



CASE STUDY

Helping students return safely to on-campus learning with automated contact tracing



Highlights

- Automated contact tracing app for COVID-19 facilitated a safe return to campus for students and faculty
- Radically faster deployment helped meet the tight timeline
- Data and analytics continue to provide real-time alerts to college administration

40+

access points

300,000

lines of data captured by Meraki APs per day

1,000+

users on automated contact tracing app

“Being pressed for time, it was easy to switch out a whole wireless system and just drop the Meraki system into our current network.”

JEFFREY MYERS

CIO, Bay State College

LOCATION

Boston, Massachusetts

INDUSTRY

Higher Education

PRODUCTS

Wireless LAN (MR)

Campus Edge

Overview

Founded in 1946, Bay State is a private four-year college located in Boston's historic Back Bay neighborhood, with a second campus in Taunton, MA. The college provides its more than 900 students with a high-quality education that prepares them for professional careers in a variety of fields, including nursing, business, information technology, entertainment management, and criminal justice. A favorable student-teacher ratio and small class sizes are key differentiators that make Bay State an attractive choice for students.



Challenge

Like many colleges, in March, 2020, Bay State was forced to shut down its two campuses for the remainder of the term to ensure the health and safety of students, faculty, and staff. Many of the college's programs already had a strong online learning component, so most students could proceed with their studies with minimal disruption. For other programs that required significant hands-on instruction, such as nursing, it was clear online learning would not be sufficient. Students in these programs would need to be on campus to be able to complete their degree requirements.

As a result, getting students safely back to in-person learning for the fall 2020 term was the top priority for Bay State's newly formed COVID-19 Response Committee. The committee recognized that positive cases on campus were inevitable, but it also believed that wireless technology could be creatively deployed to build an effective automated contact-tracing solution. The solution could allow students to safely attend classes on campus, while also making it possible for the college to meet stringent public health regulations for social distancing and contact tracing.

“ When the system administrator is not here, somebody else can jump in and solve the problem. For a CIO responsible for a college network, that’s the most important thing for me.

JEFFREY MYERS

CIO, Bay State College

Solution

During the planning phase, the IT team identified a number of critical requirements. In addition to being cost-efficient and easy to deploy, the contact-tracing solution would need to deliver uncompromised security by protecting the privacy of the members of the Bay State community. The solution would also need to give the college the ability to respond quickly and accurately to any reported COVID-19 cases.

The Bay State team began designing an innovative wireless contact-tracing application that would leverage large-area triangulation to achieve maximum location detail for people on campus. Bay State chose Cisco Meraki to provide the foundation for the solution, installing Meraki MR access points (APs) across its two campuses.



MR WIRELESS LAN

Faculty, staff, and students were each issued a lanyard and a badge holder containing a Bluetooth® Low-Energy (BLE) beacon, which they were required to wear visibly at all times while on campus. Each Meraki AP contains a Bluetooth antenna that listens for intermittent pings emitted by the campus ID badge holders. As people move around campus each day, multiple Meraki APs collect and triangulate the beacon data to track and record their relative location over time. The APs collect and warehouse more than 300,000 data points per day. This information is then stored until it is needed, at which point a sophisticated reporting solution generates a visual confirmation of each individual's locations along with a report of any high-risk interactions.

Results

Through the Meraki cloud-based platform, Bay State has been able to successfully automate the challenging task of contact tracing. With the new solution, the college's administrators have been able to do more with less by eliminating countless hours of manual effort that would have otherwise been required to identify who had been in contact with whom on campus. Most importantly, the solution has sustained and enhanced the student experience, enabling Bay State to get students back on campus to complete their degree requirements safely.

In addition to facilitating rapid contact tracing, the data collected by the Meraki APs provides a real-time count of individuals on both of the college's campuses at any time, ensuring adherence to state and local occupancy level restrictions. As well, if any students arrive on campus without having completed a daily symptom check survey, the system notifies the dean of students in real time.

While many weeks' worth of time and planning went into the design of the solution, installing and configuring the Meraki APs campus-wide proved to be quick and easy to scale, a fact which significantly accelerated the rollout of the solution.



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