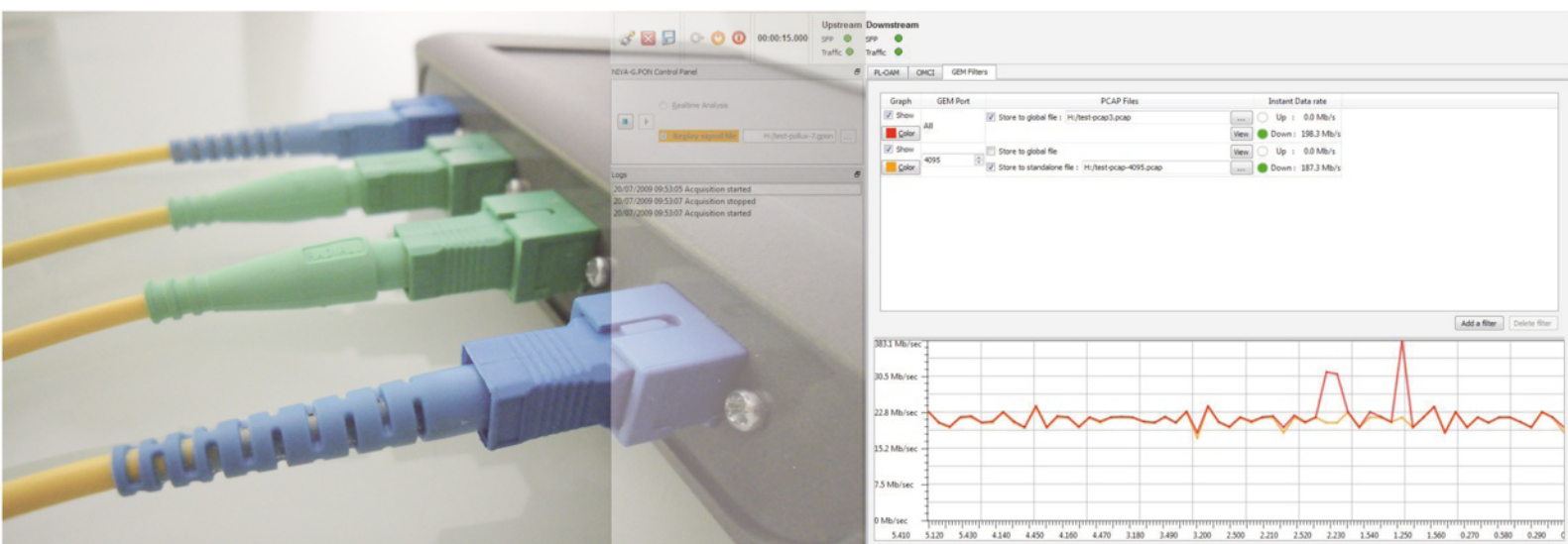
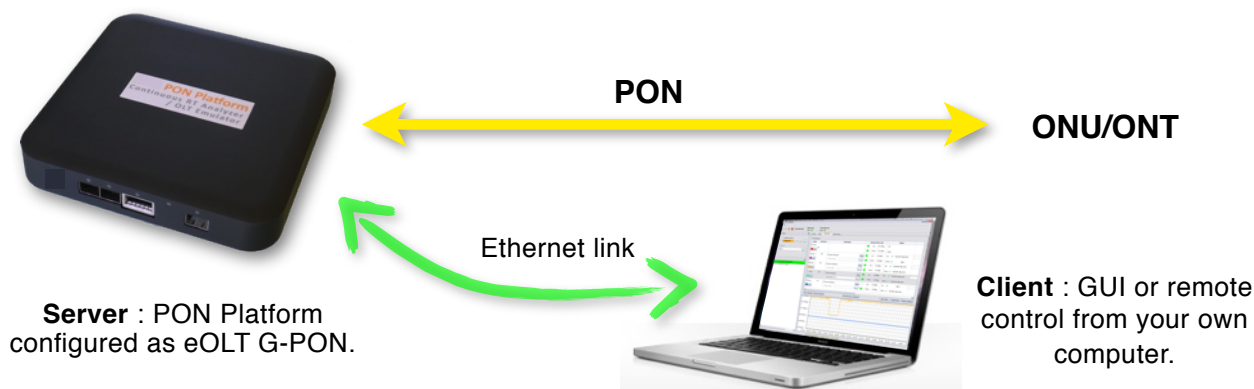


