Lenovo ThinkAgile MX3330 and MX3331 1U Appliances and Certified Nodes (Intel Xeon SP Gen 3)

Product Guide (withdrawn product)

The Lenovo ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes are 2-socket 1U systems that are designed for deploying highly available, highly scalable hyper-converged infrastructure (HCI) and software-defined storage (SDS) from Microsoft on Lenovo enterprise platforms that feature the 3rd Gen Intel Xeon Scalable processors. The MX systems deliver fully validated and integrated Lenovo hardware and firmware that is certified for Microsoft Azure Local solutions.

The MX 1U systems are available either as an Appliance (MXnnn0) or Certified Node (MXnnn1):

- MX3330-H and MX3331-H with hybrid storage
- MX3330-F and MX3331-F with all-flash storage

ThinkAgile MX Appliances deliver fully validated and integrated Lenovo hardware and firmware, certified and preloaded with the latest Microsoft Azure Local software. The customers have the choice to purchase the licenses via subscription or via perpetual Azure Stack Local OEM license bundle. They also include ThinkAgile Premier support with one single point of contact for support of the hardware and software.

ThinkAgile MX Certified Nodes deliver fully validated Lenovo hardware and firmware, certified and can be preloaded with latest Microsoft Azure Local software. The customers have the choice to purchase the licenses via subscription or via perpetual Azure Local OEM license bundle.

Figure 1. Lenovo ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes with 2.5-inch drive bays

Did you know?

The ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes are built on industry-leading Lenovo ThinkSystem servers that feature enterprise-class reliability, management, and security. They deliver fully validated and integrated hardware and firmware that is certified for Microsoft Azure Local solutions.

The MX3330-F and MX3330-H appliances offer ThinkAgile Premier Single Point of Support for quick 24/7 problem reporting and resolution.

Key features

Combining performance and flexibility, the MX 1U systems systems are a great choice for enterprises of all sizes. The systems offer a broad selection of processors, memory and drives, and offers high performance features that industries such as finance, healthcare and telco need. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design can improve your business environment and can help save operational costs.

ThinkAgile MX Series platforms offer the choice of Azure Local Appliance (Integrated System) or Azure Local Certified Node. These validated platforms help modernize on-premises infrastructure with pre-tested, pre-configured, and easy-to-order configurations, with seamless Azure integration. As a new direct and indirect Microsoft Cloud Solution Provider, Lenovo offers cloud services and subscriptions through the Lenovo Cloud Marketplace, which enable HCI use cases with the ThinkAgile MX platforms.

- The appliances include the Azure Local operating system, which is delivered as an Azure subscription service via the Microsoft CSP program. It also includes ThinkAgile Premier support with one single point of contact for support of the hardware and warm-case transfer for software. Deployment and Update features in Windows Admin Center and tight integration with Lenovo XClarity make cluster management, hardware and software update management & enforcing site-wide policies easy for administrators. Azure hybrid by design, native integration with Azure services makes it easy for customers to adopt a hybrid cloud strategy for their workloads and use cases.
- The certified nodes deliver fully validated and integrated Lenovo hardware and firmware that is certified for Microsoft Azure Local solutions. These HCI Certified Nodes have the option of Windows Server 2019 Datacenter Edition for HCI functionality, and guest licenses are included.

Appliance features

The ThinkAgile MX Appliances offers the following key features:

- Quick and convenient path to implement a hyperconverged solution powered by the new Azure Local OS with Hyper-V virtualization, Microsoft Storage Spaces Direct (S2D), Software Defined Storage (SDS), and Software Defined Networking (SDN) network virtualization.
- Streamlined management of Azure Local with unified single-pane-of-glass for creating and managing VMs, S2D volumes, and virtual networks through Windows Admin Center.
- Consistent, low latency performance with hypervisor-embedded architecture, built-in read and write cache, and support for NVMe PCIe drives.
- Provides per-VM storage performance management with policy-driven Quality of Service (QoS) and continuous built-in monitoring and alerting with cluster-wide performance and capacity metrics.
- Can sustain drive, server, or component failures with built-in resiliency for continuous availability.
- GPU support to enable AI training, inferencing and data visualization scenarios, HPC workloads, virtual desktops and graphics intensive applications.
- Built on proven and reliable Lenovo ThinkSystem servers that provide compute power and space efficiency for a variety of edge workloads and applications.
- Provides comprehensive hardware management with advanced systems management capabilities with XClarity
- Delivers fully validated and integrated hardware and firmware that is certified for Microsoft Azure Local solutions.
- Ready for out-of-box deployment with the mandatory Azure Local OS preloaded, with the option to purchase a Windows Server 2019 Datacenter or Windows Server 2022 Datacenter license if unlimited guest OS VMs are desired.
- Includes Lenovo ThinkAgile Premier Single Point of Support for quick 24/7 problem reporting and resolution.
- Optional Lenovo deployment services to get customers up and running quickly.

Certified Node features

The ThinkAgile MX Certified Node offers the following key features:

- Quick and convenient path to implement a hyperconverged solution powered by Windows Server 2019 Datacenter or Windows Server 2022 Datacenter with Hyper-V virtualization, Microsoft Storage Spaces Direct (S2D), Software Defined Storage (SDS), and Software Defined Networking (SDN) network virtualization.
- Streamlined management of Azure Local with unified single-pane-of-glass for creating and managing VMs, S2D volumes, and virtual networks through Windows Admin Center.
- Consistent, low latency performance with hypervisor-embedded architecture, built-in read and write cache, and support for NVMe PCIe drives.
- Provides per-VM storage performance management with policy-driven Quality of Service (QoS) and continuous built-in monitoring and alerting with cluster-wide performance and capacity metrics.
- Can sustain drive, server, or component failures with built-in resiliency for continuous availability.
- GPU support to enable AI training, inferencing and data visualization scenarios, HPC workloads, virtual desktops and graphics intensive applications.
- Built on proven and reliable Lenovo ThinkSystem servers that provide compute power and space efficiency for a variety of edge workloads and applications.
- Provides comprehensive hardware management with advanced systems management capabilities.
- Delivers fully validated and integrated hardware and firmware that is certified for Microsoft Azure Local solutions.
- Ready for out-of-box deployment with the optional Windows Server 2019 Datacenter, Windows Server 2022 Datacenter, or Azure Local OS preload.
- Provide flexibility in using the existing Microsoft Windows Server 2019 or 2022 enterprise license agreements or purchasing new software licenses from Microsoft or Lenovo.
- Optional Lenovo deployment services to get customers up and running quickly.

Hardware features

The ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes systems are based on the SR630 V2 and have the following hardware features:

Scalability and performance

The MX 1U systems offer numerous features to boost performance, improve scalability and reduce costs:

- Supports two third-generation Intel Xeon Processor Scalable processors
  - Up to 40 cores and 80 threads
  - Core speeds of up to 3.6 GHz
  - TDP ratings of up to 270W
- Support for up to 32 TruDDR4 memory DIMMs operating at up to 3200 MHz means you have the fastest available memory subsystem.
- Supports configurations of 2 DIMMs per channel to operate at the 3200 MHz rated speed of the memory DIMMs.
- Using 128GB 3DS RDIMMs, the server supports up to 4TB 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 4x 3.5-inch drive bays for lower-cost high-capacity HDD storage.
- Supports up to 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 and latency.

- Supports high-speed HBA controllers providing 12 Gb SAS connectivity to the drive backplanes.
- 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. Available M.2 adapters support either one M.2 drive or two M.2 drives in a RAID 1 configuration for performance and reliability.
- The server has a dedicated industry-standard OCP 3.0 small form factor (SFF) slot, with a PCIe 4.0 x16 interface, supporting a variety of Ethernet network adapters. A simple-swap mechanism with a thumbscrew and pull-tab enables tool-less installation and removal of the adapter. The adapter supports shared BMC network sideband connectivity to enable out-of-band systems management.
- The server offers PCI Express 4.0 I/O expansion capabilities that doubles the theoretical maximum bandwidth of PCIe 3.0 (16GT/s in each direction for PCIe 4.0, compared to 8 GT/s with PCIe 3.0). A PCIe 4.0 x16 slot provides 64 GB/s bandwidth, enough to support a 200GbE network connection.
- The server offers up to three PCIe 4.0 slots, all with rear access, plus a slot dedicated to the OCP adapter.

Availability and serviceability

The MX 1U systems provide many features to simplify serviceability and increase system uptime:

- The server offers Single Device Data Correction (SDDC, also known as Chipkill), Adaptive Double-Device Data Correction (ADDDC, also known as Redundant Bit Steering or RBS), and memory mirroring for redundancy in the event of a non-correctable memory failure.
- The server offers hot-swap drives for greater system uptime.
- Available M.2 RAID boot adapters support RAID-1 which can enable two SATA or two NVMe M.2 drives to be configured as a redundant pair.
- A pair of rear-accessible 7mm hot-swap boot drives can be accessed without removing the cover or powering down the server.
- 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.
- The light path diagnostics feature 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 and performance 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), fans, power supplies, 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 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 or tablet and connected to the server through the service-enabled USB port, enables additional local systems management functions.
- Three-year customer-replaceable unit and onsite limited warranty (varies by geography), 9 x 5 next business day. Optional service upgrades are available.

Manageability and security

Systems management features simplify local and remote management of the MX 1U systems:

- The server includes an XClarity Controller (XCC) to monitor server availability. Optional upgrade to XCC Advanced to provide remote control (keyboard video mouse) functions. Optional upgrade to XCC Enterprise enables the additional support for the mounting of remote media files (ISO and IMG image files), boot capture, and power capping.
- Lenovo XClarity Administrator offers comprehensive hardware management tools that help to increase uptime, reduce costs and improve productivity through advanced server management capabilities.
- UEFI-based Lenovo XClarity Provisioning Manager, accessible from F1 during boot, provides system inventory information, graphical UEFI Setup, platform update function, 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 Secure Boot to ensure only a digitally signed operating system can be used. Supported with HDDs and SSDs, as well as 7mm and M.2 drives.
- Industry-standard Advanced Encryption Standard (AES) NI support for faster, stronger encryption.
- Intel Execute Disable Bit functionality can prevent certain classes of malicious buffer overflow attacks when combined with a supported operating system.
- Intel Trusted Execution Technology provides enhanced security through hardware-based resistance to malicious software attacks, allowing an application to run in its own isolated space, protected from all other software running on a system.
- Additional physical security features are an available chassis intrusion switch and available lockable front bezel.

Energy efficiency

The MX 1U systems offer the following energy-efficiency features to save energy, reduce operational costs, and increase energy availability:

- Energy-efficient system board components help lower operational costs.
- High-efficiency power supplies with 80 PLUS Platinum and Titanium certifications
- 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, analysis, and policy-based management to help achieve lower heat output and reduced cooling needs.

Components and connectors

The ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes are based on the ThinkSystem SR630 V2 server.

The following figure shows the front of the MX 1U systems with 2.5-inch drives.

