

# ALBERTUS MAGNUS COLLEGE

IT's Network Modernization Supports  
New President's Priorities



## CASE STUDY



**ALBERTUS  
MAGNUS  
COLLEGE**

*We have faith in your future.*



### OVERVIEW

Albertus Magnus is a private liberal arts college with an enrollment of about 1,500 students. The new president of the college wanted to increase the enrollment of students living on campus, which required meeting student expectations for a great Wi-Fi experience. He also wanted to see greater flexibility in the delivery of courses, so that education could be more accessible to the community. The IT team implemented a new wired and wireless network infrastructure capable of supporting all of these goals.

### CHALLENGES

- Many campus buildings, including student residence halls, are historic mansions that posed significant interference problems for existing Wi-Fi equipment
- The small IT team spent an inordinate amount of time troubleshooting Wi-Fi problems and onboarding new student devices
- The school wanted to implement more flexible course delivery for adult education, which required a faster, higher capacity wired network

### SOLUTION

- 120 high-performance Ruckus indoor and outdoor APs
- 30 Ruckus ICX switches with multi-gigabit connections to APs and computers over 10 GbE fiber backbone across the campus
- Unified management of campus-wide APs with SmartZone WLAN Controllers

### BENEFITS

- Students in residence calls are now enjoying reliable, fast Internet access
- The college now has campus-wide Wi-Fi coverage, so students and faculty can roam without losing a Wi-Fi signal
- The IT team spends less time troubleshooting problems and onboarding new devices
- The high-speed Ruckus switches can easily handle streaming and recorded lectures to support more flexible and accessible course delivery

## A GREAT NETWORK IS ESSENTIAL FOR MEETING ENROLLMENT GOALS

Albertus Magnus College is a private Catholic liberal arts college founded by the Dominican Sisters of Peace. The College has been part of the vibrant educational life of New Haven, Connecticut (also home to Yale University), since 1925. While the College may be steeped in tradition, its outlook on education and serving the community is forward-looking.

The College has a total enrollment of about 1,500 students, and increasing enrollment—especially students living on campus—is one of the top priorities of the new president, Marc M. Camille, Ed.D. And one of the things that students residing on campus care about is fast, easy access to coursework when they're hanging out in their dorms. And, yes, they want Internet access for video streaming and gaming, too.

The 50-acre campus is instantly recognizable for its early 20th century mansions now used for residence halls and administrative offices. The mansions are considered architectural treasures by the City of New Haven. Unfortunately, they're also structural nightmares for Wi-Fi. The existing Aruba wireless network couldn't reliably penetrate the thick plaster walls. To say that student residents weren't happy with the Wi-Fi experience is an understatement. "There were dead spots everywhere in the residence halls, and they're frustrating to troubleshoot and fix," says Steven Gstalder, Ed.D., vice president for information technology services for Albertus Magnus. "We spent a lot of time and money doing patches and adding access points."

Even the administrative and academic buildings had weak Wi-Fi coverage. Gstalder recalls one particularly cringe-worthy moment when the new president made a speech that was supposed to be broadcast across the campus. "As invited guests poured into the academic building and turned on their wireless devices, the APs just stopped working. The video broadcast came to a grinding halt."

Gstalder didn't want to take a piecemeal approach to modernizing the network. He wanted a new wired and wireless infrastructure, preferably a complete solution from one vendor. "We have a small IT staff, and the old network sucked up a lot of our time. So, manageability was important. And we also wanted a network that would support demands five years into the future."

TBNG, based in Milford, Connecticut, was selected to design and deploy the new infrastructure. "We recommended Ruckus because they're known for their high-performance networks," says TBNG's lead consultant, Jeff Grande. "Albertus Magnus College is standardizing on the Ruckus ICX 7150 Z-Series



“Students have actually reached out to tell us how much they like the new Wi-Fi. Even the admissions counselors promote it during student tours. That’s pretty gratifying.”

**STEVEN GSTALDER**

Vice President, IT Services  
Albertus Magnus College

multi-gigabit access switches. This gives IT high-performance connections to support all of the APs, as well as more Ruckus R720 APs as the College moves to 802.11ac Wi-Fi. In addition, the ICX switches can provide more than enough Power over Ethernet (PoE) for all of the APs.”

Of equal importance was modern technology that co-existed with buildings from another era. “Ruckus has proprietary technologies like BeamFlex that mitigate interference significantly better than other APs,” says Grande. “We know the residence halls—or walls—of these beautiful mansions won’t be a problem for the signal strength of Ruckus APs.”

### RUCKUS BRINGS GREAT WI-FI AND GREAT ARCHITECTURE TOGETHER

TBNG has deployed about 120 indoor and outdoor Ruckus APs and 30 Ruckus switches, giving the College campus-wide network coverage for the first time. Students can roam freely around the campus and congregate in common areas, like the cafeteria, without losing their Wi-Fi connection.

