Mellanox Introduces Advanced Network Telemetry Technology to Keep Your Business Up and Running

Advanced "What Just Happened" Telemetry Technology Detects Network Anomalies to Dramatically Improve Data Center Uptime

Mellanox® Technologies, Ltd., a leading supplier of high-performance, end-to-end interconnect solutions for data center servers and storage systems, today announced an advanced Network Telemetry technology that provides visibility into Data Plane Anomalies – for public cloud, private cloud and enterprise computing.

What Just Happened (WJH) is a new intelligent monitoring technology that goes well beyond conventional streaming telemetry and Inband Network Telemetry (INT) offerings. These conventional telemetry offerings generate enormous amounts of data that is mined from network port counters and statistical packet sampling and hop-by-hop INT data. This type of telemetry data lacks any context or actionable details on abnormal network behavior, forcing the network admin or monitoring tool to perform time consuming analysis to find the root cause of network issues. WJH event-based telemetry delivers direct and actionable information and thus eliminates the guesswork from network troubleshooting.

The WJH solution leverages the unique hardware capabilities built into the Mellanox Spectrum™ and Spectrum™-2 Ethernet switch ASICs to inspect packets at multi-terabit speeds – far faster than software or firmware-based solutions offered by competitors. In Mellanox based switch systems, WJH inspects packets across all ports at line-rate, at speeds that would overwhelm traditional Deep Packet Inspection solutions. WJH then identifies anomalous behavior, consolidates this into concise, specific, and actionable data that enables rapid remediation and recovery of cloud applications and critical business operations. WJH is available now with the latest versions of Mellanox Onyx™, Cumulus Linux, and SONiC Network Operating Systems. The Mellanox WJH technology embraces Open Ethernet and is easily integrated with open source tools like InfluxDB, Grafana, Kibana, but also works with data center wide monitoring solutions like Mellanox NEO and Cumulus' NetQ.

"We make the most advanced Ethernet Switches in the market, with networking capabilities that go well beyond industry-leading latency and packet forwarding performance," said Amit Katz, vice president of Ethernet switches, Mellanox Technologies. "Customers need a smarter network, a network that can be invisible when it comes to automated installation and provisioning, but *extra-visible* when it comes to troubleshooting. Every customer who has tried WJH has been amazed at how quickly they were able to discover behavior they never knew was occurring in their network. We make WJH advanced telemetry available to all our customers without playing the license-per-feature game that our competitors do. WJH is a technology enabler that is the missing element for autonomous and self-healing networks."

"Mellanox Spectrum switches are a part of the Hewlett Packard Enterprise Storage Networking portfolio as the HPE M-series. For storage administrators, troubleshooting network and SAN issues has always been a challenge. With WJH, we solved this problem and can easily debug severe network issues in minutes. This is the power of ESF – it is not just another Ethernet switch," said Rupin Mohan, Director of R&D of Storage Networking at HPE. "The combination of WJH and Smart Fabric Orchestrator (SFO) enhances HPE M-series solutions and simplifies SAN management and troubleshooting by providing advanced diagnostics that help keep everything running smoothly without performance degradation."

"As web-scale networking becomes the enterprise norm, so does complexity. As complexity increases, so does the need for enhanced visibility. Complimenting Cumulus NetQ, which provides fabric wide telemetry, WJH is switch-by-switch and collects data at the packet level across all ports at line-rate," said Josh Leslie, CEO of Cumulus Networks. "Combining WJH and Cumulus NetQ provides fabric wide telemetry and packet information, enabling deeper visibility with additional granularity across the network fabric for better understanding of the entire network."

"As NVMe over Fabrics™ lays the foundation for next-generation composable disaggregated infrastructure (CDI) – one where compute, networking and storage can be logically and dynamically configured for specific application workloads – a tool such as Mellanox's WJH can be extremely beneficial," said Scott Hamilton, senior director of Product Management, Western Digital's Data Center Systems business unit. "Within CDI, these highly scalable pools, including our OpenFlex™ storage platforms, must be accessible across a fabric and provisioned when and where resources are needed. Therefore, understanding network performance and bandwidth, and optimizing settings to enable the lowest latency and highest performance possible is crucial to meet the demands of data-intensive applications and data-driven environments."

"Excelero and Mellanox share a commitment to helping Ethernet Storage Fabric customers squeeze the most performance from their IT systems, and the new Mellanox WJH makes doing this even easier," explained Yaniv Romem, Excelero's CTO. "We are excited to take advantage of Mellanox's WJH advanced visibility features in our NVMesh solution for shared NVMe Flash across any network. WJH helps us to save time in addressing anomalies that are notoriously hard to reproduce, so we

can ensure consistently low latency with storage access."

"Apstra Intent-Based Data Center Automation increases application reliability and availability, simplifies deployment and operations, and significantly reduces costs for Enterprises and Cloud Service Providers," said Michael Wood, CMO and VP of Product at Apstra. "Apstra pioneered Intent-Based Networking and includes both single source of truth and real-time validation in addition to Intent-Based Analytics to continuously monitor, measure, and identify differences from original intent, design, and expectations. Mellanox WJH enables a new level of hardware-accelerated telemetry which Apstra is able to take advantage of as part of Apstra Intent-Based Networking to further increase the volume, granularity, and depth of information collected, processed, and analyzed across data center infrastructures."

"Unplanned data center outages cost millions of dollars per year in lost revenue," said Sameh Boujelbene, Senior Director at Dell'Oro Group. "In today's digital world, a stable network is key to reliable business operations, and this is only achieved by knowing what is going on in the network. As data center networks increase in performance and sophistication with overlays, such as VXLAN and GENEVE, there is a real need for ever more advanced visibility. Advanced network telemetry is an emerging technology that will increase data center uptime. While a very basic level of telemetry has been part of all data center switch for years, this new kind of advanced telemetry is now an area of innovation that network operators are focused on and we believe WJH will drive demand for Mellanox Ethernet switches."

"Nimbix accelerates HPC, AI and machine/deep learning applications by providing purpose-built cloud computing technology that is optimized for these workloads," said Rob Sherrard, Co-Founder & VP of Service Delivery at Nimbix Inc. "Mellanox's switches are part of our best-in-class cloud computing infrastructure and we are excited to use WJH to increase the utilization of the data center fabric while improving the visibility of the overall network."

Mellanox will be showcasing the WJH technology at the 2019 KubeCon event in Barcelona, May 20-23. Visit Mellanox at booth S33 to learn about the benefits of Mellanox high throughput networking solutions with advanced network telemetry built-in.

Additional Resources:

- Learn more about WJH on Mellanox What Just Happened (WJH) Telemetry
- Learn more about Mellanox Spectrum Switches
- Follow Mellanox on: Twitter, Facebook, LinkedIn, and YouTube
- Join the Mellanox Community

About Mellanox
Mellanox Technologies is a leading supplier of end-to-end Ethernet and InfiniBand smart interconnect solutions and services for servers and storage. Mellanox interconnect solutions increase data center efficiency by providing the highest throughput and lowest latency, delivering data faster to applications, unlocking system performance and improving data security. Mellanox offers a choice of fast interconnect products: adapters, switches, software and silicon that accelerate application performance and maximize business results for a wide range of markets including cloud and hyperscale, high performance computing, artificial intelligence, enterprise data centers, cyber security, storage, financial services and more.

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