

Nokia Optical LAN for enterprise

Enlighten your LAN with a high-performance connectivity infrastructure that boosts productivity, profitability and sustainability



In today's competitive business environment every dollar counts and doing more with less is vital to business health. Small, medium and large enterprises are constantly searching for more effective ways to improve efficiency and increase productivity to enable sustainable growth. Whether it's a small organization with fewer than 100 employees or a large one with thousands, all businesses rely heavily on communications and information networks to fuel that growth.

Senior managers rely on them to enable a variety of operations and business support functions. Employees expect them to be available at all times to support everything from basic voice interactions to complex multimedia exchanges on a variety of devices. And with energy conservation and savings now an essential part of corporate sustainability and public policy in many countries, these networks must contribute to green energy practices.

But with all the external market uncertainties they face, enterprises should not have to contend with inefficient information and communications networks that disrupt daily business processes. With an integrated, robust, reliable and secure infrastructure, they can be more agile in their response to market demands and the expectations of customers, partners and suppliers.

The Nokia Optical LAN solution provides a future-ready foundation for more efficient, productive and agile business processes by enabling communication and interaction on a high-performance connectivity infrastructure. It allows small, medium and large organizations to manage increasingly complex business interactions and commercial transactions quickly and efficiently. Light on infrastructure, light on energy consumption, and light on total cost of ownership, Optical LAN optimizes the use of technology budgets, reduces operating expenses, and contributes to corporate sustainability goals.

Streamline business processes

The Nokia Optical LAN solution is based on industry standard Passive Optical Network (PON) technology. GPON with 2.5 Gb/s downstream and 1.2 Gb/s upstream and XGS-PON with 10Gb/s downstream and 10Gb/s upstream. It is the network infrastructure technology of the future and of choice for all business organizations — whether for new facilities or upgrades to existing ones — because it is engineered to enable all business processes, communications and transactions with:

- **Industry-leading, ultra-broadband fiber technology** that is available today with enough bandwidth to meet all enterprise user demands as the business grows for years to come
- **One integrated, centrally-managed network** to run all services today — analog voice, RF/Cable-based services, such as security, surveillance and closed-circuit television (CCTV), as well as all IP-based services, emergency public address and communication systems, and more — and ready to support any new service needed tomorrow
- **A one-time investment** in fiber infrastructure — future-ready for 50 years and beyond
- **Large network support** for campuses spread over wide areas up to 40 km
- **Lower capital and operating expenditures**, enabling optimal use of limited funds and resources
- **No forklift upgrade** — unlike traditional copper-based networks, future bandwidth upgrades on a passive optical LAN do not require new cabling or replacement of the central node or switches
- **A completely passive network** between active equipment end points, which provides massive savings in space, power consumption, air-conditioning needs and maintenance thereby supporting green building initiatives and standards
- **A scalable fiber network**, which can be extended easily to new areas and configured to add new services as needed
- **Carrier grade reliability** on a highly secure digital network

Optimize precious real estate and facilities

A centralized, integrated Nokia Optical LAN infrastructure has a smaller footprint because it requires fewer racks, LAN switches, and patch panels compared to conventional LANs (Figure 1). This eliminates the need for telecom equipment closets on each floor or at every 100m, the extra power supplies (mains and UPS) associated with equipment rooms, as well as additional air-conditioning, special cable channels for CAT5/6 cabling (Figure 2) and other support requirements. As a result, it enables large savings on initial capital expenditures, as well as reductions in daily operating expenditures from lower energy consumption and reduced maintenance. The floor space freed up by eliminating unnecessary equipment can be used more productively. And the savings on space rental costs can be better used to grow the business.

Once the passive optical LAN infrastructure is installed — whether for a new network or as part of a network renovation — it will last for generations, ready to support any new service that may come along. The capacity of the infrastructure will be sufficient for years to come, but if higher bandwidth is required in the future, the upgrade will be easy and cost-efficient. There is no need for forklift upgrades. And expansions to new rooms or for new facilities can be made by simply extending the fiber and adding an Optical Network Terminal (ONT) — no major cable runs or additional Ethernet switches/ports are needed.

