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Mellanox Introduces Spectrum-2 - World's Most Scalable 200 and 400 Gigabit Open Ethernet Switch Solution

Designed for Unmatched Scale and Programmability, Spectrum-2 Open Ethernet Switch Enables Industry's Most Efficient Cloud, Hyperscale, and Enterprise Data Centers

SUNNYVALE, CA and YOKNEAM, ISRAEL – July 6, 2017 –Mellanox® Technologies, Ltd. (NASDAQ: MLNX), a leading supplier of high-performance, end-to-end smart interconnect solutions for data center servers and storage systems, today announced the Spectrum-2, the world's most scalable 200 gigabit and 400 gigabit Open Ethernet switch solution. Spectrum-2 is designed to set new records of data center scalability, more than 10 times higher than market competitors, and reduces data center operational costs by delivering 1.3 times better power efficiency. Moreover, Spectrum-2 provides new levels of programmability and optimizes routing capabilities for building the most efficient Ethernet-based compute and storage infrastructures.

Spectrum-2 provides industry-leading Ethernet connectivity for up to 16 ports of 400GbE, 32 ports of 200GbE, 64 ports of 100GbE and 128 ports of 50GbE and 25GbE, and enables a rich set of enhancements, including increased flexibility and port density, to build a variety of switch platforms optimized for cloud, Hyperscale, Enterprise data center, big data, artificial intelligence, financial, storage and more applications.

Spectrum-2's innovative design provides IT managers the capability to fully optimize their network for specific customer requirements, and to maximize their data center return on investment. Moreover, Spectrum-2 delivers unmatched power efficiency when compared to alternative offerings, improving data center total cost of ownership. The solution implements a complete set of the network protocols within the switch ASIC in the most efficient way, providing users with all the functionality needed, out-of-box. Additionally, Spectrum-2 includes a flexible parser and packet modifier which can be programmed to process new types of future protocols, thereby future proofing the data center.

"Data Center customers are looking to significantly increase the Ethernet switch bandwidth in their networks while simultaneously raising the levels of programmability and visibility," said Seamus Crehan, President, Crehan Research. "The Spectrum-2 switch from Mellanox not only addresses these needs, but does so with a cost-effective Open Ethernet solution."

"Enterprise adoption of off-premises cloud services in conjunction with adoption of data driven computation using artificial intelligence (AI) techniques and machine learning (Ml) are some of the key drivers for 200GE and 400GE networking in the data center. In addition to speed, the rapid pace of innovation in cloud service provider data centers demands a programmable network where new protocols can be introduced without changing switch hardware," said Cliff Grossner, Ph.D., research director and advisor, Data Center Research Practice, IHS Markit. "In a recent IHS Markit report, we learnt that off-premises cloud service revenue is expected to hit $343 billion in 2021, up from 126 billion in 2016; this will drive the need for high speed and power efficient programmable networking."

"Spectrum-2 Open Ethernet switch enables our customers and partners to meet the voracious demands

of data speed, data processing and real time data analytics, and to gain competitive advantages," said Gilad Shainer, vice president of marketing at Mellanox Technologies. "With 10 times better scalability, 1.3 times better power efficiency, full programmability and flexibility, and the capability to seamlessly migrate to 200G and 400G data speeds, Spectrum-2 provides data centers with the ability to maximize return on investment and future proof their investment."

Spectrum-2 is the first 400G and 200G Ethernet switch that provides adaptive routing and load balancing while guaranteeing Zero Packet Loss and Unconditional Port Performance. These capabilities enable predictable and highest network performance. The solution also doubles data capacity while providing the lowest latency (300 nanoseconds), 1.4 times lower than alternative offerings. Furthermore, Spectrum-2 is the ideal foundation for Ethernet storage fabrics to connect the next generation of high performance Flash based storage platforms, and combines cloud agility and scalability with enterprise reliability.

Spectrum-2 extends the capabilities of the first generation of Spectrum, which is deployed in thousands of data centers around the world. Spectrum enables IT managers to achieve leading performance and efficiency for 10G infrastructures and higher, and to effectively and economically migrate from 10G to 25G, 50G and 100G speeds. Spectrum capabilities were highlighted in a Tolly test report which demonstrated superior performance versus competitor products. Spectrum-2 maintains the same API as Spectrum, for porting software onto the ASIC via the Open SDK/SAI API or Linux upstream driver (Switchdev), and supports all of the standard network operating systems and interfaces including Cumulus Linux, SONIC, standard Linux distributions and more.

