



Time Synchronization in TSN

Description of Topic

July 25, 2022

Title: "Time Synchronization in TSN"
Supervisor: Rubi Debnath and Andreas Finkenzeller

Context

Time-sensitive network (TSN) enables deterministic transmission on standard Ethernet. TSN uses the Precision Time Protocol (PTP) to synchronize the clocks of the device present in a TSN network to the global clock time. PTP is very important for the proper functioning of the Time Aware Shaper mechanism in TSN. In this topic, the goal is to look deeper into the PTP mechanism of TSN.

Requirements

- **Knowledge of TSN.**
- **Very good C++ programming skills.**
- **Very good knowledge of OMNeT++/OPNET/NS3 or similar simulation tools.**
- **Should be motivated to work in research topics.**
- **Knowledge of communications and networks.**
- Interest or willing to explore network security.
- Independent and able to work with minimal supervision.

Contact

If you are interested in this topic, please send your full application (CV, current transcript of records, research interests, possible start dates) to Rubi Debnath and Andreas Finkenzeller (rubi.debnath@tum.de and andreas.finkenzeller@tum.de). This project will be jointly supervised by Rubi Debnath and Andreas Finkenzeller therefore, send the application to both the supervisors together.