

What are the two types of passive optical networks



Summary of Content

The two most common types of passive optical networks are GPON (Gigabit PON) and EPON (Ethernet PON).

Overview of GPON and EPON

GPON (Gigabit Passive Optical Network) is standardized by the ITU-T and widely deployed for broadband access. It supports downstream speeds up to 2.5 Gbps and upstream speeds up to 1.25 Gbps, using Time-Division Multiplexing (TDM) to efficiently allocate bandwidth among multiple subscribers. GPON can carry multiple services such as internet, IPTV, and VoIP over a single fiber infrastructure, making it ideal for residential and multi-dwelling unit deployments. EPON (Ethernet Passive Optical Network), standardized by the IEEE, uses Ethernet frames for data transmission and typically provides symmetrical bandwidth, making it simpler to integrate with existing Ethernet networks. EPON is often preferred in enterprise or business environments due to its compatibility with Ethernet-based infrastructure and ease of management.

Key Differences

Feature	GPON	EPON
Standard	ITU-T G.984 series	IEEE 802.3ah
Downstream Speed	Up to 2.5 Gbps	Typically 1 Gbps (10G-EPON variants available)
Upstream Speed	Up to 1.25 Gbps	Typically 1 Gbps (10G-EPON variants available)
Protocol	TDM with GEM/ATM encapsulation	Ethernet frames
Service Support	Triple-play (voice, video, data)	Ethernet-based services
Deployment	Residential, FTTH, multi-dwelling units	Enterprise, business, and residential

Article Content

Passive Optical Networks: An intro to xPON

What is a Passive Optical Network? A Passive Optical Network (PON) is a fiber-optic network that uses passive

Understanding Passive and Active Optical Networks: Key Differences

In the realm of optical networking, the terms Passive Optical Networks (PON) and Active Optical Networks (AON) are

The Definitive Guide to Passive Optical Network (PON): Architecture ...

1. Introduction: Unpacking the "Passive" Revolution in Network Connectivity Passive Optical Network (PON) stands as

What's the difference between passive (PON) and active (AON) optical ...

The two methods are called Active Optical Networks (AON) or Passive Optical Networks (PON), and in both case the split into

Comparison of active and passive optical access networks

Active and passive optical networks are compared. Based on a reference model that covers AON and PON as well as

PON Architecture and Components

This chapter offers introductions to the three standard PON types and their 10G extensions: broadband passive optical

(PDF) Passive Optical Networks

Passive Optical Networks a broadband network access using the fiber-optics telecommunication technology and is a point-to

What are the different types of PON (Passive Optical Networks

This article explores the various types of PON (Passive Optical Networks), how they differ, and what they are used for.

The Definitive Guide to Passive Optical Network (PON): Architecture ...

The global PON market is primarily defined by two competing, yet fundamentally similar, standards: Gigabit Passive

Exploring the Advantages of Passive Optical Networks

Discover the transformative power of Passive Optical Networks (PON) in delivering high-speed internet and

Passive Optical Network (PON) | Lightwave Online

Learn all about passive optical networks including the different types of PON, the various applications, benefits, PON architecture,

Comparison Between Active and Passive Optical Network

And there are two basic paths of FTTH networks: active optical network (AON) and passive optical network (PON).

Introduction to Passive Optical Network

The network path between the terminals is known as Optical Device Network (ODN), which comprises passive optical components,

PON for Dummies: Understanding Passive Optical Networks

A passive optical network (PON) is a point-to-multipoint fiber network architecture that uses optical splitters to deliver high-bandwidth

What is Passive Optical Network (PON)?

PON(Passive Optical Network) is a network transmitting data from a central location to multiple ends over optic fiber.

What Is Passive Optical Networking (PON)? GPON vs. EPON

What Is PON? Passive Optical Network (PON) is a point-to-multipoint optical access technology. It uses only optical

What are the Different Types of Passive Optical Networks (PONs)?

From GPON and EPON to advanced technologies like XGS-PON and NG-PON2, each type offers unique benefits tailored to specific

The Difference Between Active and Passive Optical Networks

An optical network can either be an active optical network or a passive optical network, depending on the type and

Passive optical local area network (LAN) | White paper | EXFO

Market trends around passive optical LAN LAN is short for “local area network” and has its roots in fiber to the home (FTTH) network

Introduction to Passive Optical Network

PON transmits Ethernet, Asynchronous Transfer Mode (ATM), and Time Division Multiplexing (TDM) traffic. It consists of mainly two

What is Passive Optical Network (PON) and GPON□How does It Work?

Passive Optical Network (PON) technology delivers high-speed, reliable, and cost-effective broadband access. Among

What is PON? Passive Optical Networks Explained

Summary: What is PON and why should you care? A passive optical network (PON) is a shared, fiber optic access

Passive Optical Networks (PON): Components and Applications

Conclusion Passive Optical Networks (PON) are key to enabling the high-speed, high-bandwidth, and efficient network

Comparing Active and Passive Optical Networks

These fibers run from a central location to living or working space of the subscriber. There

What Are Passive Optical Networks (PON) and How Do They Work

Passive optical networks use fiber and unpowered splitters to deliver fast, reliable internet from providers to multiple

What Is Passive Optical Networking (PON)?

Passive optical networking (PON), like active optical networking, uses fiber-optic cabling to provide Ethernet connectivity from a main

AON (Active Optical Network) vs. PON (Passive Optical Network)

AON vs. PON: Compare Active Optical Network and Passive Optical Network to discover key differences, benefits, costs,

What is a passive optical network (PON) and how does it work?

Learn what a passive optical network is, how it works, and the different types of PON systems and their benefits and

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://benniedesignstudio.co.za>

Email: sales@benniedesignstudio.co.za

Phone: +27 82 391 4765

Address: The Towers, 1 St Georges Mall, Cape Town, 8001, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

