CRITICAL COMMUNICATIONS

CISCO SYSTEMS AND COMPAQ HELP YORK HEALTH SERVICES TRUST TO IMPROVE PATIENT CARE AND STREAMLINE OPERATIONS. **BY BILL ROBINSON**

"MISSION CRITICAL" HAS BECOME A POPULAR BUSINESS CATCH PHRASE FOR describing any process or initiative that impacts a company's ability to do business. But some of these processes are more critical than others, especially for an organization in the business of healing people and saving lives. York Health Services Trust is a National Health Service hospital near the United Kingdom city of York that employs 5,400 people and serves 300,000 local residents.

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TEAM PLAYERS

**MISSION ** The strategic alliance between Cisco Systems and Compaq Computer Corporation aims to jointly develop and advance the products and technologies that form a reliable, scalable, and secure Internet-business infrastructure.

**STRATEGIES ** Building on Compaq's global services, servers, storage, and telecommunications infrastructure expertise combined with Cisco networking and IP telephony technologies and products, the partners work closely to identify customer needs to deliver leading-edge hardware, software, and integration for converged voice and data IP networks.

**ALLIANCE PROGRAMS ** The alliance couples Compaq's Enterprise Windows 2000 with Cisco IP telephony products based on Cisco AVVID. The resulting IP telephony solutions include the jointly developed Media Convergence Server, which integrates Cisco CallManager software with Compaq's ProLiant server for enhanced communication quality and system availability.

"It was clear to us that, in terms of our future demands on the network, our data infrastructure was inadequate," says Patrick Crowley, York Health's director of Performance Management. "Therefore, we felt a sense of urgency about improving the capacity of that data infrastructure."

"The reality of the situation in health care is that if your network is down, then you're going to have an impact on lives," says Sue Rushbrook, York Health's head of system and network services.

A NEW NETWORK

The hospital evaluated the options related to improving its data infrastructure. Opting against implementing short-term capacity upgrades, York Health decided to make a >

quantum leap to a next-generation, high-speed gigabit Ethernet network infrastructure, offering high-level goals of facilitating digital-image archiving as well as improved patient-record access and communications.

In 2000, York Health turned to Compaq Global Services, its long-time systems and service partner, to design and build the new network infrastructure. Compaq brought in Cisco Systems to provide networking expertise and—together with hospital stakeholders—the joint team reviewed each department's network requirements and developed a detailed network architecture and support plan to meet York Health's requirements for performance, reliability, and security.

The result is an Internet Protocol (IP) network built on Cisco AVVID (Architecture for Voice, Video and Integrated Data), which provides a secure, resilient, and scalable foundation that ensures reliability and will accommodate future network growth. York Health's IT team worked with Compaq during deployment and migrated departments to the new network one at a time to ensure uninterrupted service.

"This was an extremely challenging implementation for an organization of this size," says Crowley. "It was very comforting to have experts from Compaq and Cisco working so closely with us to ensure its complete success."

IP TELEPHONY ADDS VALUE

The new network's value quickly increased when York Health learned that its phone vendor would no longer support the hospital's outdated PBX telephone system. The hospital initially thought it would have to replace its traditional PBX-based system with a newer PBX.

"We realized that we had another option—to converge voice and data services using our upgraded network as the foundation for IP telephony," says Rushbrook. "After some study, we determined that it was risky to invest in traditional PBX technology, especially when the PBX vendors themselves were planning a migration to IP telephony."

IP telephony allows voice communications—phone calls—and data information to travel across a single IP network, simplifying network management, improving performance and functionality, enhancing employee productivity, and reducing the ongoing operating expenses related to maintaining a separate telephone network.

"It was quite clear that IP telephony offered the greatest opportunity to streamline health services, improve communication, and better integrate the hospital with our affiliated network of clinics and physician offices," says Crowley.

SOLID RELIABILITY

York Health first conducted a limited-scale pilot test by configuring Cisco IP phones in administrative offices, then expanded to more critical departments, including the outpatient areas and the chief executive's office.

The IP telephony system proved reliable during a three-month pilot test, and York Health's IT team then installed the Cisco IP phones throughout the hospital.

"We did everything possible to accelerate the rollout because users were so vocal in their demand for the phones," says Rushbrook. "It's actually been quite refreshing for our IT team to implement a solution that people have received so positively." The Cisco IP phone features and functionality—including an internal directory, voice mail, caller ID, and missed-call logging—impressed staff members.

DEFINED

INTERNET PROTOCOL (IP) The standard that defines how data is transmitted over the Internet, IP relies on data packets to transport data, voice calls, messages, faxes, e-mail, and other communications over public and private networks.
LATENCY A synonym for "delay," latency refers to the time it takes for a packet of data to get from one point on the network to another.

