Broadcom Announces Tomahawk® 6 – Davisson, the Industry's First 102.4-Tbps Ethernet Switch with Co-Packaged Optics

October 8, 2025

Breakthrough 102.4-Tbps CPO Ethernet Switch Delivers Unmatched Power Efficiency and Link Stability to Enable Cluster Scale-Up and Scale-Out

PALO ALTO, Calif., Oct. 08, 2025 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced that it is now shipping Tomahawk® 6 – Davisson (TH6-Davisson), the company's third-generation Co-Packaged Optics (CPO) Ethernet switch. Designed specifically for the accelerating demands of AI networking, TH6-Davisson is the industry's first to deliver an unprecedented 102.4 terabits per second of optically enabled switching capacity. Doubling the bandwidth of any CPO switch available today, TH6-Davisson sets a new benchmark for data center performance. Built on Broadcom's foundation of CPO innovation and field shipments, the platform doubles the bandwidth of any CPO switch available today, while delivering major advancements in power efficiency and traffic stability to unlock optical interconnect performance required to scale-up and scale-out the world's most demanding AI clusters.

"TH6-Davisson, our third-generation CPO Ethernet switch, represents a significant advancement for AI infrastructure," said Near Margalit, Vice President and General Manager, Optical Systems Division, Broadcom. "By enhancing link stability and energy efficiency, we're enabling smoother, more cost-effective AI model training. We designed this platform to scale large AI clusters by delivering on the three imperatives for optical interconnect: higher model FLOPs utilization, reduced job interruptions, and improved cluster reliability."

CPO: Purpose-Built for AI Networking

The rise of large-scale AI training and inference is driving unprecedented east-west traffic in data centers, as XPUs and GPUs exchange vast datasets across tens of thousands of servers. Traditional pluggable optics are straining under this growth—consuming more power, introducing higher latency, and demanding larger system footprints. TH6-Davisson embodies Broadcom's lead-edge and robust CPO architecture that has been fine-tuned over multiple generations of development to overcome these barriers and deliver the bandwidth, efficiency, and reliability required for next-generation AI networks.

World-Class Energy Efficiency

TH6-Davisson was architected from the ground up for power efficiency. By heterogeneously integrating TSMC Compact Universal Photonic Engine (TSMC COUPE™) technology-based optical engines with advanced substrate-level multi-chip packaging, the switch dramatically reduces the need for signal conditioning and minimizes trace loss and reflections. The result is a 70% reduction in optical interconnect power consumption—more than 3.5x lower than traditional pluggable solutions—delivering a step change in energy efficiency for hyperscale and AI data centers.

Improved Link Stability and Traffic Performance

As AI training jobs scale, link stability has become a critical bottleneck, with even minor interruptions causing measurable losses in XPU and GPU utilization. TH6-Davisson addresses this challenge by directly integrating optical engines onto a common package with the Ethernet switch. This highly integrated design eliminates many of the sources of manufacturing and test variability inherent in pluggable transceivers. The result is significantly improved link flap performance and higher cluster reliability as validated by a TH5-Bailly link flap study here.

Bandwidth Improvement and Interoperability

Operating at 200 Gbps per channel, TH6-Davisson doubles the line rate and overall bandwidth of Broadcom's second-generation TH5-Bailly CPO solution. Designed for interoperability, it seamlessly interconnects with DR-based transceivers as well as LPO and CPO optical interconnects running at 200 Gbps per channel. This ensures frictionless connectivity with the industry's most advanced NICs, XPUs, and fabric switches, enabling next-generation AI and cloud clusters to scale without compromise.

CPO Roadmap

Leveraging the advanced CMOS nodes and continuous breakthroughs in device technology, Broadcom is now developing its fourth-generation CPO solution. The new generation will double per-channel bandwidth to 400 Gbps while achieving greater levels of energy efficiency, further extending Broadcom's leadership in enabling the scale and sustainability of future AI and cloud networks.

