Astera Labs Intelligent Connectivity Portfolio Delivers Unprecedented Scale for Cloud and AI Infrastructure

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Industry-leading PCIe®, CXL™ and Ethernet solutions to be showcased at OCP Global Summit 2023

SANTA CLARA, CA, U.S. – October 17, 2023 – Astera Labs, a leader in semiconductor-based connectivity solutions for accelerated computing, today announced its entire product portfolio is fast-tracking cloud-scale workloads with unprecedented scaling capabilities. The global cloud AI market size is estimated to grow at a compound annual growth rate (CAGR) of 39.6% from 2023 to 2030 to reach USD 647.61 billion[1]. Astera Labs' innovation in data center connectivity between accelerators, CPUs, GPUs, memory and networking is proving to be critical to support the growth of cloud infrastructure for AI and data-driven applications at scale.

"Accelerated computing platform deployments for large-scale AI workloads require purpose-built connectivity solutions to transport massive datasets," said Thad Omura, SVP of Business and Corporate Development, Astera Labs. "Our hardware-optimized PCIe, CXL and Ethernet connectivity portfolio has been designed from the ground-up with a software-defined approach to enable customization and adaptation to ever-increasing scale requirements of accelerated compute applications."

Unprecedented PCIe 5.0 reach for parallel processing of accelerators

Astera Labs' award-winning Aries PCIe®/CXL™ Smart DSP Retimers extend PCIe 5.0 reach for high-performance accelerators and are the most widely deployed retimers for cloud and AI infrastructure. Astera Labs will also share how Aries PCIe Smart Cable Modules™ used in Active Electrical Cables will maximize reach for PCIe/CXL rack-to-rack connectivity. By extending reach by 3x, Aries enables ever-growing clusters of AI processors to be deployed for Generative AI training workloads interconnecting thousands of GPUs cost-effectively. With the growing demand and adoption of disaggregated architectures, Aries also offers extensibility for CXL memory pooling and fabrics at cloud scale.

Unprecedented flexibility for rack-scale Ethernet connectivity over copper

Astera Labs' Taurus Ethernet Smart Cable Modules™ extend 200/400/800 Gigabit-per-second Ethernet over copper cables which provides cost-effective scale-out connectivity for large, accelerated compute platforms. These modules offer unprecedented flexibility for cable vendors to build the widest range of solutions from one-to-one, one-to-many, many-to-many, and half-active cables. At OCP Global Summit, Astera Labs will demonstrate, for the first time, its test platform for standard cable modules that simplify cable integration and provides a "testing at scale" solution to meet the growing demand for Active Electrical Cables used in AI infrastructure.

Unprecedented memory bandwidth and capacity for volume data center servers

Astera Labs is a leading CXL innovator with its Leo Memory Connectivity Platform, enabling unprecedented DDR5 DRAM memory capacity and bandwidth in cloud servers. In partnership with Lenovo, Astera Labs will showcase record memory capacity scaling by increasing the amount of addressable DRAM by an additional 133% in a dual processor x86 server platform with multiple Leo CXL memory controllers. Prior to Astera Labs' CXL-attached memory solution, it was only possible to increase memory capacity with additional CPUs or servers with significant cost, power, and form factor drawbacks. Lenovo's ThinkSystem SR675 V3 system integrates AMD EPYC™ CPUs and easily supports up to eight Leo CXL memory controllers on a single server platform. Astera Labs is enabling the full potential of CXL for advanced accelerated computing platforms with significant performance, power and TCO advantages.

"With Astera Labs, we are excited to showcase dual-processor server configurations that are right-sized from a compute perspective to support volume data center applications with significant memory capacity," said Pravin Patel, Distinguished Engineer, Lenovo. "Astera Labs' CXL solutions enable the addition of high performance DDR5-5600 memory demanded by AI infrastructure."

Visit Us at OCP Global Summit, October 17-19 at the San Jose Convention Center

Astera Labs will showcase its PCIe, CXL and Ethernet connectivity solutions that deliver unprecedented scale for AI infrastructure and cloud connectivity in Booth A11. Meet with Astera Labs' experts to learn how its product portfolio enables AI, HPC, data analytics, scientific computing, and other accelerated computing applications.

Resources:

Blogs:

- Breaking Through the Memory Wall
- Astera Labs Delivers Industry-First CXL Interop with DDR5-5600 Memory Modules
- Cloud-Scale Infrastructure Fleet Management Made Easy with Aries Smart Retimers
- Three Things to Know about Taurus' Diagnostics Capabilities

Videos:

- Leo Breaks Through the Memory Wall
- Unlock Peak Performance for Storage Applications with Aries
- Taurus Rack-Scale Demo

[1] Grand View Research Report: Cloud AI Market Size, Share & Trends Analysis Report By Technology (Machine Learning, NLP), By Type (Solution, Services), By Vertical (Government, IT & Telecommunication), By Region (Asia Pacific, North America), And Segment Forecasts, 2023 – 2030

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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