Going SONiC with Mellanox and AVIZ

Unleashing a New Era of Open Source Networking

Network disaggregation allows data center operators to break free from vendor lock and build an infrastructure using best-of-breed hardware and software. Open, reliable and high-performance operating systems like Linux have been freely available for several decades in the server market. However, the networking industry has lacked a royalty-free, reliable and scalable Network Operating System (NOS). That just changed recently with the introduction of **SONiC** (Software for Open Networking in the Cloud).

SONiC is the first micro-services based fully on open-source Linux OS, for data center networking. SONiC runs seamlessly over bare metal switches, and is used in some of the world's biggest data centers. It delivers high capacity fabrics, with unprecedented price performance, and unleashes a new era of open source networking. Also, it enables a large ecosystem of micro-services and automation tools on networking infrastructures, while delivering new levels of innovation, method of ownership, and flexibility to the data center.

The new **WhiteNOS™** model augments rich data center networking solutions to support large-scale **Clos Fabrics** and next generation architectures, in a new ownership model.

BENEFITS TO END-CUSTOMERS

- Lower Costs
- Access to Source Code & Libraries
- Customizable Micro-Services
- Improved Quality & Security
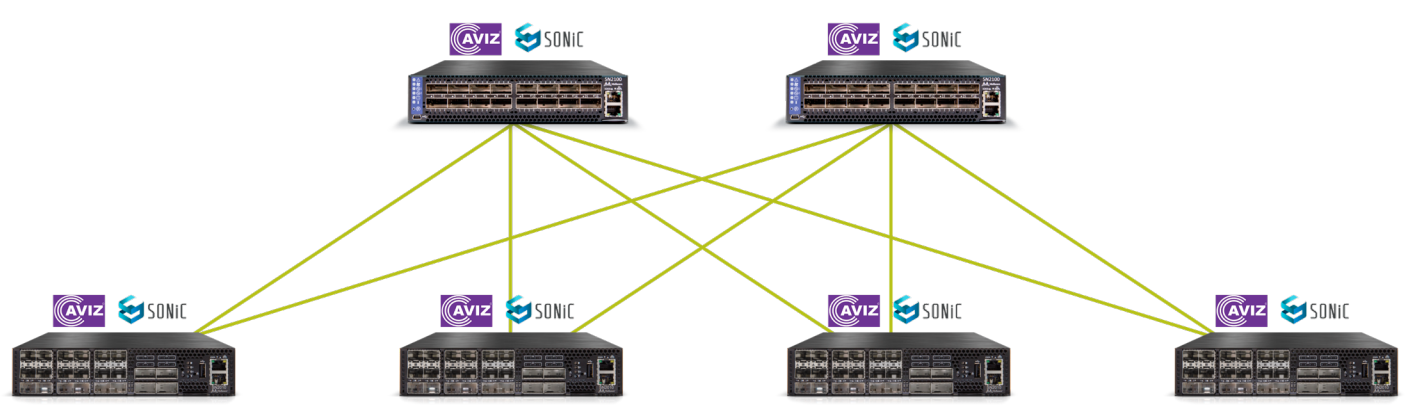- High Scalability
- Faster TTM

Figure 1: Mellanox Spectrum Ethernet switches running SONiC, with AVIZ network support, supporting a scale-out, high-performance infrastructure.

The Challenge

Network operators are adopting open-source software such as SONiC to achieve operational and cost efficiencies. However, open source does not come with support services, making it hard to trouble-shoot, configure, manage and orchestrate at scale. Additionally, the commodity SONiC-based switches in the market lack the performance and telemetry features needed to support scale-out high-performance infrastructure.

THE SOLUTION

The solution is comprised of Mellanox Spectrum Ethernet switches running SONiC, with support from AVIZ Networks.

Mellanox Spectrum Ethernet Switches

Mellanox has been pioneering the Open Ethernet approach to network disaggregation for several years. Today, the Mellanox Spectrum family of Ethernet switches supports the widest range of open network operating systems, including SONiC. Customers have the choice to upgrade to the "fit-for-purpose" operating system while retaining the same underlying hardware.

Unlike other vendors who use off-the-shelf switch silicon, Mellanox Ethernet switch platforms are based on differentiating Mellanox Spectrum silicon technology. Mellanox Spectrum Ethernet switches are ideal for building wire-speed and cloud-scale layer-2 and layer-3 networks, and feature a robust high-bandwidth and low-latency RoCE data path. Mellanox Spectrum platforms deliver high performance and consistent low latency, along with support for advanced software-defined networking features, making them the ideal choice

for web-scale IT, cloud, hyper-converged storage and data analytics applications. Mellanox Spectrum Ethernet switches also support advanced streaming telemetry technology called What Just Happened™ (WJH), which goes beyond conventional telemetry solutions by providing actionable details on abnormal network behavior.

AVIZ Networks Solution Support

AVIZ Networks empowers the customer to build a modern, scalable data center, with the same paradigms of manageability, clustering, monitoring, and orchestration as those applied at the server and virtual machine layer to the network, and enabling them to realize the full promise of open source NOS.

The solution fully supports Mellanox switches with open-source SONiC distribution, or AVIZ-based SONiC distribution. Working closely with Mellanox, AVIZ provides level 1 to level 3 support, and a variety of different support package options with different SLAs. The support package includes bug fixes and patch releases, enabling an enterprise-class solution.

CONCLUSION

Network operators can achieve significant operational and cost efficiencies by adopting open-source operating systems like SONiC. These open networking platforms enable customers to choose best-of-breed components that optimize and automate their data centers, and meet their business needs.

The fully integrated and tested combination of Mellanox Spectrum switches, SONiC NOS, and AVIZ professional support is the ideal way to achieve this agility and improve the pace of innovation, efficiency, and automation of their data center infrastructure.

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 hyper-converged infrastructure. Mellanox 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 multi-core 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.

About AVIZ Networks

AVIZ Networks is a supplier of Open Source NOS solutions. Open Source NOS has become a commodity and hence the term *White*NOS™. AVIZ works with various switch and ASIC vendors to make Open Source NOS a productionready solution. AVIZ offers Engineering, technical pre-sales, and support services for SONiC, FRR and DENT. Also, AVIZ is a major contributor in various communities, and offers IP in the form of AVIZ Intelligent Micro-Services (AIMS). More information is available at www.aviznetworks.com

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