Energy-efficient overseas warehouse with pluggable optical modules

Overview

This article provides a comprehensive overview of CPO optical modules, exploring their technology, benefits, challenges, and the pivotal role they play in future data centers and AI infrastructure. CPO optical modules put optical and electronic parts together. Kista, Sweden – April 15, 2026 – Sivers Semiconductors AB (STO:SIVE), a global leader in photonics and wireless technologies, today announced a collaboration with Jabil, a global engineering, supply chain, and manufacturing solutions provider. CPO, a technology that deeply co-packages the optical engine with the switch chip, offers a solution for. Arista Networks co-founder Andreas Bechtolsheim used his keynote at IEEE Hot Interconnects 2025 to highlight how Linear Pluggable Optics (LPO) and new rack designs can dramatically cut power consumption in AI-scale networks. LPO modules reduce per-pluggable power from ~30W with DSP-based optics to. While the industry-standard OSFP (Octal Small Form-Factor Pluggable) module has successfully enabled 400Gbps, 800Gbps, and 1. 6Tbps optical pluggable modules, it is limited to 32 modules per Rack Unit (RU), typically requiring 2 RUs to achieve 102. 8Tbps of switching. Enter Co-Packaged Optics (CPO), a transformative architecture where the optical engine

moves inside the switch ASIC package.

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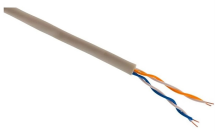
	Build a high-density optical interconnect that enables up to 1 Tb/s/mm duplex connectivity to support current gen and next gen scale-up and scale-out optical BW density
	The new pluggable module will provide highly energy efficient optical interconnect speeds to accelerate deployment for next generation hyperscale AI data centers.
	The RTLR project addresses energy efficiency and low latency requirements of pluggable optics for Ethernet and AI/ML at up to 200G/lane while achieving full electrical and optical plug-and-play.
	Arista Networks co-founder Andreas Bechtolsheim used his keynote at IEEE Hot Interconnects 2025 to highlight how Linear Pluggable Optics (LPO) ...
	The XPO pluggable module preserves the advantages of field pluggability, enabling quick replacement or upgrades of optical modules without servicing the entire switch and minimizing downtime.

Before CPO achieves actual commercial status for network applications in the DCs, it may gain more popularity in high-power computing rather than just displacing pluggable optics.

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By eliminating bottlenecks of traditional electrical and pluggable architectures, these co-packaged optics systems deliver the performance, power efficiency, and reliability required by ...

This article delves into the principles of CPO, its performance advantages, and analyzes Meta''s test data on Broadcom''s CPO switch, exploring its breakthroughs in power consumption, ...

LPO and immersion cooling are emerging as key enablers for improving the energy efficiency and compute scalability of AI/ML clusters. These technologies address the power and ...

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