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Marvell Bolsters Connectivity Portfolio with New 3.2T Protocol-aware Retimer and Second-generation 1.6T AEC DSP

- Scaling connectivity to 3.2T: Marvell® Alaska® E 3.2T protocol-aware Ethernet, UALink™ and ESUN retimer delivers 16 lanes of 224G PAM4 connectivity for high-bandwidth XPU-to-XPU and XPU-to-switch scale-up architectures.
- Advancing 200G/lane AECs: Second-generation Alaska A 1.6T AEC DSP moves to the 3nm node, delivering higher performance and improved power efficiency for 1.6T active electrical cables used across AI racks.
- Built for next-generation AI infrastructure: Designed to meet the increasing bandwidth, reach and power-efficiency demands of advanced AI scale-up infrastructure at 224G/lane.
- **Availability:** Alaska E 3.2T protocol-aware retimer and second-generation Alaska A 1.6T are now sampling to customers.

SANTA CLARA, Calif.--(BUSINESS WIRE)-- [Marvell Technology, Inc.](https://www.marvell.com) (NASDAQ: MRVL), a leader in data infrastructure semiconductor solutions, today announced two additions to its advanced connectivity portfolio designed to meet the rapidly increasing bandwidth, reach and power-efficiency requirements of AI scale-up infrastructure. The new Alaska E 3.2T protocol-aware retimer and second-generation Alaska A 1.6T AEC DSP extend 200G/lane connectivity across on-board, backplane and active electrical cable (AEC) applications.

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Marvell™ Alaska®

As AI systems scale to more accelerators per rack and switch

bandwidth advances to 102.4T, scale-up networks are transitioning to 224G/lane signaling to deliver the bandwidth required between XPUs, NICs and switches. At these speeds, signal integrity and copper reach become increasingly challenging, making advanced DSP-based retiming essential to maintaining high-bandwidth, low-latency connectivity inside AI racks.

The expanded Alaska A portfolio addresses these challenges across multiple copper interconnect architectures. The Alaska E 3.2T retimer provides high-density 224G connectivity for on-board and backplane applications, while the second-generation Alaska A 1.6T DSP brings Marvell 3nm technology to AECs for longer copper reaches between AI servers and switches. Together, the new 3nm devices expand the Marvell portfolio of retimer and DSP solutions for scale-up infrastructure, giving data center operators greater flexibility to optimize their infrastructure to maximize bandwidth, reach and power efficiency.

In addition, Alaska A and E devices are integrated into the Marvell® RELIANT™ interconnect telemetry platform, which provides real-time visibility, predictive insight and automated

optimization across the Marvell connectivity portfolio.

“AI scale-up networks are moving rapidly to 224G signaling, making signal integrity, low latency and power efficiency critical to connecting increasingly dense infrastructure,” said Xi Wang, senior vice president and general manager, Connectivity Business Group at Marvell. “With the expanded Alaska portfolio, Marvell is delivering optimized 200G/lane retimer solutions across boards, backplanes and active electrical cables, giving hyperscalers the connectivity flexibility required to scale next-generation AI infrastructure.”

“The AI scale-up networking market will exceed \$50 billion by 2030, driven by the transition to rack-scale and multi-rack architectures and the move to 224G signaling,” said Vladimir Kozlov, founder and CEO of LightCounting. “As accelerator density increases, multi-protocol-capable retimers will be essential for delivering the bandwidth, reach and power efficiency required.”

Alaska E 3.2T: 224G Retiming for AI Scale-up Fabrics

Delivering industry-leading channel reach at greater than 45dB, the Alaska E 3.2T protocol-aware Ethernet / UALink / ESUN retimer is designed to address the challenging electrical budgets of 224G links used in rack-scale AI architectures, enabling more flexible placement of compute and switching elements while maintaining performance and efficiency. Key features include:

- 3.2 Tbps aggregate bandwidth via 16 224G PAM4 SerDes lanes
- 45dB+ insertion loss compensation
- Broad protocol support: Ethernet, UALink and ESUN
- Reduced latency for latency-sensitive scale-up applications
- DSP-based signal processing and equalization
- Power-efficient design optimized for high-density AI deployments

Second-generation Alaska A 1.6T: 3nm DSP for AEC

As AI clusters scale to 102.4T switches and GPU-to-GPU connectivity advances to 200G per lane, data center architects need reliable, low-latency copper interconnects that can span server racks and GPU trays without compromising signal integrity. The Alaska A 1.6T AEC DSP addresses this need by enabling AI fabric connectivity at 1.6T throughput over longer copper reaches exceeding six meters, doubling the reach of the first-generation product. Key features include:

- Industry-leading DSP performance with eight lanes of 224G PAM4 connectivity
- Power-efficient 12.8W, compact 12mm x 14mm package with addition of known good die format for dense AEC assemblies
- Eight-watt power savings compared to 5nm designs with ILT support
- Extensive range of retimer modes, including data rate gear boxing: 1.6T / 800G / 400G / 200G / 100G / 50G
- Broad protocol support: Ethernet, UALink and ESUN
- 45dB+ insertion loss compensation to support the longest AEC cable reach
- Alaska A DSP supports straight, Y and multiple break-out cable configurations
- Includes full suite of diagnostic capabilities

Marvell is showcasing the expanded Alaska portfolio at [OCP Global Summit 2026](#).

Industry Ecosystem Support

“Industry-leading connectivity providers like Marvell are increasingly adding UALink support to their portfolios due to its high-bandwidth, ultra-low latency and massive scalability,” said Kurtis Bowman, UALink board chair and AMD Director of Architecture and Strategy. “Support for UALink in the Marvell second-generation retimer helps expand the open ecosystem for scale-up AI infrastructure, allowing data center customers to build out their next-generation infrastructure to meet the massive performance and scalability demands of tomorrow’s AI workloads.”

“Amphenol is committed to providing customers with the latest and greatest technologies that overcome the limits of copper to drive broad connectivity across racks and clusters,” said Greg Walz, director of product marketing at ACS Highspeed Products. “Leveraging Marvell high-performance, low-latency AEC DSPs, we’re enabling the next generation of accelerated infrastructure with optimized, high-bandwidth interconnects.”

“Molex backplanes and AECs are designed to address the rapidly increasing network bandwidth demands and the enormous processing capacity of today’s powerful AI servers,” said Clay Miller, senior manager, New Product Development, at Molex. “Marvell retimers offer ultra-high bandwidth, ultra-low latency and optimal signal integrity, and we look forward to continuing to work with Marvell to provide new levels of performance and functionality to hyperscale and cloud data center customers.”

Availability

The Marvell Alaska E 3.2T protocol-aware retimer and Alaska A 1.6T second-generation AEC DSP are currently sampling to customers.

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 30 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 and carrier architectures transform—for the better.

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