RELY-TSN-KIT

Time-Sensitive Networking (TSN) allows to merge OT and IT worlds and guarantees the interoperability and standardization of all the devices in a deterministic Ethernet network.

This technology offers a significant cost reduction in equipment investment, maintenance, seamless integration of advanced analysis services and a reduction of dependence on a single vendor.

All the above advantages make Time-Sensitive Networking the **reference technology in the Ethernet networks of the future.**

In order to allow an effective approach to TSN for system integrators, RELYUM has launched the **first TSN kit based on end products**, that allows to evaluate:

- The importance of a common sense of time based on *IEEE 1588 AS synchronization*.

- The deterministic delivery of real-time traffic thanks to the *Time Aware Shaper.*

- The benefit of bandwidth distribution and reservation between traffic classes through a *Credit Based Shaper*

Specifications

RELY-TSN-KIT includes the following components used for evaluating TSN technology.

RELY-TSN-PCIe

Being the first out-of-the-box solution for TSN, it allows seamless implementation of deterministic Ethernet networks and abstracts user equipment and applications from its technical complexities.

It is *compatible with any IPC and any O.S.* in the market. Thus, it can be used to take benefit from TSN technology in any real scenario.

This device combines in a single equipment *TSN Endpoint and TSN Bridge* functionalities offering 2 external fiber or copper tri-speed Ethernet ports.

As an Endpoint, it provides TSN capabilities in the device where it is hosted, enabling a *seamless integration* in a deterministic and time aware network.

The TSN standards supported by the device are:

- » Centralized Network Configuration – IEEE 802.1Qcc
- » Time Aware Shaper (TAS) – IEEE 802.1Qbv
- » Credit Based Shaper (CBS) – IEEE 802.1Qav
- » IEEE 802.1AS Synchronization

Traffic generator

Creates congestion scenarios for TSN features testing.

RELY-TSN Evaluation board

The RELY-TSN Evaluation board is a key element containing the following parts:

- TSN Talker: transmits two video streams to the TSN network.
- TSN Demo webservice: provides a friendly GUI interface for:
  - » Configuring TSN parameters in the RELY-TSN-PCIe card and in the Evaluation board itself.
  - » Launching the different test contained in the demo.

ISO image for host PC

ISO image containing a full operating system with the required dependencies for running the TSN demo in the host PC where the PCIe card has been installed.

The ISO image provides a video player and graphical tools for evaluating TSN advantages, with no need of any specific configuration in the PC.

RELY-TSN-PCIe

Traffic generator

Evaluation board

ISO

ISO image for host PC