Lenovo

The Changing Face of IT: Azure Stack HCI

Hyperconverged infrastructure is evolving. Understand new cost-efficiencies, opportunities and solutions.

Microsoft

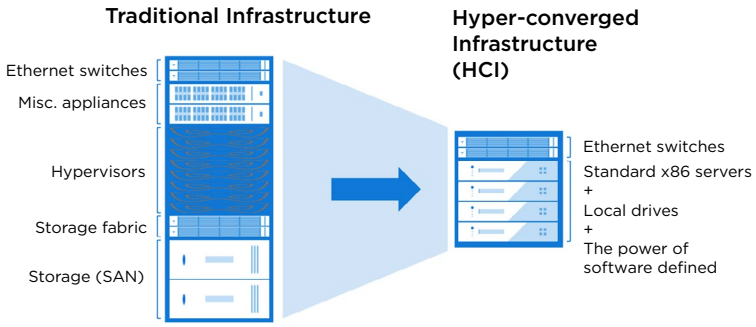
Why hyperconverge?

Hyperconverged infrastructure (HCI) has proven its staying power. HCI delivery models have expanded beyond the data center, the market is projected to be worth $8 billion by 2023, and analysts are urging CEOs to understand and exploit HCI opportunities.[1]

What are those opportunities? Innovative solutions, such as those from Lenovo® and Microsoft®, are bringing HCI advantages to businesses of all sizes by combining Azure Stack HCI with ultra-reliable and powerful Lenovo hardware, in the most cost-effective deployments on the market. In this guide, learn more about HCI and modern options for leveraging it.

What is HCI?

HCI converges the 3 tiers of traditional infrastructure (compute, storage, and networking) into a single virtualised pool of resources with centralised management providing high performance, stability and availability. Each node (server) in the system is a building block that makes scaling easy – just add another node as your workload or storage requirements grow.



So, Azure Stack HCI solutions require:

- **Less hardware**
- **Smaller investment**
- **Less power**
- **Less physical space**

Real-world benefits

The best HCI solutions, such as those jointly engineered by Lenovo and Microsoft, can solve many of today's IT challenges.

Business challenge	Lenovo-Microsoft solutions
"We need to achieve more with the same budget"	Acquire more powerful infrastructure for the same TCO
"Storage needs keep growing"	Use software-defined and hybrid cloud storage to scale into the petabytes while speeding up I/O with the built-in server-side cache
"Our 5-year-old hardware and server OS are outdated and inefficient"	Modernise hardware and software together at low cost with Azure Stack HCI solutions
"IT maintenance and support costs keep rising"	Reduce costs and simplify IT management with support contracts from Lenovo for the entire solution

Lenovo-Microsoft HCI solutions simplify and reduce the total cost of IT, so you can reduce expenses or achieve more with the same budget.

Lenovo

Microsoft

How HCI is evolving

Market acceptance of HCI has led to new solutions, designed for a wide variety of use cases, including scale out storage and Edge computing. Lenovo and Microsoft have collaborated to offer ThinkAgile™ MX Certified Nodes, a range of validated and performance-tuned HCI solutions that combine Lenovo servers and Azure Stack HCI with hybrid cloud capabilities.

Affordable and easy

Combining the best of Lenovo and Microsoft, ThinkAgile MX solutions deliver significant cost and performance advantages. Everything you need is available as a complete turnkey solution.

Azure Stack HCI	Lenovo ThinkSystem servers
• Achieve industry-leading virtual machine performance[2] • Achieve high availability with built-in clustering and distributed software resiliency • Modernise security with Shielded VMs • Simplified Management with Windows Admin Center	• #1 in x86 server reliability 6 years running[3] • Best uptime among all x86 server platforms[2] • Deploy faster and simplify management with Lenovo XClarity, integrated with Windows Admin Center • Industry-leading performance with 154 leadership benchmarks as of 1 Oct 2019[4]

With only one software license required, various support options and validated configurations to meet a range of needs, ThinkAgile MX takes the cost efficiency of HCI to the next level.

