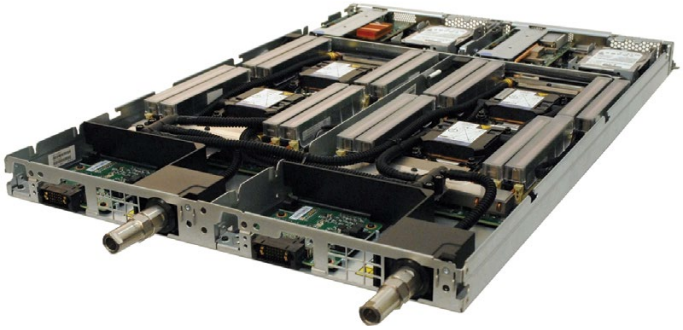
Lenovo NeXtScale System M5 WCT

Highly efficient Water Cool Technology



Lenovo NeXtScale nx360 M5 WCT Compute Node

Scalable, Powerful, Dense

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 System now provides even greater performance, efficiency and flexibility with a choice of air-cooled or water-cooled offerings.

Strong Foundation

Included as a key part of the Lenovo server family, the space-saving NeXtScale System comprises powerful compute, storage and acceleration nodes in an energy-efficient, low-cost 6-bay enclosure.

NeXtScale nx360 M5 WCT Compute Node

Lenovo NeXtScale System with Water Cool Technology (WCT) uses an innovative direct water-cooling design to more efficiently cool system components such as processors, memory and I/O cards. Instead of using fans, water is delivered directly to the server and circulated throughout the system through cooling tubes, supporting water inlet temperatures up to 45 degrees Celsius. This makes expensive water chillers unnecessary and reduces total cost of ownership (TCO), while significantly improving energy efficiency in the data center for a greener environment. It also drives ongoing operational cost savings that result in quick payback of initial investment and continued savings for lower TCO. This is particularly essential in geographies with high electricity costs or high cost of floor space.

Some key benefits of NeXtScale System M5 with Water Cool Technology include:

- 40 percent more energy-efficient data center
- 10 percent more power-efficient server
- >85 percent of heat can be recovered from the system and can be used for other purposes such as heating other buildings and facilities.

The NeXtScale System M5 with Water Cool Technology comprises powerful compute nodes, along with unique enclosure and manifolds with an innovative water-cooled design.

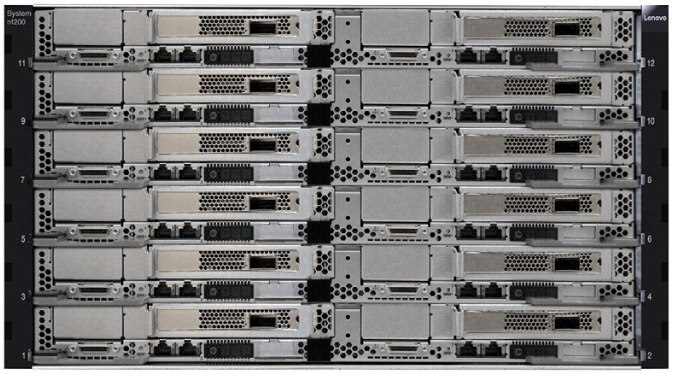
nx360 M5 WCT Compute Tray

This 1U full-wide compute tray includes two half-wide server nodes that are cooled by innovative Water Cool Technology (WCT) to drive even greater energy efficiency and performance into the data center. It supports the following platform features:

- Powerful Intel® Xeon® processor E5-2600 v4 series (up to 22 cores) are allowed to run in Turbo mode continuously due to efficient Water Cool Technology, enabling the highest possible compute performance.
- 16 DIMM slots support 2400MHz DDR4 memory, enabling 512GB per node using 32GB DIMMs.
- New x16 ML2 slots support InfiniBand and Ethernet adapters for increased flexibility.

n1200 WCT Enclosure

The Lenovo NeXtScale n1200 WCT Enclosure utilizes Water Cool Technology to cool six full-wide nx360 M5 WCT compute trays, each housing two high-performance compute nodes, for a total of 12 servers per 6U enclosure. Uniquely designed for water cooling, this enclosure requires no internal fans. It connects to water manifolds that manage inlet and outlet water flows directly to each compute node.



Lenovo NeXtScale n1200 WCT 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 – nx360 M5 WCT Compute Node

Form Factor/Height	Full-wide 1U
Processor	Two Intel® Xeon® E5-2600 v4 series (4 core to 22 core) per half-wide server
Memory	16 DDR4 LP, up to 2400MHz, 512GB maximum with 32GB LP LRDIMM per half-wide server
Chassis Support	NeXtScale System n1200 WCT Enclosure
Local Storage	Choice of up to two 2.5-inch HDDs/SSDs or up to two 1.8-inch SSDs (one per node); optional two front hot-swap 2.5-inch HDDs
Internal RAID	Onboard SATA controller with SW RAID options
USB Ports	Two USB via dongle cable supported per half-wide server
Ethernet	Two built-in 1GbE ports standard per half-wide server
Input/Output	One 50mm width ML2 slot for InfiniBand FDR and one PCIe x16 slot for EDR InfiniBand, or 10GbE or Intel Omni-Path, per half-wide server
Power Management	Rack-level power capping and management via Extreme Cloud Administration Toolkit (xCAT)
Systems Management	1x shared port with 100MbE per half-wide server
Operating Systems Supported	SUSE Linux Enterprise Server, Red Hat Enterprise Linux, Microsoft Windows Server, VMware vSphere
Limited Warranty	3-year customer replaceable unit and onsite limited warranty, next business day 9x5, service upgrades available

Specifications - n1200 WCT Enclosure

	NeXtScale n1200 WCT Enclosure
Form Factor	6U NeXtScale, standard rack
Bays	6 full-wide bays accommodating 12 independent 2-processor compute nodes
Power Supply	Six hot-swappable, non-redundant, N+N or N+1 redundant 80 PLUS® Platinum, high energy efficiency, 1300W and 1500W. 1300W Titanium
Fans	No system fans; 6 fans on power supply units
Controller	One fan and power controller

For More Information

About Lenovo, NeXtScale System M5 WCT, or to contact your Lenovo representative or Business Partner, visit **lenovo.com**/systems/servers

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