

THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

LOCATION:
Mississauga, Canada

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Medicine

NOMINATING COMPANY:
Nortel

ORGANIZATION:

Credit Valley Hospital

PROJECT NAME:

Implementation of Voice Over IP and WLAN Technologies

Summary

The challenge: To provide a unified voice and data solution to support a highly mobile workforce while ensuring that the solution delivers the resiliency, performance and security required in a critical healthcare environment — without requiring additional staff to operate or support it and cost.

Introductory Overview

It has only been 20 years since The Credit Valley Hospital grew up out of Mississauga, Ontario farmland. Today, the nationally respected institution serves one of the fastest growing communities in Canada. This hospital, with 366 approved beds, serves over 20,000 inpatients, 66,000 emergency room patients, and 238,000 outpatients each year. The IT team supports the voice and data networking needs of 2,500 employees and over 300 physicians in two locations.

As the hospital grows along with the region, the networks have seen more traffic, more critical applications and more users. In June 2005, the hospital completed the first phase of a \$300 million multi-phased expansion project. The hospital essentially doubled in size; however, no new IT staff was added to support this growth. Caregivers needed to be more accessible and productive. Patients wanted top-notch quality care.

Benefits

Hospital staff can access and capture relevant patient and clinical data at the point of care, eliminating the administrative burden of duplicate paperwork and reducing preventable medical errors associated with transcribing information at a later time.

Medical professionals can give more focused and timely care since they don't have to leave a patient's room and walk to a nurse's station to access critical information. With powerful, multi-function wireless LAN handsets, staff can discreetly receive and relay information and alerts wherever they are. Features such as push-to-talk, group paging and text messaging enable communications to be shared without the disruptive noise of ringing telephones and broadcast paging announcements.



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Doctors have on-the-spot access to the information and people they need to make patient care decisions. They don't have to wait until they get back to their offices, which might be in other buildings. They can look up patient records, diagnostic images and test results from any of 100 wireless, mobile carts located around the facility, equipped with computers with flat-screen monitors. Immediate access to critical care information means faster diagnosis, more effective decision making, and ultimately increased quality of care for patients.

Mobility solutions aren't just helping the medical staff. Patients enjoy faster check-in at the wireless kiosks, giving them the ability to do self-service registration, using interfaces that securely interact with patient databases. At the same time, this capability frees administrators for more value-added activities that improve the level of service and quality of care provided.

Mobility has increased security in the hospital as alarms which typically rang in a control centre and then needed security staff to be dispatched, are now sent directly to the mobile sets of the security officers. This allows the security officers to respond faster.

The wireless project can benefit others in several ways:

- 1) The technology ideas are transferrable - they can be used almost anywhere.
- 2) The new uses for technology can help drive further thought and refinement of processes. By seeing how one organization did something may help others come up with solutions more geared towards their unique environments.

The Importance of Technology

WLAN standards and technology are absolutely essential to this project. Mobility without WLAN results in duplicate infrastructure which raises costs and support complexity. A robust WLAN infrastructure is important because when people become dependant on the technology, downtime is not an option. Our implementation of the WLAN system from Nortel Networks gave us the reliability that we needed.

And user devices are important. Solid and reliable end user WLAN phones from Nortel, custom manufactured wireless kiosks from Compar, wireless mobile computing carts from NAWare and SmallPC.com all played a very important role.

Good tools to work with end user devices and the network are also important. Nortel and ConexAll provide the right mix of products to do just that. Without the proper tools, integration would be tougher to achieve - maybe even impossible from a hospital standpoint.

Originality

Ultimate flexibility and mobility at work.

Sending legacy serial alarm messages to WVoIP sets is original. I am not aware of other organizations doing this.

Success

Features such as push-to-talk, group paging and text messaging enable communications to be



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shared without the disruptive noise of ringing telephones and broadcast paging announcements. These features benefit patients first and foremost.

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Mobility solutions aren't just helping the medical staff. Patients enjoy faster check-in at the wireless kiosks, giving them the ability to do self-service registration, using interfaces that securely interact with patient databases. At the same time, this capability frees administrators for more value-added activities that improve the level of service and quality of care provided. "In the area of Cancer Care, the focus of care is the patient. These patients often feel they have lost control once they have been diagnosed and the self check in provides them with a small amount of control back in their life. For the clerical staff, self check in reduces the number to simultaneous activities that they are required to do in a clinic day and ultimately improves the quality of care and job satisfaction." - Marcie Flynn-Post, Nurse Manager

Mobility has increased security in the hospital as alarms which typically rang in a control centre and then needed security staff to be dispatched, are now sent directly to the mobile sets of the security officers. This allows the security officers to respond faster. "Increased mobility is a vital element in improving security. We have increased global communication by providing same data to more than one party at the same time. We have decreased response times by being self-reliant in removing the dispatching step." - George Hanna, Manager Fire and Security

Acceptance happens usually within 100 days.

Difficulty

- Technical issues surrounding legacy systems
- Lack of human resources to implement quickly

It took over 1.5 years to get people to UNDERSTAND what we were trying to accomplish. Originally, all the people we approached nodded their heads but it was clear that they did not understand. Once we were able to demo one application, people began to show visible support and momentum began to build.