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Marvell Extends Connectivity Leadership with AEC Ecosystem Demonstrations at OFC 2025

Delivering In-rack Copper Interconnect Solutions that Meet the Growing Bandwidth Requirements of Accelerated Infrastructure

SANTA CLARA, Calif., April 1, 2025 /PRNewswire/ -- Marvell Technology, Inc. (NASDAQ: MRVL), a leader in data infrastructure semiconductor solutions, today announced that in collaboration with Active Electrical Cable (AEC) partners 3M, Amphenol, Broadex, Luxshare-Tech, and TE Connectivity, they will showcase demonstrations of both 800G and 1.6T Alaska® A 1.6T PAM4 DSPs for AECs at OFC 2025. The Alaska A 1.6T PAM4 DSP is the industry's first AEC DSP designed for emerging 200G/lane-based accelerated infrastructure architectures, while the Alaska A 800G PAM4 DSP for 100G/lane delivers connectivity for up to seven meters.

To meet the exploding demand for artificial intelligence (AI), machine learning (ML) and cloud computing services, data center operators are transforming the computing and connectivity technologies underlying their data infrastructure to dramatically increase performance, efficiency and return on investment of their global operations. AECs—which are copper cables supplemented by DSP technology originally developed for optical modules for longer distances and greater bandwidth—are ideal for in-rack scale-up fabrics as bandwidths increase. The market for AEC silicon is expected to grow at 61% per year to reach $1.3 billion by 2029, according to the 650 Group.[1]

The Alaska A 1.6T AEC DSP leverages Marvell industry-leading PAM4 technology using a 200G/lane SerDes to support 1.6T switches and servers, expected to serve the market over the next several years. The industry-leading equalization engine built into the Alaska A 1.6T DSP enables 32AWG cable reaches greater than three meters, addressing the reach requirements for inside-the-rack copper connections.

The Alaska A 800G AEC with PAM4 DSP technology is built using a 100G/lane SerDes to provide 7-meter copper connectivity for rack-scale AI server architecture, where the switch racks are moved from end of row to middle of row in the connection of crossing two racks between the switch rack and server racks. Without AEC DSPs, passive copper cables at 800G could only reach two meters.[2]

"The need for more powerful servers, bigger infrastructure and more bandwidth is driving a revolution in connectivity," said Alan Weckel, 650 co-founder. "With its expertise in copper and optical technologies, Marvell is driving this transformation by boosting the capabilities of technologies like AEC DSPs and cultivating an ecosystem to give customers greater choice."

"Enhanced copper connectivity is a critical link for optimizing infrastructure for performance and efficiency," said Xi Wang, vice president and general manager, Connectivity Business Unit at Marvell. "The OFC demonstrations reinforce the strong AEC ecosystem support to ensure hyperscalers have a robust, high-performance, and scalable supply chain for AI infrastructure."

1.6T AEC Partner Booth Demonstrations

- 3M (booth #3427)
- Amphenol (booth #2718)
- Broadex (booth #3142)
- Luxshare-Tech (booth #4905)
- TE Connectivity (booth #5045)

7-meter 800G AEC Partner Booth Demonstrations

- Amphenol (booth #2718)
- Broadex (booth #3142)
- Luxshare-Tech (booth #4905)
- TE Connectivity (booth #5045)

Industry-Leading Cable Manufacturer Support

"Leveraging Marvell AEC DSP technology, Amphenol is revolutionizing connectivity across racks and clusters, adapting to market demands, and extending the capabilities of copper. Together, we're propelling the next generation of accelerated infrastructure with optimized, high-bandwidth interconnects," said Brian Kirk, CTO of Amphenol Highspeed Products.

"We believe that 200G/lane AEC will play a key role in the next-generation short-reach intra-rack interconnects," said Tom Tang, CEO of Broadex. "Broadex and Marvell have been collaborating on the Alaska A PAM4 DSPs to jointly provide the industry with a cost-effective AEC solution."

"Marvell Alaska A PAM4 DSPs combined with Luxshare-Tech's Optamax™ bulk cable technology delivers the signal integrity and power efficiency required to enable high-bandwidth, low-latency AI infrastructure, supporting the needs of next-generation machine learning and hyperscale computing environments," said Sky Xiong, CEO of Luxshare-Tech. "This collaboration underscores our shared commitment to advancing semiconductor technology that delivers robust, future-ready connectivity for tomorrow's most demanding computing workloads."

"By integrating Marvell Alaska A DSPs, Molex is delivering AEC solutions that push the boundaries of AI networking," said Chad Jameson, general manager, I/O Solutions at Molex. "Our collaboration enables hyperscalers to build more efficient and scalable AI compute environments."

"Marvell Alaska A empowers TE Connectivity to offer high-speed, low-latency short-reach copper interconnects," said Zach Galbraith, TE's Director of Global Product Management of External Cable Products. "This collaboration ensures hyperscalers can meet the demands of increasing AI workloads with confidence."

Availability

The Marvell Alaska A 1.6T PAM4 DSPs for AECs are generally available.

1. Active Electrical Cable Quarterly Market and Long-Term Forecast Report, December 13, 2024.
2. Marvell estimates.

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.

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