iSAFT TTEthernet Verification-SPY Tool

Record,

Observe,

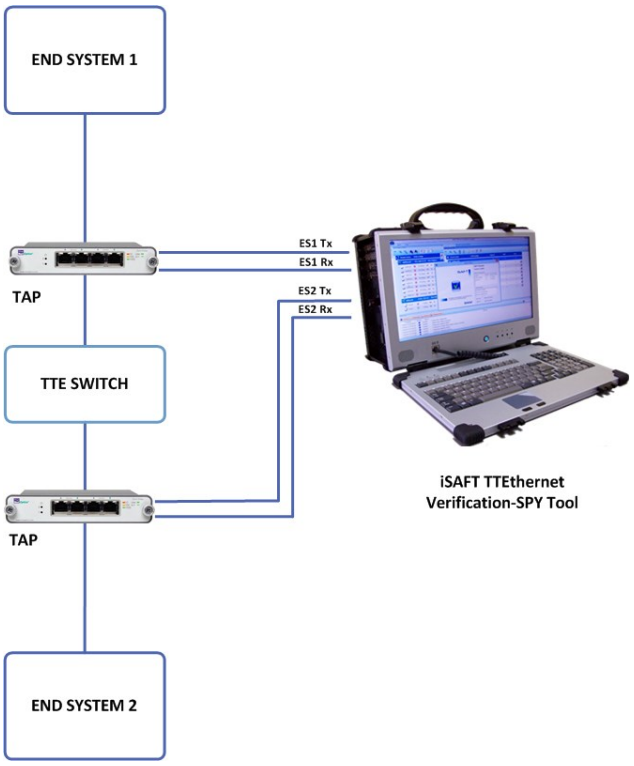
Validate!

iSAFT TTEthernet Verification-SPY Tool is an advanced, integrated, high performing, modern network traffic capture, recording and analysis platform suitable for the independent verification of Time Triggered Ethernet features, data networks and protocols.

The iSAFT TTEthernet Verification-SPY Tool is capable of capturing data packets on multiple Ethernet links (10/100/1000 Mbps, Copper and Optical), time stamping, recording, and delivering them to a powerful Protocol Analyzer for further processing & analysis. Operating on a multi-Gbytes powerful HW platform, the SW environment is based on the iSAFT graphical tool chain, thus allowing the management, filtering & searching of the recordings. It is used for troubleshooting and problem solving at various development stages, minimizing the impact on cost and schedule.

FEATURES

- Powerful HW platform (high processing power, up to Tbytes storage capacity), advanced file and recordings management (auto-archive, disk cleanup, file system and disk optimization, etc.).
- iSAFT graphical tool chain (Runtime engine, iSAFT Console, offline analysis with the Wireshark Protocol Analyzer, recordings management).
- Automatic configuration mode using TTTech network and device configuration files or manual mode using the graphical interface.
- Event-trace trigger & selective tracing (filtering) support, statistics per Ethernet ports, virtual links and traffic classes (TT, RC, BE).
- Supports network synchronization and traffic policing of all transmit and receive frames. Detection of network synchronization problems and frames transmitted outside the acceptance windows.
- Capturing & recording of large volumes of traffic from multiple links. Management of multi-gigabyte traffic logs. Chronological merging of recorded traffic and export to XML, CSV, or plain text with user selected protocol fields per packet.
- Open APIs to 3rd-party applications, support for customization, adaptations to customer needs.



Based on an open architecture and modular design, the iSAFT Verification-SPY Tool is a future-safe, cost-effective and already validated solution. It fully supports traffic analysis and verification, which implies analysis of specific network characteristics, provision of statistics and measurements of the real time properties of the network.
The iSAFT tool verifies that the network behaves according to the configured real time properties (e.g. worst case latency, jitter). It correlates the captured frames with, and retrieves the timing properties of the traffic flows (e.g. min-max frames size, max latency, max jitter per VL, etc.) in order to compare them with the measured results and verify them (i.e. measured properties are within the defined limits).

iSAFT TTEthernet Verification-SPY Tool

General Features

- Recording of Fully Loaded Links for Long Durations
- Decoders can display any Protocol Field and Messages Timing Information.
- Real Time Analysis of Recorded Frames and Detailed Statistics View.
- Statistics Logging.
- Online Filters for Selective Capture or Offline Filters for Post Processing.
- Triggers to Start / Stop Monitoring on specific Events.
- 4 nsec Timestamp Resolution, 1.3 PPM clock.
- Automatic configuration using TTTech network and device configuration files or manual configuration from the graphical interface.
- Traffic policing of all transmitted and received frames. Detection of synchronization and timing errors and calculation/display of delay times with resect to acceptance window for each TT frame.

Triggers

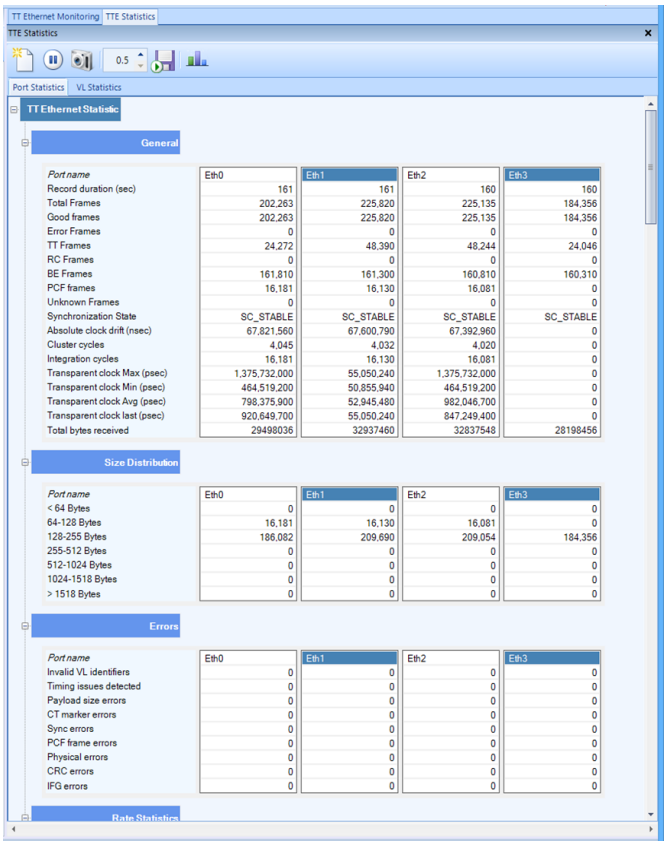
- Independently selectable triggers per channel.
- Independent triggers for start/stop of capture.
- User defined packet pattern.
- Start/end time and duration.

Filters

- Captures per TT / RC / BC messages.
- User defined packet pattern.
- Filters set per specific Virtual Link IDs (list).

Statistics

- General Statistics: Total, Good and Error frames received, TT / RC / BC / PCF frames received, Synchronisation State, Absolute clock drift, Cluster / Integration cycles, Transparent clock, Total bytes received, Record duration.
- Packet statistics distributed by size.
- Error statistics: Timing errors, payload size errors, synchronisation errors, PCF frame errors, CRC errors, Inter-frame gap errors.
- Rate statistics: Bytes per second, frames per second.
- VL statistics: Good and Error frames, Traffic class, Type of errors, Min, Max, Avg frames per integration cycle.



STRENGTHS AT A GLANCE

✓ Independent Verification of TTEthernet traffic flows

✓ All-in-one recording, observation & verification environment

✓ Suitable for many different areas/users

✓ Customisation for new protocols & interfaces

✓ Built on open and standard technologies.

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