Lenovo TruScale Hybrid Cloud with Microsoft

From the edge to the cloud, Lenovo TruScale offers everything as a service, and enables you to unleash the power of the technology with the simplicity and scalability of a flexible, pay-as-you-go model – anywhere in the world.

From Infrastructure as a Service with our industry-leading server portfolio, to Device as a Service with world class PCs and devices - Lenovo TruScale enables the flexibility organizations need.

Lenovo TruScale Hybrid Cloud with Microsoft is a hyperconverged infrastructure solution that hosts virtualized compute, storage and networking and combines the security of on-premise infrastructure with hybrid cloud services. This solution is ideal 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.

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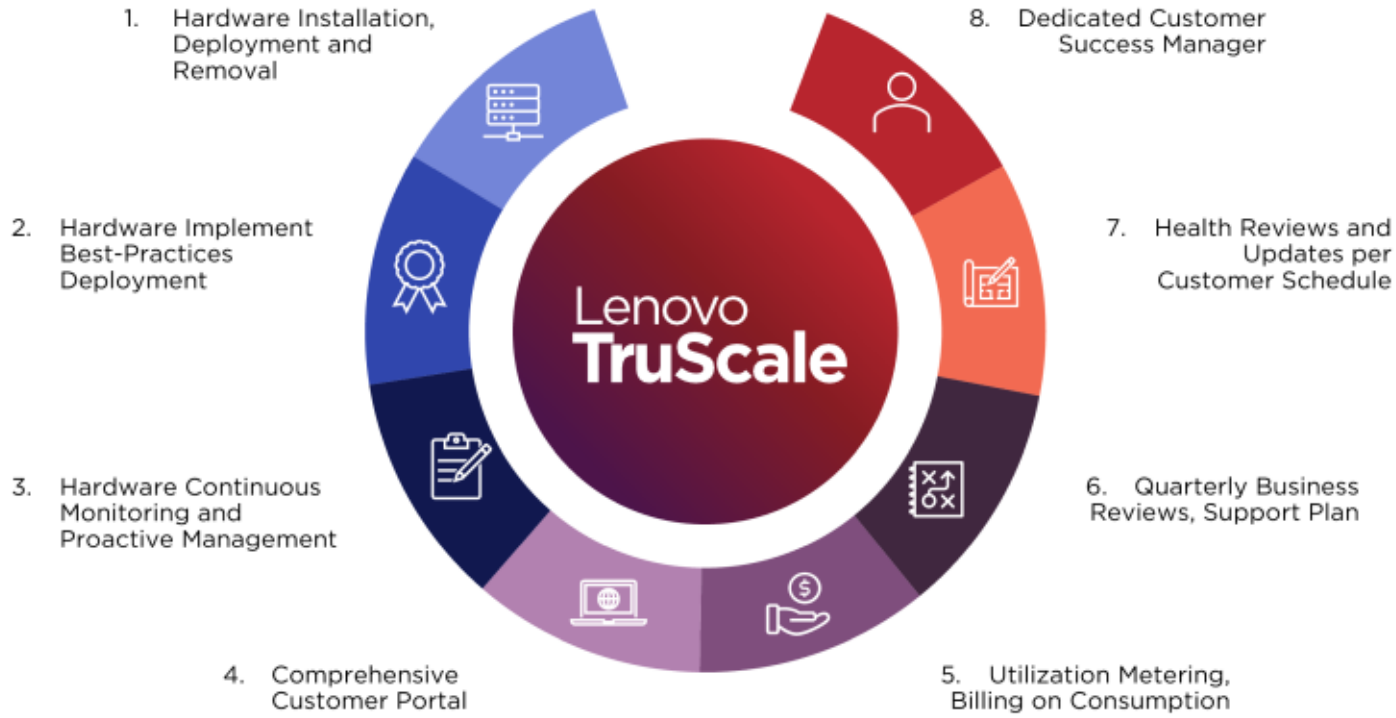


TruScale Hybrid Cloud with Microsoft Value Added

All-inclusive service offering covering the full lifecycle of the systems:

- Initial Deployment and Onboarding for Hardware Hosts (Servers, Networking, Storage).
- XClarity Management Implementation.
- Virtual Layer Implementation (HCI, S2D, SDN).
- Hardware Proactive 24x7 Remote Monitoring.
- Maintenance Support and Firmware updates.
- Hardware Proactive 24x7 Incident & Problem Management.
- Hardware Proactive Capacity, Performance, and Availability Management.
- Configuration and Change Management.

