

# Lenovo NeXtScale System M5

Dense platform for high performance computing

Lenovo™



Lenovo NeXtScale nx360 M5 Compute Node

## Scale, Flexible, Simple

The Lenovo NeXtScale System addresses the increasing data and computing challenges of the data center by delivering dense performance across a variety of functions—from compute, I/O, storage, and acceleration—in more cost- and energy-efficient ways than ever before. NeXtScale now provides even greater performance, efficiency, and flexibility for the data center, and enables the broadest selection of server functions for a variety of workloads.

## Strong Foundation

Included as a key part of the Lenovo System x family, the space-saving NeXtScale System comprises powerful compute, storage, and acceleration nodes in an energy-efficient, low-cost 12-bay enclosure.

## NeXtScale nx360 M5 Compute Node

This 1U tall, half-wide compute node supports a broad range of workloads like modeling, simulation and analytics like Big Data. The M5 version features several new enhancements for even greater performance, density and flexibility.

- Powerful Intel® Xeon® processors E5-2600 v3 series (up to 18 cores), enable as much as 432 cores per 6U enclosure to deliver maximum performance at extreme density.
- 16 DIMM slots support 2133 MHz DDR4 memory, enabling 1024 GB per node using 64 GB DIMMs. Choice of front PCIe slot, or two front hot-swap 2.5-inch hard disk drives. Two rear 2.5-inch HDDs are also supported as standard.
- A dedicated rear onboard RAID slot allows for greater PCI configuration flexibility.
- New x16 ML2 slots support InfiniBand and Ethernet adapters for increased I/O flexibility.



Lenovo NeXtScale System nx360 M5 Node with PCI Native Expansion Tray

## Storage Native Expansion (NeX) Tray

This 1U tall, 1/2 wide PCIe tray allows you to attach additional storage including 7 x 3.5-inch HDDs. It easily attaches to the nx360 M5 compute node.

## PCIe Native Expansion (NeX) Tray

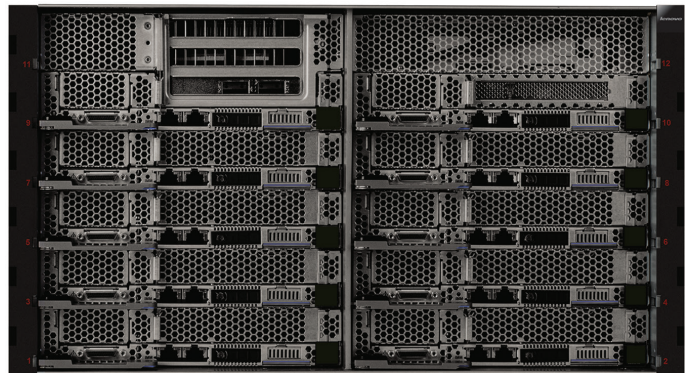
This 1U tall, 1/2 wide PCIe tray allows you to attach additional PCIe adapters, such as graphics processing units (GPU) and Intel Xeon Phi Coprocessors. It easily attaches to the nx360 M5 compute node.

## 2U GPU/Storage Expansion (NeX) Tray

This 2U tall, 1/2 wide GPU/storage tray allows you to attach an additional four graphics processing units (GPU) (up to 300W each) and Intel Xeon Phi Coprocessors. It also includes one HDD cage supporting 4 x 2.5-inch front hot-swap HDDs.

## n1200 Enclosure

The Lenovo NeXtScale n1200 Enclosure is an efficient, 6U, 12-bay enclosure for ultra-dense solutions. No chassis-level management is required, and the networking capabilities are on the individual compute nodes. Designed to provide shared, high-efficiency power and cooling for housed servers, the n1200 enclosure scales with your business needs. Adding compute, storage, or acceleration capability is as simple as adding specific nodes to the enclosure, without any contention for resources. With up to 84 compute servers per rack, the n1200 doubles the density of typical racks.



Lenovo NeXtScale n1200 Enclosure

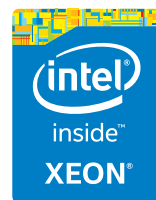
## Why Lenovo

Lenovo is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security. Lenovo also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.



## Specifications - M5 Compute Node

<b>Form Factor/Height</b>	Half-wide 1U
<b>Processor</b>	Two Intel® Xeon® processors E5-2600 v3 series (4 core to 18 core)
<b>Memory</b>	16 DDR4 LP, 1024 GB maximum with 64 GB LP LRDIMM
<b>Chassis Support</b>	NeXtScale n1200 Enclosure
<b>Local Storage</b>	Choice of one 3.5-inch hard disk drive (HDD), two 2.5-inch HDDs/solid-state drives (SSDs) (simple swap), or four 1.8-inch SSDs. Optional two front hot-swap 2.5-inch HDDs.
<b>Storage Native Expansion (NeX) Tray</b>	7x 3.5-inch SAS/SATA HDDs
<b>Internal RAID</b>	Onboard SATA controller with RAID options
<b>PCIe RAID</b>	ServeRAID M1200 series adapter
<b>USB Ports</b>	One internal USB key
<b>Ethernet</b>	Two built-in 1GbE ports standard
<b>Input/Output</b>	Two ML2 ports for InfiniBand FDR or 10 GbE, two 10 GbE one PCIe (x16 PCI Express 3.0)
<b>PCIe Native Expansion (NeX) Tray</b>	2 x16 Full Height Full Length and 1 Half Length x8
<b>2U GPU/Storage Native Expansion (NeX) Tray</b>	4 x16 Full Height Full Length PCIe with additional 4 drive enclosure supporting 4 x 2.5-inch front hot-swap HDDs
<b>Power Management</b>	Rack-level power capping and management via Extreme Cloud Administration Toolkit (xCAT)
<b>Systems Management</b>	1x shared port with 1GbE per 1/2 wide server
<b>Operating Systems Supported</b>	SUSE Linux Enterprise Server, Red Hat Enterprise Linux, Microsoft Windows Server, VMware
<b>Limited Warranty</b>	3-year customer replaceable unit and onsite limited warranty, next business day 9x5, service upgrades available



## Specifications - n1200 Enclosure

	NeXtScale n1200 Enclosure
Form Factor	6U NeXtScale, standard rack
Bays	12 half-wide bays
Power Supply	Six hot-swappable, non-redundant, N+N or N+1 redundant 80 PLUS® Platinum, high energy efficiency, 900 W, and 1300 W, & 1500 W. 1300 W Titanium
Fans	10 hot-swappable
Controller	One fan and power controller

## For More Information

About Lenovo, the NeXtScale System M5, or to contact your Lenovo representative or Business Partner, visit [lenovo.com/systems/servers](http://lenovo.com/systems/servers)

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