ANCHORAGE MUSEUM RELIES ON JUNIPER NETWORKS TO SHOWCASE THE INSPIRING ART, HISTORY AND SCIENCE OF ALASKA

Summary

Industry: Non-profit

Challenge: Support the museum's major expansion and renovation with a new network that provides access to video, voice, business and Web applications.

Selection Criteria: The Anchorage Museum evaluated three switch vendors based on product capabilities, total cost-of-ownership, financial stability, technical support, and ease of management.

Network Solution: EX Series Ethernet Switches, J Series Services Routers, SSG Series Secure Services Gateways, SA Series SSL VPN Appliances, IDP Series Intrusion Detection and Prevention Appliances, Network and Security Manager

Results:

- Voice, video, business applications, and multimedia exhibits are delivered to employees, visitors, and researchers.
- Employees have secure access to business applications from anywhere.
- IT staff experienced significant time savings.
- Juniper solution is expected to be 63 percent less expensive than leading competitor over five years.

For more than 40 years, the Anchorage Museum at Rasmuson Center has provided a world-class institution to the people of the biggest state in the union. From its opening in 1968 with an exhibition of 60 borrowed paintings and a collection of 2,500 historic and ethnographic objects, the museum has grown significantly and houses a permanent collection of 17,500 objects, an educational collection of about 2,000 artifacts, and more than 500,000 historical photographs. The museum hosts a regional office of the Smithsonian Institution's National Museum of Natural History's Arctic Studies Center and is integrating a 'hands-on' science discovery center at Imaginarium Discovery Center.

Challenges

The Anchorage Museum began a major, multiyear expansion project in 2006, which led to the creation of new multimedia exhibits and archives. Supporting the museum's mission meant the creation of a secure, robust network that could be easily operated with minimal IT staff.

"We added 80,000 square feet to the museum, so we have 200,000 square feet of public and administrative space," said Doug Adams, IT Director at the Anchorage Museum. "According to IT industry standards, we're considered a small business by the number of employees we have, but we need an enterprise-quality campus network for our operations to run smoothly."

Adams created a defense-in-depth design for the network. "We needed multiple layers of security to protect the network from the edge all the way to the center," he said. "We have a blended design to allow schools, researchers, and the general public who are interested in the art, science and history of Alaska to come in to our network and gather information, while we protect the information assets we need to run the museum."

Security was paramount. "Security had to be an integral part of the design; otherwise, we would pay more operationally in the long run," Adams noted. "As a museum, we deal with sensitive financial information. We have payment card and donor information to protect, and our human resources department has to meet HIPAA requirements."

The network had to support cutting-edge multimedia exhibits as well as voice, as the museum was simultaneously migrating to VoIP. The network runs enterprise applications—such as collections, finance, retail point-of-sale and restaurant systems databases.

Selection Criteria

Adams wanted a single network provider that could offer the best products from the network edge to the end user, which would simplify troubleshooting and support. "That way I only have to make one phone call if something goes wrong," he said. "I needed a solution that allowed me to manage the network by myself since essentially I'm an army of one."

Adams presented his defense-in-depth design to three switching vendors and conducted an extremely thorough technical and financial analysis on the proposals. The switches'

and routers' performance and robustness were key, but so were other decision points—including cost of ownership, the vendors' financial stability, the quality of technical support, and the products' ease of use. Although Juniper Networks® was the dark horse going in, over the course of the evaluation, the two leading contenders fell by the wayside and Juniper emerged as the winner.

"It was very important, given the fact that we were spending taxpayer and private donor money, that I did my due diligence and I could justify my decision," said Adams.

Adams developed a five-year cost analysis, and Juniper came out the clear leader. "For the first-year cost, the leading competitor was 57 percent more expensive than Juniper," said Adams. "For the five-year total cost, the leading competitor was 63 percent more expensive."

As Adams conducted the evaluation process in the fall of 2008, one of his major IT vendors filed for bankruptcy, underscoring the importance of examining a vendor's financial position. "The company strength of Juniper is so strong that I felt very comfortable that Juniper would be around in five years. I can't spend money on hope," he said.

Juniper also led in the ease-of-use category. "Juniper sent me a demo unit, and in the box was a router and a power cord—no password or anything else," he said. "I thought I had a challenge on my hands, but all I had to do was go to the Juniper website, click on 'Support,' and then click on 'Starting your Device.' I found an easy-to-read PDF, and in five minutes I was inside that router and making changes to it. It was just amazing."

