



Alverno Information Services

A Division of the Sisters of St. Francis Health Services, Inc.

Alverno Information Services

Building the Future of Healthcare with a Strong Network Foundation

About Alverno Information Services

Alverno is the 320-employee information technology arm of the Sisters of St. Francis Health Services, Inc., (SSFHS), a major healthcare provider operating 12 acute care hospitals with more than 3,400 licensed beds in Indiana and Illinois. SSFHS handles more than 100,000 admissions and processes a million radiology images each year, while its laboratory performs some three million annual tests.

Customer's Situation

As a faith-based nonprofit organization, SSFHS places a premium on patient welfare. Because good medicine is built on good data, Alverno Information Services plays an essential role in helping SSFHS achieve its mission.

Having recently completed its transition from mainframe to client-server architecture, Alverno began implementing new applications designed to move medical information where it is needed, faster and more efficiently. The goal, according to Vice President and CIO Bill Laker, was to improve processes, centralize some administrative functions, integrate operations across dozens of locations, and improve patient care and customer satisfaction. Alverno required a network solution to support these applications and move huge amounts of information, flexibly and reliably.

Our Solution

Networking would be key to the success of Alverno's sweeping healthcare IT program. The network had to be powerful enough to move large quantities of data across the enterprise, flexible enough to support many different applications and extraordinarily reliable.

The core of the solution is an AT&T Synchronous Optical Network (SONET) operating at fast OC-12 speed (622 Mbps). The ring architecture helps ensure business continuity because even if one leg of the ring is disabled, the network can still operate.

Digital private circuits connect smaller locations to the larger network and the Alverno data center. Remote users tie in through the Alverno virtual private network (VPN). The AT&T networking solution supports new video conferencing applications such as telemedicine, plus voice calling.

"We were confident that AT&T could deliver, especially on the SONET – that's probably the biggest thing," says Laker. "The network gives us the ability to move these high volumes of data and images around, and it gives us a lot of reliability."

Centralizing for Success

SSFHS is by any definition a major enterprise. It operates a dozen major hospitals in four regions across two states, maintains a busy central laboratory and has relationships with dozens of clinics and other locations.

Like all healthcare organizations today, SSFHS is challenged to streamline its processes and operate more efficiently, even as it works to improve patient care. Though some might see a conflict between these goals, Bill Laker sees none. His strategy is to achieve both higher efficiency and better results for patients through the intelligent use of information.

Alverno Information Systems

- **Client Needs**
Improve patient care, processes and customer satisfaction by centralizing administrative functions. Move from paper and film to electronic media.
- **Technology Solutions**
A high-capacity network links hospitals, administrative sites and laboratory to the data center and moves digital images, records, billing and other data in real time across the entire organization.
- **Business Value**
Reduced paperwork, easily accessible patient information, streamlined operations and improved patient satisfaction.
- **Industry Focus**
Hospital, home and hospice healthcare
- **Size**
Twelve hospitals in two states; more than 3,400 licensed beds and 100,000 annual admissions

"We are a big corporation," he says, "that is trying to improve processes from patient care on up, to be as efficient and as effective as we can as a corporation, and to function as a system." Through every step, the network makes it possible.

Alverno is helping SSFHS centralize such functions as purchasing, accounts payable and laboratory testing, using the Hospital Information System application to transmit data between locations over the AT&T network.

"We are taking that next step and having every invoice paid through our central accounts payable. We are able to use the network to move orders and invoices," Laker says. "The next piece will be to move scanned images of invoices around as well."

Centralizing these functions is designed not just to achieve efficiency, but to help free front line operations from issues such as billing and collections, so healthcare professionals can focus their efforts on patient care. It also fosters consistency across far-flung operations.

Paper-Light to Paper-Less

Another key initiative is Alverno's move from paper records and film-based X-ray images to digital information. A paper record is visible only to the person holding it. Digital information can be networked in real time and viewed by anyone who needs to see it.

"We are moving to make that information available anytime, anyplace," says Laker. "Some physicians practice at two or three of our campuses. They are able to view their patient's information at any one of those locations, as well as at their home or their office. We try and get our folks to think in terms of going from paper to paper-light to paper-less. Eventually we will have an electronic medical record."

Such records aren't here yet, but Alverno is taking major steps toward a paper-free environment. All rely on Alverno's robust network:

- **Digitized X-Rays** – Because some imaging procedures amass dozens of images in a single patient session, the films can become unwieldy to view. Alverno is replacing these with digital radiographic images that will be archived centrally and retrieved wherever they are needed.
- **Digital Documents** – Getting ready for full electronic documentation, Alverno scans images of paper patient records once the patient is discharged. The paper is then destroyed, and the digital image is stored for future reference.
- **Computerized Patient Charts** – Using personal digital assistant (PDA) devices, physicians download the latest information on patients before they make rounds. They don't have to search for paper records, and access isn't limited to one person at a time.
- **Precision Medication** – A computerized medication administration system goes live in 2006 to ensure nurses

deliver the right dose of the right medication for the right patient at the right time, using the right route of administration. Prescriptions are entered into a database, medications are bar-coded and nurses scan bottles and patient wrist bands before administering the prescription, and hear a warning of any problem.

Wireless Unleashed

A key to delivering networking value is access. People use wireless access for data and voice networking and some medical equipment can now communicate directly with the Hospital Information System.

Nurses use portable wireless devices that enable them to enter information from the patient's room and upload the data real time through the wireless network. Physicians log in with their laptops and in time, patients and their families will too. Wireless telephony is also part of the solution.

"We just opened a cardiac and vascular care center," Laker adds. "We are using a lot of wireless for our documentation system. We have also purchased a wireless IV pump and are actually passing data back and forth to the equipment through wireless."

AT&T's capability has proven valuable in implementing many of these applications. "When you have wireless for your clinical system network, for your IV pumps, for your phones and now for an EKG system, you've got to make sure that these things aren't conflicting with each other," he adds. "AT&T has worked hard to bring the resources to bear to get these things talking to each other. It's about building reliable networks, and that gets to the core of AT&T's capabilities."

The Customer is the Key

Laker says better information is delivering clear benefits in that most crucial area: patient satisfaction. "Patient satisfaction is a huge issue at all of the facilities across the corporation," he says. "With the growth of medical savings accounts, you are taking the decision out of the insurance companies hand and giving the choice to the patient. And so, patient satisfaction has got to be important."

By implementing an emergency department triage and tracking system at some facilities, SSFHS has seen a dramatic improvement in patient wait times. Now nurses quickly see which examination rooms are vacant and move patients there. When x-ray and lab tests are done, nurses and physicians receive electronic notice. "Obviously if patients can get through the ER visit quickly, that improves patient satisfaction," Laker says.

Putting patients at the center has required Alverno to broaden its role – and choose its partners carefully. "We have two businesses that we need to understand," Laker says. "We need to understand healthcare as much as we need to understand what's going on with our technology vendors from the IT hardware and software standpoint."

"It is all about doing the right thing for those patients that we serve. It's all about managing risk. We have the network that we think is going to give us that performance and reliability. We are confident that AT&T can deliver."

For more information contact your AT&T Representative or visit us at www.att.com/business.

