Thu, Jun 18, 2015

Mellanox Introduces the World's First 25/100 Gigabit Open Ethernet-based Switch

Spectrum™ , world's first non-blocking 100G switch, provides leading throughput, latency, energy efficiency and scalability, to build the most efficient 25, 50 and 100 Gigabit Ethernet data center fabrics

SUNNYVALE, Calif. and YOKNEAM, ISRAEL – June 18, 2015 – Mellanox® Technologies, Ltd. (NASDAQ: MLNX), a leading supplier of high-performance, end-to-end interconnect solutions for data center servers and storage systems, today announced the industry's first 100 Gigabit Ethernet, Open Ethernet-based, non-blocking switch. Spectrum, the next generation of its Open Ethernet-based switch IC, overcomes current data center challenges by providing a highly flexible and scalable solution that allows businesses to deploy the hardware-software combinations best suited to meet their unique needs. With Spectrum, Mellanox is the first to offer end-to-end 10/25/40/50 and 100 Gigabit Ethernet connectivity.

Computing and storage infrastructures have reached a critical point due to the convergence of dozens of industry trends pushing them to the brink as data sets grow exponentially and threatening the unique competitive differentiator of many businesses. Commonly deployed closed-solutions, those that require the use of proprietary hardware-software combinations, leave many organizations unable to optimize their data centers to meet their business needs, making it difficult to garner actionable insights from expanding data sets**.** Based on the Open Ethernet architecture, Spectrum offers Mellanox's customers the choice of Application Programming Interface (API) for faster time-to-market and greater flexibility, while also providing industry-leading 25, 50 and 100 Gigabit Ethernet performance, ensuring the data centers can drive their business forward.

Spectrum continues Mellanox's Ethernet interconnect leadership, delivering non-blocking 6.4Tb/s full wire speed switching and routing capacity with industry-leading latency and lowest power consumption. Spectrum is the world's first non-blocking 100 Gigabit Ethernet switch, and its deterministic zero packet loss performance and mega scale make it the most efficient building block for cloud, Web 2.0 and enterprise applications, processing and fulfilling requests in real-time. As a founding member of the 25G Ethernet Consortium, Mellanox's Spectrum switch leads the transition to enhanced intra-rack connectivity of 25Gb/s and 50Gb/s to the servers.

Data center operators are embracing Software Defined Networking (SDN) to achieve scalability and agility, by leveraging full, centralized visibility and traceability of the network. Spectrum provides an advanced monitoring interface for continuous tracking of bandwidth and congestion, and programmable load balancing capabilities to resolve congestion swiftly and efficiently. Flow-based policy enforcement is accomplished with a flexible pipeline through protocols such as OpenFlow, without compromising performance, and allowing virtually unlimited sequential policies on a flow.

"We are forecasting a very strong uptake in 100 Gigabit Ethernet data center switching, with shipments increasing from approximately ten thousand in 2014 to over ten million by 2019," said Seamus Crehan, president of Crehan Research. "With the introduction of this high-density 100 Gigabit

Ethernet switch, Mellanox is in a position to take advantage of the pent-up bandwidth demand in cloud data centers, where it already has had considerable success with its high-speed low-latency adapter products."

"The need for increased speed and ability to customize data center networks to meet expanding business needs is critical for the modern application-dependent enterprise," said Cliff Grossner, Ph.D., research director, data center, cloud and SDN at IHS. "Open Ethernet delivering increased network programmability, choice of switch hardware components and switch OS will play an important role within the data center. The Spectrum-based switching and connectivity products from Mellanox will be attractive to enterprises building high performance and scalable data centers."

"With the exponential growth of data, the need for increased bandwidth, flexibility, and scalability becomes a necessity to stay competitive," said Gilad Shainer, vice president of marketing at Mellanox Technologies. "Spectrum, the newest edition to our Open Ethernet switch portfolio, enables our customers and users with the highest flexibility, performance and scalability. With Spectrum, data centers can migrate from 10 to 25, or from 40 to 50 or 100 Gigabit Ethernet, and be able to keep up with the escalating network demands for data retrieval and processing."

"Canonical, the market leader of scale out and OpenStack production environments, shares Mellanox's vision of open software and hardware platforms to enable new network and data center models," said John Zannos, vice president alliances and ecosystem, Canonical. "Snappy Ubuntu Core running on Mellanox Spectrum switches enables a new level of flexibility including transactional updates with rigorous application isolation. Mellanox and Canonical together allow customers the flexibility to run third-party software applications on top-of-rack without vendor lock-in."

"With the overwhelming explosion of data as a result of increased numbers of devices supporting engagement technologies, such as mobile and social, the high speed and reduced latency offered by Mellanox's Spectrum switch will help ensure instant response on transactions and deliver real time value," said Dexter Henderson, vice president and business line executive, IBM Power Systems. "The switch helps deliver upon the foundational elements of Power Systems: Increased cloud economics and efficiency, designed from the ground up for big data, all underpinned by open innovation."

"The Mellanox Spectrum switch is the latest 100Gb/s device to support the disaggregated model of Open Networking, allowing end-users the ability to choose the best hardware and the best software for their needs without vendor lock in," said Carlos Cardenas, co-project lead of Open Compute Project's (OCP) network group. "All of this is facilitated by using the OCP Open Network Install Environment (ONIE) and the OCP Switch Abstraction Interface (SAI)."

Mellanox is the first company to open-source its switch Software Development Kit (SDK) API, and, as a co-author of the Switch Abstraction Interface (SAI) specification at the Open Compute Project, Mellanox offers a full SAI API layer. Fast software integration can also leverage the integrated ONIE support.

Spectrum Key Features

- Compliant with 100GbE, 40GbE and 10GbE. Full support for the 25G and 50G Ethernet Consortium specification. Full support for 56GbE operation
- Integrated 32 100GbE ports, 32 40/56GbE ports, 64 10GbE ports, 64 25GbE ports and 64 50GbE ports.
- World first non-blocking 100GbE switch across all packet sizes
- Lowest power consumption: 135W at full 100GbE line rate on all ports.
- Supports twice the number of Virtual Machines versus competition
- Sub 300ns cut-through port-to-port latency in full load scenarios.
- Overlay gateway and tunneling support, including VXLAN, NVGRE, Geneve, MPLS, IPinIP
- Integrated, dynamically-configurable packet buffer
- Embedded low-latency RoCEv2 support for high performance storage and compute fabrics

Supporting Resources:

- **Learn more about Mellanox's Spectrum** switch silicon **and** switch systems
- **Learn more about Mellanox's complete** end-to-end Ethernet solutions
- **Follow Mellanox on** Twitter**,** Facebook**,** Google+**,** Linked-In**, and** YouTube
- Join the Mellanox Community