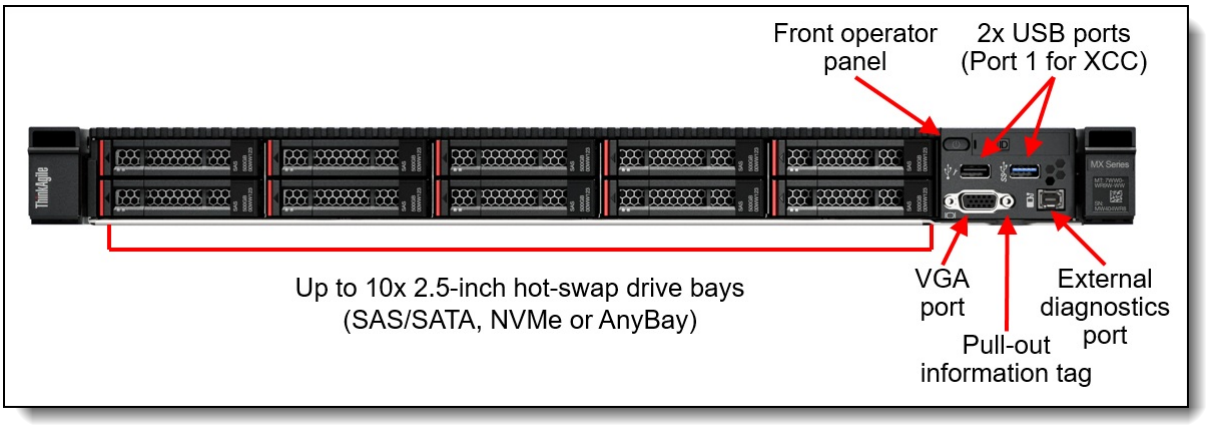

Figure 2. Front view of the MX 1U systems with 2.5-inch drives

The following figure shows the front of the MX 1U systems with 3.5-inch drives.

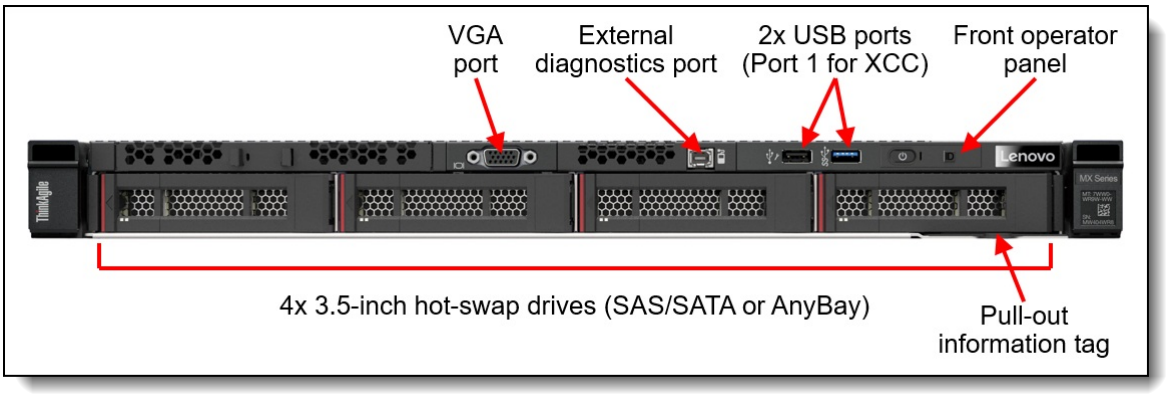

Figure 3. Front view of the MX 1U systems with 3.5-inch drives

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).

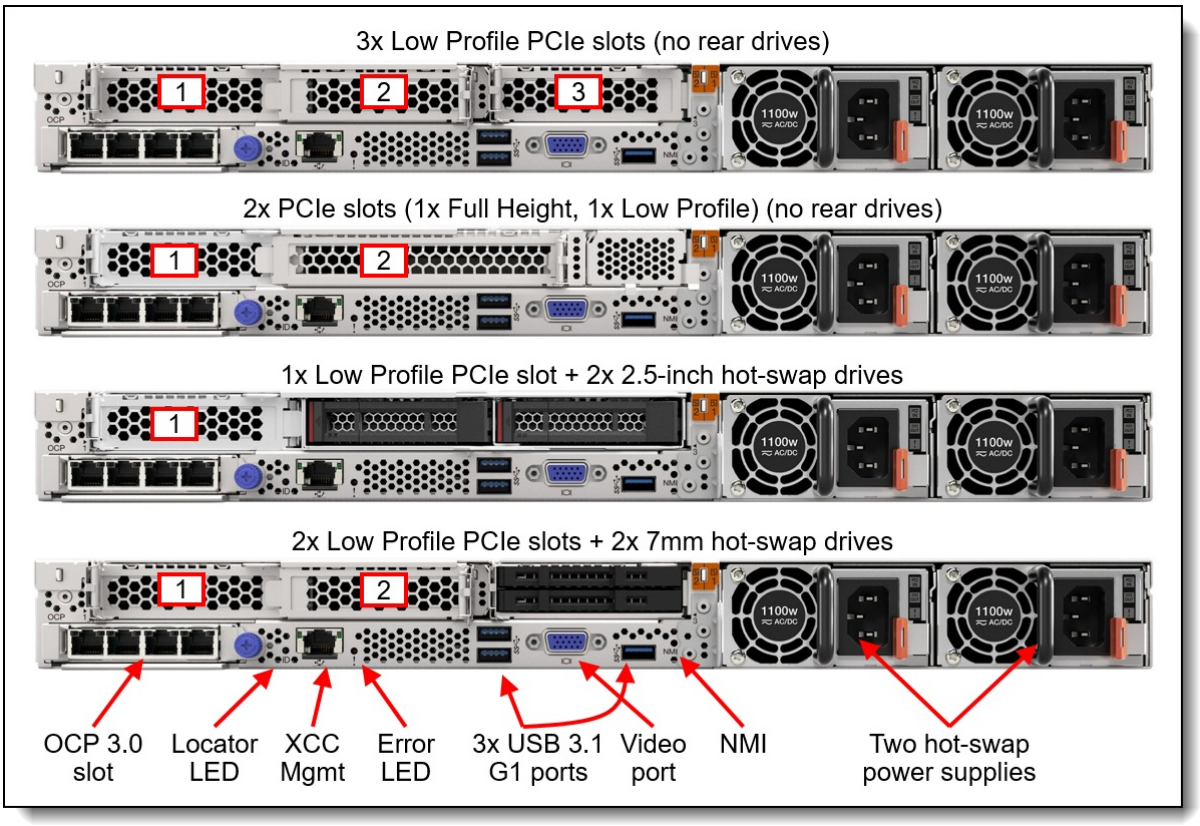

Figure 4. Rear views of the MX 1U systems

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

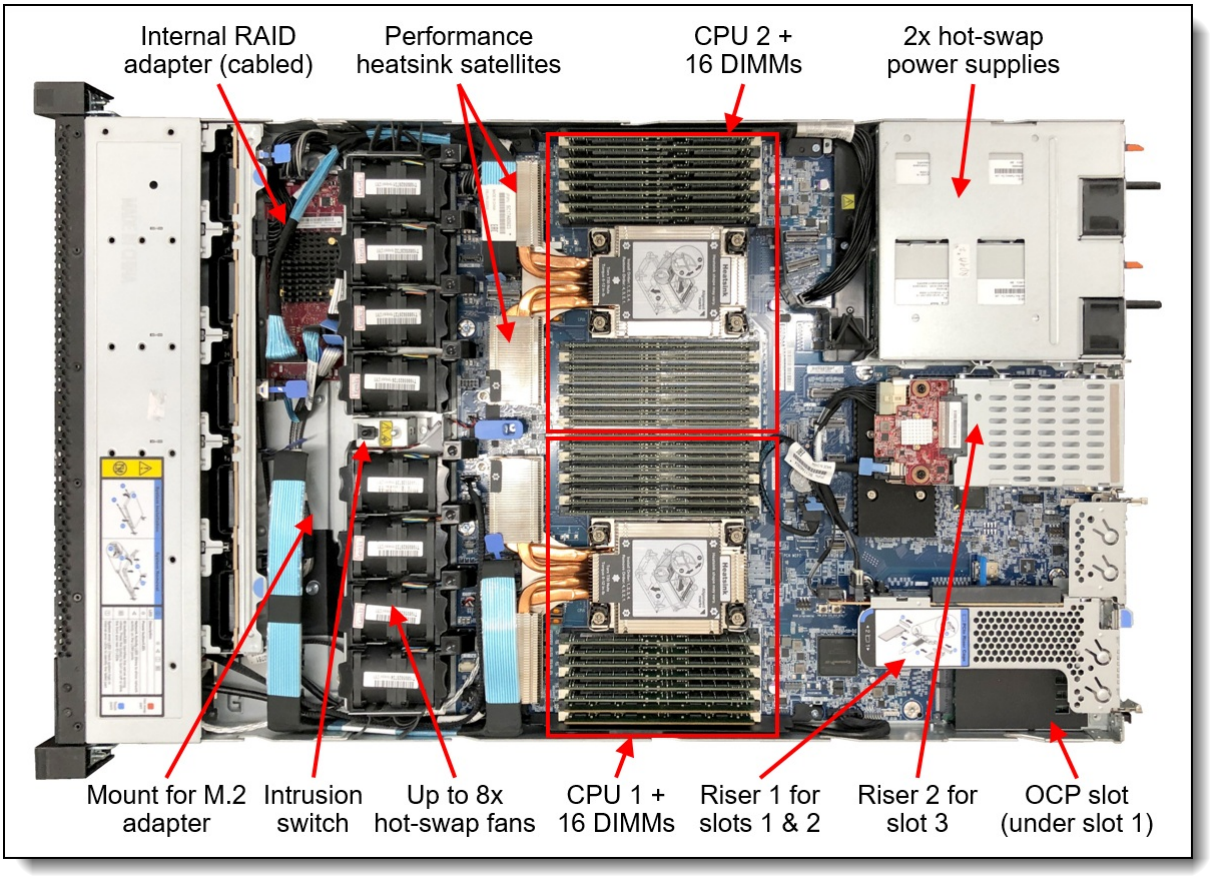

Figure 5. Internal view of the MX 1U systems

Standard specifications

The ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes are based on the ThinkSystem SR630 V2 server.