Figure 1. Go from many distributed network elements to one central configuration

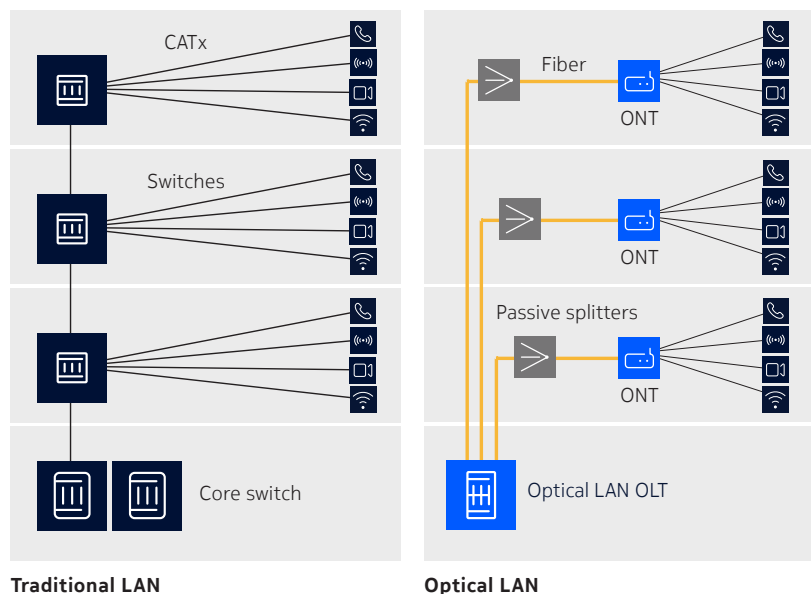
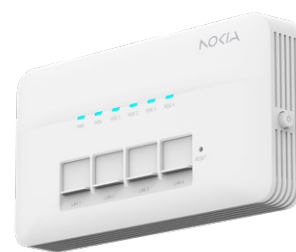


Figure 2. Eliminate bulky cables and reduce cable clutter





Simplify management and maintenance

The Nokia Optical LAN provides substantial savings on management and maintenance costs because all office/department communications and information systems are integrated onto **one infrastructure** that can be managed from **a single, central location**. As a result, fewer IT staff resources are needed to keep the network up and running. Maintenance is also easier because there are fewer active electronics on site.

Support future bandwidth demands

With an Optical LAN capable to deliver 10GB bandwidth to the endpoint, 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. But data handling and processing requirements will continue to increase as enterprises strive to support more complex interactions and transactions enabled by a variety of multimedia devices. And businesses that work with large complex files and processes for architecture, 3D design, animation, digital image processing and many other digital data heavy functions will probably require even more bandwidth in the future.

The Nokia Optical LAN offers 10 GB capacities today and scales easily to support more tomorrow on the same fiber infrastructure, providing all the high bandwidth needed for productive, sustainable growth.

Choose optical networking for upgrades and renovations

Nokia Optical LAN infrastructures are not just for new projects. They are a cost-effective choice for upgrades and renovations to existing facilities. Because optical fiber is more resilient and supports a smaller bend radius compared to other cabling, it can fit in existing ducts and channels easily. It is inherently resistant to signal and noise interference from other sources, so it can be run almost anywhere. Once installed, existing legacy services, such as analog voice, or RF-based services, such as TV, surveillance and

security, can be migrated to the new optical infrastructure easily to enable a single network for all services. And by replacing old equipment with a more cost-effective fiber infrastructure, a passive optical LAN lowers the overall cost of an upgrade or renovation significantly. It sets the stage for substantial cost savings on network operations and maintenance in the future and frees up precious real estate for other uses.

Leverage carrier grade reliability and military grade security

The availability and reliability of an enterprise's operations and business support functions affect daily business processes and play an important part in maintaining its public image and reputation. The Nokia Optical LAN brings carrier grade reliability, integrity and military grade security to enterprise network infrastructures.

The Nokia Optical LAN is the ideal foundation for all enterprise operations and business support functions. The Nokia Optical LAN provides users with robust and reliable ultra-broadband communications access wherever they need it — either on a few floors, or across a sprawling campus — using the same network topology. And it provides a future-ready technology base upon which to enable higher productivity and profitable, sustainable business growth.



Nokia Fixed Networks is the market leader in fixed access technologies, providing fiber and copper ultra-broadband solutions to telecom operators, cable operators, municipal governments and enterprises.

Operating in over 130 countries, Nokia has shipped over 130 million Passive Optical Network (PON) ports to over 250 fiber customers worldwide. We power some of the most advanced fiber networks around the world deployed by leading telecom service providers, as well as municipalities, utilities, hospitals, hotels and resorts. We enable our customers to build a competitive advantage, enhance user experiences and accelerate the move to a digital society.

For more information about how the Nokia Optical LAN can enhance your daily business processes, improve productivity and save costs, contact your nearest Nokia partner.



Nokia 7360 ISAM FX OLT



7368 ISAM ONT U-490XP-P

About Nokia

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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