NEWS RELEASE

Broadcom Unveils Industry's First Gen 7 64Gb/s Fibre Channel Switching Platforms Enabling an Autonomous SAN

New End-to-End 64Gb/s Storage Solutions Boast Industry-Leading Switches, Adapters, and Transceivers

SAN JOSE, Calif., Sept. 1, 2020— [Broadcom Inc.](#) (NASDAQ: AVGO) today announced the availability of the industry's first Gen 7 64Gb/s Fibre Channel switching platforms— the Brocade X7 Directors and G720 Switch, that are foundational infrastructure for the on-demand data center. Additionally, the company today announced the industry's first 64Gb/s Fibre Channel optical transceiver, that is being qualified for use in Brocade switches and Emulex adapters, for end-to-end Gen 7 performance.

Brocade Gen 7 Fibre Channel combines unmatched performance, powerful analytics and advanced automation capabilities to enable an autonomous SAN. New 64Gb/s speed and 50 percent lower latency, powers the network for storage innovations like NVMe flash arrays. Gen 7 also adds new self-learning, self-optimizing and self-healing capabilities to automate SAN management. With the launch of Gen 7 Fibre Channel switching platforms, Broadcom is demonstrating its commitment to develop innovative Fibre Channel technology for the most trusted network for storage.

"Broadcom continues to lead the market and drive innovation with the launch of the industry's first end-to-end Gen 7 Fibre Channel portfolio," said Jack Rondoni, senior vice president and general manager, Brocade Storage Networking division, Broadcom. "Brocade Gen 7 harnesses the power of 64Gb/s switching technology and transforms current storage networks with autonomous SAN capabilities, simplifying management, and significantly reducing operational costs."

Technology is evolving at an incredible pace and businesses are demanding more from their IT resources and infrastructure. With the rapid adoption of flash storage and the ramp up of NVMe-based storage, organizations will move more data through a SAN than ever before. This requires a network capable of unleashing performance and maximizing ROI for storage investments. Brocade Gen 7 performance is powered by

64Gb/s line-rate speed along with a 50 percent reduction in latency. This ensures that the network will never be the bottleneck for current and future storage technologies.

Brocade Gen 7 today also introduces a range of autonomous technologies to simplify and automate management. A self-learning SAN leverages comprehensive data collection with powerful analytics to quickly understand the impact of current or trending problems. The self-optimizing capability utilizes actionable intelligence to automate network management and maximize performance. Learning traffic behavior enables the network to make smarter decisions on traffic prioritization, congestion management and notification to ensure optimal network performance for applications and storage.

A self-healing SAN raises the bar for network availability through automatic avoidance and recovery features. When potential disruptions or outages are detected, the network will automatically mitigate or resolve issues without intervention. These new autonomous technologies will greatly simplify SAN management and enable unparalleled network performance and reliability.

With almost three decades in the data center, Fibre Channel continues to be an essential piece of most enterprises' critical storage infrastructure due to its industry-leading reliability and long-lasting investment protection. With a foundation of six-nines availability and multi-generational compatibility, Fibre Channel continues to add new capabilities and value to address the evolving needs of storage customers.

"The enterprise storage industry is already well down the migration path to NVMe-based storage systems, and by 2021 over 50 percent of enterprise storage revenues driven by latency-sensitive primary workloads will come from the sale of these types of systems," said Eric Burgener, research vice president, Infrastructure Systems, Platforms and Technologies Group, IDC. "To get the full performance benefits of NVMe in these systems requires NVMe over FC host connections, and more and more enterprises will be installing these types of extremely low latency networks as they deploy the next-generation applications needed in the digital era. NVMe over FC is the most efficient network transport protocol for these high performance networks, already broadly deployed in commercial environments today, and Gen 7 technology will enable the performance at scale these workloads demand."

"IT transformation starts with an intelligent core and enables businesses to deliver exceptional customer experiences for the on-demand data center," said Dan McConnell, SVP, product management, Digital Infrastructure, Hitachi Vantara. "This cannot be accomplished without a modern and agile IT infrastructure that delivers information to customers faster with greater insights than ever before. The world's highest performing storage solutions deserve the world's highest performing network. As such, our Hitachi VSP 5000 Series coupled with the new Brocade Gen 7 Fibre Channel delivers leading performance to take maximum advantage of low latency, high performance fabrics."

Brocade X7 Directors: Build a Foundation for the Autonomous SAN

This modern, highly-scalable Gen 7 director is a modular building block, purpose-built to power large-scale storage environments. With 64Gb/s speed and 50 percent lower latency compared to the previous generation, Brocade X7 directors maximizes the performance of NVMe storage and high-transaction workloads, eliminating IO bottlenecks and unleashing the full performance of next-generation storage. Brocade X7 Directors provide up to 384 64Gb/s line rate ports or up to 512 32Gb/s line rate ports, enabling organizations to scale more devices, applications and workloads.