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

Table 1. Comparison of features

	MX3330-H Appliance **MX3331-H Certified Node**	**MX3330-F Appliance** **MX3331-F Certified Node**
MX offering type	Appliance Certified Node	Appliance Certified Node
Target workloads	Database, VDI	Database, VDI, stretched cluster, AI/ML
Base MTM	7D19CTO1WW (Appliance) 7D67CTO1WW (Certified Node)	7D19CTO2WW (Appliance) 7D67CTO2WW (Certified Node)
Form Factor	1U	1U
Base platform	SR630 V2	SR630 V2
CPU	2x Intel Xeon SP Gen 3	2x Intel Xeon SP Gen 3
Memory	32x DDR4 3200 MHz (4TB maximum)	32x DDR4 3200 MHz (4TB maximum)

Drive Bays	• Front bay choices:
	  ◦ 10x 2.5" AnyBay
	  ◦ 4x 3.5" SAS/SATA
	• Rear bay choices
	  ◦ 2x 2.5" SAS/SATA
	  ◦ 2x 2.5" NVMe
		• Front bay choices:
		  ◦ 10x 2.5" AnyBay
		  ◦ 16x EDSFF NVMe
		• Rear bay choices
		  ◦ 2x 2.5" SAS/SATA
		  ◦ 2x 2.5" NVMe

Drive Configuration	Hybrid storage:
	• Drive choices:
	  ◦ HDDs for capacity
	  ◦ SAS or NVMe SSDs for cache
	• Minimum 2, maximum 4 cache drives
	• For configs with 3.5-inch front drives, cache drives are installed in rear 2.5-inch bays
	• Minimum of 1:10 Cache:Capacity required
		All Flash storage:
		• Drive choices:
		  ◦ All SAS/SATA for cache & capacity
		  ◦ All NVMe (includes EDSFF) for cache & capacity
		  ◦ NVMe cache with SAS/SATA capacity
		• For configs with 1 type of SSD installed: minimum 4 drives
		• For configs with different cache and capacity drives: minimum 2 for cache, minimum 4 for capacity
		• Minimum of 1:10 Cache:Capacity required

HBA	• 430-8i HBA • 430-16i HBA	• 430-16i HBA
Boot drives	• 2x M.2 non-hot-swap SATA • 2x 7mm hot-swap drives	• 2x M.2 non-hot-swap SATA • 2x 7mm hot-swap drives
OCP networking	1x OCP 3.0 adapter: 1Gb, 10Gb, 25Gb	1x OCP 3.0 adapter: 1Gb, 10Gb, 25Gb
PCIe networking	Up to 3x adapters: 1Gb, 10Gb, 25Gb, 100Gb	Up to 3x adapters: 1Gb, 10Gb, 25Gb, 100Gb
GPUs	Up to 3x NVIDIA T4 GPUs	Up to 3x NVIDIA T4 GPUs

	MX3330-H Appliance **MX3331-H Certified Node**	**MX3330-F Appliance** **MX3331-F Certified Node**

Hypervisor	• Appliance:
	  ◦ Azure Local OS preloaded
	  ◦ Windows Server 2019 Datacenter optional
	  ◦ Windows Server 2022 Datacenter optional
	• Certified Node:
	  ◦ Windows Server 2019 Datacenter optional
	  ◦ Windows Server 2022 Datacenter optional
	  ◦ Azure Local OS optional
		• Appliance:
		  ◦ Azure Local OS preloaded
		  ◦ Windows Server 2019 Datacenter optional
		  ◦ Windows Server 2022 Datacenter optional
		• Certified Node:
		  ◦ Windows Server 2019 Datacenter optional
		  ◦ Windows Server 2022 Datacenter optional
		  ◦ Azure Local OS optional

The following table lists the standard specifications.

Table 2. Standard specifications

Components	**Specification**
Machine types	7D19 - 1U Appliance 7D67 - 1U Certified Node
Form factor	1U rack.
Processor	Two third-generation Intel Xeon Scalable processor (formerly codenamed "Ice Lake"). Supports processors up to 40 cores, core speeds of up to 3.6 GHz, and TDP ratings of up to 270W.
Chipset	Intel C621A "Lewisburg" chipset, part of the platform codenamed "Whitley"
Memory	32 DIMM slots with two processors (16 DIMM slots per processor). Each processor has 8 memory channels, with 2 DIMMs per channel (DPC). Lenovo TruDDR4 RDIMMs and 3DS RDIMMs are supported. DIMMs operate at up to 3200 MHz at 2 DPC.
Persistent memory	Supports up to 16x Intel Optane Persistent Memory 200 Series modules (8 per processor) installed in the DIMM slots. Persistent memory (Pmem) is installed in combination with system memory DIMMs.
Memory maximum	With RDIMMs: Up to 4TB by using 32x 128GB 3DS RDIMMs With Persistent Memory: Up to 6TB by using 16x 128GB 3DS RDIMMs and 16x 256GB Pmem modules
Memory protection	ECC, SDDC (for x4-based memory DIMMs), ADDDC (for x4-based memory DIMMs, requires Platinum or Gold processors), and memory mirroring.

Drive bays	• MX3330-H Appliance and MX3331-H Certified Node
	  ◦ Front drive bays: 10x 2.5-inch AnyBay or 4x 3.5-inch SAS/SATA
	  ◦ Rear drive bays: 2x 2.5-inch SAS/SATA or 2x 2.5-inch NVMe
	• MX3330-F Appliance and MX3331-F Certified Node
	  ◦ Front drive bays: 10x 2.5-inch AnyBay or 16x EDSFF NVMe
	  ◦ Rear drive bays: 2x 2.5-inch SAS/SATA or 2x 2.5-inch NVMe
	• OS boot support:
	  ◦ Internal M.2 module supporting up to two M.2 SATA drives
	  ◦ Rear accessible 2x 7mm hot-swap drives, SATA or NVMe

Storage controller	• Onboard NVMe ports and NVMe Retimer adapter (RAID not supported)
	• 12 Gb SAS/SATA non-RAID:
	  ◦ 430-8i HBA
	  ◦ 430-16i HBA

Components	Specification
Network interfaces	Dedicated OCP 3.0 SFF slot with PCIe 4.0 x16 host interface. Supports 1GbE, 10GbE and 25GbE network connectivity. One port can optionally be shared with the XClarity Controller (XCC) management processor for Wake-on-LAN and NC-SI support.
PCI Expansion slots	Up to 3x PCIe 4.0 slots, all with rear access, plus a slot dedicated to the OCP adapter. Slot availability is based on riser selection and rear drive bay selection. Slot 3 requires two processors. Three combinations for rear-access slots and rear drive bays: • 3x PCIe 4.0 x16 low-profile slots • 1x PCIe 4.0 x16 full-height half-length slot + 1x PCIe 4.0 x16 low-profile slot • 1x PCIe 4.0 x16 low-profile slot + 2x 2.5-inch rear drive bays
GPU support	Supports up to 3x single-wide GPUs
Ports	Front: 1x USB 3.1 G1 (5 Gb/s) port, 1x USB 2.0 port (also for XCC local management), External diagnostics port, optional VGA port. Rear: 3x USB 3.1 G1 (5 Gb/s) ports, 1x VGA video port, 1x RJ-45 1GbE systems management port for XCC remote management. Optional DB-9 COM serial port (installs in slot 3). Internal: 1x USB 3.1 G1 connector for operating system or license key purposes
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	G200 graphics with 16 MB memory with 2D hardware accelerator, integrated into the XClarity Controller. Maximum resolution is 1920x1200 32bpp at 60Hz.
Hot-swap parts	Drives, power supplies, and fans.
Systems management	Operator panel with status LEDs. Optional External Diagnostics Handset with LCD display. Models with 8x 2.5-inch front drive bays can optionally support an Integrated Diagnostics Panel. XClarity Controller (XCC) embedded management, XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management. Optional XClarity Controller Advanced and Enterprise to enable remote control functions.
Security features	Chassis intrusion switch, Power-on password, administrator's password, Trusted Platform Module (TPM), supporting TPM 2.0. In China only, optional Nationz TPM 2.0. Optional lockable front security bezel.
Software	• Appliances: Azure Local preloaded • Certified Nodes: Windows Server 2019 Datacenter, Windows Server 2022 Datacenter, Azure Local OS (all optional)

Components	Specification
Hardware warranty	• Appliances: Three-, four-, or five-year customer-replaceable unit and onsite limited hardware warranty with ThinkAgile Premier Support and selectable service levels: 9x5 next business day (NBD) parts delivered, 9x5 NBD onsite response, 24x7 coverage with 2-hour or 4-hour onsite response, or 6-hour or 24-hour committed repair (select areas). Also available are YourDrive YourData, Premier Support, and Enterprise Software Support. • Certified Nodes: Three, four, or five-year customer-replaceable unit and onsite limited warranty with selectable service levels: 9x5 coverage with next business day (NBD) parts delivered (base warranty), 9x5 coverage with NBD onsite response (Foundation Service), 24x7 coverage with 4-hour onsite response or 24-hour committed repair (select areas) (Essential Service), or 24x7 coverage with 2-hour onsite response or 6-hour committed repair (select areas) (Advanced Service). Also available are 1-year and 2-year post-warranty extensions, YourDrive YourData, and Enterprise Software Support.
Software maintenance	Three-, four-, or five-year software support and subscription (matches the duration of the selected warranty period).
Dimensions	Width: 440 mm (17.3 in.), height: 43 mm (1.7 in.), depth: 773 mm (30.4 in.).
Weight	Maximum: 26.3 kg (58 lb)

Models

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

During the configuration process, you are selecting the base Configure-to-Order (CTO) model first, and then you are selecting components (processors, memory, drives, network adapters, and software) for that model.

The following table lists the base CTO models.

Table 3. Base CTO models

Base model	Description
7D19CTO1WW	ThinkAgile MX3330-H Hybrid Appliance
7D67CTO1WW	ThinkAgile MX3331-H Hybrid Certified Node
7D19CTO2WW	ThinkAgile MX3330-F All Flash Appliance
7D67CTO2WW	ThinkAgile MX3331-F All Flash Certified Node

Comparison with the ThinkSystem SR630 V2

The ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes are based on the ThinkSystem SR630 V2 server, however there are key differences:

- No persistent memory support
- No onboard SATA controller support
- No RAID adapter support for data drives
- No VROC RAID support
- No SED drive support
- No Fibre Channel support
- No InfiniBand support

For details about the ThinkSystem SR630 V2, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server

Only certain network adapters have been certified for particular network traffic types in the Azure Local operating system. For details regarding which available network adapters can be used for each network traffic type, see Lenovo Certified Configurations for Azure Local – V2 Servers:
https://lenovopress.com/lp1520

To verify what specific hardware components are supported with the MX 1U systems, see the DCSC configurator:
https://dcsc.lenovo.com

Processors

The MX 1U systems support the following processors.

