



## OVERVIEW

St. Joseph's University is located in Philadelphia, Pennsylvania. The university serves over 9K students and 1,030 in faculty and staff over 114 acres.

## REQUIREMENTS

- Secure and simple onboarding for different types of clients
- Wanted a campus-wide mobility to enable streaming to Apple/Smart TVs
- Simplified and scalable WLAN management to support APs
- A reliable and future-proof network at low cost of ownership

## SOLUTION

- Deployed 780 access points to cover all buildings on campus
- Increased the number of concurrent clients supported per AP while improving signal strength and wireless reliability
- Ease of management with ZoneDirector 3000
- Flexible network solution to meet demands for current and future Wi-Fi needs with superior connectivity and coverage with low cost of ownership

## A Campus Wi-Fi Infrastructure Gets a Needed Overhaul

### RUCKUS SMART WI-FI GIVES STUDENTS, TEACHERS AND GUESTS THE KIND OF WI-FI EXPERIENCE THEY EXPERIENCE AT HOME, BUT PUTS IT EVERYWHERE ON CAMPUS

Visit St. Joseph's University today and you'll find a world-class smart Wi-Fi network that is used by students, teachers and guests for everything, everywhere. Professors, as part of their digital curriculums, are streaming information to their students through Apple TVs. The advancement of technology has hit the higher education world making reliable Wi-Fi an essential utility tool for colleges and universities around the world. Like many schools, more reliable and robust Wi-Fi has become the focal point for change among many universities. From classrooms and dorm rooms, to the sports facilities, students and teachers want more wireless capacity, better performance and reliable connections everywhere with any devices. Consequently, Wi-Fi is no longer a luxury, but essential to the education sector, looking to attract the best and brightest.

St. Joseph's University is a private Catholic Jesuit University founded in 1851 and resides in Philadelphia, Pennsylvania. With 82 buildings covering 114 acres, the university serves over 9K students and 1,030 in faculty and staff. Like most colleges, the struggle for reliable Wi-Fi was problematic. With a generation that is always online, the students at St. Joseph's were not happy with the existing Wi-Fi that provided poor performance and coverage.

"Every student who spent time on campus last year knows the endless struggle that is St. Joe's Wi-Fi. From the 20 minutes it took for your computer to connect to the Internet to the frustration that the Wi-Fi induced when it dropped in the middle of registration, trying to survive life on Hawk Hill without an Ethernet cord has always been a bit problematic," comments Catharine Gaylord, author of the student newspaper, *The Hawk*, and student attending St. Joseph's University.

"We were spending everyday troubleshooting our wireless network," states Jim Brady, Director of Network Services at St. Joseph's University.

# Higher Education: St. Joseph University



St. Joseph's decision to move to dual-band 802.11n throughout the campus was spurred by an explosion of mobile devices on campus. The added devices combined with big increases to uplink and downlink traffic crushed the legacy network. As a result, a lean IT staff spent an inordinate amount of time tirelessly working to troubleshoot the frustration voiced by students and staff who needed to connect, but faced a hit or miss wireless service.

## SOLUTION

Fed up, St. Joe's decided to take a different approach. Moving away from the traditional centrally routed architecture, they decided to use the Ruckus WLAN controllers only to apply policy to the access points and to treat the access points as an edge switch. VLANs were applied to users within each particular building to help manage contention to the network and keep data rates high. Broadcast traffic was filtered through an access point not allowing it to move away from the switch to which it was connected. "Any network problems encountered now are from the network, routers, and VLAN problems, not wireless. With this kind of infrastructure, we are much better positioned to support BYOD (bring your own device)," states Brady.

With students' desire to access information whenever and however they wish, St. Joe's decided to test out Ruckus' access points in two of the dorms. Unlike other Wi-Fi solutions, Ruckus APs are able to automatically determine the best signal path and optimal channel for each client.

St. Joe's team was impressed with the results. Integrated into each access point is the Ruckus BeamFlex antenna consisting of multiple elements controlled by specialized software that focuses RF signals toward each associated client. This allows RF interference to be actively mitigating while minimizing noise to nearby networks and devices, thus delivering a cleaner and stronger signal that translates into higher data rates for everyone.

After deploying Wi-Fi in the dorms, St. Joe's placed more of the Ruckus access points where they have the most clients on a regular basis, the cafeteria. With over three times the increase in performance and range, St. Joe's installed 780 dual band 802.11n Ruckus access points to cover the 82 buildings on campus with.

"We don't spend any time with wireless problems anymore," says Brady.



# Higher Education: St. Joseph University



“Ruckus Wireless has made my life so much easier. It’s like night and day. Once deployed, it was easy to maintain.”

**Jim Brady**

Director of Network Services  
St. Joseph University

Managing the access points through the data center is Ruckus’ ZoneDirector 3000. With St. Joe’s limited IT staff, this was a huge bonus to their project. This provided them with ease of use and high performance with low cost of ownership. This is where power meets simplicity to help a restricted IT staff.

“Ruckus Wireless has made my life so much easier. It’s like night and day. Once deployed, it was easy to maintain,” states Brady.

“No longer does it take 200 tries to connect your computer to the Internet, and the connection doesn’t drop every four seconds, either,” states Catherine Gaylord.

Enabling campus-wide mobility with advances in enterprise Wi-Fi has now enabled professors to use the Apple and Smart TVs to enhance the learning environment. Using the Ruckus Bonjour Gateway feature, they are now able to stream to the Apple/Smart TVs, mirroring their screens to the specific TVs allowing them to be more creative in the development of their curriculum. It also has provided students a better shot at success by improving collaboration and learning.

For user authentication, St. Joseph’s uses the 802.1x as the standard for students and staff. They also enabled a second SSID to support Ruckus-patented Dynamic Pre-Shared Key (DSPK) technology for devices unable to support 802.1x. This allows users with smart mobile devices to connect securely with a unique pre shared key generated by the Ruckus WLAN controller, downloaded to the devices and bound to unique MAC address of each client.

Ruckus Wireless has now ensured a seamless, fast, pervasive and reliable wireless experience on St. Joe’s campus. This gives St. Joe’s a 21st century learning environment for their students and staff while ensuring the highest quality of service and available wireless capacity.

“With Ruckus, we’re now a lot smarter about Wi-Fi without having to be wireless experts and can spend more of our time focusing on enhancing the learning experience for our students,” concluded Brady.

