

ELECTRONICS & DEFENSE

TIME SYNCHRONIZATION'S ROLE IN REAL-TIME TRADING



Time Synchronization's Role in Real-Time Trading

About us

Safran Navigation and Timing combines the resilience and high configurability of its GNSS server (SecureSync 2400) with White Rabbit's ultra-high accurate technology to help our clients with both in their finance production and capture network, achieving incredible levels of performance.

In today's financial world, transactions occur instantaneously. Supporting this real-time network environment can be complex and overwhelming. These networks incorporate real-time database systems that store and transfer increasingly large amounts of data. As databases and real-time processes merge, there is increased demand for and greater emphasis on the information management timing (timestamp) associated with electronic transactions. Time is literally money.

GPS-enabled network time synchronization addresses these use cases by providing secure, accurate, and reliable time for events and synchronizing this precise time across all elements in the network. When an event occurs and is logged into the real time database, the time associated with the event is accurate to national and international time standards. Synchronizing the time at which a transaction is executed from one system to another allows these systems to properly process transactions accurately.

Time synchronization also helps financial institutions comply with industry regulations (MiFID II and FINRA) that require each member to provide an "accurate, time-sequenced record of orders and transactions," as well as market-wide synchronization of clocks used in connection with the audit trail." Time synchronization provides accurate time stamps, ensuring that the time associated with logged events is correct.



How is time synchronized?

Doing so requires an accurate, reliable, secure time source. This source must provide Coordinated Universal Time (UTC) and deliver it across a network.

The best solution for time synchronization is a dedicated network time server. Such a device provides a common time source used by all devices on a network. Installing a dedicated time server enables a financial services provider to comply with industry regulations, policies, and mandates concerning time stamping and authentication verification.

Timing & Synchronization Portfolio For Trading

Safran Navigation and Timing offers several solutions to the complexity of time synchronization for trading:

SecureSync

[SecureSync® Time and Frequency Reference System](#) provide secure, accurate and reliable time synchronization across the entire network enterprise. The time accuracy can range from $\pm 50\text{ns}$ to $\pm 15\text{ns}$ relative to UTC time without having to compromise security. UTC is established through a GPS signal that is legally traceable to national and world time standards to reduce risk and liabilities.



SecureSync 2400

White Rabbit Technology

GNSS servers can be complemented by using the ultra-accurate [White Rabbit Technology](#) to disseminate that time throughout the network with sub nanosecond accuracy and picosecond-level precision.

Many financial institutions, including some of the world's largest investments banks, high frequency traders, stock exchanges, market makers, etc. rely on time servers and White Rabbit to support their time synchronization and regulatory compliance initiatives.



White Rabbit Z16



WR ZEN TP-FL



High Accuracy Timing IP Core (HATI)

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BY TRUST**

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