For further details, including any restrictions, see the OS Interoperability Guide: <https://lenovopress.com/osig#term=vx%2520amd%25201u%25202s&support=all>

## Software

VMware vSAN, vSphere, and vCenter Server software are required for ThinkAgile VX Series Integrated Systems and Certified Nodes. For Integrated Systems, you are required to purchase VMware vSAN licenses for VX Series from Lenovo. Customers have the option to transfer the license after it has initially landed on Lenovo VX Integrated System. For Certified Nodes, you can purchase the vSAN licenses from Lenovo or from VMware, or you can use your existing licenses. For vSphere and vCenter Server, you can use the existing VMware software licenses and active support contracts, or you can purchase software licenses and support from Lenovo or VMware.

Lenovo offers the following VMware software license and support options for ThinkAgile VX Series systems:

- VMware vSAN License and Subscription
- VMware vSphere License and Subscription
- VMware HCI Kit License and Subscription
- VMware Horizon License and Subscription
- VMware Cloud Foundation License and Subscription
- VMware vCenter Server License and Subscription

For details and ordering information, see the VMware Software Solution Product Guide: <https://lenovopress.com/lp1265-vmware-software-solution-product-guide>

### Configuration notes:

- The selection of vSAN licenses is required: Standalone licenses, HCI bundle licenses, VDI solution licenses, or VCF licenses.
- VMware software licenses that are available for selection include 1-year, 3-year, or 5-year software support (matches the duration of the selected solution-level warranty period).
- The quantity of processor-based licenses is derived by the configuration tool based on the number of processors selected.
- The quantity of VM-based licenses is specified based on VM requirements.
- The quantity of CCU-based licenses is specified based on the concurrent user requirements.

## ThinkAgile VX Deployer Tool

The ThinkAgile VX Deployer tool is a web-based UI used to simplify and automate the deployment of Lenovo ThinkAgile VX systems within VMware vSAN clusters. The ThinkAgile VX Deployer tool can install and configure the following software:

### **VMware ESXi**

VMware ESXi is a bare-metal hypervisor that the ThinkAgile VX Deployer tool installs on the hardware of each host in the cluster. ESXi translates requests between the physical and virtual resources, making virtualization possible.

### **VMware vCenter Server**

VMware vCenter Server is a management console that provides a centralized platform for controlling VMware vSphere environments. One service that runs in VMware vCenter Server is VMware vLCM, which provides centralized and simplified management to install software, maintain that software through updates and upgrades, and decommission it.

### **Lenovo® XClarity Integrator**

Lenovo XClarity Integrator is the hardware support manager (HSM) used by vCenter for firmware upgrades. Lenovo XClarity Integrator fully integrates with VMware vLCM to give the VMware vCenter Server software visibility into Lenovo hardware. The interface for the ThinkAgile VX Deployer tool is a straightforward web-based installation wizard with three top-level options:

- Install a new cluster (using the wizard).
- Add nodes to an existing cluster (using the wizard).
- Use a configuration file to install a new cluster or add nodes to an existing cluster.

Prowess testing included all three of these options, plus some key lifecycle-management features in VMware vCenter Server. To view the results of our testing please use the link [https://www.lenovo.com/content/dam/lenovo/dcg/global/en/products/software-defined-infrastructure/Prowess\\_Measuring\\_the\\_Ease\\_of\\_Deployment\\_of\\_ThinkAgile\\_VX.pdf](https://www.lenovo.com/content/dam/lenovo/dcg/global/en/products/software-defined-infrastructure/Prowess_Measuring_the_Ease_of_Deployment_of_ThinkAgile_VX.pdf)

## **Warranty and Support**

The VX635 V3 system have a 3-year warranty based on the machine type:

- 7D9V - 3 year warranty

The ThinkAgile VX Series Integrated Systems can be configured with a three- or five-year hardware warranty with 24x7 ThinkAgile Premier, Single Point of Support (Lenovo server hardware and VMware software; requires an active software support contract purchased either from VMware or Lenovo) 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 VMware, on behalf of the customer, for software-related problem determination. VMware will contact the customer and will own the software-related problem resolution until closure.

