Telecom and Broadband Networking Solutions for Connected Infrastructures
Powering High-Capacity Networks with Reliable, Scalable Connectivity

BUILDING THE FUTURE OF CONNECTED BROADBAND

Telecommunications and broadband service providers rely on fast, dependable networks to deliver high-speed internet, cloud services, fiber-to-the-x (FTTx) deployments, and bandwidth-intensive streaming services—often across large service areas with limited fiber resources. At the same time, network operators must manage increased data growth, AI-driven traffic, strict uptime requirements, and budget constraints while scaling infrastructure without service disruption.

As data demands continue to grow, telecom and broadband providers require networking solutions that deliver:

- **Flexible Scalability –** Adapt quickly to rising bandwidth demands, network growth, and edge computing without significant infrastructure overhaul.
- **Consistent Performance –** Reduce downtime and improve service quality across access, aggregation, metro, and core networks.
- **Future-Proof Investment –** Simplify network growth and management, ensure multi-vendor interoperability, and reduce long-term costs as service offerings evolve.

WHY TELECOM AND BROADBAND PROVIDERS CHOOSE APPROVED NETWORKS

Approved Networks, a brand of Legrand, delivers high-performance optical networking solutions trusted by telecom and broadband providers to scale bandwidth and extend network reach—at a fraction of OEM cost. Supported by dedicated Engineering and Design teams, Approved Networks help ensure network uptime while delivering tailored solutions for every deployment.

Telecom and broadband providers benefit from solutions that deliver:

- **Network Dependability –** Infrastructure designed for always-on service delivery and high-availability transport workloads.
- **Adaptability for Growth –** Future-ready fiber optics that support network expansion, increased bandwidth, and AI traffic growth.
- **Engineering Expertise –** Backed by Legrand, Approved Networks invests heavily in R&D to continuously advance fiber-optic technologies to keep service providers ahead of evolving digital data demands.

Popular Products

800G Transceivers

400G Transceivers

100G Transceivers

Passive WDM Filters

 Multi-OEM Compatibility
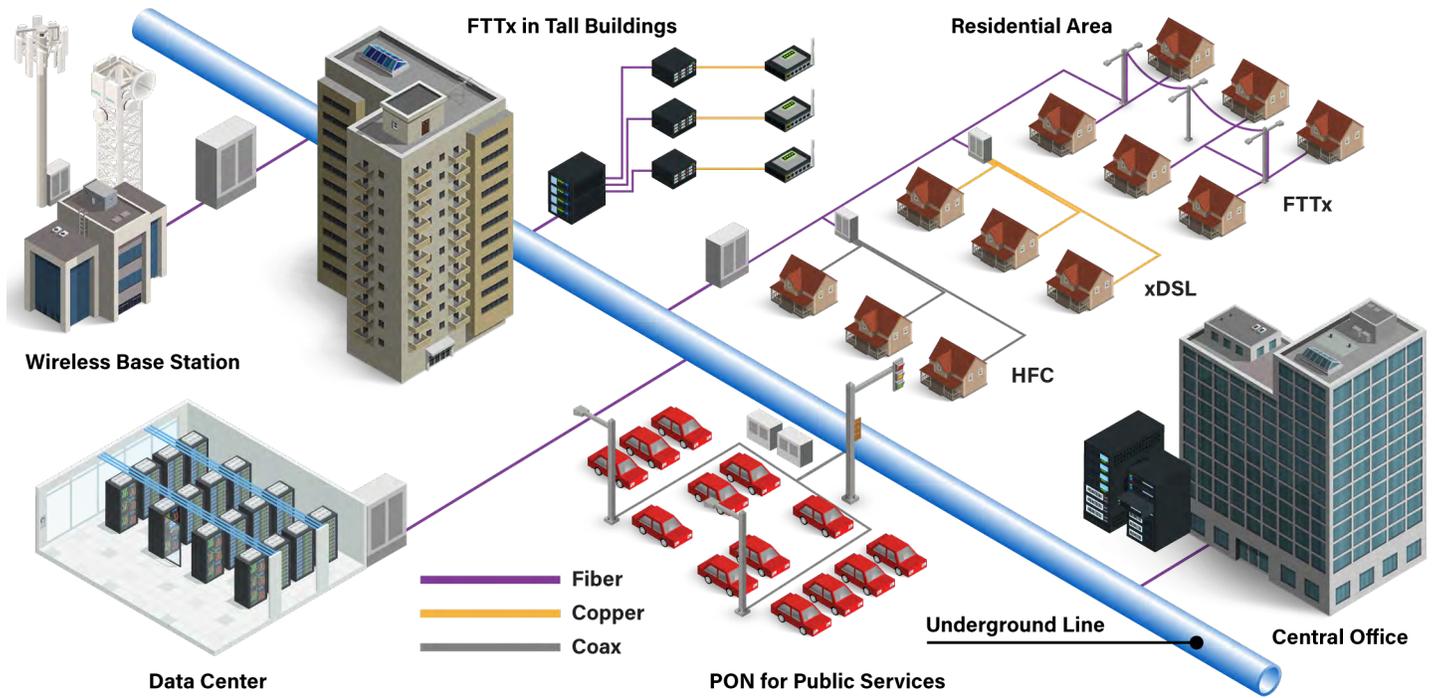
 Tailored Solutions

 Expert Technical Support

 Budget-Friendly Solutions

TELECOM AND BROADBAND NETWORK ARCHITECTURE OVERVIEW

Telecom and broadband networks support massive data volumes and latency-sensitive applications, requiring an infrastructure that delivers reliability, scalability, and high availability at every network layer. Approved Networks solutions impact every layer of the network topology, whether connecting distributed access nodes and mobile network sites or upgrading metro and core data centers with high-speed interconnects.

FTTx in Tall Buildings

Residential Area

FTTx

Wireless Base Station

xDSL

HFC

—— Fiber
—— Copper
—— Coax

Underground Line

Central Office

Data Center

PON for Public Services

RECOMMENDED FIBER OPTICS FOR NETWORK INFRASTRUCTURE

Approved Networks offers a comprehensive portfolio of transceivers, high-speed cables, and passives—optimized for secure data transmission, long-distance reach, and fiber-efficient network deployments.

Fiber Optic	Max Distance	Typical Use
10G SFP+ LR Transceiver	10km (SMF)	Access aggregation, enterprise handoff, small-cell backhaul
10G SFP+ BiDi Transceiver	80km (SMF)	Last-mile deployments
10G CWDM/DWDM	80km (SMF)	FTTx backhaul, metro networks, wavelength expansion, fiber capacity scaling
25G SFP28 LR Transceiver	10km (SMF)	5G fronthaul, access-to-aggregation links
100GB QSFP28 DWDM O-Band Transceiver	25km (SMF)	Access-to-metro aggregation, optical line terminal (OLT) uplinks, metro access ring transport
100G QSFP28 ER Transceiver	40km (SMF)	Long-haul metro networks, regional fiber rings, DCI
100G QSFP28 ZR DCO Transceiver	80km (SMF)	Reconfigurable Optical Add-Drop Multiplexers (ROADMS), coherent metro transport, point-to-point DCI
400G QSFP-DD ZR/ZR+ Transceiver	600km (SMF)	Long-haul, DCI, backbone, metro and last-mile applications
800G OSFP DR8 Transceiver	10km (SMF)	AI cluster interconnects, metro core expansion, backbone upgrades

POWER YOUR TELECOM AND BROADBAND NETWORKS WITH HIGH-SPEED CONNECTIVITY
Contact our experts to design and deploy a scalable, fiber-efficient network infrastructure.

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