



Nokia Passive Optical LAN for hospitals, clinics and healthcare facilities

Deliver holistic patient care with a powerful LAN solution up to 50% cheaper than traditional Ethernet

Excellent medical care depends on many systems operating smoothly together. Patient information must be communicated for diagnosis and medical procedures. Patient monitoring, billing, and security systems must be accessible 24/7. Internet and entertainment services must be available for patients.

Passive Optical LAN (POL) technology can support all these systems on a single network to help hospitals, clinics and healthcare facilities deliver the best possible patient care. Most importantly, POL is fast, robust and reliable, ensuring vital services remain online.

Passive Optical LAN outperforms Ethernet LAN

POL brings the LAN up to light speed. It uses fiber-optic cable instead of copper and the Gigabit Passive Optical Network (GPON) transmission protocol. GPON is used to deliver commercial and mission critical broadband services to millions of users worldwide. It outperforms Ethernet in all the key criteria:

- **Capacity.** GPON delivers 2.5 Gbps upstream and 1.2 Gbps downstream on each fiber so you can converge separate networks, eliminate bottlenecks and deliver gigabit speeds to every user
- **Cost.** POL is both cheaper to install and cheaper to run than an Ethernet LAN
- **Security.** GPON provides military-grade security and carrier-grade reliability
- **Longevity.** Fiber is future-proof, robust and scalable, providing value for 50+ years
- **Flexibility.** Deploy anywhere as fiber supports a smaller bend radius than copper cabling and is resistant to signal and noise interference
- **Simplicity.** GPON is a mature technology, designed for simplicity and efficiency, easy to understand and manage

Reduce costs from day one

POL costs significantly less than a traditional Ethernet LAN. For example, in a new installation with 2,000 connections across 10 floors, CAPEX savings are 56% and OPEX is lower by 54%. Which makes POL a sound investment for both upgrades and greenfield deployments. Savings come from the following areas:

- **Operations.** Maintain a single network by converging voice, video, data, surveillance, access control, security, and Wi-Fi® onto one simple, centrally-managed LAN
- **Energy.** POL equipment needs less power and cooling
- **Cabling.** Fiber is cheaper to install and easier to maintain than copper. It's also more efficient: fewer cables are needed to connect users and deliver services
- **Real estate.** Reclaim server rooms and additional floor space with smaller and fewer network elements and replace bulky copper bundles with space-saving fiber
- **Expansion.** POL covers 200x more area than Ethernet, making for easy expansion to new campus sites or office floors
- **Long-term.** Fiber is more resilient than copper and is the only medium with unlimited bandwidth potential

Improve patient care with a passive optical LAN

POL is an industry-leading ultra-broadband fiber technology suitable for all properties – from small diagnostic clinics to specialty and large corporate hospitals.

With POL, every department is better equipped to support the massive amounts of digital data that medical facilities must now manage. This includes patient records and database files, as well as data from advanced imaging and diagnostic technologies, such as sophisticated CT/PET/MRI scanning equipment that generate very large data files of very high resolution images.

POL's future-proof capacity enables these technologies as well as legacy services, such as analog voice, or RF-based services, such as TV, surveillance and security, to be converged onto a single network. As a result, it's easier and cheaper to keep these services up and running. Network maintenance is also optimized because there are fewer active electronics on site.

POL needs less cabling, fewer racks, LAN switches, patch panels and associated power supplies, air-conditioning and special cable channels. This eliminates the need for telecom equipment closets on each floor or at every 100m. As a result, medical facilities get large savings on capital and operating expenditure. And the floor space freed up by eliminating unnecessary equipment can be used for revenue generating patient care facilities.

Nokia: bringing broadband innovation to healthcare facilities

Nokia is the world leader in fixed access technologies. We have 20+ years of broadband experience, and our equipment powers some of the most advanced fiber networks in the world.

The Nokia Passive Optical LAN solution is designed to help you enhance patient care and slash costs. Contact your nearest Nokia partner today.

POL vs Ethernet LAN: cost comparison for 2,000 end-points over 10 floors