For details about these options, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#processors

Table 4. Processors

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
4XG7A63398	BB2N	Intel Xeon Silver 4309Y 8C 105W 2.8GHz Processor	2	2	2	2
4XG7A63425	BB3C	Intel Xeon Silver 4310 12C 120W 2.1GHz Processor	2	2	2	2
4XG7A63416	BB34	Intel Xeon Silver 4310T 10C 105W 2.3GHz Processor	2	2	2	2
4XG7A63411	BB2Z	Intel Xeon Silver 4314 16C 135W 2.4GHz Processor	2	2	2	2
4XG7A63422	BB39	Intel Xeon Silver 4316 20C 150W 2.3GHz Processor	2	2	2	2
4XG7A63434	BB3M	Intel Xeon Gold 5315Y 8C 140W 3.2GHz Processor	2	2	2	2
4XG7A63412	BB30	Intel Xeon Gold 5317 12C 150W 3.0GHz Processor	2	2	2	2
4XG7A63427	BB3E	Intel Xeon Gold 5318N 24C 150W 2.1GHz Processor	2	2	2	2
4XG7A63397	BB2M	Intel Xeon Gold 5318S 24C 165W 2.1GHz Processor	2	2	2	2
4XG7A63417	BB35	Intel Xeon Gold 5318Y 24C 165W 2.1GHz Processor	2	2	2	2
4XG7A63403	BB2R	Intel Xeon Gold 5320 26C 185W 2.2GHz Processor	2	2	2	2
4XG7A63410	BB2Y	Intel Xeon Gold 5320T 20C 150W 2.3GHz Processor	2	2	2	2

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
4XG7A63401	BB4E	Intel Xeon Gold 6326 16C 185W 2.9GHz Processor	2	2	2	2
4XG7A63430	BB3H	Intel Xeon Gold 6330 28C 205W 2.0GHz Processor	2	2	2	2
4XG7A63435	BB3N	Intel Xeon Gold 6330N 28C 165W 2.2GHz Processor	2	2	2	2
4XG7A63426	BB3D	Intel Xeon Gold 6334 8C 165W 3.6GHz Processor	2	2	2	2
4XG7A63439	BB3S	Intel Xeon Gold 6336Y 24C 185W 2.4GHz Processor	2	2	2	2
4XG7A63436	BB3P	Intel Xeon Gold 6338 32C 205W 2.0GHz Processor	2	2	2	2
4XG7A63413	BB31	Intel Xeon Gold 6338N 32C 185W 2.2GHz Processor	2	2	2	2
4XG7A63415	BB33	Intel Xeon Gold 6338T 24C 165W 2.1GHz Processor	2	2	2	2
4XG7A63574	BB3B	Intel Xeon Gold 6342 24C 230W 2.8GHz Processor	2	2	2	2
4XG7A63408	BB2W	Intel Xeon Gold 6346 16C 205W 3.1GHz Processor	2	2	2	2
4XG7A63571	BB2L	Intel Xeon Gold 6348 28C 235W 2.6GHz Processor	2	2	2	2
4XG7A63406	BB2U	Intel Xeon Gold 6354 18C 205W 3.0GHz Processor	2	2	2	2
4XG7A63654	BKDB	Intel Xeon Platinum 8352M 32C 185W 2.3GHz Processor	2	2	2	2
4XG7A63437	BB3Q	Intel Xeon Platinum 8352S 32C 205W 2.2GHz Processor	2	2	2	2
4XG7A63404	BB2S	Intel Xeon Platinum 8352V 36C 195W 2.1GHz Processor	2	2	2	2
4XG7A63407	BB2V	Intel Xeon Platinum 8352Y 32C 205W 2.2GHz Processor	2	2	2	2
4XG7A63438	BB3R	Intel Xeon Platinum 8358 32C 250W 2.6GHz Processor	2	2	2	2
4XG7A63423	BB3A	Intel Xeon Platinum 8358P 32C 240W 2.6GHz Processor	2	2	2	2
4XG7A63399	BB2P	Intel Xeon Platinum 8360Y 36C 250W 2.4GHz Processor	2	2	2	2
4XG7A63653	BKDC	Intel Xeon Platinum 8362 32C 265W 2.8GHz Processor	2	2	2	2
4XG7A63419	BB37	Intel Xeon Platinum 8368 38C 270W 2.4GHz Processor	2	2	2	2
4XG7A63572	BB3G	Intel Xeon Platinum 8380 40C 270W 2.3GHz Processor	2	2	2	2

Memory

The MX 1U systems support the following memory options.

For details about these options, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#memory-options

Table 5. Memory

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
RDIMMs						
4X77A08632	B963	ThinkSystem 16GB TruDDR4 3200 MHz (2Rx8 1.2V) RDIMM	32	32	32	32
4X77A08633	B964	ThinkSystem 32GB TruDDR4 3200 MHz (2Rx4 1.2V) RDIMM	32	32	32	32
4X77A08634	B965	ThinkSystem 32GB TruDDR4 3200 MHz (2Rx8 1.2V) RDIMM	32	32	32	32
4X77A08635	B966	ThinkSystem 64GB TruDDR4 3200 MHz (2Rx4 1.2V) RDIMM	32	32	32	32
3DS RDIMMs						
4X77A08636	BA62	ThinkSystem 128GB TruDDR4 3200 MHz (4Rx4 1.2V) 3DS RDIMM	32	32	32	32

Persistent memory

The MX 1U systems support the following persistent memory (PMem) options. PMem is only supported in Memory Mode.

For details about these options, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#persistent-memory

Table 6. Persistent memory

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
4ZC7A08732	B98B	ThinkSystem 128GB TruDDR4 3200MHz (1.2V) Intel Optane Persistent Memory	16	16	16	16
4ZC7A08734	B98A	ThinkSystem 256GB TruDDR4 3200MHz (1.2V) Intel Optane Persistent Memory	16	16	16	16

Internal storage

Internal storage configurations of the MX 1U systems are as follows.

In this section:

- MX3330-H and MX3331-H Hybrid systems
- MX3330-F and MX3331-F All-flash systems
- Backplanes
- Boot drive enablement

MX3330-H and MX3331-H Hybrid systems

Drive bay configurations are as follows:

- Front drive bays - choice of:
  - 10x 2.5-inch AnyBay hot-swap drive bays
  - 4x 3.5-inch SAS/SATA hot-swap drive bays
- Rear drive bays - choice of:
  - 2x 2.5-inch SAS/SATA hot-swap drive bays
  - 2x 2.5-inch NVMe hot-swap drive bays
- Rear bays are required for 3.5-inch front drive configurations

These configurations are shown in the following figure.

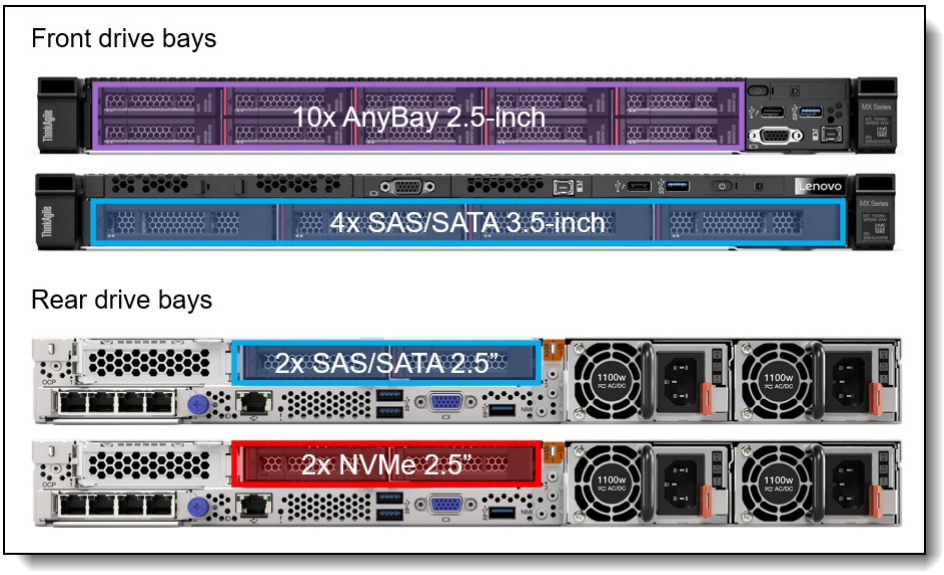

Figure 6. MX3330-H and MX3331-H drive bays

For OS boot functionality, the server supports either:

- One or two M.2 SATA drives, installed in an M.2 adapter internal to the server.
- One or two 7mm hot-swap SATA or NVMe drives, accessible from the rear of the server. Not supported with configurations with 3.5-inch front drives

Configuration rules are as follows:

- All Hybrid storage configurations are two-tier, cache tier and capacity tier
- Drive type choices are as follows:
  - HDDs for capacity
  - SAS/SATA or NVMe SSDs for cache
- For cache drives, a minimum of 2 and maximum of 4 drives is required

- For configurations with 3.5-inch front drives, capacity drives are installed in the front bay and cache drives are installed in rear 2.5-inch bays
- The total cache storage must be a minimum of 10% of the total capacity storage

MX3330-F and MX3331-F All-flash systems

Drive bay configurations are as follows:

- Front drive bays - choice of:
  - 10x 2.5-inch AnyBay hot-swap drive bays
  - 10x 2.5" NVMe hot swap drive bays
  - 16x EDSFF NVMe hot-swap drive bays
- Rear drive bays - choice of:
  - 2x 2.5-inch SAS/SATA hot-swap drive bays
  - 2x 2.5-inch NVMe hot-swap drive bays

These configurations are shown in the following figure.

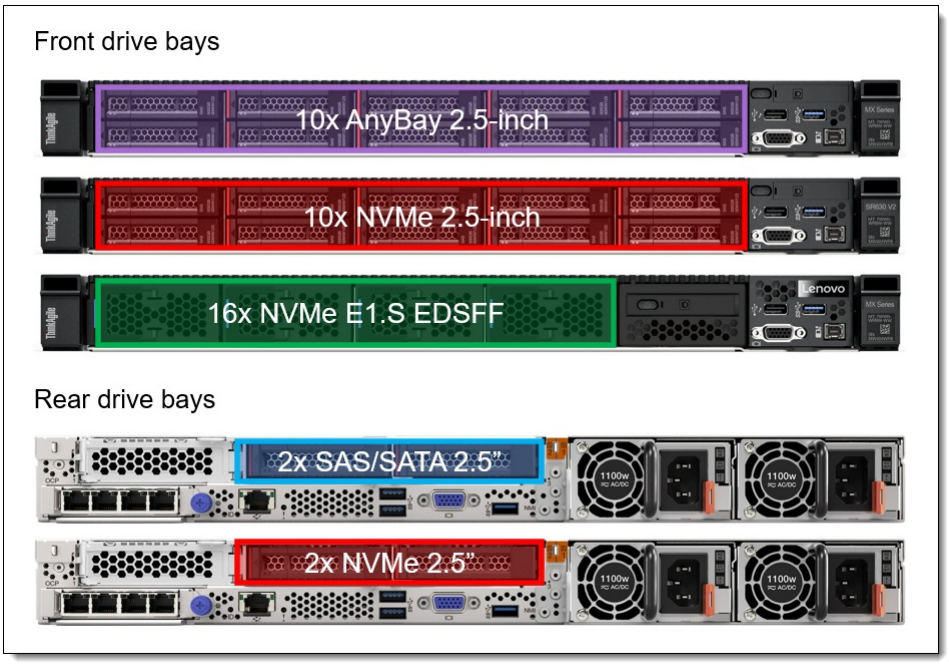

Figure 7. MX3330-F and MX3331-F drive bays

For OS boot functionality, the server supports either:

- One or two M.2 SATA drives, installed in an M.2 adapter internal to the server.
- One or two 7mm hot-swap SATA or NVMe drives, accessible from the rear of the server

Configuration rules are as follows:

- All-flash configurations can be single-tier or two-tier storage:
  - To select a single-tier configuration in DCSC, select the drive you wish to use (from either the capacity or cache lists) and ensure that all other drive selections are set to None
  - To select a two-tier configuration in DCSC, select a quantity of cache drives and a quantity of capacity drives
- Drive choices for a single-tier configuration are as follows:
  - Drives can be either SAS SSDs, SATA SDDs or NVMe SSDs (includes EDSFF)
  - All drives must be the same feature code
  - A minimum of 4 drives is required

- Drive choices for a two-tier configuration are as follows:
  - The following combinations are supported:
    - SAS SSD for cache and SAS/SATA SSD for capacity
    - NVMe SSD for both cache & capacity
    - NVMe SSD for cache and SAS/SATA SSD for capacity
  - All cache drives must be the same feature code and all capacity drives must be the same feature code
  - A minimum of 2 cache drives and a minimum of 4 capacity drives is required
  - The total cache storage must be a minimum of 10% of the total capacity storage

Backplanes

The choice of backplanes supported is listed in the following table.

