Current directives are clear: installations must aggressively begin upgrading to passive optical networks (PONs). The rationale is also clear: PON provides greater bandwidth, capacity, security and savings. It also provides the opportunity for you and your network to advance.

As a leader in the design and deployment of gigabit PON (GPON) and Ethernet PON (EPON) solutions, CommScope is uniquely positioned to help you leverage the power of PON. Our experience in both public and private sectors gives us a clear perspective of the challenges you face in maintaining security, controlling costs and improving network performance. We know what you’re up against — and we can help.

Our standards-based EPON solutions connect you in ways you never thought possible, delivering benefits that go beyond command directive compliance to exceed your expectations.

Ensure the security today’s federal facilities demand

Post 9/11, information security is a top priority. EPON solutions from CommScope feature built-in safeguards to ensure network security on multiple levels.

- Uses AES 128 encryption
- Identifies and quarantines rogue ONUs
- Provides MAC-filtering to blacklist and whitelist any end-user device
- Features configurable system alarms for physical security
- Integrates with alarmed and hardened carrier equipment and other third-party security systems
- Impossible for users to access system management from ONUs
Take your PON performance to the next level

The CommScope EPON solution:

• Enables reuse of any existing distribution layer switches with small form-factor pluggable (SFP) devices
• Complies with 802.3av for easy migration to 10G and beyond
• Deploys as a stand-alone solution or integrates into an existing Ethernet network
• Delivers high-level security with protected and sophisticated system management
• Scales to accommodate individual user groups on a single floor or an entire installation with multiple facilities
• Supports protected distribution system (PDS) deployments, both hardened and alarmed carrier solutions

CommScope EPON is a highly flexible, secure and cost-efficient fiber-to-the-user solution with the increased bandwidth and capacity you need. Developed on the IEEE 802.3ah standard, it uses Ethernet data frames to deliver voice, video and data over a single optic fiber. Using passive splitters instead of powered switches, it decreases OpEx and CapEx while reducing power and cooling requirements. But increased savings and energy efficiency are just the beginning.

The CommScope EPON portfolio EPON solutions from CommScope include a full line of optical line terminals (OLTs) and optical network units (ONUs). Unlike other PON providers, however, we also engineer and supply all passive components — splitters, fiber and cabinets — as well as the power sources required to implement a complete, end-to-end PON solution.
Optical line terminals (OLTs)

CommScope EPON OLTs provide high throughput and capacity in a chassis that is easy to deploy and maintain. With both 1GE and 10GE capabilities, CommScope EPON OLTs give you more than enough bandwidth for today and an open migration path to tomorrow’s higher capacity applications.

- Scalable up to 98,304 end-users or devices
- Redundant and non-redundant designs
- Provides 1GE and 10GE uplink with link aggregation
- Single access point for provisioning, operation and management
- Supports IEEE 1588v1/v2 and synchronous Ethernet for precise timing and synchronization

Large-scale OLT

CommScope C9264 high-capacity OLT enables you to deploy a secure, effective PON solution across very large installations, such as an entire base or post. One 64-port, high-capacity OLT can serve from 1 to 98,304 end-users or devices. Each 8-RU, rack-mounted chassis provides a 960Gbps, 10GE next-generation platform for easy migration. It also supports IEEE 1588v1/v2 as well as synchronous Ethernet for precise timing and synchronization.

Smaller-scale OLT

Our C9016 smaller-capacity OLT is ideal for deployment within a single building or floor, or across smaller user groups. The compact 2-RU chassis has 16 PON ports enabling it to serve from 1 to 24,576 end-users or devices. The smaller-scale OLT features 16 x 1G EPON capacity with 2 x 10GE plus 4 x 1GE (24GBps total) uplink interfaces.
Optical network units (ONUs)

Available as single-user and multi-user units, CommScope EPON ONUs can be deployed directly on the desktop or from the equipment closet. Additionally, our SFP ONUs enable you to reuse any of your SFP-enabled devices. The ONUs feature an assortment of Ethernet, Power over Ethernet (PoE), voice ports and Wi-Fi capabilities for the connectivity your personnel need.

**Single-user ONU**

CommScope EPON single-user ONU provides low-cost point-to-point connectivity that delivers true triple-play service to the desktop. The desktop model uses IEEE 802.3ah EPON technology and features four logical link identifiers (LLID). It also provides dying gasp and loopback test support for easy and accurate fault diagnostics.

