



A WIRELESS NETWORK THAT IMPROVES CARE TODAY— AND LAYS THE FOUNDATION FOR TOMORROW



When the situation is literally life or death, you need a wireless network with coverage and security you can trust.

SITUATION

When you have a reputation as prestigious as Sunnybrook Health Sciences Centre, physical expansions and emerging medical technologies are a part of everyday life. In order to stay at the forefront of the healthcare industry, Sunnybrook's teams needed a reliable, secure and manageable wireless network to blanket their campuses and enable them to continue offering premier patient care.

Director of IT at Sunnybrook Oliver Tsai makes the situation all too clear, "Wireless for us is not an add-on anymore," he says, "it's a mission-critical service. The loss of wireless service in our centre is now the equivalent of loss of electrical power. That's how vital it is." As Sunnybrook's campuses continued to grow and more and more wireless medical technologies emerged, they needed a wireless network that could truly become the foundation on which current and future technologies could be built.

SOLUTION

A complete wireless network upgrade using the latest technology available from Motorola. Our end-to-end network solution provides secure, reliable wireless connectivity for everything from critical care alerts that increase staff efficiency, to reliable Internet access that allows patients and visitors to stay connected and feel at home.

Understanding the challenges Sunnybrook was facing, we worked side-by-side with their IT team to put a core network solution in place that not only helps ensure reliable and secure coverage throughout Sunnybrook's campuses, it also allows transparent visibility and manageability to Sunnybrook's IT team. We supported this network with a variety of additional products and applications that help provide a complete, end-to-end solution that works seamlessly both with existing components of Sunnybrook's infrastructure and with future technologies that will depend upon the network.

RESULT

Not only has Sunnybrook improved staff efficiency, enabled higher-quality patient care and increased the manageability of their network, they've also laid the foundation that future physical and technological advances will depend upon.

After implementing our wireless network upgrade, Sunnybrook has seen improvements in almost every area. They installed a real-time critical alert monitoring system in the Neonatal Intensive Care Unit (NICU) to improve bedside care. We helped them pioneer the use of our MC50 handheld mobile computers for wireless patient identification. We upgraded the Bio-Medical Engineering group's Enterprise Digital Assistants (EDAs) to our MC55A mobile computer for barcode inventory control management. Our end-to-end solution has also given their IT managers the power to proactively troubleshoot and solve issues before they escalate. And that's just the beginning.

CUSTOMER PROFILE

Customer

- Sunnybrook Health Sciences Centre, Toronto, Canada

Industry

- Healthcare

Solution

- RFS 7000 Wireless RF Switch
- AP 650 Access Point
- AP 7131 Wireless Access Point
- AirDefense Services Platform (ADSP)
- MC50/55A Enterprise Digital Assistant (EDA)

Features

- Improved patient care through faster staff response times and greater efficiency
- A secure, easily-managed WiFi network with complete coverage across multiple campuses
- A wireless foundation that can reliably support future expansions and new medical technologies
- Staff, patient and visitor access to the Internet from any device, anywhere, just as they've come to expect in their daily lives

Physical expansions, technological advances and the wireless network that makes it all possible

When you're one of Canada's premier academic health sciences centres, expansions and medical advances are always on your mind. Sunnybrook Health Sciences Centre, with a staff of over 10,000 at its multiple campuses in Toronto, knows this first hand. With many expansions recently completed and more on the horizon, Sunnybrook needed a wireless network that could blanket over three million square feet at their campuses in coverage and provide the advanced security and manageability features the healthcare industry demands. Additionally, with more and more wireless technologies being developed everyday, we worked with Sunnybrook to recognize and embrace the need for a reliable, secure wireless network that could truly become the foundation on which current and future technologies and expansions are built.



A MISSION CRITICAL SERVICE

In the rapidly advancing healthcare industry of today, wireless is no longer an option. It's the norm. Tsai explains this heavily reliance on wireless. "Given the cultural change and technological advances, especially with medical equipment, wireless is now totally integrated into our workflow." This is true not only for medical staff and the technologies they use, but also for patients, visitors and off-duty staff. "Wireless is an expected service now," Tsai says. "It's a utility. Having wireless connectivity on all manner of devices, from iPads and smartphones to laptops and PCs, is essential for staff, patients and visitors alike. And our clinicians expect not to be tethered to an access point; Motorola's wireless network puts information, both critical and non-critical, at their fingertips regardless of where they are."

COMPLETE COVERAGE AND HANDS-ON MANAGEABILITY

The need for a reliable, secure wireless network is clear, but satisfying that need is the tricky part. This is especially true when the network needs to cover multiple campuses and support thousands of devices. At Motorola, we understand these challenges, and with our strategic guidance we helped Sunnybrook install the AP 650 Access Point as the foundation of their network solution. The AP 650 not only helps ensure reliable and secure coverage throughout Sunnybrook's campuses, it also allows transparent visibility

and manageability to Sunnybrook's IT team. We supported these access points with a core redundant switch and AirDefense Services platform, providing a Wireless Intrusion Protection module, WLAN Management and troubleshooting module, LiveRF Module and Spectrum Analysis module.

"The key difference for us now," Tsai explains, "is that we're able to monitor the status of nearly 1,000 APs in real-time. So not only can we watch as the system self-heals and implements solutions on its own, we're also provided the information that enables us to respond incredibly quickly and with a better understanding of the issue at hand."

