BancABC Makes Seven-Fold Network Performance Improvement with Juniper at Its Core

Summary

Company:
BancABC

Industry:
Financial Services

Challenges:
- Support a 98% virtualized business model
- Provide a network infrastructure to support a sophisticated storage solution
- Simplify operational management
- Improve network performance

Selection Criteria:
BancABC had specific storage-related selection criteria which could only be met in a cost-effective manner by Juniper Networks. The fact that the QFX Series switch investment would be preserved with a future upgrade to a full QFabric System deployment made Juniper the perfect solution for BancABC's virtualized environment.

Network Solution:
- SRX650 Services Gateway
- QFX3500 Switch
- Junos Space

Results:
- Zero downtime in transition to new storage environment
- Seven-fold database replication performance improvement
- Significant reduction in operational issues and support calls
- Central management and control

Headquartered in South Africa, ABC Holdings Limited is the parent company of a number of sub-Saharan Africa banks operating under the BancABC brand. These banks offer a diverse range of financial services including personal, business, and corporate banking as well as asset management, stock trading, and treasury services. In 2012, the International Finance Corporation (IFC), which is part of the World Bank, awarded BancABC its annual "best global trade finance program issuing bank in Eastern and Southern Africa" accolade.

Challenge

Rapid business expansion means BancABC's core banking system's customer database doubles year-on-year, especially since its introduction to retail banking. This growth drives more system requirements through business partnerships, requiring integration and tools. The storage solution in place struggled with the increased workload. As Neville Perry, group chief technology officer, explains: "This expanded infrastructure now needs an enterprise-scale storage solution. At the same time we are deploying a largely virtualized business model which works well for us in the region." Once the bank had decided on a suitable storage solution, it turned its attention to the network, which had to be capable of handling 400 GB over the backbone to support the new storage infrastructure as well as the virtualized business model. Perry adds: "The new storage solution and the demand for virtual machines in a VMware architecture required a network infrastructure with a single point of management, as well as full scalability to grow with the business. Cost and data throughput capability were key criteria for us."

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Neville Perry, Group Chief Technology Officer, BancABC

Selection Criteria

BancABC investigated the market for the best networking partner to support its virtualized business model and new storage solution. Future plans for conversion to 10GbE and higher speeds needed to be accommodated, as well as continuous processing of storage I/O and complete redundancy to eliminate single points of failure. The storage infrastructure also demanded a network failover capability of less than 30 microseconds.

Solution

Juniper Networks technology was already in use within the bank, providing secure VPN and wireless connectivity. The bank's firewall security was provided by Juniper Networks® SRX650 Services Gateway devices, which are deployed in each of its 92 branches and 12 data centers across the region. To support the new storage infrastructure and virtualized business model, BancABC investigated Juniper Networks QFX Series switches. These high-performance, low-latency network edge devices can provide the first step into a full QFabric™ System deployment, where multiple components work together as a single switch to provide simplified data center operation, making it ideal for BancABC's virtualized yet distributed environment.

A visit to Juniper Networks' Executive Briefing Center in the U.S. convinced BancABC that it was on the right track. "We had some really productive white-boarding sessions where we went through our infrastructure and business objectives as well as Juniper's product strategy and vision," Perry says. "We felt the QFX Series switches could do everything we needed them to, and we liked the idea of preserving our investment over time with a simple upgrade to a full fabric system, which we can see coming in the near future."

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The resulting network, housing the bank's Spanning Tree Protocol (STP) engine, Customer Relationship Management (CRM) and credit checking applications, and Internet banking, was built to support virtualization and enable the flexibility to separate service from physical hardware, allowing the bank to move resources where they fit best. The central data center, managing 140 virtual machines and 10 physical Dell Blade servers, is built on the Juniper Networks QFX3500 Switch. This deployment is being phased into a full Juniper Networks QFabric System implementation, where the QFX3500 switches will assume the role of QFabric Node edge devices.

The network is managed through Juniper Networks Junos® Space. This comprehensive solution, especially suited to BancABC's virtualized infrastructure, enables simple and automated management of all Juniper Networks switching, routing, and security devices. Commenting on the benefits of this approach, Zak Anderson, senior security specialist at BancABC, says: "We use Junos Space to manage the network devices within our VMware infrastructure, to back up all configuration changes and keep a record of logs coming through from the branches. Prior to the introduction of Junos Space, we would have 15-20 unauthorized network and infrastructure changes every day. Today, with the use of Junos Space scripts, all configuration change requests are checked and verified before implementation."

"We are creating specific application portfolios to help our engineers. They won't need to produce their own rule bases anymore, but can simply apply rules from an existing script," says Perry. "Junos Space has given us a great deal of central control and management and has helped us mitigate risk. In addition it's an extremely user-friendly tool which has been well received by our engineers."

Results

The transition to the new storage environment meant moving from 1GbE to 10GbE processing power. This was achieved with zero downtime thanks to the network redundancy introduced with Juniper Networks technology. Immediately the database replication, which happens daily, was finishing seven times faster in the new environment, a massive productivity gain. In addition, the bank has noted a substantial drop in support calls from its organization. "When operational issues do occur, for instance a malicious virus attack, it's typically in our legacy environment. When replaced with Juniper Networks technology, issues and support calls drop to almost zero," Anderson says.

Next Steps and Lessons Learned

The migration to a full QFabric System, which is currently underway, will enable BancABC to deploy centrally managed wireless networks across Africa. The aim is to deploy multiple other financial services brands using an Infrastructure-as-a-Service (IaaS) model so that new brands won't need to invest in their own network infrastructure. BancABC is also in the process of upgrading its SRX Series security devices, adding more processing power and services to scale with the business.

Perry concludes: "With Juniper Networks we now have a reliable, high-performance network, operational simplicity with central management and control, and a clear growth path which gives us full confidence that wherever the business takes us, our network will follow."

Next Steps and Lessons Learned

With a new network powering its data center and headquarters operations, MercaSID is refreshing the network infrastructure in its branch offices, warehouses, and restaurants. Juniper Networks EX3200 and EX2200 Ethernet Switches will provide connectivity in its branch offices.

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

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