Lenovo Converged HX Series

Simplify IT infrastructure and accelerate time-to-value via the Lenovo Converged HX Series Nutanix Appliances

Lenovo™

HX Series models above: HX3310 top, HX5510 middle and HX7510 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 Converged HX Series Nutanix appliances, a best-in-class hyperconverged system with Nutanix's industry-leading software preloaded on Lenovo server platforms.

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

Tailored to Workload

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.

NUTANIX™

intel XEON inside™

Massive Scalability

Common uses for the HX Series appliances, featuring powerful Intel® Xeon® processors, include virtual desktop infrastructure (VDI), server virtualization, private/hybrid clouds, enterprise applications and remote/branch office. Starting with as few as three nodes to keep your acquisition costs down, HX Series appliances are capable of immense scalability as your needs grow. The HX2000 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 allow 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 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.

HX Series appliances are simple to deploy. With compute, storage and virtualization resources integrated into a single node, the 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.

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.

For the *third year in a row*, Lenovo servers achieved the *#1 reliability rating* of all x86 servers worldwide, according to the ITIC 2015-2016 Global Server Hardware and OS Reliability Survey.[†] The independent survey polled hundreds of global businesses (representing 47 different industries) in May and June of 2015.

Not surprisingly, this high reliability—coupled with the ease of use and high performance of Lenovo servers—has consistently resulted in a #1 rating for customer satisfaction in the latest TBR survey.[‡]

Bottom Line

Lenovo Converged 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 HX Series models are backed by world-class Lenovo services and support.

The perfect complement to the 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.

For information about the previously announced (Intel Xeon E5 v3 processor-based) models, go here.

Lenovo Converged HX Series

Model Specifications

HX1000 Series

The 1U 1-node Lenovo HX1000 Series appliance is engineered for light to medium workloads (business applications and VDI) and optimized for remote office/branch office (ROBO) environments.

	Remote office/branch office (ROBO) deployments
Model Name	HX1310
Form Factor	1U
Processor (Intel® Xeon®)	1x E5-2620 v4 (8 cores) 1x E5-2630 v4 (10 cores) 1x E5-2650 v4 (12 cores) 1x E5-2680 v4 (14 cores)
Memory (TruDDR4 2400MHz)	64GB, 128GB, 256GB
Drive Bays	8x 2.5 inch
SSD Options	2x 480GB, 2x 800GB, 2x 1200GB, 2x 1600GB
SED SSD Options*	2x 400GB, 2x 800GB, 2x 1600GB
HDD Options	6 x 1TB, 6 x 2TB
SED HDD Options*	6 x 2TB
Dual-port NIC (10GbE/10Base-T**)	1 standard/maximum; 0 optional
Hypervisors Preloaded	Nutanix Acropolis Hypervisor; optional VMware ESXi***
Hypervisors Supported	Nutanix Acropolis Hypervisor, optional VMware ESXi, Microsoft Hyper-V 2012 R2***
Systems Management	Hardware management via Lenovo XClarity and software management via Nutanix Prism
License Options	Nutanix Starter, Pro and Ultimate Licenses
Software Maintenance	Software maintenance support from Nutanix
Warranty Support	Lenovo 3-year or 5-year limited hardware warranty

HX2000 Series

Lenovo HX2000 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	HX2310-E	HX2710-E
Form Factor	1U	2U 4-node
Processor (Intel® Xeon®)	2x E5-2609 v4 (16 cores total), 2x E5-2620 v4 (16 cores total), 2x E5-2630 v4 (20 cores total)	
Memory (TruDDR4 2400MHz)	64GB, 128GB, 256GB, 512GB	
Drive Bays	7x 2.5-inch	6x 2.5-inch
SSD Options	1x 480GB, 1x 800GB, 1x 1200GB, 1x 1600GB	
HDD Options	6x 1TB, 6 x 2TB	5x 1TB, 5x 2TB
Dual-port NIC (10GbE/10baseT**)	1 standard/maximum	
Hypervisors Preloaded	Nutanix Acropolis Hypervisor; optional VMware ESXi***	
Hypervisors Supported	Nutanix Acropolis; optional VMware ESXi, Hyper-V 2012 R2***	
Systems Management	Hardware management via Lenovo XClarity and software management via Nutanix Prism	
License Options	Nutanix Express	
Warranty Support	Lenovo 3-year or 5-year limited hardware warranty	

[§] Contact your local Lenovo representative or Business Partner for availability in your country.

HX3000 Series

Lenovo HX3000 Series appliances are available in 1U 1-node, 2U 1-node, and 2U 4-node form factors. All HX3000 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	HX3310	HX3510-G	HX3710
Form Factor	1U	2U	2U 4-node
Processor (Intel® Xeon®)	2x E5-2630 v4 (20 cores) 2x E5-2650 v4 (24 cores) 2x E5-2680 v4 (28 cores) 2x E5-2697 v4 (36 cores) 2x E5-2699 v4 (44 cores)		2x E5-2620 v4 (16 cores) 2x E5-2630 v4 (20 cores) 2x E5-2650 v4 (24 cores) 2x E5-2680 v4 (28 cores) 2x E5-2698 v4 (36 cores)
Memory (TruDDR4 2400MHz)	128GB, 256GB, 384GB, 512GB, 768GB		128GB, 256GB, 512GB
Drive Bays	8x 2.5-inch		6x 2.5-inch
SSD Options	2x 480GB, 2x 800GB, 2x 1200GB, 2x 1600GB		
SED SSE Options*	2x 400GB, 2x 800GB, 2x 1600GB		
HDD Options	6x 1TB, 6x 2TB		4x 1TB, 4x 2TB
SED HDD Options*	6x 2TB		4x 2TB
GPU Options	None	2x NVIDIA M60	None
Dual-port NIC (10GbE/10Base-T**)	1 standard, optional 2nd		1 standard
Hypervisors Preloaded	Nutanix Acropolis Hypervisor, optional VMware ESXi***		
Hypervisors Supported	Nutanix Acropolis Hypervisor; optional VMware ESXi, Microsoft Hyper-V 2012 R2***		
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		

