ThinkAgile MX Series for Edge

Ground-Breaking New Class of Edge Servers for Easy Azure Stack HCI Edge Solutions

New Class of Edge servers

Computing resources are needed not just in the data center, but remotely as well. However, for performance reasons, remote data-generating devices must be close to computing and storage resources. Hence the Lenovo ThinkAgile MX Series Edge servers (Appliance/Integrated System and Certified Node). Lenovo ThinkAgile MX appliances map to Microsoft Azure Stack HCI Integrated Systems and ThinkAgile MX Certified Nodes map to Microsoft Azure Stack HCI Validated Nodes. Its small footprint and power efficiency allow for reliable server-class performance at many Edge locations.

With additional benefits of ruggedness and variety of mounting options, these servers are ideal for small locations. Azure Stack HCI brings reliability, high availability and security to these versatile Edge servers.

The rugged ThinkAgile MX1000 Series can handle temperatures from 0° to 55°C, as well as tolerate locations with high-dust and vibration—such as construction site trailers and manufacturing floors. It can be deployed equally well in a traditional office or branch location due to its office-friendly acoustics. The half-width, short-depth, 1U server can be installed almost anywhere: hung on a wall, stacked on a shelf, or mounted in a rack.

This high-performance server, using the Intel® Xeon® D processor, features up to 8 cores, 256GB of DDR4 RAM, and 16TB of internal M.2 solid-state storage. ThinkAgile MX1000 Series is available starting with a 2-node Azure Stack HCI cluster including hardware, software, licenses, and support, making it an extremely affordable Edge or multi-site offering, for small businesses as well as large enterprises.

The ThinkAgile MX450 Edge Integrated System is a 1-socket 3rd Gen Intel® Xeon® Platinum processor-based server, with a 2U height and short depth case that can go almost anywhere. It can be hung on a wall, stacked on a shelf, or mounted in a rack. This rugged edge server can handle continuous operating temperatures from 5°C and 45°C; and some configurations are designed to meet NEBS Level-3 and ETSI requirements for 96 hours operating excursions from -5°C and 55°C as well as tolerance to locations with high-dust and vibration.

Lenovo

Microsoft

Accelerate your Business

Deploying hyperconverged infrastructure is a widely accepted method for modernizing legacy infrastructure. Taking it to the next level, a hybrid cloud approach enables placing each workload in the right place: public cloud for some, on-premises for others. Azure Stack HCI is Microsoft's HCI solution for customers that wish to run workloads on-premises and extend easily to Azure for hybrid capabilities such as back-up, site recovery, storage, cloud-based monitoring and more.

Azure Stack HCI is a HCI host operating system from Microsoft, delivered as an Azure service, providing the latest and up-to-date security, performance and feature updates. Azure Stack HCI builds on the foundation of the Microsoft Windows Server Software Defined (WSSD) program and provides a certification path for Storage Spaces Direct solutions.

Lenovo's ThinkAgile MX Series for Edge combines Azure Stack HCI with industry leading Lenovo edge servers to deliver a unique, rugged edge solution that is easy to deploy and easy to sustain. As you would expect, Lenovo makes lifecycle management easy and complete system support is covered by a single phone call.

Simplicity and Flexibility

To enhance the support experience, XClarity, Lenovo's suite of systems management tools, integrates directly with Windows Admin Center, providing a unified single-pane-of-glass simple experience across infrastructure, virtual machines, software, and hardware. ThinkAgile MX Nodes offer a wide range of processor, memory, and storage options to provide the maximum flexibility for customizing your infrastructure. Continuous validation, best recipe (firmware and driver) updates and automated, non-disruptive software and hardware updates via Lenovo XClarity Integrator are provided to ensure that the systems are performing optimally without any risk.

A Price Performer

ThinkAgile MX Integrated Systems/Appliances for Edge include the new Azure Stack HCI software, and optionally include Windows Server 2022 Datacenter edition in case the customers require unlimited guest OS virtual machine licenses. ThinkAgile MX1021 Certified Nodes (also called Validated Nodes) optionally include Azure Stack HCI software or the Windows Server 2022 Datacenter depending on their needs.

Azure Stack HCI OS license provides a huge value to customers and includes:

- **Storage Spaces Direct (S2D)**: State of the art Software defined storage from Microsoft with multiple high-performance resiliency options, deduplication, compression and more.
- **Windows Admin Center (WAC)**: A web-based management portal is included with the software at no extra cost. WAC can be used to deploy S2D clusters. Additionally, Lenovo's XClarity plugin allows customers to deploy their hardware as well as software from that single interface, enabling single pane of management.
- **Hyper-V**: Hypervisor is included in the license
- **Software-Defined Networking**: Features such as virtual network encryption, firewall auditing, virtual network peering enable customers to get the benefits of a more secure software defined network with Azure Stack HCI.

Azure Stack HCI is hybrid by design, and customers can benefit from native integration with Azure ARC and Azure Monitor and connect to Azure for a variety of Azure hybrid services seamlessly. Fleet management for hosts and VMs allows customers to monitor and manage clusters at scale.

Microsoft

As Much Help As You Need

Lenovo and Lenovo partners have a comprehensive portfolio of professional services that supports the full life cycle of your infrastructure. At every stage — from planning to deploying, supporting, optimizing, and end of life — extra help is available to accelerate meeting your business objectives.

