

FLEXIBILIS

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Case Study: Tailyn

Delivering high-availability systems
for substation automation



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Tailyn is a provider of turnkey industrial communications solutions based in Taiwan. Its products include Ethernet equipment, wireless broadband networks and industrial computer applications, as well as related services such as software, hardware design and manufacturing.

Challenge

Tailyn was looking to expand its offering in order to enter the electrical substation automation market. It was critical that the newly developed products complied with the international IEC 61850 standard. The standard defines communication protocols, highly accurate nano-second level time synchronization, and seamless zero packet loss network redundancy for SCADA and intelligent electronic devices (IED) used in substation automation. Tailyn therefore searched for a partner that could provide the required High-availability Seamless Redundancy (HSR) and Parallel Redundancy Protocol (PRP) technologies that would ensure the new products fulfil the IEC 61850 standard.

Solution

After making a thorough evaluation of all HSR/PRP solutions available on the market, Tailyn chose the Flexibilis Redundant Switch (FRS) from TTTech Industrial, which was the clear stand-out in terms of quality and performance. FRS delivers Gigabit Ethernet switching functionality including HSR and PRP protocols, which provide the seamless redundancy needed for substation automation and other smart grid applications. The other major advantage that FRS offers for Tailyn is its flexibility. The product is available as a configurable IP core that can be integrated as a 3-8 port switch on an FPGA, or as

“ We are very pleased to be working closely together with TTTech Industrial to achieve our goals in the electrical-substation automation market. Tailyn products now enable customers to build highly-available and redundant systems that meet the demanding requirements of energy management applications. We look forward to our continued cooperation and future success with TTTech Industrial, ”

explains D.Y. Lin, Vice President of S&M, ODM business

a pre-configured 4-port ASIC (XRS7000). Tailyn selected the ASIC option with FRS to act as the switch chip in its new devices for the substation automation market.

Benefits

By choosing to integrate the XRS7000 chip with FRS IP core, Tailyn was able to accelerate its product development and achieve a faster time-to-market than originally planned. This was especially valuable for Tailyn as it was entering a new market and building new customer relationships. Tailyn was also able to integrate FRS with significantly reduced engineering efforts and did not need to build up any specific FPGA engineering know-how, as the chip arrived pre-configured. As a result of the cooperation with TTTech Industrial, Tailyn was able to win its first order in the substation automation market and is ready to expand with other customers that require highly available and redundant Ethernet solutions.



IEC61850 Switch with precision time protocol (PTP) and HSR/PRP