



## Multimedia Optical Network for Digital Services

Maclan offers Ultra High Speed Optical System for providing multimedia services into Apartments, Villas, Commercial Buildings, IT Parks, Hotels, Hospitals and Infrastructure Projects.

A common fiber backbone carries Video, Data, Voice, Security, Surveillance and Home Automation:

### Residential Communities

Multiple services like Voice, Internet with Wi-Fi, Cable TV, Satellite TV, Interactive TV with Gaming, Video Surveillance and Home Automation through multiple service providers over single fibre to every apartment or villa

### Hotels

Voice, Data, Cable TV / Satellite TV, Video Security and Surveillance, Video Conferencing, Wi-Fi and Alarm Systems

### Hospitals

Voice, Data, Video on Demand, Tele-Medicine, Satellite TV, Cable TV, Video Conferencing, Virtual Patient Tour by Doctor

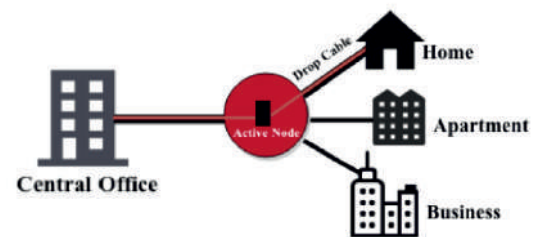
### Campus Networking

Video, Data, Voice, Video Security and Surveillance and Home Automation

### Knowledge Networks

High Bandwidth Connectivity over Fiber for Schools, Colleges, Universities, IT Parks, SGC, Defense and Government Offices

### FTTH: Active Star Architecture



### Our Solution

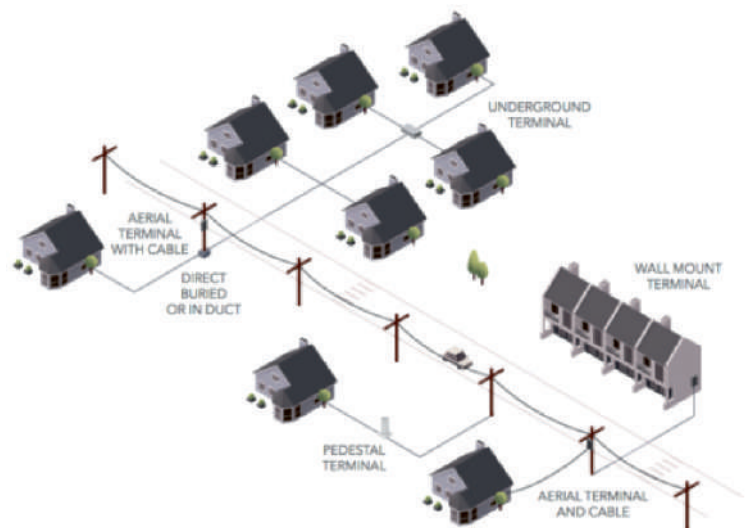
We offer end-to-end Optical Access Products based on Gigabit Ethernet Passive Optical Networks

### Our product family consists of

- Optical Line Terminal (OLT)
- Optical Networking Unit (ONU)

### Our solution includes

- Network Planning
- Fiber Deployment
- Network Maintenance and Support
- Value Added Services



### Fiber to the Home (FTTx) Solutions

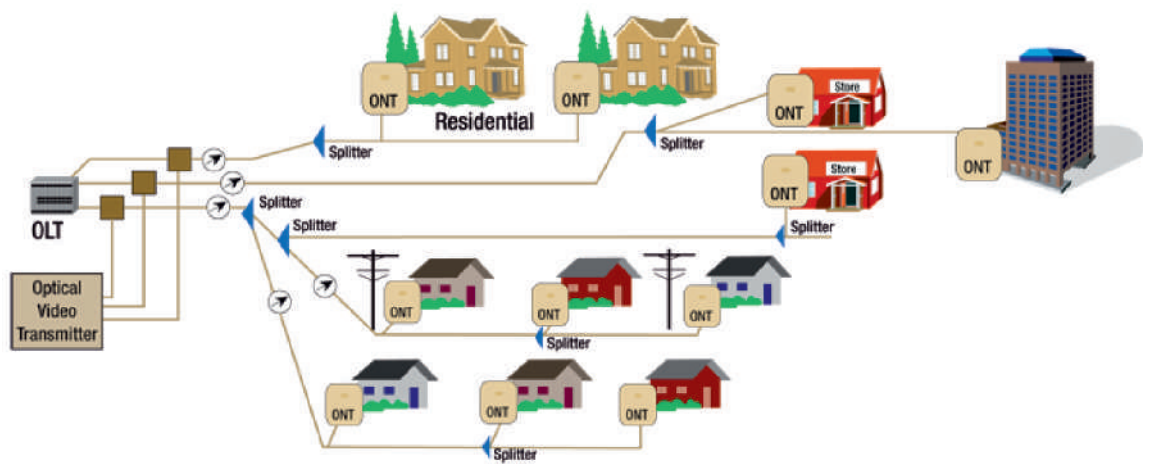
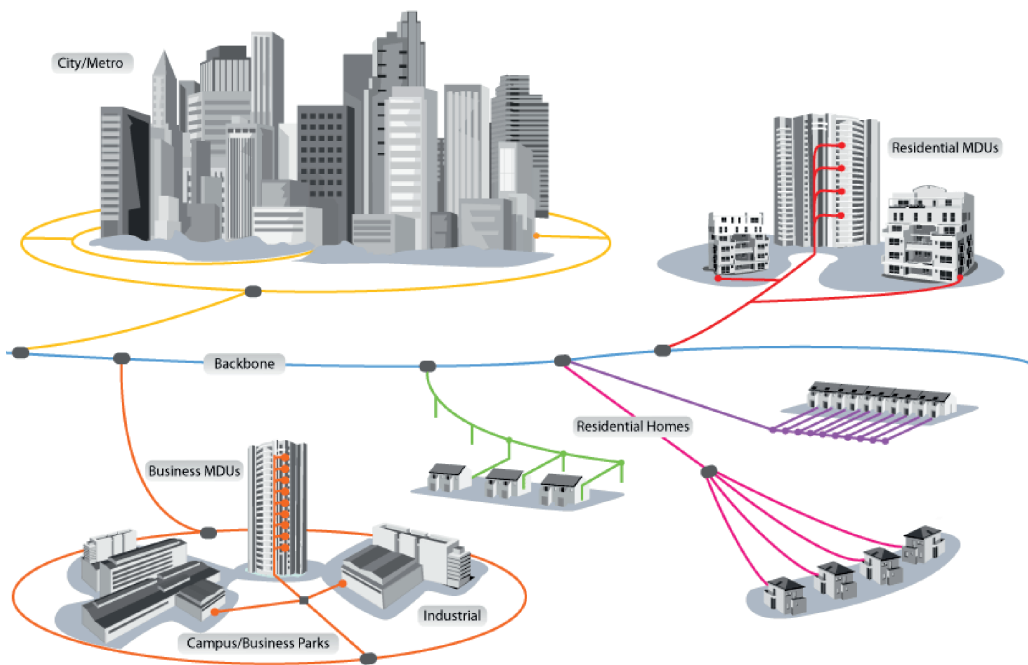
An FTTx network constitutes a fiber-based access network, connecting a large number of end users to a central point known as an access node or point of presence (POP). Each access node will contain the required active transmission equipment used to provide the applications and services over optical fiber to the subscriber. Each access node is served by a larger metropolitan or urban fiber network, which connect all the access nodes throughout a large municipality or region.

