



Afrihost Achieves 20-40% Cost-Savings with Mellanox Switch Solution

Mellanox Spectrum® SN2000 Series 25/100GbE Ethernet Switches Enable Operational Simplicity & Scalability, and the best ROI

Afrihost is the brainchild of 3 best friends - a story of friendship and determination that began 20 years ago. Starting out as a provider of Internet Services Provider (ISP), Afrihost have since continued to expand their offerings and capabilities, adding broadband and communications, ADSL, VDSL, fibre, fixed wireless, mobile, hosting and domain services.

Despite its incredible growth, Afrihost has built a solid reputation providing datacentre network and hosting environments defined by speed, QoS, reliability and availability, to best serve a wide range of customers.

Keeping Pace with Upgrading the Network Infrastructure

Adapting to a growing trend of cloud-based applications and services and an expanding customer base, Afrihost sought to upgrade their core network and hosting points of development (PODs) to achieve significant performance and redundancy improvements over their existing setup.

Afrihost's old setup consisted of a core network with high availability at the BGP level; top of rack (TOR) switching for hosted services, and datacentre-based client services. Implementing a platform refresh required Afrihost to address a variety of legacy issues including complex architectures, fragmented systems and the rise in cyberthreats and attacks. Meeting compliance requirements, reducing support costs and increasing services availability were key concerns as well.

Data Sciences Corporation, a value-added reseller and systems integrator, was the obvious partner of choice to help Afrihost achieve a successful outcome. As a Solutions Partner/Integrator to Afrihost for more than 6 years, Data Sciences provides innovative, next generation solutions in customers' complex technology and data centre environments. According to Rui de Oliveira, Business Development, Data Sciences Corporation, " Afrihost and Data Sciences Corporation, continually investigate and adopt unique, relevant and differentiated technologies that help our customer's challenges providing them with better and more reliable user experiences on services or platforms deployed."



Highlights

Customer Background

Afrihost is a South African hosting company. Amongst Afrihost's diverse businesses are its datacenter and hosting environments. As a leading ISP in South Africa, Afrihost's vision is to maintain its recognized role as a leading provider of high value datacenter and hosting services.

Afrihost Challenge

Afrihost's infrastructure team was challenged to upgrade its legacy platforms and hosting infrastructure to accommodate evolving customer requirements and trends.

Solution Components

- Mellanox Spectrum® Open Ethernet 25/100GbE switches running Onyx
- Mellanox A4610 running Cumulus Linux
- Ansible based automation

Key Benefits

- Flexible Architecture
- High performance
- Low latency
- Seamless availability
- Reduced TCO 20-40%

Platform Choice: Key Considerations

Switch platform selection was based on several criteria, including managed availability for redirecting traffic to a secondary set of on-premise servers if primary servers were to become unavailable, for example, due to essential services coming under attack from a “Blaster Virus” or “Distributed Denial of Services” (DDOS). Additional criteria include higher speed; lower latencies and seamless availability of services.

Architecture Overview

To build the highest performance infrastructures with the best availability possible, Afrihost selected Mellanox Spectrum® Open Ethernet SN2000 Series switches running Mellanox ONYX, and a Mellanox AS4610 running Cumulus Top of Rack solution for its data centre and hosting environments. Having evaluated several switches on the market, Afrihost chose Mellanox SN2000 series for its high performance and flexible architecture, delivering up to 100GbE wire speed on all ports, with extremely low latency. In addition, the ability to carry both 25GbE and 100GbE offered Afrihost the flexibility to fully leverage their existing infrastructure.

Mellanox Spectrum switches feature flexible architecture in a fabric supporting a robust and high-performance 25/100GbE data path with high bandwidth, zero packet loss, and consistent low latency. Cumulus Linux is a powerful open network operating system that allows operators to automate, customize and scale using the same DevOps principles as those used by the mega-scale data centres. With Cumulus Linux, all standard Linux server automation tools are readily available for network infrastructure automation as well.

Architecture Flexibility

The leaf-spine architecture provides the scalability and flexibility for Afrihost to implement its service network, storage network and management network on the same architecture. While these networks are co-located in the same infrastructure, they are independent in terms of performance, scale and traffic isolation. Overall, the networks need to deliver performance, high availability and security for guaranteed SLAs, and operate with cloud scale and efficiency. To meet these requirements, Afrihost built these networks with 25/100G Ethernet switch solution from Mellanox.

Key Benefits - 20-40% Cost Savings

Infrastructure and operations teams are under constant pressure to deliver higher performance with tighter budgets. With Mellanox, Afrihost was able to reduce the costs of their operations while achieving managed availability, higher speeds and lower latency, with seamless availability.

High Performance

Mellanox SN2000 Series switches packs up to 48x100GbE ports in ½ width and 1U form factors. The SN2100 switch, for example, comes in a half-width compact form factor, of which two can be installed side-by-side to provide active-active redundancy in 1U rack space. Mellanox Spectrum switches provide the best forwarding scale for layer-2, layer-3 as well as network virtualization applications.

“We chose Mellanox for the key advantages they displayed over the competition, including their simplistic no-license sales model and adoption of resources, and high performance RoCE/NVMe technologies.”

– Carel Fölscher, Technical Manager at Afrihost

Reduced Total Cost of Ownership

Mellanox Spectrum Open Ethernet switches free customers from vendor lock-in and gives them the ability to pick the best-of-breed and “fit for purpose” software. Open Ethernet brings transparency to solution pricing and reduced capital expenditure. Also, 25/100GbE speeds improve cable utilization and effectively bring down cabling cost. When it comes to power consumption, SN2010 and SN2100 Ethernet switches, feature sub-100W power consumption—the lowest power footprint in the industry; such power efficiency further reduces the operating costs associated with the solution.

Future Plans

Afrihost was tasked to update their datacentre and hosting environments, enabling differentiation for their customers and providing them a competitive advantage. As Afrihost’s business keeps growing with client requests and services, the company will continue to innovate and evolve to meet customer requirements and demands. Mellanox will be a key consideration for any expansion.

About Mellanox

Mellanox Technologies is a leading supplier of end-to-end InfiniBand and Ethernet 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 and unlocking system performance capability. Mellanox offers a choice of fast interconnect products: adapters, switches, software, cables 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 and financial services. More information is available at: www.mellanox.com

About Afrihost

Afrihost is not a story of products, strategies or market-share, but a story of friendship and determination. Afrihost is the brainchild of best friends, who had a dream of building a company free of corporate shackles, that would delight their clients with excellent service and amazing products. Afrihost is an award-winning South African Broadband, Web Hosting and Telecoms Service Provider. More information is available at: <https://www.afrihost.com/>

About Data Sciences Corporation

Data Sciences Corporation is a leading value-added reseller and systems integrator that supplies innovative, next-generation datacenter solutions across South Africa. Data Sciences develops and implements technology solutions designed to meet customer needs and expectations. As a number, flexible and dynamic organization, Data Sciences continuously adapts to the evolving needs of customers and the shifting landscape of infrastructure and data sciences technology. For more information, visit: www.datasciences.co.za