Broadcom Showcases Industry-Leading Hyperscale Solutions at the 2022 Open Compute Project Global Summit

October 18, 2022

Connected by Broadcom, Open Standards and Silicon Innovation Are Key to Solution Scale, AI/ ML Workloads, and Industry Adoption

SAN JOSE, Calif., Oct. 18, 2022 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ:AVGO) today announced its continued commitment to open computing by demonstrating a host of industry-first solutions addressing AI/ ML workloads at scale at the 2022 OCP Global Summit, being held October 18-20 at the San Jose Convention Center. A long-time supporter of open, standards-based technologies, Broadcom is dedicated to developing high-performance, scalable connectivity solutions optimized for AI/ML in hyperscale data centers.

“Our broad industry-leading portfolio exemplifies our significant contribution into open standards, clearly demonstrating Broadcom is passionately committed to OCP and empowering this burgeoning community,” said Charlie Kawwas, Ph. D., president, Semiconductor Solutions Group, Broadcom. “Broadcom is driving the innovation and standardization of RoCE congestion control as an open technology supporting AI/ML versus other methods that are proprietary. Our industry-leading, standards-based solutions will benefit the demands of hyperscale workloads at scale.”

Recently, Broadcom announced the availability of the industry’s first open end-to-end networking solution optimized for Remote Direct Memory Access (RDMA) over converged Ethernet (RoCE). Hyperscaler and enterprise data center operators can now deploy fully optimized systems, using open-standard RDMA. Connected by Broadcom, RoCE-optimized systems enable Cloud, high performance computing, and AI/ML providers to deploy industry-leading, ultra-low latency Ethernet.

Having a strong commitment to networking, Broadcom also recently introduced the Tomahawk 5 Ethernet switch. Critical to enabling efficient use of the massively shared infrastructure in large data centers, Tomahawk 5 provides AI/ML workload virtualization with features such as single-pass VxLAN routing and bridging. As one of the industry’s largest contributors to SAI and the SONiC network operating systems, Broadcom is contributing specifications for features enabling AI/ML deployments to the community. The Tomahawk reference design will be showcased on the show floor. Broadcom also will be highlighting the industry’s first 5nm 1.6T (2x800G) MACSec/IPSec PHY BCM85344, which extends our contribution to PAI use cases.

Additional innovative, Broadcom technologies featured in a broad range of OCP designs at this year’s summit include Ethernet switch and routing chips, PCIe switches, Ethernet network adapters, PAM4 Line card PHYs, and SAS/SATA/NVMe storage solutions. Notable OCP demonstrations and initiatives involving Broadcom’s technologies include:

- Broadcom will demonstrate Multi-Host TCP applications running on 2 Meta Yosemite V3 Multi-Host servers each with a Broadcom 100G Multi-Host NIC Adapter, OCP Experience Center.
- Broadcom will highlight an HPC/ML cluster with Broadcom 2x100G NIC Adapter running MPI applications, OCP Experience Center.
- Broadcom will feature 2x100G, 2x25G, and 4x25G OCP NIC 3.0 form factors, OCP Experience Center.
- Broadcom will showcase the world’s longest reach 100G PAM4 SerDes included in Tomahawk 5, capable of directly driving passive DAC up to 4 meters (2x IEEE standard). This demonstration will also showcase how the SerDes IP can be leveraged to enable the world’s lowest power, thinnest gauge 800G AEC cables using the BCM87850 Phy, OCP Experience Center.
- Broadcom will showcase a broad portfolio of Storage Adapter form factors, including the 9502-16i HBA, 9562-16i RAID OCP 3.0 SFF, and 9600-24i HBA, OCP Experience Center.
- DriveNets, UfiSpace, and others will demonstrate a series of Distributed Disaggregated Chassis (DDC) clusters incorporating Jericho 2 (NCP-1), dual Jericho 2C+ (NCP-3), Jericho 2C (NCP-Lite), and Ramon (NCF-1) silicon, OCP Experience Center.
- Ampere has qualified, or is in the process of qualifying, multiple Broadcom products on a number of server platforms, including the Ampere® Altra® Family of Cloud Native Processors. Broadcom products include 25G, 100G, and 200G OCP NIC 3.0 adapters, SAS9500 and SAS9600 family IT, MegaRAID® Storage Adapters, and PEX89000 PCIe Gen 5 PCIe Switches. In addition, Ampere will show the Broadcom PCIe 4.0 2x100G Ethernet NIC 3.0 adapter in the Foxconn Industrial Internet Mt. Collins Platform in the Expo Hall, Booth A6.
- MiTAC will feature two 5G Edge compute products, including Aowanda and Firestone2, incorporating Broadcom dual-port and quad-port 25G, 50G, and 100G Ethernet OCP NIC 3.0s, and standard PCIe NICs, Expo Hall, Booth C6.

