



Customer Profile

The Metro Toronto Convention Centre is Canada's largest convention and tradeshow facility and hosts more than 700 events annually, ranging in size from large international conventions to small local corporate meetings, for groups of 40 to 40,000. Located in downtown Toronto, the convention center has a total of 460,000 square feet of flexible exhibit space and more than one million square feet of total space. It encompasses two separate buildings over six blocks.

Metro Toronto Convention Center Deploys Siemens HiPath Wireless

MTCC hosts premier events such as The Toronto International Auto Show, Comdex Canada, PDAC Showcase Ontario and Real World Linux 2004.

Each week MTCC's Technology Services Department must take down a network designed specifically for the past event and erect a new network for the incoming event. The current wired network has been in place since 2000 and is based on Extreme Networks switches. It includes an Extreme Networks Gigabit fibre router and a Cisco® router to the ISP. The wiring closets are spread out over a very large area requiring optical cable between all closets.

Access to the wired network is provided as a service to exhibitors and the fees charged for Internet access generate revenue and help defray the costs of the technical services provided by the Centre's Technology Services team.

MTCC's Objectives

- Flexible Internet connectivity for exhibitors and attendees
- Generation of additional revenue
- Expanded network connectivity for MTCC staff
- Integrated voice and data communications on a WLAN

The race is on for top convention centers and other venues to provide wireless access as the latest "must-have" event amenity. With an increasingly competitive market, in a down economy, attracting top events is vital to every convention center's continuing fiscal health.

After location, amenities are the top priority — and nearly every business-focused event today demands full wireless access throughout the exhibit hall and meeting rooms. Today, both event planners and conference attendees require more than a regular wired network. Using a wide variety of wireless devices, they need instant access to the Internet and to specific applications related to show attendees and functions.

In addition, the MTCC Technology Services team wants to provide a wireless in-building telephone system for their own staff and show attendees. The protocols that enable voice over IP and a wireless telephone system are currently before the IEEE 802.11 committee.

With the standardization so close, the MTCC will delay its decision on this system, but any 802.11-based wireless backbone will support products utilizing the standard.

HiPath Wireless Customer Benefits:

- Easy to deploy and manage
- Unprecedented scalability and high availability
- Secure, seamless and continuous connectivity with fast roaming
- Seamless integration with existing wired LAN
- Support of multiple 'virtual' networks over one centrally managed WLAN

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With almost all new portable data devices now coming equipped with wireless capabilities, requests for wireless connectivity have risen dramatically over the past year. Pay for access wireless connectivity represents a whole new revenue stream that had not been tapped previously. This will have an overall positive impact on current revenue for the Centre.

“The Technology Services department at a convention is a distinct profit center; it is an important source of income to the Centre,” says Chris Taylor, MTCC’s telecommunications manager. “We moved into data a couple of years ago to increase our revenue and I hope wireless will add to my revenue base and eventually become the top product.”

The Challenge

The way Taylor sees it, there are two types of wireless network customers he has to satisfy — those demanding wireless and those bringing their own with them. The pressure for wireless access at events and tradeshow has accelerated over the last year to the point where some show organizers and even individual exhibitors are actually bringing in their own access points.

“Some people have a home network that they think they can bring in, forgetting that network security at home and network security on the tradeshow floor are very different.



They forget that their chief competitor can be in the booth right next to them”. Taylor has to satisfy two different categories of wireless user — exhibitors and conference attendees. “And, with such a huge physical area to cover, our own staff is also interested in wireless access to their enterprise applications and keenly aware of the benefits. The ability to call up information, for example, contracts, room availability and quotes, while on the other side of the center and outside the administration offices, would be a real time saver for our sales staff.”

And, all this must happen within tight budgetary constraints. “We spent \$500,000 three years ago on switches and I don’t care to repeat the experience. We needed a wireless system with a low total cost of ownership.”

The MTCC team liked the idea of a centrally managed solution, calling it a necessity for the huge convention center. And, with the huge investment of the wired network fresh in their minds, the MTCC team wanted and needed a cost effective and efficient wireless system. Due to the size and scope of the facility, they needed a solution that wouldn’t require a new switch in each closet. With the different classes of users, they needed a solution that would allow exhibitors, staff and conference attendees to each access their own set of applications. This so-called “virtualization” would give the MTCC a way to securely partition the wireless network to deliver independent policies and traffic for separate user groups or service wholesaling. Essentially, they needed a method for creating separate virtual networks over a single WLAN infrastructure.

The Solution

Taylor and his team chose HiPath Wireless, from Siemens. HiPath Wireless family of wireless LAN (WLAN) products is the world's first large-scale routed WLAN solution. By building HiPath Wireless around a routed IP architecture — the same architecture that serves as the foundation for the Internet and the backbone of wired LANs — Siemens is able to deliver scalability and availability far in excess of anything previously available.

The HiPath Wireless product family is composed of the Controller and the Access Point. In Siemens' unique architecture, the HiPath Wireless Controller aggregates all access points — Access Points as well as third-party access points — into one or more logical Layer 3 subnets that can be managed centrally in the data center rather than in remote wiring closets or at the access points themselves.

