

Is liquid cooling for AI servers done by immersing them directly in liquid



Overview

In two-phase immersion cooling, a server is dunked into a vat of liquid. The liquid actively boils next to the heat-producing components, cooling them in the process. Liquid cooling is becoming a. Liquid cooling is a thermal management technology that directly addresses the immense heat generated by high-power AI servers like NVIDIA DGX systems. Cold Plate Liquid Cooling, often referred to as Direct-to-Chip (DLC), remains the most mature and widely deployed liquid cooling approach. The Cray-2 supercomputer, deployed in 1985, was famously immersed in. A single server rack packed with the latest NVIDIA GPUs can now consume over 100,000 watts of power—equivalent to the air conditioning load of 30 homes running simultaneously. Trying to cool this with traditional fans is like pointing a small desk fan at an erupting volcano; it's simply no longer. To address these issues, there has been a shift toward liquid cooling solutions, which offer better heat dissipation by applying coolant directly to heat-generating components or immersing them in a conductive liquid.



Article Content

Why Liquid Cooling For AI Data Centers Is Harder Than

Liquid cooling is essential for AI data centers—but deploying it at scale requires advanced design, smart vendors and AI-powered operations to

New white paper published on liquid cooling for AI data

The paper provides a thorough examination of liquid cooling technologies and their applications in modern data centres, particularly those handling high-density AI

Air vs. liquid cooling: Pick the right strategy for AI data

Explore air vs. liquid cooling for AI data centers. Learn how hybrid cooling strategies support high-density racks and optimize energy efficiency.

How to Implement Liquid Cooling for AI Servers

This guide covers the two primary approaches: direct-to-chip cooling, which circulates coolant through cold plates attached to processors, and immersion cooling, where entire servers are submerged in a

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

Abstract AI is being widely utilized across many industries and high-powered servers are becoming commonplace in data centers. The next generation of AI servers pushes the bounds of computational

Harnessing liquid cooling in AI data centers

This article discusses the necessity and benefits of liquid cooling in AI data centers, focusing on the challenges posed by high-power AI servers and

Immersion and liquid cooling for AI data centers | NorthC

What is the difference between liquid cooling and immersion cooling? While both technologies use liquid instead of air to remove heat, they differ in

How liquid cooling helps keep AI flowing | Electronics360

To address these issues, there has been a shift toward liquid cooling solutions, which offer better heat dissipation by applying coolant directly to heat

5 key things about AI infra data center liquid cooling tech

Liquid cooling technology is certainly a strategic consideration for any data center company that wants to compete in the AI space As artificial

The "Fever Reducer" for AI: Inside the Ultimate War on

This thermal revolution is advancing on two fronts: Direct Liquid Cooling (DLC), which functions like a car's radiator system to precisely cool the hottest chips,

Immersion and liquid cooling for AI data centers | NorthC

Immersion cooling and liquid cooling offer more efficient heat dissipation, ensuring that AI models and HPC workloads maintain optimal performance. With

Data Center Liquid Cooling: The AI Heat Solution

In two-phase immersion cooling, a server is dunked into a vat of liquid. The liquid actively boils next to the heat-producing components, cooling

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

An engineering-focused overview of cold plate and immersion liquid cooling in 2026, driven by 1,000W+ AI accelerators like NVIDIA Blackwell and

Immersion Cooling Data Centers | Hyperscale Builds 2025

Immersion cooling involves submerging IT hardware in dielectric fluid that does not conduct electricity. Heat generated by the components is

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 AI workloads are deployed at a runaway pace, liquid cooling is becoming

Why AI and Liquid Cooling Go Hand in Hand

It's indisputable, liquid cooling IS better for AI. And though companies like Meta, Supermicro, and others have the engineering expertise to design their own liquid cooled data

AI and liquid cooling: the most frequently asked

Data centers have always relied on air-cooled servers for computing power, but the acceleration of AI deployments is now causing a trend toward

The Rise of Immersion Liquid Cooling: Powering the Next Wave of AI ...

In response, beyond other liquid cooling methods such as direct-to-chip, immersion cooling – a process in which servers are submerged in thermally conductive dielectric liquid – has

Cooling Fundamentals: How Liquid Computing Actually

In this approach, servers are completely submerged in a dielectric fluid that remains in liquid state throughout the cooling process. The fluid absorbs

Answering the top FAQs on AI and liquid cooling

Here are the top frequently asked questions on liquid cooling for data centers to address the growth of high-density computing driven by AI.

The role of liquid cooling in AI and digital infrastructure

As AI and digital services drive up data center power demands, traditional air cooling is no longer enough. This article explores how liquid cooling technologies, like immersion and direct-to-chip, are

A Guide to Liquid Cooling in the Age of AI | Sabey Data

But if you're looking to deploy your HPC infrastructure in a facility owned by a data center provider, you should look at what the provider offers in terms of liquid

Why liquid cooling for AI data centers is harder than it

Liquid cooling for AI data centers is a complex architecture now needed to address the increased AI data center heat output.

Why Liquid Cooling is the Key for AI Data Centres

AI workloads rely on high-performance hardware like GPUs and TPUs, which generate substantial heat. Packing these components tightly together in

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