

Methodist Hospital System Cures Network Security Needs with Juniper Networks

**Organization:**

Methodist Hospital System

Industry:

Healthcare

Challenge:

Maintain and expand a secure, readily accessible network security architecture that serves the needs of large numbers of users, each with very specific user authorization requirements

Solution:

Juniper Networks security, intrusion detection and prevention and application acceleration systems

Benefits:

- Secure and assured network system provides doctors, administrators and suppliers with access to the data that is most relevant to them
- Site-specific VPN appliances allow remote users to access the network without jeopardizing the security of the data on their own systems
- Common interface between all Juniper appliances results in easier maintenance, upgrade and troubleshooting tasks for the IT staff
- IDP functionality enables IT staff to take a proactive approach to network attacks

“One of the best things about the Juniper Networks IDP is that it automatically responds to and eliminates network attacks. By reducing the impact of an attack, it not only saves us recovery time and effort, it keeps our network much more secure.”

Keith Fontenot
Security Analyst, IT Security Services
Methodist Hospital System

The Methodist Hospital System is a nonprofit health care organization based in Houston, Texas. It has extended the world-renowned clinical and service excellence of its founding entity, The Methodist Hospital, through a network of community based hospitals. Methodist Hospital System consists of 4 hospitals: Methodist Hospital of Houston, Methodist Sugar Land Hospital, Methodist Willowbrook Hospital and San Jacinto Methodist Hospital. With a staff that includes hundreds of physicians listed in The Best Doctors in America, the hospital system has gained international acclaim for its work in fields such as neurology, heart surgery, psychiatry, ophthalmology and gynecology.

An important part of Methodist Hospital System’s continued success is found in its commitment to excellence, innovation and thoroughness in all aspects of its approach to healthcare issues. Patient diagnosis, treatment and monitoring are high profile areas in which this commitment can be seen in daily operation, but it also manifests itself in nonpublic departments, too, like the IT Security Services group. In fact, Hospital and Health Networks has recognized Methodist Hospital System as one of healthcare’s “100 Most Wired” for its extensive use of networking and data sharing technologies to tie together its vast network of physicians, healthcare providers, health plans, patients and suppliers.

The Solution

For many years, Juniper Networks security appliances have played an integral role in the Methodist Hospital IT infrastructure. As Keith Fontenot, security analyst in the IT security services department explains it, “We’ve always found Juniper Networks to be the best choice in terms of product reliability, ease of deployment and maintenance and customer support.”

A key component in the Methodist network is an intrusion detection and prevention system (IDP), the Juniper Networks IDP-500, which is located in the main hospital to protect all of the critical medical, billing and patient tracking systems against attack. Capable of passing gigabit traffic between the server farm and the rest of the local area network (LAN), the IDP-500 provides a remote notification option that can be set to automatically page IT personnel whenever an intrusion event is detected. Using industry recognized stateful detection and prevention techniques, the IDP provides zero day protection against worms, Trojans, spyware, keyloggers and other malware, detecting and dropping malicious attacks in real-time while minimizing the time and expense associated with intrusion recovery.

Corporate access is provided by a powerful Juniper Networks ISG 2000 appliance, which provides scalable network and application security and integrates best-of-breed Deep Inspection firewall, VPN and DoS capabilities. The ISG 2000 provides gigabit connectivity to switches behind the secure network and, like the IDP-500, protects critical components of the hospital network. The IDP-500 and ISG 2000 are securely connecting the universities network to the Methodist Hospital System’s main network.

Within the system, most IPSec virtual private network (VPN) capabilities are provided by a Juniper Networks NetScreen-500 device, which integrates firewall, DoS, VPN and traffic management functionality. Primarily used to provide site to site access for the vast network of vendors who do business with the Methodist Hospital System, the NetScreen-500 also serves as a way for some smaller remote sites to access the system securely.

The Methodist IT department also maintains a separate VPN for the hospital’s Website. The main component of this standalone network is a group of Juniper Networks NetScreen-50 appliances.

For most small sites within the Methodist Hospital System network, Juniper Networks NetScreen-5GT and NetScreen-5XT appliances offer a fast, safe and reliable IPSec VPN tunnel to the main network.

In the next few months, the Methodist Hospital System network will be adding a number of new, state-of-the-art Juniper Network security and remote access appliances to its network. The first is a series of Juniper Networks SA 5000 secure sockets layer (SSL) VPNs, which will provide an even greater amount of control and security over the network. With dynamic role mapping, a dynamic authentication policy and end-to-end layered security, the SA 5000s are ideal for a large enterprise like the Methodist Hospital System that must accommodate large numbers of users, each with very specific user authorization requirements.

The second new component of the system is a DX application acceleration platform, which performs key load balancing functions and helps ensure that system resources are consistently and efficiently used to maximum advantage. The DX 3750 platform addresses two key emerging needs of the enterprise: it secures all Web traffic without compromising response times for end users, and it automatically secures web-enabled applications without having to undergo the cumbersome and time-consuming development effort normally required to rewrite HTTP as secure HTTPS applications.

The Benefits

Deployment of Juniper Networks security products throughout the Methodist Hospital System has enabled Fontenot and his fellow IT staffers to keep data flowing securely across the network so that authorized personnel are always able to view what they need, when they need it. In addition, small site-specific VPN appliances enable doctors and other medical personnel to access the wider network without compromising the security of the data on their own private networks.

With IDP and firewall/VPN appliances installed at critical access points on the network, the system is monitored twenty-four hours a day, seven days a week and can detect attacks and attempted intrusions the moment they occur. This additional layer of security provided by the IDP device gives the IT staff better visibility into the system, allowing them to take a proactive approach to the threat of hackers, worms and other forms of network attack.

Fontenot concludes, “One of the best things about the Juniper Networks IDP is that it automatically responds to and eliminates network attacks. By reducing the impact of an attack, it not only saves us recovery time and effort, it keeps our network much more secure.”



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