

GPON Uplink Device



AI Overview

GPON uplink devices are high-speed network interfaces and routers that connect the Optical Line Terminal (OLT) to the core network, enabling aggregated upstream traffic from multiple ONUs/ONTs.

Overview of GPON Uplink Devices

In a GPON network, the uplink devices serve as the bridge between the OLT and the broader network, such as a metropolitan area network (MAN) or the internet backbone. These devices handle the aggregated upstream traffic from all connected Optical Network Units (ONUs) or Optical Network Terminals (ONTs) and ensure efficient data transmission to higher-level network layers.

Key Uplink Components

Uplink Ports on OLTs

GPON OLTs are equipped with high-speed uplink ports, typically supporting 10G, 25G, or even 100G Ethernet interfaces. These ports aggregate traffic from multiple PON ports and forward it to the core network. Uplink ports often use SFP/SFP+ modules or DAC (Direct Attach Copper) cables to connect to routers or switches.

High-Capacity Routers

Devices such as the ER-8-XG router are commonly used on the uplink side to manage traffic between the GPON network and the rest of the routing and switching domain. These routers handle routing, traffic shaping, and Quality of Service (QoS) for upstream data.

SFP/SFP+ Modules

Small Form-factor Pluggable (SFP) and enhanced SFP+ modules are used to interface the OLT uplink ports with fiber optic cables. They support high-speed data transmission and can be inserted into OLT uplink slots to connect to aggregation switches or routers.

Functionality

Traffic Aggregation: Uplink devices collect upstream data from multiple ONUs/ONTs connected to the OLT.

Bandwidth Management: They ensure that the shared upstream bandwidth is efficiently allocated using GPON's Time Division Multiple Access (TDMA) protocol.

Network Bridging: Uplink devices connect the GPON access network to the core network, enabling internet access, IPTV, VoIP, and other services.

Summary

In essence, GPON uplink devices include the OLT's high-speed uplink ports, SFP/SFP+...

Article Content

Configuration Guide

You can check it at Site > Devices > OLT device details page > Config > Settings > PON > ONU Register. After ONU automatic registration is completed, you can go to ONU Management,

ZXHN F601

The ZXHN F601 is an ITU-T G.984.x and G.988 compliant GPON Optical Network Terminal (ONT) with one 10/100/1000 Mbps Ethernet port for the FTTH scenario,

Gigabyte Passive Optical Network (GPON)

Gigabyte Passive Optical Networks (GPON's) are networks which rely on optical cables to deliver information. GPON's are currently the leading form of Passive Optical Networks. GPONs offer up to

What is Passive Optical Network (PON) and

No power needed, easy installation, zero maintenance ONU GPON Access Points
GPON uplink with high user capacity Multiple Gigabit LAN ports,

GPON Technology Tutorial

GPON transmission mechanism and EPON exactly the same, are using single-fiber bi-directional transmission mechanism on the same fiber, the

The Comprehensive Guide to PON Architecture: Mastering OLT,

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

Huawei GPON configuration (commands) | Splynx Documentation

Learn how to configure Huawei GPON, set user and default routes, check status with commands, and remove ONT from configured Huawei ONL in this detailed guide.

Understanding GPON ONU: A Comprehensive Guide –

GPON ONU is a terminal device that converts optical signals into electrical signals, providing high-speed broadband connections with multiple

OLT Devices| High-Quality Optical Line Terminals

Explore our range of high-quality GPON, EPON, and XG(S)PON OLT products. Find the perfect Optical Line Terminal solutions for your network needs.

A Comprehensive Guide to GPON and EPON Technologies in PON

The ITU-T G.984.x recommendation establishes the standard for GPON networks, specifying a downlink channel transmission rate of 2.5 Gbps, an uplink channel transmission rate of

EPON, GPON, 10G EPON, 10G GPON OLT: How do

OLT equipment is the same as ONU equipment, and is also an optical and optical integrated device. OLT uplink local equipment, if the optical signal is

GPON OLT Basics and Beyond: A Comprehensive

Learn how GPON OLT works, its features, and how to choose the right device for efficient fiber network deployment.

Top 5 Best OLT Devices for High-Performance GPON and EPON

This 1U device offers 4 GPON ports with two 10GE uplinks — a configuration that directly competes with the VSOL V1600G2 but adds 10GE uplink capability as standard. The AN5506-02B

Optical Terminal

The OptiXstar product series extends optical connectivity to every home, enterprise, and campus, bringing families closer and making enterprise operations far more

MikroTik · GPON ONU module

The ONU is in a standardized MSA SFP form-factor and is designed to simply plug into a standard SFP port in your router. The product provides a pluggable GPON

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.

Cisco Catalyst PON Series Switches Data Sheet

With GPON feature support, bandwidth up to 108 Gbps, double uplink module, power redundancy, ONT PoE+ capability and high aggregation

UISP Fiber

This article will give the necessary information to create a functioning GPON network using UFiber equipment and accessories. It will also give details for

What is GPON?

GPON stands for Gigabit Passive Optical Networks. GPON is defined by ITU-T Recommendation G.984.x. GPON can transport not only Ethernet, but also ATM and TDM (PSTN, ISDN, E1 and E3)

XGZ030 | 1-Port XGS-PON Terminal | TP-Link

XGZ030 delivers true simultaneous uplink and downlink bandwidth of up to 10 Gbps via fiber access, meeting the demands of high-speed, bandwidth-intensive

SDX 6000 Series

Our SDX 6020-48 GPON OLT is a high-density 2RU device that supports 48 GPON ports. The OLT offers four 100GbE and four 10GbE uplink interfaces with

8 PON Ports GPON OLT FD1608S-B1 | C-Data

Technical Overview GPON OLT FD1608S-B1 completely meet relative standard of ITU G.984.x and FSAN, which is 1U rack-mounted device with 1 USB interface, 4

Cisco Catalyst PON Series Switches Hardware

Figure 1. Components of GPON The data, voice, and video signals of an end-user devices are sent to ONTs. The signals are converted into GPON

Contact Us

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