For details about these options, including configuration rules, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#internal-storage

Table 7. Drive backplanes

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
Front 2.5-inch drive backplanes						
None	BB3T	ThinkSystem 1U 10x2.5" AnyBay Backplane	1	1	1	1
None	BCQQ	ThinkSystem 1U 10x2.5" NVMe Backplane	No	No	1	1
Front EDSFF drive backplane						
None	B981	ThinkSystem 1U 16xEDSFF Backplane	No	No	1	1
Front 3.5-inch drive backplanes						
None	B8L3	ThinkSystem 1U/2U 4x3.5" SAS/SATA Backplane	1	1	No	No
Rear - 2.5-inch drive backplanes						
None	B8MY	ThinkSystem 1U 2x2.5" SAS/SATA Rear Backplane	1	1	1	1
None	BDY6	ThinkSystem 1U 2x2.5" NVMe Rear Backplane	1	1	1	1

Boot drive enablement

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

For details about these options, including configuration rules, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#internal-storage

Table 8. Boot drive enablement

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
M.2 enablement kits						
4Y37A09739	B5XH	ThinkSystem M.2 SATA 2-Bay RAID Enablement Kit	1	1	1	1
4Y37A09750	B8P9	ThinkSystem M.2 NVMe 2-Bay RAID Enablement Kit	1	1	1	1
7mm enablement kits						
4XH7A60977	BA1R	ThinkSystem 1U 7mm Drive Kit w/ SATA RAID	1	1	1	1
4XH7A60976	B8Q2	ThinkSystem 1U 7mm Drive Kit w/ NVMe RAID	1	1	1	1

Controllers for internal storage

The MX 1U systems support the following internal storage controllers.

For details about these options, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#controllers-for-internal-storage

Table 9. Controllers for internal storage

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
SAS/SATA HBA - PCIe 3.0						
7Y37A01088	AUNL	ThinkSystem 430-8i SAS/SATA 12Gb HBA	1	1	No	No
7Y37A01089	AUNM	ThinkSystem 430-16i SAS/SATA 12Gb HBA	1	1	1	1
4Y37A72480	BJHH	ThinkSystem 4350-8i SAS/SATA 12Gb HBA	1	1	1	1
SAS/SATA HBA - PCIe 4.0						
4Y37A78601	BM51	ThinkSystem 440-8i SAS/SATA PCIe Gen4 12Gb HBA	1	1	No	No
4Y37A78602	BM50	ThinkSystem 440-16i SAS/SATA PCIe Gen4 12Gb HBA	1	1	1	1
NVMe adapters						
4C57A65446	B98C	ThinkSystem 4-Port PCIe Gen4 NVMe Retimer Adapter	No	No	1	1

Internal drive options

This section lists the supported drives:

- Boot drives
- Internal drives for MX3330-H
- Internal drives for MX3331-H
- Internal drives for MX3330-F
- Internal drives for MX3331-F

Boot drives

The MX 1U systems systems support the following drive for boot functions.

Table 10. Boot drives

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
7mm 2.5-inch hot-swap 6 Gb SATA SSDs						
4XB7A82265	BQ1V	ThinkSystem 7mm 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD	2	2	2	2
4XB7A82266	BQ1W	ThinkSystem 7mm 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD	2	2	2	2
4XB7A82267	BR13	ThinkSystem 7mm 5400 PRO 1.92TB Read Intensive SATA 6Gb HS SSD	2	2	2	2
4XB7A82268	BR12	ThinkSystem 7mm 5400 PRO 3.84TB Read Intensive SATA 6Gb HS SSD	2	2	2	2
4XB7A17107	BK7A	ThinkSystem 7mm S4520 480GB Read Intensive SATA 6Gb HS SSD	2	2	2	2
4XB7A17108	BK7B	ThinkSystem 7mm S4520 960GB Read Intensive SATA 6Gb HS SSD	2	2	2	2
7mm PCIe 4.0 NVMe SSDs						
4XB7A82853	BPZ4	ThinkSystem 7mm U.3 7450 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD	2	2	2	2
4XB7A82855	BPZ5	ThinkSystem 7mm U.3 7450 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	2	2	2	2
4XB7A82856	BPZ6	ThinkSystem 7mm U.3 7450 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	2	2	2	2
M.2 SATA drives						
4XB7A17073	B919	ThinkSystem M.2 5300 480GB SATA 6Gbps Non-Hot Swap SSD	2	2	2	2
4XB7A17074	B8JJ	ThinkSystem M.2 5300 960GB SATA 6Gbps Non-Hot Swap SSD	2	2	2	2
4XB7A82287	BQ1Y	ThinkSystem M.2 5400 PRO 480GB Read Intensive SATA 6Gb NHS SSD	2	2	2	2

Internal drives for MX3330-H

The following table lists the drives support in the MX3330-H. The drives are classified as either Cache drives, Capacity drives, or both. The quantities listed in the table are the maximum supported for each drive option. For cache drives, a minimum of 2 and maximum of 4 drives is required.

Table 11. Drives supported in the MX3330-H

Part number	Feature	Description	Hybrid Storage	
			Cache	Capacity
2.5-inch hot-swap 12 Gb SAS HDDs				
7XB7A00025	AULZ	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD	No	10
7XB7A00027	AUM1	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD	No	10
7XB7A00028	AUM2	ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD	No	10

Part number	Feature	Description	Hybrid Storage	
			Cache	Capacity
7XB7A00069	B0YS	ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD	No	10
7XB7A00034	AUM6	ThinkSystem 2.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	10
2.5-inch hot-swap 24 Gb SAS SSDs				
4XB7A80340	BNW8	ThinkSystem 2.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD	4	No
4XB7A80341	BNW9	ThinkSystem 2.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD	4	No
4XB7A80342	BNW6	ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD	4	No
4XB7A80343	BP3K	ThinkSystem 2.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD	4	No
2.5-inch hot-swap PCIe 4.0 NVMe SSDs				
4XB7A17129	BNEG	ThinkSystem 2.5" U.2 P5620 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	4	No
4XB7A17136	BA4V	ThinkSystem 2.5" U.2 P5620 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	4	No
3.5-inch hot-swap 6 Gb SAS HDDs				
7XB7A00049	AUUF	ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00050	AUUD	ThinkSystem 3.5" 2TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00051	AUU8	ThinkSystem 3.5" 4TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00052	AUUA	ThinkSystem 3.5" 6TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00053	AUU9	ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00054	AUUB	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00068	B118	ThinkSystem 3.5" 12TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A13907	B497	ThinkSystem 3.5" 14TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
3.5-inch hot-swap 12 Gb SAS HDDs				
7XB7A00039	AUU3	ThinkSystem 3.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00042	AUU5	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00043	AUU6	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00044	AUU7	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00045	B0YR	ThinkSystem 3.5" 8TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00046	AUUG	ThinkSystem 3.5" 10TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00067	B117	ThinkSystem 3.5" 12TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A13906	B496	ThinkSystem 3.5" 14TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
3.5-inch hot-swap PCIe 4.0 NVMe SSDs				
4XB7A17161	BMM7	ThinkSystem 3.5" U.2 P5800X 400GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	4	No
4XB7A17162	BMM5	ThinkSystem 3.5" U.2 P5800X 800GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	4	No
4XB7A77070	BMM6	ThinkSystem 3.5" U.2 P5800X 1.6TB Write Intensive NVMe PCIe 4.0 x4 HS SSD	4	No

Internal drives for MX3331-H

The following table lists the drives support in the MX3331-H. The drives are classified as either Cache drives, Capacity drives, or both. The quantities listed in the table are the maximum supported for each drive option. For cache drives, a minimum of 2 and maximum of 4 drives is required.

Table 12. Drives supported in the MX3331-H

Part number	Feature	Description	Hybrid Storage	
			Cache	Capacity
2.5-inch hot-swap 12 Gb SAS HDDs				
7XB7A00025	AULZ	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD	No	10
7XB7A00027	AUM1	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD	No	10
7XB7A00028	AUM2	ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD	No	10
7XB7A00069	B0YS	ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD	No	10
7XB7A00034	AUM6	ThinkSystem 2.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	10
2.5-inch hot-swap 24 Gb SAS SSDs				
4XB7A80340	BNW8	ThinkSystem 2.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD	4	No
4XB7A80341	BNW9	ThinkSystem 2.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD	4	No
4XB7A80342	BNW6	ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD	4	No
4XB7A80343	BP3K	ThinkSystem 2.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD	4	No
2.5-inch hot-swap PCIe 4.0 NVMe SSDs				
4XB7A17129	BNEG	ThinkSystem 2.5" U.2 P5620 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	4	No
4XB7A17136	BA4V	ThinkSystem 2.5" U.2 P5620 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	4	No
3.5-inch hot-swap 6 Gb SAS HDDs				
7XB7A00049	AUUF	ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00050	AUUD	ThinkSystem 3.5" 2TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00051	AUU8	ThinkSystem 3.5" 4TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00052	AUUA	ThinkSystem 3.5" 6TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00053	AUU9	ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00054	AUUB	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00068	B118	ThinkSystem 3.5" 12TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A13907	B497	ThinkSystem 3.5" 14TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
3.5-inch hot-swap 12 Gb SAS HDDs				
7XB7A00039	AUU3	ThinkSystem 3.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00042	AUU5	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00043	AUU6	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00044	AUU7	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00045	B0YR	ThinkSystem 3.5" 8TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00046	AUUG	ThinkSystem 3.5" 10TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00067	B117	ThinkSystem 3.5" 12TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A13906	B496	ThinkSystem 3.5" 14TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
3.5-inch hot-swap PCIe 4.0 NVMe SSDs				
4XB7A17161	BMM7	ThinkSystem 3.5" U.2 P5800X 400GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	4	No
4XB7A17162	BMM5	ThinkSystem 3.5" U.2 P5800X 800GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	4	No
4XB7A77070	BMM6	ThinkSystem 3.5" U.2 P5800X 1.6TB Write Intensive NVMe PCIe 4.0 x4 HS SSD	4	No

Internal drives for MX3330-F

The following table lists the drives support in the MX3330-F. The drives are classified as either Cache drives, Capacity drives, or both. The quantities listed in the table are the maximum supported for each drive option. For two-tier configurations, a minimum of 2 cache drives and a minimum of 4 capacity drives is required.

