Nowhere is Ryerson University’s imperative to offer exceptional Wi-Fi access more apparent than at the Toronto institution’s Digital Media Zone, an incubator facility where students collaborate with businesses and new entrepreneurial ventures are born.

“Facility users expect high-performance wireless connectivity,” says Mourad Michael, Assistant Director of Communications Infrastructure for the 38,000-student university. “Many projects started at the DMZ result in either spinning off a new company or a new private project for an existing corporation. Even Prince Charles has visited the facility.”

But the DMZ is far from the only place where Ryerson’s students and faculty expect robust, secure wireless access. As Canada’s leading innovator in career-focused higher education, Ryerson is at the forefront of meeting the needs of the next wave of workers, commonly known as #GenMobile.

“Our students depend on wireless,” Michael says. “We need to ensure they have the best anytime, anywhere wireless experiences. That’s why a high-performance, secure wireless network connecting the entire campus is paramount for the University and the neighboring community that interacts with us.”

Beyond the demands of its population, Ryerson’s physical location adds to the Wi-Fi challenges. Situated in the heart of downtown Toronto, the university purposely blends campus and community by providing commercial space to retail shops on the ground floor of some buildings. Surrounding the area are office high-rises.

“We’re frequently plagued by signals and rogues from all over campus and the surrounding area,” notes Michael. “Secure and reliable wireless coverage is critical in this kind of environment.”

### Benefits

- Leverages 802.11ac Aruba AP-225 access points for Gigabit Wi-Fi, high-performance wireless networking.
- Includes unique Aruba patented ClientMatch™ technology to intelligently pair wireless devices with the best possible access point, improving performance and preventing “sticky clients.”
- Improves performance of all devices, enabling 802.11n devices to achieve speeds up to 600Mbps.
- Utilizes Aruba AirWave Network Management System for optimized wireless network management to deliver exceptional user experiences regardless of device type.
- Enables addition of Aruba ClearPass Access Management System for centralized, comprehensive policy enforcement and Aruba AirGroup for managing Apple Bonjour traffic.

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Mourad Michael
Assistant Director of Communications Infrastructure, Ryerson University
STEPPING UP TO GIGABIT WI-FI

With the coming of three new campus buildings, Ryerson determined it was time to begin upgrading to the new IEEE 802.11ac standard, also called Gigabit Wi-Fi, which significantly improves wireless experiences. “Our goal with the new buildings is ensuring we have leading-edge facilities attractive to the population at our institution, the surrounding community and the city as a whole,” says Michael.

Because Wi-Fi is a shared resource, the added capacity delivered by 802.11ac comes in handy as a rapidly increasing number of mobile devices are accessing wireless at the same time. This trend is especially palpable on university campuses like Ryerson’s. “Students are bringing multiple wireless and mobile devices to campus and using them everywhere,” Michael affirms.

The 802.11ac standard not only offers three times the performance, or 1.3 Gigabits per second (Gbps), for newer compatible devices but also significantly boosts speeds for 802.11n, and older, devices as well.

With the ultimate goal of moving to a complete 802.11ac infrastructure, Ryerson turned to Aruba for the upgrade to build on long-term positive experiences. “We’ve relied on Aruba since 2005,” says Michael. “Pre- and post-sales, the products and the support are always excellent.”

“Aruba always provides a migration path,” he continues. “And they maintain backward compatibility. This allows us to upgrade as gradually as required to meet our budget goals. We’re never forced into a full deployment of a certain product or product line. That’s a considerable benefit for us.”

In its new multi-story Ted Rogers School of Management, Ryerson installed 230 new 802.11ac-enabled Aruba AP-225 access points (APs). Additionally, the institution has over 1500 other APs spread across campus. “Over the next couple of years we plan to transition to all 802.11ac AP’s,” Michael says.

The university is also leveraging Aruba Remote Access Points (RAPs) to create virtual remote offices. “Schools and departments use the RAPs to establish secure home offices for key individuals,” says Michael. “We also use them to establish remote home offices for university executives. So, in the case of an institution-wide closure for an emergency situation, our executives and other critical staff will still have connectivity from their off-campus locations.”

