



## CASE STUDY

Connecticut College

Atlantic teams with Aruba to design and deploy a multimedia-grade wireless solution that overcomes college's unique environmental issues.


College students today expect to have ubiquitous, high-performance wireless network access whenever and where ever they want it. At Connecticut College, meeting those expectations was a special challenge due to the rapid proliferation of mobile devices and the fact that residence halls at the college are extremely harsh Wi-Fi environments, having been built in the early 1900s and being composed largely of stone and iron.

Atlantic Computing partnered with Aruba to implement a robust new Wi-Fi network to meet the college's needs. Atlantic Computing is a technology integrator from Connecticut with a long history in network security, wireless and streaming media for the design and deployment. Atlantic is known for large-scale wireless deployments in difficult and historical venues, including churches, schools and public architectural treasures. The engineering design staff has a great deal of experience with radio propagation in iron and stone structures, such as Connecticut College.

Connecticut College is a private liberal arts college founded in 1911. Located in New London, Conn., the college has approximately 1,900 students from 45 states, Washington, D.C., and 71 countries. Nationally recognized for outstanding and innovative efforts in campus internationalization and a national leader among colleges and universities in environmental issues for many years, the school also prides itself on technology innovation. Network statistics collected by the college show more devices than students, with the devices used predominantly for streaming media applications.

### ABOUT ATLANTIC

Atlantic provides superior wireless and wired network deployments. We focus on commercial and educational WiFi, and the supporting LAN / WAN infrastructures. We've deployed many, many thousands of access points in demanding wide-area wireless networks. We've enhanced terrestrial networks, bringing layer-3 resiliency and 10 Gbit/s service to existing deployments at affordable costs. We've provided point-to-point links and wireless infrastructure to municipalities. Atlantic has installations spanning the US, and into Canada and Mexico. We have a stellar reputation. Call us first.



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## New Wireless Demands

The proliferation of smartphones, followed by the unprecedented success of the Apple iPad and other tablets, is adding to the load imposed by multiple-mobile-device-carrying students, faculty and others who rarely work in fixed locations like desks. The need for a new class of Wi-Fi, Multimedia-Grade Wi-Fi, has become increasingly acute. The ratification of the IEEE standard 802.11n in September 2009 enabled a significant increase in throughput of Wi-Fi networks from 54 megabits per second (Mbps) to 150 Mbps. Most existing Wi-Fi networks, including many based on 802.11n, lack the RF and application intelligence to deliver latency-sensitive applications like voice and video in a dense environment.

Prior to the Aruba deployment, the college's wireless network was Cisco 802.11 b/g and consisted of one access point (AP) per building, usually in the commons areas. That network was deployed at a time when wireless networks were networks of convenience, intended to supplement wired connectivity.

Today, however, we are seeing a general move for Wi-Fi to replace wired networks for many types of users. This fundamental change in use brings a fundamental change in expectations. Networks must now offer not only secure access, but must also be able to support multimedia applications, the type and number of which continue to grow. They must also be highly available, which requires not only redundancy but advanced functions such as integrated spectrum analysis and adaptive RF for steering around sources of interference.

"There's a competitive requirement for a good wireless network in colleges and schools today," said Bruce Carpenter,

director of technical support at Connecticut College. "Lack of wireless coverage in residence halls these days is just not an option. This roll-out was great, but there was one instance where the room numbers on the floor plans no longer matched the room numbers on the doors. This caused one of the installers to mislocate an access point. Out of 270 access points deployed in that phase, this single AP created a small coverage hole. The deployment team discovered and fixed the mistake, but not before an affected student raised a flag with his parents. Knowledge of and concern around his momentary lack of coverage progressed all the way to the dean's office. That's how important it is."

## Meeting Mobility Needs

With many more wireless devices currently on the network than students and staff on campus, the college could see that device density was fast becoming an issue, and that they would need a comprehensive mobility strategy to address it.

Wiring the residence halls was phase one. The combination of granite, iron and other durable building materials makes these halls harsh environments for Wi-Fi. The college deployed a new Aruba 802.11n network in all 23 of its residence halls as well as the campus library and dining halls.

"Leading schools like Connecticut College are listening to their students and giving them what they want and need — Multimedia-Grade Wi-Fi," said Robert Fenstermacher, director of marketing at Aruba Networks. "The recent onslaught of increasingly powerful mobile devices, combined with students' always-mobile lifestyles and ways of learning make it a necessity. We are continuously innovating to help them meet that need and are pleased to be working with them through this transition and into the future."