**Multi-user ONU**

Our multi-user ONU supports up to 24 end-users or devices. The 1-RU unit features 24FE, 24GE or 24GE/PoE ports and two uplink ports for optional redundancy. The CommScope multi-user ONU is also compatible with category 5 and 6 Ethernet distribution networks, so you can upgrade to PON without replacing your existing structured cabling.

**SFP ONU**

CommScope EPON SFP ONU allows you to greatly expand your deployment options, as it lets you reuse existing system components like switches and routers to extend the value of your current investment. SFP ONUs also support hybrid PON/Ethernet deployment for easy transition between each solution.
System management

CommScope EPON solutions integrate seamlessly into your management architecture. They can be managed from an external command line interface (CLI), through a simple network management protocol (SNMP) or via a dedicated graphic user interface (GUI). All management options give you complete control over your PON network.

Passive components, power sources and enclosures

As a true single-source provider, CommScope has everything you need to implement a complete PON solution. We provide passive components like splitters, taps and fiber for your optical distribution network (ODN). Our OLT power solutions are available with or without battery backup and are compatible with AC and DC sources.

CommScope EPON solutions also feature a full range of energy-efficient enclosures, including specifically designed splitter cabinets and consolidation points. Our above and below-ground splice closures provide low-loss protection for any outside plant application. All passive components, power sources and cabinets are engineered and tested by CommScope to exacting industry standards.
Your entire PON solution—engineered and implemented by one trusted partner

More than 35 years of network connectivity success and a global network of resources make CommScope uniquely qualified to help plan and execute your transition to PON. In addition to our in-house capabilities, we provide access to a wide range of vetted third-party products and services through our global PartnerPRO™ Network affiliate program.

Maximum design flexibility and deployment options

Every project begins with a thorough understanding of your current workplace environment, network objectives and plans for future growth. To that, we add our own PON expertise and the insight of our partners. The result is a design that can help you satisfy your current needs and create a path for cost-effective growth.

Active and passive network components are designed with flexibility in mind for deployment in a variety of ways. For example, CommScope EPON splitters can be configured as an administration point and used for in-floor or above-ceiling installation. Our multi-user ONU can connect to your Ethernet or fiber optical distribution network (ODN). Each OLT and ONU has built-in 10GE capabilities for easy migration to tomorrow’s technology.

Design creativity and component adaptability enable CommScope to engineer and successfully deploy a PON solution for virtually any type of environment, from large decentralized installations to individual buildings, floors or user groups.
One capable partner—many practical benefits

CommScope offers the performance, savings and convenience of a single-source provider. We engineer and test all PON components, passive and active, to ensure seamless interoperability, maximum performance and minimum signal loss. But superior system performance is only the beginning.

One solutions provider means complete accountability and easier project management. By reducing initial installation costs, we can help lower your CapEx. CommScope also helps decrease OpEx by improving system uptime and minimizing inventory management costs.

• Ongoing training and multi-tiered technical support help reduce maintenance cost
• Diverse distribution channel ensures timely delivery of parts
• Global presence provides full support for your overseas installations and offices
The CommScope PON solution and your network

**Products**
- Scalable OLTs
  - Large – up to 4,096 ONU’s per chassis
  - Small – up to 1,024 ONU’s per chassis
- EMS (Element Management System)

**Services**
- Carrier-class architecture
- 1GEPON and 10GEPON
- Non-blocking NNI capacity
- Full redundancy

Internet
Satellite

*OQVU
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Tap
1:n
1:n
Optical Tap

Centralized Split
Distributed Split
Distributed Tap

Input
Products
- Single-Port ONUs
- Multi-port ONUs
- ONUs with Ethernet, WiFi, Voice ports
- Battery Backup

Services
- Internet access up to 1Gbps
- IP video
- RF video overlay compatible
- Voice
- Wireless (WiFi) Integrated
- Data rates tailored to customer service levels

Products
- MDU ONUs with up to 24 ports
- 24-Port ONUs with PoE
- FTTDesktop ONUs, 1 and 4-port
- SFP ONUs
- Battery Backup

Services
- SLA-quality and support
- Up to 1Gbps at any Ethernet port
- Multiple layers of security
- Voice, Data, Video
- Wireless backhaul