HCI is evolving to deliver even greater simplicity, performance and cost efficiency thanks to co-innovation of leaders like Lenovo and Microsoft.

Lenovo

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Which HCI solution?

The Lenovo ThinkAgile MX portfolio makes it easy to get the best solution for your business. It provides certified HCI building blocks that are simple to order and use. Solutions integrate compute power, storage space and software, plus optional deployment and support services.

Best for storage growth

ThinkAgile MX with Azure Stack HCI offers scalable storage

Deploy highly available, highly scalable HCI using software-defined Storage Spaces Direct (S2D) on the versatile Lenovo ThinkSystem SR650 platform. Fully integrated with Azure Stack HCI, the SR650-based MX Certified Node is a 2U enclosure with vast storage and memory capacity plus the versatility to handle the full spectrum of mid-range workloads.

- **Pay-as-you-grow storage** – Scale non-disruptively from 2 to 16 nodes, and up to 3PB raw capacity, with S2D distributed architecture
- **Superior performance** – With up to two 2nd-generation Intel Xeon Scalable processors and up to 3TB memory with Intel Optane™ DC Persistent Memory
- **Workload versatility** – ThinkSystem SR650 is designed to handle database, virtualization, cloud computing, virtual desktop (VDI), enterprise applications, big data, analytics and more

ThinkSystem SR630: For organisations that need the performance of SR650 in a more compact 1U form factor.

ThinkAgile MX use cases:

- Remote/branch office and Edge computing
- Virtual desktop infrastructure for remote working
- Virtualise Microsoft SQL Server for high performance and scalability
- Scale-out storage with Storage Spaces Direct
- Containerised applications with automated deployment, scaling and management
- Enterprise-class virtualization with shielded VMs for maximum security

Lenovo

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Best for Edge efficiency

ThinkAgile MX1021 for Azure Stack HCI

Meet the challenges of Edge and Remote Office computing - constrained space, heightened security risks and harsh environments - with a new class of ruggedized Edge servers, which fits in a backpack and delivers all the features of Azure Stack HCI.

ThinkAgile MX1021 meets the need for HCI everywhere – even hot, dusty and vibration-prone factory floors and site trailers. And with highly cost effective 8 core Windows Server Datacenter Edition licensing, it's ideal for small businesses and enterprises.

- **Edge, remote office or SMB**: Fits any space, any budget, and countless use cases.
- **One license**: Software-defined storage and networking, Microsoft Hyper-V and Windows Admin Center are included in Windows Server Datacenter edition - no additional licenses needed.
- **Perfect combination**: Lenovo reliability in small, inhospitable spaces with 0-55°C. Co-engineered with Microsoft and certified for Azure Stack HCI.
- **Compact form factor** – Deploy the half-width, short-depth, 1U server on a shelf, hung on a shelf, or in a rack.
- **High performance**: Powered by Intel® Xeon® D series processors with 8 to 16 cores, up to 256GB of RAM and 16TB solid-state storage with NVMe SSDs.
- **Designed for Edge**: Supports the NVIDIA® Tesla T4 for workloads such as Edge inferencing and AI.

Explore your options

Want to learn more about HCI and how it can support your business goals? We're here to understand your requirements and answer your questions.

Talk to Lenovo

1. Gartner. February 2020. Market Insight: Tech CEOs Must Exploit Emerging Trends From Hyperconverged Infrastructures.
2. Microsoft. 2018. The new HCI industry record: 13.7 million IOPS with Windows Server 2019 and Intel® Optane™ DC persistent memory.
3. ITIC 2016/2017, ITIC 2017/2018, ITIC 2018/2019 Lenovo.
4. April 2020. Lenovo ThinkSystem Servers Continue to Lead the Industry in Performance and Customer Value.

Microsoft