National Credit Union Federation of Korea Modernizes Its Data Center with Solutions from Juniper Networks

Summary

Company:
National Credit Union Federation of Korea (CU)

Industry:
Financial Industry

Business Challenge:

- Data center networking equipment was reaching obsolescence and prone to failure.
- Existing network capacity could not keep pace with the growth in online transactions.
- Network was unable to efficiently support new, state-of-the-art IT systems and applications.

Technology Solution:

- MX960 and MX480 3D Universal Edge Routers
- EX8200, EX4300, EX4600, EX3300, and EX2200 Ethernet Switches
- SRX650 Services Gateway

Business Results:

- Increased stability and reliability of network-dependent systems such as e-banking, training center applications, data center applications, backbone connectivity, test networks, and the Internet.
- Achieved 10x improvement in network performance and capacity, with support for 10 Gbps compared to the previous 1 Gbps.

National Credit Union Federation of Korea (CU) is a nonprofit cooperative financial institution that manages assets worth US$60 billion (or KRW 71 trillion, as of August 2016) through 906 credit unions and 1,656 branches in the country. The main businesses of CU include universal banking, savings, lending, and mutual insurance for union members.

As a major financial institution, CU deploys powerful IT systems to run its operations and is constantly working to improve them. In 2014, CU successfully completed its Mutual Insurance Business Next-Generation Project, which led to the successful development of a new system for its mutual insurance business, as well as improved customer management. It also created an "informatization roadmap" to guide the organization's information strategy through to 2018.

Business Challenge

To maximize the benefits of its next-generation systems and successfully execute its information strategy, CU had to overcome its aging network. Most of CU's network infrastructure, which was built from solutions by another vendor, was introduced in 2007, when its computing center was first built. Over time, the equipment began to fail, affecting the stability of applications which relied on network connectivity. Technical support also became a major issue as the equipment faced obsolescence and maintenance contracts with vendors expired.

The old network equipment also failed to meet the needs of the current IT environment. "When the equipment was first implemented, 1 Gbps connectivity was state-of-the-art, but now 10 Gbps has become the norm, so we needed to respond to these changes in the IT environment," says Park Soon-Yeong, head of the information planning team, IT Planning and Management, CU.

At the same time, the increase in the volume of online transactions added further pressure to the network, and CU had to spend more time and effort on network quality management.

"The network has been operating smoothly without any failure since the new equipment was commissioned. There is no problem in terms of traffic monitoring and control. Everything is running so well that we no longer have to pay special attention to network quality management."

Park Soon-Yeong, Head of the Information Planning Team, IT Planning and Management, National Credit Union Federation of Korea

Technology Solution

In May 2015, CU embarked on a Data Center Network Infrastructure Improvement Project to replace the aging equipment and overcome the functional limitations of its network. The goal was to employ next-generation equipment in order to enhance network stability and minimize service interruptions; improve network performance within the data center; and ensure ease of management.

After conducting a proof-of-concept evaluation with three major network vendors to verify the stability and performance of their products, CU decided to replace its network equipment with Juniper Networks® EX Series Ethernet Switches, Juniper Networks MX Series 3D Universal Edge Routers, and the Juniper Networks SRX650 Services Gateway.

The EX Series Ethernet Switches were selected for their high-performance core, campus aggregation, and end-of-row deployment capabilities. Juniper's Virtual Chassis technology also allowed multiple EX Series switches to operate as a single device, enabling centralized management and streamlined operations.

The MX960 and MX480 3D Universal Edge Routers, which support up to 40 10GbE ports per slot, offered stellar density, scalability, and service agility that improved network performance, while the SRX650 provided enterprise-level security.

"Juniper Networks proposed the equipment that provided the best performance," Park says. "The solution was also very stable, and no issues arose when we conducted benchmark tests to verify this."

Another important consideration in the vendor selection process was access to local service and support. Juniper Networks was able to address this with its strong services network which covers key locations across South Korea, including Daejeon where the CU data center is located.

Given the confidence developed in Juniper during the selection process, CU decided to take a "big bang" approach for its data center modernization project, which meant replacing everything at one go.

As Park explains, "Stringent advance tests were carried out on both the equipment and the processes prior to deployment in the 'live' network, to prevent errors and minimize the chance of any impact on business operations. The entire process went smoothly, and the network replacement project was completed within a few hours without any equipment failure or error."

Business Results

The deployment of Juniper Networks solutions boosted the health of CU systems such as electronic banking, training center applications, data center applications, backbone connectivity, test networks, and the Internet.

"For a financial institution like CU, our top priority is the stability of the network," Park says. "The network has been operating smoothly and without any failure since the new equipment was commissioned. Traffic monitoring and control have improved. Everything is running so well that we no longer have to dedicate extra efforts to network quality management."

Network performance has also improved significantly, and the new equipment from Juniper is able to support CU's next-generation systems with 10 Gbps connectivity. The high-performance network serves as a foundation for new technology introductions, including virtualization and software-defined networking (SDN), which will help CU efficiently cope with ever increasing workloads and traffic.

"For a financial institution like CU, our top priority is the stability of the network. We introduced equipment from Juniper Networks to improve stability, and also to deliver the performance required to support virtualization solutions, guarantee high throughput and scalability, and ensure compatibility with new technologies."

Park Soon-Yeong, Head of the Information Planning Team, IT Planning and Management, National Credit Union Federation of Korea

Next Steps

With the new network, CU can flexibly introduce new IP-based services. For example, CU has built an IP telephony (IPT) network which enables automatic route selection to reduce communications costs. The IPT network will also dovetail with the IP-based integrated call center which CU is planning to introduce in the future.

With the completion of the Data Center Network Infrastructure Improvement Project, CU is also better able to enforce security and ensure compliance with regulatory requirements. For example, the EX3300 and EX2200 Ethernet Switches enable CU to segment the network in order to comply with the network separation policy the Korean Financial Supervisory Service requires for financial companies. CU is also carrying out an Internet Network Partition Infrastructure Project to safeguard the assets of union members and customers by preventing intrusion and leakage of personal information.

About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on Twitter and Facebook.

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