Table 13. Drives supported in the MX3330-F

Part number	Feature	Description	All Flash Storage	
			Cache	Capacity
2.5-inch hot-swap 24 Gb SAS SSDs				
4XB7A80318	BNWC	ThinkSystem 2.5" PM1653 960GB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80319	BNWE	ThinkSystem 2.5" PM1653 1.92TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80320	BNWF	ThinkSystem 2.5" PM1653 3.84TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80321	BP3E	ThinkSystem 2.5" PM1653 7.68TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80322	BP3J	ThinkSystem 2.5" PM1653 15.36TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80323	BP3D	ThinkSystem 2.5" PM1653 30.72TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80340	BNW8	ThinkSystem 2.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD	12	12
4XB7A80341	BNW9	ThinkSystem 2.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD	12	12
4XB7A80342	BNW6	ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD	12	12
4XB7A80343	BP3K	ThinkSystem 2.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD	12	12
2.5-inch hot-swap 6 Gb SAS SSDs				
4XB7A17125	BA7Q	ThinkSystem 2.5" S4620 480GB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A17126	BA4T	ThinkSystem 2.5" S4620 960GB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A17127	BA4U	ThinkSystem 2.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A17128	BK7L	ThinkSystem 2.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A82259	BQ1P	ThinkSystem 2.5" 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82260	BQ1R	ThinkSystem 2.5" 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82261	BQ1X	ThinkSystem 2.5" 5400 PRO 1.92TB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82262	BQ1S	ThinkSystem 2.5" 5400 PRO 3.84TB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82263	BQ1T	ThinkSystem 2.5" 5400 PRO 7.68TB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A87525	BWKM	ThinkSystem 2.5" PM893a 960GB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A87526	BWKL	ThinkSystem 2.5" PM893a 1.92TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A87527	BWKK	ThinkSystem 2.5" PM893a 3.84TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17101	BA7G	ThinkSystem 2.5" S4520 480GB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17102	BA7H	ThinkSystem 2.5" S4520 960GB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17103	BA7J	ThinkSystem 2.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17104	BK77	ThinkSystem 2.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17105	BK78	ThinkSystem 2.5" S4520 7.68TB Read Intensive SATA 6Gb HS SSD	No	12
2.5-inch hot-swap PCIe 4.0 NVMe SSDs				

Part number	Feature	Description	All Flash Storage	
			Cache	Capacity
4XB7A13941	BMGD	ThinkSystem 2.5" U.2 P5520 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A13631	BNEQ	ThinkSystem 2.5" U.2 P5520 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A17129	BNEG	ThinkSystem 2.5" U.2 P5620 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17136	BA4V	ThinkSystem 2.5" U.2 P5620 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17158	BKKY	ThinkSystem 2.5" U.2 P5800X 400GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17159	BKKZ	ThinkSystem 2.5" U.2 P5800X 800GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17160	BMM8	ThinkSystem 2.5" U.2 P5800X 1.6TB Write Intensive NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A95054	C2BG	ThinkSystem 2.5" U.3 7500 MAX 800GB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95055	C2BV	ThinkSystem 2.5" U.3 7500 MAX 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95056	C2BW	ThinkSystem 2.5" U.3 7500 MAX 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95057	C2BF	ThinkSystem 2.5" U.3 7500 MAX 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95058	C2BX	ThinkSystem 2.5" U.3 7500 MAX 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95049	C2BY	ThinkSystem 2.5" U.3 7500 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95050	C2BR	ThinkSystem 2.5" U.3 7500 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95051	C2BS	ThinkSystem 2.5" U.3 7500 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95052	C2BT	ThinkSystem 2.5" U.3 7500 PRO 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95053	C2BU	ThinkSystem 2.5" U.3 7500 PRO 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12

Internal drives for MX3331-F

The following table lists the drives support in the MX3331-F. The drives are classified as either Cache drives, Capacity drives, or both. The quantities listed in the table are the maximum supported for each drive option. For two-tier configurations, a minimum of 2 cache drives and a minimum of 4 capacity drives is required.

Table 14. Drives supported in the MX3331-F

Part number	Feature	Description	All Flash Storage	
			Cache	Capacity
2.5-inch hot-swap 24 Gb SAS SSDs				

Part number	Feature	Description	All Flash Storage	
			Cache	Capacity
4XB7A80318	BNWC	ThinkSystem 2.5" PM1653 960GB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80319	BNWE	ThinkSystem 2.5" PM1653 1.92TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80320	BNWF	ThinkSystem 2.5" PM1653 3.84TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80321	BP3E	ThinkSystem 2.5" PM1653 7.68TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80322	BP3J	ThinkSystem 2.5" PM1653 15.36TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80323	BP3D	ThinkSystem 2.5" PM1653 30.72TB Read Intensive SAS 24Gb HS SSD	No	12
4XB7A80340	BNW8	ThinkSystem 2.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD	12	12
4XB7A80341	BNW9	ThinkSystem 2.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD	12	12
4XB7A80342	BNW6	ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD	12	12
4XB7A80343	BP3K	ThinkSystem 2.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD	12	12
2.5-inch hot-swap 6 Gb SAS SSDs				
4XB7A17125	BA7Q	ThinkSystem 2.5" S4620 480GB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A17126	BA4T	ThinkSystem 2.5" S4620 960GB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A17127	BA4U	ThinkSystem 2.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A17128	BK7L	ThinkSystem 2.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD	No	12
4XB7A82259	BQ1P	ThinkSystem 2.5" 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82260	BQ1R	ThinkSystem 2.5" 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82261	BQ1X	ThinkSystem 2.5" 5400 PRO 1.92TB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82262	BQ1S	ThinkSystem 2.5" 5400 PRO 3.84TB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A82263	BQ1T	ThinkSystem 2.5" 5400 PRO 7.68TB Read Intensive SATA 6Gb HS SSD	No	No
4XB7A87525	BWKM	ThinkSystem 2.5" PM893a 960GB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A87526	BWKL	ThinkSystem 2.5" PM893a 1.92TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A87527	BWKK	ThinkSystem 2.5" PM893a 3.84TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17101	BA7G	ThinkSystem 2.5" S4520 480GB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17102	BA7H	ThinkSystem 2.5" S4520 960GB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17103	BA7J	ThinkSystem 2.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17104	BK77	ThinkSystem 2.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD	No	12
4XB7A17105	BK78	ThinkSystem 2.5" S4520 7.68TB Read Intensive SATA 6Gb HS SSD	No	12
2.5-inch hot-swap PCIe 4.0 NVMe SSDs				
4XB7A13941	BMGD	ThinkSystem 2.5" U.2 P5520 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A13631	BNEQ	ThinkSystem 2.5" U.2 P5520 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A17129	BNEG	ThinkSystem 2.5" U.2 P5620 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	12

Part number	Feature	Description	All Flash Storage	
			Cache	Capacity
4XB7A17136	BA4V	ThinkSystem 2.5" U.2 P5620 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17158	BKKY	ThinkSystem 2.5" U.2 P5800X 400GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17159	BKKZ	ThinkSystem 2.5" U.2 P5800X 800GB Write Intensive NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A17160	BMM8	ThinkSystem 2.5" U.2 P5800X 1.6TB Write Intensive NVMe PCIe 4.0 x4 HS SSD	12	12
4XB7A95054	C2BG	ThinkSystem 2.5" U.3 7500 MAX 800GB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95055	C2BV	ThinkSystem 2.5" U.3 7500 MAX 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95056	C2BW	ThinkSystem 2.5" U.3 7500 MAX 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95057	C2BF	ThinkSystem 2.5" U.3 7500 MAX 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95058	C2BX	ThinkSystem 2.5" U.3 7500 MAX 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	12	No
4XB7A95049	C2BY	ThinkSystem 2.5" U.3 7500 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95050	C2BR	ThinkSystem 2.5" U.3 7500 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95051	C2BS	ThinkSystem 2.5" U.3 7500 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95052	C2BT	ThinkSystem 2.5" U.3 7500 PRO 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12
4XB7A95053	C2BU	ThinkSystem 2.5" U.3 7500 PRO 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	12

Network adapters

The MX 1U systems support the following networking options.

Only certain network adapters have been certified for particular network traffic types in the Azure Local operating system. For details regarding which available network adapters can be used for each network traffic type, see Lenovo Certified Configurations for Azure Local – V2 Servers:
https://lenovopress.com/lp1520

For details about the implementation of these networking options, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#i-o-expansion
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#network-adapters

Table 15. OCP network adapters

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
1 Gb Ethernet						
4XC7A08277	B93E	ThinkSystem Intel I350 1GbE RJ45 4-port OCP Ethernet Adapter	1	1	1	1
4XC7A08235	B5T1	ThinkSystem Broadcom 5719 1GbE RJ45 4-port OCP Ethernet Adapter	1	1	1	1
Combo Gigabit + 10 GbE						
4XC7A08239	B5SS	ThinkSystem Broadcom 57416 10GBASE-T 2-port + 5720 1GbE 2-port OCP Ethernet Adapter	1	1	1	1
10 GbE						
4XC7A08236	B5ST	ThinkSystem Broadcom 57416 10GBASE-T 2-port OCP Ethernet Adapter	1	1	1	1
4XC7A08240	B5T4	ThinkSystem Broadcom 57454 10GBASE-T 4-port OCP Ethernet Adapter	1	1	1	1
4XC7A08278	BCD5	ThinkSystem Intel X710-T2L 10GBASE-T 2-port OCP Ethernet Adapter	1	1	1	1
25 GbE						
4XC7A08237	B5SZ	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port OCP Ethernet Adapter	1	1	1	1
4XC7A08242	B5SV	ThinkSystem Broadcom 57454 10/25GbE SFP28 4-port OCP Ethernet Adapter	1	1	1	1
4XC7A08294	BCD4	ThinkSystem Intel E810-DA2 10/25GbE SFP28 2-Port OCP Ethernet Adapter	1	1	1	1
4XC7A62582	BE4T	ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port OCP Ethernet Adapter	1	1	1	1

Table 16. PCIe network adapters

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
Gigabit Ethernet						
7ZT7A00535	AUZW	ThinkSystem I350-T4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter	3	3	3	3
10GBASE-T Ethernet						
7ZT7A00496	AUKP	ThinkSystem Broadcom 57416 10GBASE-T 2-Port PCIe Ethernet Adapter	3	3	3	3
4XC7A08245	B5SU	ThinkSystem Broadcom 57454 10GBASE-T 4-port PCIe Ethernet Adapter	3	3	3	3
25 Gb Ethernet						
4XC7A08295	BCD6	ThinkSystem Intel E810-DA2 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	3	3	3	3
4XC7A62580	BE4U	ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	3	3	3	3
100 Gb Ethernet						
4XC7A08248	B8PP	ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter	3	3	3	3
4C57A14178	B4RA	ThinkSystem Mellanox ConnectX-6 HDR100/100GbE QSFP56 2-port PCIe VPI Adapter	3	3	3	3

GPU adapters

The MX 1U systems support the following GPU options.

For details about these options, see the SR630 V2 product guide:
https://lenovopress.com/lp1391-thinksystem-sr630-v2-server#gpu-adapters

Table 17. GPU adapters

Part number	Feature	Description	Maximum supported			
			MX3330-H	MX3331-H	MX3330-F	MX3331-F
4X67A14926	B4YB	ThinkSystem NVIDIA T4 16GB PCIe Passive GPU	3	3	3	3
CTO Only	BQZT	ThinkSystem NVIDIA A2 16GB PCIe Gen4 Passive GPU w/o CEC	3	3	3	3

Software

The ThinkAgile MX Integrated Systems include the preloaded Azure Local operating system only and requires activation via a CSP such as Lenovo Cloud Marketplace, with the option to purchase a Windows Server 2022 Datacenter license if unlimited guest OS VMs are desired.