### Access networks may connect some of the following:

- Fixed wireless network antenna, for example wireless LAN or WiMAX
- Mobile network base stations
- Subscribers in residential houses, terraces or blocks of flats
- Larger buildings such as schools, hospitals and businesses
- Key security and monitoring structures like surveillance cameras, security alarms and control devices



Sr. No.	Copper & Active Ethernet Network	FTTH Network	Advantages
1.	Copper Network demands separate CAT 5 / 6 cable for Internet in every Home	All the services are integrated in Single Fiber	Copper cost can be reduced
2.	Copper Networks cannot integrate RF (TV / CC TV) signals on same Cable provisioned for Internet or Telephone at Home.		Copper cost can be reduced
3.	For Analog Telephone connection, need separate PCM / Two pair Cable running from Communication Room to Each every Telephone Point in the Homes		Copper cost can be reduced
4.	Need Separate infrastructure Network for Security & Surveillance or CCTV		Copper cost can be reduced
5.	ADSL / Copper network can only Support bandwidths upto 2 to 8 Mbps.	Supports 1, 2.5 10 Gbps & more!	Futuristic technology
6.	ADSL /Copper Network cannot support High Definition Television (HD TV).	HD Ready, as higher bandwidth supported (up to 50 Mbps - 100 Mbps per User)	Fiber optics have practically unlimited bandwidth.
7.	Online Internet gaming cannot be supported on copper networks due to its bandwidth limitations	Fiber does not have limitation on Bandwidth.	Higher Bandwidth are possible only on Optical Fibers
8.	In ADSL/ Copper Network dedicated EPABX is required for community Voice Connectivity and Intercom.	Voice is integrated in the Optical Line Terminal or Head end equipment, With SIP application server, we can provide feature rich free intercom to residential apartments, clubhouse & common area at free of cost irrespective of service provider.	High capacity Intercom with voicemail, video intercom calls, Skype & other futuristic services available. Easy to upgrade with interoperability with future service providers available.
9.	IP TV is not supported on Copper network	IPTV easily supported on FTTH	Higher Bandwidth are possible only on Optical Fibers.
10.	The copper networks demand amplifiers to drive signals to support longer distances.	FTTH supports up to 20Kms from Head end to End Device (CPE - Customer premises equipment)	Widespread reach possible.
11.	Electro Magnetic Conductions such as Lightning can destroy electronic components in the Home	FTTH is Passive optical network technology; no Electrical signals are carried in the optical network.	FTTH on GEPON (Gigabit Ethernet Passive Optical Network) is Green Technology.
12.	Video / CATV / DTH cannot be integrated on the Same Network	CATV & DTH are integrated in the same Network	No extra Network Setup is required.
13.	For every 60 Meter of Cable length the copper network requires Active components like Switches & power supply / power boosters to sustain the power lose.	FTTH can support up to 20Kms from Head end equipment without any powered elements in between	the Active components in the VERAPON architecture are Head end equipment & ONU (Optical Network Unit/ Customer premises)
14.	Power consumption levels are high and also conducts electric magnetic signal through the Copper cables	Green Technology, only Head end & Customer premises equipment need the Power supply	Less power consumptions
15.	Video conferencing requires separate network for community meeting	Video conferencing ready	Single vendor maintains all the services
16.	High Maintenance on configuration	Low maintenance as all are centrally configurable & managed devices.	Better customer experience & always available services.



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