Lenovo Neptune™ Liquid Cooling

Smarter doesn't sacrifice energy efficiency or sustainability for higher performance

Leading the world in liquid cooling technology for more than a decade

Lenovo

Neptune™

A decade ago, we were challenged to deliver an energy efficient supercomputer. Today, Lenovo Neptune™ liquid cooling technologies help solve humanity's greatest challenges the world over.

A revolution at the time, it answered the challenge of creating a supercomputer that delivered groundbreaking power while maintaining energy efficiency. The result was the first ever water cooled x86 server installation, that spent the better part of a decade on the TOP500 supercomputing list.

As demand for system performance grows across an increasing number of industries, practical applications for this technology continue to expand.

Neptune™ enables performance without compromise

Sustainability

Meet environmental goals and align with carbon reduction initiatives without sacrificing the ability to deliver the compute power your organization needs to compete and thrive.

Density

Neptune™ delivers more computing power in a compact footprint to support your most demanding workloads.

Competitive edge

Whether your organization is competing for faster time-to-market, scientific breakthroughs, or research grants, benefit from super-efficient high-performance computing that delivers results more quickly.

Run hot, stay cool, save energy

Designed to run the highest core-count, highest frequency, latest generation processors from AMD, Intel and, NVIDIA, Lenovo Neptune™ direct warm water-cooled systems power through the most compute-intensive workloads.

95%+
Heat removal efficiency

40%
Lower power consumption

Lenovo Neptune™ Liquid Cooling delivers whisper quiet high performance with lower power consumption in a compact footprint so you can achieve higher density and more output from your data center.

Gain a **performance** advantage

Breakthrough discoveries require breakthrough technologies. Engineering, modeling and simulation workloads, and even animation in movies require compute power at peak performance. Lenovo Neptune™ has already delivered a proven advantage in these sectors:

- Fintech, algorithmic trading and dev environments where frequency matters
- Computer aided engineering and computational fluid dynamics (CAE/CFD)
- Electronic design automation (EDA)
- Weather and climate modeling and forecasting
- Bioinformatics
- Geospatial and energy
- Physical and earth sciences research
- Animation render farms

Meet Lenovo's Neptune™ cooling **technologies**

Rack Water Cooling	Keep heat down in the rack with either a **Rear-door Heat Exchanger (RDHX) and In-rack Cooling Distribution Units (CDU)**.
Direct Water Cooling	With **Full Systems** and **Core Systems** available, water removes heat from key components – including power supplies for completely fanless operation.
Liquid Assisted Cooling	With either a **Thermal Transfer Module (TTM)** or **Liquid to Air Heat Exchanger (L2A)**, traditional air cooled systems benefit from liquid cooling with specially designed heat handling, without added plumbing.
Energy Aware Runtime Software (EAR) and xClarity Energy Manager	By optimizing power states, turning off unused components, and routing workloads to the most efficient resources, our software helps deliver optimal performance at the lowest possible energy consumption.

Why choose Lenovo for your most demanding computing needs?

We believe Lenovo provides the best high performance computing solutions in the market, a belief that is backed up by the facts.

- Lenovo is the **world's #1 supercomputer provider** according to TOP500.org
- **#1 on the Green500 list**, we built the world's most energy efficient supercomputer
- Still **#1 in x86 server reliability and leader in server benchmark performance** worldwide
- **Gartner Global Supply Chain Top 10** – global capability to deliver fully integrated factory tested solutions
- Multiple **HPCwire awards**
- Deep partnerships with leading software vendors mean we can deliver engineered, pre-optimized, **tested and certified IT solutions** that are high performance, scalable and cost-effective
- Open, reliable, and **secure platforms with seamless integration**

Performance + efficiency + sustainability... Lenovo Neptune™

Want to know more?

Discover Lenovo Neptune™ online, reach out to your Lenovo representative or get in touch with us by clicking the link below and you'll be contacted within 2 business days.

Get in touch with Lenovo

Smarter technology for all

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