Brocade G720 Switch: Scale Out the Autonomous SAN

This building-block switch maximizes performance and simplifies deployment, configuration and management of SAN resources. The Brocade G720 Switch provides 56 64Gb/s line rate ports in a 1RU design and 50 percent lower switching latency compared to previous generations to maximize performance of NVMe storage.

Availability

Brocade X7 Directors and Brocade G720 Switches are now available. Please contact your local Broadcom sales representative for more information. The products are available through Dell Technologies and Hitachi Vantara. Other OEM partners will begin shipping throughout the next several quarters. Visit www.broadcom.com/brocade to learn more about Brocade Fibre Channel networking solutions.

About Broadcom
Broadcom Inc. (NASDAQ: AVGO) 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 www.broadcom.com.

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Jeff Hoogenboom, Vice President & General Manager, Emulex Connectivity Division, Broadcom
"Customers want solutions that help them reduce the operational cost and complexity of running storage networks, but at the same time require extreme reliability and the ability to scale as business priorities change. Broadcom's end-to-end 64 Gb/s autonomous SAN technology delivers the analytics and advanced automation needed to make smarter decisions and simplify operations."

Drew Schulke, VP of Networking, Dell Technologies
"With capabilities to self-learn, self-optimize and self-heal, the Connectrix B-Series network provides the performance, availability and reliability enterprises need today. Through Dell Technologies' E-Lab, the industry's premier interoperability lab, these new Connectrix SAN products have been tested with our storage arrays and servers to ensure our customers can confidently deploy them within their modern infrastructure to meet the demands of the next data era."

Marcus Schneider, Head of Product Management Data Center Product Sales Europe, Fujitsu
"Brocade's Gen 7 Fibre Channel products with new autonomous and analytics capabilities are great for giving Fujitsu ETERNUS Storage customers the performance, efficiency and reliability today's IT environments demand. In addition, as customers increasingly adopt flash and NVMe storage, they will benefit from even lower latency and higher performance."

Chris Powers, VP, Collaborative Platform Development, Hewlett Packard Enterprise
"Hewlett Packard Enterprise (HPE) and Brocade, a Broadcom company, have partnered together for many years, and continue to collaborate to bring to market new technologies for the modern data center. HPE supports the Brocade Gen 7 technology and believes it will deliver value, performance and reliability for modern storage platforms. Gen 7 will be a valuable platform for enabling HPE storage, and we look forward to having this robust set of products in the HPE storage networking portfolio."

Eric Herzog, CMO, IBM
"For over 20 years, IBM and Brocade, a Broadcom company, have collaborated to develop Fibre Channel and FICON storage solutions for our clients. With the release of Brocade's Gen 7 SAN technology combined with IBM FlashSystem and DS8900F storage arrays, our on-premises and hybrid-cloud solutions will continue to address the critical performance, automation, and resiliency requirements for our clients' data centers."

Kamran Amini, Vice President & General Manager, Server, Storage and Software Defined Infrastructure, Lenovo Data Center Group

"As a leading provider of all-flash array storage and fully enabled end-to-end NVMe solutions, Lenovo along with Broadcom, and our extensive partnership focused on innovative solutions, are delivering the next-generation SAN switching Gen 7 Fibre Channel technology to help customers accelerate their ability to gain insights from business-critical data," said Kamran Amini, vice president and general manager, Server, Storage and Software Defined Infrastructure, Lenovo Data Center Group. "Lenovo's ThinkSystem Server and Storage solutions will utilize the new Brocade SAN switching to deliver integrated infrastructure solutions that will dramatically improve application performance with enterprise support."

Kim Stevenson, SVP, Foundational Data Services Business Unit, NetApp

"Global customers rely on NetApp's innovative, highly available Fibre Channel SAN solutions to realize maximum performance of their mission critical applications. NetApp and Broadcom provided the industry's first end-to-end NVMe/FC modern SAN with cloud-connected storage, enabling customers to realize operational and performance efficiencies across their entire hybrid cloud infrastructure. In conjunction with NetApp's leading SAN storage platforms, Brocade's new Gen 7 Fibre Channel portfolio will further advance NetApp's delivery of leading SAN solutions to power customers' most demanding enterprise SAN workloads."

Scott Baker, VP Flash Array Product Marketing, Pure Storage

"Brocade, a Broadcom company, and Pure Storage's collaboration advances the modern data experience by delivering an ultra-low latency storage network architecture to the industry-leading Flash Array all-NVMe portfolio, resulting in consistent and predictable workload performance and improved data mobility. We are proud to bring Brocade's Gen 7 switching platforms to our customers to meet their ever-changing business requirements and deliver a greater return on investment."