The ThinkAgile MX Certified Nodes can optionally have Windows Server 2022 Datacenter, or Azure Local OS preinstalled. Customers can use existing Windows Server Datacenter software licenses, or they can purchase new software licenses from Lenovo or Microsoft. If the licenses are purchased from Lenovo, Windows Server can be factory-installed or shipped in the box with the Certified Node for the installation at the customer site.

The following table lists the Windows Server Datacenter software options that are available for selection from Lenovo for Certified Nodes.

Table 18. Windows Server Datacenter software selection options (Certified Nodes only)

Feature code	Description
Windows Server 2022 Datacenter (Factory installed)	
BPA7	Windows Server Datacenter 2022 for Microsoft Azure Stack HCI - English (factory installed)
Windows Server 2022 Datacenter (Not preinstalled)	
BPA3	Windows Server Datacenter 2022 for Microsoft Azure Stack HCI - Multilanguage (not pre-installed)
BPA4	Windows Server Datacenter 2022 for Microsoft Azure Stack HCI - Simplified Chinese (not pre-installed)
BPA5	Windows Server Datacenter 2022 for Microsoft Azure Stack HCI - Traditional Chinese (not pre-installed)
BPA6	Windows Server Datacenter 2022 for Microsoft Azure Stack HCI - Japanese (not pre-installed)
Windows Server 2019 Datacenter (Factory installed)	
B6P2	Windows Server Datacenter 2019 for Microsoft Azure Stack HCI - English (factory installed)
Windows Server 2019 Datacenter (Not preinstalled)	
B6NY	Windows Server Datacenter 2019 for Microsoft Azure Stack HCI - Multilanguage (not pre-installed)
B6P0	Windows Server Datacenter 2019 for Microsoft Azure Stack HCI - Simplified Chinese (not pre-installed)
B6P1	Windows Server Datacenter 2019 for Microsoft Azure Stack HCI - Traditional Chinese (not pre-installed)
B6NZ	Windows Server Datacenter 2019 for Microsoft Azure Stack HCI - Japanese (not pre-installed)

Configuration notes:

- The selection of Windows Server software licenses is optional.
- The quantity of core-based licenses should be sufficient to cover all processor cores in the system.
- Current supported version of Azure Local OS is 23H2

Warranty and Support

The ThinkAgile MX Appliances can be configured with a three-, four, or five-year hardware warranty with 24x7 ThinkAgile Premier Single Point of Support (Lenovo appliance hardware and Microsoft software) and various levels of coverage with a defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions. For more information refer to the Lenovo Support Plan - MX Appliance support plan, available from https://support.lenovo.com/us/en/solutions/HT511522.

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

The ThinkAgile MX3330 and MX3331 1U Appliances & Certified Nodes have a 3-year base warranty:

- 7D19 - 1U Appliance - 3 year warranty
- 7D67 - 1U Certified Node - 3 year warranty

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

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

For more information, consult the brochure Lenovo Operational Support Services for Data Centers Services.

Deployment services

The MX systems can optionally include Lenovo deployment services to get customers up and running quickly.

The following Lenovo custom installation services are optional for both MX Premier Solutions and MX Certified Nodes:

- Unpacking and inspecting the systems
- Mounting the systems (rack cabinet, desktop, stack, bookshelf, wall or ceiling, or rack installation)
- 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 optional for both MX Premier Solutions and MX Certified Nodes:

- Conducting remote preparation and planning
- Verifying firmware versions and performing firmware updates, if needed
- Configuring XClarity Controller management settings
- Configuring Storage Spaces Direct
- Configuring Microsoft System Center and discovering hosts and storage (if System Center is used)
- Configuring Lenovo XClarity Administrator network settings and performing discovery and inventory (if XClarity is selected)
- Transferring knowledge
- Developing post-installation documentation

The following table lists ThinkAgile Health Check & Deployment offerings are available for ThinkAgile MX 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 19. ThinkAgile Health Check & Deployment offerings

Part number	Description
Onsite deployment services	
5MS7B09464	ThinkAgile MX Onsite Deployment (up to 2 nodes)
5MS7B09465	ThinkAgile MX Onsite Deployment (additional node)
Remote deployment services	
5MS7B09466	ThinkAgile MX Remote Deployment (up to 2 nodes)
5MS7B09467	ThinkAgile MX Remote Deployment (additional node)
Remote Health Check	
5MS7B00049	ThinkAgile MX 1X Remote Health Check (per 2-4 node cluster)
5MS7B00050	ThinkAgile MX 1X Remote Health Check (additional node)
5MS7B00051	ThinkAgile MX 1X Remote Health Check & Update (per 2-4 node cluster)
5MS7B00052	ThinkAgile MX 1X Remote Health Check & Update (additional node)

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

Lenovo TruScale

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

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

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

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

Lenovo Financial Services

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

- **Flexible**

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

- **100% Solution Financing**

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

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

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

- **24/7 Asset management**

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

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

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

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

Seller training courses

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

1. **Lenovo Data Center Product Portfolio**
   2025-06-11 | 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.

   Course objectives:
   1.Identify product types within each data center family
   2.Describe the features of the product family or category
   3.Recognize when a specific product should be selected

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

   Published: 2025-06-11
   Length: 20 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXXW1110r8
2. **VTT: Nutanix Integration in XClarity One - SAM - May 2025**
   2025-06-10 | 56 minutes | Employees Only

   Please join this session as our speaker Sorin Tacu, will be sharing us a preview of SAM (Solutions Advanced Manager) - a powerful new tool developed by the ThinkAgile HX team in collaboration with XClarity One. Designed to seamlessly integrate the Nutanix Solution into XClarity One, SAM is set to streamline solution management and drive greater value for our customers. Get a first look at its future capabilities and learn more about it.

   Tags: Nutanix, XClarity

   Published: 2025-06-10
   Length: 56 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DVSYS217

3. **Lenovo Cloud Architecture VTT: Drive Hybrid Cloud Conversations with ThinkAgile MX V4 Solutions**
   2025-06-10 | 73 minutes | Employees Only

   Join Amit Kulkarni, Lenovo Sr. Product Manager and Adam Mandelbloom, Lenovo Technical Marketing Manager for a focused session on the latest ThinkAgile MX V4 solutions with 6th Gen Intel® Xeon® Scalable processors, delivering top-tier performance, efficiency, and scalability for hybrid cloud and AI workloads. We'll explore how these advancements combined with Azure Local and Azure Arc, are transforming how businesses manage on-prem and cloud environments through a unified control plane.
   Key topics include:
   • Hybrid Cloud Integration with Azure Arc, AKS, and Azure Virtual Desktop optimized for local HCI environments
   • VMware-to-Azure Local Migration strategies for customers looking to modernize legacy virtualization platforms

   Tags: Client Virtualization, Cloud, Microsoft, Software Defined Infrastruture (SDI), ThinkAgile

   Published: 2025-06-10
   Length: 73 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DVCLD223
4. **Lenovo Cloud Architecture VTT Follow up: Getting Started with ScopeSys: A Beginner's Guide**
   2025-06-10 | 45 minutes | Employees Only

   This training webinar on Scopesys sizing tool from Acuutech is a follow up to the recent webinar that occurred in February 2025. This training is designed to provide you as new users with an introduction to ScopeSys solution-scoping platform. This session will walk you through the essential first steps of getting started, including system access, navigation, and setup. We'll then dive into how to effectively capture a client's requirements and import OneIQ and RVTools output within the platform to leverage ScopeSys's intelligent recommendation engine to identify the most appropriate, tailored solution. Finally, we'll wrap up by showing you where to access helpful resources, tools, and support so you can continue building confidence and efficiency in using the tool.

   David Monks, Software Developer for Acuutech is our guest speaker and leading you through this training session.
   Agenda:
   1. Welcome & Objectives
   2. What is ScopeSys Used For?
   3. How to Get Started
   4. Entering a Client's Requirements and Importing OneIQ and RVTools output
   5. Choosing a Solution
   6. Where to Get Further Help
   7. Q&A

   Tags: Client Virtualization, Cloud, Microsoft, Sales Tools, Software Defined Infrastruture (SDI)

   Published: 2025-06-10
   Length: 45 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DVCLD222

5. **Partner Technical Webinar - ThinkAgile V4**
   2025-06-09 | 60 minutes | Employees and Partners

   In this 60-minute replay, Pawan Misra, Lenovo SDI Product Manager and Adam Mandelbloom, Lenovo SDI Technical Marketing Manager, reviewed the newly announced ThinkAgile V4 systems for HX, VX and MX.

   Tags: Microsoft, Nutanix, VMware

   Published: 2025-06-09
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: JUN0625

6. **Family Portfolio: ThinkAgile Systems**
   2025-04-30 | 45 minutes | Employees and Partners

   This course covers the foundational components of the ThinkAgile family, including server configurations, key system differences, and the unique features of the HX, MX, and VX product families.
   By the end of this course, you should be able to:
   •List the ThinkSystem and ThinkEdge servers that the ThinkAgile family is based on
   •Explain the difference between Certified Nodes and Integrated Systems
   •List two features each of the HX, MX, and VX families

   Tags: ThinkAgile, ThinkSystem

   Published: 2025-04-30
   Length: 45 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXSW2150r2

7. **Partner Technical Webinar - Storage Announcements**
   2025-04-29 | 60 minutes | Employees and Partners

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

   Tags: Data Management, ThinkAgile

   Published: 2025-04-29
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: 042525

8. **Azure Local 101**
   2025-04-14 | 60 minutes | Employees and Partners

   In this 60-minute replay, Amit Kulkarni, Lenovo WW Azure Local / ThinkAgileMX Product Manager presented the basics of Azure Local. Amit reviewed Azure Local, licensing options and ThinkAgile MX models. Aaron Rothfuss NA Microsoft Product Manager contributed with recent uses cases for Azure Local.

   Tags: Microsoft, ThinkAgile

   Published: 2025-04-14
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: 041125

9. **Think AI Weekly: Simplifying AI Deployments with ThinkAgile**
   2025-04-11 | 54 minutes | Employees Only

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

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

   Tags: Artificial Intelligence (AI), ThinkAgile

   Published: 2025-04-11
   Length: 54 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DTAIW137

10. **Lenovo VTT Cloud Architecture Session Lenovo ThinkAgile MX using Acuutech ScopeSys Sizing Tool**
2025-02-21 | 60 minutes | Employees Only

Complex clustered system design and ordering in seconds, not days with ScopeSys.

Are you finding designing Azure Local (Azure Stack HCI) and Windows Server solutions complicated? Taking hours or even days to work out the correct server specifications, networking and services required to meet your customer needs? With ScopeSys from Acuutech, go from customer requirements to full solution design and ordering in seconds.