RELIABILITY WHEN IT MATTERS MOST

If you want to send critical care alerts wirelessly, you need a network you can trust. We provided that network for Sunnybrook. In the past, the Hospital's Neonatal Intensive Care Unit (NICU), which cares for one of every five babies born in Ontario who weigh less than three pounds, relied on manual alarms to audibly alert nurses to patient needs. When the NICU moved to a new campus, these alerts became problematic, as physical distance and other obstacles made it difficult for nurses to hear the alerts and respond to them as promptly as the situation demanded.

CASE STUDY SUNNYBROOK

Our reliable wireless network allowed Sunnybrook to implement a real-time critical alert monitoring system that sends alerts over the network to nurses throughout all of Sunnybrook's campuses, enabling them to respond instantly to their patients' needs. During the first week after implementation, more than 8,000 alerts were sent and received, which impressed Tsai. "The fact that nurses received every alert without fail over the wireless network," he says, "is a testament to the reliability and coverage of the network and its underlying components."

A NETWORK YOU CAN TRUST

When you're managing blood transfusions, it's absolutely critical to ensure the right blood is administered to the right patient. In order to guarantee the accuracy of these transfusions, Sunnybrook first implemented a pilot program using Motorola's MC50 handheld mobile computers to positively identify patients at the point-of-care wirelessly over the network. At the end of the program, administrators attempted to end the pilot, but were met with an outcry. Tsai relates, "Nursing staff insisted the pilot become permanent as the technology gave them the confidence that every transfusion is audited and safe. That pilot project eventually led to the entire hospital wanting to implement positive patient identification devices, which the hospital is now heavily investing in."

BANDWIDTH TO SUPPORT THOUSANDS OF USERS

In a centre as large as Sunnybrook, covering physical distances isn't the only challenge. Providing the bandwidth to support thousands of users is also an issue, and one that Sunnybrook was familiar with. Tsai lays out the problem, "When you're talking about coverage, you not only need reliable access points, you also need adequate access point density. Previously, our density was not as high as we needed to provide the level of coverage our staff demanded. Motorola was able to come in, solve those problems, and provide the kind of coverage we need to support our campuses." These improvements can not only be seen in superior coverage, but also in the voice quality of over a thousand wireless Voice Over Internet Protocol (VVOIP) devices Sunnybrook utilizes, which users testify has vastly improved now that our upgraded network is in place.

"It's one thing to provide wireless connectivity when users are at rest, but when they're in motion, as our staff almost always are, wireless security becomes even more difficult. Fortunately, Motorola was able to exceed our expectations, letting us rest easy knowing our patient information is safe."

Oliver Tsai, Director of IT, Sunnybrook Health Sciences Centre, Toronto, Canada

THE DECIDING FACTORS? SECURITY AND PRICE

Simply implementing a wireless network that can reliably cover multiple campuses and transmit vital information wasn't enough for Sunnybrook. That network also needed the security features to protect the sensitivity of the information being sent and received. Supplementing the already robust security features of the AP 650 Access Points with the additional features of the AirDefense Services platform helped provide Sunnybrook with the kind of advanced, high-level security they demanded, simultaneously allowing the safe transmission of sensitive material as well as providing courtesy Internet access for patients and visitors. "When we were with competitors in the past, we just weren't satisfied with the level of security they were able to provide," Tsai explains. "It's one thing to provide wireless connectivity when users are at rest, but when they're in motion, as our staff almost always are, wireless security becomes even more difficult. Fortunately, Motorola was able to exceed our expectations, letting us rest easy knowing our patient information is safe."

Of course, even providing reliable connectivity and advanced security isn't the whole story. These features must be delivered at a competitive price, and once again our solution was able to deliver. "We're very careful about our investments," Tsai says, "especially since a wireless investment is a long-term investment, and at the end of the day Motorola provided the best overall total cost of ownership."

CASE STUDY
SUNNYBROOK



“Wireless for us is not an add-on anymore, it’s a mission-critical service.”

Oliver Tsai, Director of IT, Sunnybrook Health Sciences Centre

IT’S ALL ABOUT ADOPTION

At the end of the day, if users aren’t satisfied with a product or a wireless network, they’re not going to use it. The upgraded solutions we provided to Sunnybrook have been met with almost universal adoption, which Tsai emphasizes. “If healthcare workers don’t like a product, they’re not going to use it. We have tremendous adoption of wireless technologies,” he says. “Not only for data but for voice, too. Motorola’s network has given our staff the confidence to rely on wireless devices and the network.”

PAVING THE WAY FOR THE FUTURE

The renowned success of the upgraded solutions we provided Sunnybrook have Tsai thinking big. “Wired cabling is a constant in the IT business,” he says, “and that eventually puts significant pressure on your infrastructure. But with the power of Motorola’s wireless network, we’re beginning to envision a cable-free future.”

Not only that, Tsai is looking forward to future technologies that a robust wireless network can support—a future that wouldn’t be possible without our secure, reliable solutions. “Transcription is an essential but costly service. But as speech recognition continues to improve and as mobile devices are now ubiquitous, wireless connectivity enables the rapid electronic documentation of clinician notes and the eventual elimination of transcription services. “We’re starting to explore VoIP solutions that could make this a reality. Of course,” Tsai concludes, “our physicians will expect this service to be untethered and accessible wherever they need it. Which is just one more hurdle Motorola’s technologies might help us overcome.”

**Learn more at www.motorolasolutions.com/healthcare
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