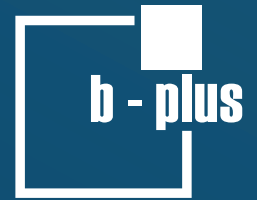


# XTSS

Universal Time Synchronization Service  
in the AVETO Toolbox



XTSS, as part of the AVETO Toolbox, is a highly customizable and precise time synchronization solution designed specifically for multi-sensor systems.

By time-stamping each data packet, XTSS enables accurate temporal correlation between the different sensor data, which is critical for analysis and interpretation. The ability to synchronize all clocks in the system on a consistent time basis is critical to the data quality of safety-critical applications. XTSS provides the necessary precision and configurability to ensure a consistent time domain, which forms the basis for safety certification of the entire multi-sensor system.



## Working Clock Domain

- serves as the time base for measurement and synchronization tasks
- utilizes gPTP (IEEE 802.1AS) for synchronization across Ethernet-based network connections
- integrates into domain 1, as defined by the IEEE 802.1AS-2020 standard
- continuous, interference-free clock operation

## Two Main Components

- CTSS - Cluster Time Synchronization Service provides synchronization over Ethernet based on gPTP (IEEE 802.1AS-2020) and PTP (IEEE1588v2)
- PTSS - Platform Time Synchronization Service synchronizes clocks of the interfaces via hardware mechanisms

## TAI Clock Domain

- taken into account as an external reference
- synchronized via gPTP (IEEE802.1AS) or optionally via PTP (IEEE1588v2-Industrial Profile)
- enables the temporal assignment of the acquired measurement data
- used for a global temporal correlation

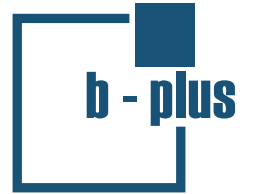
## Supported Interfaces

### Ethernet Controller

- Intel I210
- Intel I350
- Intel X540
- Intel X550
- Intel X710
- Intel X722
- Mellanox Connect-X5
- Mellanox Connect-X6

**Interested?** Scan the QR Code to get more information on XTSS.  
Don't hesitate to get in touch with our experts.





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