

## Mercy Hospital

"The Cisco VoIP solution deployed by Covisia Solutions has given us a foundation on which we can now add advanced technology applications and devices that help our healthcare professionals provide better patient care."

*Dale Shaw, IT Operations Manager  
Mercy Hospital*

### The Challenge

In the spring of 2007, Mercy Hospital's voice and data infrastructures were approaching end-of-life status. At the time, the hospital had two separate infrastructures – a Nortel PBX for voice services and a Cisco switching infrastructure for the data network backbone. The IT staff was also facing the challenge of needing to deploy voice and data infrastructures at a new hospital and medical office building scheduled to start construction later that year.

"We needed to deploy infrastructure solutions for voice and data in the current hospital, which was going to remain operational, as well as the new hospital," said Mercy Hospital IT Operations Manager Dale Shaw. "It was a big task, but our existing switches and routers simply needed to be replaced, and we wanted to position ourselves so we could take advantage of new medical technologies that assist in delivering patient care."

Shaw's IT staff first focused on the existing building and set a future goal of completing the new hospital's infrastructure by the end of 2008. "We needed an advanced infrastructure technology to allow us to communicate properly across all of our existing and planned buildings," Shaw said. "We also wanted the ability to unify our data and voice services to improve on efficiency and to save costs on circuit connections."

In addition to installing the new voice and data infrastructure, Mercy Hospital also sought new technology to help improve patient call-center operations. The goal would be to improve the patient experience by receiving faster service when calling to schedule and confirm appointments as well as to discuss billing issues.

### The Solution

After conducting initial research, Shaw and his staff decided to explore a shared voice and data infrastructure solution based on VoIP. "Most of today's clinical applications and devices are built to work across IP infrastructures, so it made sense for us to take this route," said Shaw. "We also wanted to install a backbone infrastructure that could simultaneously handle voice and data."

Mercy Hospital first considered a Nortel VoIP solution. But just before the hospital was ready to commit to Nortel, Covisia met with Shaw and his staff to review another option that could benefit the hospital: Cisco Unified Communications. At that point, Shaw decided this warranted further review. As a Cisco Healthcare Vertical Select Partner, Shaw recognized Covisia had the ability to collaborate closely with Cisco's healthcare team.

"Covisia's strong relationship with Cisco was a key component in prompting us to consider another solution," said Shaw. "Covisia arranged for us to visit the Cisco lab in Massachusetts so we could see first-hand just how well the Cisco VoIP solution performed."

### Key Benefits - Cisco VoIP Technology Deployed By Covisia Solutions

- Creates an advanced infrastructure foundation on which Mercy Hospital can deploy the latest VoIP-based technologies.
- Completely redundant and resilient shared infrastructure vastly increases speed and performance of voice and data across the network.
- VoIP infrastructure allows the hospital to add unified messaging systems that quickly deliver information to doctors and nurses.
- Call-center software allows the hospital to properly and quickly route as well as manage calls from patients inquiring about appointments and billing.
- Integrated emergency response system notifies hospital staff as well as police, fire, and first responders where emergency calls originate so they know exactly where to go.

During the lab tests, Covisia and Cisco demonstrated Cisco's Unified Communications Manager. The technology proved to be superior to Nortel's solution in terms of features and benefits. "Even our internal Nortel support team became convinced that Cisco's solution would provide better results," Shaw said.

The decision to go with the Cisco solution designed by Covisia was also driven by Mercy Hospital's need to improve call-center services for patient scheduling, appointment confirmation and patient billing. "We were using an automatic call distributor, but we wanted a more advanced solution," Shaw said.

Mercy Hospital also considered which company would be a better strategic partner for the long-term and chose Cisco, the market leader. "And we chose Covisia because no one else in this local area has the same type of Cisco experience, skills and resources," Shaw said. "We wanted someone with the skill sets that could meet our needs, and Covisia has provided IT services to Maine for 20 years. Many Boston-based companies service this area but are not as strong locally."

Covisia staged, tested and programmed more than 80 Cisco switches and routers before deployment at the original and the new Mercy Hospital sites to ensure they would function properly. The new design gives Mercy Hospital a more redundant data network that shares the core infrastructure with voice. Covisia also replaced the voice mail system with Cisco's Unity Platform for Mercy Hospital's 1000+ users.

In order to expand wireless coverage and add redundancy, the hospital deployed a secure Cisco Wireless solution with more than 150 access points that Covisia rolled out across all of the Mercy Hospital facilities. This will allow the hospital to install a sophisticated nurse call system and Computer on Wheels (COWS).

In addition, Covisia designed an APC rack system that gives the hospital a state-of-the-art data center. "This was important because a well-designed data center makes it easier to work with hardware and to move systems when necessary," Shaw said. "The new rack neatly houses all our servers, routers and switches."

## The Benefits

By using Cisco's IP Contact Center software, Mercy Hospital is now better able to manage patient calls. "Callers won't have to leave voice mails unless they want to," Shaw said. "Instead, we can route them to the right person to handle their needs, or we can put them into hold queues to give them the option of voice mail or holding. This is a key benefit because in the past, we had patients that could not get to the right billing clerk. Many people don't mind holding for the right person, but previously we did not have a way to route them. Now we can do this while also measuring hold times and dropped calls."

Shaw added that the updated infrastructure will allow Mercy Hospital to deploy unified messaging and integrate IP-based technologies with the Cisco phone system. Because it is IP based, it allows the hospital to integrate critical applications such as the nurse call system, which will allow nurses to quickly receive patient information from one device. For example, nurses can use IP phones to receive information directly from neonatal monitoring systems and telemetry devices.

The new infrastructure also allows the hospital to deploy a single circuit for both voice and data at two remote locations. It also enhances communication by making it possible for staff members, such as patient schedulers, to work from home. Employees can interact by phone with patients as though working right from the hospital.

The Cisco Emergency Responder has also been deployed as a key component of the network design. A distinct benefit of this technology is that it allows emergency personnel to receive information directing them to the exact location of patients requiring attention. "This is critical given that seconds can save lives," Shaw said.

## In Summary

"VoIP is a hard solution to jump into when you have a major investment in a legacy PBX," Shaw said. "It can be difficult to convince executive management to rip the PBX out, but we had a new hospital coming on line, and we knew we had to position ourselves to take advantage of VoIP-related technologies down the road. Covisia's expertise allowed us to successfully implement the Cisco IP telephony solution on schedule. They recommended we start by deploying VoIP in our remote physician offices and then our existing hospital. This acted as a pilot and gave us the confidence to proceed on our new hospital and medical office building."

Along the way, any issues that Mercy Hospital encountered were quickly resolved by both Covisia and Cisco. "Both companies planned the project well and assumed the risk along with us," Shaw said. "Covisia and Cisco adapt well to changes, but they also do the extra homework to take into account issues that might arise. This approach helps prevent a lot of problems from occurring."

