

Bell and Concordia University partner to provide wireless access with mesh technology.



The customer

- Founded in 1974, Concordia University is a Montréal-based university serving 44,000 students on two main campuses

The need

- Provide students, faculty and staff with secure wireless connectivity and accessibility to IT resources anywhere, anytime

The solution

- Wireless Professional Services from Bell and Cisco Unified Wireless Network

The results

- Enhanced student experience by supporting mobile connectivity access
- Reliable, always-on offsite Wi-Fi network environment
- Cost-neutralizing IT service offerings
- Wireless solution that is reliable, modular and robust to accommodate today and future service and application needs

Concordia University: Connecting like never before

Concordia University, a large urban university in Montréal, Québec, operates two campuses set seven kilometres apart: Sir George Williams campus in the downtown core of Montréal, and Loyola campus in the residential west-end of Montréal. Since opening its doors in 1974, the university has experienced tremendous growth and, as such, is always looking for innovative ways to satisfy its students' information technology needs.

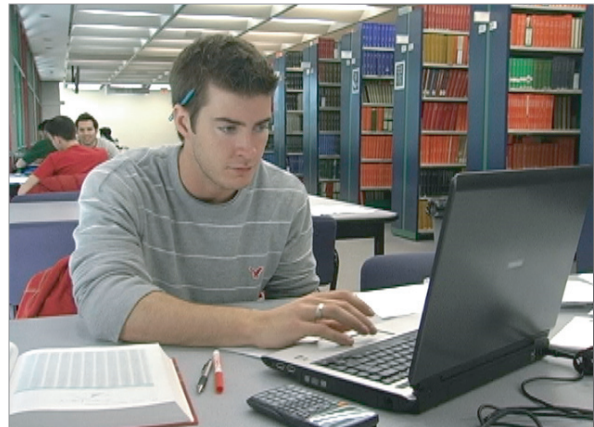
Several years ago, Concordia's Instructional and Information Technology Services (IITS) department worked closely with Bell to establish IP telephony service. Soon after, they began offering Voice Over IP (VoIP) service over a wireless local-area network (WLAN), giving the university's population of more than 40 000 students and 1 900 faculty full access to university resources while they were on campus. needs to deliver every type of application securely. Other deployments have simply installed a Layer 2 box to manage access points. McGill's deployment is a new architecture for mobility resulting in the network following users and providing access to applications without compromising either the experience or security."

Today's students demand real-time access

As the student population grew, so did their expectations. No longer was on-campus access sufficient. Rather, this new crop of young, tech-savvy students expected to access the university's student portal and their software applications anywhere and anytime - whether they were logging in from home, in transit or at their favourite coffee shop downtown.

"We have a very large infrastructure but don't have a lot of funding for it," explains Andrew McAusland, Associate Vice President, IITS, Concordia University. "That said, we have been trying to create a cost-neutral model of offering value-added services to our client base, which is our students, faculty and staff."

As always, the IITS department turned to Bell for advice. A leader in developing information and communications technology (ICT) convergence strategies for enterprises,



Student on Concordia's wireless network in the downtown library.

Bell provides a multi-disciplinary team of IT and communications experts. These experts are renowned for assessing clients' environments, leveraging the high powered network available from Bell, and then determining and deploying the most appropriate IT solutions to deliver optimum results.

As Concordia's partner for almost a decade in voice and data connectivity, Bell understands the university's challenges and worked closely with IITS to come up with a way to take students' current on-campus experience and recreate it off-campus. Discussions soon turned to extending the campus WLAN footprint to the surrounding neighbourhoods, where most of the student population resides.

"When implementing any IT project, it's important that your partner grasps your vision and your objective, buys into it, and insists on going in the same direction. Thanks to the established relationship we have with Bell, they understand what we were trying to do and that reduced our time and effort dramatically."

- Andrew McAusland, Associate Vice
President, Instructional and IT Services (IITS),
Concordia University

The Bell logo, consisting of the word "Bell" in a bold, blue, sans-serif font.