HX3000 Series

	VDI and high-performance virtualization	
Model Name	HX3310-F	HX3710-F
Form Factor	1U	2U 4-node
Processor (Intel® Xeon®)	2x E5-2650 v4 (24 cores total) 2x E5-2680 v4 (28 cores) 2x E5-2697 v4 (36 cores) 2x E5-2699 v4 (44 cores)	2x E5-2650 v4 (24 cores) 2x E5-2680 v4 (28 cores) 2x E5-2698 v4 (36 cores)
Memory (TruDDR4 2400MHz)	128GB, 256GB, 384GB, 512GB, 768GB	128GB, 256GB, 512GB
Drive Bays	8x 2.5-inch	6x 2.5-inch
SSD Options	8x 480GB, 8x 800GB, 8x 1200GB, 8x 1600GB	6x 480GB, 6x 800GB, 6x 1200GB, 6x 1600GB
SED SSD Options*	8x 400GB, 8x 800GB, 8x 1600GB	6x 400GB, 6x 800GB, 6x 1600GB
HDD Options	Not applicable (all-flash)	
SED HDD Options*	Not applicable (all-flash)	
Dual-port NIC (10GbE/10Base-T**)	1 standard/optional 2nd	1 standard
Hypervisors Preloaded	Nutanix Acropolis Hypervisor, VMware ESXi***	
Hypervisors Supported	Nutanix Acropolis Hypervisor; VMware ESXi, Microsoft Hyper-V 2012 R2***	
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	

HX5000 and HX 7000 Series

The 2U 1-node Lenovo HX5000 Series appliances are engineered for storage-heavy workloads (Big Data and enterprise applications) and offer a high-capacity model. The 2U 1-node Lenovo HX7000 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	HX5510	HX5510-C	HX7510
Form Factor	2U	2U	2U
Processor (Intel® Xeon®)	2x E5-2620 v4 (16 cores total) 2x E5-2630 v4 (20 cores) 2x E5-2650 v4 (24 cores) 2x E5-2680 v4 (28 cores) 2x E5-2697 v4 (36 cores)	1x E5-2620 v4 (8 cores)	2x E5-2643 v4 (12 cores total) 2x E5-2680 v4 (28 cores) 2x E5-2697 v4 (36 cores) 2x E5-2699 v4 (44 cores)
Memory (TruDDR4 2400MHz)	128GB, 256GB, 384GB, 512GB, 768GB	64GB	128GB, 256GB, 384GB, 512GB, 768GB
Drive Bays	8x 3.5-inch		24x 2.5-inch
SSD Options	2x 480GB, 2x 800GB, 2x 1200GB, 2x 1600GB	2x 480GB	4x 480GB, 4x 800GB, 4x 1200GB, 4x 1600GB
SED SSD Options*	2x 400GB, 2x 800GB, 2x 1600GB	2x 400GB	4x 400GB, 4x 800GB, 4x 1600GB
HDD Options	6x 2TB, 6x 4TB, 6x 6TB, 6x 8TB	6x 4TB, 6x 6TB, 6x 8TB	20 x 1TB, 20 x 2TB
SED HDD Options*	6x 2TB, 6x 4TB, 6x 6TB, 6x 8TB	6x 4TB, 6x 6TB, 6x 8TB	20x 2TB
Dual-port NIC (10GbE/10Base-T**)	1 standard, optional 2nd		2 standard; optionally only 1
Hypervisors Preloaded	Nutanix Acropolis Hypervisor; optional VMware ESXi***		
Hypervisors Supported	Nutanix Acropolis Hypervisor; optional VMware ESXi, Microsoft Hyper-V 2012 R2***		
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		

* Lenovo intends to offer FIPS 140-2 Level 2 self-encrypting drives at a later date. † Annual ITIC 2015-2016 Reliability Survey, July 2015. ‡ Quarterly TBR Customer Satisfaction Survey, February 2016.
** 10 baseT networking available at a later date. *** VMware ESXi hypervisor preload and Microsoft Hyper-V 2012 R2 hypervisor support available at a later date.

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Previously Announced Models
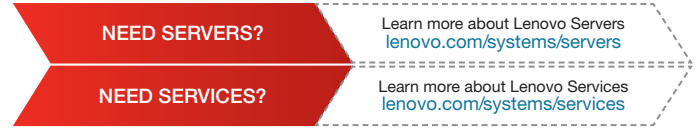
For information about the previously announced (Intel Xeon E5 v3 processor-based) models, go here.

Why Lenovo

Lenovo is a $46 billion 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 the Lenovo HX Series Appliances, contact your Lenovo representative or Business Partner or visit **lenovo.com**/systems/servers

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