"For York Health Services, it was essential to have a fully tested and supported IP telephony solution capable of delivering a high level of reliability and availability," says James Richardson, chief marketing officer at Cisco. "Working together, Cisco and Compaq ensured York Health transitioned smoothly and rapidly from its legacy PBX systems to a converged voice and data network."

BENEFITS

The converged network and IP telephony solution deliver many benefits to the hospital, including the following:

• **Better Patient Care:** The new network supports advanced medical-imaging capabilities for brain or body scans and X-rays, while streamlining access to patient records and current data. Additionally, the hospital's new Cisco Aironet® wireless local-area network (LAN) will allow staff

to access and update patient information—including reports, digital images, and X-rays—on laptops or Compaq iPAQ wireless devices while moving throughout the facility. Patients in life-threatening situations also benefit from the increased overall reliability of York Health's new network.

- **Improved Staff Communications:** "It's essential that we deploy our doctors' and nurses' time as effectively as possible," says Crowley. "The converged network and IP telephony are key enablers of this, and we are already seeing benefits in terms of improved communication." Additionally, the wireless LAN will enable doctors to adjust treatments and update coworkers or share new information with colleagues or patients as soon as it's available.

- **Simplified Network Management:** Maintaining a single IP network instead of two separate systems frees IT resources to troubleshoot problems and focus on strategic planning. The IP network also simplifies administrative maintenance requirements involved with changing, adding, or dropping phone lines—actions that previously required costly and time-consuming rewiring.

- **Reduced Operating Costs:** The hospital saves money as a result of its simplified network management. In addition, York Health expects to realize bottom-line cost savings of 30 to 40 percent on long-distance charges alone once another 1,300 users in the region's community clinics and doctor's offices migrate to IP telephony, enabling virtually cost-free phone calls, faxes, and data transmissions between users across the network.

FUTURE VALUE

"We have ensured that this particular product is future-proof," says Rushbrook. "We had a lot of anxieties that future PBXs would not meet our continued growth and demand."

Crowley sees other future value, pointing out that York Health's IP network provides "a platform for further developments and implementation of improvements in health care." Now that is mission critical. 📠

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NEW CONNECTIONS

FAIRMONT HOTELS & RESORTS
fairmont.com

Cisco Systems and Fairmont Hotels & Resorts, North America's largest owner and operator of luxury hotels and resorts, have partnered to outfit all Fairmont properties with secure, reliable, high-speed Internet access.

Guests at all of Fairmont's 37 luxury and first-class properties in Barbados, Bermuda, Canada, Mexico, and the United States now have the same business-class network access in their hotel rooms and public meeting areas as they use at their offices.

The Ethernet connections allow guests to download information at rates 100 times faster than conventional dialup connections. Using a wireless card, guests can remain connected to the Internet throughout the facility.

"We now have more bandwidth per guestroom across our entire portfolio than any other hotel company in North America. In fact, many of our heritage hotels now offer some of the most advanced technology available in the hospitality industry," says Tim Aubrey, vice president of technology for Fairmont.

Fairmont is a member of the Cisco Mobile Office initiative (**cisco.com/go/mobileoffice**), **which provides business professionals with secure, high-speed network access from locations outside an immediate office, including public facilities such as hotels, airports, and coffee shops around the world.**

HANGZHOU NETCOM INFORMATION HARBOR
www.hzcnc.com

Hangzhou Netcom Information Harbor has announced plans to build China's largest broadband metropolitan-area network (MAN) on a Cisco IP+Optical backbone. When complete, the network will support more than 1.5 million business and residential users.

"The Hangzhou Netcom Information Harbor MAN is a major development and important milestone in China's telecommunications industry," says Hanh Tu, director of Service Provider Operations for Cisco China. "It will bring high-speed Internet access to a significant metropolitan area and will be a model for Chinese cities in the development of broadband Internet access."

The MAN will combine the superior bandwidth capacity of optical networking with IP's intelligent routing capabilities. The network's ability to route traffic and prioritize high-bandwidth transmissions, such as voice communications and streaming video, ensures that business customers in the Hangzhou area will experience reliable, high-quality communications with little latency.

> 🖥️ **NEXT STEPS**
> For more information about Cisco solutions mentioned in this article, go to **cisco.com/go/avvid**, **cisco.com/go/iptelephony**, and **cisco.com/go/aironet**.
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> To learn more about the technology behind IP telephony, read "What You Need to Know About IP Telephony," on page 72.