Customer Case Study

Leveraging Context-Aware Security to Safeguard Patient Data

Texas Heart Institute controls network access to meet regulatory compliance needs for its locations located in the world's largest medical complex.

EXECUTIVE SUMMARY

TEXAS HEART INSTITUTE

- Healthcare
- Houston, Texas USA
- More than 700 network users: 300-400 employees, plus fellows, monitors, and visitors

BUSINESS CHALLENGE

- Need for data security
- Content filtering to comply with HIPAA
- Employee access to applications without capability to send files outside organization

NETWORK SOLUTION

- Cisco ASA 5585-X Adaptive Security Appliance with Next-Generation Firewall Services
- Cisco Nexus Switches (Nexus 7010)
- Cisco Switches (4500)
- Mobile Cisco Routers (C819) (Mobile MRI)
- Cisco ISA Routers (C570W) (Mobile MRI)

BUSINESS RESULTS

- Provides more granular security allowing users to more easily do their jobs
- Enables access to web applications, such as Dropbox and Facebook, with restrictions that provide legal constraints, while still allowing employees to be productive
- Restricts access to port and protocol-hopping applications, micro applications

Business Challenge

The Texas Heart Institute (www.texasheart.org), founded in 1962, is a nonprofit organization dedicated to innovative and progressive programs in research, education, and improved patient care for cardiovascular health. Together with its clinical partner, St. Luke's Episcopal Hospital, it has been ranked among the top 10 cardiovascular centers in the United States by *U.S. News & World Report*'s annual guide to "America's Best Hospitals" every year since the rankings began in 1991. Both are part of Texas Medical Center (http://texasmedicalcenter.org/facts-and-figures/), the world's largest medical complex.

The Texas Heart Institute (THI) also is affiliated with The University of Texas Health Science (UT) System, which promotes collaboration in cardiovascular research and education among faculty at the Texas Heart Institute and other UT facilities, as well as Baylor, University of Houston, and Rice.

The research institute network serves 700 people, including 300 to 400 employees and hundreds of fellows, residents, auditors, monitors, and volunteers. Data security is paramount; the institute creates considerable intellectual property (IP), and it is a core lab for several other institutes in the medical center. It also is responsible for all data as it comes through its network. Health Insurance Portability and Accountability Act (HIPAA) and Health Information Technology for Economic and Clinical Health (HITECH) Act regulations constitute

key protections as well as institute and medical center standards.

The Institute also is in the midst of a study of 10,000 middle school and high school students to learn more about sudden cardiac death in young people. The program helps assess hard-to-detect heart anomalies that can lead to sudden death. The resulting patient data, including MRI (magnetic resonance imaging) results, needs to be protected as it is transmitted back to the Institute.

PRODUCT LIST

SECURITY AND CONNECTIVITY

- Cisco ASA 5585-X Adaptive Security Appliance with these Next-Generation Firewall Services:
  - Application Visibility and Control
  - Web Security Essentials
- Cisco Prime Security Manager
- Cisco AnyConnect

SWITCHING AND ROUTING

- Cisco Nexus switches (Nexus 7010)
- Cisco Switches (4500)
- Mobile Cisco Routers (C819) (Mobile MRI)
- Cisco ISA Routers (C570W) (Mobile MRI)

Additionally, the institute wanted to allow users access to previously blocked applications that now are important to their jobs, such as Dropbox and Facebook, while blocking the features that might jeopardize security or regulations.

Solution

The institute implemented Cisco® ASA 5585 Adaptive Security Appliance(s) with ASA 5585-X Adaptive Security Appliance with Next-Generation Firewall Services, which allows for an unprecedented level of visibility into network traffic flow—including observing the users connecting to the network, the devices used, and the applications and websites accessed—in order to make more informed decisions regarding access.

The institute now can allow users access to Facebook and Dropbox to receive files and information but not to send them, so protected data stays within the institute. Cisco ASA Next-Generation Firewall(s) also filter port and protocol applications such as BitTorrent, which can fall awry of the organization's legal guidelines.

In concert with the ASA Next-Generation Firewall(s), THI also runs Cisco AnyConnect® and AnyConnect Mobile,

> "In my opinion, Cisco sets a high standard in both vendor support and compatibility."
> **— Chris LaBleu, Director of Information Technology, Texas Heart Institute**

and it utilizes the SSL VPN function of the ASA. The institute decided to return to Cisco for local switches and wireless, as well as ASA Next-Generation Firewall(s), after a half decade with an alternative provider that lacked strong support.

Business Results

Using the Cisco ASA Next-Generation Firewall, THI augments its efforts to protect against liabilities by limiting unwarranted and unwanted network access.

"We still have to monitor, but we can immediately block everything— from BitTorrent, to adult sites, to foreign sites—while providing specific filtering rules for online access to other websites," says LaBleu.

"It's easy to configure rules based on IP addresses," he adds. "At the ASA, you can determine what goes through the Next-Generation Firewall Services. The on-board PRSM management system makes configuration extremely simple. The off-box PRSM allows you to integrate ASA objects with the CX to simplify access polices and rules. Above all, if there is an issue, I only have to work with one company: Cisco."

According to LaBleu, using a hardware solution also allowed for easier configuration and setup instead of multiple server requirements for software.

THI uses the Cisco Prime Security Manager dashboard for administration, which the organization finds critically important to maintaining overarching control and visibility into its security environment.

"With a single glance to our screen, we can see what's going on at all times," says LaBleu. "The fact that PRSM operates in real time is key for us versus other dashboards that are statically set to refresh every 15 minutes. With real time, you can see a spike happening and counter it before it becomes a big problem."

The Prime Security Manager dashboard also allows administrators to drill down into the reporting structure easily, to see what's going on.

"The Next-General Firewall Services absolutely helps THI to achieve its goals and objectives," says LaBleu. "It plays a big role in what we're trying to achieve. It gives us extra-granular security that we didn't have. Previously, we were only able to conduct basic filtering. For example, users either were or weren't allowed to log on to Facebook or Dropbox."

"Now, we are not restricting what our users need to do, but we are restricting what we don't want them to do."

With Cisco, THI increasingly is leveraging technology to help serve healthcare in improved ways, as one of the tools that help them to be compliant with patient privacy laws. LaBleu points to the site-to-site connections with THI's mobile MRI trailer. The encrypted VPN tunnel connects daily to transmit patient data from middle schools around Houston where students receive free MRIs.

By maximizing granular access, facilitating the ways in which THI can meet regulatory compliance to maintain privacy controls, and protecting data, THI's network team can free up time needed by the organization's scientists and physicians to continue their important work in healthcare for future generations.

For More Information

To find out more about Cisco Adaptive Security Appliances go to http://www.cisco.com/en/US/products/ps5708/Products_Sub_Category_Home.html

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