The standard warranty terms are customer-replaceable unit (CRU) and onsite (for field-replaceable units FRUs only) with standard call center support during normal business hours and 9x5 Next Business Day Parts Delivered.

Lenovo's additional support services provide a sophisticated, unified support structure for your data center, with an experience consistently ranked number one in customer satisfaction worldwide. Available offerings include:

- **Premier Support**

Premier Support provides a Lenovo-owned customer experience and delivers direct access to technicians skilled in hardware, software, and advanced troubleshooting, in addition to the following:

- Direct technician-to-technician access through a dedicated phone line
- 24x7x365 remote support
- Single point of contact service
- End to end case management
- Third-party collaborative software support
- Online case tools and live chat support
- On-demand remote system analysis

- **Warranty Upgrade (Preconfigured Support)**

Services are available to meet the on-site response time targets that match the criticality of your systems.

- 3, 4, or 5 years of service coverage
- 1-year or 2-year post-warranty extensions
- **Foundation Service:** 9x5 service coverage with next business day onsite response. YourDrive YourData is an optional extra (see below).
- **Essential Service:** 24x7 service coverage with 4-hour onsite response or 24-hour committed repair (available only in select markets). Bundled with YourDrive YourData.
- **Advanced Service:** 24x7 service coverage with 2-hour onsite response or 6-hour committed repair (available only in select markets). Bundled with YourDrive YourData.

- **Managed Services**

Lenovo Managed Services provides continuous 24x7 remote monitoring (plus 24x7 call center availability) and proactive management of your data center using state-of-the-art tools, systems, and practices by a team of highly skilled and experienced Lenovo services professionals.

Quarterly reviews check error logs, verify firmware & OS device driver levels, and software as needed. We'll also maintain records of latest patches, critical updates, and firmware levels, to ensure you systems are providing business value through optimized performance.

- **Technical Account Management (TAM)**

A Lenovo Technical Account Manager helps you optimize the operation of your data center based on a deep understanding of your business. You gain direct access to your Lenovo TAM, who serves as your single point of contact to expedite service requests, provide status updates, and furnish reports to track incidents over time. In addition, your TAM will help proactively make service recommendations and manage your service relationship with Lenovo to make certain your needs are met.

- **Enterprise Server Software Support**

Enterprise Software Support is an additional support service providing customers with software support on Microsoft, Red Hat, SUSE, and VMware applications and systems. Around the clock availability for critical problems plus unlimited calls and incidents helps customers address challenges fast, without incremental costs. Support staff can answer troubleshooting and diagnostic questions, address product comparability and interoperability issues, isolate causes of problems, report defects to software vendors, and more.

- **YourDrive YourData**

Lenovo's YourDrive YourData is a multi-drive retention offering that ensures your data is always under your control, regardless of the number of drives that are installed in your Lenovo server. In the unlikely event of a drive failure, you retain possession of your drive while Lenovo replaces the failed drive part. Your data stays safely on your premises, in your hands. The YourDrive YourData service can be purchased in convenient bundles and is optional with Foundation Service. It is bundled with Essential Service and Advanced Service.

- **Health Check**

Having a trusted partner who can perform regular and detailed health checks is central to maintaining efficiency and ensuring that your systems and business are always running at their best. Health Check supports Lenovo-branded server, storage, and networking devices, as well as select Lenovo-supported products from other vendors that are sold by Lenovo or a Lenovo-Authorized Reseller.

Examples of region-specific warranty terms are second or longer business day parts delivery or parts-only base warranty.

If warranty terms and conditions include onsite labor for repair or replacement of parts, Lenovo will dispatch a service technician to the customer site to perform the replacement. Onsite labor under base warranty is limited to labor for replacement of parts that have been determined to be field-replaceable units (FRUs). Parts that are determined to be customer-replaceable units (CRUs) do not include onsite labor under base warranty.

If warranty terms include parts-only base warranty, Lenovo is responsible for delivering only replacement parts that are under base warranty (including FRUs) that will be sent to a requested location for self-service. Parts-only service does not include a service technician being dispatched onsite. Parts must be changed at customer's own cost and labor and defective parts must be returned following the instructions supplied with the spare parts.

