



Highlights

- Enable IT your way—Based on open standards, a single architecture for compute, storage and acceleration to support a variety of workloads. All delivered your way: pre-integrated or roll your own.
 - Deliver elegant simplicity—Simple architecture features independent, self-sufficient nodes with no single point of contention across the entire system.
 - Achieve extreme scalability—Designed to be run and managed at any scale, the system enables you to start small and scale rapidly as needed.
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IBM NeXtScale System

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. IBM® NeXtScale System™, an economical addition to the IBM 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 upon a strong System x foundation

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

IBM NeXtScale nx360 M4 server

This powerful server provides a dense, flexible solution with a low total cost of ownership. The half-wide, dual-socket NeXtScale nx360 M4 server is designed for data centers that require high performance but are constrained by floor space. By taking up less physical space in the data center, the NeXtScale server significantly enhances density. And it supports Intel Xeon E5-2600 v2 series up to 130 W and 12-core processors thus providing more performance per server. The nx360 M4 compute node contains only essential components in the base architecture to provide a cost-optimized platform.



IBM NeXtScale nx360 M4

IBM 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 node is independent and self-sufficient, there is no contention for resources among nodes within the enclosure. And while a typical rack holds only 42 1U systems, this chassis doubles the density up to 84 compute nodes within the same footprint.



IBM NeXtScale n1200 Enclosure

Flexible, IT your way

Developed at the solution level, the NeXtScale System architecture is extremely flexible—enabling different technologies to easily fit into its design, for varied workloads. And since the system allows compute, storage, and acceleration via GPU or Intel Xeon Phi coprocessor to share the same chassis and architecture, it is very easy to deploy and grow. Front-access cabling—either from the bottom or the top of the rack—and direct-dock power capabilities enable users to make quick and easy changes to nodes, cables and networking switches. Plus, NeXtScale System supports multiple networking topologies, including Ethernet, InfiniBand and Fibre Channel. System flexibility even extends to procurement: Organizations can either receive the system fully configured, pretested, IBM installed, and ready to power on; or self-configure and install using existing components to build a custom system.

Simple yet elegant

NeXtScale System makes choosing the right architecture for individual applications, budgets and data centers simple and economical. It optimizes shared infrastructure with common fans and power supplies leaving nodes to be completely independent and self-sufficient. The nodes do not share resources such as disks or memory. To manage costs, only essential components are included in the base architecture, and nodes can be used for either storage or GPU/coprocessor acceleration. This enables NeXtScale for an easy insertion into your infrastructure with your current tools and best practices. The ability of NeXtScale System to work with any standard switch, rack or networking card provides almost unlimited options to space- and budget-conscious organizations in even the most demanding industries.

Scale for everyone

The high-performance NeXtScale System enables organizations of all sizes and budgets to start small and scale rapidly, as needed, into future requirements. Rather than requiring organizations to purchase large clusters, this system offers a complete building-block approach in which users can start out with one chassis and add systems and components as needed. Designed to be easily run and simply managed at any scale—from a handful to thousands—NeXtScale System can help organizations achieve maximum impact per dollar.

IBM NeXtScale nx360 M4 at a glance

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, 128 GB maximum with 16 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
Storage Native Expansion (NEX) Tray	Eight 3.5-inch SAS/SATA HDDs, up to 32 TB maximum capacity
Internal RAID	Onboard SATA controller with RAID options
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

IBM NeXtScale n1200 Enclosure at a glance

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
Fans	10 hot-swappable
Controller	Fan and power controller

Why IBM?

IBM offers a vast portfolio of hardware, software and services that can help organizations of all sizes address their IT infrastructure requirements in a comprehensive and integrated way. With IBM, organizations can create a more flexible, robust and resilient infrastructure to support critical business operations.

For more information

To learn more about IBM NeXtScale System, visit: ibm.com/systems/x/hardware/highdensity/nextscale/index.html or contact your IBM representative or IBM Business Partner.

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: ibm.com/financing



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