

Latest news on CPU optical modules



Overview

Intel Corporation's Integrated Photonics Solutions (IPS) Group has demonstrated the industry's first fully integrated bidirectional optical compute interconnect (OCI) chiplet co-packaged with an Intel CPU and running live data. These pressures are driving renewed momentum behind co-packaged optics (CPO). 9B by 2029, fueled largely by AI data centers. Intel's OCI chiplet enables co-packaged optical input/output in. To overcome these limitations, a new generation of optical interconnect technologies has emerged. LPO (Linear-drive Pluggable Optics), NPO (Near Package Optics), and CPO (Co-Packaged Optics) architectures are becoming core areas of industry focus. The NVIDIA Micro Ring Modulator silicon photonics engine is a key innovation, achieving 200Gbps PAM4. Co-packaged optics (CPO) technology, a key enabler for next-generation data center architectures, promises unprecedented bandwidth density and power efficiency by tightly integrating optical engines with switch silicon. But after nearly a decade of existence, where does this next-generation optical. Researchers at Tsinghua University developed the Optical Feature Extraction Engine (OFE2), an optical engine that processes data at 12.5 GHz using light rather than electricity.



Article Content

Dec 09, 2025

Optical Interconnect Technology Analysis: LPO, NPO, CPO

To overcome these limitations, a new generation of optical interconnect technologies has emerged. LPO (Linear-drive Pluggable Optics),

Aug 20, 2025

Intel CPU with Optical Compute Interconnect Chiplet

Although Intel sold its Silicon Photonics pluggable business to Jabil, the company still has a SiPho team that is showing off its new optical interconnect

Jan 25, 2026

Intel's OCI-Compatible Chiplet Provides 64 Optical

Intel's Integrated Photonics Solutions (IPS) Group demonstrated a fully integrated optical compute interconnect (OCI) chiplet co-packaged with an

Sep 18, 2025

Next-Gen Optics Need Next-Gen Materials: CPO

As data centers continue to evolve, Co-Packaged Optics (CPO) technology is gradually replacing traditional pluggable optical modules, emerging

Dec 06, 2025

Nvidia outlines plans for using light for communication

Nvidia will introduce CPO-based optical interconnection platforms both for Ethernet and InfiniBand technologies. First, the company plans to

Mar 05, 2026

Intel shows OCI optical I/O chiplet co-packaged with

Explosive AI infrastructure growth is bringing high bandwidth density and low power performance requirements to compute architectures which optical

Aug 16, 2025

Marvell Announces Breakthrough Co-Packaged Optics

Marvell Announces Breakthrough Co-Packaged Optics Architecture for Custom AI Accelerators New Marvell AI accelerator (XPU) architecture enables

Sep 05, 2025

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Apr 06, 2026

IBM Brings the Speed of Light to the Generative AI Era

IBM has unveiled breakthrough research in optics technology that could dramatically improve how data centers train and run generative AI models.

May 28, 2026

Intel says its optical chiplet can pump 4 Tbps between

Intel has demonstrated an optical chiplet co-packaged with a CPU capable of supporting 4 Tbps data links to feed the increasing datacenter

Aug 03, 2025

Speeding AI Compute, Intel Debuts First Integrated

Intel's new chiplet co-packages these optical transceivers with the CPU on a single substrate, reducing the physical distance between the CPU and the

Jul 06, 2025

Intel® Shows OCI Optical I/O Chiplet Co-packaged with

Christian Urricariet is Head of Product Marketing for Silicon Photonics at Intel. At the Optical Fiber Conference (OFC) in San Diego on March 26-28,

Dec 27, 2025

Breakthrough optical processor lets AI compute at the

Researchers at Tsinghua University developed the Optical Feature Extraction Engine (OFE2), an optical engine that processes data at 12.5 GHz

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What exactly is the mechanism behind "EU

Optical, thermal, and mechanical parameters are linked between each module, and hundreds of CPUs, FPGAs, and dedicated AI chips are used to

Jun 28, 2025

The Rise of Co-Packaged Optics: A Deep Dive into CPO

A CPO optical module integrates optical and electronic components to boost data center speed, efficiency, and bandwidth while reducing power use.

Mar 24, 2026

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

These pressures are driving renewed momentum behind co-packaged optics (CPO). According to LightCounting, sales of lasers and photonic integrated

Dec 23, 2025

Electronic Chip Package and Co-Packaged Optics

Meanwhile, the optical module, enabled by silicon photonics, is now treated similarly to electronic chips, and advanced co-packaged optics (CPO) is

Dec 22, 2025

Embedded Optical Transmission Tech, Arrival of CPO Set to Deliver

The implementation of semiconductor architectures with embedded optical interconnect (I/O) technologies is gaining traction this year. The shift from copper to optical technologies will bring more

Jun 12, 2026

Co-Packaged Optics — a deep dive | APNIC Blog

The optical engine of a transceiver — whether co-packaged or part of a pluggable module — typically includes an electronic integrated circuit (EIC) and

Aug 26, 2025

Co-packaged optics can supercharge generative AI computing

Scientists at IBM Research have announced a new set of advancements in chip assembly and packaging, called co-packaged

Jul 22, 2025

Can Arista's Latest XPO Optical Modules for AI Networks Drive Growth?

ANET unveils liquid-cooled XPO optical modules delivering 12.8 Tbps each, boosting rack capacity 4x for AI data centers needing extreme bandwidth and efficiency.

Sep 27, 2025

Intel Showcases Optical-Interconnect Chiplet

Intel's OCI chiplet As with some products being pursued by other companies, Intel's newly unveiled OCI chiplet attempts to reduce this "I/O tax" by

May 22, 2026

Co-packaged Optics: all eyes on high-performance

Since it is challenging with today's technology to surround the 50T switch chip with 16 3.2Tbps optical modules, NPO tackles this by using a high-performance PCB

Jul 31, 2025

Nvidia outlines plans for using light for communication

Improvements of CPOs compared to pluggable modules are dramatic, according to Nvidia: a 3.5-times increase in power efficiency, a 64 times

Oct 20, 2025

Intel Demonstrates First Fully Integrated Optical I/O Chiplet

At the Optical Fiber Communication Conference (OFC) 2024, Intel's Integrated Photonics Solutions (IPS) Group demonstrated the industry's most

Nov 26, 2025

Where co-packaged optics (CPO) technology stands in

Find out CPO's 2025 scorecard and what lies ahead for this optical interconnect technology in 2026 and beyond.

Dec 08, 2025

Intel launches optical compute interconnect chiplet:

The optical compute interconnect (OCI) chiplet can be attached to CPUs and GPUs to enable high bandwidth, low power consumption, and

Dec 02, 2025

How Industry Collaboration Fosters NVIDIA Co

NVIDIA is developing a co-packaged optics (CPO) platform that integrates optical and electrical components to improve data-center connectivity,

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