The Local Area Network (LAN) is the central nervous system of every successful organization. It speeds decision-making, delivers customer service, connects employees and supports all the many systems and business processes used to run a business.

But high-bandwidth applications such as video conferencing, ubiquitous Wi-Fi® and cloud computing are reshaping operating practices in every sector. Faster, more efficient LAN capabilities are needed to support new services, improve productivity, lower costs and build a competitive advantage.

**Optical LAN outperforms traditional LAN**

Optical LAN 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 copper-based LAN in all the key criteria:

- **Capacity.** GPON delivers 2.5 Gbps downstream and 1.2 Gbps upstream on each fiber so you can converge separate networks, eliminate bottlenecks and deliver gigabit speeds to every user
- **Cost.** Optical LAN is both cheaper to install and cheaper to run than a traditional 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

Nokia Optical LAN for enterprises

Enable higher productivity and profitable, sustainable business growth with a powerful LAN solution up to 50% cheaper than traditional LAN
Reduce costs from day one
Optical LAN costs significantly less than a traditional copper-based 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 Optical LAN 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.** Optical LAN 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.** Optical LAN covers 200x more area than traditional LAN, 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 productivity and sustainable business growth with Optical LAN
With Optical LAN delivering 1 Gbps bandwidth to the desktop, every employee is better equipped to process the continuously increasing volume of digital communications and information that must be managed quickly and efficiently every day. It effortlessly supports large files and data-heavy applications such as video conferencing, 3D design and digital image processing.

Optical LAN’s future-proof capacity enables legacy voice, data, security, public address, closed-circuit television and many other services 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.

Optical LAN requires less cabling, fewer racks, LAN switches and patch panels. This eliminates the need for telecom equipment closets

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

<table>
<thead>
<tr>
<th>CAPEX ($)</th>
<th>OPEX ($)</th>
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<td>600,000</td>
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- **Cabling**
- **Electronics**

>50% savings in year 1!

Nokia is bringing broadband innovation to the enterprise
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 Optical LAN solution is designed to help you enhance your productivity and slash costs. Contact your nearest Nokia partner today.