Lenovo Service offerings are region-specific. Not all preconfigured support and upgrade options are available in every region. For information about Lenovo service upgrade offerings that are available in your region, refer to the following resources:

- Service part numbers in Lenovo Data Center Solution Configurator (DCSC):  
<http://dcsc.lenovo.com/#/services>
- Lenovo Services Availability Locator  
<http://lenovocator.com/>

For service definitions, region-specific details, and service limitations, please refer to the following documents:

- Lenovo Statement of Limited Warranty for Infrastructure Solutions Group (ISG) Servers and System Storage  
<http://pcsupport.lenovo.com/us/en/solutions/ht503310>
- Lenovo Data Center Services Agreement  
<http://support.lenovo.com/us/en/solutions/ht116628>

## Software maintenance

The ThinkAgile VX Series Integrated Systems (appliances) include one- (PRC only), three-, or five-year software support and subscription (matches the duration of the selected warranty period) that entitles customers to submit service requests to troubleshoot VMware software issues and receive code updates, including fixes, patches, and new software releases.

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

For the VMware vSphere, vSAN, and vCenter Server software and subscription licenses purchased from Lenovo together with the ThinkAgile VX Series Integrated Systems, software support that is provided by VMware includes Production-level support with 24x7 phone and web coverage with the following target response times (priorities are defined by VMware based on the impact on productivity):

- Severity 1 (Critical: Substantial loss or disruption of service, significant risk of data loss): 30 minutes
- Severity 2 (Major: Operations are severely constrained, significant impact): 4 business hours
- Severity 3 (Minor: Non-critical loss of functionality, minimal impact): 8 business hours
- Severity 4 (Cosmetic: General questions): 12 business hours

For the VMware software and subscription licenses provided by the customer, software support that is provided by VMware is based on the support level included with these licenses.



## Deployment services

The following optional Lenovo basic installation services are available for the ThinkAgile VX Series Integrated Systems (appliances):

- Unpacking and inspecting the systems
- 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)

The following Lenovo deployment services are available for the ThinkAgile VX Series Integrated Systems to get customers up and running quickly:

- Conducting remote preparation and planning
- Verifying firmware versions and performing firmware updates, if needed
- Configuring XCC management settings
- Configuring hypervisor settings
- Configuring vSAN
- Configuring VMware vCenter Server and discovering hosts and storage
- Configuring Lenovo XClarity network settings and performing discovery and inventory
- Transferring knowledge
- Developing post-installation documentation

The following table lists ThinkAgile Health Check & Deployment offerings are available for ThinkAgile VX 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.

Table 17. ThinkAgile Deployment offerings

| Part number                       | Description  |
|-----------------------------------|--|
| <b>Onsite deployment services</b> |  |
| 5MS7B00082                        | ThinkAgile VX Onsite Deployment (up to 4 nodes)                      |
| 5MS7B00083                        | ThinkAgile VX Onsite Deployment (additional node)                    |
| <b>Remote deployment services</b> |  |
| 5MS7A87711                        | ThinkAgile VX Remote Deployment (up to 4 nodes)                      |
| 5MS7A87712                        | ThinkAgile VX Remote Deployment (additional node)                    |
| <b>Remote Health Check</b>        |  |
| 5MS7B00178                        | ThinkAgile VX 1X Remote Health Check (up to 4 node cluster)          |
| 5MS7B00179                        | ThinkAgile VX 1X Remote Health Check (additional node)               |
| 5MS7B00059                        | ThinkAgile VX 1X Remote Health Check & Update (up to 4 node cluster) |
| 5MS7B00060                        | ThinkAgile VX 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 Financial Services

Lenovo Financial Services reinforces Lenovo's commitment to deliver pioneering products and services that are recognized for their quality, excellence, and trustworthiness. Lenovo Financial Services offers financing solutions and services that complement your technology solution anywhere in the world.

We are dedicated to delivering a positive finance experience for customers like you who want to maximize your purchase power by obtaining the technology you need today, protect against technology obsolescence, and preserve your capital for other uses.

