


Sunnybrook Health Sciences Centre enhances patient safety and staff efficiency

CASE STUDY

CUSTOMER PROFILE	
Company	Sunnybrook Health Sciences Centre Toronto, Canada 
Industry	Healthcare
Symbol solution	<ul style="list-style-type: none">• Symbol WS5100 Wireless Switch• Symbol AP300 Access Port• Symbol ES3000 Fast Ethernet Switch• Symbol MC50 and MC70 Enterprise Digital Assistant (EDA)• Symbol Mobility Services Platform (MSP)
Benefits	<ul style="list-style-type: none">• Supports improved patient care and safety• Provides secure large area Wi-Fi network easily managed with limited IT resources• Enables rapid changes to adapt to new technical, legal and business requirements• Addresses required security and authentication• Improves staff efficiency and facilitates collaboration
Partner	<ul style="list-style-type: none">• Bell Canada

Company overview: Sunnybrook Health Sciences Centre

Sunnybrook Health Sciences Centre is among Canada's premier academic health sciences centers, with approximately 10,000 staff, physicians, volunteers and students working to improve the lives of hundreds of thousands of patients across the greater Toronto area, throughout Ontario, and around the globe.

A key mission at Sunnybrook is continual improvement in patient care and safety, achieved through support for an effective, collaborative working environment for medical and administrative staff. IT has always played a key role in serving this mission. The ongoing developments in technology made Oliver Tsai, Director of Information Technology at Sunnybrook, realize that IT can continue to serve the hospital's mission in new ways. "We recognized that to improve the delivery of care, we needed to put access to clinical information systems into the hands of

our users, regardless of where they may be. In a traditional model, access to clinical information systems meant walking to the PCs located at centralized nursing stations. Understanding the potential of Wi-Fi, we decided to take advantage of the 'anytime, anywhere' approach and provide information directly at the point of care," explained Tsai.

The challenge: Finding a complete, end-to-end wireless solution

In recent years, with the ubiquity of wireless in their day-to-day lives, the vast majority of hospital staff had come to expect Wi-Fi connectivity at any of the Sunnybrook campuses, according to Tsai.

"We felt compelled to provide wireless as a basic network service. From a business perspective, providing access to clinical information systems was essential, but we also identified other vital services for our organization, including wireless voice over IP, location-based services and bar coding," added Tsai.

Having had a previous experience with wireless that did not meet the hospital's needs, Tsai emphasized that the ideal Wi-Fi infrastructure needed to address security, usability, ease of management and scalability. Only Symbol and Bell Canada brought it all together for Sunnybrook.

"There is a huge benefit in Symbol's end-to-end solution, and we could not find another solution provider that could deliver such a complete Wi-Fi network infrastructure including the wireless devices."

— Oliver Tsai, Director of Information Technology, Sunnybrook

"Our strategic partner, Bell Canada, identified Symbol and helped us evaluate their offering. When we looked at Symbol's overall enterprise wireless solution, and added on top of that how cost effective it was, we found the decision easy to make. There is a huge benefit in Symbol's end-to-end solution, and we could not find another solution provider that could deliver such a complete Wi-Fi network infrastructure

including the wireless devices. Once we made the decision, the Wi-Fi network was deployed very quickly and smoothly, thanks to support from the Symbol and Bell Canada teams," said Tsai.

Customized security features easy to implement

With its previous wireless system, Sunnybrook had difficulty implementing the security it required. The Symbol-Bell Canada team provided an effective solution that met the hospital's needs as it included reliable support for advanced wireless security protocols.

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"As in any large enterprise environment, basic Wi-Fi encryption protocol security was not going to be sufficient. We wanted to take advantage of our central directory infrastructure, Microsoft Active Directory, and wanted to be able to leverage industry security protocols like 802.1x and protected EAP. Symbol's Wi-Fi network infrastructure allowed us to implement these security features very easily to ensure a high level of security and also provide the ability to audit access to our network," stated Tsai.

Four overlapping networks allow the hospital to provide Internet access to patients and their guests, while keeping private health information separate. "We did not experience one problem when installing and deploying the Symbol Wi-Fi network, which solved the Wi-Fi security issues we experienced when testing other vendor networks," added Tsai.

Real-time information increases patient safety and staff productivity

"Staff productivity is vital, and we have definitely seen an increase in user satisfaction with IT from users of the wireless network — any information staff members are authorized to access, they can interact with from any location on our campus, precisely when they need it," said Tsai. Having access to the data at all times enables hospital staff to spend more time at the patient's bedside.

