



The NPLTime[®] Service: UTC traceable time over fibre for the Financial Sector

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Extended Abstract

NPLTime[®] is a time service for the financial sector that is independent of GPS and certified by the National Physical Laboratory (NPL) as being traceable to UTC(NPL) at the end user. Currently, GPS is widely used by the financial sector as a source of time, although it has been shown to be vulnerable to jamming and spoofing attacks. NPL has identified the requirement for an alternative resilient source of time for the financial sector and has developed a solution based on IEEE1588 v2 (PTP) for time dissemination over secure fibre optic links.

NPL currently operates this time dissemination link over 74km dark fibre infrastructure from NPL in Teddington in South-West London to a hub in Telehouse North, in London's Docklands. Dedicated fibres link this hub with customer sites providing a direct time signal from NPL. Under the full NPLTime[®] service, the time signal is monitored by NPL and guaranteed to be within $\pm 1\mu\text{s}$ of UTC(NPL). This level of accuracy ensures that customers can easily meet the European MiFID II regulations requiring timestamping of algorithmic based trades to within $\pm 100\mu\text{s}$ of UTC. These regulations are due to come into force in 2018.

The NPLTime[®] fibre network has also been expanded to include new sites outside London. The service is now available over dedicated fibre links to datacentres in Reading and Slough, where many financial trading centres already have a significant presence. This enables greater connectivity options for banks and exchanges, and also increases resiliency over fibre routes.

NPLTime[®] is a resilient, traceable UTC time service, certified at the client premises as opposed to the source, guaranteed to be within $\pm 1\mu\text{s}$ of UTC(NPL).