We work with businesses, non-profit organizations, governments and educational institutions to finance their entire technology solution. We focus on making it easy to do business with us. Our highly experienced team of finance professionals operates in a work culture that emphasizes the importance of providing outstanding customer service. Our systems, processes and flexible policies support our goal of providing customers with a positive experience.

We finance your entire solution. Unlike others, we allow you to bundle everything you need from hardware and software to service contracts, installation costs, training fees, and sales tax. If you decide weeks or months later to add to your solution, we can consolidate everything into a single invoice.

Our Premier Client services provide large accounts with special handling services to ensure these complex transactions are serviced properly. As a premier client, you have a dedicated finance specialist who manages your account through its life, from first invoice through asset return or purchase. This specialist develops an in-depth understanding of your invoice and payment requirements. For you, this dedication provides a high-quality, easy, and positive financing experience.

For your region-specific offers, please ask your Lenovo sales representative or your technology provider about the use of Lenovo Financial Services. For more information, see the following Lenovo website:

<https://www.lenovo.com/us/en/landingpage/lenovo-financial-services/>

## Seller training courses

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

1. **Lenovo Data Center Product Portfolio**  
2024-04-22 | 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.

Published: 2024-04-22

Length: 20 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: SXXW1110r7

## 2. **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.

Published: 2024-04-10

Length: 50 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVCLD211

## 3. **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?

Published: 2024-04-10

Length: 60 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVDAT209

## 4. **ThinkAgile VX – How to sell**

2024-03-21 | 15 minutes | Employees and Partners

This module will introduce you to the ThinkAgile VX product line. It also introduces the latest updates to the VMware software packages available with the ThinkAgile VX product line.

Published: 2024-03-21

Length: 15 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DVXS100

## 5. **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

Published: 2024-03-14

Length: 25 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DSTOO201

## 6. **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

Published: 2024-03-07

Length: 35 minutes

Employee link: [Grow@Lenovo](#)

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDT2001r3

## 7. **ThinkAgile VX in 3 minutes**

2024-02-01 | 5 minutes | Employees and Partners

Learn about ThinkAgile VX in under 3 minutes. The business challenges it solves and how it can increase the size of your sales opportunities.

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

- 1) Learn how to sell Lenovo ThinkAgile VX
- 2) Describe what differentiates ThinkAgile VX from other VMware offerings

Published: 2024-02-01

Length: 5 minutes

Employee link: [Grow@Lenovo](#)

Partner link: [Lenovo Partner Learning](#)

Course code: DVXS101

## 8. **Lightboard – ThinkAgile VX Enhancements**

2024-01-30 | 10 minutes | Employees and Partners

In this Part 2 lightboard video, Srihari Angaluri, Principal Engineer SDI, further discusses high-level enhancements to ThinkAgile VX. He also walks you through Day 0, Day 2 deployment, lifecycle management, and vRealize integration and the value it can provide to your customers.

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

- 1) Understand the key components and functionalities of the Think Agile VX Hyperconverged Infrastructure Portfolio
- 2) Apply the knowledge gained to assess and recommend strategies for efficiently deploying and managing VMware vCenter environments using the ThinkAgile VX platform

Published: 2024-01-30

Length: 10 minutes

Employee link: [Grow@Lenovo](#)

Partner link: [Lenovo Partner Learning](#)

Course code: DVXS104

## 9. Lightboard – ThinkAgile VX Enhancements

2024-01-30 | 10 minutes | Employees and Partners

In this Part One lightboard video, Mike McDermott, Senior Product Manager, SDI walks you through ThinkAgile VX product changes and enhancements. The three different types of ThinkAgile VX offerings are defined and the differences between each, allowing you to understand the best option for your customers.

