

Chronos and ViaLite supporting ultra-fast timing for Financial Institutions



Ultra-precise timing for high frequency trading

As financial institutions around the world are seeking to offer the fastest trading speeds possible to support high-frequency trading and comply to MiFID II, their IT systems need highly accurate timing signals which are acquired from the GPS satellite network. Specialist supplier of ultra-precise timing solutions **Chronos Technology** and RF over fibre manufacturer **PPM** have collaborated to support ultra-fast trading speeds at financial institutions and data centres combining **ViaLite** RF over fibre and Chronos's portable time system, **TimePort**.

RF over fibre allows the signals from the GPS antennas to be sent over longer distances to remotely located time servers without any deterioration in quality – an application unsuitable for copper cable due to its poor performance at high frequencies.

“The customer is equipped with several GPS antennas to cover redundancy and fail safe operations within the establishment. This protects and ensures continuous trading despite any failures due to lightning strikes or accidental damage on roof top locations where the antennas are situated” said Amair Khan, Business Development Manager with ViaLite. He added, “The GPS signals are split optically to supply multiple time-servers situated within the facility. Each GPS transmitter or receiver is equipped to alarm in times of failure; ensuring any failures in the optical link are reported immediately and corrective actions can be taken accordingly.”

Precise timing signals are crucial to ensure the performance of high-speed trading systems. Accurate synchronisation enables risk management and performance monitoring. An accurate time stamp on data also supports algorithm optimisation.

“One customer had been distributing GPS and time across its facilities for several years” said Chronos Technology's Steve Newcombe, “building out capability



Image Source: Dreamstime

with a variety of technologies from many sources, with differing reliability and usability. With timing requirements becoming more stringent, and end users more demanding in their timing performance, we were convinced that a fundamental rethink of the system was required to ensure optimum performance. We were able to vastly simplify these distribution systems from roof to rack, using the state of the art VialiteHD platform and Chronos' many years of experience in GNSS systems for time and timing across many industries.”

Timing performance for both internal and external customers has been monitored and maintained with the use of TimePort; Chronos' portable time system that can bring GNSS-like performance into signal deprived locations like data centres. “Using TimePort the customer can easily commission services wherever they are delivered” said Newcombe “and ensure GNSS and timing services to their customers exceed customer expectations at all times.”

Another advantage is the ability to considerably reduce the quantity of GPS antennas on the roof; reducing cost and mitigating the impact of a defective antenna, which can cause interference and adversely impact other nearby antennas.

CASE STUDY