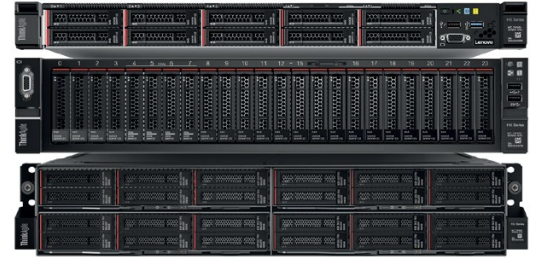# Lenovo ThinkAgile HX Series

Simplify IT infrastructure and accelerate time-to-value via ThinkAgile HX Series Nutanix Appliances

HX Series models above: HX3320 top, HX7520 middle and HX3720 bottom.

IT Challenges

Today's IT infrastructure is a difficult beast to tame. A typical data center has multiple generations of servers, operating systems, hypervisors, and storage devices, often from multiple vendors. IT managers must juggle complex tasks, all while maintaining their legacy equipment.

Virtualizing servers and storage can help to reduce complexity considerably, but implementing data center-wide virtualization usually requires the use of multiple user interfaces and considerable IT knowledge and experience.

Lenovo and Nutanix Partnership

To combat these IT challenges, Lenovo and Nutanix have partnered to deliver the Lenovo ThinkAgile HX Series Nutanix appliances, a best-in-class hyper-converged system with Nutanix's industry-leading software preloaded on Lenovo server platforms.

Ideal for all virtual applications, ThinkAgile HX Series appliances deliver extreme reliability, dependable security, extensive and predictable scalability, simplified management, and faster time-to-value. At the same time, it reduces total cost of ownership (TCO), which enables your IT to focus on innovation and deliver value to your business.

Hyperconverged systems consolidate servers, storage, and virtualization into one virtual structure, easily managed in scale-out clusters through a single interface. Storage and compute across the different nodes in the cluster are pooled as a single shared virtual resource for more efficient utilization.

The threefold goal of ThinkAgile HX Series appliances is to simplify IT infrastructure, reduce costs and accelerate time-to-value, and deliver greater reliability. To do so, ThinkAgile HX Series appliances have been designed with customized models, each optimized for specific workloads, including some that offer massive scalability.

Lenovo™

NUTANIX™

intel XEON PLATINUM inside™

Tailored to Workload

ThinkAgile HX Series appliances are designed to excel at specific workloads. The 1000 Series is optimized for remote office/branch office (ROBO) deployments. For small and medium businesses (SMBs), Lenovo offers the 2000 Series, which is optimized for smaller deployments. The 3000 Series is optimized for compute-heavy applications, while the 5000 Series is optimized for storage-heavy workloads. The 7000 Series is optimized for high-performance environments.

Massive Scalability

Common uses for ThinkAgile HX Series appliances, featuring powerful Intel® Xeon® Scalable family CPUs , include virtual desktop infrastructure (VDI), server virtualization, private/hybrid clouds, enterprise applications and remote/branch office. Starting with the minimum nodes to keep your acquisition costs down, ThinkAgile HX Series appliances are capable of immense scalability as your needs grow. The ThinkAgile HX 2000 Series appliances with the Nutanix Xpress Edition software are specifically designed for smaller deployments in mind. The feature-rich OS supports up to four nodes per cluster, starting with as little as three.

Simplify IT Infrastructure

Lenovo and Nutanix share a common vision of delivering simplified infrastructure that does not demand significant time and resources to maintain. This enables enterprises to focus on their core competencies and drive innovation, greater efficiency, and agility for their business, instead of managing their current complex infrastructure. One-click nondisruptive software upgrades quickly and continuously allowing customers to enhance their infrastructure in an error-free manner. This approach replaces traditional SAN and NAS storage with enterprise-class storage features: automated tiering, deduplication, compression, snapshots, etc. "Pay-as-you-grow" economics enable you to add one ThinkAgile HX node at a time to keep pace with business growth. There is no longer a need for expensive IT overprovisioning. Now you can provision your infrastructure in hours rather than days, weeks or months.