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

- 1) Describe the key features and benefits of ThinkAgile VX
- 2) Effectively communicate the competitive advantages of ThinkAgile VX

Published: 2024-01-30

Length: 10 minutes

Employee link: [Grow@Lenovo](#)

Partner link: [Lenovo Partner Learning](#)

Course code: DVXS103

## 10. 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

Published: 2024-01-25

Length: 15 minutes

Employee link: [Grow@Lenovo](#)

Partner link: [Lenovo Partner Learning](#)

Course code: SXSU1101r2

## 11. VTT Cloud Architecture: Future-Ready AI Infrastructure Edge to Cloud Transformation

2024-01-09 | 60 minutes | Employees Only

Join Asmaa El Andaloussi, Lenovo Enterprise Architect and Muhammad Toffaha, Lenovo Advisory Technical Consultant as they discuss the digital transformation that is driving the demand for a new class of infrastructure for organization from edge to cloud and are ready to embrace IT modernization and AI. In this session, the main spotlight will be on AI workload on Virtual GPU with ThinkAgile VX paired with VMware Cloud Foundation, featuring state-of-the-art NVIDIA GPUs for high performance.

Published: 2024-01-09

Length: 60 minutes

Employee link: [Grow@Lenovo](#)

Course code: DVCLD208

12. **Partner Technical Webinar - VxRail Takeout**  
2024-01-09 | 60 minutes | Employees and Partners

in this 60-minute replay, Mat Remillard, Lenovo VMware CTO for NA and former VxRail Architect, presented what VxRail is, where Lenovo's advantages lie and some use cases where we should target.

Published: 2024-01-09  
Length: 60 minutes  
Employee link: [Grow@Lenovo](#)  
Partner link: [Lenovo Partner Learning](#)  
Course code: 010524

13. **Lenovo Solutions for the Cloud**  
2024-01-03 | 30 minutes | Employees and Partners

Understanding your customer's needs around cloud solutions is imperative. This course aims to increase Lenovo and Partner Seller's ability to identify various Lenovo Cloud offerings and services to position related Lenovo Cloud Solutions.

Published: 2024-01-03  
Length: 30 minutes  
Employee link: [Grow@Lenovo](#)  
Partner link: [Lenovo Partner Learning](#)  
Course code: DCLDO112r2

14. **FY24Q3 Hybrid Cloud Update**  
2023-12-11 | 15 minutes | Employees and Partners

This update is designed to help you discuss the features and customer benefits of Lenovo ThinkAgile systems that use the 5th Gen Intel® Xeon® processors. Lenovo has also introduced a new service, Lenovo TruScale Hybrid Cloud for Edge, which provides agile and reliable infrastructure as a service where you need it, when you need it. New Professional Services for AI with NVIDIA provides customers with expert guidance for designing and implementing tailored AI solutions. Reasons to call your customer and talk about refreshing their infrastructure are also included as a guideline.

Published: 2023-12-11  
Length: 15 minutes  
Employee link: [Grow@Lenovo](#)  
Partner link: [Lenovo Partner Learning](#)  
Course code: SXXW2523a

15. **VTT Introducing VMware's vSAN Max - November 2023**  
2023-11-22 | 60 minutes | Employees Only

- Introducing vSAN Max powered by vSAN ESA
- Use cases ideal for vSAN Max
- vSAN Max Provisioning and Connectivity

Published: 2023-11-22  
Length: 60 minutes  
Employee link: [Grow@Lenovo](#)  
Course code: DVDAT206

16. **VTT Cloud Architecture - VMware Hybrid Cloud Solutions for Mid-Markets and Enterprises**  
2023-11-14 | 80 minutes | Employees Only

Please join Jeff Huxtable, Lenovo Solutions Marketing Manager, and a number of speakers from Lenovo, VMware and Intel for an open discussion on a high-level overview of the Lenovo and VMware Hybrid Cloud solution and the tools available to properly size, test, and configure the solution. We will review the new Sales Play, deployment ready configurations, "holodeck" POC site, demos/tours, reference architectures, configuration guides, professional services, and technical documents available to you in support of this solution.

