

# Relyum Time-aware High-Availability Reliable Ethernet H/W Solutions (HSR, PRP, TSN)

**Relyum offers an innovative solution to face the new security challenges emerging in the context of IEC 61850 Smart Grids and substations.**

IEC 61850 is the backbone for the Smart Power Automation and Control Systems (PACs), developed to provide a zero-delay and no frame lost Ethernet based networking solution for critical control messages communicated within these systems (like GOOSE or SMV messages).

Relyum by Soce products are key enablers for the time-aware high-availability reliable Ethernet network implementations in the next generation Digital Substations and Smart Grids:

## RELY-RB Time-aware Redbox Switch



RELY-RB Time-aware Redbox Switch combines HSR/PRP redundant Ethernet links with regular Ethernet ones in a single equipment. This approach solves the need of switching PTP traffic and providing access to high-availability topologies to the regular Ethernet nodes or LANs.

## RELY-REC Time-aware Network Recorder



RELY-REC Time-aware Network Recorder includes means for continuous network monitoring and further debugging. This equipment integrates advanced technologies to support combined PTP and HSR/PRP GbE topologies.

## RELY-PCIe Time-aware Redbox-DAN -Switch PCIe NIC



RELY-PCIe Time-aware Redbox-DAN-Switch PCIe NIC allows direct access to time-aware high-availability networks to legacy PC systems (PCIe or PCI). Moreover, this board removes the need for additional Redbox equipment to connect other non-redundant nodes (Single Attached Nodes - SANs) thanks to the third port which implements low-latency switching to the redundant ones.

## RELY-SV-PCIe Sampled Value Subscriber DAN PCIe NIC



Relyum has launched an innovative edge computing product for the Smart Grids, aligned with the current virtualization trends. This device incorporates to the RELY-PCIe model a powerful processing capability for protecting and measuring the quality of the Electric grid based on the SV provided by the merging units.

## RELY-RB-SEC Secure Time-aware Redbox Switch

Relyum's offer is completed with this device, a redbox switch equipment with IEC 62351-6 and IEC 62351-9 support, that allows to retrofit the existing infrastructure by ciphering, deciphering and authenticating real-time traffic at wire-speed.