Spectrum-2 also supports an extensive set of telemetry capabilities, including the latest in-band network telemetry standard, which provide operators with full visibility into their network and allow them to monitor, diagnose and analyze every aspect of operations. This greatly simplifies data center management and enables IT managers to fully optimize the network to their data center application's needs.

Industry Quotes:
"Our relationship with Mellanox crosses interconnect technologies and allows us to stay ahead of the market in terms of innovation and propels our portfolio evolution," said Mr. Liu Ning, Deputy Director of Baidu SYS department. "We are looking forward to seeing Mellanox's new generation switch product, Spectrum-2, come to market."

"In the world of networking, capacity is king, and Mellanox does it again with Spectrum-2, pushing the limits on port speeds, densities, packet buffer size, and functionality," said JR Rivers, Co-Founder & Chief Technology Officer, Cumulus Networks. "Our customers are on the forefront of applying web-scale principles in their data centers, and Spectrum-2 enables our customers to build high performance networks that leverages programmability capabilities and leading edge telemetry-based fabric validation."

"Deploying scalable, reliable, and simple data management is core to our storage solutions that offer enterprise reliability, cloud scalability, efficiency, and performance," said Marty Lans, Sr. Director

Storage Connectivity and Ecosystem Engineering at Hewlett Packard Enterprise. “Spectrum-2 offers the performance, scalability, and reliability required in a storage fabric that underpins next generation storage architectures.”

“We are pleased to see Mellanox innovating with Spectrum-2,” Li Li, SVP, General Manager of Product Sales and Marketing at New H3C Group. “As the industry migrates to 200 gigabit and beyond, we are seeking new levels of programmability along with significant performance enhancements. Spectrum-2 holds the promise of providing the best of both worlds.”

“The exponential growth of data as organizations embrace cognitive computing and artificial intelligence requires faster and more scalable network infrastructures,” said Bryan Talik, director, IBM OpenPOWER System Enablement. “The Mellanox Spectrum-2 enables IBM to deliver better scalability and network optimization for OpenPOWER systems.”

“We are strongly focused on maximizing our data center ROI,” said Mr. Leijun Hu, VP of Inspur Group. “With Mellanox’s new Spectrum-2, we can see a clear path to 200 gigabit and beyond with impressive scalability and unmatched power efficiency. Spectrum-2 has a rich feature set that will also allow us to fully optimize our network to suit our specific needs which is critical to addressing our expanding business needs.”

“The increase in data volume and the need to support more users require faster network speeds and higher scalability,” Tao Liu, VP, at Kingsoft Cloud. “Mellanox Ethernet solutions empower our cloud infrastructure today and we look forward to using the advanced capabilities of Spectrum-2.”

“Mellanox Open Ethernet Spectrum and the upcoming Spectrum-2 switches enable to optimize industry wide data centers for best performance and efficiency,” said Yuval Bachar, Principal Engineer, Global Infrastructure Architecture and Strategy at LinkedIn. “The industry need for the exponential data center and edge growth requires to build a scalable and robust infrastructure. The Mellanox solution will enable this growth, offering robust feature-set and capabilities.”

“As a longtime partner of Mellanox, we are thrilled to see the industry’s first 400G and 200G Ethernet switch offering adaptive routing and load balancing while guaranteeing Zero Packet,” said Mr. Chaoqun Sha, SVP of Technology at Sugon. “Spectrum-2 will give the industry the highest network and predictable performance, which is key to our providing our customers with world-class service and support.”

Availability Spectrum-2 SDK is available now for early-access. The Spectrum-2 switch ASIC is expected to be available later this year.

Supporting Resources:

- Learn more about: Spectrum-2 ASIC
- Explore: Spectrum Switch
- Find out more about: Tolly Report

- Follow Mellanox on: Twitter, Facebook, Google+, LinkedIn, and YouTube
- Join the Mellanox Community

About Mellanox
Mellanox Technologies (NASDAQ: MLNX)) is a leading supplier of end-to-end Ethernet and InfiniBand intelligent interconnect solutions and services for servers, storage, and hyperconverged infrastructure. Mellanox's intelligent interconnect solutions increase data center efficiency by providing the highest throughput and lowest latency, delivering data faster to applications and unlocking system performance. Mellanox offers a choice of high performance solutions: network and multicore processors, network adapters, switches, cables, software and silicon, that accelerate application runtime and maximize business results for a wide range of markets including high performance computing, enterprise data centers, Web 2.0, cloud, storage, network security, telecom and financial services. More information is available at www.mellanox.com.

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