

# BUILDING THE NEXT GENERATION OF SECURE NETWORKS

## Summary

**Industry:** Finance

**Challenge:** Provide reliable, next-generation network solutions capable of ensuring complete security on a large scale, with provisions for future expansion

**Network Solution:** Juniper Networks SSG550M Secure Services Gateway and Juniper Networks IDP1100 Intrusion Detection and Prevention Appliance supported with ScreenOS software

**Results:** Enhanced performance, reliability, and stability; reduced security threats; smooth integration into existing network; improved cost efficiencies

Shandong Rural Credit Union is a provincial-level financial services provider responsible for financial development in rural Shandong. Composed of 17 city offices, numerous city-level credit unions, 133 county-level credit unions, and approximately 5,800 business points of presence, the credit union is interconnected at multiple provincial, city, county, and network levels. For the sake of modernizing and advancing the community as a whole, the credit union built science and technology centers in every city in Shandong Province—including one at the provincial capital Jinan’s credit union office, which serves as the network junction for the entire province. The credit union has long regarded network development as an important factor in further improving business, service, and management, and has placed network improvement at the core of its overall development strategy. To meet the actual conditions and developmental needs of the existing network, the credit union initiated a next-generation network construction project.

## Challenges

Rural credit unions play an indispensable role in providing convenient and efficient financial services crucial to building and developing China’s countryside. Due to the increasing demand for proficient social networking and swift information sharing, powerful networks have become the fundamental platform on which these financial institutions carry out business, provide customer services, and implement effective management. Specialty credit union branches are central to China’s growth process, and have been distributed extensively throughout the country’s rural areas. However, these credit unions exist at the grassroots level, imposing more difficult requirements on the construction and application of their networks.

In recent years, the overall financial industry’s rapid development aided the credit union’s data integration at the city level. Despite this, the credit union’s data integration at the municipal level remained a difficult prospect, mostly because the credit union’s original network design was no longer able to meet necessary development requirements. A complete revision of the network—including the planning, construction, and upgrades necessary to transform it into a flexible, reliable, next-generation platform—were essential to optimize data integration at the provincial level. Compounding the credit union’s network concerns were its security requirements—total security of the credit union’s existing and future digital assets was essential during the network renovation and in the future.

## Selection Criteria

The credit union's next-generation network is based on the "Three Centers and Two Places" model, in which 17 cities in Shandong are interconnected with the Huangdao Science & Technology Center and the Provincial Science and Technology Center. This large-scale design makes use of advanced application requirements that result in various complex security issues including effective data protection; isolation of business, management, and office applications; and threats due to interconnectivity with external networks along with those brought on by internal applications. As a result, the credit union needed a complete set of security solutions capable of addressing all potential security risks.

Because of these concerns, the credit union required an innovative platform capable of optimizing business data transmission, enhancing office systems management, and ensuring the security of the entire network—including its data centers and WAN—while delivering long-term scalability. The appropriate solution would be highly effective, secure, reliable, stable, flexible, and easy to manage and maintain. Above all, network security (which determines the credit union's ability to complete future objectives) would have to be ensured during installation and upon implementation of new products. Since the development of a next-generation network was a top priority, the credit union took ample time to be highly selective about products and suppliers. This project, in particular, required integrated solutions capable of addressing the myriad security threats that a large-scale network faces, especially considering the sensitive and mission-critical nature of the credit union's digital assets and infrastructure.

## Solution

After much deliberation, the credit union chose to use networking and security solutions from Juniper Networks®, the world leader in high-performance networking. The credit union recognized Juniper's expertise in comprehensive, cost-effective security and networking solutions. Teams from Juniper Networks and Shandong Rural Credit Union collaborated to create a hardware and software solution comprising Juniper Networks SSG550 Secure Services Gateway, the IDP1100 Intrusion Detection and Prevention Appliance, and ScreenOS® security software.

Juniper Networks SSG Series Secure Services Gateways are high-performance, integrated security platforms designed for small-to large-sized branch offices, regional offices, and distributed enterprise deployments. SSG Series appliances provide the ability to stop a wide range of internal and external attacks, prevent unauthorized access, and achieve regulatory compliance. The SSG Series delivers full interconnectivity at the provincial, municipal, county, and network levels. The SSG550 is a purpose-built, modular security platform that delivers an application layer gateway supporting H.323, SIP, SCCP, and MGCP, to detect and protect VoIP traffic—and provides 1 Gbps IMIX firewall traffic and 500 Mbps IPsec VPN for large branch offices, regional offices, and enterprises. The SSG Series leverages Kaspersky Lab's antivirus scanning engine to block worms, viruses, spyware and malware; Symantec's anti-spam engine to stop spam and phishing attacks; and Websense's Web filtering solutions to block access to improper Web content and Web-based threats.

The industry-recognized Juniper Networks IDP Series Intrusion Detection and Prevention Appliances provide easy-to-use, all-around protection against various known and unknown application layer and network layer threats. The IDP Series products deliver "zero-day" protection to prevent worms, trojans, spyware, and other malicious software from intruding into a user's network—thus providing protection against attacks before they damage the network and minimizing the costs associated with maintaining a secure network. In addition to resisting attacks, the IDP Series appliances can provide information about malicious servers and unauthorized applications and operating systems. The IDP1100 allows users to detect particular applications such as peer-to-peer or instant messaging. Administrator visibility into the applications running on the network makes it possible for the administrator to easily implement appropriate security strategies and ensure compliance with the enterprise's application usage strategy. Furthermore, the IDP1100 provides DiffServ marking and permits the router to impose bandwidth restrictions on less critical applications.

ScreenOS further enhances security strategy configuration, and increases the flexibility of implementation and management. The software's seamless integration with Juniper's hardware creates a complete security solution that comprehensively ensures network security.

## Results

The successful deployment of Juniper's products exceeded the credit union's expectations and performance requirements, significantly increasing network performance and security. The Juniper solution offers access control, blocking of network layer attacks, Web page forgery detection, anti-spyware and anti-malware features, and the ability to establish secure communication between offices. These features not only protect the credit union from various external attacks, but also implement effective control and management of network application behaviors, mitigating potential security risks and simplifying network resource and security management.

Juniper's comprehensive solutions are ensuring solid security for the credit union's next-generation network, boosting efficiency and reliability. The new solution adds tremendous value to the credit union's infrastructure by optimizing management, maximizing IT resource availability, and strengthening cost control.

## Next Steps and Lessons Learned

The successful deployment of Juniper's products into Shandong Rural Credit Union's next-generation network has proved the immense value of these infrastructure platforms, and the importance of taking the time and effort to choose the right solutions in building a secure financial network.

Shandong Rural Credit Union will continue to serve as an important base for financial development in China's rural areas. Its continued expansion and progress means it is in an ideal position to continue reaping the full potential—and ROI—of the Juniper Networks solution.

## For More Information

To find out more about Juniper Networks SSG Series Secure Services Gateways and ISG Series Integrated Security Gateways, please visit:

[www.juniper.net/us/en/products-services/security/ssg-series/](http://www.juniper.net/us/en/products-services/security/ssg-series/)

[www.juniper.net/us/en/products-services/security/isg-series/](http://www.juniper.net/us/en/products-services/security/isg-series/)

## About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at [www.juniper.net](http://www.juniper.net).

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