TruScale Hybrid Cloud with Microsoft Benefits

- Ability to scale out on-premises or in public cloud, balancing the deployment mix.
- A familiar Hyper-V standardized architecture leveraging legacy environments and allowing your team to leverage existing virtualization and storage skills.
- Managed services for virtualization and infrastructure management for a seamless customer experience.
- A fully integrated approach to give organizations of all sizes lower costs and greater efficiency.
- Faster time to value: With TruScale Hybrid Cloud with Microsoft, time investment of solution design, testing, implementation and maintenance is transferred to Lenovo experts.

Traditional TruScale vs TruScale Hybrid Cloud with Microsoft Services Scope

Solution Components:

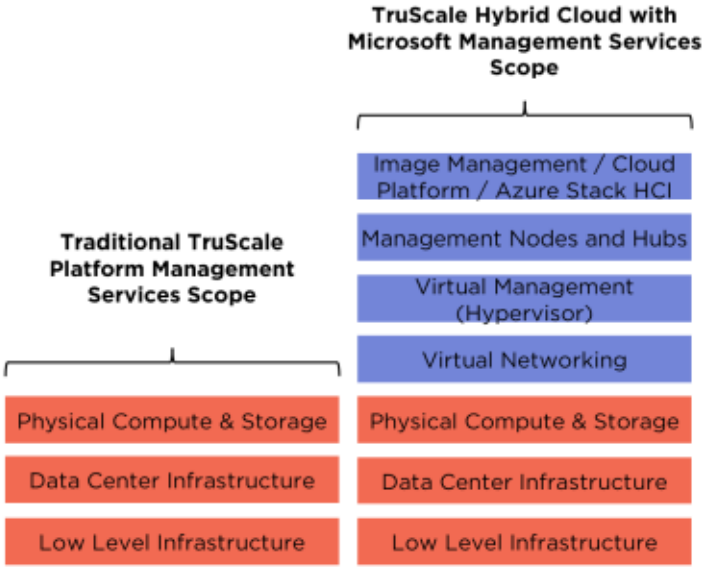
Lenovo ThinkAgile MX Infrastructure

A software defined infrastructure platform that has been engineered as a turn-key solution powered by Microsoft's Azure Stack HCI. This solution includes a full lifecycle management of the reliable x86 servers provided by Lenovo:

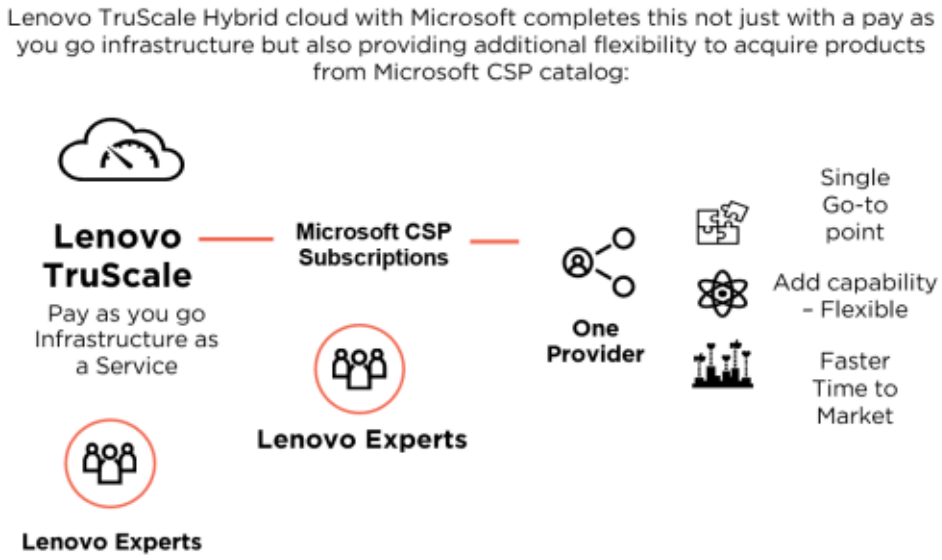
- Pre-integrates Software Defined Storage HCI Offering
- Wide range of flexible options for CPU and Storage
- True edge solution

XClarity Administrator

Centralized resource management component of the solution, aimed at reducing complexity, speeding response, and enhancing the availability of Lenovo® systems and solutions.



TruScale Hybrid Cloud with Microsoft Flexible alternatives to capital



Microsoft Azure Stack HCI

This software platform that automates a complete software-defined data center (SDDC) and lifecycle management on a standardized hyper-converged architecture. Deployed on-premises on a broad range of supported hardware or consumed as a service in the public cloud (Microsoft Azure Public cloud). The result is a hybrid cloud platform that can span private and public environments, offering a consistent operational model based on well-known Microsoft tools and processes and the freedom to run apps anywhere without the complexity of re-platforming applications. This solution plus Azure Stack HCI OS license provides the following benefits:

- This hyperconverged infrastructure (HCI) cluster solution enables you to host virtualized Windows and Linux workloads in a hybrid environment, combining on-premises infrastructure with Azure cloud services.
- Storage Spaces Direct (S2D): Enables you to cluster servers (1 to 16) with internal storage into a software-defined storage with multiple high-performance resiliency options, deduplication, compression, erasure coding and more all configured and managed automatically.
- Windows Admin Center (WAC): Web-based management portal is included with the software at no extra cost making the deployment extremely simple and easy to perform. For more information on Windows Admin Center, click here.
- Hyper-V: Type 1 hypervisor-based architecture. Provides mechanisms for the virtualization stack in the root partition to manage child partitions (virtual machines) and expose services such as I/O devices to the virtual machines.
- Software-Defined Networking: Provides the ability to dynamically create, secure, and connect your network to meet the evolving needs of your apps. Using SDN to operate global-scale datacenter networks for services like Microsoft Azure, including features such as virtual network encryption, firewall auditing, etc

TruScale Hybrid Cloud with Microsoft Sizes

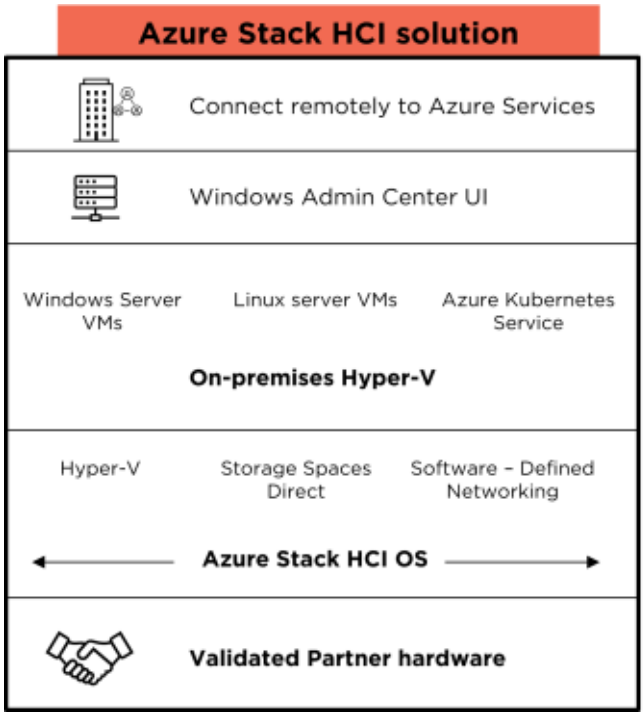
Edge	All Flash	Cached Storage	High-Performance
Designed for low-cost edge environments	Designed for low-cost small environments limited from a storage & CPU perspective	Designed for slightly larger environments	Designed for high performance environments
ThinkAgile MX SE350 Edge Server	**ThinkAgile MX3530-F All-flash Appliance**	**ThinkAgile MX3530-F All-flash Appliance**	**ThinkAgile MX All-flash Appliance (per node)**
SW Stack MS Azure Stack HCI			
SE350 Edge Server Xeon D-2143IT 8C 65W 2.20GHz	**2 x Gold 5317 12C 150W 3.0GHz**	**2 x Gold 6342 24C 230W 2.8GHz**	**2 x Platinum 8352M 32C 185W 2.3GHz**
128GB (8 x 16GB)	**256GB (16x16GB)**	**512GB (16x32GB)**	**512GB (16x32GB)**
8 x M.2 650GB NVMe SED	**4 x 2.5" 3.84TB + 2 x M.2 480GB**	**8 x 2.5" 3.84TB + 2 x M.2 480GB**	**8 x U.3 1.6TB NVMe + 2 x M.2 480GB**

*Suggested Lenovo Sizes - Specific configuration can be prepared based on customer or workload requirements. Total number of virtual machine depends on final configuration and real scenario based on workloads. This recommended VMs per node do not consider any type of HA configuration.

