Private LTE/5G as a Service

for Higher Education

Logicalis helps you plan, integrate multi-vendor technologies, and deploy a full stack, best-of-breed, subscription-based private LTE/5G network that connects faculty, staff, and students to deliver the digital campus experiences they expect.

As university and college campuses grow so, too, does the number of devices—both BYOD and those that are part of the campus infrastructure—they must support. While connecting to campus Wi-Fi is often fast and reliable, it's not without its challenges. Configuring and optimizing Wi-Fi across the entire campus—even outdoors and to facilities at the edge—is a nightmarish task that's made more complex by unpredictable device density, questionable access point interoperability, and shaky QoS guarantees.

Planning and deploying a best-of-breed, subscription-based private wireless network requires significant multi-vendor technology and integration skills. Logicalis combines Cisco networking expertise and its award-winning managed services—with an industry-leading ecosystem of carrier services—to deliver a full-stack, subscription-based Private Network Services solution for LTE/5G that supports your wireless infrastructure and delivers the campus experiences that faculty, staff, and students expect.

How private wireless networks enhance campus connectivity

Private wireless networks offer significant benefits over Wi-Fi where, because it's nearly impossible to run cabling across the entire campus, which can result in spotty or otherwise unreliable connections. These environments typically use WLAN and have multiple applications within a wide area deployed, but Wi-Fi and public networks aren't options due to reliability, security, bandwidth, and availability concerns.

Wi-Fi and private 5G can work together to blanket the campus—including residential and other support services outside the campus edge, ensuring secure and reliable connections for people, devices and access points, and applications. Better yet, faculty, staff, and students can navigate their campuses with multiple devices and be completely unaware of network handoffs occurring in the background as they travel between the campus wireless infrastructure and the cellular infrastructure.

In addition, most universities prefer to focus on their core mission of teaching and research rather than get into the business of operating yet another network. Logicalis is expert at integrating 5G with leading networking and security technologies at the core and delivering it as a service, allowing you to re-focus your resources on the business of education.

Again, private 5G is ideal for outdoor environments, or any environment where the wireless network is slow, unreliable, or even unavailable.

Here are some use cases:

Use case #1:

Connect edge and off-campus support services and programs

Funding the teaching and research mission often comes from support operations, programs, facilities, and ancillary services—services that are often included on the wired and wireless infrastructure. But what happens when the educational mission requires more bandwidth than the WLAN can reliably supply?

One option might be to peel off support programs and services and put them on a private LTE/5G wireless network.

For example, sports stadiums and arenas are often located at the edges of campuses (and sometimes off campus), but they still require massive bandwidth not only to power the fan experience, but also to meet the needs of increasingly digitized venue operations. A private 5G network offers extreme density, high data rates, and fast performance, enabling fans to have real-time information about parking, concessions and restroom lines, special offers, replays, and more for a "living room-like" experience.

In addition, vendors/retailers can easily hawk products using handheld and standalone point-of-sale systems, operations staff can efficiently move fans around the arena and keep them informed via digital signage, security teams can monitor safety with cameras and sensors and quickly respond in case of emergency, teams can communicate with each other from wherever they are in the arena, and broadcasters can deliver the best video and audio experience for fans at home. And with network slicing, each functional area can have their own dedicated network resources to ensure consistent connectivity.

Logicalis enhances your overall connectivity, easing reliability, security, bandwidth, and availability concerns, making it ideal for distributed operations or IoT-heavy environments—such as dormitories or study environments where students require clean and fast connections.

Use case #2:

Enhance learning with AR/VR/MR/XR

Augmented/virtual/mixed/extended reality (AR/VR/MR/XR) technologies are enabling students to immerse themselves in subjects that they've never before been able to experience. Imagine a medical student performing a virtual surgery for the first time, a botany student seeing a plant develop roots and shoots from seed, or an archaeologist studying a dig from afar.

These experiences enhance learning for students in multiple disciplines, but sometimes the wireless infrastructure doesn't have the bandwidth required for these near real-world experiences.

Using private wireless networks to enable these new technologies takes stress off Wi-Fi networks, giving students and teachers the bandwidth and latency necessary for immersive experiences. Plus, it frees up the Wi-Fi infrastructure for bandwidth-intensive learning and other applications.

Use case #3:

Power innovation in research facilities

Likewise, mission-critical research facilities often require high-speed computing and AR/VR/MR/XR modeling for innovations that Wi-Fi can struggle to reliably deliver. New applications, such as those utilizing AI, digital twins, and robotics, can also tax the WLAN.

