



# CASE STUDY

## University Campus MANAGED WIFI



### Challenges

Inconsistent WiFi Coverage across campus, with several dead zones

High-user density during peak times causes slow internet speeds and frequent disconnects

Outdated security protocols making the network vulnerable to potential breaches

Difficulty effectively managing the network with lean IT team

Unscalable legacy systems made it difficult to implement new technologies or additional devices

### About the University Campus

At one university campus, over 1000 students and faculty faced significant challenges with its legacy network infrastructure. The existing network was outdated and struggled to meet the demands of modern educational and administrative needs, prompting the institution to seek a technology upgrade. The goal was to enhance classroom connectivity and student access that did not burden their IT staff that was already stretched thin.

### Obstacles & Pain Points

**Inconsistent Coverage:** The university's WiFi coverage was inconsistent across campus, with several dead zones in classrooms due to the building's construction. This poor connectivity was negatively impacting both students' learning and faculty members' productivity.

**Network Congestion:** High-user density during peak times caused slow internet speeds and frequent disconnects. This impacted the interruption of online classes and research activities.

**Security Concerns:** The university's outdated security protocols made the network vulnerable to potential breaches and unauthorized access, increasing the likelihood of exposing sensitive academic and personal data.

**Management Complexity:** The university's IT team faced challenges in efficiently managing the network, which included handling troubleshooting and updates. This led to a heavier workload and delayed responses to network issues.

**Scalability Issues:** The legacy system could not easily scale to accommodate the growing number of devices and users, posing a challenge for the university in terms of embracing new technologies and expanding campus facilities.

## Recommendations & Implementation

Telesystem was able to quickly meet the needs of the university to improve their previously outdated network by ensuring every pain point was explored before implementation began. To address the need for increased bandwidth, Telesystem deployed a 1.5Gb Dedicated Internet circuit, along with a secondary broadband circuit, and Telesystem Managed WiFi with advanced access points. State of the art network design tools were utilized to ensure optimal signal coverage throughout their buildings. The use of advanced heatmapping tools enabled the team to guarantee reliable wireless coverage across the entire campus, effectively addressing any previous concerns related to network density.

In response to identified security gaps, Telesystem implemented advanced security protocols, including malware protection and intrusion detection systems. This proactive approach significantly enhances protection against cyber threats and unauthorized access, thereby safeguarding sensitive university and student data.

To further support the university's IT team, Telesystem introduced a cloud-based management platform for network monitoring, troubleshooting, and updates. This innovative solution streamlines network management, empowering the IT staff to efficiently address issues and perform maintenance tasks remotely, ultimately improving overall operational efficiency.

## The Result

The university campus saw the need to provide the school with a more reliable network and campus-wide WiFi that would be beneficial to both the students, teachers and the university themselves. By utilizing Cisco Meraki MX firewalls, switches and Meraki MR access points, Telesystem was able to offer a solution which met all of their connectivity, network performance, security, and management needs. The new solution design also gives the university the ability to grow and add additional functionality as needs arise and technologies change. Due to the success of the initial implementations, Telesystem was contacted to install the refreshed network layout in a number of additional campus facilities.

### High Level Network Diagram

