



## Aurora Health Care

### Enabling High-Tech Health Care Services

An Enterasys Networks customer since 1991, Aurora Health Care is a community-owned Wisconsin health care provider and a nationally recognized leader in efforts to improve the quality of health care. The people of Aurora are committed to finding

better ways to provide health care. Aurora has experienced dramatic growth in the ten years it has been an Enterasys customer. The not-for-profit organization now has care sites in 70 communities throughout eastern Wisconsin, and its computer network has more than 10,000 users. During the past ten years, Aurora's connectivity needs grew considerably, and Enterasys met their needs with the latest in networking technology. Today, Aurora is the leading health care provider in Wisconsin and the largest private employer in the state.

**Industry:**

Health Care

**Location:**

13 hospitals and more than 100 clinics throughout eastern Wisconsin

**Services:**

Aurora offers a complete continuum of health care services

**Challenge:**

Provide a robust, scalable and fault-tolerant infrastructure to support the latest technological innovations in medicine, which are becoming more bandwidth intensive

**Solution:**

Enterasys' X-Pedition™ ER16 and Gigabit Ethernet backbone provide increased bandwidth and network reliability, while the RoamAbout™ R2 wireless LAN ensures network versatility

**Benefits:**

- X-Pedition™ ER16 provides the performance, fault tolerance and enhanced manageability to ensure applications are transferred in real time
- Gigabit Ethernet backbone supports high-bandwidth, life-critical applications such as PACS
- Enterasys' support services help to ensure little network downtime
- RoamAbout™ R2 wireless platform simplifies admittance for patients and allows doctors to submit prescriptions with handheld devices—from anywhere in the hospital
- R2's scalable design is essential to meet the needs of Aurora's continually growing population
- New infrastructure ensures Aurora's compliance with HIPAA security standards

**The Challenge:**

**Support New Technologies without Compromising Network Performance and Provide a Solid Foundation for Partner Solutions**

Wendy Schafer, Aurora's supervisor of technical development, has been with the company for ten years and manages the team responsible for ensuring that the network infrastructure allows Aurora to deliver the highest level of patient care and doctor and nurse support possible. A system outage would have a major impact on patient care, as well as on other system users. To avoid outages, Aurora strives to maintain the most stable environment possible, with redundant systems to support an organization that operates twenty-four hours a day, seven days a week. The key element to maintaining this stability is Enterasys.

"Enterasys has been able to provide us with the highest level of stability we require," explained Schafer. "Not only do they thoroughly test their products to minimize bugs, they also have a great sales support team that routinely goes above and beyond the normal call of duty."

The other Aurora IT partners that installed and tested the Picture Archiving Catalog System (PACS) equipment at the new site echoed this sentiment. Representatives from Siemens were surprised that there were no networking-related problems to hamper the PACS application, since they typically expect to cripple a network once they attach to it. In addition to network stability, they were also impressed with the engineering of the network and the support services provided by Enterasys.

Likewise, representatives from GE were thoroughly impressed by the stability of the network and what they said was the "best networking support at any installation."

While Enterasys technology provides a solid foundation for any size application, the Enterasys staff provides a consistently high

level of support that extends to the customers' other IT partners, making the job for Schafer and her team much easier.

Aurora has standardized on Enterasys networking technology throughout the organization, from the largest hospital to the smallest clinic. To ensure that its network can handle the enormous files created from MRIs and other high-resolution images, Aurora turned to Enterasys to help implement significant changes to their network.

### **The Solution:**

#### **Install a Gigabit Ethernet Backbone for Increased Bandwidth and Network Reliability**

Supporting the latest technologies, while maintaining a fast, fault-tolerant network, required Aurora to revise their existing network-implementation standard. These improvements included moving from a Fast Ethernet (100 Mbps) backbone to a Gigabit Ethernet (1000 Mbps) backbone and implementing a wire-speed switch router at the core.

