

New AI Liquid-Cooled Server



Summary of Content

The latest AI servers are leveraging advanced liquid cooling, including direct-to-chip and microfluidic technologies, to handle extreme GPU densities and deliver high-performance AI workloads efficiently.

Overview of Liquid-Cooled AI Servers

Modern AI servers are designed to manage the intense heat generated by high-density GPUs, which can exceed 120 kW per rack, far surpassing the capabilities of traditional air cooling systems. Liquid cooling allows for higher server density, improved energy efficiency, and extended hardware lifespan, making it essential for AI data centers. These systems reduce power usage effectiveness (PUE) and total cost of ownership (TCO) while supporting large-scale AI workloads.

ASUS Liquid-Cooled AI Infrastructure

ASUS has introduced a fully liquid-cooled AI infrastructure built on the NVIDIA Vera Rubin platform, including the flagship XA VR721-E3, a 100% liquid-cooled rack-scale system capable of handling up to 227 kW TDP (MaxP) or 187 kW (MaxQ). This system is optimized for trillion-parameter AI models and large-scale AI factories. ASUS also offers hybrid-cooled options like the XA NR1I-E12L, combining direct-to-chip liquid cooling for GPUs with air cooling for CPUs, providing flexibility for enterprise deployments. These servers integrate high-bandwidth GPU interconnects, such as sixth-generation NVIDIA NVLink with 800G per GPU, to maximize AI performance.

Advanced Cooling Technologies

Article Content

NVIDIA's Liquid Cooling Breakthrough Reshapes AI Data Centers

NVIDIA introduces AI servers running on 45°C liquid cooling, cutting energy and water use while boosting efficiency in

Best practices for deploying liquid-cooled servers in AI data centers

Discover liquid cooling best practices for AI data centers, including design, deployment, maintenance, and

JetCool Launches Turnkey Liquid-Cooled Server Solution to

New platform delivers direct-to-chip liquid cooling with end-to-end infrastructure and services, simplifying enterprise

Liquid Cooling to Scale in AI Data Centers, Penetration

TrendForce's latest research on the liquid cooling industry reveals that the rollout of

Supermicro has a new liquid-cooled server for AI

Supermicro's new server uses a self-contained liquid cooling system, and vendors outside of the IT infrastructure

Supermicro's AI, HPC and Liquid Cooling Roadmap: Explained

At SC25, Supermicro highlighted new liquid-cooled server designs and thermal technologies that reflect the changing

Liquid Cooling: A Cool Approach for AI

HPE's cooling expert, Jason Zeiler, explains why liquid cooling is ideally suited to cool next-generation accelerators

Why liquid cooling will dominate AI data centres in 2026

Liquid cooling is essential for AI-driven data centres, efficiently managing the extreme heat

Nvidia says its new data center design will fix AI's water problem

The company says it has eliminated “pretty much all water usage” with its new liquid cooling design.

Data Center Liquid Cooling for AI Workloads (2026) · KAD

Liquid cooling is no longer optional—it is now a baseline requirement for modern AI data centers. By 2026, liquid

Why Liquid Cooling Is the Future of Hyperscale Data Centers in 2025

As power-hungry AI and HPC workloads rise, traditional air cooling falls short.
Discover why hyperscale data centers

Continuing to Power the Future of AI with Dell's Cooling and

With new advancements in OME, organizations can now gain greater insight into both
Dell and partner cooling

Dell unveils new server built for world's toughest computing tasks

Dell has launched PowerEdge XE8812, a liquid-cooled AI server with up to 144 GPUs
per rack for HPC, AI, and

Liquid cooling becoming essential as AI servers proliferate

In data centers with liquid cooling, typically only 10% of racks or fewer are using it.
But as

Taking the heat out of AI. Sustainable solutions for liquid cooled AI ...

Today, new liquid-cooled data centers are being designed and constructed globally to
support the new 2.7 kW NVIDIA Blackwell

Why liquid cooling for AI data centers is harder than it looks

While liquid cooling for data centers is rightly considered an emerging technology,
it's not new. Early IBM mainframes

Inside Dell's AI Factory: New Liquid-Cooled Servers, RTX Pro GPUs,

Dell expands its AI Factory with NVIDIA, adding new PowerEdge servers, faster
networking, and managed services

Liquid cooling becomes essential for next-gen AI servers

The new generation of AI servers has significantly upgraded its power consumption
and

ASUS Unveils Game-Changing Liquid-Cooled AI Infrastructure

Taipei, Taiwan, March 17, 2026 — ASUS today unveiled its fully liquid-cooled AI
infrastructure at NVIDIA GTC 2026 (Booth# 421),

Hotter Than a Hot Tub: The 45°C Breakthrough to Cool AI's Biggest ...

NVIDIA's newest AI servers can run their cooling liquid even hotter — up to 45
degrees Celsius, or 113 degrees Fahrenheit. That

Schneider Electric delivers liquid cooling in AI data centers ...

The current method and the best liquid cooling solution for AI data centers is called
direct to chip or cold plate. In less

Liquid cooling in AI data centers: 5 things to know

Google, Microsoft, Meta, Amazon and Alibaba are all investing heavily in liquid cooling

AI factory liquid cooling & power infrastructure

End-to-end solutions for integrated direct-to-chip liquid cooling, CDUs, and power

Liquid Cooling Is Now Mandatory: How AI Data Centers Are Adapting

Traditional air cooling — even with advanced hot/cold aisle containment — simply cannot dissipate enough heat for

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