HiPath Wireless' routed IP architecture and advanced hardware allows the system to support literally thousands of access points and hundreds of thousands of users, with scalability being a simple matter of adding additional Access Points and Controllers anywhere on the network as needed.

HiPath Wireless also offers radically advanced availability features including automatic failover between Controllers and Access Points, redundant hardware designs, and self-healing network routing, to virtually guarantee seamless and continuous connectivity, regardless of users' mobility or overall network conditions. Phase one of the MTCC project includes one Controller and 25 Access Points.

When completed, the MTCC's wireless network, covering all of the exhibit space and a majority of the Centre's total space, will require 35 Access Points. "Management is easy," says Taylor. "I manage the wireless network through a secure Web page and it feels like I am dealing with one access point and 25 antennae. There's no need to go to each access point; all the information is centrally located at the Controller."

The Controller is a high performance platform that provides centralized intelligence. It is also a fully functioning router that aggregates all access points — HiPath Wireless as well as third-party access points — into what appears as individual, centrally managed IP subnets to the rest of the network. As a result, network management is greatly simplified. There is no need to ever physically visit the remote Access Points, a plus for the often footsore MTCC

team. Even upgrades happen centrally. With built in security and authentication systems, the system administrators work from a simple Web page log in.

The Access Points are Siemens' enterprise-class access points. Because of the IP-routed architecture, the MTCC was able to place Access Point access points at different points in the network. As a result, the MTCC did not have to create a separate network to support its wireless users. With Access Point's plug and play technology, they simply plugged several of the access points into the network; each one automatically discovered the Controllers; and it was automatically added to the network. Additional access points can be added anywhere on the wired network to increase coverage in minutes.

There are other advantages to working with Siemens. Siemens performed a radio frequency site survey and provided training for the MTCC Technology Services staff. This complete package allows the MTCC to begin generating revenue without a large capital outlay.



"This installation is a truly revolutionary new technology. It's smarter than most wireless networks and combined with WLAN virtualization it can deliver unprecedented levels of scalability and availability."

***Bill McDonald
Director of Technology Services
Metro Toronto Convention
Centre***

The Benefits

With the plethora of wireless solutions that Taylor and his team see in place temporarily at the convention center, they have had a unique opportunity to try out a number of solutions. They even supported one of the premier wireless networking tradeshows, ExpoComm, held at the convention center in 2002.

MTCC's decision was driven primarily by the ease in which Siemens' solution blended with the existing wired network. Taylor was also attracted to Siemens by the ability to segment the wireless network, to not only provide different service to various classes of users but also to increase security. Siemens calls this virtualization, creating separate, protected virtual networks from a single physical WLAN infrastructure.

Virtualization allows individual network clients and other network elements to be managed and grouped exclusively by policy rather than their physical network location.

Such typical network management items as access control and other security elements, traffic management, including defining and managing quality of service (QoS), and packet filtering can be assigned to policies and applied to devices and users on a unit-by-unit and user-by-user basis.

But, given the dynamic relationship between clients and the wireless network, such variables as time of day or (current) physical location within the wireless infrastructure can be used as the basis of policies to provide flexibility beyond static assignments. This enhanced set of policy-based network management capabilities resides in Siemens' VNSWorks (Virtual Network Services).

Administered via a Web-based interface, VNSWorks provides unprecedented network configuration, management, security and control possibilities that are essential in large-scale WLAN deployments. VNSWorks provides a degree of flexibility not available in any other wireless network management approach — it even allows network management decisions to be made dynamically based on time and location.

Another benefit that the MTCC is exploring is the extension of their wireless network into local restaurants. Show attendees will purchase 'tickets' to the network. These tickets will have a username/ password for access to a specific wireless network and they will also act as coupons for meal discounts at local establishments.

With Access Points deployed at those same local restaurants, attendees can continue their wireless sessions while they are at lunch. Since there is no guarantee whose ISP the restaurant will use, an application like this is only possible with a routed solution like Siemens'.

"This installation is a truly revolutionary new technology. It's smarter than most wireless networks and combined with WLAN virtualization it can deliver unprecedented levels of scalability and availability", according to Bill McDonald, Director of Technology Services for the MTCC.

About the HiPath Wireless Portfolio

The HiPath Wireless Portfolio provides a complete solution allowing companies to realize the benefits of true enterprise mobility. The Portfolio offers wireless handsets, access points and controllers, along with best of breed management software and professional services for planning and implementation.

Siemens' new generation of wireless networking solutions for the enterprise deliver more than just data connectivity without wires. Wireless 'untethers' your users, offering innovative new ways of doing business:

- integrated vertical solutions providing 'always on' access to corporate data and true user mobility across the enterprise through seamless roaming
- presence and location-aware real-time applications such as HiPath OpenScope and HiPath ProCenter Agile
- converged voice and data networks providing Voice over Wireless LAN, offering productivity with a lower cost of ownership compared to proprietary wireless voice solutions
- a wireless LAN architecture designed from the ground up for flexibility, scalability, manageability and enhanced user services

HiPath Wireless Portfolio V3.0

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