FIBER TO THE HOME

GIGABIT PASSIVE OPTICAL NETWORK

ABOUT US

For over a decade, Network Manager designs and offers range of products, provides services and delivers integrated solutions to develop and connect networks around the world. The company is a top-notch provider in implementation of IT systems as solutions for Telco.

Following the needs of the market Network Manager offers professional consulting services, designing, installation, integration, system launching, maintenance and educational services.

Hands-on experience possessed by the Network Manager team, (our certified PMs, solution architects, system engineers,) is a guarantee that we approach every project with great enthusiasm and responsibility making sure all the specific requests and needs of our clients are met.

We successfully implemented systems in urban as well as rural areas and communities, and we take special pride in the scalability (Pay as you grow) and interoperability – the ability to integrate equipment of different vendors into our systems.

Our systems support all services (Analog, CATV, Digital CATV, IP TV, Internet, VOIP,) and as such represent a guarantee for competitiveness in the market.

The team of high-skilled engineers and customer-oriented design and sales team have one main focus which reflects in the number of satisfied clients and highly productive systems.

With the idea of providing end-to-end solutions we have expanded our system integration role with proprietary software designed and developed by our R&D team. These inhouse solutions enable full integration of system components and the best network performance in Telcos including GPON, DOCSIS, Interactive TV or other aspects.

In cooperation with our clients, some of the largest regional ISPs, we have designed and delivered GPON access to thousands of households.

High quality equipment powered by proprietary provisioning and network management software - PATRON create reliable and efficient infrastructure.

PATRON

PATRON is proprietary subscriber administration and network monitoring software developed by Network Manager.

PATRON is modular solution which enables software modules to be adjusted according to the needs which makes it cost effective solution for every ISP.

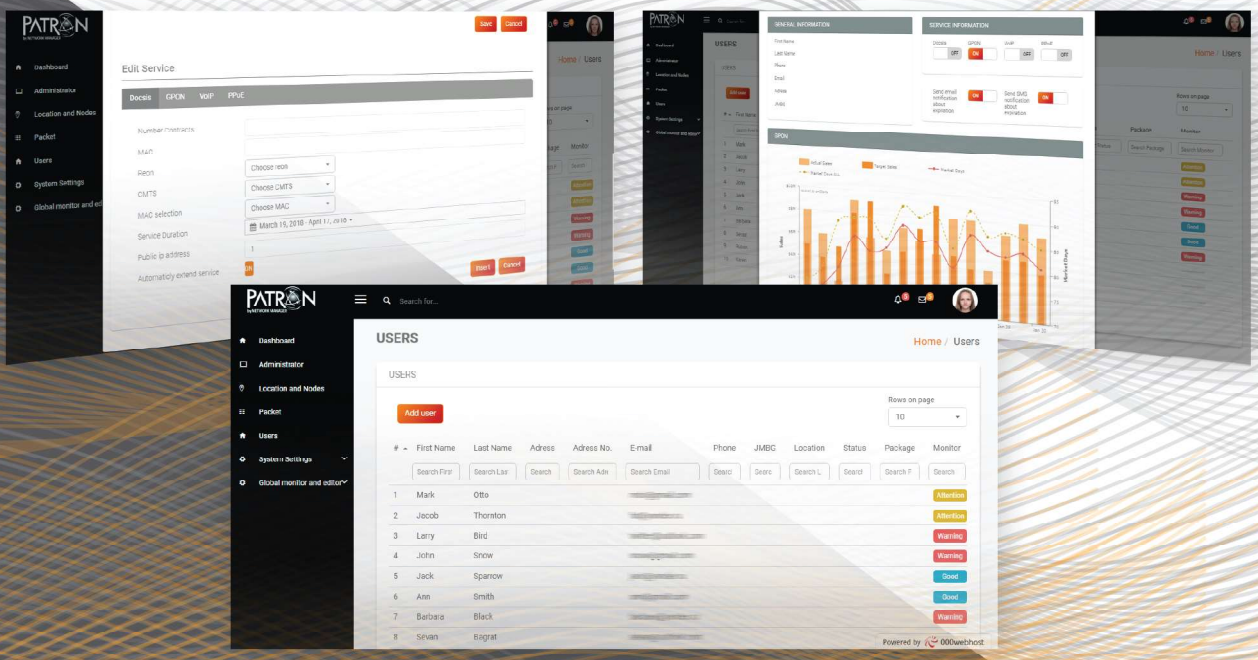
Modules are GPON, DOCSIS, VOIP, PPPoE.

This software, besides subscriber/modem identity verification and registration, performs efficient administration of users, monitor end user device, graphic view, It also simplifies creation of individual and bundled services (analog television, digital television, internet packages, VoIP packages, IPTV, etc.,) and network monitoring (graphic representations of network performances).