TruScale Hybrid Cloud with Microsoft Edge Solution

TruScale Hybrid Cloud with Microsoft Edge Solution meets the need for HCI everywhere. With an unlimited number of VMs included with Windows Server 2022 Datacenter Edition, it's ideal for both small businesses and large enterprises.

- Edge, remote office or SMB: Fits any space, any budget, and countless use cases.
- Perfect combination: Reliability in small, inhospitable spaces with 0-55°C.
- Compact form factor: Deploy the half-width, short-depth, hung on a shelf, or in a rack.
- High performance: Powered by Intel® Xeon® D (8 to 16 cores), 256GB of RAM and 16TB NVMe SSDs.
- Designed for Edge: Supports the A2 Workloads such as Edge inferencing and AI.



TruScale Hybrid Cloud with Microsoft All Flash, Cached & High-Performance Solution

Lenovo Experts Deploy highly available, highly scalable HCI using software-defined Storage Spaces Direct (S2D) on the versatile TruScale Hybrid Cloud with Microsoft platform fully integrated with Azure Stack HCI:

- Pay-as-you-grow storage: Scale non-disruptively (1 to 16 nodes), and up to 3PB raw capacity, with S2D distributed architecture.
- Superior performance: Up to two 2nd Gen Intel Xeon Scalable processors and up to 3TB memory with Intel Optane™ DC persistent memory.
- Workload versatility: ThinkAgile MX appliance is designed to handle database, virtualization, cloud computing, virtual desktop (VDI), enterprise applications, big data, analytics and more.

Business challenge	Solution
"We need to achieve more with the same budget"	Acquire more powerful infrastructure with similar 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"	Modernize 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 by outsourcing to Lenovo Experts

TruScale Hybrid Cloud with Microsoft Dedicated customer success manager

A dedicated customer success manager to ensure customers achieve their business goals:

- **Customer onboarding** - Ensures solution capability on time & fully trained customer IT personnel capable to operate Lenovo's TruScale IT Services.
- **Account Follow Up** - Customer's primary point of contact, advocate inside Lenovo's operations, simplifying the customer's experience.
- **Health checks** - Quarterly reviews to discuss platform usage, addressing new issues, and solving ongoing concerns.
- **Planned Growth** - Identifies optimization opportunities aligned to customer needs and can engage Technical or Field Sales for support as needed.
- **Contract Renewals** - Typically 6 months prior to contract end date, will lead assessment of customer needs against prevailing capability & renewal options.
- **Credit management** - Cycles for credit validation.

Lenovo TruScale Solutions

- **One provider** - Plan, procure and run your infrastructure with a single point of global accountability and predictable costs.
- **End-to-End Services** - Full maintenance, support and management including installation, deployment, configuration and managed services.
- **Control** - Real-time insights that drive efficiency, freeing up IT resources to focus on innovation.
- **Secure** - Your sensitive data is stored on-premises, protected behind your firewall with the appropriate compliance and security controls.
- **Maximize ROI** - Minimum upfront capital costs and a flexible, cloud-like consumption model, deployed behind your firewall.

Lenovo TruScale enables businesses to innovate without limits and achieve their bold vision for the future.

Lenovo and Microsoft

With co-located engineering organizations and a history of technical collaboration, Microsoft and Lenovo consistently deliver innovative joint solutions for the data center. Lenovo's leadership in reliability, customer satisfaction, and performance, combined with Microsoft's leadership in software and cloud services, continues to deliver innovative data center solutions and lower TCO for our joint customers.

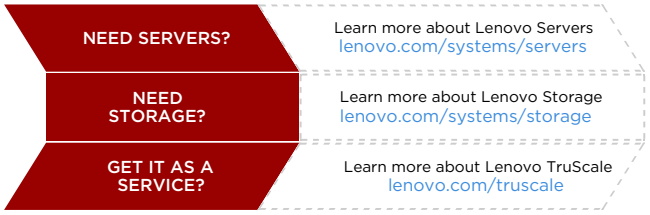
About Lenovo

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

Find out more information related Red Hat products:
www.redhat.com/lenovo

To learn more about how TruScale Hybrid Cloud with Red Hat can help take your business forward, reach out to one of our experts on truscale@lenovo.com



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