FTTH-GPON OLT Emulator

Features

OLT Emulation

Emulates OLT functionality, allowing to build specific provisioning models and configure OMCI entities individually and sequentially. It supports the injection of real traffic up to 10Gbp/s at its "V" interface.

Flexible: it allows to configure the PON according to each customer needs by an easy to use script tool.

Powerful: complete control of all PON parameters, including "Raw" data.

Capture & Replay. Captures done by any of the GPONDoctor protocol analysers can be injected within the OLT emulator to replicate a PON behaviour.

Drag & Drop Entities built. A graphical application that will allow the easy and visual entity/relationship diagram creation . This E/R is uploaded in the OLT emulator for the configuration of the ONUs.

OLT Emulation

GPON-Doctor™ OLT-e provides the same functionality as a GPON OLT**. It is completely configurable and, by using different templates, any commercial OLTs behaviour can be emulated**.

Highlights of the OLT emulation module:

- **Reception and report of events**, messages and alarms linked to the responses to each of the OMCI messages sent to the ONT,
- OMCI master. At OMCI level, the emulator behaviour can be programmed using **scripts** or **one by one**. **Messages for configuring OMCI entities in each ONT**: Creation, Destruction, Reading, Writing , Test, etc.
- G**eneration of PLOAM message to perform different functions at GTC level**: Enable and Configure the GEM OMCC port, password authentication tests, etc.

GPON Doctor™ OLT-e supports the reception and transmission of traffic encapsulated in GEM frames, **carrying real Ethernet traffic through a 10Gbp/s or 4x 1Gbps transport interfaces**. Through this port, a traffic generator can be connected. This interface also supports various **configurations for filtering and VLAN tagging both at ONT and OLT levels**.

Description

GPON Doctor™ OLT-e is an FTTH GPON OLT emulator, behaves like a normal OLT and as such is the termination point of the PON. It is connected to the ODN (Optical Distribution Network). The ONTs are connected to the other end of the ODN. A simple case can be an ODN consisting is just an optical fiber with the OLT emulator in one side and an ONU/ONT on the other side

GPON Doctor™ OLT-e is mainly oriented for **ONT/ONU conformance and network interoperability tests**, being a perfect tool for lab application engineers engaged in GPON pre-deployment phase as well as for GPON network elements vendors.

ONUs manufacturing /auditing . GPON Doctor™ OLT-e is the perfect tool to test ONUs during the production chain, as well as for auditing the ONUs replaced within customers' premises.

As **OLT emulator,** it is completely flexible, allowing to configure as many different provisioning models as desired. OMCI messages can be sent individually or grouping several of them in scripts.
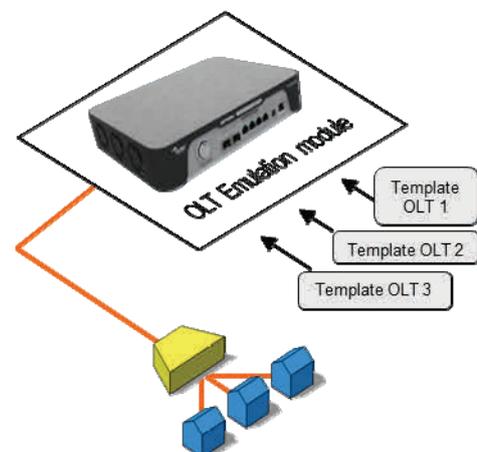
Using templates for emulation of different commercial OLT

Application examples

Fundamental tool for GPON new network deployment, equipment development and certification

Diagnosis and Analysis of events and deviations for already deployed GPON networks.

Interoperability troubleshooting among different vendors equipment coexisting in a Telco access network.

Evaluation of protocol compliance during the development of GPON ONTs.

Rogue and underperformance ONUs detection

GPON problems delimiting within an FTTH deployed network.

ONUs test within production chain

Technical features

Meets the requirements of ITU-T G.984.3

GPON B+ SFP optical interface according to ITU-T G.984.2 standard. Supports Up to 60 Km range and 1:64 splitting ratio.

Support for managing entities defined in ITU-T G. 988.

10Gbps XFP or 4x 1000BaseT Ethernet transport Interface.

OMCI creation messages using programmable templates

Individual OMCI messages sending . TCL scripts for multiple OMCI messages and OLT configuration.

OMCI master behaviour.

Generation and forwarding of Real Ethernet traffic encapsulated in GEM frames

Reception of asynchronous events and alarms from the ONTs

PLOAM messages generation to activate and configure a detected ONT.

Simultaneous management and monitoring of multiple ONTs

Supports 802.1ad, 802.1Q and 802.1p

Ruggedized portable form factor. Very Low Weight.

Easy to carry form factor: 278x202x44.45mm

Hardware/software customization upon request

GPONDOCTOR
OLT-e

GPON-Doctor, GPONDoctor-2000, GPON-Doctor-4000 & GPON-Doctor 8000 and GPONDoctor OLT-e are registered trademarks owned by TELNET Redes Inteligentes S.A. and TECNALIA Research & Innovation.

Contact Information

Wyzartel SL
Parque Tecnológico de Bizkaia.
Building 700—T4
E-48160. Derio – Bizkaia
Spain
Tel: (+34) 650 377 646
Enrique.areizaga@gpondoctor.com

Interfaces

Power 220V/AC

Console 10/100/1000 BaseT Ethernet interface

Transport interface: 10Gbps XFP interface or 4 x 1000Base-T

GPON interface (B+ and C+ optics available):

- Downstream: SFP Single Mode 1490nm (2,5Gbps) module. SM 1310nm optional

- Upstream: Single Mode 1310nm (1,25Gbps)