But with network slicing and low-latency, ultra-reliable 5G connectivity, researchers can process massive datasets and computations needed for scientific research and deliver the results needed to propel innovation.

Use case #4:

Avoid an infrastructure rip and replace

As needs for wireless services grow ever larger, higher ed institutions may find that their existing infrastructure just isn't keeping pace. The traditional solution, of course, is a complete rip-and-replace. But for resource- or otherwise-strapped campuses that need to get a few more years out of their wireless infrastructure, there's an innovative option that comes with IT control and budget predictability.

A private LTE/5G network provides the capacity you need without a complete refresh of the wireless infrastructure. You own the SIM cards and devices, ensuring access is only granted to trusted entities. And when provided as a service, as Logicalis does, all the design/build/run work is done for you, leaving your IT team to focus on what they do best: supporting the school's core mission of education and research.

Improve campus safety and security

To rapidly respond to incidents, campus police and security organizations require clear, reliable communications between and among dispatchers, other officers, and the communities they serve. Voice, video, data, and IoT devices—such as 911 communications, two-way radios, pagers, cellular devices, laptops, body cameras, surveillance cameras, etc.—must be integrated, connected, and monitored 24/7 to broadcast a wide security net over the campus community.

Logicalis helps improve campus police and safety operations with private wireless networks that ensure these organizations have the bandwidth and latency needed to ensure that emergency calls don't get missed due to other traffic deemed "high priority." With a private LTE/5G network, law enforcement staff will have greater situational awareness, enabling officers to take more effective action. Plus, private wireless networks can be separately secured, ensuring greater control over the network environment and the people, applications, and devices that reside on it.

Benefits

Lower costs

Reduce the high cost of individual monthly cellular subscriptions through your telecom provider, while providing much more reliable service.

Improved reliability

Enjoy more reliable 4G and 5G connections that improve the educational experience with cloud-based configuration and monitoring services across all cellular assets.

Data security

Manage and secure your data locally with local connectivity—with private wireless, your data never leaves your network.

Greater simplicity and control

Retain security and control with complete SIM management and greater operational simplicity with service and device visibility by integrating with your Cisco infrastructure.

Better investment protection

Integrate with your existing Cisco infrastructure and get seamless software and firmware upgrades to eliminate obsolescence and maximize investment protection.

Why Logicalis

Deep connectivity expertise

Logicalis has over 20 active field trials featuring considerable expertise in Evolved Packet Core design and carrier deployment.

Award-winning global services

Logicalis delivers a consistent customer experience with the same services delivered, no matter where you're located.

Expansive ecosystem development

Logicalis has teamed with industry-leading Radio Access Network (RAN), Evolved Packet Core, and User Equipment providers, as well as numerous global providers who can deploy macro-cell (towers) both indoors and outdoors.

Hefty 5G experience

Through our acquisition of Siticom and its 100+ advanced 5G employees, Logicalis has carrier industry veterans with Private 4G/5G deployment experience and deep knowledge of Evolved Packet Core to provide a more holistic solution offering.

Unique Cisco partnership

As one of just six Cisco Global Gold partners—and one of two Cisco partners authorized to provide private 5G as a service, as well as private 4G— Logicalis has deep Cisco expertise and support.

Technologies

Includes Cisco's full-stack, subscription-based Private LTE/5G solution at the core, along with a Cisco-certified RAN.

Logicalis Professional Services

Provides site evaluation, engineering, and implementation including site preparation, ordering, organization of the spectrum, SIM management, staging, profile creation, core and RAN installation, core NF configuration, and pre-launch solution validation.

Logicalis Managed Services

Provides ongoing support, including SLA management, 24/7 Logicalis Level 1 support and Level 2 and 3 triage and coordination with Cisco, RMA management, solution optimization, application and device integration, customer care and service, spectrum application, end customer service portal, and transport network managed service.

Case in point

Customer: A large metropolitan university

Challenge: Complaints about connectivity at the university's campus bus stops

Solution: Logicalis Private 5G as a Service

Results: Instead of pulling fiber out, this school is using Private 5G as a Service to backhaul data, enabling students riding to/from classes to quickly connect, stay in touch, do homework, and perform other online tasks.

LOGICALIS
Architects of Change

CISCO
Partner
Global Gold Integrator