

CASE STUDY



OVERVIEW

Worcester Polytechnic Institute is the nation's third-oldest private research university in Worcester, Massachusetts. The campus encompasses 35 major buildings and serves 4,012 undergraduates, 1,916 graduate students and 478 faculty.

CHALLENGES

- To provide an easy, self-service, secure process to allow Windows, Macintosh, Linus, Android and iOS devices to connect to the internet via certificate-based WPA2-Enterprise Wi-Fi.
- To lighten some of IT's work load with ease of use

SOLUTION

- Cloudpath ES

BENEFITS

- Cloudpath ensures wireless security
- Improvement continues with the ease of use and capabilities of Cloudpath
- Cloudpath ES has freed up online resources at WPI

CLOUDPATH MEETS THE CHALLENGE AT WORCESTER POLYTECHNIC INSTITUTE

Even though the college has a tech-savvy student body, incoming freshmen at Worcester Polytechnic Institute (WPI) need help connecting their wireless devices when they arrive on campus at the start of each academic year. To provide it, the school's IT staff would hold "wireless clinics" attended by up to a thousand students. But those clinics and ongoing help desk support for wireless onboarding took up far too much of the staff's time and prevented them from working on other, higher-level tasks. Even with IT help, connecting devices was a headache for students. The staff knew a better solution would be to implement a process that would enable students to connect their own devices rather than rely on the IT help desk or network operations staff. So IT decision-makers at WPI began looking for a better wireless onboarding solution for their campus.

SEEKING A CROSS-PLATFORM WIRELESS SOLUTION

"We had built our own application for connecting Windows devices, which helped, but it meant we had a single certificate for the entire campus, and no real 'self-service' mechanism for any other platform," says Frank Sweetser, Manager of Network Operations, WPI. "Wireless devices outnumber wired devices three to one, so it was important to find an easy, self-service solution for secure wireless connectivity."

Sweetser says the most influential factor in WPI's decision to adopt Cloudpath Enrollment System (ES) solution was conversations he had with peers at other universities who were already using it. "They have environments very similar to ours, so their endorsement meant a lot," he says. "We did our own research but didn't find any other solution with a comparable feature set or anywhere close to Cloudpath's level of maturity."

He says another important selling point is the breadth of clients Cloudpath ES handles. "We were doing BYOD long before it was common practice," he says. "So we knew we needed a solution that would support a wide range of devices. We don't place any restrictions on what students can bring and use, so we need to support Windows, Mac, Linux, Android, iOS and other devices. In fact, support for Linux clients was one of the major differentiators between Cloudpath and other solutions."

Its search process over, WPI deployed Cloudpath ES before the beginning of its next academic year and made ready to welcome that year's incoming class and all their wireless devices.



“Most new students arriving on campus have a laptop, tablet and smartphone that they want to connect wirelessly. With Cloudpath, the vast majority of them can do that via self-service with no help from our IT support staff.”

“Connecting their devices themselves was so easy for students that attendance at our wireless clinics dropped from nearly a thousand to fewer than a hundred.”

FRANK SWEETSTER

Manager of Network Operations, WPI

RAPID DEPLOYMENT MEETS DEADLINES

The degree to which students expect to be able to connect wirelessly was brought home to Sweetser on New Student Orientation day when a freshman walked up and asked to get “my free wireless cable.” Sweetser says that’s when he realized that, for this generation of students, “wireless” is synonymous with “Internet.”

WPI’s standard deadline for setting up and configuring networks is late August, in order to be ready for New Student Orientation. The staff started the deployment and testing process at the beginning of August and finished with a week to spare. “Training the permanent help desk staff was fairly painless,” says Sweetser, “but all the students, both new and returning, were thrown into using Cloudpath ES. All we gave them was a page directing them to visit a website. We had over 10,000 enrollments over a three-week period. It turned out that it was so easy for students to connect their devices themselves that attendance at our wireless clinics dropped from nearly a thousand to fewer than a hundred.”

Ruckus Cloudpath ES is now used by every WPI community device—except those already registered to the school’s Windows Active Directory. WPI Network Engineer Ben Higgins estimates that 75 percent of the campus population was able to set up their wireless devices without network operations or help desk intervention. “Prior to Cloudpath, the help desk would have problems because every device is a unique snowflake,” he says. “So the procedures we wrote didn’t always work. With the introduction of Cloudpath ES, they’re not all unique snowflakes; there’s a specific path for each of them. For a large percentage of our population, they simply follow that path, and they’re connected.”

When there were issues, Ruckus support got high marks for responding quickly. “When we’d call, we found we were talking with people who really understand how wireless works and how the educational vertical works,” says Higgins. “Also, with wireless changing so quickly, it was great that Ruckus would send out updates to the software very frequently—as soon as they come out of development. We’d install them immediately, and that’s been key to helping us support all the devices our users bring.”

ENSURING WIRELESS SECURITY

Higgins cites what he calls the “proliferation of security” as one of the key benefits of adopting Cloudpath ES. “Since day one,” he says, “WPI has had very robust security for our wireless network. We don’t want an open network where communications could be intercepted and non-WPI community members could access our network. What Cloudpath ES allowed us to do is connect legitimate users with a few clicks and still maintain that high bar of security with EAP-TLS certificates.”

Another key benefit according to Sweetser is that Cloudpath ES has freed up online resources at WPI. “Before Cloudpath ES, setting up wireless devices was probably the number one job for the 50 or so members of our support staff and frontline help desk workers,” he says. “Time spent on that has been slashed, and even when it has to be done, it’s a much simpler process for them, and they don’t have to worry about extra sets of directions. They walk people through two or three clicks and they’re done. We’ve also greatly reduced training time for them because setting up wireless is so much simpler.”



“Cloudpath ES allowed us to connect legitimate users with a few clicks and still maintain a high bar of security with EAP-TLS certificates.”

BEN HIGGINS

Network Engineer, WPI

EXPANDING THE IMPLEMENTATION

Higgins says that deploying Cloudpath ES “has freed up resources so we can do other things, such as figuring out how to expand our wireless network, which is a job we previously didn’t have time to do properly. So now we’re exploring ways to provide better coverage in the dorms and academic buildings, and adding access points. We can hop off the setup treadmill and start focusing on delivering real improvements.”

Previously, says Higgins, it was “like jumping through hoops of fire” to connect a Linux laptop to the wireless network. Now, with the help of advice from Ruckus, WPI has a streamlined way to do that, which is especially useful for campus departments like Robotic Engineering that are entirely Linux-based. Higgins says he’s even noticed more people using Linux devices because it’s now easier to connect wirelessly.

Sweetser says the school has also recently implemented a “setup on behalf of” feature on Cloudpath ES, which allows authorized support personnel to use the system to set up a device without using the owner’s credentials. WPI is also expanding access to eduroam, a program that enables members of one university network to easily connect to other universities’ networks when they visit their campus. “With Cloudpath ES,” says Higgins, “we set up both the WPI network and eduroam network so people don’t even have to ask to be set up on eduroam when they travel. By going through Cloudpath ES, they’re already set up on both networks.”

Sweetser and Higgins both say their overall level of satisfaction with the Cloudpath solution is very high. They say it made a huge positive difference when they deployed it, and there has been continuous improvement in its ease of use and capabilities since. “We’d much rather spend our day trying to make a better wireless experience for our users than setting each one of them up,” says Higgins, “and Cloudpath has enabled us to do that.”

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