TH6-Davisson BCM78919 Product Highlights

- 102.4 Tbps Switching Capacity
- 16 x 6.4 Tbps Davisson DR Optical Engines
- 200 Gbps per link bandwidth
- Field-Replaceable ELSFP Laser Modules
- Supports Scale-Up cluster size of 512 XPUs and up to 100,000+ XPUs in two-tier networks at 200 Gbps per link
- IEEE 802.3 Compliance — Interoperable with existing 400G and 800G standards.

Availability

Broadcom is currently sampling the TH6-Davisson BCM78919 device to its early access customers and partners. Contact your local Broadcom sales representative for samples and pricing. For more information on Broadcom CPO, please click here.

Supporting Quotes:

Gavin Cato, Sr. VP & GM of Portfolio Solutions & AI Platform Engineering, Celestica
"We are pleased that Broadcom continues to drive innovation with the launch of its new TH6-Davisson CPO solution. TH6-Davisson's advanced optical integration, optimized power efficiency, and enhanced performance will present a compelling value proposition that aligns with Celestica's strategy to deliver next-generation AI infrastructure and workload deployments."

Benoit Fleury, CPO Business Director, Corning Optical Communications
"Corning continues to collaborate closely with Broadcom to ensure that their CPO connectivity needs can be met with a high degree of performance and reliability as AI-enabled data centers continue to scale. We are continuously innovating to enable increasingly powerful and efficient AI networks, such as complete faceplate-to-chip optical assemblies for TH6-Davisson systems, and we are excited to continue collaborating with Broadcom toward their next generation CPO systems."

Praveen Jain, SVP & GM, Data Center Networking at HPE
"HPE is proud to continue our collaboration with Broadcom on TH6-Davisson for our next-generation of HPE Networking AI-native solutions. Together, we can enable cloud customers to unlock new levels of efficiency, reliability and performance, paving the way for the next era of AI infrastructure."

Andrew Qu, CEO of Micas Networks
"At Micas, we have partnered with Broadcom across its first two generations of CPO engines, and its most recent CPO engine, Bailly, has undergone millions of hours of testing and demonstrated exceptional reliability. All the data points to a turning point for hyperscaler adoption of CPO. The timing of Tomahawk® 6 – Davisson could not be better. As the industry scales out AI networks with 800G today and prepares for 1.6T interconnects, Davisson delivers the great power savings, CAPEX efficiency, and rock-solid stability needed to confidently build the next generation of large-scale AI infrastructure."

Prasad Venugopal, VP HW Engineering at Nexthop AI
"NextHop is proud to collaborate with Broadcom on the 102.4T, Tomahawk-6 switch based on Broadcom's third-generation Davisson Co-Packaged Optics (CPO). This architecture delivers a significant reduction in power consumption (pJ/bit) and increased scalability in support of hyperscaler AI factories, at unmatched price/performance. Coupled with Nexthop's hardened SONiC, our hyperscale customers can get a complete, highly reliable system with all the benefits of the CPO."

Sajiv Dalal, President of TSMC North America
"TSMC is dedicated to collaborating with industry innovators like Broadcom to drive energy-efficient, high-performance breakthroughs that meet the growing demands of AI and enable scalable technologies for next-generation networks. By leveraging our COUPE process, advanced semiconductor manufacturing expertise, and through a close partnership, we are proud to support Broadcom in bringing the Tomahawk 6 – Davisson platform to fruition."

About Broadcom
Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops, and supplies a broad range of semiconductor, enterprise software and security solutions. Broadcom's category-leading product portfolio serves critical markets including cloud, data center, networking, broadband, wireless, storage, industrial, and enterprise software. Our solutions include service provider and enterprise networking and storage, mobile device and broadband connectivity, mainframe, cybersecurity, and private and hybrid cloud infrastructure. Broadcom is a Delaware corporation headquartered in Palo Alto, CA. For more information, go to www.broadcom.com.

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Source: Broadcom Inc.