

JUNIPER NETWORKS ENABLES SECURE REMOTE ACCESS FOR THE THAI TECHNOLOGY INSTITUTE

Summary

Industry: Education

Challenge: Upgrade the Thai Technology Institute’s network to support secure high-speed remote access and enhance the network security system to protect the network from threats.

Selection Criteria: Performance, stability, technical support, and cost

Network Solution: Juniper Networks SA2000 SSL VPN Appliance, Juniper Networks ISG2000 Integrated Services Gateway, Juniper Networks SSG550M Secure Services Gateway, Juniper Networks J2350 and J6350 Services Routers

Results:

- Secure remote access that allows users to access the institute’s online resources through high-speed Internet.
- Enhanced security with packet filtering and analysis to protect the institute’s network from threats.

King Mongkut’s Institute of Technology Ladkrabang (KMITL) is a premier institution that promotes science and technology education and drives research and development in order to support the industrial and economic development of Thailand. The institute is located in Ladkrabang in Bangkok and has a separate campus – the Chumporn Campus – in the Pa-thiw District in southern Thailand, about 460 km away from the main campus.

In 1981, the school established a Computer Research and Service Center (CRSC) to enable the institute to leverage computers for its administration and operations. The CRSC later became a full-fledged unit, providing consultation, system administration, and helpdesk services to all faculty. The CRSC is also responsible for the campus network that enables students, professors, and researchers, as well as external users from the government and private sector, to access resources for training and research. The KMITL network currently supports about 20,000 users.

Challenges

As the number of users grew, the KMITL network was challenged to provide secure remote connections for users accessing the campus network.

The CRSC considered implementing a VPN, yet software had to be installed on every client computer, which made the system complicated and difficult to use. To avoid this, the CRSC decided to go with the Web version of a VPN—an SSL VPN solution—since most of the users would have a Web browser.

Besides providing secure remote access, another challenge facing the CRSC was to protect the network from security threats, given the growing number of people who were accessing the KMITL systems for training or research.

The CRSC already had in place an intrusion prevention system (IPS), as well as a bandwidth-shaping solution that helped address the performance requirements of each application. However, what it needed was an enhanced security solution that could handle packet filtering and analysis, said Mr. Sunthornsaratul.

Selection Criteria

The CRSC wanted a solution that was efficient, stable, and cost-effective. It also had to perform well in a live test. As part of the selection process, the CRSC invited two short-listed vendors to present their solutions and put them through rigorous system testing in an actual environment. The test also enabled the CRSC to assess the technical support provided by the vendors.

After two weeks, it was evident to the CRSC that Juniper Networks® had the more compelling solution.

“Between the two solutions that we evaluated, the Juniper Networks solution was better in terms of throughput and system stability, said Mr. Sunthornsaratul. “It satisfied our requirements and was also more cost-effective.”

In terms of security, the CRSC wanted a solution that could meet two major requirements—it had to be both an IPS as well as a Web security system, and it had to be capable of filtering HTTP and FTP traffic. The ISG2000 and SSG550M provided CRSC with the solution that it was looking for.

Solution

The solution from Juniper Networks comprises four components: the SA2000 SSL VPN, the J2350 and J6350, the ISG2000, and the SSG550M.

The SA2000 was the first system to be implemented that provides secure remote access to users. It was followed by the J2350 installed at the Chunporn campus, and the J6350 at the Ladkrabang campus, to provide connectivity between the two sites.

The ISG2000 and SSG550M were used as Web security systems to filter HTTP and FTP traffic, with the ISG2000 offering full IPS capability through the optional Juniper Networks IDP Series Intrusion Detection and Prevention Appliances.

The Results

The deployment of the Juniper Networks solution has enabled the CRSC users to connect more easily to the institute’s network using the SSL VPN and a high-speed Internet connection. Prior to this, users who wanted to search the library database had to use a traditional dial-up modem, which was very slow and cumbersome.

“The institute has received a lot of positive feedback from users who say that they can now search the databases more easily than they did before,” said Mr. Sunthornsaratul.

As part of its corporate restructuring, AmazingMail.com is now leasing out part of its office space. It deployed Juniper’s EX4200 and EX3200 lines to provide tenants with a secure, private infrastructure without sacrificing performance or security. IT can easily set up security zones on the firewalls, and they no longer have to deal with the tedious task of setting up and managing access control lists (ACLs), as they did before.

The I.T. Workshop also helped AmazingMail.com thoroughly document the network, which will contribute to ongoing efficiency.

Next Steps and Lessons Learned

The CRSC is currently undertaking a survey of the institute’s various systems, with a view to centralize networks that are being maintained by the individual faculties.

“During the economic bubble, the CRSC allowed each faculty to maintain its own system while it took care of the central network,” explained Mr. Sunthornsaratul. “While this helped cut down on some costs, problems emerged in areas such as interconnectivity and configuration, as implementations in each faculty began to diverge from the standard.”

“There is a high chance that we will centralize all our networks once again. This way we can manage and control the network as a whole,” he added.

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.

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