The old Wi-Fi network required APs installed in each classroom. Depending on the building configuration, TBNG has been able to install one AP in the hallway to cover two classrooms. “Complaints from students and faculty have dropped to virtually nothing compared to what we were dealing with before,” says Gstalder. “Students have actually reached out to tell us how much they like the new Wi-Fi. Even the admissions counselors promote it during student tours. One of the coaches was excited to report that a student asked about Wi-Fi in the residence halls. The coach was really happy to be able to tell that student that the Wi-Fi is fantastic! That’s pretty gratifying.”

The ITS team is spending substantially less time troubleshooting problems. The entire Wi-Fi network is centrally managed through Ruckus SmartZone WLAN controllers.

Even day-to-day administration has gotten easier. In the past when a student brought a new device to school, there was often a lot of back-and-forth to register the device. As Gstalder explains, “We had our hands full after the holiday season when students came back to school with a new Xbox or PS4. Students had to fill out a form to get the device on the wireless network. We’d provide a MAC address. Usually there’d be back-and-forth to help the student walk through the process. Now we just issue a pre-shared key. Onboarding new devices works every time—I don’t think we’ve had a single call from a student needing help.”

There was one unexpected coverage issue: when the outdoor APs went live, the signal was so strong that neighbors living on the edge of campus would actually try to connect to the outdoor APs. “Once we realized what was going on, we had to dial back the outdoor signals. It was an impressive problem to have,” says Gstalder. “It certainly confirmed that our campus Wi-Fi could easily support attendance at outdoor athletic events—including games at two new turf fields—and other school events.” The ITS team is currently looking at Ruckus Cloudpath for enabling secure self-service login for guests.

The high-speed backbone of the network connects Ruckus ICX switches over 10 GbE fiber. ITS currently uses a mix of layer 2 and layer 3 routing, with plans to move everything to layer 3. The core ICX switches aggregate traffic from



“We know the residence halls—or walls—of these beautiful mansions won’t be a problem for the signal strength of Ruckus APs.”

**JEFF GRANDE**  
TBNG Consulting

ICX edge switches to every computer in every classroom. Originally the multi-gigabit switches were intended to support the high-density, high-volume traffic requirements of the Wi-Fi network only—paving the way for 802.11ac Wave 2. But the ITS team also plans to use the high-performance ICX switches to connect and power IP surveillance cameras and other network devices. “We’re building a solid network infrastructure to support our future demands,” says Gstalder.

### A STRONG NETWORK MAKES NEW COURSE DELIVERY MODELS POSSIBLE

Another important priority from the president’s office is to use technology to support innovative educational models for adults pursuing undergraduate and graduate degrees. “We have a very diverse student population—age, race, socio-economic background, and ethnicity,” says Gstalder. “People with jobs can’t always come to campus on a regular schedule. And those with children may not be able to arrange for or afford childcare. Their situations may even change from one course to another.”

In short, says Gstalder, “We want to offer more flexibility in course delivery models, which is what our new Flex programs are all about. We’re giving our students more choices and flexibility with a blended learning model: students can mix online and in-class education. If a student can’t attend class on a particular day, they can join in real-time and watch streaming lectures, or download recorded lectures to watch at a later time. Online and on-campus students work together using online chat and video conferencing. Our Ruckus switching network makes it possible to push out a lot more digital content at higher speeds. With the Ruckus infrastructure, our school can move forward with innovative digital learning programs and delivery to reach the diverse community we serve.”

Copyright © 2018 Ruckus Networks, an ARRIS company. All rights reserved. No part of this content may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from Ruckus Networks (“Ruckus”). Ruckus reserves the right to revise or change this content from time to time without obligation on the part of Ruckus to provide notification of such revision or change.

The Ruckus, Ruckus Wireless, Ruckus logo, Big Dog design, BeamFlex, ChannelFly, Edgelron, Fastron, HyperEdge, ICX, IronPoint, OPENG, and Xclaim and trademarks are registered in the U.S. and other countries. Ruckus Networks, Dynamic PSK, MediaFlex, FlexMaster, Simply Better Wireless, SmartCast, SmartCell, SmartMesh, SpeedFlex, Unleashed, and ZoneDirector are Ruckus trademarks worldwide. Other names and brands mentioned in these materials may be claimed as the property of others.

Ruckus provides this content without warranty of any kind, implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Ruckus may make improvements or changes in the products or services described in this content at any time. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.



350 West Java Dr., Sunnyvale, CA 94089 USA

[www.ruckusnetworks.com](http://www.ruckusnetworks.com)