The Gigabit backbone was the next logical step for Aurora's enterprise infrastructure. Running ten times faster than Fast Ethernet, Gigabit Ethernet is necessary to support applications such as the PACS that will allow cardiology and radiology departments to deliver patient care without the need for conventional films. The PACS also facilitates the sharing of information by physicians and medical centers. Making medical decisions based on these images requires the highest resolution possible. And, with high-resolution images, file sizes become enormous. In addition, they must be shared between many different nodes, each with a different purpose. The medical equipment creates the images. A workstation views them. And a storage system archives them. To do all this effectively, the Gigabit backbone was implemented.

The X-Pedition ER16 gives Aurora the means necessary for separating this specialized system from the rest of the network traffic. Because the imaging data is collected in real time, while a procedure is being performed on a patient, it is absolutely critical that other network traffic does not cause a disruption of the flow of data, which would impact patient care. Incorporating virtual local area network (VLAN) technology, they are able to prevent the imaging system from interfering with the rest of the day-to-day production network and vice versa. The ER16 gives Aurora the fault tolerance, performance and advanced manageability necessary to support this life-critical technology with features, such as redundant components, broadcast suppression and port density.

Environments and their requirements change, so to ensure that Enterasys continues to be the right IT partner for Aurora, Schafer and her team periodically re-evaluate the company, their technology, and their commitment to Aurora. Many aspects are considered, including available and emerging technology and viability of the company in the industry. During the most recent re-evaluation, Enterasys and a leading telecom equipment provider were chosen to submit proposals for an enterprise-switching standard. Enterasys ultimately won out. "I was looking for a partner that can help solve problems, not just try to sell us more products," asserted Schafer. "Enterasys demonstrated their corporate commitment to our success and that they are heading in the same direction we are." In addition to providing superior support, Enterasys has also developed an executive sponsorship program, in which an Enterasys executive meets with Aurora on a regular basis to better understand Aurora's needs and how well Enterasys is meeting those needs. "It's not just a showcase program," commented Schafer. "An executive is actively participating in a current hospital deployment to ensure that it is a success. For me, it's reassuring to know that I have the attention of someone at the management level who can really make a difference."

#### **Incorporate New Technology Innovations to Improve Health Care**

Schafer's team spends much of their time assessing new technology and integrating it into their current infrastructure. As the Health Insurance Portability and Accountability Act (HIPAA) becomes more defined, it is their responsibility to ensure that Aurora's network will be in compliance. "Security has always been a huge concern for us," mentioned Schafer. "However, we will now be asked to track and measure how well our security system works." Emerging standards and their incorporation into the Enterasys line of products (e.g., EAP) will further enhance security by limiting access all the way down to the physical network connection.

Wireless is another big initiative that keeps the technical development team busy. "Medicine is changing, and so is the way in which we deliver it," stated Schafer. "We want to make the entire experience faster and easier for our patients." Wireless technology allows Aurora to do just that. With handheld devices, patients will no longer have to wait in admitting areas to check in. It can be done from anywhere in the hospital, including an examination room. In addition, wireless technology will allow doctors to write prescriptions that are immediately transmitted to the pharmacy.

Aurora chose the Enterasys RoamAbout™ R2 wireless solution because of its advanced networking features, such as the expandable wireless access platform, upgradeable architecture, and support for multiple radio technologies. "The R2 gives us the ultimate in flexibility and allows us to support our growing population of mobile users," commented Schafer.

**The Future:****Continue to Improve Health Care Service Through Technological Innovation**

As Aurora Health Care continues to grow, so will their networking requirements. Specifically, they will have an ongoing need to expand network bandwidth to accommodate more bandwidth-intensive files and applications, as well as more users. And, as Aurora continues to incorporate new technologies, such as telemedicine, to improve health care service, Enterasys will be there. Regardless of the initiative, Schafer is sure that it will be implemented with the same high level of service and quality technology that she has come to expect from Enterasys.

## 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](http://enterasys.com)