

CASE STUDY



OVERVIEW

Yeshiva University has five campuses across New York City. Poor Wi-Fi service in seven dorms on two of the campuses was a source of frustration for both students and IT support staff. Determined to improve the student experience and reduce the strain on IT, the University decided a new approach was needed. With a short timetable and a long list of requirements, Privatel was awarded the contract to design and deploy the new Ruckus wireless and wired infrastructure.

CHALLENGES

- Undergraduates students living in dorms had frequent problems with spotty Wi-Fi service
- Student login and authentication wasn't integrated with the University's central database
- There were multiple SSIDs in dorm buildings, all requiring separate logins
- There was no centralized management for the Wi-Fi network, making it time-consuming for IT to support the network

SOLUTION

- 900 indoor Ruckus APs
- 27 Ruckus ICX Switches
- Ruckus Virtual SmartZone Controllers

BENEFITS

- Without increasing the number of APs, Ruckus Wi-Fi improved coverage, throughput and reliability
- Each student has a separate VLAN and personalized portal to register devices
- All authentication goes through the central Student Information System
- Students can move around the dorm without logging into multiple SSID
- The network is outsourced as a managed service to Privatel, saving the University money and internal IT resources

UNRELIABLE WI-FI IS TOUGH ON STUDENTS AND IT

Poor Wi-Fi service can feel like being stuck in traffic. Endless waiting. Slow progress. If you're a student living on campus at a university, this experience can be even more frustrating and isolating. "Wi-Fi provides a vital resource of comfort and connection for young adults living away from home," says Rebecca Stein, assistant director for University Housing & Residence Life for Yeshiva University. "About 80% of our undergraduate students live on campus. It's important that they have ready access to everything online that supports learning, recreation, and feeling connected to family and friends back home."

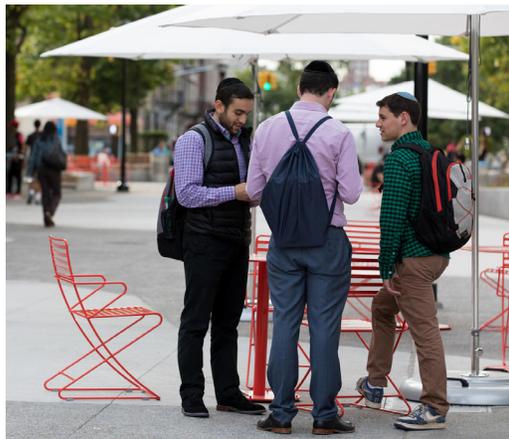
Yeshiva University has four campuses in New York City. The Beren Campus, located in midtown Manhattan, has four dorms. The Wilf Campus, located in upper Manhattan, has three dorms. Between the two campuses, there are 840 dorm rooms that are home to over 1,600 students.

Despite the fact that there was an access point (AP) in each room, Wi-Fi coverage was unreliable. Students had trouble logging in. Service was slow. Connections dropped unexpectedly. "Students rely on the network for both recreation and academics. Complaints spiked around midterms and finals, when the Wi-Fi virtually collapsed under the pressure," says Stein.

The University had contracted with the AP vendor to provide this help desk support. Unfortunately, the support was as spotty as the Wi-Fi service. "It might be hours or even a day or more before the vendor alerted us to a problem," says Stein. Without centralized management for the Wi-Fi network, the University's IT staff had to travel across the city, going from one campus to the other in order to troubleshoot and fix problems. The time and travel created an unacceptable drain on IT resources.

A change was in order—and not just a search for a new AP vendor. Stein wanted a more unified approach to Wi-Fi services.

Stein selected Privatel, Inc., to design and deploy new wired and wireless networks for the Wilf and Beren dorms. Privatel would also take responsibility for the network as a managed service. "This was an ambitious, fast-moving project," says Patrick Mastroilli, vice president of sales for Privatel, a nationwide provider of cable and wireless telecommunications services.



