



Digital S.I. traceability of time through an Application Programming Interface (API)

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Any measurement underpins the International System of Units (SI). Transformation of these measurements to fully digital representation relies upon robust, unambiguous and machine – actionable digital representation in units of measurement. Through an unbroken chain of comparison, the metrological traceability is being provided to the end user from the SI units. The Digital Calibration Certificates (DCCs) issued to establish the traceability will help the autonomous manufacturing and processing with increased level of perfection at the point of measurement and decision making.

For digital exchange of measured data from the SI units to the end user an Application Programming Interface (API) is required, as different machines work on different programming languages as per their requirements. API is a medium for transferring and retrieving data to and from a server by a client through any OS including Windows, Linux, IOS or Android, with the help of any mobile application or any programming language.

At NPL Time & Frequency we are developing a browser-based GUI in which an API is added as a feature. This time transfer RESTful API is being developed on Django REST Framework following the “Digital-SI” guidelines of BIPM. It is meant for sharing the CVGNSS data between any remote receiver and the data server at NPLI. The API provides access to the registered remote users only through login credentials. Any commercial receiver capable of generating the RINEX and CCGTTS information in machine readable formats like xml, html & json will be compatible to use this API. With the help of this API the user can get to know the time offset with respect to UTC(NPLI).

References:

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