

Scaling University Infrastructure

*Building and Modernizing a Scalable University
Technology Foundation*



BACKGROUND



A large university was preparing for its next phase of growth and innovation. As technology demands increased across the institution, the university recognized the need to modernize and scale both its multi-site data center environment and campus access layer, including wireless access points. These enhancements were intended to better support the evolving needs of students, faculty, and staff while improving performance, operational efficiency, management simplicity, and visibility across the infrastructure.

EXISTING CHALLENGES



The university's existing environment had evolved over time into a highly distributed architecture spanning multiple data center locations, campus facilities, satellite locations, shared services, wireless access points, and a diverse mix of applications and workloads. Maintaining consistency across this growing footprint had become increasingly challenging.

The university needed an infrastructure approach that could scale while improving operational consistency, policy enforcement, visibility, and manageability across locations, the data center, and the campus access layer. These demands were creating added complexity across the university's IT organization. Homegrown automation and management tools had become increasingly challenging to maintain, driving the need for a more centralized, vendor-supported approach.

The university also required stronger east-west visibility and security within the data center, improved segmentation, and greater insight into traffic flows across the environment. At the access layer, the institution needed a more consistent and manageable approach to wired and wireless connectivity across campus and remote locations.

At the same time, the university was preparing for a large-scale technology refresh while continuing to support both modern and legacy systems. Minimizing migration risk was critical, as disruptions could affect students, faculty, staff, and university operations. Any new architecture would also need to undergo extensive testing and validation before being introduced into the production environment.

SOLUTION



The university evaluated multiple technologies and architectural approaches to support its broader technology needs and infrastructure modernization initiative. KNZ Solutions was selected as a trusted partner based on its vendor-agnostic approach and ability to validate solutions through its dedicated Solutions Lab.

To reduce risk and accelerate decision-making, KNZ designed and delivered a proof of concept in its Solutions Lab in just two weeks. The proof of concept provided a real-world environment for testing and validation, allowing the university to evaluate new technologies and architectural approaches across both the data center and access layer before deployment.

KNZ worked closely with university stakeholders to address the identified challenges and demonstrate how the proposed solution could improve scalability, operational consistency, automation, operational efficiency, visibility, security, and manageability across data center, campus, and remote locations.

OUTCOME



The proof of concept gave the university confidence that the proposed architecture could support both its current technology requirements and long-term growth objectives. By validating performance, functionality, automation, and operational workflows using real-world scenarios and issues drawn from the university's existing environment, the university was able to reduce migration risk and make more informed technology decisions.

As a result of the engagement, the university elected to transition to a new networking platform and move forward with a modernized architecture spanning the data center and campus access layer. The new solution delivered greater operational efficiency, simplified management, improved automation, scalability, visibility, and security across the environment.

The modernized infrastructure also provided a stronger foundation for future expansion and positioned the university to better support the evolving technology needs of students, faculty, staff, and university operations across campus and remote locations.