

UNIVERSITY OF PROVIDENCE

The University of Providence
Transforms Their Network



SOLUTION OVERVIEW

In order to offer one of the most advanced online learning curriculums in the United States and to provide compelling technology experiences, The University of Providence knew they needed technology that runs efficiently, provides seamless connectivity, and protects users and their data. With limited IT resources, the University took an innovative approach with

- Industry-leading Cisco switches, controllers, and access points
- Cisco Digital Network Architecture (DNA) integrated with the Cisco Identity Services Engine (ISE)

About The University of Providence

The University of Providence is a private Catholic university located in Great Falls, Montana. Founded in 1932, the University includes both a School of Liberal Arts and Sciences and a School of Health Professions. The University's dedicated IT department is committed to providing an effective, comprehensive, and secure infrastructure that delivers high quality and sustainable information technology services in support of the University's mission.

The Challenge

The University of Providence knows that the availability of leading-edge technology is a major consideration for students selecting a university and a critical component in the professional development of both their students and faculty members. To offer one of the most advanced online learning curriculums in the United States and to provide compelling technology experiences for students, faculty, staff, and visitors, they knew they needed to build out their network capabilities. With a modern 36,000 square-foot University Center featuring an open-air plaza, an art gallery, and a welcome center slated to open in the fall of 2019, the University also knew they needed new advanced networks

to deliver state-of-the-art enterprise and guest networking services across the new facility. To ensure campus technology runs efficiently, provides seamless connectivity, and access to appropriate resources while simultaneously protecting users and their data with limited IT resources, the University needed to take an innovative approach to build out their networks.

The Solution

The University of Providence turned to Cerium Networks, their trusted technology partner, for help planning, designing, implementing, and testing the infrastructure to build their advanced networks. According to Pat McGlenn, Cerium Network's Senior Account Executive, "The outcomes of this project are a true testament to what a great partnership can bring. The University has been very engaged and collaborative with Cerium, which allowed us to put together this very relevant solution for their growing needs and flagship new University Center."



The University chose a Cisco networking solution to get the reliability, performance, flexibility, and advanced features needed to meet their challenging requirements.

With several pieces of the foundation already in place, the University was confident in Cisco's ability to be a step ahead of the curve and provide solutions that keep pace with evolving technology trends. To achieve faster speeds, higher capacity, reduce network congestion, and accommodate the new wave of advanced devices coming on the market, the networks were designed with industry-leading Cisco switches, controllers, and access points that support Wi-Fi 6 specifications.

Cisco networking components in the design included:

- Cisco Catalyst 9500 and 9300 series LAN switches
- Cisco 9800 and Cisco 5520 Wireless LAN Controllers
- Cisco 9120 AX Wireless Access Points for campus-wide indoor 802.11 coverage
- Cisco 1562 Outdoor Wireless Access Points to help deliver seamless outdoor coverage for students, faculty, and guests of the University

To achieve the required performance, scale, and security while freeing up the University's scarce IT resources, Cerium recommended Cisco Digital Network Architecture (DNA) integrated with the Cisco Identity Services Engine (ISE).



Cisco DNA offered the ideal foundation to power the University's software-defined networking (SDN) architecture. Cisco DNA takes a software approach to streamline IT operations by intelligently automating network management, assuring network performance, and securing network operations. Cisco DNA Center, the network management and command center for Cisco DNA, provides the University with end-to-end visibility of users, devices, and applications on their network. It enables the IT Team to quickly provision and configure network devices, proactively monitor their network, troubleshoot problems, and optimize network performance and security, all from the DNA Center dashboard.



Cisco ISE, a fundamental component of Cisco's SDN architecture, provided the new network with automated, yet granular, campus-wide network access and identity security policy control. Integrating Cisco DNA Center with Cisco ISE creates a trusted link between the two products that enables the ISE to share data with DNA Center in a secure manner. With Cisco DNA Center and ISE, the University's IT team easily and efficiently orchestrates network access for guests, students, faculty, and staff across the entire campus from a single console. Cisco DNA with ISE supports interoperability and open roaming for clients across the University's wired and wireless networks to provide consistent security and full network intelligence for richer user experiences.

The Results

Cerium helped The University of Providence with project planning, preparation, execution, turnup, and testing the network solution. The four-month project was completed in time to provide seamless connectivity across campus for the opening of the new University Center. The upgrades deliver enhanced performance, reliability, and security, and the network is proving to be more than capable of supporting the University's online degree programs.

With Cisco DNA Center and ISE providing the foundational controller and analytics platform in a unified dashboard, all of their fundamental management tasks can be performed from a single pane of glass. It simplifies running their network and enables the University's IT team to respond faster and more intelligently to network changes and challenges while creating new technology experiences and expanding secure network access for students, faculty, staff, and visitors.

"The future of university life on campus revolves around the student experience." Jamie Schultz, Chief Technology Officer at The University of Providence, observed.

"Today's generation doesn't come to college because great technology is in place; they expect it to be. Our work with Cerium was focused on that flawless experience. A student should be able to walk from student housing to the library, from the class to the cafeteria, and never have to worry about connectivity. The University of Providence realizes the need not only for the student but for the business of education. The great partnership we share with Cerium has ensured The University of Providence is prepared for the future, not just in connectivity and speed, but in the security and ease of management of our network infrastructure. The tools we have at our fingertips with Cisco DNAC and ISE are second to none. The University of Providence is one of over 5000 colleges and universities in the US. The struggle to employ enough experts to manage the IT infrastructure is something we all face. Cisco DNAC and ISE enable a single Network Engineer to do the work of an entire team. Installing the Cisco solutions has saved The University of Providence in excess of \$100,000.00 in new employee costs to support our network infrastructure. What would take us three to five employees to do, we are able to do now with a single Network Engineer." Jamie concluded.

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