ThinkAgile MX Edge – Intel Icelake

The ThinkAgile MX450 Edge Integrated System is based on the ThinkEdge SE450 server.

Specifications

Product Name	ThinkAgile MX450 Edge Integrated System
Form Factor	2U rack server, 300mm or 360mm depth
Processors	1x 3rd Gen Intel® Xeon® Scalable processor Supports Silver, Gold and Platinum processors up to 36 cores Core speeds of up to 3.0 GHz, and TDP ratings of up to 205W
Memory	Maximum 1TB using 8x 128GB 3DS RDIMMs
Expansion	Up to 4x PCIe 4.0 slots, 1x OCP 3.0 slot
Drive Bays	• Up to 4x internal SSD drive bays supporting non-hot-swap trayless NVMe or SATA SSD drives • 2x M.2 drives for boot functions, supporting SATA drives
Network Interface	LOM adapter installed in the OCP 3.0 slot; PCIe adapters
GPU Support	Supports up to 4x single-wide GPUs or up to 2x double-wide GPUs (Optional)
Power	• Dual redundant power supplies AC (up to 1800W Platinum) • Dual redundant power supplies -48V DC 1100W
RAID Support	• Non RAID NVMe • 4350-8i SAS/SATA 12Gb HBA
Management	Hardware management via Lenovo XClarity and resource management through Microsoft Windows Admin Center, with mobile option
License Options	Azure Stack HCI 23H2 OS, Windows Server 2022 Standard or Datacenter (optional)
Warranty and Support	Lenovo Premier Support is paired with all purchases of ThinkAgile MX Integrated Systems. Dependent on the customer's needs, support is available for 3 to 5 years.

Microsoft

ThinkAgile MX1000 Edge Series

The ThinkAgile MX1020 Appliance and MX1021 Certified Node are based on the ThinkEdge SE350 server.

Specifications

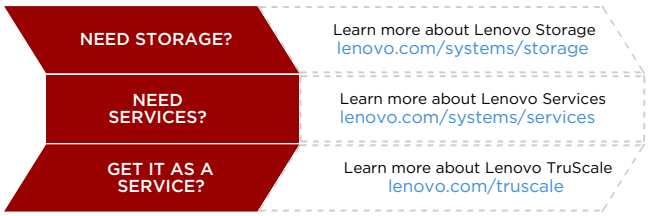
Product Name	ThinkAgile MX1020 Appliance ThinkAgile MX1021 Certified Node
Form Factor	1U height, half-width Edge server
Processors	Intel® Xeon® D-2100 Series processor, 8 to 16 cores, up to 100W
Memory	4 DIMM slots. Up to 256GB maximum with 4x 64GB LRDIMMs
Expansion	One PCIe 3.0 x16 slot
Drive Bays	Up to 3x M.2 adapters (1x boot adapter, 2x data adapters) for a total of 10x M.2 drives. • 1x Single M.2 Adapter (1 drive) or 1x Dual M.2 Adapter (2 drives) installed in dedicated slot, for boot • 1x 4-bay PCIe x16 adapter in dedicated bay, for 4x M.2 drives, NVMe or SATA, for data • 1x 4-bay PCIe x16 adapter in PCIe riser slot, for 4x M.2 adapters, NVMe only, for data
Internal Storage	• 2x M.2 2280 SATA boot drives + 8x M.2 22110 NVMe data storage drives • 2x M.2 2280 SATA boot drives + 4x M.2 22110 NVMe/SATA data storage drives • SED, high temperature, high capacity, and high endurance drive options • Optional encryption key deletion on tamper or theft detection
Network Interface	Wired network module (10G SFP+ LOM package): 2x 10GbE SFP+, 2x 1GbE RJ45 (support 10/100 Mbps), 2x dedicated ports for remote management
Power	• Dual-redundant external power supplies 100-240V AC • Single DC supply: -48VDC (-40VDC to -72VDC), 8.4A
High Availability	Direct-connect networking: For a 2-node HCI cluster, it is possible to connect the network adapters directly to each other without placing a network switch between the nodes.
RAID Support	• Software RAID available • Hardware RAID 0/1 for M.2 SATA Boot SSDs • Hardware RAID 0/1 for M.2 SATA Storage SSDs
Management	Optional hardware management via Lenovo XClarity and resource management through Microsoft Windows Admin Center, with mobile option
License Options	Azure Stack HCI (included with Appliance and Integrated System), Windows Server 2022 Standard or Datacenter (optional)
Warranty and Support	Lenovo Premier Support is paired with all purchases of ThinkAgile MX Integrated Systems. Dependent on the customer's needs, support is available for 3 to 5 years.

About Lenovo

Lenovo (HKSE: 992) (ADR: LNVGY) is a US$62 billion revenue global technology powerhouse, ranked #171 in the Fortune Global 500, employing 77,000 people around the world, and serving millions of customers every day in 180 markets. Focused on a bold vision to deliver smarter technology for all, Lenovo is expanding into new growth areas of infrastructure, mobile, solutions and services. This transformation is building a more inclusive, trustworthy, and sustainable digital society for everyone, everywhere.

For More Information

To learn more about ThinkAgile MX Certified Nodes, contact your Lenovo representative or Business Partner, or visit lenovo.com/thinkagile. For detailed specifications, consult the ThinkAgile MX1020 and MX1021 product guide, ThinkAgile MX450 product guide, ThinkAgile MX455 V3 product guide.



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