VIAVI Solutions

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Spirent **TTsuite-TSN-TimeAwareShaper**

Testing the Transmission of Frames Based on PTP Timing

Benefits

- Predefined test scenarios fully covering the IEEE standards
- Fully automated testing that can be seamlessly integrated into existing test infrastructures
- Bridge and end station tests (an Upper Tester is required for end station tests)
- Pcap files with complete traffic (including the timing protocol) are appended in the log of each test case execution
- Future-proof
  - Extensible for different profiles (IEEE, Avnu Alliance or IIC)
- Visual failure analysis and correction
- Test report creation with multiple customization options

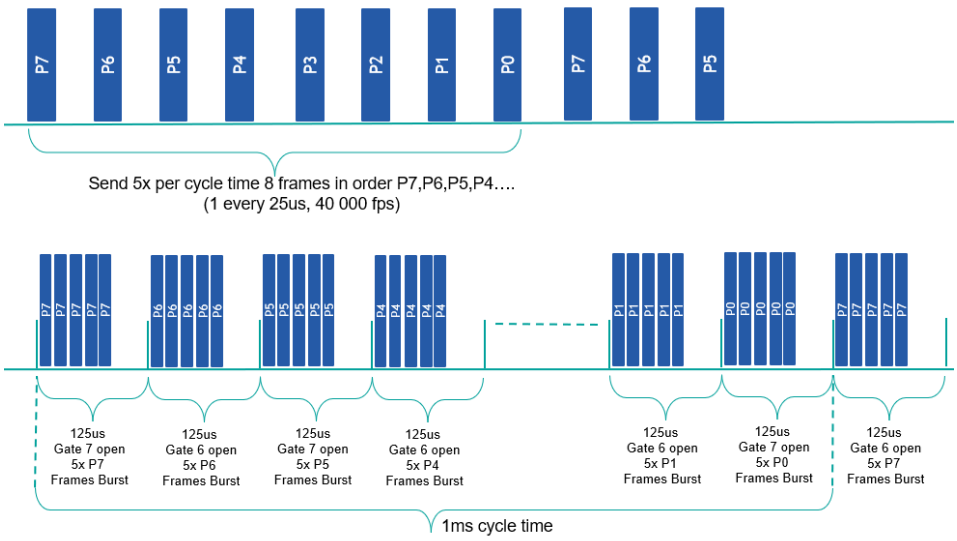
Time Aware Shaper (TAS) enables bridges and end stations to schedule the transmission of frames based on PTP timing (IEEE 1588, 802.1AS or AS-Rev). VLAN tag encoded priority values are allocated allowing simultaneous support of scheduled traffic, credit-based shaper traffic and other bridged traffic over the same Local Area Network (LAN).

Networks utilizing scheduled transmissions can control real-time processes. The credit-based shaper and other shapers work well in arbitrary networks (i.e., non-engineered). The IEEE 802.1Qbv standard enables those two kinds of networks to be consolidated into a single network, with a significant cost reduction to the user.

Application Areas

Tima aware Shaper is one of the core TSN standards. Time-sensitive networking is a collection of protocols defined by IEEE with applicability in many verticals like:

- **Automotive**—advanced driver-assistance systems (ADAS), X-By-Wire, autonomous driving
- **Industrial**—smart manufacturing, smart grid, industrial automation, industry 4.0
- **Telecom**—transport time-sensitive fronthaul streams over Ethernet bridged networks



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About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks.

We help bring clarity to increasingly complex technological and business challenges.

Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled.

For more information, visit: www.spirent.com

Features

- All tests can be executed against bridges as well as end stations
- Full coverage of the standard
  - Gate opening & closing tests
  - Guard band tests
  - Configuration changing tests
  - Queues properties tests
- Full flexibility for the timing protocols used
  - IEEE 1588, 802.1AS or AS-Rev
- Tests for both store-and-forward and cut-through switches
- Full flexibility in the 'priority to queue' mapping
  - Multiple priorities to same queue mappings are possible
- Full flexibility in the number of queues at DUT
  - Any number of queues greater than 2 are suitable

Standards

- IEEE Std 802.1Qbv-2015 (Amendment to IEEE Std 802.1Q-2014) - Amendment 25: Enhancements for Scheduled Traffic
- IEEE Std 802.1CM-2018 - Time-Sensitive Networking for Fronthaul

Ordering Information	
Part Number	**Description**
TEC-SUITE-TSN-TAS	TTSUITE-TSN-TIME AWARE SHAPER
TEC-SVC-1015-TS-1Y	TTSUITE SUPPORT AND MAINTENANCE 1YR
TEC-TT-WP	TTWORKBENCH PROFESSIONAL PLATFORM
TEC-SVC-1015-WB-1Y	TTWORKBENCH SUPPORT AND MAINTENANCE 1YR

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