- Amphenol will highlight OAI expansion version 1.0, featuring Broadcom's 1.6T (2x800G), 5nm retimer PHY, ExaMAX2 ® 112G backplane connector, OSFP 112 I/O connector and Mini Cool Edge, Expo Hall, Booth A8.

- Molex is showcasing a modular hardware system in an innovative ORV3 rack featuring Broadcom's low power 800G AEC BCM87850, Expo Hall, Booth B1.

- Celestica will showcase a variety of Tomahawk 4 and Tomahawk 5 800G-based data center switching platforms and initiatives, including a 51.2T CPO 2U demonstrator platform. In addition, Celestica will feature one of its latest storage platforms that leverages Broadcom PCI-Gen4 switches and SAS Expanders. Expo Hall, Booth C8.

- Wiwynn will showcase several systems including OCP Server and Storage (SV7100G5/SV7000G4/ST7000G4), OAI Server (SV600G2), Generic Servers (SV328R/ SV302A-T), and Edge Server (EP102/ES200), which use several Broadcom products including: Gen4 PCIe Switch (PEX88000), SAS9600 Storage Adapters, 24G SAS Expanders (SAS4xXX), and several OCP NIC 3.0 adapters: 2x25G, 4x25G, 1x100G,2x100G, and BCM87326 – 16x50G PAM4 retimer, Expo Hall, Booth A13.

- Wiwynn will highlight their Grand Canyon Storage Appliance, which incorporates the Broadcom SAS4016 Storage Controller, SAS4xXX Expander, and 1x50G Ethernet OCP NIC. The Grand Canyon Storage Appliance will be displayed at the Wiwynn booth, Expo Hall, Booth A13.

- AMI will feature their SPDM RoT solution with initial support for Broadcom MegaRAID 9600 Storage Adapter and 200G NIC families and upcoming support for 89000 series, PCIe Gen 5 Switches. The AMI Tektagon ™ Platform Root of Trust Firmware Security Solution is being showcased at their booth, Expo Hall, Booth A14.

- QCT will highlight several systems including the QuantaGrid D54X-1U and D54Q-2U Storage Appliances, as well as the D74H-7H GPGU Server, incorporating Broadcom OCP NIC 3.0 adapter, SAS9600 MegaRAID and HBA Storage Adapters, and an 89000 PCIe Gen 5 Switch, Expo Hall, Booth A21.

- Asus will showcase several systems including their Compute node, model ESB3N-OCPA1-Compute, ESB3N-OCPA2 – JBOD, and 5G Edge Server, and model ESR1-511-X4TF, which use several Broadcom products including: SAS9500 Storage Adapters, SAS35x48 Expanders, dual-port 25G, 50G, and 100G Ethernet OCP NICs, Expo Hall, Booth B21.

- Edgecore will showcase hyperscale data center, enterprise and edge networking solutions incorporating a host of Trident, Tomahawk, Qumran, and Jericho 2 chips at their booth Expo Hall, Booth B22.

- Ragile Networks will highlight the world's first 25.6T CPO switch, incorporating Tomahawk 4 silicon, jointly developed by Tencent, Broadcom, and Ragile. Ragile will also showcase TP-B6940-64X2, a 51.2T NPO switch, incorporating Tomahawk 5 silicon, RA-B6990-16MDC-CP, a 25.6T NPO switch, RA-B6930-64QC, a 400GbE data center switch, both incorporating Tomahawk 4 silicon, RA-B6510-32C and RA-S6510-48V8C, both are data center switches incorporating Trident 3 silicon at their booth, Expo Hall, Booth C5.

Broadcom will also participate in numerous technical panel sessions at this year's summit, specifically:

- Ram Velaga, senior vice president and general manager, Broadcom will present keynote "Ethernet Fabric for High Performance Computing and AI/ML Workloads," along with ecosystem partners, Oct. 18, 10:13 a.m., Keynote Hall/Grand Ballroom 220.

- "How Line Corporation uses Open-Networking to Unlock the Power of Open Source!" OCP Project: Networking, Sandeep Balani, product management, Precy Lee, software engineer, Oct 18, 1 p.m., Lower Level LL20BC.

- "A Testing and Simulation Framework to Roll Out SONiC at Scale in an Open Networking Environment ... eBay / Broadcom Perspective," Guru Harakere, software engineer, Nabeel Syed, senior network engineer, eBay, Oct 18, 1 p.m., Lower Level LL20BC.

- "DNX based Distributed Disaggregated Chassis," OCP Project: Networking, Mehak Mahajan, senior director engineering, Golan Schuzkin, Broadcom fellow, Oct. 19, 9:05a.m., Concourse Level 210CG.