ThinkAgile HX Series appliances are simple to deploy. With compute, storage and virtualization resources integrated into a single node, ThinkAgile HX Series appliances enable you to dramatically simplify your infrastructure and pool multiple sets of node resources into a single virtual structure for more efficient utilization and management. Plus, it scales rapidly to meet the growing needs of your business. Lenovo designs its systems with open standards, enabling easy integration with third-party partners for best-in-class offerings.

Built on industry-leading, highly reliable Lenovo platforms† powered by Intel® Xeon® processors, the ThinkAgile HX Series Appliances incorporate:

- Lenovo ThinkAgile Network Orchestrator for automatic, on-the-fly configuration updates in response to virtual network changes
- Elegant, one-click virtualization, automation and management software with tight integration between Lenovo XClarity and Prism
- Lenovo ThinkAgile Advantage with Lenovo single point of support for 24/7 end-to-end case management

Reduce Costs, Accelerate Time To Value

The combination of the Lenovo server platform and Nutanix software delivers cost savings. Lower TCO and higher return on investment (ROI) are achieved through hardware and software focus on high reliability, automation and agility, scalability, and operating efficiency. Other factors that deliver cost savings include highly secure data and a "single pane of glass" for centralized management of shared resources.

Deliver Greater Reliability

The success of deploying a hyperconverged solution depends on reliable server platforms that play a larger role. As servers perform both the compute and pooled storage mission, uptime is even more important. You need the reliability of Lenovo servers.

Lenovo servers continue to be the industry's #1 most reliable†, with the industry's highest customer satisfaction‡ rating.

Model Specifications

ThinkAgile HX 1000 Series

The 1U 1-node ThinkAgile HX 1000 Series appliance is engineered for light-to-medium workloads (business applications and VDI), optimized for remote office/branch office (ROBO) environments and replication target.

	Remote Office/Branch Office (ROBO) and Replication Target	
Model Name	HX1320	HX1520-R
Form Factor	1U	2U
Processor	Up to 2x Intel® Xeon® Gold processors, up to 125W	2x Intel Xeon Platinum processors, up to 150W
Memory (TruDDR4 2400MHz)	128GB, 256GB, 384GB, 512GB, 768GB	192GB, 384GB
Drive Bays	8x 2.5-inch	12 or 14 x 3.5-inch
SSD Options (Cache)	1-2 480GB, 960GB, 1.92TB, 3.84TB	2x 900GB, 1.92TB
HDD Options	2-3 4TB, 6TB, 8TB	10-12 4TB, 6TB, 8TB
Dual-port NIC 10Base-T	2-4	2-4
Dual-port NIC 10GbE	2-6	2-8
Dual-port NIC 25GbE	0-2	0-4
Hypervisors Preloaded	Nutanix Acropolis Hypervisor, VMware ESXi***	
Hypervisors Supported	Nutanix Acropolis Hypervisor; VMware ESXi, Microsoft Hyper-V 2016***	
Systems Management	Hardware management via Lenovo XClarity and software management via Nutanix Prism	
License Options	Nutanix Starter, Pro and Ultimate Licenses	
Warranty Support	Lenovo 3-year or 5-year limited hardware warranty	

ThinkAgile HX 2000 Series

ThinkAgile HX 2000 Series appliances are available in 1U 1-node, and 2U 4-node form factors and are engineered with small and medium businesses (SMBs) in mind.[§]

