

NeXtScale System – M4

Next-generation dense platform provides superior building-block approach for hyperscale computing



There is no end in sight to growing data and computing requirements—which poses a serious challenge for space-constrained data centers. Also challenging for today's organizations is the need to perform a larger number and variety of functions—without increasing budgets. NeXtScale™ System, an economical addition to the System x® family, offers an innovative approach to maximum usable density. Optimized to handle a number of workloads, all demanding agility, NeXtScale System helps drive business velocity by providing rapid procurement, deployment and flexible options. This simple, yet powerful, system can handle applications ranging from technical computing, to grid deployments, to analytics workloads, to large-scale cloud and virtualization infrastructures.

Designed with industry-standard, off-the-shelf components, this general-purpose platform enables users to create a flexible, mix-and-match offering with compute, storage, and acceleration via graphics processing unit (GPU) or Intel Xeon

Phi coprocessor. Customized solutions can be configured to provide application-appropriate platform with choice of servers, networking switches, adapters, and racks.

This modular system is designed to scale and grow along with data center needs in order to protect and maximize IT investments. Since it is optimized for standard racks, users can easily mix high-density NeXtScale server offerings and non-NeXtScale components within the same rack. NeXtScale System also provides tremendous time to value by enabling users to get it up and running—and to the production phase—faster.

Building on a strong foundation

Extending the System x family to a larger range of users, the customizable, space-saving NeXtScale System comprises powerful compute, storage, and GPU/Phi servers and an energy-efficient, low-cost 12-bay chassis.



NeXtScale Storage Native Expansion (NeX) Tray

This 1U tall 1/2 wide storage tray provides up to seven additional 3.5-inch hard disk drives (HDDs) that can easily be attached to the nx360 M4 server to create a 2U tall 1/2 wide storage server. When using 4 TB HDDs, users can create an ultra-dense storage server with up to 32 TB of total disk capacity within 1U of comparable rack density. The nx360 M4 with Storage NeX offers a perfect solution for today's data-intensive workloads.



NeXtScale Storage Native Expansion (NeX) Tray

NeXtScale PCIe Native Expansion (NeX) Tray

The PCIe NeX is a 1U tall and 1/2 wide PCIe tray that easily attaches to the nx360 M4 server and is a key element of the NeXtScale System family. PCIe NeX allows you to attach additional PCI express adapters such as next-generation graphics processing units (GPU) and Intel Xeon Phi Coprocessors to the NeXtScale nx360 M4 server.



NeXtScale System PCI Native Expansion Tray (shown attached with nx360 M4)

NeXtScale n1200 Enclosure

The NeXtScale n1200 Enclosure is an efficient, 6U, 12-bay chassis with no built-in networking or switching capabilities—requiring no chassis-level management. Sensibly designed to provide shared, high-efficiency power and cooling for housed servers, the n1200 enclosure is designed to scale with your business needs. Adding compute, storage, or acceleration capability is as simple as adding specific nodes to the chassis. Because each server is independent and self-sufficient, there is no contention for resources among servers within the enclosure. And while a typical rack holds only 42 1U systems, this chassis doubles the density up to 84 compute servers within the same footprint.



NeXtScale n1200 Enclosure

Specifications - NeXtScale nx360 M4

Form factor/height	Half-wide 1U
Processor	Two Intel Xeon E5-2600 v2 series
Cache	Level 2: 256 KB per core Level 3: 4 cores – 15 MB, 6 cores – 15 MB, 8 cores – 20 MB, 10 cores – 25 MB, 12 cores – 30 MB
Memory	8 DDR3/DDR3L LP, 256 GB maximum with 32 GB LP RDIMM
Chassis support	NeXtScale n1200 Enclosure
Local Storage	One 3.5-inch, two 2.5-inch SAS/SATA hard disk drives (HDDs) or four 1.8-inch solid state drives, up to 4 TB maximum capacity with one 4 TB 3.5-inch HDD
Internal RAID	Onboard SATA controller with RAID options
PCIe RAID	ServeRAID M1100 series adapter
USB ports	One internal USB key
Ethernet	Two built-in 1 Gigabit Ethernet (GbE) ports standard
Input/output	Two InfiniBand FDR ports (slotless option), two 10 GbE (slotless option), one PCIe (x16 PCI Express 3.0)
Power management	Rack-level power capping and management via IBM Extreme Cloud Administration Toolkit (xCAT)
Systems management	IBM Integrated Management Module 2 (IMM2) with dedicated management port, IPMI 2.0 compliant, Platform LSF and Platform HPC
Operating systems supported	Microsoft Windows Server, SUSE Linux Enterprise Server, Red Hat Enterprise Linux, VMware vSphere Hypervisor (ESXi)
Limited warranty	3-year customer replaceable unit and onsite limited warranty, next business day 9x5, service upgrades available

Specifications - NeXtScale Storage Native Expansion (NeX) Tray

Form factor	Half-wide 1U
Drive Bays	Seven 3.5-inch SAS/SATA HDDs

Specifications - NeXtScale n1200 Enclosure

Form factor	6U NeXtScale, standard rack
Bays	12
Power supply	Six hot-swappable, non-redundant, N+N or N+1 redundant 80 PLUS® Platinum, high energy efficiency, 900 W and 1300 W
Fans	10 hot-swappable
Controller	Fan and power controller

Specifications - NeXtScale PCIe Native Expansion (NeX) Tray

Form factor	Half-wide 1U
Adapter capacity	Two full-length, full-height x16 + one half-length x8
GPUs supported	NVIDIA K40, K20x, K10 and VGA K1, K2
Intel Xeon Phi Coprocessors supported	7120p and 5110p

Options

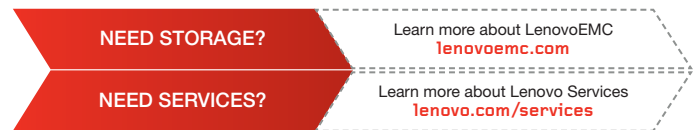
<p>6 TB 7.2K 6Gbps 512e NL SATA 3.5" HDD for NextScale System</p> <p>00FN183</p> <p>Optimize storage with high density and low cost per GB hard drives</p>	<p>Intel X520 Dual Port 10GbE SFP+ Embedded Adapter</p> <p>49Y7980</p> <p>Offers full line-rate 10 Gbps performance for high-IO intensive applications</p>	<p>16 GB (1x16 GB, 2Rx4, 1.5V) PC3-14900 CL13 ECC DDR3 1866 MHz LP RDIMM</p> <p>00D5048</p> <p>Add more memory to help improve the performance of all your workloads</p>
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Why System x

System x 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. System x also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

For more information

To learn more about the NeXtScale System, contact your Business Partner or visit lenovo.com/thinkserver



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IBM x86 products are now products of Lenovo in the U.S. and other countries. Learn more at ibm.com/lenovo-acquisition