- "Open Networking Enables Deutsche Telekom Sail the Cloud Native Seas," OCP Project: Networking, Kamran Naqvi, principal network architect, Christopher Dziomba, DevOps engineer, Deutsche Telekom, Oct. 19, 11:00a.m., Concourse Level 210CG.

- “OAI High Speed and System Workstreams Update,” OCP project: OAI, End to End channel assessment: Scale-out example using contributors’ components. Vivek Telang, vice president, research and development, Vasanta Madduri, senior product line manager, Oct 19, 12:30 p.m., Concourse Level 220C.

- “OCP NIC 3.0 Design Specification Update,” OCP Project: Server, Jon Lewis, senior distinguished engineer, Dell Inc., Hemal Shah, distinguished engineer and architect, Broadcom, October 19, 1:50pm, Concourse Level 220C.

- “HPC/ML Benchmarks and Extensions for OCP Servers,” OCP Project: Server, Hemal Shah, distinguished engineer and architect, Broadcom, and Dhabaleswar K (DK) Panda, professor and university distinguished scholar, Computer Science and Engineering at the Ohio State University, Oct. 19,4:10pm, Concourse Level 220C.

- “Making Connections Count with SCIP (SiPh Chiplets in Package),” Rebecca Schaevitz, hardware engineer, Oct. 19, 2:15 p.m., Concourse Level 210AE.

- “SAI Architecture Enhancements for Distributed Resources,” OCP Project: Networking, Jai Kumar, distinguished engineer, Oct. 20, 8:00a.m., Concourse Level 210CG.

- “A Technical Overview of Hardware Management Project,” OCP Project: Hardware Management, Hemal Shah, distinguished engineer and architect, Broadcom, Oct. 20, 8:00a.m., Concourse Level 210BF.

- “OCP Hardware Management Meets PMCI,” OCP Project: Hardware Management, Hemal Shah, distinguished engineer and architect, Broadcom, Patrick Caporale, executive director, distinguished engineer, chief I/O architect, Lenovo, Oct. 20, 10:00a.m., Concourse Level 210BF.

- “Microsecond Flow Aware Congestion Measurement of Real-World Traffic at Scale,” OCP Project: Networking, Surendra Anubolu, distinguished engineer, Greg Steinbrecher, software engineer, Meta, Oct. 20, 10:40a.m., Concourse Level 210CG.

- “High Performance Congestion Control (HPCC++) for RoCEv2 Networks Leveraging SAI TAM,” OCP Project: Networking, Bhaskar Chinni, principal product line manager, Surendra Anubolu, distinguished engineer, Rui Miao, network engineer, Alibaba, Oct. 20, 11:05a.m., Concourse Level 210CG.

- “OCP Attestation Using SPDM and DICE,” Eric Spada, security architect and Brett Henning, security architect, Oct. 20, 12:30p.m., Concourse Level 210DH.

- “Network Performance Anomaly Detection Using In-band Telemetry,” OCP Project: Networking, Bhaskar Chinni, principal product line manager, Ding Ma, senior manager, Alibaba, Oct. 20, 12:30p.m., Concourse Level 210CG.

- “Adaptive Routing in AI/ML Workloads,” OCP Project: Networking, Jai Kumar, distinguished engineer, Guohan Lu, principal software engineer, Microsoft, Oct. 20, 12:50p.m., Concourse Level 210CG.

- “The Case for Standardization of RoCE Congestion Control,” OCP Project: Networking, Panel Participants: Wei-Jen Huang, distinguished engineer, Cisco, David Nicholson, CTO, SiliconAngle, Karen Schramm, VP of engineering, Broadcom, Arvind Srinivasan, Architect, Meta, Idan Burtstein, Principal Architect, NVIDIA, Oct. 20, 1:10p.m., Concourse Level 210CG.

- “Extending Open Networking from DC to Campus Edge – FHTW Case Study,” OCP Project: Networking, Kamran Naqvi, principal network architect, Dr. Michael Hummel, head of IT, FH Technikum Wien, Markus Kittenberger, team leader Networking, FH Technikum Wien, Oct. 20, 3:20p.m., Concourse Level 210CG.

- “High Port Density Timing Card for Next Gen Networks,” OCP Project: Time Appliances Project, Bhaskar Chinni, principal product line manager, Amit Oren, distinguished engineer, Eric Spada, distinguished engineer, Ahmad Byagowi, network (Time/ Sync) hardware engineer, Meta, Oct. 20, 3:40p.m., Concourse Level 210AE.

For more information on Broadcom solutions supporting open source initiatives visit https://www.broadcom.com.

About Broadcom

Broadcom Inc. (NASDAQ: AVGO), a Delaware corporation headquartered in San Jose, CA, is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Broadcom’s category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation. For more information, go to https://www.broadcom.com.

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