

Bank Gains Superior SAN Manageability



Banco Nacional de Costa Rica uses Cisco MDS systems to increase capacity, service quality, and manageability.

EXECUTIVE SUMMARY

Customer Name:

Banco Nacional de Costa Rica

Location: San José, Costa Rica

Employees: 5000

Business Challenge:

- Expand SAN network capacity and support virtualized environment
- Improve availability
- Simplify management of multiple SAN domains

Network Solution:

- Cisco MDS 9000 Series Multilayer Directors
- Cisco Nexus Series 2000, 5000, and 7000 Switches
- Cisco Data Center Network Management

Business Results:

- Increased SAN switching capacity from 1-2 Gbps to up to 10 Gbps
- Improved availability and performance of customer services
- Simplified management

Business Challenge

The Banco Nacional de Costa Rica is the largest bank in Costa Rica and Central America. Its network supports 170 offices and more than 400 ATMs across the country. In addition, 1200 stores are affiliated with the bank's systems and provide businesses with payment, cash, and credit operations.

The bank's IT infrastructure team is dedicated to meeting the performance levels required by its various businesses, as well as to continuous innovation in support of new services. At the same time, the IT team must operate within a strict budget. Maximizing infrastructure reliability, performance, and return on investment is critical.

In the past, the bank had consolidated its SAN environment over a Fibre Channel fabric. The SAN infrastructure included a UNIX (AIX) domain, a mainframe domain, and an open-system domain that supported Windows systems and applications. The storage infrastructure included servers from three major server vendors.

However, the consolidated environment was challenging to manage. Organized as a single Virtual SAN (VSAN), all of the systems were mixed together from a management and performance standpoint. Performing maintenance or replicating data after a business continuity test severely taxed the Fibre Channel network bandwidth. As a result, the servers and infrastructure attached to the SAN experienced problems that affected the bank's services to customers.

"Our first challenge was to move from a limited, purely physical infrastructure to a virtualized environment for greater flexibility and scalability," says Christian Campos Chinchilla, storage architect for Banco Nacional de Costa Rica. "We also needed to migrate our SAN systems to robust platforms that would give us the advanced features we needed with an ability to easily segment our SAN environment for higher availability."



“Because we can segment and manage traffic more easily, we are moving our videoconference traffic through the Cisco Nexus and MDS platforms. We will be able to support any application demand or customer requirement that might be needed in the future.”

Christian Campos Chinchilla
Storage Architect



Campos Chinchilla’s list of requirements for a new SAN infrastructure included flexibility, scalability, and high availability. His team also conducted an extensive evaluation of governance, integration, and training requirements for a new SAN to identify the best investment for the bank’s budget.

“After our analysis, we chose Cisco solutions for all of the benefits they will give us,” he says.

Network Solution

Working as a team, infrastructure architects Christian Campos, Danny Muñoz, and Alejandra Zúñiga decided to choose Cisco Nexus® 5000 switches for the core of its Fibre Channel fabric. The Cisco® Nexus core provides a high-capacity unified fabric that simplifies management while reducing the number of infrastructure devices and consolidating connections. This design also offers the architectural flexibility to connect servers with 1-Gigabit Ethernet, 10-Gigabit Ethernet, or Fibre Channel connectivity, while simultaneously reducing costs associated with ports, cables, and cooling. Cisco Nexus 2000 Series Fabric Extenders use the same Cisco Nexus technology to connect to the bank’s servers through a cost-effective access layer with high scalability, allowing the SAN team to quickly expand capacity as needed.

The bank also chose Cisco MDS 9000 Series Multilayer Directors for SAN switching. These high-performance, protocol-independent, director-class SAN switches meet the most stringent enterprise data center storage requirements. The bank deployed Cisco MDS 9000 Series systems in the main and secondary data centers. The Cisco MDS systems are connected to the network core using two 8-Gbps Fibre Channel links over a 16-Gbps optical link. The two data centers are connected over 40-Gbps links to maintain near-real-time updating for backup purposes.

The Cisco MDS 9000 Series is designed for virtualized server environments and provides the high density needed to maintain high performance and availability for all servers connected to the network. The Cisco MDS 9000 Series is also mainframe-ready, supporting intermixed FICON and open-systems Fibre Channel protocol traffic on the same switch.

Banco Nacional also uses Cisco Prime™ Data Center Network Manager (DCNM) to simplify management across multiple switches. A robust framework and rich feature set meets the routing, switching, and storage administration needs of virtualized data centers. Cisco DCNM streamlines provisioning of the Bank’s unified fabric while proactively monitoring LAN and SAN components.

Business Results

“Cisco MDS and Nexus solutions gave us what we need,” says Campos Chinchilla. “We can isolate specific domains to better manage the traffic for all our services. We gained integration advantages that Cisco competitors did not provide. And our engineers have great experience with Cisco products, so our confidence and knowledge make it easy to manage the new platforms.”

The Cisco MDS systems provide greater stability because tasks such as maintenance windows and backup processes no longer disrupt critical network services for customers. The bank was able to migrate from a 1- to 2-Gbps environment to a SAN switching infrastructure that can scale to 10-Gbps Fibre Channel capacity. Traffic can run at full line rate to deliver superior SAN performance.

PRODUCT LIST

- Cisco MDS 9000 Series Multilayer Directors
- Cisco Nexus 7000, 5000, and 2000 Series Switches
- Cisco Prime Data Center Network Manager

Intelligent network services such as advanced VSAN and inter-VSAN routing capabilities enable the bank to segment its SAN resources and maintain high performance. Intelligent VSANs also simplify management of intermixed SAN resources. They eliminate the possibility of misconfigurations or component failure in one VSAN affecting operation in other VSANs.

“Because we can segment and manage traffic more easily, we are moving our videoconference traffic through the Cisco Nexus and MDS platforms,” says Campos Chinchilla. “We will be able to support any application demand or customer requirement that might be needed in the future.”

Next Steps

Banco Nacional is planning to expand to a third data center, which will extend the SAN. Because the Cisco Nexus and MDS solutions leverage a common operating system, the bank expects to be able to benefit from its LAN and SAN teams’ combined knowledge to support its infrastructure for the future.

For More Information

To find out more about Cisco Multilayer Director Switches, visit www.cisco.com/en/US/products/ps5990/index.html.

To learn more about Banco Nacional de Costa Rica, visit www.bncr.fi.cr.

This customer story is based on information provided by Banco Nacional de Costa Rica and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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