Published: 2023-11-14

Length: 80 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVCLD206

17. **VTT Cloud Architecture: Google Cloud Platform with Anthos on ThinkAgile VX - October 2023**  
2023-10-11 | 54 minutes | Employees and Partners

Join Chandrakandh Mouleeswaran, Lenovo Senior Software Engineer and Cristian Ghetau, Lenovo Software Engineer for a discussion on Google Cloud Platform (GCP) with Anthos solution based on the Lenovo ThinkAgile VX VMware vSAN certified platform. They will cover a technical overview of Google Kubernetes Engine (GKE) On-prem, which is a containerized workload orchestration software. We will cover the functional aspects of Anthos core components including the Kubernetes, Istio service mesh, Anthos config management, Hybrid and multi-cloud management, and Google cloud marketplace. We will also provide an architecture overview and deployment of Anthos on top of Lenovo ThinkAgile VX hyperconverged infrastructure (HCI) platform. Cristian and Chandrakandh will cover customer use cases for Anthos, including Continuous Integration/Continuous Delivery (CI/CD), Micro-services and Service Mesh, Hybrid Cloud and Multi-cloud management, and Anthos Config Management.

Published: 2023-10-11

Length: 54 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DVCLD205

18. **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.

Published: 2023-09-27

Length: 20 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DSTOO100

19. **VTT Cloud Architecture - Application Migration September 2023**

2023-09-12 | 35 minutes | Employees Only

This VTT Cloud Architecture training aims to equip participants with the knowledge necessary to help your customers successfully migrate applications to a cloud infrastructure. With the increasing adoption of cloud computing, organizations are looking to harness the benefits of private and hybrid clouds, such as enhanced security, control, and customization. However, migrating applications to cloud requires careful planning, architectural considerations, and a deep understanding of the migration process.

In this training, we will delve into cloud infrastructure and learn about the key components involved in application migration. We will explore various migration strategies, including lift-and-shift, re-platforming, and re-architecting, and understand the factors that influence the selection of an appropriate migration approach. We will also cover best practices for evaluating application readiness, assessing dependencies, identifying potential challenges and risks, and solution design considerations.

We will discuss using migration tools, technologies specific to cloud environments and automation techniques for streamlining the migration process, ensuring minimal disruption to business operations.

Published: 2023-09-12

Length: 35 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVCLD204

20. **VTT Cloud Architecture - DevOps Cloud Story August 2023**

2023-08-17 | 60 minutes | Employees Only

Understanding how architecture is deployed to support DevOps environment in the cloud. Tanzu/Containers vs VM's. When it best to use each? Modern Application deployment in containers. In the beginning, public cloud IaaS was delivered exclusively via virtual machines. But today, new virtualization methods are taking hold, including containers and serverless computing. As cloud computing principles become more embedded in application development and infrastructure operations, containers and serverless will become increasingly attractive deployment vehicles for code. From requirements to installation.

Published: 2023-08-17

Length: 60 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVCLD203

21. **ThinkAgile Accelerating Cloud Agility: Understanding ThinkAgile VX**

2023-07-28 | 50 minutes | Employees and Partners

Brian Faleiro, Lenovo Technical Product Manager, discusses ThinkAgile VX use cases, where the solution can be positioned. He reviews recent technical improvements and discusses deployment and lifecycle management, 'why ThinkAgile VX', what are the requirements that customers are looking for and how we are solving those requirements.

Published: 2023-07-28

Length: 50 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DVXT201



22. **Lenovo Data Center Product Portfolio**  
2023-07-21 | 15 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.

Published: 2023-07-21  
Length: 15 minutes  
Employee link: [Grow@Lenovo](#)  
Partner link: [Lenovo Partner Learning](#)  
Course code: SXXW1110r6

23. **VTT: SAP HANA Transition and Refresh Opportunity - July 2023**  
2023-07-14 | 60 minutes | Employees Only

In this session, we cover:

- What Next for SAP Clients?
- Lenovo Opportunity
- Lenovo Portfolio for SAP Solutions
- RISE with SAP

Published: 2023-07-14  
Length: 60 minutes  
Employee link: [Grow@Lenovo](#)  
Course code: DVDAT202

24. **ThinkAgile VX Series - Technical Presentation**  
2023-07-12 | 60 minutes | Employees and Partners

Join us in this comprehensive course on ThinkAgile VX Series, where you will gain a deep understanding of its technical overview and components. Dive into the world of Data Processing Units (DPUs) and explore their technical aspects, including their role and benefits. Unlock the potential of ThinkAgile VX Series through a detailed exploration of its versatile use cases, ranging from Hybrid Cloud deployment to VDI, Kubernetes, and AI/ML applications. Moreover, you will learn about effective deployment strategies and lifecycle management processes.

