JUNIPER NETWORKS WIRELESS LAN STREAMLINES PATIENT CARE AND ENABLES MOBILE PACS

Summary

Industry: Healthcare

Objectives:

- Deploy a wireless LAN which complies with HIPAA regulations and meet the budget
- Integrate the new network with an existing wired infrastructure and a digital radiology imaging system
- Expand the system to provide access to patient information and allow communication from any location within the hospital

Solutions:

- Juniper Networks Wireless LAN Portfolio provides the basis for a wireless LAN that delivers reliability, security, mobility and scalability
- 802.11b-enabled voice-over wireless handsets and PDAs allow real-time communications within the hospital
- RingMaster Software simplifies access point deployment and set-up

Results:

- Achieved ROI in less than one year due to productivity gains
- Juniper solution was two-thirds the cost of other vendors
- Seamless integration with the hospital's existing network

Objective

When San Antonio Community Hospital started looking at deploying a second-generation wireless LAN for its 2,000 staff members, the IT staff's main goal was to select a solution that would be as reliable as the hospital's fully redundant wired infrastructure that supported the radiology department's digital Picture Archive Communications System (PACS) and other applications. The hospital processes about 30,000 radiological images a month, with an average file size of 30-90 MB.

According to Irv Hoff, manager of converged networks at San Antonio Community Hospital, achieving comparable resiliency to his existing wired environment would be a challenge, especially for a network that needed to support so many users.

An initial deployment that covered the emergency room, hospital lobby and other areas provided benefits for administrative tasks as well as medical applications. It allowed radiologists to display images from portable x-ray machines from any location. However, this first-generation wireless LAN was prone to failure, had weak security and wasn't easily scalable.

Recognizing the tremendous benefits wireless could offer in improving the quality of patient care and streamlining hospital operations, Hoff started searching for a new system that could provide more reliability, security, mobility and scalability at a price point that would fit within the hospital's budget. They also required a solution that would smoothly integrate with the hospital's PACS wired radiology network.

Related to the desire for a more secure system is the all-important compliance with the Health Insurance Portability and Accountability Act (HIPAA) regulations regarding patient data privacy that all healthcare organizations must respect.

Solution

Hoff narrowed the search to five vendors, including the providers of the hospital's current wired and wireless infrastructure. After conducting a thorough comparison on product features and costs, they selected the Juniper Networks Wireless LAN Portfolio as the hospital's new wireless infrastructure.

To achieve the same level of reliability as the hospital's wired network, each Juniper Networks® WLA Series Wireless LAN Access Points has two 10/100BASE-TX Ethernet ports that can be dual-homed to two Juniper Networks WLC Series Wireless LAN Controllers. This provides redundancy for both data traffic and power over Ethernet (PoE).

On the security front, Juniper offers 802.1X authentication with WPA2/AES to encrypt all Layer 2 and Layer 3 data between a PC and a WLA Series access point. Unlike VPN-based security, Juniper encrypts the IP address itself, which is critical in a sensitive environment like a hospital.
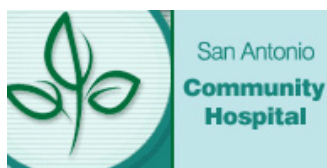
In terms of mobility, doctors, nurses and caseworkers at San Antonio Community Hospital are equipped with 802.11b-enabled voice-over-wireless handsets and PDAs to stay in touch wherever they go within the hospital.

And to address previous scalability issues, the hospital's use of Juniper's RingMaster Software planning, configuration and management tool has greatly helped in terms of determining where to deploy WLA Series access points and automatically setting them up. The Juniper Networks Wireless LAN Portfolio also scales in terms of data speed by supporting both 802.11b and 802.11a in the same radio, meaning the hospital can implement the faster 802.11a as needed for particular applications.

> "Looking at the combined capital and operating costs for the first year, the Juniper Networks Wireless LAN Portfolio was two-thirds the cost of other vendors' wireless LAN systems."
>
> — Irv Hoff, Manager, Converged Networks
> San Antonio Community Hospital

Results

From the get-go, Juniper Networks Wireless LAN Portfolio delivered convincing results to San Antonio Community Hospital. According to Hoff, the cost of the system was a fraction of what other wireless LAN companies were offering. While hardware costs were similar, a major area of savings showed up in installation, operation and support.

The Juniper RingMaster Software planning and management tool negated the need for an expensive site plan, and its configuration tools reduced the amount of time required to configure each AP associated with the network.

Also, Juniper's seamless integration with the hospital's existing wired network meant that no changes were needed to routing switches, backbone configuration or client configuration— all time consuming and potentially error-prone tasks.

Hoff says that looking at the big picture, when he combined capital and operating costs for the first year, Juniper Networks Wireless LAN Portfolio was two-thirds the cost of other vendors' wireless LAN systems. Over five years, the Juniper system is half the cost of other systems.

San Antonio Community Hospital achieved a return on investment for its Juniper wireless LAN in less than one year due to productivity gains, including streamlining patient care and increasing patient-nurse ratios. Hoff also expect to realize IT operational savings.

The team is also evaluating wireless tablet PCs, which would function like clipboards and allow doctors to review and update patient files, fill out prescriptions and handle other carerelated applications.

In addition, Hoff is looking into providing guest network access and hot spots in the hospital lobby as well as Internet access for patients.

With benefits on all fronts, Juniper Networks Wireless LAN Portfolio has proven to be just the shot in the arm that San Antonio Community Hospital needed to improve patient care, stay within budget and provide productivity gains for employees.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at **www.juniper.net.**

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