“Ruckus understands academia inside and out. We chose them for both the wireless and wired infrastructures. Interference simply isn’t an issue for Ruckus APs, even in older buildings with thick plaster walls. The Ruckus ICX switches can provide uplinks up to 100 Gbps to future-proof the network. And we can manage both the wired and wireless network through a single pane of glass.”

PATRICK MASTRORILLI,

Vice President, Sales
Privatel, Inc.

How fast moving? The project started at the end of May and had to be completed by the third week in August, in time for the new school year.

How ambitious? The deliverables included some new wiring (which meant getting new internet circuits for each building), a new switching infrastructure in seven buildings, and replacing the old APs. And an entirely new approach to authentication and device support that would both impress and protect students.

RUCKUS WIRED AND WIRELESS SOLUTIONS SPEED THINGS UP

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The old APs weren’t just unreliable, they also drew power from each dorm room. This limited the electrical outlets available to the students,” says Mastrorilli. “We can get 90W of PoE power per port on the ICX switches, which provides all the power needed by the APs. Now the University isn’t worried about electrical deficits in the dorms. And the Ruckus APs can support all of the Wi-Fi enabled devices that students want to connect to the network.”

They deployed one Ruckus AP per room, so there was no increase in the number of APs. But there was a big difference in performance. “The signal strength of the Ruckus APs covers every inch of each room,” says Mastrorilli. “The throughput is also phenomenal. We tested the network with streaming video and multiple devices. We have capacity to spare.”

Using Ruckus Virtual Smart Zone Controllers, Privatel has visibility across both campuses. “We know if there’s a problem before it becomes an issue for students,” says Mastrorilli. “We can do almost everything remotely, so it’s rare that we have to dispatch technicians to the dorms. With Virtual SmartZone Controller, we have tremendous flexibility in making configuration changes without touching the hardware.”

NEW WI-FI SUPPORTS AN EXPANDED VIEW OF DORM LIFE

“Students certainly love a blazingly fast network. But that’s just one part of how we improved their Wi-Fi experience,” says Mastrorilli.

RG Nets is a Ruckus partner specializing in gateways and centralized authentication appliances. Privatel brought RG Nets on the team to set up private VLANs for each student. RG Nets also integrated the VLANs with the Student Information System (SIS), so authentication would be centralized.

Communal areas in the dorms had different SSIDs, so students had to login—with different credentials—to use the Wi-Fi. The VLANs replaced the need for separate SSIDs, so now there’s no disruption in service going from dorm rooms to communal areas. “Having a unified network means students can visit classmates and friends in other residence halls or other campuses without connection issues or having to wait for a new network password,” says Stein. “Students even maintain remote access to devices back in their rooms, like gaming systems or smart speakers.”



“The personalized, private portal is so natural to these young adults. Easy login. The ability to support all their personal mobile devices. Fast, reliable Wi-Fi. Effortless roaming. That’s the experience we wanted to deliver, and Privatel achieved it. And it’s just going to keep getting better with the capabilities of the Ruckus technology.”

REBECCA STEIN

Assistant Director, University Housing and Residence Life, Yeshiva University

Students can register their own devices through a personal portal—as many mobile devices as they like. Previously, students could only register a certain number or type of devices. All devices are associated with a student, which has greatly strengthened security and student data privacy. “It’s much harder for anyone to hack into student devices now that they’re all on secure VLAN. We can also see every device on the network and track usage. That gives us useful information for doing future planning with the University,” says Mastroilli.

The network went live on the target date. Students moved in and started connecting their devices through their personal portals. “We were impressed that we launched by the time most of our students moved onto campus. The network was up and running and students had reliable Internet access from Day One,” says Stein.

Privatel’s engineers were ready and waiting on move-in day in case students had any questions or problems, but the calls never came. And Stein says her staff is able to focus on other projects now that they’re not spending so much time troubleshooting Wi-Fi issues.

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