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

- Understand the technical overview of ThinkAgile VX Series
- Gain knowledge about DPU (Data Processing Unit) and its technical aspects
- Explore various use cases of ThinkAgile VX Series, including Hybrid Cloud deployment, VDI (Virtual Desktop Infrastructure), Kubernetes, and AI/ML (Artificial Intelligence/Machine Learning)
- Describe deployment strategies and lifecycle management processes for ThinkAgile VX Series

Published: 2023-07-12  
Length: 60 minutes  
Employee link: [Grow@Lenovo](#)  
Partner link: [Lenovo Partner Learning](#)  
Course code: DVXSV104

25. **VTT Cloud Architecture - Why Cloud? July 2023**

2023-07-12 | 90 minutes | Employees Only

Theresa Thompson and Luke Huckaba from VMware discuss the VMware and Lenovo Partnership for cloud solutions addresses common IT constraints, such as slow time to value, limited resources and incompatible systems. Cloud is an enabler of digital business. How do we reduce the operational burden of running and maintaining hardware and software for cloud and prepare our customers for workload migrations and which are suitable for a cloud environment. How to align cloud Initiative outcomes with business goals.

Published: 2023-07-12

Length: 90 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVCLD202

26. **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

Published: 2023-07-11

Length: 40 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDS104r2

27. **Partner Technical Webinar - HX vs VX vs MX Panelist Discussion**

2023-04-11 | 60 minutes | Employees and Partners

In this 60-minute replay, Joe Murphy moderated a panelist discussion on ThinkAgile SHI. Baker Hull, VMware represented VX; Mike Tilt, Lenovo Technical Sales Manager presented HX; Phil Searles, Lenovo Solution Architect represented MX; and Brandon Saxton Lenovo NA Product Manager for ThinkAgile made up the panelist. The focus was less on the differences but how to elevate the conversation to get to the best solution. No slides were presented.

Published: 2023-04-11

Length: 60 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: 033123

28. **ThinkAgile VX & VMware**

2023-03-07 | 15 minutes | Employees and Partners

In this lightboard presentation, Mike McDermott explains the changes done in the last months for the elements of ThinkAgile VX: Ready nodes, Certified Node and Integrated Systems.

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

- Explain ThinkSystem Ready Node
- Explain ThinkAgile VX Certified Node
- Explain ThinkAgile VX Integrated Node
- Explain Lenovo TruScale

Published: 2023-03-07

Length: 15 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DVXS118

29. **Family Portfolio: ThinkAgile VX**

2023-02-28 | 20 minutes | Employees and Partners

This course is an introduction to Lenovo ThinkAgile VX Integrated Systems (previously called appliances) and Certified Nodes. The course includes systems based on the Intel and AMD Gen4 processors, and includes the new VX naming convention.

You will learn to identify products and features within the Lenovo ThinkAgile VX family, describe Lenovo innovations that the ThinkAgile VX family uses, and recognize when a specific product or products should be selected.

Published: 2023-02-28

Length: 20 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: SXS2130r4

30. **Partner Technical Webinar - ThinkAgile V3 Overview and SMB Express**

2023-02-13 | 60 minutes | Employees and Partners

In this 60-minute replay, Joe Murphy and Dave Brown, Lenovo Solution Architects reviewed the new ThinkAgile V3 solutions. In addition, Dave did a lengthy demo and explanation of the new SMB Express feature of DCSC.

Published: 2023-02-13

Length: 60 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: 021023

### 31. **Lenovo ThinkAgile VX Customer Presentation**

2022-10-31 | 25 minutes | Employees Only

This presentation serves as an enablement guide on how to pitch ThinkAgile VX to a client. If you are not familiar with ThinkAgile VX, it will also help you learn more about our ThinkAgile VX HCI solution and the market in which it competes.

