



## *RF over Fibre Timing Solutions*

### Highly Accurate Timing Signals

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 GNSS 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 Solution

RF over fibre allows the signals from the GNSS 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 GNSS 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 GNSS signals are split optically to supply multiple time-servers situated within the facility. Each GNSS 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

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.

CASE STUDY

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

### Monitoring and Maintaining Timing Performance

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 GNSS



antennas on the roof; reducing cost and mitigating the impact of a defective antenna, which can cause interference and adversely impact nearby antennas.

Chronos has over thirty years’ experience in designing and delivering time and frequency systems throughout the world; backed by a world class help desk and support infrastructure available 24x7x365.

Working with industry leading suppliers, we have an extensive toolbox of hardware and software solutions at our disposal and are able to deliver traceable time, ensure the source of time is secure, and maintain and monitor that traceability and security as networks and applications evolve.

Contact our team who will be happy to help you address your network timing requirements.