GPON module is the last developed product of PATRON software and it enables:

- Allows sreation of profiles in OLT.
- Allows you to create different subscription offers.
- Allows the registration of different ONTs from different manufacturers.
- Automatic provisioning by TR69.
- Automatic ONT configuration
- Built-in DHCP server.
- Remote administration to client ONTs.
- ONT and OLT parameter statistics and monitoring.
- Open communication API for linking billing programs.
- Automatic ONT's shutdown.
- Easily generates your tariff packages to offer your customers.

And much more....

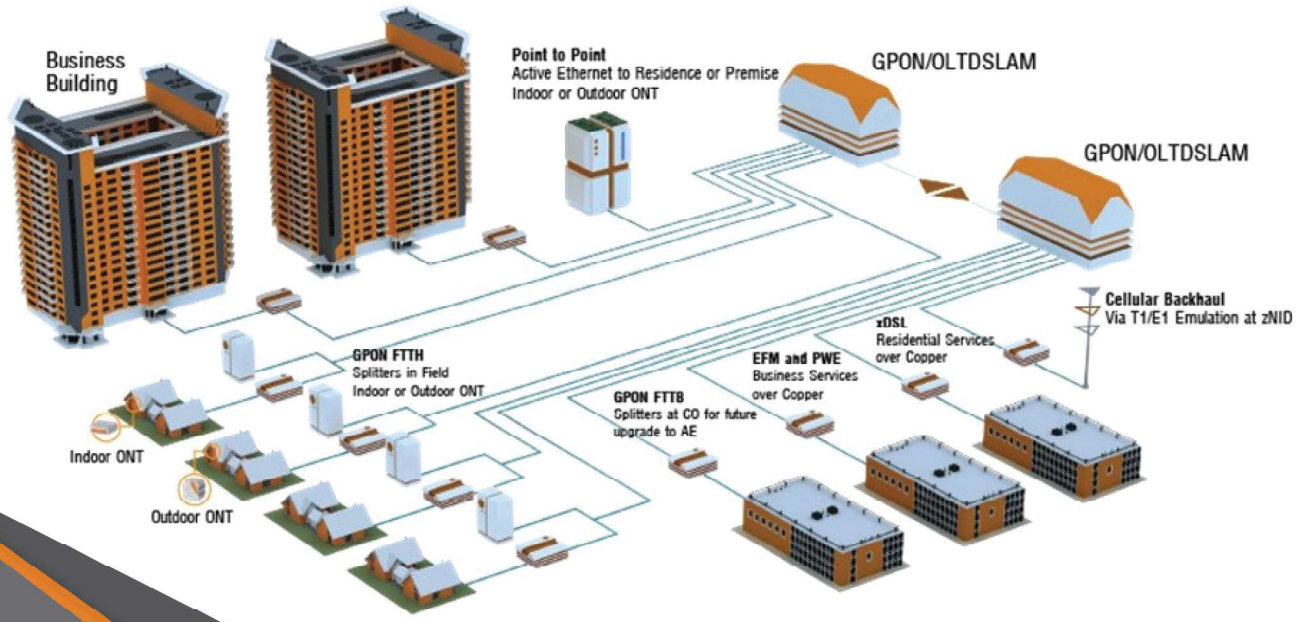


FIBER TO THE HOME

FTTH (Fiber to the Home) is the latest generation of technology providing broadband internet, digital and analog television, IPTV, telephony and other advanced services.

Advantages in comparison with other access technologies are: huge capacities, small amount of data loss and unhindered transmission over great distances. FTTH technology enables subscriberto use only one optical fiber for all services. Available topologies are point to point (P2P) and point to the multipoint (P2M).

Investment into FTTH access technology provides at least 25 years of its use. Significant cost savings can be achieved when implementing a greenfield FTTH network as active components which need constant power supply are left out from the transport network. Maintenance of access network during its use does not require human intervention and overhead costs. Such network is scalable and easily expandable.