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

- Understand how to pitch ThinkAgile VX to a client.
- Describe our ThinkAgile VX HCI Solution and the market in which it competes.

Published: 2022-10-31

Length: 25 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVXCP101

### 32. **Lenovo ThinkAgile VX Seller Presentation**

2022-10-31 | 23 minutes | Employees Only

This presentation is an introductory course on how to position and sell ThinkAgile VX, which is Lenovo's Hyperconverged solution for VMware environments.

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

- Understand customer profiles and how to position ThinkAgile VX.
- Describe the sales process for ThinkAgile VX.
- Identify sales tactics, tools and resources that can help you win.

Published: 2022-10-31

Length: 23 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DVXSP101

### 33. **Partner Technical Webinar - ThinkAgile VX vs VxRail**

2022-10-25 | 60 minutes | Partners Only

In this 60-minute replay, Arrow Solution Architect Todd Frederking discussed Lenovo ThinkAgile VX strengths over VxRail and how to capitalize on VxRail weakness. A live demo of the ThinkAgile VX interface was also shared with the audience.

Published: 2022-10-25

Length: 60 minutes

Partner link: [Lenovo Partner Learning](#)

Course code: 102122

34. **Lenovo's value-added Solutions Software and SDI - ThinkAgile VX Sales Process and Overview**

2022-08-22 | 60 minutes | Employees Only

In this continuous series of recorded webinars for ThinkAgile Portfolio Sales Process, Mike Tilt, Sales Engineer Director, discusses with the North American region, the overview of ThinkAgile VX sales process. He discusses the differences between the two VMware Solution options and reviews common FAQ and audience questions.

Published: 2022-08-22

Length: 60 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Course code: DCLDO123

35. **Partner Technical Webinar - sizing ThinkAgile HX & VX**

2022-08-01 | 60 minutes | Partners Only

In this 60-minute replay, we demonstrated how to size ThinkAgile VX and ThinkAgile HX. First Lenovo Solution Architect Joe Murphy reviewed the sizing methodology. Next, Lenovo Solution Architect Richard Smutzer demonstrated how to size ThinkAgile HX using Nutanix's sizing tool. Lenovo Solution Architect David Cianchetta closed the webinar by demonstrating ThinkAgile VX sizing using the VSAN sizer from VMware.

Published: 2022-08-01

Length: 60 minutes

Partner link: [Lenovo Partner Learning](#)

Course code: 072922

36. **ThinkAgile Advantage Services**

2022-07-20 | 15 minutes | Employees and Partners

The goal of this training is to go through the details of ThinkAgile Advantage, and to provide everything you need to have customer conversations and to order ThinkAgile Advantage and recommended services.

Course objectives:

1. Learn about the customer challenges and benefits of ThinkAgile Advantage
2. Discover what it includes
3. Understand how to make the most of ThinkAgile products and solutions with the elevator pitch for customer conversations.

Published: 2022-07-20

Length: 15 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DSVC121r2

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

2021-10-25 | 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. Topics include:

- Why customers choose the cloud
- The Lenovo Cloud Strategy
- Starting the customer cloud conversation

Published: 2021-10-25

Length: 25 minutes

Employee link: [Grow@Lenovo](mailto:Grow@Lenovo)

Partner link: [Lenovo Partner Learning](#)

Course code: DCLDS103r2

## Related publications and links

For more information, see these resources:

- Lenovo ThinkAgile VX Series  
<https://www.lenovo.com/us/en/data-center/software-defined-infrastructure/ThinkAgile-VX-Series/p/WMD00000340>
- ThinkAgile VX - Best Recipes  
<http://datacentersupport.lenovo.com/us/en/solutions/HT505302>
- VMware documentation  
<https://docs.vmware.com/>
- ThinkSystem SR635 V3 product guide:  
<https://lenovopress.com/lp1609-thinksystem-sr635-v3-server>

## Related product families

Product families related to this document are the following:

- [2-Socket Rack Servers](#)
- [Hyperconverged Infrastructure](#)
- [Hyperconverged Infrastructure](#)
- [ThinkAgile VX Series for VMware](#)

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