

# Mount Allison

UNIVERSITY

Founded 1839



## Customer Profile

*Mount Allison University, located in Sackville, New Brunswick, Canada, is a small, primarily undergraduate university combining the social and natural sciences, the humanities and professional disciplines in a liberal education tradition.*

## Technology Advances Not Just for Large Campuses

# Mount Allison University Invests in Wireless Network from Siemens

## Challenges:

- Provide wireless connectivity and Internet access to the entire campus and student population.
- Select a WLAN that was affordable for a small university, but also technologically superior to competing solutions.
- Develop a wireless network that managed today's data traffic and tomorrow's voice traffic to future proof the wireless initiative against expenditures.

## Solution:

After reviewing seven responses to an RFP, Mount Allison University selected Siemens HiPath Wireless for its ability to deliver a centralized management approach, standard IP routing technology for easy integration with existing network resources and a reasonable price per square foot for a campus-wide deployment.

## Results:

With HiPath Wireless, Mount Allison University can provide wireless data communications to faculty, staff and students. Not only is the network easy to manage via a Web page monitoring all HiPath Wireless Controllers and HiPath Wireless Access Points, but the wireless network is also able to handle and prioritize low-latency traffic, including voice over IP, once the university is ready.

## Background

Mount Allison University, located in Sackville, New Brunswick, Canada, is a small, primarily undergraduate university combining the social and natural sciences, the humanities and professional disciplines in a liberal education tradition.

The school has a full-time enrollment of 2,250 students who live in on-campus housing and in off-campus apartments. The entire campus consists of 40 buildings of varying types of construction, with approximately 1,000,000 square feet of occupied space.

## 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 subnets over one centrally managed WLAN

# SIEMENS

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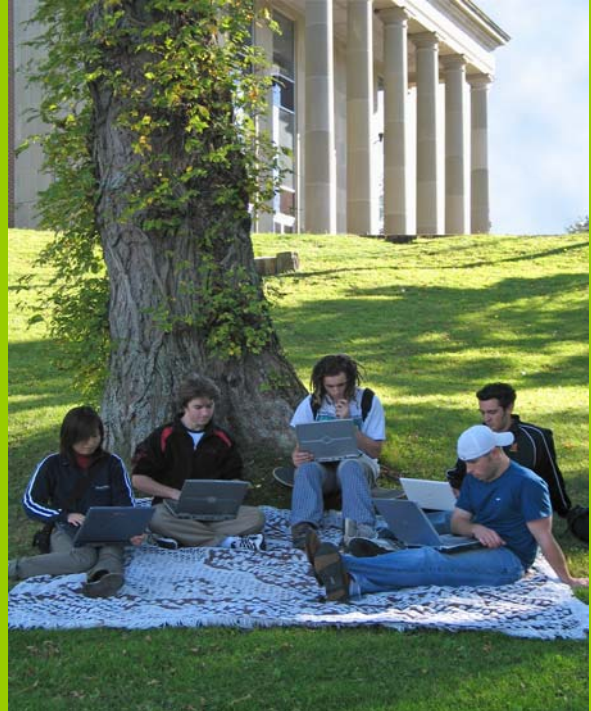
## Challenges

Like nearly all universities and colleges, Mount Allison University has an existing network in which it has invested time, labor and money. While it wanted to deploy a wireless network, it did not want to “reinvent the wheel” in the process.

The existing campus network consisted of a “collapsed backbone” with a Cisco Catalyst 6500 as a core router. The Cisco Catalyst 3508G layer 2 distribution switches connect edge switches (primarily Hewlett-Packard ProCurve 2524 switches) to the core router. The network serves 40 buildings and there are approximately 30 IP subnets/VLANs; where most buildings have a single IP subnet. Some buildings have multiple VLANs, while some VLANs service multiple buildings. In total, there are approximately 100 edge switches in the campus network.

Approximately 25 percent of notebook users rely on Macintosh notebooks, while the rest of the students and faculty use Microsoft Windows 2000 or Windows XP. In addition, there are a handful of Linux notebook users, and several wireless PDA users. Mount Allison University expects the use of Linux notebook and PDA users to grow.

The university determined it wanted to deploy an 802.11 a/b/g wireless LAN to service the entire campus. Based on preliminary work, the school estimated they would need 175



***With a full-time enrollment of 2,250 students, HiPath Wireless enables Mount Allison to address the mobility needs of all students.***

access points, and wanted the selected WLAN vendor to perform a full site survey to determine the exact number and correct placement of these access points.

As a small university, Mount Allison University has limited resources for ongoing maintenance costs and, therefore, wanted a centralized management solution for the configuration, management and monitoring of access points, including software and firmware upgrade management. The system would need to be able to be configured to provide sufficient redundancy as well. Lastly, the university wanted a solution that could easily add new access points to the network without requiring skilled or professional labor to do so.

