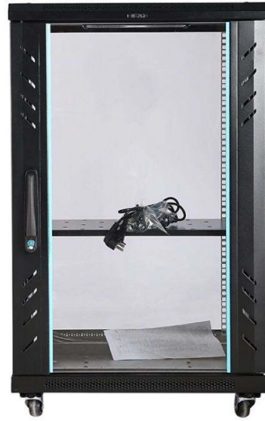


1G Co-packaged Photonics Available Now



Overview

Optical interconnects in the data center took center stage at NVIDIA's GTC 2025 conference in March when Jensen Huang announced two network switches incorporating co-packaged optics (CPO), which combine photonics and electronics in a single integrated I/O package for a higher. Optical interconnects in the data center took center stage at NVIDIA's GTC 2025 conference in March when Jensen Huang announced two network switches incorporating co-packaged optics (CPO), which combine photonics and electronics in a single integrated I/O package for a higher. TSMC's COUPE silicon photonics platform entered mass production in April 2026 — the foundry event that makes CPO accessible beyond the largest hyperscalers. Broadcom's Tomahawk 6 Davission (102. 4 Tb/s) and NVIDIA's Quantum-X Photonics InfiniBand switch are shipping in 2026; both use TSMC COUPE and. Co-Packaged Optics (CPO) is an advanced heterogeneous integration of optics and silicon on a single packaged substrate that addresses next generation bandwidth, power, and cost challenges. CPO incorporates a wide range of expertise in fiber optics, digital signal processing (DSP), ASICs, and. STMicroelectronics enters high-volume PIC100 silicon photonics production for AI data centers. 6T co-packaged optics mean for fabric design, power budgets, and CCIE DC candidates. 9B by 2029, fueled largely by AI data centers. Read on to learn key CPO trends shaping AI systems in 2026 and the challenges designers will need to. Co-packaged optics is one of the most talked about innovations in advanced packaging right now, and it's for good reason.

Article Content

Photonic Compute Hits Production: Lightmatter, Ayar Labs, and Co ...

In the first half of 2026, the photonic compute and co-packaged optics (CPO) ecosystem crossed from proof-of-concept into volume production simultaneously across four separate fronts.

Roadmapping the next generation of silicon photonics

For co-packaged optics (CPO) to succeed, high-performance computing to scale 22, and disaggregated computing to become a reality 42, silicon photonics will be pivotal.

Heterogeneous Integration Technology Drives the Evolution of Co

The rapid growth of artificial intelligence (AI), data centers, and high-performance computing (HPC) has increased the demand for large bandwidth, high energy efficiency, and high

The advent of co-packaged optics (CPO) in 2025

Co-packaged optics (CPO)—the silicon photonics technology promising to transform modern data centers and high-performance networks by addressing critical challenges like

Co-Packaged Optics: powering the next wave of AI

Get the news on Co-Packaged Optics powering the next wave of AI. Explore photonics packaging trends and join our live with Lam Research.

Nvidia Unveils Game-Changing Optical Network Switch

The system—called a co-packaged optics, or CPO, switch— can route tens of terabits per second from computers in one rack to computers in another.

Co-packaged optics (CPO): status, challenges, and solutions

Co-packaged optics (CPO) is a disruptive approach to increasing the interconnecting bandwidth density and energy efficiency by dramatically shortening the electrical link length through

Industry insight: photonics to scale AI data centers

a Co-packaged photonics integrating XPUs into servers, racks and data centers. b Network of a typical AI infrastructure of XPU clusters connected via scale up and scale out networks.

Intel® Silicon Photonics

Works over standard single-mode fiber (SMF-28). No polarization-maintaining fiber (PMF) is required. A path to incorporate a detachable optical connector. Designed to be co-packaged with next

Where co-packaged optics (CPO) technology stands in

Co-packaged optics (CPO) technology, a key enabler for next-generation data center architectures, promises unprecedented bandwidth density

Intel Demonstrates First Fully Integrated Optical I/O Chiplet

Intel Corporation's Integrated Photonics Solutions (IPS) Group has demonstrated the industry's first fully integrated bidirectional optical compute interconnect (OCI) chiplet co-packaged

Coherent to Unveil Breakthrough AI-Scale Optical Innovations and ...

Coherent will unveil AI-scale optical innovations at OFC 2026, showcasing technologies that advance bandwidth, scalability, and energy efficiency.

Industry-First Co-Packaged Optics Ethernet Switch Solution with Intel ...

Leadership Technology for Silicon Photonics Industry demand for solutions like this is in part demonstrated by the Co-Packaged Optics Collaboration, founded by Microsoft and Facebook

Ayar Labs | Co-Packaged Optics (CPO) | Data Movement for AI

Unveiled during Jensen's keynote, the Quantum-X (2H 2025) and Spectrum-X (2H 2026) deliver 1.6T and 3.2T silicon photonics co-packaged optics chips that eliminate the need for

Broadcom CPO: Highest Power Efficiency and Bandwidth Density

Broadcom's co-packaged optics (CPO) technology is based on highly integrated Silicon Photonics and is purpose built to address the demanding needs of AI networks by providing the

Charting the Path Toward 1.6T and 3.2T Optical Module Solutions

On the other hand, the adoption of 1.6T pluggable modules would allow the same 51.2T capacity to be achieved within a single 1RU rack using only 32 ports. Furthermore, the shift toward 200G/lane

IBM introduces light speed to generative artificial

On December 9, IBM announced the development of an optical packaging technology that can dramatically improve the learning and inference

Five Key Trends of Co-Packaged Optics (CPO) in 2026

Meeting market expectations and building confidence in co-packaged optics will require more than performance demonstrations. CPO adoption depends on proving robust, multi-vendor

Co-Packaged Optics: powering the next wave of AI

Co-Packaged Optics (CPO) is emerging as a transformative solution. By integrating optical engines closer to switch ASICs and GPUs through

STMicro's Silicon Photonics Hits Mass Production: What 800G/1.6T

Key Takeaway: Silicon photonics and co-packaged optics are the technologies enabling AI data center fabrics to scale to 800G/1.6T per link while cutting power consumption by up to 70% —

Co-Packaged Optics: Today's Biggest Packaging Push

Co-packaged optics is one of the most talked about innovations in advanced packaging right now, and it's for good reason. It promises higher

Micas Networks Announces Industry's First 51.2T Co-Packaged

Manufactured in Micas' co-owned factory in Malaysia, the switch is built using state-of-the-art clean room technology and advanced automation, ensuring precision, efficiency, and high

A New Era in Data Center Networking with NVIDIA Silicon Photonics

NVIDIA is integrating silicon photonics directly with its NVIDIA Quantum and NVIDIA Spectrum switch ICs to improve data center networking, resulting in 3.5x lower power consumption.

Contact Us

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