



CASE STUDY: SDMI

Foundry and Mitel Deliver Scalable Voice and Data Solution for Large Medical Imaging Center



Steinberg Diagnostic Medical Imaging (SDMI) Center is one of the largest outpatient medical imaging center in the United States, performing more than 250,000 studies per year at four locations in the Las Vegas area.

Because of the wide range of services SDMI offers—from angiography, CT, mammography, MRI to nuclear medicine and P.E.T. scans—and the sheer volume of images processed, the company has made a number of technical upgrades to its IT systems in the past few years to improve patient care, increase business efficiencies and enhance overall customer service.

OBJECTIVE

The major driving force behind SDMI's network upgrade is its Picture Archive Communication System, or PACS, which processes and stores digitized medical images on a large database and network-attached storage system.

"With our previous system, our radiologists would take the film and read it over a light board," says Don Shackley, CIO of SDMI. "When you are processing hundreds and thousands of slices of information taken from an MRI or CAT scan, a light board is inefficient."

SDMI was running applications such as Microsoft Exchange and RIS, a text-based radiology information system. All this traffic was shared across a network connected by T-1 lines to SDMI's four offices, running over switches from Lucent and routers from Cisco Systems.

As SDMI reviewed its existing network's ability to support PACS, Shackley realized the architecture would not scale to meet the bandwidth and performance requirements inherent in PACS. Another factor was SDMI's decision to migrate to VoIP. The older environment simply could not handle an influx of data and voice.

"As we looked at PACS, we realized that with the amount of information we would be transmitting, we needed to beef up the network," he says.

SOLUTION

After evaluating several equipment vendors, SDMI chose Foundry Networks because of Foundry's known reputation for producing high performance products and excellent technical support.

SDMI deployed Foundry's BigIron® Layer 2/Layer 3 switches within two locations. A FastIron® workgroup switch is at work at another office, and FastIron 400s manage network traffic at the fourth office. Cox Communications' fiber-based metro Ethernet services connect SDMI's four diagnostic centers.

To manage the Foundry equipment, Shackley relies on IronView® Network Manager, which offers a centralized, Web-based interface for configuring switches and providing other administrative information.

Shackley is taking advantage of the power over Ethernet (PoE) features of the FastIron 400s and FastIron 4802, and ultimately SDMI will have approximately 500 PoE ports.

Co-existing with the bandwidth-intensive PACS and other network traffic is VoIP traffic. "Adding Foundry made our network so robust that we were able to consider VoIP," Shackley says.

WWW.SDMI-LV.COM

INDUSTRY

Health

COMPANY DESCRIPTION

Steinberg Diagnostic Medical Imaging (SDMI) Center is the largest medical imaging center in the United States, performing more than 250,000 studies per year at four locations in the Las Vegas area. With over 35 years in business, SDMI provides a wide range of medical imaging services, including angiography, CT scans, fluoroscopy, mammography, MRI, nuclear medicine, P.E.T. ultrasound, and X-Ray.

BUSINESS CHALLENGE

- Deploy Picture Archive Communication System (PACS) to process and store thousands of digital diagnostic images
- Add VoIP support for all SDMI offices without having to upgrade network equipment
- Implement a network solution that can easily scale for future requirements

TECHNICAL SOLUTION

- Foundry BigIron 8000, BigIron 4000, FastIron 4802, FastIron 400s, and IronView Network Manager provide performance, reliability, and scalability for SDMI's bandwidth-intensive data traffic
- Mitel's IP-PBX solution runs on Foundry network and provides phone service to all SDMI employees
- Cox Communications' fiber-based metro Ethernet service connects SDMI's four offices

RESULTS

- SDMI cut service costs by 23 percent
- SDMI will be able to scale to a 10-Gigabit Ethernet environment due to the scalability of Foundry's equipment
- Foundry equipment was able to easily support the additional telephony traffic
- Foundry and Mitel were able to co-exist in the SDMI network without any interoperable problems

Initially, Shackley was reluctant about deploying VoIP, but he changed his mind. "After meeting the folks at Mitel, our concerns were put to rest. We liked the idea that we didn't need special switching gear to use their products and everything is Web-based," he says.

He adds that if SDMI had upgraded its traditional TDM telephony equipment, the bill would have run about \$375,000, which seemed like a high price to pay.

While costs were a factor during the evaluation process, Mitel's reliability and performance confirmed SDMI's decision. Because of SDMI's large amount of business, the company's call center never rests. Selecting a reliable VoIP solution is critical for patients and doctors. SDMI's VoIP network is based on Mitel's 3300 Integrated Communications Platform (ICP), a highly scalable IP-PBX that provides robust call control for medium to large enterprises.

"I like that everything is Web-based. I can make changes and add features, and I can manage the ICP at each location," Shackley says. SDMI now has 300 Mitel 5220 and 5215 IP phones installed throughout its locations.

Shackley adds that he's happy he didn't have to upgrade the Foundry network equipment to support the Mitel VoIP deployment. The interoperability between the two vendors made getting the VoIP service up and running an easy and quick process. "The investment in both Foundry and Mitel is a good one, and it protects us as we add new services and sites in the future," he says.

When comparing Foundry and Mitel against the competition, Shackley is quick to say that SDMI got a lot more networking and phone system for his money. "Purchasing Foundry and Mitel is one of the best decisions I ever made as an IT manager."

RESULTS

"In any installation of PACS, the network is critical," Shackley says. Upgrading to Foundry and Mitel equipment has led to greater productivity, reliability, performance, and cost-savings for SDMI.

Even with so many diagnostic images being processed and routed through the network, Shackley says he has not had to deal with quality of service or other issues involving bandwidth. SDMI ensures that the sensitive voice and data traffic receive the bandwidth they require through virtual LANs (VLANs). In any given location, there are three VLANs—one for the main network, including RIS and anything concerning operations; one for the VoIP phone system; and one for the clinical network, including equipment such as CT scanners.

As far as the all-important bottom line goes, Shackley says he's paying less now than with his previous network set-up. SDMI has cut service costs by 23 percent. He also points out that SDMI is receiving better overall service "The Foundry support engineers are exceptional," he says. "They are so trustworthy and knowledgeable, and sometimes they'll call us and proactively take a look at our logs, talk about scaling requirements, and generally discuss our future needs."

Next up for Shackley and SDMI is adding more equipment into the company's data center. "We are now a completely Foundry house, and we will be introducing the IronPoint® wireless network solution in our conference rooms."

Shackley adds that SDMI will also move to a 10-Gigabit Ethernet configuration, something Foundry's equipment already supports, making this transition that much easier. "We know the Foundry system can scale as we grow," he says.

**“ PURCHASING
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DECISIONS I
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AN IT MANAGER.**

— Don Shackley
CIO
SDMI

FOUNDRY NETWORKS

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