Liquid cooling replaces optical modules

Overview

Liquid cooling is a critical enabler for the next generation of high-performance optical modules, allowing the industry to overcome the thermal and power delivery constraints of traditional air cooling. – March 12, 2026 — Arista Networks (NYSE: ANET) today announced the formation of a multi-source agreement (MSA) for XPO, a revolutionary 12. The module, called the eXtra-dense Pluggable Optics (XPO) offers 12. 8Tbps of bandwidth using 64. But now, advanced applications such as artificial intelligence (AI) and machine learning are taking high data processing demands to the next level — and legacy cooling solutions for I/O modules may no longer be enough. 6, 2025 /PRNewswire/ -- As AI workloads push thermal limits in data centers higher than ever, Stäubli is leading a new phase of standardization in. As AI workloads push thermal limits in data centers higher than ever, Stäubli is leading a new phase of standardization in liquid-cooling technology designed for the next generation of high-performance computing. According to IDC, the global liquid-cooled data center market will exceed USD 20 billion by 2027, with a compound annual growth rate (CAGR) of 25%.

Article Content

Gigalight Liquid-Cooled Optics: A Thematic Study on

Conclusion Gigalight''s immersion liquid-cooling extenders and silicon photonics liquid-cooled optical modules represent the future of optical

Ciena Redefines How Optical Networks Are Built and Operated with Liquid ...

Executive Comments: “With Liquid Spectrum, Ciena brings together optical hardware enhancements with an expanded Blue Planet portfolio. The result is a strategic framework for how

Optical Transceivers in Liquid Immersion Cooling Systems

Improved Thermal Management: Liquid immersion cooling helps maintain an optimal operating temperature for optical transceivers, enhancing

800G OSFP Liquid Cooling Optical Transceiver Modules | AscentOptics

AscentOptics'' 800G OSFP optical transceivers with two-phase immersion cooling (2PIC) are fully compliant with the latest OSFP MSA standards. The firmware supports CMIS 5.0 and later versions.

Ciena unveils Liquid Spectrum: The future of software

For all the “agile” innovation over the last decade, today''s optical networks are still predominantly static. Today that changes with Ciena''s

Arista targets AI data centers with new liquid cooled

Arista Networks this week announced that it has developed a 12.8 Tbps liquid cooled optics module that it says will help address the power and

XPO: Redefining Pluggable Optics for AI Networking

By combining a dual-paddle mechanical architecture, integrated liquid-cooling cold plate, clean linear electrical channel, and high-voltage power delivery, XPO dramatically increases optical density while

Molex releases report on thermal management for I/O Modules

The report also delineates cooling methods that may be most effective for accommodating power demands in chips and I/O modules that scale to high levels. To solve

Optical Module Liquid Cold Plates for 400G / 800G

Liquid-cooled optical transceivers, which integrate liquid cooling like cold plates or micro-channels, provide higher thermal efficiency compared with traditional air

Understanding Liquid-Cooled Optical Modules and Heat

Discover how liquid-cooled optical modules manage heat efficiently in high-speed data systems. Explore customized heatsink solutions.

Direct to Plug Liquid Cooling for Pluggable Optical Modules

Explore direct liquid cooling solutions for pluggable optical modules with thermal engineering insights from Ciena''s senior expert in this focused technical

GB300 Era: Liquid-Cooled Optical Modules for High

GB300 ushers in the liquid-cooled AI computing era, with liquid-cooled optical modules enabling efficient interconnects and reliable green data

Liquid Cooling Solutions Spurs Next-Gen Optical

Liquid cooling is a critical enabler for the next generation of high-performance optical modules, allowing the industry to overcome the thermal and

Pro-optics Launches Immersive Liquid-Cooled Optical

Summary Pro-optics has introduced a product line of high-speed optical modules designed for immersion-cooled data centers, offering a substantial reduction in

Arista touts liquid cooling, optical tech to reduce power

Arista executives discuss liquid-cooled networking gear and support for Linear Pluggable Optics to achieve power and cost optimization for AI data

Simulation and experimental investigation of liquid-cooling thermal ...

Abstract This study explores the application of cold plate liquid cooling technology in co-packaged optics (CPO). By integrating optical modules and the switch chip on the same substrate, CPO shortens the

Hot Interconnects: Arista Outlines Pathways to Energy

The design accommodates up to 16 × 2U switch blades with tool-less installation, tightly located liquid quick disconnects, and generous space for cable

Thermal Management Solutions Report for I/O Modules

Due to the increasing power demands in optical I/O modules, systems designers and data center architects are now considering the use of liquid cooling for optical I/O modules to support upcoming

Gigalight Liquid-Cooled Optics: A Thematic Study on

As a leader in optical interconnect technology, Gigalight is pioneering immersion liquid-cooling extenders and silicon photonics liquid-cooled optical

Deep Dive into Liquid-Cooled Optical Modules in the NVIDIA ...

As computing systems shift toward liquid cooling, an often-overlooked component, the optical module, is becoming a key focus. In highly integrated environments like NVIDIA''s

Molex Releases Report on Thermal Management Challenges and ...

Molex''s In-Depth Report of Thermal Management Solutions for I/O Modules addresses the limitations of legacy approaches for thermal characterization and management and explores new

Stäubli Drives Next-Generation Liquid Cooling Standards for AI Data ...

The new Mini-QD technology enables the liquid cooling of next-generation optical pluggable modules such as OSFP and QSFP devices that are expected to reach up to 1.6 terabits

Arista Announces XPO High Density Liquid Cooled

“The unprecedented growth in AI fabric bandwidth and the transition to liquid cooling requires a new generation of pluggable optics modules,” said Andreas

Arista Unveils Liquid-Cooled AI Data Center Optics

Arista''s new modules integrate a **micro-cold-plate** directly into the QSFP-DD form factor. This allows liquid coolant to flow directly over the optical engine and digital signal processor

Liquid Cooling for Optical Networking Equipment

This article provides insights into a successful upgrade of an air-cooled coherent metro router into a Hybrid Liquid/Air-cooled system. Additionally, an innovative solution is presented for integrating liquid

WO2020150036A1

The liquid cooled optical cage structure provides single phase liquid cooling that minimizes the overall form factor of the cooling plate to avoid interference with face plate features and other PCB

Active Cooling of Optical Transceivers | Tark Thermal

Discover how active cooling solutions for optical transceivers enhance performance in 5G telecommunications, ensuring reliable data transmission in outdoor

FiberMall Launches Liquid-Cooled Optical Modules and

FiberMall, a global leader in optical communication solutions, today officially announced the launch of multiple liquid-cooled optical modules and

OCP EMEA 2025: FiberMall Demonstrates 800G

A further comparison of immersion cooling effects among the modules reveals that the cooling liquid, which has a boiling point of 50°C, causes

Next-Gen AI Cooling by Stäubli at OCP

The new Mini-QD technology enables the liquid cooling of next-generation optical pluggable modules such as OSFP and QSFP devices that are expected to reach up to 1.6 terabits

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