	Small and medium businesses	
Model Name	HX2320-E	HX2720-E
Form Factor	1U	2U 4-node
Processor	Up to 2x Intel® Xeon® Gold processors, up to 125W	
Memory (TruDDR4 2400MHz)	96GB, 192GB, 384GB	
Drive Bays	8x 2.5-inch	6x 2.5-inch
SSD Options	1-2x 480GB, 1-2x 960GB, 1-2x 1920GB	
HDD Options	6-7x 1TB, 6-7 x 2TB	4-5x 1TB, 4-5x 2TB
Dual-port NIC (10GbE/10baseT)	2 ports standard; 2 optional	
Dual-port NIC 25GbE	0-2	0-2
Hypervisors Preloaded	Nutanix Acropolis Hypervisor; optional VMware ESXi***	
Hypervisors Supported	Nutanix Acropolis; optional VMware ESXi, Hyper-V 2016***	
Systems Management	Hardware management via Lenovo XClarity and software management via Nutanix Prism	
License Options	Nutanix Xpress	
Warranty Support	Lenovo 3-year or 5-year limited hardware warranty	

ThinkAgile HX 3000 Series

ThinkAgile HX 3000 Series appliances are available in 1U 1-node, 2U 1-node, and 2U 4-node form factors. All HX 3000 Series models are engineered for compute-heavy workloads (business applications and VDI) and offer rack-dense, all-flash (-F) and GPU (-G) models.

	General virtualization and VDI		
Model Name	HX3320	HX3520-G	HX3720
Form Factor	1U	2U	2U 4-node
Processor	2x Intel® Xeon® Platinum processors, up to 165W	2x Intel Xeon Platinum processors, up to 125W	2x Intel Xeon Platinum processors, up to 165W
Memory (TruDDR4 2400MHz)	192GB, 384GB, 768GB, 1532GB	192GB, 384GB, 768GB, 1532GB	192GB, 384GB, 768GB
Drive Bays	10-12x 2.5-inch	8-16x 2.5-inch	6x 2.5-inch
SSD Options (Hybrid)	2-4x 480GB, 2x-4 960GB, 2x-4 1920GB, 2x-4 3840GB	2-4x 480GB, 2x-4 960GB, 2x-4 1920GB, 2x-4 3840GB	2x 480GB, 2x 960GB, 2x 1920GB, 2x 3840GB
SSD Options (Flash)	12-14x 480GB, 12-14x 960GB, 12-14x 1920GB, 12-14x 3840GB	8-16x 480GB, 8-16x 960GB, 8-16x 1920GB, 8-16x 3840GB	6x 480GB, 6x 960GB, 6x 1920GB, 6x 3840GB
SED SSE Options*	Available in 2018		
HDD Options (Hybrid)	6-10x 1TB, 6-10x 2TB	6-14x 1TB, 6-14x 2TB	4x 1TB, 4x 2TB
SED HDD Options*	Available in 2018		
GPU Options	None	2x NVIDIA M60	None
Dual-port NIC (10GbE/10Base-T)	2 ports standard, 6 optional		2 standard, 2 optional
Dual-port NIC (25GbE)	0-4	0-2	0-4
Hypervisors Preloaded	Nutanix Acropolis Hypervisor, optional VMware ESXi***		
Hypervisors Supported	Nutanix Acropolis Hypervisor; optional VMware ESXi, Microsoft Hyper-V 2016***		
Systems Management	Hardware management via Lenovo XClarity and software management via Nutanix Prism		
License Options	Nutanix Starter, Pro and Ultimate Licenses		
Warranty Support	Lenovo 3-year or 5-year limited hardware warranty		

ThinkAgile HX 5000 and HX 7000 Series

The 2U 1-node ThinkAgile HX 5000 Series appliances are engineered for storage-heavy workloads (Big Data and enterprise applications) and offer a high-capacity model. The 2U 1-node ThinkAgile HX 7000 Series appliance is engineered for high-performance workloads (enterprise applications and databases) and optimized for I/O intensive operation.

