



Queens University of Charlotte

Queens University of Charlotte Extends Reliable, Centrally Managed WLAN Throughout its Sprawling Campus with Aerohive

Challenges

- Needed to upgrade to an enterprise-class, 802.11n wireless network and add more coverage for new buildings being constructed
- Faced high licensing and hardware controller costs and needed to find a vendor who provided better value for money
- Complexities associated with handling the increasing wireless demands of thousands of students with many devices

Results

- Removed the need for costly redundant hardware controllers and redundant licensing fees
- The HiveManager's auto-provisioning feature allowed the IT team to prepare policies specific to each building VLAN and mitigated the need for much administrative interaction during installation
- The IT team quickly scales the network to create mobile hotspots for one-off informational events

About Queens University of Charlotte

Queens University of Charlotte (Queens) is a private, co-ed, Presbyterian-affiliated comprehensive university with a commitment to liberal arts and professional studies.

Located in the heart of historic Charlotte, N.C., Queens serves 2,600 undergraduate and graduate students through its College of Arts and Sciences, the McColl School of Business, the Wayland H. Cato Jr. School of Education, the James L. Knight School of Communication, Hayworth College for Adult Studies, and the Blair College of Health.

Queens is also home to five N.C. Professors of the Year, 20 NCAA Division II men's and women's sports teams, and exemplary international study and internship programs that have been ranked among the best in the country.

"All of our Access Points are now 802.11n capable, we have less hardware, a simpler licensing model, easier administration and a design that is more fault tolerant than before. We feel we've taken a giant leap forward."

—Bruce Heldman
Network Services Manager of Information Technology Services,
Queens University of Charlotte

The Challenge

Queens had an existing wireless deployment of access points and wireless controllers by one of the biggest players in the wireless market.

"We had approximately 90 percent coverage on campus. However, several factors led us to take another look at our wireless deployment and what could be done to improve it," said Bruce Heldman, the Network Services Manager of Information Technology Services at the university.

Heldman listed the following factors:

- The need to upgrade the existing infrastructure to 802.11n (only about 30 percent was).
- The university had a controller-based wireless solution that lacked the fault tolerance the IT team wanted. They wanted an upgrade without significant additional investment in hardware and licensing, because the team was approaching the licensing limits of the existing controllers it had.
- The university is growing. Three new buildings being constructed — a residence hall, a Science and Health building and a Center for Recreation and Wellness — required a significant investment in wireless infrastructure.

The Solution

When Heldman's team evaluated the technology challenges it faced, they realized "we had some work to do." Ultimately, "We ripped out an Aruba deployment and replaced it with an Aerohive deployment," he said.

So far, the university has deployed hundreds of Aerohive Access Points spread between 25 buildings both on and off campus, using a combination of Aerohive AP120s — an enterprise-grade, indoor access point; AP170s — high-performance outdoor access points; and AP350s — high-performance, two-radio APs for challenging indoor environments. The APs also cover three remote campus locations: a residence hall, sports complex, and nursing school. The IT team uses the on-premise HiveManager Network Management System for zero touch deployment and centralized management, running on a VMware server.

"When we originally deployed Aruba five or six years ago, everything was designed around a student with one laptop. And that's just not what we're seeing anymore," Heldman said.

"The demand for connectivity to all types of devices, low-powered devices, gaming devices, etc., and the throughput expectations are just exponentially higher than they were five or six years ago," he added. "We were in a position where we had to upgrade to support the new demand."

The university received deployment help from CSI Technology Outfitters, an Aerohive partner based in Easley, S.C.

Considering the Alternatives

Queens evaluated or considered Aruba (their existing deployment), Cisco and BlueSocket.

"We ran on-campus tests with Aerohive," Heldman said. The IT team knew Aruba well, and they did some serious interviewing with other vendors and partners. "Aerohive provided us the technical assistance and products we needed to test their technology in our own localized deployment," he added.

Ease of Deployment

Queens' purchase order was signed in July 2012. By mid-September, the team had completely replaced its entire wireless infrastructure with Aerohive.

"We'd originally planned for a 6-month transition but finished ahead of schedule," he said. "Ninety-five percent of our deployment was done by our own Network Services team. The ease of installation was due in part to the auto-provisioning feature within Hive Manager.

This feature allowed our team to prepare policies specific to each building VLAN and mitigated the need for much administrative interaction during the installation process."

The rapid deployment impressed the IT team. "I in no way expected that we would have a complete new wireless infrastructure in three months," Heldman said.

The Results/Benefits

As for specific Aerohive features that the IT team values, Heldman said they are currently utilizing dynamic airtime scheduling, mesh and band steering. They use the reporting functionality in HiveManager to view client usage and device types.

Aerohive's Bonjour Gateway provides another functionality that was of great interest to Queens. The IT Services team is evaluating the benefits of incorporating Apple TVs into classrooms. "We're excited about the possibility of enabling students, faculty and visitors to use the Airplay function on their i-device to present a slideshow or video from their iPad, as opposed to the old-school method of connecting a device with a VGA cable to a projector or TV", said Charles Engrem, the wireless expert on the IT team.

"We wanted to have a permanent wireless solution in place that would allow us to take full and creative advantage of technologies like this." Engrem said. "The Bonjour Gateway does this nicely if we ultimately go down this path."

Ease of scalability has been a huge Aerohive advantage, Heldman and Engrem said, and they describe one such instance where a fast-scaling network comes in handy: The University holds a series of one-off, informational events, either outside or in auditoriums. Heldman wanted a wireless network at these events, and he has found it very easy to mesh APs together and expand their coverage.

"Charles was inventive enough to work up a (wireless) rig on a camera tripod," Heldman said. "He mounted an AP350 on the tripod. We were basically able to have a mobile hotspot that way. ... It was just very easy to add wireless coverage."

By choosing to partner with Aerohive, Queens was able to upgrade its wireless infrastructure campus-wide. In three months, they have achieved all of their goals for significantly less cost than the university would have incurred upgrading their previous controller based wireless infrastructure.

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Contact us today to learn how your organization can benefit from Aerohive wireless LAN architecture.

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