ROLE-BASED ACCESS OPTIMIZED ON AN AIRWAVE

Ryerson also appreciates Aruba’s robust mobility controllers, which enable role-based access control. “We’ve created different roles within Aruba’s controllers and then assigned firewall rules to give individuals access to a specific school’s resources,” explains Michael. “We also use rules-based credentials managed by our Aruba controllers to permit certain users to access certain information within a school’s resources.”

Aruba’s capability to segment users has alleviated the need to create a different wireless infrastructure for each of Ryerson’s schools Michael adds. “Instead, we have one campus-wide network with each school retaining control over their resources,” he says. “That’s a very significant success.”

With such a large and comprehensive WLAN deployment, optimizing the network is also crucial. That’s why Ryerson also deployed the Aruba AirWave Network Management System. AirWave provides centralized Wi-Fi network optimization and management for delivery of exceptional user experiences.

By adopting AirWave, Ryerson gains critical and granular insights into its Wi-Fi network. This includes the types of devices logging on, the specific access points devices are connected to and the total number of devices on the network at any given time.

With AirWave, the organization’s IT staff can quickly fine-tune the network to meet the needs of all users. “AirWave gives us visibility into everything,” Michael says.
REVVED UP ACCESS ANYWHERE, ANYTIME

A key advantage of Ryerson’s new Aruba system is the performance boost it gives to any device, including gear built for earlier standards, such as 802.11n. Aruba’s AP-225 access points supply unique patented ClientMatch technology, which intelligently pairs wireless devices with the best possible access point.

In a nutshell, ClientMatch prevents “sticky clients,” which improves overall Wi-Fi network performance. At Ryerson, the combination of Aruba AP-225 access points and ClientMatch means even 802.11n devices have achieved speeds up to 600Mbps.

According to Michael, Ryerson’s high-performance, optimized wireless solution is powering teaching and learning improvements. “Now, in facilities with our new Aruba access points, a virtually unlimited number of instructors can use bandwidth-intensive resources — such as streaming video — during class time,” he says.

“For students,” Michael continues, “video is a must-have. Whether it’s for education or for entertainment, students expect to access video via wireless. Our Aruba wireless network enables us to deliver on that expectation.”

Ryerson’s new Aruba WLAN is also enabling a telephony transformation. “We’re making the move to VoIP [Voice over IP],” says Michael. “We’ll leverage our Aruba wireless network as the infrastructure to carry VoIP traffic.”

The institution’s new Aruba wireless network also improves administrative productivity and campus-wide security. “For example, we have cash registers and credit card swipe machines that rely on our WLAN,” says Michael. “And we use wireless for asset tracking, which enables our IT staff to assist campus security if a mobile or wireless device is missing.”

In addition, Ryerson benefits from the ability to build out its Aruba WLAN as needs develop. For example, the institution is considering the adoption of Aruba’s ClearPass Access Management System and AirGroup for onboarding mobile devices and managing Apple Bonjour traffic, respectively.

Regardless, Ryerson’s updated Aruba wireless network is meeting its user experience goals. “Previously, when there were Wi-Fi issues, we’d hear about it on Twitter and Facebook,” says Michael. “Now, no one’s posting anything. That’s another big success for us.”

ABOUT ARUBA NETWORKS, INC.

Aruba Networks is a leading provider of next-generation network access solutions for the mobile enterprise. The company designs and delivers Mobility-Defined Networks that empower IT departments and #GenMobile, a new generation of tech-savvy users who rely on their mobile devices for every aspect of work and personal communication. To create a mobility experience that #GenMobile and IT can rely upon, Aruba Mobility-Defined Networks™ automate infrastructure-wide performance optimization and trigger security actions that used to require manual IT intervention. The results are dramatically improved productivity and lower operational costs.

Listed on the NASDAQ and Russell 2000® Index, Aruba is based in Sunnyvale, California, and has operations throughout the Americas, Europe, Middle East, Africa and Asia Pacific regions. To learn more, visit Aruba at www.arubanetworks.com. For real-time news updates follow Aruba on Twitter and Facebook, and for the latest technical discussions on mobility and Aruba products visit Airheads Social at http://community.arubanetworks.com.