

Cisco Catalyst PON Series

Cisco Catalyst® PON Series switches make refreshing your passive optical networks easy. With enterprise-grade features like power and uplink redundancy, Power over Ethernet (PoE+), and a sensitivity on cost and ease of operations, the Cisco Catalyst PON Series gives you what you need today with the confidence that your investment is protected with future innovations to come.

A fresh look at GPON

Passive optical networks have been a staple for service providers worldwide but have primarily focused on fiber to the home and metro Ethernet residential deployments. A number of different deployment scenarios have emerged that effectively leverage many of the strengths of the PON topology.

- **Hospitality/healthcare**
 - **Deliver end users predictable and stable connectivity**
 - **Offer data, voice, and video with the same infrastructure**
 - **Point-to-multipoint distribution network for scale**
 - **Simple and stable deployment in spread-out areas**
- **Public sector**
 - **Offer critical service and security dependencies to make sure the services are performing without any attack**
 - **Offer data, voice, and video with the same infrastructure**
 - **Simple and stable deployment in spread-out areas**

Benefits

- **Lower TCO**
 - 37.3% lower than traditional copper-based LAN networks*
 - Optical fiber cable distances up to 20km
 - Lower cabling costs, fewer cable trays required
- **Decreased power consumption/cooling costs**
 - Passive nature of the intermediate splitter eliminates the need for power and cooling
- **Multipoint connectivity**
 - GPON provides flexibility of multiple connectivity options, including Ethernet, phone, video, wireless access point, and various controls

*Source: IBM Smarter Networks Passive Optical LAN White Paper

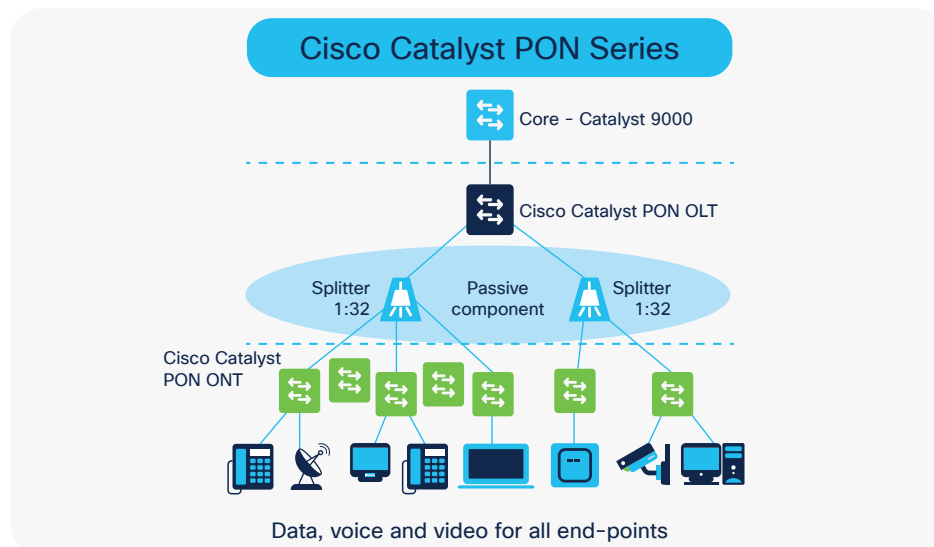
- **Commercial buildings**
 - **Highly available network infrastructure with energy efficiency and space savings**
 - **Cope with constantly changing environments without rewiring or additional investment**

Components of a Cisco Catalyst PON topology

Like traditional topologies, at the core of the Cisco PON network should be the industry-leading Cisco Catalyst 9000 switches. Connecting to the core is the Cisco Catalyst PON Series, which provides switching at the active ends of the PON distribution network, specifically the network-facing Optical Line Terminals (OLTs) and user-facing Optical Network Terminals (ONTs).

The Cisco Catalyst PON Series includes 8- and 16-port OLT options, and five ONT models that include options for data, video, voice, CATV, PoE+, and Wi-Fi.

Figure 1. Cisco Catalyst PON topology



Cisco Catalyst PON Series Optical Line Terminals

Connecting to the core of the network are the standards-based, compact, high-density network optical aggregation devices called Cisco Catalyst PON Series Optical Line Terminals (OLTs). There are two OLT models, 8 port (CGP-OLT-8T) and 16 port (CGP-OLT-16T). Both include redundant power options redundant 1G (SFP or copper) or 10G (SFP+) uplinks and are managed by the Cisco Catalyst PON Manager network management system.

Figure 2. Cisco Catalyst PON 8-port OLT switch



Figure 3. Cisco Catalyst PON 16-port OLT switch



Cisco services

Confidently move to a secure, automated PON network with expert guidance, proven experience, best practices, and innovative tools. [View our services.](#)

Next steps

Ready to deliver better network experiences to customers and employees while simplifying network operations? Get the cost savings and reliability you need with Cisco Catalyst PON Series switches. For additional information, visit www.cisco.com/go/catpon.

Our experts recommend

- [Cisco Catalyst PON Series Switches Data Sheet](#)
- [Cisco Catalyst PON Series Switches FAQ](#)

Cisco Catalyst PON Series Optical Network Terminals

At the optical edge are the small Cisco Catalyst PON Series Optical Network Terminals (ONTs) that provide access options to connect to high-speed Internet, Wi-Fi, video, POTS, CCTV, and CATV.

There are five ONT models providing a wide range of 1GE fanless deployment options, including data, POTS, CATV and Wi-Fi. All are managed by the Cisco Catalyst PON Manager.

- 1x 1G PoE+ (CGP-ONT-1P)*
- 4x1G PoE+ (CGP-ONT-4P)
- 4x1G PoE+, 2xPOTS (CGP-ONT-4PV)
- 4x1G PoE+, 2xPOTS, 1xCATV (CGP-ONT-4PVC)
- 4x1G, 2xPOTS, 1xCATV, 2.4GHz/5GHz Wi-Fi (CGP-ONT-4TVCW)*

*Available Q1, 2021



CGP-ONT-1P*



CGP-ONT-4PVC
CGP-ONT-4PV
CGP-ONT-4P



CGP-ONT-4TVCW*

Monitor and troubleshoot your networks

With Cisco Catalyst PON Manager, you can manage all your Cisco Catalyst PON Series switches using an embedded GUI-based device management tool that provides the ability to provision devices and simplify device deployment and manageability. Cisco Catalyst PON Manager supports alarm, performance, data configuration and delivery, security, log, terminal management, and software batch upgrade functions.