

Marvell Doubles Reach Of 800 Gbps ZR/ZR+ Pluggable Modules With PCS, Expands Ecosystem For COLORZ® 800

- *Demonstrates industry's first probabilistic constellation shaping (PCS) capable 800 Gbps ZR/ZR+ small form factor pluggable module at OFC 2024.*
- *Arista showcasing latest 51.2 Tb/s switch platform with Marvell 800G ZR OSFP optics.*

SANTA CLARA, Calif., March 25, 2024 /PRNewswire/ -- [Marvell Technology, Inc.](#) (NASDAQ: MRVL), a leader in data infrastructure semiconductor solutions, will showcase the industry's first 800 Gbps ZR/ZR+ pluggable module for data center interconnects (DCI) with probabilistic constellation shaping (PCS), an innovative optical communications modulation technology that optimizes performance and greatly extends transmission reach.

The demonstration, which takes place in the Marvell booth (#2225) at OFC 2024, consists of a network featuring a Marvell® Teralynx® 10 switch and Marvell 800 Gbps ZR/ZR+ modules.

PCS continually adapts the modulation of coherent signals to maximize transmission capacity or minimize spectrum and energy. The technology enables optical fiber to approach the Shannon Limit, the theoretical maximum transfer rate achievable¹. With PCS enabled, the reach of a Marvell COLORZ 800 module at full bandwidth doubles from 500km to 1000km. COLORZ 800 is powered by the Marvell® Orion® 800 Gbps coherent DSP which enables the widest ecosystem of interoperable 800 Gbps coherent modules on the market.

"AI is expected to bring a surge in traffic between data centers to support new services and users," said Josef Berger, Associate Vice President of Cloud Optics Marketing at Marvell. "Our COLORZ 800 module enables performance and features previously only found in traditional DCI / metro systems in a pluggable. We are demonstrating a groundbreaking DCI application to address the critical need for greater bandwidth in accelerated infrastructure as AI workloads increase."

In addition, at OFC 2024, Marvell COLORZ 800 modules will be shown in the Arista booth (#4901). The Arista demonstration showcases the use case for small form factor pluggable modules in Arista cloud spine switches and highlights how cloud service providers can increase bandwidth quickly and cost-efficiently in DCIs to accommodate the escalating performance demands of AI workloads.

"Arista is demonstrating Marvell 800G ZR modules in the latest switching and routing platforms, to provide hyperscale DCI operators a powerful new tool in the challenge to reduce power and cost while building state-of-the-art networks. This compelling use case will drive emerging applications in next generation data center infrastructure that increase bandwidth and deliver on the promise of AI," said Hacene Chaouch, Distinguished Engineer, Arista Networks.

[Marvell COLORZ 800 modules](#) are the industry's first 800G ZR/ZR+ modules for data center interconnects (DCIs). COLORZ 800 incorporates the [Marvell Orion 800 Gbps coherent DSP](#) and innovative, field-proven silicon photonics platform, which integrates multiple discrete components into a single die. 800G ZR/ZR+ modules powered by the Marvell Orion coherent DSP are PCS capable. Along with providing 800 Gbps for DCI links up to 1000km, COLORZ 800 can also be enabled for connections up to 1,200km operating at 400/600 Gbps without PCS to replace traditional transport equipment across a greater range of cloud infrastructure.

Both the COLORZ 800 module and Orion coherent DSP have been recognized as Lightwave 2024 Innovation Reviews honorees.

Marvell COLORZ 800 technology will also be showcased as part of the Optical Internetworking Forum (OIF) multi-vendor interoperability demonstration in booth 1323.

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.

- [Explained: The Shannon limit](#), MIT News, Jan. 19, 2010

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