



Astera Labs Unveils PCI Express Cable Solutions that Accelerate Cloud and AI Infrastructure Deployments at Scale

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Aries PCIe/CXL Smart Cable Modules for Active Electrical Cables enable multi-rack GPU clustering for AI with an industry-first 7 meters reach over flexible copper cables

SANTA CLARA, CA, U.S. – January 30, 2024 – Astera Labs, the global leader in semiconductor-based connectivity solutions for cloud and AI infrastructure, today announced the sampling of its Aries PCIe® and CXL® Smart Cable Modules™ (SCM) which provide robust and long reach copper cabling connectivity for GPUs, CPUs, and memory in disaggregated cloud and AI infrastructure. This new Active Electrical Cable (AEC) solution for multi-rack GPU clustering extends the company's leadership in high-performance connectivity that includes its existing Aries PCIe/CXL DSP Retimer family used for front-end PCIe fabric and head node computing interconnects.

Thad Omura, Chief Business Officer, Astera Labs, said, "Active PCIe/CXL cables have emerged as a critical connectivity solution for multi-rack GPU clusters and low-latency memory fabrics for AI infrastructure that has physically out-grown a single rack enclosure. We're proud to extend our expertise in intelligent PCIe/CXL connectivity with copper cabling solutions to help our cloud and hyperscaler customers deploy robust, scalable AI infrastructure."

Increasing data throughput for AI workloads is driving the need for high-bandwidth, low-latency active PCIe/CXL cabling solutions to connect GPU clusters separated by longer physical distance in the data center. Aries SCMs for AECs are purpose-built for data-intensive applications with industry-leading seven meter channel reach over copper cables to enable hyperscalers to connect PCIe 5.0 GPUs across racks to create larger AI clusters. Astera Labs' full portfolio of Aries SCMs will also include an Active Optical Cable (AOC) solution in the future.

Brian Kirk, CTO, Amphenol, said, "As a leader in high-speed data cable assemblies, Amphenol is investing in PCIe AECs as an important connectivity solution for large data centers running data-hungry workloads in a broad range of end markets. We are excited to collaborate with Astera Labs to leverage its extensive knowledge of PCIe interconnects and its Aries SCMs to strengthen our AEC portfolio and accelerate time-to-market."

Hyperscalers are also leveraging additional memory resources through CXL memory expansion and pooling solutions to achieve higher application performance with lower infrastructure Total Cost of Ownership (TCO). As the distance between the processor and expanded memory resources increases, Aries SCMs reliably extend CXL connectivity to allow customers to develop scalable and flexible cloud infrastructure.

Aries SCMs are an offering within Astera Labs' Intelligent Connectivity Platform, which integrates semiconductor-based high-speed connectivity integrated circuits (ICs) and the COnnectivity System Management and Optimization Software (COSMOS) to deliver a smart, scalable connectivity backbone. Through COSMOS, Astera Labs' products enable a powerful array of link, fleet, and RAS (Reliability, Availability, Serviceability) tools that are customizable for in-depth device level and total cloud data center infrastructure monitoring and management.

Nathan Brookwood, Research Fellow, Insight 64, observed, "Just when hyperscalers were struggling with the problem of attaching more GPUs than could fit in a single datacenter rack, Astera Labs comes along with a cabling solution that enables users to build multi-rack systems with hundreds of GPUs in new AI infrastructure. Astera Labs' Aries PCIe/CXL modules and active cables will revolutionize system architecture in years to come. Better still, Astera Labs' SCMs can work with copper cables for short-length distances or fiber-optic cables to span the largest datacenter links so hyperscalers can deploy AI at cloud-scale."

Visit Astera Labs at DesignCon 2024, Jan. 30-Feb. 2, Santa Clara Convention Center

Astera Labs will demonstrate its Aries SCMs and its full product portfolio in Booth #758. Casey Morrison, Chief Product Officer for Astera Labs, will present with Lei Huang, R&D Manager, High-speed Active Products for Amphenol, on "Active Electrical Cabling & The Use of Retimers in PCIe Applications" on January 31 at 3:00pm in Great America Ballroom J. [Schedule to meet](#) with Astera Labs experts and learn how its PCIe, Ethernet, and CXL solutions are enabling critical connectivity for cloud and AI infrastructure.

About Astera Labs

Astera Labs is a global leader in purpose-built connectivity solutions that unlock the full potential of cloud and AI infrastructure. Our Intelligent Connectivity Platform integrates PCIe, CXL and Ethernet semiconductor-based solutions based on a software-defined architecture that is both scalable and customizable. Inspired by trusted partnerships with hyperscalers and the data center ecosystem, we are an innovation leader of products that are flexible, interoperable, and reliable. Discover how we are transforming modern data-driven applications at www.asteralabs.com.

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