



## RelyUm Rugged: Empowering Defence

RelyUm Rugged is SOC-E's product line for rugged deterministic Ethernet and TSN networking platforms designed for aerospace and defence applications.

- ✓ Support for IEEE 802.1 TSN standards (gPTP, TAS, CBS, FRER, PSFP, Qcc)
- ✓ MIL-DTL-38999 circular connectors with 1G/10G Copper + Fibre ports
- ✓ Xilinx UltraScale+ MPSoC with FPGA acceleration and edge computing
- ✓ MIL-STD-810G, MIL-STD-461G, MIL-STD-1275E, RTCA DO-160G, IP67 qualified
- ✓ Operating range: -40°C to +85°C, fanless design
- ✓ Common Criteria LINCE cybersecurity certified

## Deterministic Ethernet Switches and EndPoint Switches

Time-Sensitive Networking (TSN) is the new generation Ethernet that allows merging in the same network hard real-time, soft real-time and best effort traffic.

RelyUm Rugged offers a comprehensive range of COTS switches and endpoint switches to cover the requirements of mission-critical applications such as radar, electronic warfare, signals intelligence or weapons control systems, that have extremely tight latency constraints.



MIL-TSN/MIL-10TSN  
28-port TSN Military Switch

- ✓ Up to 26 configurable TSN ports (10/100/1000BASE-T + 1G/10G Fibre)
- ✓ Reconfigurable MPSoC with edge computing supporting key IEEE 802.1 TSN standards
- ✓ Zero-packet-loss redundancy using TSN FRER + MSTP
- ✓ Optional Grand Master Clock with IEEE 802.1AS time bridging
- ✓ Advanced security with IEEE 802.1X, MACsec, optional firewall & VPN
- ✓ HTTPS Web GUI + CLI with NETCONF/YANG support for centralized TSN configuration
- ✓ Sealed MIL-grade enclosure with MIL-STD-704/1275E power supply



# Secure Switch Routers

Exploiting electronic devices to alter or obtain information has become a new tactic known as the 'fifth dimension battlefield, after air, sea, land and outer space'\* and therefore any equipment used in today's warfare systems must be able to withstand constantly evolving cyber-attack defences.

RelyUm Rugged has developed the Secure Switch Router product line, which combines a comprehensive set of physical and logical cybersecurity means, with switching, routing, time server and edge computing capabilities in a single device.

- ✓ 2/L3 secure router with OSPF, BGP, EIGRP, PIM-SM dynamic routing
- ✓ Hardware MACsec + IPsec VPN with TPM 2.0 and stateful firewall
- ✓ Xilinx UltraScale+ MPSoC with edge computing (DDS/MQTT support)
- ✓ Clock bridging capabilities with accurate time distribution via IEEE 1588 (PTP)
- ✓ Ultra-compact MIL-DTL-38999 chassis, IP67, 1.9 kg



MILS0802-SSR  
L2/L3 SFF Military Secure Switch Router

## RelyUm Industrial: TSN Endpoint Bridge PCIe NIC

RELY-TSN-PCIe, a TSN endpoint bridge PCIe NIC helps simplify deterministic Ethernet networks and offers significant cost reductions in terms of equipment investment, maintenance, seamless integration and single vendor dependence reduction.



- ✓ Retrofitting solution for adding deterministic TSN to existing COTS PCs/servers
- ✓ FPGA-based with SOC-E in-house technology for easy field upgrades
- ✓ Zero-packet-loss redundancy using TSN FRER + MSTP
- ✓ HTTPS Web GUI + SSH CLI with NETCONF/YANG centralized configuration support
- ✓ Drivers available for Linux, Windows and multiple RTOS
- ✓ Full SOC-E TSN ecosystem support for turnkey deployments

### SocTek® FPGA IP Cores

SOC-E's high-quality, field-proven FPGA IP solutions designed for mission-critical applications where even a single communication failure cannot be tolerated. SOC-E provides a complete portfolio of deterministic networking IPs including TSN Endpoints & Switches, HSR/PRP redundancy, high-precision timing, and SpaceWire (SPWN) - fully customizable for Xilinx and Microchip FPGA platforms.



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