	Big Data and high capacity		Databases and high performance
Model Name	HX5520	HX5520-C	HX7520
Form Factor	2U	2U	2U
Processor	2x Intel® Xeon® Platinum processors, up to 165W	1x Intel Xeon Gold processor, up to 130W	2x Intel Xeon Platinum processors, up to 165W
Memory (TruDDR4 2400MHz)	192GB, 384GB, 768GB, 1532GB	64GB, 96GB	192GB, 384GB, 768GB, 1532GB
Drive Bays	12-14x 3.5-inch		24x 2.5-inch
SSD Options (Hybrid)	2-4x 480GB, 2-4x 960GB, 2-4x 1920GB, 2-4x 3840GB	2x 480GB, 2x 960GB, 2x 1920GB, 2x 3840GB	4-8x 480GB, 16-24x 960GB, 16-24x 1920GB, 16-24x 3840GB
SSD Options (Flash)		2x 480GB, 2x 960GB	16-24x 480GB, 16-24x 960GB, 16-24x 1920GB, 16-24x 3840GB
HDD Options	8-12x 2TB, 8-12x 4TB, 8-12x 6TB, 8-10x 8TB	10-12x 4TB, 10-12x 6TB, 10-12x 8TB	16-20x 1TB, 16-20x 2TB
SED HDD Options*	Available in 2018		
Dual-port NIC (10GbE/10Base-T)	2 ports standard, 6 optional		2 ports standard, 6 optional
Dual-port NIC (25GbE)	0-4	0-2	0-4
Hypervisors Preloaded	Nutanix Acropolis Hypervisor; optional VMware ESXi***		
Hypervisors Supported	Nutanix Acropolis Hypervisor; optional VMware ESXi, Microsoft Hyper-V 2016***		
Systems Management	Hardware management via Lenovo XClarity and software management via Nutanix Prism		
License Options	Nutanix Starter, Pro and Ultimate Licenses		
Warranty Support	Lenovo 3-year or 5-year limited hardware warranty		

† 2016-2017 Global Hardware, Server OS Reliability Report, ITIC; October 2016.; ‡ 2H16 Corporate IT Buying Behavior and Customer Satisfaction Study, TBR; December 2016.

* Lenovo intends to offer FIPS 140-2 Level 2 self-encrypting drives at a later date.; *** VMware ESXi hypervisor preload and Microsoft Hyper-V 2012 R2 hypervisor support available at a later date.; § Contact your local Lenovo representative or Business Partner for availability in your country.

Bottom Line

Lenovo ThinkAgile HX Series appliances, powered by Intel® Xeon® processors, enable you to simplify your IT infrastructure and drive down costs through the combination of preloaded easy-to-use software on powerful, extremely reliable hardware. All ThinkAgile HX Series models are backed by world-class Lenovo services and support.

The perfect complement to ThinkAgile HX Series, Lenovo Services guarantees a superior services experience. Providing outstanding value while supporting your uptime requirements, Lenovo Services offers choices to match your workload requirements. Options range from base warranty extensions to same day committed repair, as well as hard drive retention, installation, and customized service options. Lenovo Services guarantees genuine Lenovo quality parts, reliable and consistent service by highly skilled, trained and certified technicians, and access to Lenovo global remote and field support teams.

Lenovo and Nutanix share a common vision of delivering simplified infrastructure that does not demand significant time and resources to maintain. This enables enterprises to focus on their core competencies and drive innovation, greater efficiency, and agility for their business.

Previously Announced Models

For information about the previously announced (Intel Xeon E5 v4 processor-based) models, go here.

Why Lenovo

Lenovo is a global Fortune 500 company and a leader in providing innovative consumer, commercial, and enterprise technology. Lenovo enterprise systems deliver industry-leading performance, reliability, and security in virtualized and cloud environments for analytics, database, virtual desktop, infrastructure, and web workloads. Lenovo also offers simplified and extensible systems management tools so you can manage your infrastructure on your own terms. Consistently ranked #1 in reliability and customer satisfaction, the Lenovo enterprise server, storage, and networking portfolio provides the hardware for businesses that never stand still.

For More Information

To learn more about Lenovo ThinkAgile HX Series Appliances, contact your Lenovo representative or Business Partner or visit **lenovo.com**/thinkagile/

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