RELY-TSN-PCIe TSN Bridge PCIe NIC

RELY-TSN-PCIe is the first out-of-the-box solution for Time Sensitive Networking (TSN) that allows seamless implementation of deterministic Ethernet networks and abstract user equipment and applications from these technical complexities.

This device can be used as a PCIe **TSN Endpoint** and as a **TSN Bridge** providing 3 multi-media Gigabit Ethernet ports.

As an Endpoint, it offers the possibility to introduce TSN technology in the device where it is hosted, for its integration in a deterministic network.

PCI Express (PCIe) is the most extended high-speed serial computer expansion bus. It is the de-facto standard for expansion boards in PC computers and it is gaining acceptance in Industrial PCs and even in SCADA systems.

RELY-TSN-PCIe is a smart pluggable board that comprises in the same device hardware and software resources to implement specialized networking, synchronization and security oriented services.

These key features makes RELY-TSN-PCIe platform the most reliable and multipurpose networking device for critical environments.

Specifications

Communications

- 3x Ethernet port
- Media options (SFP cages):
  - » 10/100/1000Base-T
  - » 1000Base-X
  - » 100Base-FX
- Optional modes:
  - » IEC 62439-2 Clause 5 "Media Redundancy Protocol (MRP)"
  - » "Device Level Ring (DLR)" for Ethernet IP
  - » RSTP IEEE802.1w
- VLAN support
- Ethernet type based or IEEE 802.1P Traffic prioritization
- 1 PPS output
- PCIex1.
- Seamless integration on old Legacy PCI Systems through optional adapter

TSN features

- 802.1AS - Timing and Synchronization
- 802.1Qbv - Enhancements for Scheduled Traffic
- 802.1Qav - Forwarding and Queuing Enhancements for Time-Sensitive Streams
- 802.1Qcc – Enhancements for Stream Reservation Protocol
- 802.1Qci* – Per-Stream Filtering and Policing
- 802.1Qcb* – Frame Replication and Elimination for Reliability

Software features

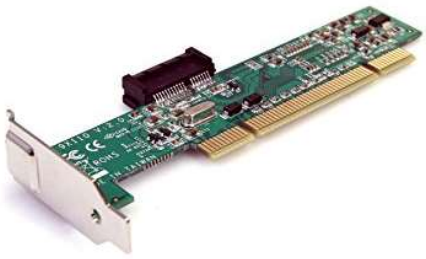
- Ethernet network drivers available for most OS (Linux, Windows, WxWorks, etc.)

Processing performance

- On-board FPGA for high-speed network switching and PTP timestamping
- Multi-core CPU unit to support autonomous software applications

Configuration and Management

- On-board integrated Web Server to provide HTML5-GUI configuration access:
- Accessible through HTTP(S)
- Configuration profiles and Firmware updates
- Real-time network monitoring



*Interoperability test pending

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