



St. John's Hospital

Enhancing Health Care Services through Advanced Technology

Established in the late 1800s, St. John's is one of the nation's oldest hospitals. Much has changed over the last 125 years and today, St. John's enjoys a reputation for being one of the most respected referral hospitals in the Midwest. With 850 beds and 3,000 employees, St. John's is the second largest employer in Springfield, Illinois. More than 650 physicians, dentists and podiatrists are on staff. Not only has St. John's grown in size over the years, but it has also grown in technical excellence—utilizing the latest technologies to deliver health care that treats patients both physically and spiritually.

Industry:

Health Care

Location:

Springfield, Illinois

Number of Users:

3,000

Services:

Comprehensive array of inpatient and outpatient health care services, as well as several schools providing accredited certification programs for medical care practitioners

Challenge:

Continue to expand network bandwidth and enhance network infrastructure to support new technologies, such as telemedicine and web initiatives

Solution:

A highly reliable Enterasys network backbone and X-Pedition switch routers that provide ultra-high bandwidth and reliability

Benefits:

- High-capacity infrastructure handles demanding, bandwidth-intensive applications, including PACS and telemedicine
- High availability ensures on-demand access to critical applications
- Guaranteed security and end-to-end Quality of Service help ensure compliance with HIPAA
- Inherent network reliability and scalability help maximize IT budget dollars

For the past eight years, Enterasys has been the networking provider of choice, helping St. John's IT department build the backbone to support this growing institution. The relationship began with Cabletron and a simple Token Ring solution. It has grown considerably from four or five disparate Ethernet segments and five Token Rings to network availability throughout the entire facility. Eight years ago, the St. John's network consisted of fewer than ten servers and supported under 500 users. Today, there over 50 local servers on the network, which now provides connectivity to support more than 3,000 system users.

The Challenge:**Provide Network Bandwidth to Accommodate New Applications and Technologies**

To keep up with this growth, the IT department used leading-edge technology to enhance and expand network resources. For example, as switching and routing technology became popular, St. John's investigated the benefits of hardware versus software routers and evaluated several vendor solutions to find the optimum solution for their institution. "Price was a big factor for us when we decided to go with Enterasys," stated James Labonte, network engineer at St. John's. "But so was ease of use, and there wasn't a huge learning curve with Enterasys' products."

Service was also a hot button for St. John's. By providing consistently superior service, Enterasys has become more than an IT provider—they've become a technology partner. "I'm still working with the same people at Enterasys that I worked with eight years ago, which is virtually unheard of in today's business environment," commented Bill Halpin, network engineer at St. John's. "Enterasys always goes above and beyond the call of duty, like helping us redesign our networks."

Over the past eight years, St. John's has aggressively implemented new technologies in order to provide the Springfield community with the most advanced health care possible. For example, four

years ago, they implemented a picture archiving and communication system (PACS), which allows images, such as X-rays, to be stored digitally. Great news for patients and doctors alike, PACS saves time and makes it easier for physicians to analyze images and

compare new and old pictures. However, it generates large files that can monopolize network resources, and without enough bandwidth, could adversely affect network performance, or bring the network down. By using Enterasys technology, St. John's was able to put their PACS on the existing LAN, instead of creating a separate backbone to support it—saving them considerable budget dollars and the additional resources needed to support an extra network infrastructure.

More recently, St. John's extended the PACS to include cardiac imaging, electronically integrating image capturing, transmission and storage within St. John's network. The cardiac PACS allows images from cardiac procedures performed in the operating room to be instantly transferred to any viewing station in the hospital, providing easy access for doctors. It also saves time and reduces costs by eliminating the need for storage tape.

The Solution:

X-Pedition ER16 Switch Routers Bolster the Network Backbone and Security Products Ensure HIPAA Compliance

To keep pace with the increasing demands on their network, the IT department began looking for ways to increase bandwidth. With the majority of hospital applications utilizing network resources, maintaining high availability is a critical element of patient care, as well as hospital administration functions, such as billing. "For us, Quality of Service is a top priority," stated Halpin. "We don't want to be in a situation where users are competing with each other for system resources." So, as network resource demand reached an all-time high, they once again turned to Enterasys to help enhance response times and increase bandwidth. After evaluating different options, they decided to implement two X-Pedition ER16 switch routers, which would give them the density they needed to meet their requirements for the PACS and any other new technologies they plan to implement.

One of those new technologies is telemedicine—which St. John's is currently investigating. Telemedicine allows physicians to use video technology to communicate with physicians in other institutions and in other locations. In addition, it allows them to view charts and images, and access all the information they need to consult with and help diagnose patients. With Enterasys technology, St. John's is in an excellent position to implement a telemedicine solution.

Efficiency is only one benefit of implementing new technology. Most institutions turn to new innovations for cost savings as well, which is exactly what led the IT and telecommunications departments at St. John's to investigate installing voice over Internet protocol (VoIP) at one of their off-campus locations. "With VoIP, we can install one line into the facility and meet all voice and data needs," stated Halpin. "This cuts costs on tie lines and wide area connections."

St. John's engineers are also highly focused on the Health Insurance Portability and Accountability Act (HIPAA) and how this pending legislation will impact St. John's IT infrastructure. "HIPAA is one of our biggest concerns right now," commented Labonte. "We need to ensure that we're HIPAA compliant. However, the rules aren't finalized yet and things could change—which means we need to be flexible." Enterasys has been one of the leading advocates for HIPAA compliance and has incorporated advanced security features into their products to ensure that customers will meet HIPAA requirements once the legislation is finalized. "It's great to work with a vendor that is concerned about the same things we are," stated Labonte. "Enterasys products include security features that put us in an excellent position for HIPAA compliance."

Complementing the Enterasys solutions and ensuring maximum network availability, St. John's has been using SPECTRUM, a network management tool from Aprisma, to help reduce network management time and costs. They use SPECTRUM to closely monitor their core network and WAN, and if there are ever any problems or network slow-downs, SPECTRUM allows them to quickly pinpoint the root cause of the problem. "Many times, we'll be alerted of a problem before users are affected," said Craig Haferkamp, network engineer at St. John's. "This translates into faster troubleshooting and less downtime for our users." They also use SPECTRUM for benchmarking network traffic. "It's an important planning tool for us," continued Haferkamp. "We can determine what areas are using more bandwidth, and add resources accordingly."

The Future:

Enterasys Reliability Affords St. John's More Time to Research New Technologies

By using Enterasys technology, St. John's has been able to keep the number of engineers dedicated to managing their network down. "We've been able to accomplish a lot with few resources," stated Labonte. "With the help of Enterasys, we've built a network that delivers over 98 percent availability." Indeed, product reliability is one of the things that St. John's appreciates most about Enterasys. "I haven't reset our switches or core routers in over a year," stated Halpin.

This high level of product reliability and stability not only helps St. John's hospital maximize their IT budget dollars, but it also gives them more time to investigate future technologies and continue to fine-tune their network. "We always get requests to provide new functionality," concluded Labonte. "Enterasys' product reliability gives us the time we need to focus our energy on researching future plans and products." And that's good news not only for St. John's IT department, but also for St. John's physicians and the folks in the Springfield area.

Contact Us

For more information, call Enterasys Networks toll free at [1-877-801-7082](tel:1-877-801-7082), or +1-978-684-1000 and visit us on the Web at enterasys.com