

Quincy Data Launches Sub-Nanosecond Time Synchronisation Service

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Quincy Data, provider of ultra-low latency market data technology, has introduced a Time Synchronisation as a Service (TSaaS) offering, designed to deliver sub-nanosecond accuracy for firms operating across major US financial exchanges. The service, which operates in the New Jersey and Chicago metropolitan regions, provides a plug-and-play solution for precise time distribution, addressing growing industry demands for accuracy and resilience in trading environments.

"We are deeply committed to the low-latency business, where every nanosecond matters," Cécile Mirc, product and business development lead at Quincy Data, tells **TradingTech Insight**. "This initiative started out as an internal project aimed at building a precise and accurate time-stamping and synchronisation solution for our own infrastructure. However, after discussions with clients, it became clear that a commercial offering would be valuable, given Quincy Data's expertise in providing low-latency market data."

White Rabbit

The company's new TSaaS platform leverages two fault-tolerant White Rabbit networks, one dedicated to each metro region, to enable synchronisation of clocks across geographically dispersed data centres. This architecture ensures precise timing and traceability to official time standards, simplifying the complexities of in-house time distribution systems for trading firms. While White Rabbit – an open-source protocol originally developed at CERN – is part of the solution, it is not the sole element, notes Mirc. "In addition to White Rabbit,

we've incorporated other advanced components and techniques, including integration with NIST's (National Institute of Standards and Technology) official UTC time service in the US. We've also deployed specialist equipment within our infrastructure to ensure the highest levels of precision and reliability."

Three Key Components

The service is built on three key components. The first is its dual time-domain architecture: one covering the New Jersey triangle (Mahwah, Carteret, and Secaucus data centres) and the other in Illinois (Cermak and Aurora). "Within each metro domain, White Rabbit provides subnanosecond precision while the NIST's Time Measurement and Analysis Service (TMAS) provides accuracy with traceability to NIST's official UTC. This ensures both accuracy and precision within each metro area," explains Mirc, adding that the second component involves the integration of various techniques and technologies to enhance precision and traceability. "Our solution combines multiple layers of time-stamping accuracy, ensuring the time distributed within our domains is traceable to official standards."

The final component, reliability, sets Quincy's offering apart, says Mirc. "Reliability is critical for trading participants. We've designed the network topology to be fully redundant, with real-time monitoring of every piece of equipment and every link within the infrastructure. Automated failover mechanisms ensure that any disruption is immediately resolved. This level of reliability, coupled with full traceability back to UTC, is something we haven't seen offered elsewhere."

Looking ahead, the company is now looking at potentially rolling out a similar solution in Europe. "In Europe, the longer distances between key trading hubs create additional complexities, but we believe London would make sense as a starting point for a European rollout," notes Mirc. "Once we see sufficient demand from clients and identify the appropriate local solutions, this is certainly something we are considering."

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