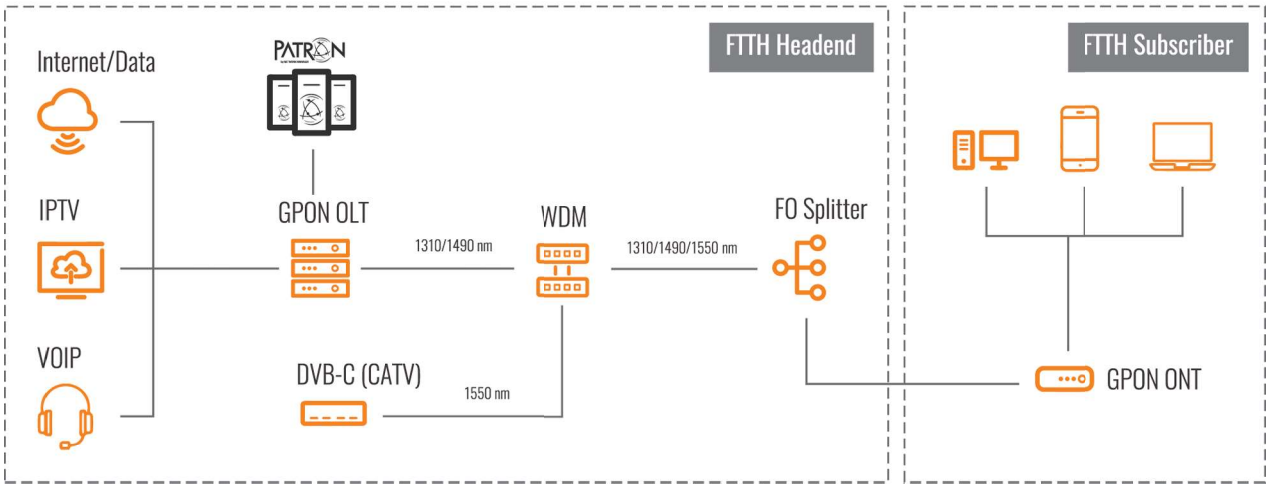
PASSIVE OPTICAL NETWORK

PON (Passive Optical Network) is one of the best solutions for high quality, fast, cost-effectiveand safe broadband multiservice access. PON is based on point to multi point (P2MP) topology. One of the main advantages of PON are passive components, which don't need power supply.

PON consists of optical line terminals (OLT) located in the central office (CO) and optical network terminals (ONT) which is subscriber equipment. PON typically connects a single fiber from an OLT to multiple ONTs. Splitter is connection between OLT and ONT, and represents passive component. The number of the outputs in the splitter determines the number of the splits. The split ratios often contain 1:4, 1:8, 1:16, 1:32,1:64 and 1:128. The maximum distance between subscriberand central location is 20 km.

The next-generation of PON is 10G PON. The feature of 10G PON system is upstream rate 2,5Gbps, downstream rate 10Gbps, and split ratio 256.

FTTH SOLUTION



OPTICAL LINE TERMINAL

During implementation of new access technologies, our company has been working closely with our clients – providers of telecommunication services. Numerous successfully implemented access networks based on GPON and 10GPON technology give us excellent recommendations for installation and commissioning of GPONs and 10GPON.

OLT (Optical Line Terminal) represents endpoint hardware device in a passive optical network (PON). OLT contains a central processing unit (CPU), uplink cards and line cards, with different number of GPON and 10GPON SFP ports. It transmits data to subscribers using a wavelength of 1490 nm for GPON and 1577nm for 10GPON. Using only one fiber optic and one splitter it is possible to send data up to 128 ONTs for GPON, and 25G ONTs for 10GPON.

OLT primary function is to turn electrical signals of voice, data, and video from the transmitting side of the network into optical signals for the receiving side. Another function is to determine on witch ONT should send data. Wide range of models allows high level of scalability regarding the number of service slots.

CUSTOMER-PREMISES EQUIPMENT

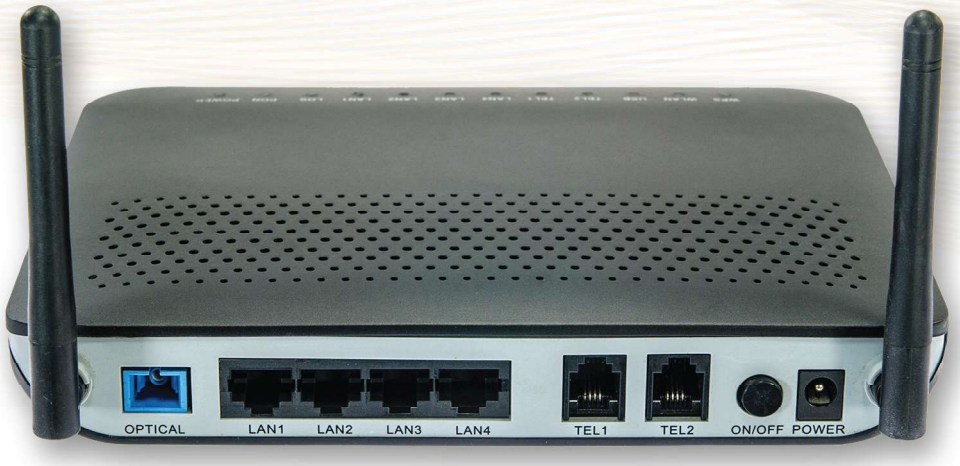
Important element in system implementation is customer-premises equipment (CPE) – ONT devices for termination of optical line on subscriber's side. Devices support all triple-play services (Data, Telephony, IPTV).

The Optical Network Terminal (ONT) converts the optical signal coming through the fiber into separate signals for TV, voice, and data.

Depending on services which should be offered to a client, there are several different models for home or SOHO users:

Data only (1 or 4 GE ports)
Data + POTS (1 or 4 GE ports, 1 or 2 POTS)
Data + POTS + Wi-Fi(1 or 4 GE ports, 1 or 2 POTS).

Solutions implemented by Network Manager company are based on ONT devices compatible with head-end equipment and support full range of features of all types of services.



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