



Illinois College

- Full stack IT solution keeps students and faculty connected across campus
- Robust connectivity and zero lag make for a successful eSports program
- Easy-to-manage security cameras keep students safe in dorms



With a 13 to one ratio of students to professors, newly renovated digital classrooms, and a competitive eSports program, Illinois College provides a well rounded college experience for students. Located in central Illinois, the small liberal arts college focuses on providing innovative technology and unique programs on campus. In order to ensure that students feel safe across campus, have uninterrupted learning in classrooms, and have reliable access in dorm rooms, a robust network is required.

The Benefits of Meraki Simplify IT

After tiring of their traditional, controller-based hardware, Patrick Brown, CIO, and Marc Benner, Assistant CIO, decided it was time for a new network. Due to their small IT team and limited budgets, they needed a centralized, easy-to-manage solution that would eliminate the day-to-day overhead of a CLI-based network. When they discovered that Cisco Meraki was the only cloud-managed solution that was simple to configure and maintain, they decided to deploy Meraki access points, switches, and endpoint management, followed by security appliances and security cameras. Since deploying the full-stack of Meraki products, the IT team has realized several benefits.

The ease of deployment was a huge selling point for Brown and Benner. Without needing to configure each device with command line or stress about the complexities that go into controller-based systems, Benner deployed most of the products himself. This saved the college over \$120,000 in a recent dorm Wi-Fi deployment, where they were originally going to bring in a third party to install new

access points. Instead, Benner and a student were able to install the devices at almost zero cost, configuring access points through the Meraki dashboard from Benner's phone as they went.

The security that all Meraki products provide has been a vast improvement for the college. Before Meraki, it would take Benner over a week to go to each switch and update the firmware. With Meraki, he can simply schedule the update in the Meraki dashboard for all switches to take place in one night. They use two step authentication and password based policies for all network users, and have several SSIDs for appropriate network access. Through the security appliances, the IT team is able to block web advertisements, piracy, and cryptocurrency. Benner shared, "We recently had an issue where someone went into the eSports room, where there are powerful computers, and started using Bitcoin mining software. We saw it flagged in the Security Center as cryptocurrency, and we were able to shut it down." In addition, thanks to built-in malware protection, the amount of students with viruses on their computers has drastically decreased.

"The security of being able to do mass firmware updates has been great. You can't tackle 100 firmware updates in a night without the Meraki dashboard."

– Patrick Brown, CIO

The IT team also has Meraki Systems Manager deployed on all IT devices for simplified endpoint management and increased security. Using the geofencing feature, the IT team can easily identify where devices are located, track devices if they leave a designated area, and remote wipe them if they go missing. They also use Systems Manager to deploy applications to devices with ease through the Meraki dashboard.

One of the unique benefits that Illinois College has experienced as they grow is that their Meraki deployment continues to scale with them. New features are continuously added to Meraki products through the cloud-based Meraki dashboard. One of Benner's favorite features on the switches, the Layer 3 capabilities, wasn't available when they first purchased them seven years ago. Now, they use Layer 3 functionality to route traffic between VLANs and create access lists to solve issues with school printers. On the Meraki MV cameras, new features have also been added since their initial deployment. The team uses the motion search feature to find important events, and can store footage based on motion, allowing them to store important footage for a longer period of time. They also take advantage of the export functionality, which allows the IT team to download a file and easily email it to the security team or police department, without having to burn the footage onto a disc like with their old solution. With motion alerts, the IT and security teams can receive alerts when there is motion in a certain frame, helping to identify security incidents much faster.

Meraki Across Campus: The Student Experience

No matter where students go on campus, they always have seamless connections supported by Meraki. In any one of the schools 10 dorms or 15 campus houses, students can easily access the network to complete homework, surf the web, or play video games. In the dorms, every other room is equipped with a Meraki MR30H access point, while each house has an 8-port switch and a minimum of three access points. The IT team uses traffic shaping to ensure that movie streaming apps won't overtake the residence hall network. With MV security cameras placed at the entrances and exits of each residence hall, students feel safer when they come and go. Plus, since deploying Meraki in the residence halls, the number of calls from students with Wi-Fi issues has dramatically decreased.

As students travel from their dorm to class, students remain on the same VLAN, never having to worry about a dropped connection. In classrooms, MR52 access points can be found, with a Meraki switch on the backend, seamlessly supporting active learning classrooms. Anyone can connect to an Apple TV or Chromecast, and professors can stream online videos without a lag or unsolicited buffering.

In between classes, students might watch a baseball game, take a makeup test, or practice their video game skills in the eSports center. Out on the baseball field, outdoor access points equipped with long range antennas allow students to connect to the network even while watching a game. In the tutoring office, instead of using a proctor, MV cameras ensure students are focused on taking their make up tests. In the gaming center, students can be found competing in games like League of Legends, which take a powerful network to support such a high-bandwidth activity. Not only does the MX450 security appliance support the gaming center, it supports the entire campus, and yet students have no problems with latency. For students conducting research at an arboretum off-campus, they can easily access the school network via an outdoor access point deployed in the trees.

The seamless connections students experience at Illinois College would not be possible without the ease of network management through the Meraki dashboard. By managing their access points, switches, security appliances, endpoint management, and security cameras all from the same place, the team has time to control more aspects of their network and shift focus to more impactful projects.

“Meraki has impacted our whole department; our ability to operate efficiently, and given us valuable time back to provide solutions and support for our students, faculty and staff.”

– Patrick Brown, CIO

Future Plans

While the breadth of programs and support that the IT team already provides to students and staff is impressive, the school is always looking for new ways to expand their network. Their next major deployment is the large gymnasium, which seats over 2,500 people. The team is also exploring the use of Bluetooth beacons, which are integrated into every Meraki access point. With this technology, the IT team could send push-notifications to students to notify them of upcoming events, discounts, or technology instruction based on their location. Illinois College will continue to be on the forefront of innovating campus experiences as new technologies emerge.