

Private LTE/5G as a Service

for Healthcare

Logicalis helps you plan, integrate multi-vendor technologies, and deploy a full stack, best-of-breed, subscription-based private LTE/5G network that connects clinicians, staff, patients, and visitors and delivers the experiences they demand.

Not only have healthcare systems faced unprecedented stress in recent years, but these stresses have also surfaced new healthcare IT challenges—both continuing challenges (security, data privacy, data integration) and new challenges, such as how to accommodate a growing number of devices and incorporate emerging technologies like AI, robotics, etc.

While connecting to Wi-Fi is often fast and reliable, it has its own challenges. Configuring and optimizing Wi-Fi across the entire healthcare system—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 experiences that clinicians, staff, patients, and visitors expect.



How private wireless networks enhance healthcare connectivity

Private wireless networks offer significant benefits over Wi-Fi where, because it's nearly impossible to run cabling across the entire campus, Wi-Fi 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.

Private 5G is ideal for any environment where the wireless network is slow, unreliable, or even unavailable. Wi-Fi and private 5G can work together to blanket the healthcare campus, ensuring secure and reliable connections for people, devices and access points, and applications. Better yet, clinical teams, administrators, and patients can traverse the campus 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 healthcare providers and systems prefer to focus on their core mission of delivering quality patient care and outcomes 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 life-critical business of healthcare.

Here are some use cases:

Use case #1:

Connect ancillary services and programs

Hospitals not only deliver on their core mission, they also provide ancillary services and programs—such as food services, parking, security services, patient and visitor services, etc. But what happens when the core healthcare mission requires more bandwidth than the WLAN can reliably supply, negatively impacting ancillary services and that resulting experiences for employees, patients, and visitors?

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

For example, patients need connectivity to get real-time information about their procedures, watch their favorite programs while recovering, speak to their loved ones, order meals from food services, and so on. At the same time, their loved ones expect up-to-the-minute information about their loved ones, the ability to call them, services while visiting, and so on. Finally, point-of-sale systems for gift shops, cafeterias, and other retail operations require clean connections for the best patient and visitor experience.

A private 5G network offers extreme density, high data rates, and fast performance, enabling patients and visitors to enjoy the connectivity needed to interact with the services they need and ensure a positive experience. And with network slicing, each service area can have its own dedicated network resources to ensure consistent connectivity.

Logicalis enhances overall connectivity, easing reliability, security, bandwidth, and availability concerns, making it ideal for distributed operations or IoT-heavy healthcare environments—such as ancillary services, clinical departments, operating rooms, labs, and more.



Use case #2:

Mature your telehealth practice into the ER

The pandemic not only loosened regulations around telehealth, but it also accelerated its use. With telehealth now having passed “the test,” healthcare providers are seeking to integrate it into their workflows to better manage patient care, increase clinical productivity, and reduce costs.

Private wireless networks from Logicalis offer faster speeds, lower latency, and greater device capacity, enabling clinicians to meet elderly, immunocompromised, and rural patients “face to face” through video. But it’s about more than routine doctor visits. Private wireless networks can now be used to provide better emergency care to patients.

For example, with private 5G, first responders can provide a secure video feed to the hospital, enabling ER doctors to “see” and treat patients, both on scene and while in transport. ER doctors can then mobilize resources before patients arrive, cutting response time and ensuring patients get the help they need, stat. And with network slicing, the ER can have a dedicated connection without interference from other hospital resources.

Use case #3:

Enhance surgical procedures with AR/VR

More and more, surgeons are relying on augmented and virtual reality (AR/VR) in operating rooms to perform precision surgeries. Or surgeons call on experts in the field to guide them in performing new surgical techniques. Finally, medical students can benefit from learning how surgical procedures are performed in real time at their desktops.

While AR/VR is enabling these kinds of immersive experiences in medicine, sometimes the wireless infrastructure doesn't have the bandwidth required for these real-world experiences.

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



Use case #4:

Security here, there, everywhere across the healthcare campus

Healthcare organizations around the world averaged 1,463 cyberattacks per week in 2022, up 74% over 2021. And patients' medical histories were the most compromised data in those attacks. That's why securing healthcare networks requires security posture visibility, zero trust, and remote access.

Logicalis helps you minimize network vulnerabilities and harden your security posture by developing secure backups and disaster recovery plans, investing in robust cybersecurity solutions, applying regular system patches, and ensuring your team understands best security practices. Manage and secure your data locally with local connectivity—private wireless ensures that your data never leaves the network.

Use case #5:

Avoid an infrastructure rip and replace

As needs for wireless services grow ever larger, healthcare systems may find that their existing infrastructure just isn't keeping pace. The traditional solution, of course, is a complete rip-and-replace. But for typically resource-strapped healthcare organizations 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.

Private 5G as a service from Logicalis 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 core mission of your healthcare organization.



Use case #6:

Keep tabs on everything—and everyone—with asset management

To ensure peoples' safety and highest satisfaction, virtually everything within a healthcare system is tracked, including:

- People (employees, patients, visitors, etc.)
- Equipment (medical carts, wheelchairs, monitors, etc.)
- Physical plant (HVAC systems, power, generators, etc.)
- Medications
- Medical waste
- Records
- IT assets

But what happens if, due to network noise, a caregiver is unable to locate a heart monitor needed for a patient or the monitor doesn't work? Worse, what happens if a patient goes "missing" somewhere between admitting and recovery?

Logicalis helps you build an ultra-low latency private 5G network that can provide highly accurate location services to track the movement of people, equipment, waste, medications, and more—as well as lifecycle management for physical plant, IT assets, and other equipment—without having to build, integrate, and operate yet another network. With this ultra-low latency network, you can count on knowing where every person, device, and medical equipment is at all times—and ensure that everything's working when you need 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 patient and clinician 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 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 and 4G as a service—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.

Additional use cases

- Remote surgery
- Robotic surgery
- 24/7 patient monitoring
- Telehealth
- Imaging and other large file transfers
- Wearables/real-time monitoring
- Patient and healthcare asset tracking
- Real-time patient treatment and support
- Popup healthcare operations
- Clinical communications
- Automated workflows