

Marvell Launches Products, Technology And Partnerships At OFC 2024 To Scale Optical Technology For Accelerated Infrastructure

Marvell to showcase connectivity optimized for diverse architectures and use cases to meet exploding demand for bandwidth

SANTA CLARA, Calif., March 26, 2024 /PRNewswire/ -- [Marvell Technology, Inc.](#) (NASDAQ: MRVL), a leader in data infrastructure semiconductor solutions, will outline its broad-ranging strategy to optimize optical technology to meet the rising performance and power requirements of AI and cloud data centers at [OFC 2024](#), taking place this week in San Diego, California.

[Marvell CEO and Chairman, Matt Murphy](#), and EVP and GM of Cloud Optics, Dr. Loi Nguyen, among others, will discuss the driving forces behind the growth of optical as well as Marvell's ideas for enhancing optical PAM4 DSPs, coherent DSPs, silicon photonics, and other optical technologies for data centers to serve an expanding range of architectures, applications, use cases, performance characteristics, and customer profiles.

Products and use cases being unveiled at OFC include:

- **Nova 2:** The industry's first 1.6T optical DSP featuring 200G per lane electrical and optical I/O, [Marvell® Nova 2](#) will enable module integrators to produce industry-standard optical transceivers delivering the bandwidth density required by switches, AI accelerators and other devices. 200 Gbps per lane I/O is a defining feature of next-generation data center architectures.

Nova 2 is sampling to customers now. Nova, a 1.6T optical DSP featuring 100G per lane electrical I/O and 200G per lane optical interfaces, is now generally available.

- **Marvell 3D Silicon Photonics Engine:** The [Marvell 3D SiPho Engine](#) combines hundreds of components needed for optical communications into a single device. Featuring 200G I/O, 3D SiPho Engine delivers 2x the bandwidth, 2x the input/output (I/O) bandwidth density, and 30% lower power per bit versus comparable devices with 100 Gbps electrical and optical interfaces¹. Potential applications include modules for AI clusters.
- **Spica™ Gen2-T:** A new category of optical DSPs, [Spica Gen2-T](#) is designed for transmit retimed optical (TRO) modules, an emerging class of modules for AI and cloud use cases. Transmit-only DSPs enable TROs to reduce power consumption by more than 40% compared to conventional transceivers². Spica Gen2-T is the fourth 800 Gbps optical DSP from Marvell and part of its effort to optimize optical DSPs, along with other cloud and AI silicon, for specific use cases and applications.
- **COLORZ® 800: First Demo of Probabilistic Constellation Shaping at 800 Gbps and Industry Momentum.** Probabilistic Constellation Shaping (PCS) effectively [doubles the reach of coherent DSP modules employed for long-distance communications](#). Marvell will showcase COLORZ 800 modules linked to a Teralynx® 10 switch running in PCS mode capable of providing full capacity for up to 1000 km.

Marvell COLORZ 800 technology will also be on display in booths from Arista Networks (#4901) and the Optical Internetworking Forum (OIF) multi-vendor interoperability demonstration (#1323).

- **O-band Optics:** Xi Wang, Ph.D., vice president of marketing for Optical Connectivity at Marvell, examines the growing use cases [for coherent DSPs leveraging the O-band optics in data centers](#). At higher bandwidths, O-band optics can potentially cover greater lengths than PAM4 DSPs while consuming less power than today's coherent DSPs. The Market Watch panel takes place on Tuesday, March 26 at 12:30-2:00 p.m. in Theater 1.
- **Juniper Networks, Coherent Corp., and Marvell Collaborate on ZR/ZR+ Transport Solution :** The three companies [will demonstrate a combined solution](#) featuring Marvell Orion, the industry's first 800 Gbps coherent DSP for long-distance data center interconnects and telecommunications networks, Coherent's module technology and Juniper's routing platform.
- **Customer Momentum for Orion with InnoLight and HGGenuine :** Module manufacturing leaders will highlight new 800G ZR/ZR+ modules powered by Orion for data center interconnects, IP over DWDM, and other use cases.

- More on Marvell presenters and exhibits at its booth (#2225) can be found [here](#).

"Over the last two decades, optical data rates have increased 1000x while energy per bit has declined 100x³, and in the process transformed data infrastructure and enabled the rise of services like streaming media, cloud computing, smartphones and AI," said Dr. Radha Nagarajan, senior vice president and chief technology officer, Optical Platforms at Marvell and the [2024 recipient of the David Richardson Medal for significant contributions to optical engineering](#). "The industry is now entering a new chapter and Marvell is looking forward to collaborating with its partners in extending the horizons of this far-reaching technology."

About Marvell

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for over 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

- Marvell estimates.
- Marvell estimates based on internal testing.
- [Marvell, IEEE Journal of Selected Topics in Quantum Electronics](#), May/June 2023.

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