Outdoor wireless mesh network: First for a Canadian university

Based on these requirements, Bell and Concordia decided to extend the WLAN environment outdoors and implement a wireless mesh network solution with Cisco- a first for a Canadian university. A wireless mesh network consists of radio nodes located on rooftops throughout the campus with multiple pathways of communication to each node and together create a "mesh cloud" or a communication network. Cisco's wireless mesh technology enables organizations to deploy secure, high-bandwidth, scalable access to fixed and mobile applications across metropolitan areas, extending existing wired networked services and applications beyond current physical infrastructure.

The outdoor wireless mesh network solution will be completed in four phases. The first phase, in the fall semester of 2007, consisted of implementation around the downtown Sir George Williams campus. The second phase includes the Loyola campus. The remaining phases will expand wireless access around and between the campuses.

Creating such a network is not easy, especially since Montréal's downtown core combines abundant wireless LAN networks and modern office towers made of glass and steel with numerous historic buildings designated as heritage sites. To make sure the project ran smoothly, Bell conducted a thorough site survey in the designated area and handled all radio frequency planning, including obtaining permission from city



Outdoor wireless mesh access point located on the rooftop of a downtown university building.

In addition to their new outdoor wireless mesh network, Concordia has been working with Bell and Cisco to update existing access points in the University's more popular indoor congregation areas to 802.11n access points. Concordia expects to continue working with Bell and Cisco to upgrade the indoor network, and over time, convert about 80% of it to 802.11n.

officials to install access points on historic buildings and ensuring that Concordia's access points didn't interfere with other Wi-Fi signals in the city.

"You can't just run up the side of a building and plant a wireless antenna, especially when you're working with old buildings," says Michel Poisson, Account Consultant at Bell. "It involves a great deal of time, patience and legal paperwork. We took care of all project management and worked closely with Concordia's IITS team every step of the way."

Adds Mr. McAusland: "When implementing any IT project, it's important that your technology partner grasps your vision and your objective, buys into it, and insists on going in the same direction. Thanks to the established relationship we have with Bell, they understand what we were trying to do and that reduced our time and effort dramatically."

Bell and Cisco partnership critical to project's success

Today, Concordia students are starting to log on to Canada's first outdoor wireless mesh network. This new outdoor wireless mesh network is available to students for a low monthly cost, while Concordia's existing indoor wireless network is free for students, staff and faculty. Students who subscribe to the monthly flat fee will have access to the wireless mesh, the Internet, as well as more than 20 software applications - such as Microsoft Office and virus protection. The entire infrastructure is managed internally by the IITS department.



“Cisco and Bell have a unique relationship that was evident throughout Concordia’s WLAN deployment,” says Patrick Ouellet, Account Manager at Cisco Canada. “It was truly a partnership model, with Bell providing project management, engineering, installation and system integration and Cisco providing the technology. Together, we looked at how the university could differentiate its network and gain an edge over its competitors. At the outset, we sat together and laid down the stepping stones to get the university to where it wanted to be. You don’t get that with every partner.”

Up next: City-wide outdoor wireless mesh for greater student access

As Concordia continues its phased rollout, the IITS team is already setting its sights on the future. Once everything is in place and working reliably, explains Mr. McAusland, Concordia hopes to team up with the city’s other colleges and universities that are considering outdoor wireless mesh networks so students can port to the various networks and become more efficient.

“Your infrastructure is only as good as the services you provide over it,” says Mr. McAusland. “We’re focused on how we can use the infrastructure to deliver value-added services like telephony and software. It’s about building a community within a community to provide services and opportunities for students, faculty and staff - be it working at home, virtual desktops, telephony and more. There are so many things that this kind of growth of our network will allow us to do. With Bell as our partner, we can continue to deliver powerful IT solutions that resonate across the entire Concordia campus.”

Secure wireless connectivity and accessibility anywhere, anytime with Wireless Professional Services from Bell

To better connect on a reliable, modular and robust wireless network, Bell offers a range of professional services, including project management, network design, engineering, installation and system integration. These services allow enterprises to realize optimal gains from wireless initiatives.



Left to right: Michel Poisson, Account Consultant from Bell; Andrew McAusland, Assistant Vice-President of IITS Concordia; and Jean-Claude Ouellette, Vice President of Enterprise Sales at Cisco.

For more information contact your Bell representative or visit bell.ca/enterprise