# FTTH G-PON OLT Emulator



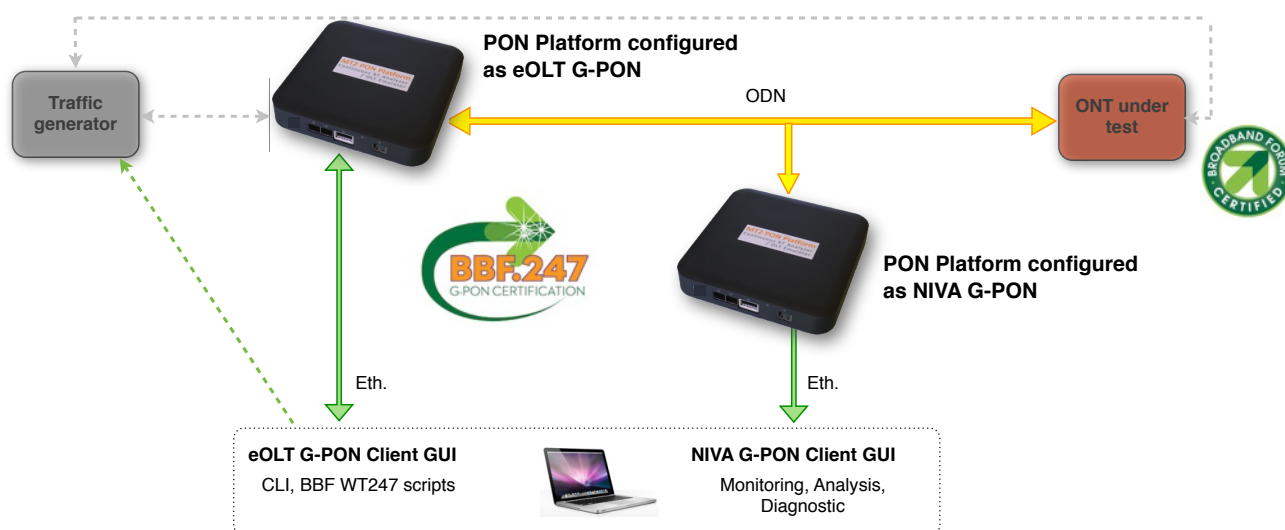
WAVETEL  
Espace du Ter  
13 Bd Jean Monnet  
56260 Larmor-Plage





The **eOLT G-PON** license allows to configure and use the **PON Platform**, our high performance FPGA-based processing unit (see corresponding datasheet), as an G-PON eOLT emulator kernel. The GPON eOLT kernel is controlled from a dedicated eOLT client GUI software installed on a regular PC. MT2 eOLT G-PON's architecture stems from our reference GPON OLT emulator, which is at the core of LAN's BBF.247 official certification testbed, and shares its key features:

- **Neutrality**: The eOLT emulator uses a neutral, independent architecture and OMCI stack, and is independent of any chipset. It incorporates ONU bring-up management (automated and manual), and allows real time traffic forwarding in both directions.
- **Scripting**: It also offers scripting capabilities (using the javascript language) to adapt existing test scripts or to design new ones to target your specific operational needs. High level management, OMCI and automation primitives are provided (with their source code and API documentation) to facilitate script-writing and test management.
- **Flexibility**: An adaptation layer is provided, to control a XENA C1-M6SFP traffic generator: this adaptation layer may be used as a template to create adaptation layers for other traffic generators.
- **Open architecture**: eOLT G-PON is based on the same powerful Client-Server architecture as the NIVA analyzers. The Client GUI offers a CLI and Script management interface. The GUI can also remote controls one traffic generator as shown in the schematic of the testbed for WT247 hereunder :



- **Automation**: eOLT G-PON GUI allows to run a series of scripts automatically. It has many advanced, time-saving features: for example it may execute scripts for different ONUs, one after the other.

# eOLT G-PON - Features

## PLOAM DBA :

- Compliant with ITU-T G.984.x
- Generate and Receive every PLOAM messages:
  - Tuning all the fields/parameters
  - Ability to generate non standard arbitrary PLOAM messages
- Arbitrary Bandwidth allocation:
  - Generation of Serial Number & Ranging Requests
  - Complete handling of BWmap entries for each AllocID

## OMCI :

- Compliant with ITU-T G.988
- Independent from any OMCI stack vendor
- Handles OMCI mechanisms:
  - MIB reset & MIB upload
  - Alarms, AVC, Software Download
- Generation and Reception of Create/Get/Set/Delete requests
- Generation of arbitrary raw OMCI Requests
- Handling of proprietary Managed Entities

## Ethernet :

- Capability of generation of arbitrary frame pattern
- Forwards traffic in upstream - from PON to 1000baseT
- Forwards traffic in downstream - from 1000baseT to PON
- Generation of AES encrypted traffic

## Miscellaneous :

- Complete automatization of the scripts execution saving hours of work
- Activation of FEC encoding
- Arbitrary Bit Error Rate injection
- Generation of LOS/LOF alarms
- Generation of intentional BIP corruption
- Upstream burst monitoring to detect windows Drift

## GUI Client :

- Lightweight application running on Win32
- Connection through TCP to the Kernel Unit
- Control over a Command Line Interface (CLI)
- Includes integrated help
- Script management
- Integrated Editor with color highlighting
- Embeds Javascript engine
- Includes debug/log capability
- Integration of third-party traffic generator
- Vendor neutral
- Traffic generator needed to be remote controllable through network API, or provided Win32 library

## Choose the license you need!

By selecting the right license, you can configure your PON Platform to satisfy different analysis and testing needs: Analyzer/Emulator, GPON/G-PON, ...

Standard \ Fonction	Analyseur	Emulateur d'OLT	Emulateur d'OLT + Debug
XG-PON	✓ NIVA-XGPON*	✓ eOLT-XGPON*	✓ eOLT-XGPON-Debug*
GPON	✓ NIVA-GPON*	✓ eOLT-GPON*	✓ eOLT-GPON-Debug*

\*: Detailed description, for each available software license, is provided in their respective datasheet

## PC requirements

Many computers can satisfy the needs for NIVA G-PON GUI in terms of power and hardware capabilities. Contact WAVETEL for more information. NIVA G-PON runs on Windows or Linux.