Tsai emphasized the importance of technology in improving patient safety at Sunnybrook, particularly with regard to medication accuracy. "Patient safety is a top priority for our organization. For example, Dr. Jeannie Callum, the director of Sunnybrook's Transfusion Medicine Department, is a world-class leader in improving patient safety in the blood transfusion arena. She has been working with Neoteric Technology Ltd. on a pilot program to scan and identify the patient, and ensure that the right blood product is going to the right patient. This information is based in the Neoteric BloodTrack system, which stores the clinical information that nurses access with the Symbol MC50 EDA," said Tsai. At the bedside, nurses can validate the transfusion product they are providing, giving them an extra safety assurance and avoiding unnecessary mistakes.

Tsai reported the results of the pilot program to date, specifically in the oncology in-patient unit, are dramatically successful: the nursing staff refused to give up the pilot equipment because it improved patient care and safety so much. That success has spurred an overall organizational initiative to pursue bar coding on a large scale. This initiative will ultimately provide advantages to a broad cross-section of hospital communities including lab, transfusion medicine, materials management, general receiving, medical imaging and others.

Central network and device management saves time and resources

Manageability and scalability of the wireless infrastructure are key to Sunnybrook, making Symbol's Mobility Services Platform (MSP) a key enabler. "We have the volume of a very large company, but limited IT resources. Using Symbol's thin access points, we have a Wi-Fi network that is very easy to manage and also highly responsive to change. Whether it's a firmware patch, a security improvement, or even a configuration change based on a technical or business policy requirement, Symbol's infrastructure will allow us to make that change across the entire network extremely quickly while barely using any of our network resources," said Tsai.

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Today, Sunnybrook uses remote systems management to increase IT call center productivity and service levels, and Tsai predicts similar value from Symbol's highly manageable Wi-Fi network. "MSP will allow us to manage end-point Symbol devices remotely, and enable our call center to support those devices in a highly effective manner. We will be able to deploy software, monitor battery conditions and assist with troubleshooting. With MSP, we'll be highly responsive to hospital staff wherever they are," said Tsai.

Tsai also emphasized: "We could not pursue the bar coding initiative without it — MSP is a true enabler. When it comes to supporting our end users and the devices they need in order to deliver care, we feel that Symbol has major advantages over its competitors."

Future expansion with VoIP, bar coding and RFID

With their comprehensive knowledge of Wi-Fi infrastructure and the company's commitment to the healthcare environment, Symbol-Bell Canada team is able to provide a solution to meet Sunnybrook's current needs while also providing a strong, flexible foundation for the future. Tsai predicts that Sunnybrook will work together with Bell Canada and Symbol as close partners in the years to come.

"One of the upcoming steps will be deploying a wireless VoIP solution on our Symbol wireless infrastructure. Rapid access to information and collaboration with colleagues has a direct impact on the quality of care," noted Tsai. "Wireless VoIP will be invaluable in our hectic, high-volume healthcare environment."

"As we look toward deploying a very large bar coding presence within our clinical areas, knowing that we'll be able to tap into Symbol's MSP to manage it and support all of our users is very compelling for us. And further ahead, as we start to realize more and more benefits from our existing Symbol Wi-Fi infrastructure, there will be natural opportunities to explore and implement RFID solutions — in our supply chain management areas, for example — and we're excited to pursue those with Symbol and Bell Canada," added Tsai.

Patients and staff at Sunnybrook will continue to see innovative technology in the service of patient care and medical accuracy. To learn more about Symbol's wireless network infrastructure, bar code scanners, rugged mobile computers and MSP, please visit or contact Symbol at www.symbol.com.

About Bell Canada

Bell Canada is Canada's national leader in communications with 28 million customer connections across the country. The company provides consumers with simple solutions to all their communications needs, including telephone services, wireless communications, high-speed Internet, digital television and voice over IP. Bell Canada also offers integrated information and communications technology (ICT) services to businesses and governments, and is the Virtual Chief Information Officer (VCIO) to small and medium businesses (SMBs). Bell is proud to be a Premier National Partner to the Vancouver 2010 Olympic and Paralympic Winter Games. Bell is wholly-owned by BCE Inc. For information on Bell's products and services, please visit www.bell.ca, and for corporate information on BCE, please visit www.bce.ca.



About Symbol Technologies

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