Another key requirement was wireless security. Mount Allison University wanted to ensure its students, faculty and staff that the wireless network utilized the most advanced security standards in the market – WEP, AES encryption, 802.1x authentication and “Enterprise WPA”.

In addition, the wireless network’s security must integrate with MS Windows 2003 Internet Authentication Service and FreeRadius. And, the school also had a key requirement for rogue access point detection.

Since the students, faculty and staff would rely on the wireless network while moving from building to building and across campus, the school wanted the solution to guarantee fast roaming with low-latency hand-offs.

## Solution

Mount Allison University received seven responses to its RFP from established WLAN vendors, start-ups and integrators. After a rigorous review of both the technology and the vendors, Mount Allison University selected Siemens based on its price/performance ratio, compliance to wireless security standards and ability to address the core requirements of Mount Allison University.

Siemens HiPath Wireless provides a secure integrated mobility management solution for wireless networks. The HiPath Wireless Controller is a Layer 3 IP router that easily integrates with existing network switches and routers from leading vendors – including Cisco, HP, Enterasys, 3Com and others. Since HiPath Wireless communicates right on the IP Layer, it can function as just another router in the wired network.

Many WLAN switches work on Layer 2, therefore essentially functioning as an overlay network, not as an integrated network. HiPath Wireless leverages Siemens HiPath Wireless Convergence Software which supports multiple subnets on one physical wireless network and provides an unprecedented degree of flexibility in managing not only the WLAN infrastructure, but specific users and mobile devices as well. Its Captive Portal feature directs unauthenticated users to a web page so they can provide log-in information prior to receiving authorization to access the University's network.

Mount Allison University found it was easy to add HiPath Wireless Access Points to the network by connecting them to any adjacent network that has access to a DHCP server able to offer DHCP option 78. Based on his experience, "the HiPath Access Points were both quick and easy to install," said Peter Crawshaw, Network Manager from Mount Allison University.

Mount Allison's stringent management criteria were well met by HiPath Wireless. HiPath Wireless provides centralized provisioning, configuration and management of the wireless solution. All aspects of localized HiPath Wireless Access Points are controlled and managed from the centralized HiPath Wireless Controller. The HiPath Wireless Controller supports Web-based management so that, although all operations are centralized in the HiPath Wireless Controller, the school is free to manage the entire system from anywhere.

The features and flexibility provided by HiPath Wireless satisfied the school's requirements for rigorous security and rogue AP detection, while also delivering the architecture that can incorporate Macintosh, Windows and Linux notebooks and various PDAs.



*Using HiPath Wireless' virtualization capabilities, Mount Allison has created multiple subnets to provide secure wireless Internet and network access to students and faculty across campus.*

*"HiPath Wireless has very quickly addressed our core needs for an extensible, but easily managed wireless network. And, equally important, its fundamental architecture is a platform which has the ability to accommodate our future wireless requirements for a variety of multimedia applications. . .including voice over wireless. It's a network that will grow with us."*

**Helmut Becker**  
**Director of Computer Services**  
**Mount Allison University**

## Results

Mount Allison University was able to easily deploy HiPath Wireless across the entire campus, providing approximately 30 different subnets for various students, classes, faculty and staff. These subnets do not rely on existing VLANs.

The HiPath Wireless architecture has proven to deliver transparent roaming across these subnets, without dropping client connections. This reliability is vital to the university's ability to provide a quality wireless network for its campus.

In fact, the entire wireless network has delivered on the promise of scalability and reliability. The HiPath Wireless architecture

provides a combination of hardware and software logic for a "watchdog" implementation that will automatically reset HiPath Wireless Controllers or HiPath Wireless Access Points in the event of a failure. Since Mount Allison University has also deployed an extra HiPath Wireless Controller for redundancy, their network is virtually bullet-proof.

"HiPath Wireless has very quickly addressed our core needs for an extensible, but easily managed wireless network," said Helmut Becker, Director of Computer Services at Mount Allison University. "And, equally important, its fundamental architecture is a platform which has the ability to accommodate our future wireless requirements for a variety of multimedia applications. . .including voice over wireless. It's a network that will grow with us."

## 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 WiFi handsets, access points and controllers, along with best of breed management software and professional services for planning and implementation.

Siemens' wireless networking solutions deliver more than just data connectivity without wires. With the HiPath portfolio, companies can exploit the benefits of a truly mobile communications solution.

- 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 OpenScape 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
- Wireless LAN architecture designed from the ground up for flexibility, scalability, manageability and enhanced user services.

***"The HiPath Wireless Access Points were both quick and easy to install."***

***Peter Crawshaw  
Network Manager  
Mount Allison University.***

HiPath Wireless Portfolio V3.0

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