

Case Study

Seamless Mobility Through Carrier Extension: A Reputed University's Journey with Highway 9

Client Overview:

Customer: Reputed University

Sector: Higher Education

Location: United States

Project Type: Hybrid Mobile Network as a Service (HMNaaS) with Carrier Extension.

Background

University is well known for its academic excellence and a sprawling campus encompassing academic buildings, residential halls, healthcare facilities, athletics complexes, and research centers.

The institution recognized the critical need for ubiquitous, reliable, and secure mobile connectivity for all users, including students, faculty, staff, and visitors. The project was necessary due to the heavy reliance on mobile devices across campus for essential services such as teaching, digital learning, campus applications, and real-time student services.

Challenge

The university faced several significant connectivity hurdles:

- **Coverage Gaps:** The existing macro network coverage provided by Mobile Network Operators (MNOs) was insufficient in dense areas. This resulted in poor service within critical locations like basements, libraries, athletic facilities, and older academic halls.
- **Network Fragmentation:** Since multiple carriers serve the campus, service consistency varied greatly, leading to a patchy experience for students and staff depending on their specific operator.
- **High User Expectations:** Students expected seamless connectivity comparable to what they experience in urban downtown environments. The existing poor indoor and outdoor coverage negatively impacted the adoption of campus digital services.
- **Operational Complexity:** University IT staff wanted to avoid the cost, complexity, and maintenance overhead associated with managing traditional multi-carrier Distributed Antenna Systems (DAS) or traditional small cell deployments.

Highway 9 Solution

University partnered with Highway 9 to deploy the Hybrid Mobile Network as a Service (HMNaaS) solution. The implementation involved:

- **Deploying a private mobile network** backbone spanning the entire campus.
- **Utilizing the carrier extension capability** to integrate MNO traffic directly onto the campus network. This ensured that all users received seamless service, regardless of their mobile operator.
- **Leveraging Highway 9's cloud-native platform** for centralized management and orchestration.
- **Targeting specific problem zones**—including libraries, residence halls, stadiums, and healthcare facilities—with flexible, focused coverage.
- University IT offloaded the day-to-day operations and maintenance duties via an **End-to-End Managed Service to Highway 9**, while still retaining necessary policy control.



Outcomes & Benefits

The adoption of the HMNaaS model delivered substantial benefits:

- **Seamless User Experience:** Students and staff now benefit from strong, uninterrupted mobile service throughout the campus, regardless of carrier.
- **Improved Digital Devices:** The reliable connectivity enabled the robust use of crucial mobile-first applications, including learning management systems, virtual classrooms, digital payment solutions, and campus safety apps.
- **Operational Efficiency:** The university eliminated the need for separate DAS or multiple carrier systems, simplifying the network into one converged system managed entirely by Highway 9.
- **Stronger Partnerships with MNOs:** The university is positioned as a model for successful carrier-university collaboration, enhancing its long-term strategic value.
- **Enhanced Reputation:** The institution is seen as a leader in digital innovation, aligning strongly with its prestigious brand.

Customer Quote

“The Highway 9 solution was the operational and technical breakthrough we needed. It delivered truly seamless, uninterrupted mobile service campus-wide, eliminating coverage gaps and network fragmentation. This approach simultaneously simplified our infrastructure—eliminating the complexity of managing multi-carrier systems—and cemented our institution's reputation as a leader in digital innovation.”

– Senior Director of IT Infrastructure

Looking Ahead

The university plans to capitalize on the new infrastructure to drive future digital transformation:

- **5G Expansion:** Expanding the HMNaaS platform to support 5G use cases, including immersive learning (AR/VR), robotics and autonomous campus transport.
- **Intelligence and Automation:** Integrating AI-driven analytics for predictive network performance and smart resource allocation.
- **Edge Computing:** Exploring edge computing capabilities for research labs and high-bandwidth academic applications.
- **Coverage Extension:** Extending connectivity to affiliated hospitals, research parks, and future campus expansions.
- **Industry Influence:** The university intends to use the technical learnings derived from this deployment to influence broader adoption of carrier extension models across the higher education sector.

Get started today

Embark on your journey to unlock smart connectivity in higher education.

Get a Demo

Contact Us: info@highway9.com