Learn how ScopeSys from Acuutech, makes designing complex Azure Local and clustered Windows Server solution simple, from simple edge scenarios to large datacenter replacements, including multi-site topologies.
With a workload and requirements centric approach, design based on what your clients are using; VM, Kubernetes, VDI and GPU accelerated workloads, moving beyond traditional hardware component-based design.

Join Philip Moss, Acuutech Chief Product Officer, for this 90-minute, interactive session with live demos and Q&A, where he will demonstrate how easy it is to design both simple and complex solutions with ease. Even better, come armed with some of your active opportunities and we can build the correct solution for your next client together.

Tags: Cloud, Microsoft, Sales Tools, Technical Sales, ThinkAgile

Published: 2025-02-21
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DVCLD219

11. **Lenovo Cloud Architecture VTT: Azure Migrate for migrating VMware VMs to Azure Local instance based on Lenovo MX**
2025-01-29 | 70 minutes | Employees Only

Now customers can use the Azure Migrate platform to move on-premises VMware VMs to Azure Local instance based on Lenovo MX.
Azure Migrate is a central hub for tools to discover, assess, and migrate on-premises servers, apps, and data to the Microsoft Azure cloud. Azure Local (previously Azure Stack HCI) is a hyperconverged infrastructure system solution that hosts virtualized Windows and Linux workloads in a hybrid environment, on premise on Lenovo ThinkAgile MX.

Please join Per Ljungstrom, Lenovo Principal TC, EMEA for this informative webinar.

Tags: Cloud, Microsoft, Technical Sales, Technology solutions, ThinkAgile

Published: 2025-01-29
Length: 70 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DVCLD218

12. **Selling On Prem Value - Private Cloud and Private AI**
2024-12-13 | 40 minutes | Employees Only

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

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

Published: 2024-12-13
Length: 40 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DVMB101

13. **Lenovo Client Virtualization Solution Options and Concept**
2024-12-10 | 30 minutes | Employees and Partners

This 30-minute e-learning is designed to give Lenovo technical, general sellers and partners detailed information about the LCV solution options and best practices to ensure alignment with the customer on the solution concept.

Tags: Client Virtualization, Microsoft, Storage, ThinkAgile, ThinkSystem, VMware

Published: 2024-12-10
Length: 30 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCV234r4

14. **Partner Technical Webinar - Overview - Azure Stack HCI**
2024-11-19 | 60 minutes | Employees and Partners

November 15, 2024 – In this 60-minute webinar Aaron Rothfuss, and Philip Moss from Acuutech share the positioning of Azure Stack HCI, Azure Migrate, and Acuutech SCOPSIS.

Tags: Microsoft, ThinkAgile

Published: 2024-11-19
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: 111524

15. **Partner Technical Webinar - Data Center 101 - Why HCI? Why 3-tier?**
2024-11-14 | 60 minutes | Employees and Partners

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

Tags: ThinkAgile, ThinkSystem

Published: 2024-11-14
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: 101124

16. **ThinkAgile Solutions for AI - Security and Compliance Considerations**
2024-10-01 | 15 minutes | Employees and Partners

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

Upon completion of this training, you will be able to:
• Describee security features of ThinkAgile for AI data protection.
• Explain how to mitigate risk and address compliance considerations in AI deployments.

Last Updated: September 2024

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

Published: 2024-10-01
Length: 15 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDAI203

17. **Integration of ThinkAgile and AI**
2024-09-11 | 25 minutes | Employees and Partners

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

Upon completion of this training, you will be able to:
•Highlight the advantages of using ThinkAgile for AI workloads
•Explore how ThinkAgile platforms are specifically optimized for AI

Last Updated: September 2024

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-09-11
Length: 25 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDAI204

18. **Key Features of Lenovo ThinkAgile Solutions for AI**
2024-09-10 | 15 minutes | Employees and Partners

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

In this course, you will learn how to:
• Present compute capabilities for AI processing
• Articulate optimized storage solutions with ThinkAgile for high-speed AI performance
• Identify essential networking considerations for ThinkAgile AI workloads
• Present ThinkAgile AI Ready solutions

Last Updated: September 2024

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-09-10
Length: 15 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDAI201

19. **ThinkAgile Solutions for AI - Sales Strategies and Messaging**
2024-09-06 | 15 minutes | Employees and Partners

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

In this course, you'll learn how to:
• Identify customer pain points.
• Recommend ThinkAgile Solutions for AI tailored to those needs. And lastly,
• Communicate the benefits of ThinkAgile for AI to key stakeholders.

Last Updated: September 2024

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-09-06
Length: 15 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDAI202

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

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

In this course, you will learn how to position ThinkAgile Solutions for AI to your customers by:
•Evaluating the key challenges in the enterprise landscape
•Advocating the value proposition of ThinkAgile Hyper-Converged Infrastructure
•Exploring use cases of ThinkAgile in AI environments
•Implementing ThinkAgile-based AI deployments

Tags: Artificial Intelligence (AI), ThinkAgile

Published: 2024-08-19
Length: 10 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDAI200

21. **Partner Technical Webinar - Latest on Azure Stack HCI and ThinkAgile MX**
2024-07-01 | 60 minutes | Employees and Partners

In this 60-minute replay, Phil Searles discussed the Thinkagile MX455 and delivered a REPEAT to the very popular Azure Shack HCI. Phil and Amit also shared some announcements such as the ThinkAgile MX450/5, Premier, and OEM skus.

Tags: Advanced DataCenter, Cloud, Microsoft, Software Defined Infrastruture (SDI), ThinkAgile

Published: 2024-07-01
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: 06282024

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

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

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

Published: 2024-06-21
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DTAO101

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

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

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

Published: 2024-05-22
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DVCLD212

24. **Start the Conversation - Lenovo Cloud Strategy**
2024-05-20 | 25 minutes | Employees and Partners

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

Course Objectives:
•Understand why customers choose the cloud
•Describe the Lenovo Cloud Strategy
•Be able to start the customer cloud conversation

Tags: Cloud, Technology solutions

Published: 2024-05-20
Length: 25 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDS103r3

25. **VTT Cloud and Edge Architecture: Principal Consultant Overview**
2024-04-10 | 50 minutes | Employees Only

Join Ruth Miller, Lenovo Principal Consultant, SSG Services for a data-led discussions to examine in detail customer IT environments, highlighting pain points, performance issues, edge and hybrid cloud strategy and carbon reduction capability.
Examples of workshop deliverables and outcomes will be discussed to illustrate the value of early engagement and discovery.

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

Published: 2024-04-10
Length: 50 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DVCLD211

26. **VTT Data Management How to sell storage - April 2024**
2024-04-10 | 60 minutes | Employees and Partners

In this course, you will know:

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

Tags: Data Management, Storage

Published: 2024-04-10
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DVDAT209

27. **Technical Overview: ThinkAgile HCI and Cloud Platforms**
2024-03-07 | 35 minutes | Employees and Partners

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

Learning Objectives:

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

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

Published: 2024-03-07
Length: 35 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDT2001r3

28. **Family Introduction: Converged and Hyperconverged**
2024-01-25 | 15 minutes | Employees and Partners

This course is designed to give Lenovo sales a foundation on the characteristics of the Converged and Hyperconverged family. As an introduction to each family, this course also includes positioning, when to use a family and product, and keywords a client may use when discussing a converged or hyperconverged product.
Objectives:
•Family characteristics
•Priority positioning
•Product usage
•Key words and phrases

Tags: Sales, Storage

Published: 2024-01-25
Length: 15 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: SXSW1101r2

29. **Lenovo Azure Stack Solutions Overview**
2023-11-02 | 15 minutes | Employees and Partners

In this course, Eric Mills presents the new Microsoft Azure Stack family and Lenovo ThinkAgile MX server, offering detailed information on Hub and Edge.

Upon completion of this training, you will be able to:
• List the solutions of the Microsoft Azure Stack family
• Name the Lenovo hardware for Microsoft Azure Stack family

Tags: Cloud, Microsoft, ThinkAgile

Published: 2023-11-02
Length: 15 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXF100

30. **Lenovo Azure Stack HCI Solution Overview**
2023-11-02 | 27 minutes | Employees and Partners

In this course, watch Phillip Moss define the Microsoft Azure HCI solution. He walks your though the technologies the HCI solution is built on and the business value it can bring to your customers.

Upon completion of this training, you will be able to:
• Identify the core features of Azure Stack HCI
• Identify the key benefits of an Azure Stack HCI solution
• Describe Storage Spaces Direct and it's key features

Tags: Cloud, Microsoft, Server, ThinkAgile

Published: 2023-11-02
Length: 27 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXF101

31. **Azure Stack HCI Solution Selling Tips**
2023-11-01 | 8 minutes | Employees and Partners

In this course Eric Mills provides useful selling tips for the ThinkAgile MX solution with Azure Stack HCI.

Tags: Microsoft, ThinkAgile

Published: 2023-11-01
Length: 8 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXF107

32. **Azure Stack HCI Licensing**
2023-10-30 | 8 minutes | Employees and Partners

In this course, Phillip Moss and Eric Mills discuss the licensing for the Azure Stack HCI solution.

Tags: Microsoft, ThinkAgile

Published: 2023-10-30
Length: 8 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXF105

33. **Azure Stack HCI Core Components and Features**
2023-10-30 | 15 minutes | Employees and Partners

In this course, Phillip Moss, with an assist from Cosmos Darwin discuss the core components and features of the Azure Stack HCI solution. The course further details each of the components, features and the role it plays in the HCI.

Tags: Microsoft, ThinkAgile

Published: 2023-10-30
Length: 15 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXF103

34. **Azure Stack HCI Management**
2023-10-30 | 16 minutes | Employees and Partners

In this course, Phillip Moss, Eric Mills and Cosmo Darwin take turns discussing the number of available options to manage the Microsoft Azure HCI solution. The course briefly discusses each of the management platforms and how each is used to manage the HCI solution and its integration with Lenovo's XClarity hardware management.

Tags: Microsoft, ThinkAgile

Published: 2023-10-30
Length: 16 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXF102

35. **ThinkAgile Accelerating Cloud Agility: MX Series Technical Presentation**
2023-07-28 | 45 minutes | Employees and Partners

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

Tags: ThinkAgile

Published: 2023-07-28
Length: 45 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DMXT201

36. **Cloud and HCI or Somewhere in Between**
2023-07-11 | 40 minutes | Employees and Partners

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

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

Tags: Cloud

Published: 2023-07-11
Length: 40 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: DCLDS104r2

Related publications and links

For more information, see these resources:

- Lenovo ThinkAgile MX Series product page
https://www.lenovo.com/us/en/data-center/software-defined-infrastructure/ThinkAgile-MX-Certified-Node/p/WMD00000377
- Microsoft Azure Local documentation
https://docs.microsoft.com/en-us/azure-stack/hci/overview
- Lenovo Data Center Solution Configurator (DCSC):
https://dcsc.lenovo.com
- Lenovo ThinkAgile MX for Microsoft Azure Stack HCI Best Recipes
https://datacentersupport.lenovo.com/us/en/solutions/ht507406

Related product families

Product families related to this document are the following:

- 2-Socket Rack Servers
- Hyperconverged Infrastructure
- ThinkAgile MX Series for Microsoft Azure Local

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