



Nokia Passive Optical LAN for real estate developments

Deliver clean, green, progressive properties with a powerful LAN solution up to 50% cheaper than traditional Ethernet

Today's renters and buyers expect commercial and residential spaces to include high-speed broadband networks that support their blended work and play lifestyles. And with energy consumption frequently part of public policy and building codes, these networks must also contribute to green energy practices.

The Nokia Passive Optical LAN (POL) solution provides an eco-friendly, future-ready foundation for modern, clean, green and progressive properties by enabling communication and interaction on a single, unified, ultra-broadband infrastructure.

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

Optimize precious real estate and generate new revenues with a passive optical LAN

Nokia POL infrastructure requires less cabling, fewer racks, LAN switches and patch panels than an Ethernet LAN. This eliminates the need for telecom equipment closets on each floor or at every 100m. As a result, POL enables large savings on capital and operating expenditure. And the floor space freed up by eliminating unnecessary equipment can be sold or leased more profitably.

POL helps developers conform to green building standards by enabling lighter building loads and significantly lower energy consumption and air conditioning requirements. In addition to being eco-friendly, this allows developers to integrate green and clean operations in all developments.

Because of the ease with which fiber can be deployed it is ideal for intelligent buildings as it can connect building management systems and sensors wherever

they are located. This same network approach can be applied easily to Smart Communities that stretch to 20 km in any direction.

A Nokia POL also allows developers to take advantage of new network business models, where local regulations permit. With an ultra-broadband network based on industry standard PON technology, developers can choose to own the network access rights and sell or lease these rights to independent service providers and operators.

Nokia: bringing broadband innovation to real estate developments

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 the guest experience and slash costs. Contact your nearest Nokia partner today.

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

