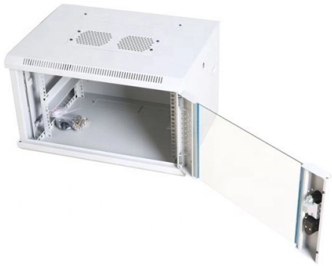
GPON device interface types



Overview

A typical GPON OLT device comprises the following components: PON Ports: Optical interfaces on service line cards. Using optical modules, they connect to the trunk fiber, directly "facing" the subscriber-side network. GPON replaces the traditional three-tier Ethernet design with a two-tier optic network which eliminates access and distribution Ethernet switches with passive optical devices. Cisco introduces GPON with the Catalyst GPON platform. Central to the GPON system is the Optical Line Terminal (OLT), the core device responsible for aggregating data streams, managing Optical Network Terminal/Unit (ONT/ONU) devices, and performing application distribution and network management. Some ONUs implement a separate subscriber unit to provide services such as telephony, Ethernet data, or video.

Article Content

Passive optical network

In practice, PONs are typically used for the last mile between Internet service providers (ISP) and their customers. In this use, a PON has a point-to-multipoint topology in which an ISP uses a single

SFP with PON MAC and w/o PON MAC

PON technologies, unlike Ethernet, are not P2P but one-to-many with two device types: ONU (Optical Network Unit)/ONT (Optical Network Terminal) and OLT

The Comprehensive Guide to PON Architecture: Mastering OLT,

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved

Comprehensive guide to Passive Optical Networks (PON), covering OLT, ODN, ONU/ONT, GPON/XGS-PON/NG-PON2 standards, deployment strategies, and FTTH network

GPON hardware: your questions answered

All about our OLTs Our plug-and-play OLTs (Optical Line Terminal) are high-performing, active Ethernet aggregation devices that serve endpoint for passive optical networks. OLTs need for multiple layer 2

Getting Started With OLT Network Configuration, Cisco Catalyst PON ...

A Gigabit passive optical network (GPON) topology consists of an optical line termination (OLT) device that is connected to multiple optical network terminals (ONTs) through an optical splitter.

GPON ONU/ONT and OLT: PON Architecture | Elfcam

An ONT (Optical Network Terminal) is a GPON device directly connected to the subscriber''s final equipment — generally a single Ethernet interface to the box. An ONU (Optical

Overview of GPON Fiber Network Architecture

In fiber to the desktop (FTTD) application, GPON is distributed via single-mode, simplex optical fiber connectors, and passive optical splitter typically using angled polish connectors (APC) to provide

GPON Technology Tutorial

GPON (Gigabit Passive Optical Network) technology is based on the latest generation of broadband passive optical integrated access standards based on the ITU-TG.984.x standard. It has

GPON Technology Tutorial: A Beginner''s Guide (2026)

The user''s interface with GPON, the Optical Network Terminal (ONT), functions as a specialized modem. It transforms optical signals into electrical ones at the user''s premises, granting

System Management Configuration, Cisco Catalyst PON Series

About GPON System Parameters How to Configure GPON System Parameters Configuration Examples for GPON System Parameters About GPON System Parameters The PON

What is GPON ONU(ONT) and GPON OLT?

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved

1. What is GPON ONU (ONT)? A GPON ONU, commonly called an ONT (Optical Network Terminal), is the device installed at the user''s premises. It serves as the final access point of

What is GPON and How Does it Work?

GPON (Gigabit Passive Optical Network) is a next-generation PON standard used to deliver broadband access to homes and businesses. It consists of OLT (Optical Line Terminals), ONU (Optical Network

GPON: What Is It & How Does It Work? Here''s All You

GPON Vs EPON: Key Differences As we''ve established, Gigabyte networks are vastly superior to older or less advanced connection types. However, GPON is

Understand GPON Technology

GPON is an alternative to Ethernet switching in campus networking. GPON replaces the traditional three-tier Ethernet design with a two-tier optic network which eliminates access and distribution

A Comprehensive Guide to GPON and EPON Technologies in PON

Types of Passive Optical Networks: GPON vs. EPON The PON standard encompasses two primary architectures: Gigabit PON (GPON) and Ethernet PON (EPON). GPON, conforming to

Cisco Catalyst PON Series Switches Hardware Installation Guide

A passive optical network (PON) or Gigabit Passive Optical Network (GPON) is a point-to-multipoint (P2MP) network that uses a combination of active transmission equipments and

GPON hardware: your questions answered

How does GPON work? Here''s an infographic of GPON technology at work: single line of into a splitter. The splitter contains glass elements that act as a prism to divide (or split) the optical light into

What is GPON? Complete Guide to Gigabit Fiber Networks

Learn GPON technology basics, how it works, advantages vs EPON, and future PON trends. Complete guide to Gigabit-capable Passive Optical Networks.

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved

Additional source notes

The standard specifies transmission convergence layer, physical layer requirements, management protocols, and service encapsulation for high-speed fiber access networks.
GPON puts requirements on the optical medium and the hardware used to access it, and defines the manner in which Ethernet frames are converted to an optical signal, as well as the parameters of that signal. The bandwidth of the single connection between the (OLT) and the

Contact Us

Continue your research online:

Website: https://kenhardtprimary.co.za
Technical inquiry: https://kenhardtprimary.co.za/project-desk.html
African project coordination: Century City, Cape Town, Western Cape, South Africa

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved