

TAIWAN COLLEGE SECURES INFORMATION SYSTEM WITH JUNIPER NETWORKS

Summary

Industry: Education

Challenges:

- Growing its campus-wide network and e-campus applications without incurring IT management complexities
- Instilling a stringent security framework that will scale with the growth of its network and applications

Selection Criteria: In a round of comparative evaluation, Juniper Networks SA Series SSL VPN and IDP Series appliances were selected because of their powerful security features, ease-of-management and cost-effectiveness.

Network Solution: Juniper Networks SA4000 SSL VPN Appliance and IDP600 Intrusion Detection and Prevention Appliance

Results:

- Better security for KNJC's campus network and applications
- Better security management enabling KNJC's IT management staff of five to easily keep the entire network infrastructure in check
- Remediation to network threats now quicker and more effective
- Improved remote access capabilities with the SA Series SSL VPN Appliances

When it comes to educating eager young minds today, the campus network – with the e-learning and student-service applications that live on it – is every bit as important as physical classrooms, laboratories and lecture theatres.

Where physical facilities let students interact with teachers and peers, it is the network that gives access to the world, connecting students to knowledge communities that are not constrained by time or geographical boundaries.

Formerly known as Kang Ning Vocational High School of Nursing and Midwifery, Kang-Ning Junior College of Medical Care and Management (KNJC) has a thriving campus network that is key to the twenty-year-old college's educational mandate. And it is a network that has grown rapidly in recent years.

Since becoming the first college in Taiwan to establish an e-classroom with video network in 1999, KNJC now runs a bustling campus network that supports both online student-services and college administrative applications, including those for administration procedures, official documentation requests, emails, leave requests, course selections, grade results queries and more.

Challenges

In a rich application and user environment, stringent security measures are needed to protect the network from both external threats and internal abuse. But when rising security needs meet staffing and budget constraints, implementing the right security measures is no easy feat.

Like many other education institutions, KNJC needs to keep a close tab on resource allocation and spending. To control costs, the college elected to rely on the teachers as system administrators instead of employing a dedicated IT team. But with a staff as small as five serving the IT needs of more than 6,000 students at a time, securing and managing the network is a constant logistical challenge.

A second security challenge for the college, according to KNJC CIO Min-Ju Ching, is the rising complexities of its IT infrastructure. "The security of information systems has become one of the most critical issues facing education institutions today. With security threats becoming more sophisticated, frequent and more complex every day, keeping campus networks safe is becoming more challenging every day," he says.

And as networking and e-learning become more ingrained in the educational system, Ching predicts that the risks associated with campus networks and Web applications will only become more acute. He believes that educational institutions must now start to bet on using innovative and proactive means to mitigate risks and eradicate threats.

Selection Criteria

At the beginning of 2006, KNJC decided it needed to upgrade the security posture of its network and various applications to meet rising network traffic demands, as well as to address security control issues that accompanied the growing sophistication of its e-campus applications. The college also wanted to enhance the remote access security of its Web applications.

Deciding that it wanted an intrusion detection and prevention (IPS) system for increased network protection and an SSL Virtual Private Network (VPN) platform to enable secure remote access to some of its Web applications, KNJC evaluated the Juniper Networks SA4000 SSL VPN Appliance and the IDP600 Intrusion Detection and Prevention Appliance. Both devices, when deployed, would also complement the Juniper Networks firewall that the college had already been using for the past four years.

At the same time, the college also examined offerings of other network security vendors that were recommended by Taiwan's Ministry of Education. And it also considered the possibility of developing in-house solutions, although that notion was quickly discarded due to resource and support concerns.

Solution

After all comparisons were made, Juniper Networks was chosen because of their technical strengths, ease-of-management and cost-effectiveness, said Ching. "Choosing Juniper Networks SA4000 and IDP600 came naturally as they totally met our demands for easy integration and hardened security," he added.

Deployment and integration of KNJC's new platforms – completed in 2006 – were handled by Top Secure Information, one of Taiwan's leading IT security system integrators.

"We sleep at night knowing that we're protected with Juniper Networks."

Jeff Sonne
Manager of Network Services, Cooper-Standard Automotive

Results

There was one particular occurrence in the past year that perhaps best exemplifies the value brought by Juniper Networks. Ching describes an incident where a student hacker launched a trojan horse virus attack on the network with the aim of manipulating the campus administrative system. For a while, the attack succeeded in obstructing the student registration application.

"The course registration process was a total chaos at that time, with many students unable to access the system," recalled Ching. But as quickly as the attack started, it was swiftly contained by the IDP600. "We were able to successfully prevent further loss by quickly stopping the attack and restoring the system," he said.

Juniper Networks also brought about ease-of-management benefits, which meant that an IT team as small as KNJC's roster of five can now easily manage the campus network security. What Ching liked about the management capabilities of both the SA Series and IDP Series appliances was that "it lets IT staff obtain deep insights into network activities and dynamically respond to threats emanating from a variety of client devices."

The SA4000 SSL VPN Appliance also brought about important productivity gains, reported Ching, with the benefits most apparent during the beginning of each semester, when students inevitably scramble to log into the campus system for course selection and registration, creating peak traffic flows. In the past, serious congestion and latency problems hampered students from accessing the course registration system and caused them to miss out on their favorite or required class modules. But not anymore. "After adding the Juniper Networks SA4000 SSL VPN Appliance, each part of the e-campus system is now supported by one or more central processors, dramatically enhancing network throughput and performance," Ching said.

Next Steps and Lessons Learned

Expanding its SSL VPN coverage is next on KNJC's wish list. Ching is now considering increasing the number of licensed clients from 100 to 1,000 users. To that end, he plans on adding one more SA Series appliance for redundancy. Further ahead, the college plans to embark on an integrated antivirus and threat alert platform. And it wants to further improve the management of its fleet of applications and appliances.

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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