

## Synchronization Lab

## PR - 25 words

This Lab emulates an Ethernet / IP / PTP / SyncE architecture allowing full configuration to generate and analyze traffic for experts willing to learn or experiment unde realistic conditions.

## PR - 50 words

The Synchronization Lab emulates a comprehensive Ethernet / IP / PTP /SyncE architecture that includes:

- Gigabit Ethernet and IP network
- Asynchronous Ethernet (SyncE) PHY layers
- PTP master and slave clocks

It permits to configure / generate / analyze any kind of Ethernet and Synchronization traffic.

## PR - 100 words

The Synchronization Lab is a modular architecture that may include a selection of Ethernet nodes, Master/Slave clocks, WAN emulators, Telecom testers and Packet Capture appliances. The lab can generate PTP, SyncE, Ethernet, IP traffic that is routed across the network that emulates real traffic conditions:

- Transport layer is Ethernet that can support VLAN and MPLS
- Synchronization is based either on PTP or SyncE with a number of time references including 1pps, Atomic clock, GPS receiver, OCXO and others
- PTP testing, protocol analysis, wander and TE measurements
- Quality assessments and timing accuracy measurements
- Synchronization SLA, frequency and phase accuracy
- Network under real traffic conditions: generation in controlled way of packet impairments (lost, errors, delays, jitter, traffic policing...) inorder to stress the PTP and IP packet to check the network tolerance
- PTP Wander analysis and generation
- Capture PTP packets compliant with specific filters
- And more than 65 different scenarios

Ideal for manufacturers, universities and operators willing to run trials, executing research programs or learning in a real platform on where everything can be spotted and manipulated by the engineers including the architecture, traffic load, network conditions, frames format and clocks.