TraceableUTC™

Hoptroff London Limited's HoptroffTime solution delivers time accurately to servers in data centres with a traceable route to established UTC sources such as NPL and NIST via satellite and fibre time distribution networks, arriving at our Hoptroff Time HT-GMC clocks located in the data centre.

From there we use *ResilientPTP*™ technology to distribute UTC robustly across the data centre over existing network infrastructure, and *PacketPrecision*™ to measure the hardware timestamp on the server's network card and the timestamping application's timestamp.

This alone, however, is not sufficient for MiFID-II compliance. You also have to prove your time is right.

RTS 25 Regulatory Technical Standards on Clock Synchronization

Article 4: Compliance with the maximum divergence requirements

"Operators of trading venues and their members or participants shall establish a system of traceability to UTC. They shall be able to demonstrate traceability to UTC by documenting the system design, functioning and specifications. They shall be able to identify the exact point at which a timestamp is applied and demonstrate that the point within the system where the timestamp is applied remains consistent. Reviews of the compliance with this Regulation of the traceability system shall be conducted at least once a year."

Our Time Management Suite™ software doesn't just deliver time. It delivers it resiliently, measurably and verifiably right down to the application timestamp.

The TraceableUTC™ software component offers MiFID-II timekeeping compliance reporting managed centrally by HoptroffTime Grandmaster Clocks.

Demonstrating Traceability and Compliance

TraceableUTC is a software application that centralizes the management of the compliance process, performing monitoring and logging all the time-receiving servers in the data centre.

This application usually runs at the grandmaster clocks, so not only do they distribute time to all servers, they also monitor the quality of the time distributed right down to the application level. This data is then stored in a database at the data centre and is available via a web interface, both in real-time and historically.

The final step of demonstrability is a physical check of system timing using a phase meter to eliminate possible sources of systematic error such as cable lengths, asymmetric path lengths, etc.

Performance Measure	*Logging frequency*
Time measured at each grandmaster clock	1.000 s
De-jittered primary clock error at each grandmaster clock	1.000 s
Clock holdover error at each grandmaster clock	1.000 s
Time measured at each server	5.000 s
Timing distribution error at each server	5.000 s
Mean network clock to application latency, inbound	0.500 s
Mean network clock to application latency, outbound	0.500 s
Clock to application timestamp latency, inbound	each timestamp
Clock to application timestamp latency, outbound	each timestamp
Physical check with phase meter	annually
Formal compliance report	annually

Some elements described above are patent pending

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