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Doug Adams,
IT Director, Anchorage Museum

Solution

The Anchorage Museum deployed a range of Juniper Networks solutions. Juniper Networks EX4200 Ethernet Switch, featuring Virtual Chassis technology, forms the network core, with Juniper Networks EX3200 Ethernet Switch in the access layer. The core is a 10 Gbps metro Ethernet fiber ring, and it supports the museum's virtualized server and storage environment. Juniper Networks J Series Services Routers are at work as border routers. The primary Internet connection is made through a Juniper Networks J2300 Services Router, which is also protected by Juniper Networks SSG Series Secure Services Gateways, which deliver high-performance security.

The EX4200 line of Ethernet switches with Virtual Chassis technology provides high-performance, carrier-class performance. The single rack-unit EX4200 switches are easy to deploy and manage. The EX4200 and EX3200 switches are also powered by the field-proven Juniper Networks Junos® operating system, which delivers operational efficiency across Juniper switch and router products. The EX4200 switches include high availability features such as redundant, hot-swappable internal power supplies and field-replaceable, multi-blower fan trays to ensure maximum uptime. In addition, the Virtual Chassis technology enables up to 10 EX4200 switches to be interconnected and operate as a single logical device, reducing management overhead and operational expenses. Switches can be added to a Virtual Chassis configuration incrementally, as needed, delivering a scalable and energy-efficient solution that doesn't demand a large up-front investment.

Juniper Networks J Series Services Routers deliver reliable connectivity with a powerful blend of high-performance networks and advanced services. J Series routers also leverage the modular Junos OS and consolidate security, application optimization, and voice capabilities on a single, easy-to-manage platform.

The Anchorage Museum replaced its IPsec VPN client software on devices with one of the Juniper Networks SA Series SSL VPN Appliances, so employees have anywhere, anytime access to corporate resources from any device with a Web browser. "Our employees can access the network from their iPhones, from home, or at the airport—and we're still able to protect our network," Adams said.

The SSL VPN provides a vital role in allowing public access for users to the network. "We have an archive of 500,000 photos that covers the history of Alaska, and our goal is to digitize this collection and have a searchable database so researchers and visitors can sit at kiosks and search for photos," said Adams.

The Results

Running time-sensitive voice and video applications over the same network as data has been smooth. “We’re running a phone system across a Juniper network out to an ISP phone provider as a managed service. Voice is on its own VLAN, and we’ve never dropped a call,” said Adams. “It’s a testament to the robustness and reliability of Juniper switching.”

Ease of management has translated into major time and cost savings for the museum. “Here’s what’s so great about the Juniper infrastructure: If a user has a meeting in a particular office at 2 p.m. today and needs a phone and data port for a presentation, I can go into my communications room to make the physical connection, log in over the Juniper GUI, and click on a port to assign it to the correct VLANs and I’m done,” said Adams. “Connecting the actual cable takes the longest amount of time, and that’s about five minutes. The time savings alone has been extraordinary. The hidden costs of network management, especially when you extrapolate over five years, can be overwhelming.”

Adams quickly came up to speed on Junos OS. “I purchased a few Junos OS books in order to learn the command syntax, but to be honest, I haven’t had to log in to the command line because the Junos OS GUI is absolutely intuitive,” said Adams. “Plus, when you make a change, the same change is translated correctly to the command line. With other vendors’ products, that doesn’t always happen, which leads to problems.”

Next Steps and Lessons Learned

As he looks to the future, Adams would like to increase the museum’s use of wireless networking and real-time streaming over the Internet. “We have a multimedia center where we have video and Web delivery capabilities,” he said. “The intention is to be able to take oral records of the native people of Alaska, digitize them, and save them in a format that can be easily presented to users over the Internet. We want to save the oral traditions that are being lost.”

He also plans on deploying Juniper Networks IDP Series Intrusion Detection and Prevention Appliances to protect the network core. And he plans on rolling out Juniper Networks Network and Security Manager software to further simplify network operations and support.

Adams is pleased with the Juniper network and resulting benefits. “We were one of the first full Juniper deployments in Alaska, so many of my industry colleagues were watching us,” he said. “But when I show them how easy the network is to manage, Juniper sells itself.”

For More Information

To find out more about Juniper Networks products and solutions, visit **www.juniper.net**.

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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