

RELYUM TSN Configuration Tool

The configuration plane of a TSN Network is one of the most active topics in the standardization (IEEE) and Industrial (IIC TSN Testbed Working Group) groups.

TSN communications are based on a data streams set between a Talker and one or more Listeners. Based on the agreed parameters for each stream, it is necessary to configure all the elements of the TSN network to switch the frames based on the selected parameters. This operation is performed by a Centralized Network Configuration (CNC) node.

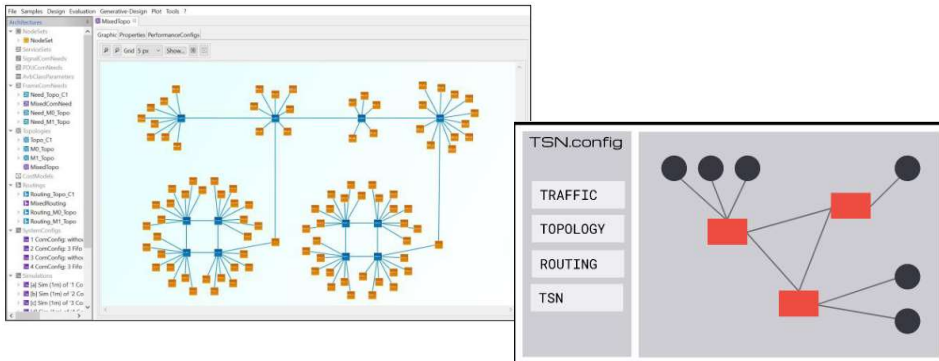
Relyum has been working in a partnership with a company with more than 14 years of experience on Modeling, Simulation, and automated Configuration of Real-Time Communication Architecture.

As a result, Relyum's partner has developed a TSN configuration tool tailored to Relyum hardware, that allows to configure TSN devices, when network topology and communication needs are determined, and guarantees that constraints are met.

The main functionalities of this tool are:

- To define topology, HW capabilities, traffic requirements
- To select the TSN mechanisms
- To generate configuration ready to deploy

For more information about it, please contact info@relyum.com.



The main features supported by the tool are:

MODEL

Allows traffic characterization, TSN devices characterization, and network devices modeling:

- By modeling the traffic requirements, network devices, and topology from the GUI.
- Or by importing an existing description (YANG, CSV)

SELECT

The GUI allows the selection of the TSN mechanisms supported by the hardware. The TSN mechanisms available in the tool are:

- Time Synchronization: Timing and Synchronization (IEEE Std 802.1AS-2020)
- QOS: Traffic Classification (IEEE Std 802.1p)
- Credit Based Shaper (IEEE Std 802.1Qav)
- Scheduled Traffic (IEEE Std 802.1Qbv)
- Frame Preemption (IEEE Std 802.1Qbu)

- Reliability: Per-Stream Filtering and Policing (IEEE Std 802.1Qci)
- Frame Replication and Elimination for Reliability (IEEE Std 802.1CB)
- CONFIGURATION: YANG data models (IEEE Std 802.1Qcp, P802.1Qcw, P802.1CBcv)

EXPORT

Allows to generate the proper configuration and to:

- Export in XML-YANG
- Or export in Excel, CSV
- Import from RELYUM devices

