

Time as a Service (TaaS): Aruba and TOP-IX join forces to offer synchronisation services

Available in the Global Cloud Data Centre of Ponte San Pietro, the TaaS service enriches the offer that Aruba makes available to customers who use colocation and cloud services

London, 12 April 2023 - Increasingly stringent requirements related to transaction tracking in areas ranging from finance to betting and trading, or involving online gaming or even more specific cases for latency measurement in network infrastructures, demand extreme precision and accuracy in timing hardware. For most companies, running a synchronisation system in-house for the digital infrastructure is difficult both because of the possible high costs and the constant and necessary maintenance.

With this in mind **Aruba**, the main Italian cloud provider and leader in data centre services, web hosting, e-mail, PEC and domain registration, announced the availability of the **Time as a Service (TaaS)** synchronisation service at the Global Cloud Data Center of Ponte San Pietro (BG). The use of the service is possible thanks to a direct collaboration with **TOP-IX** (Turin Piedmont Internet eXchange) - the consortium established for the purpose of creating and managing an Internet Exchange (IX) for the exchange of Internet traffic in the North West area - which in turn cooperates with **INRIM**, the National Institute of Metrological Research and a primary member of the consortium.

The fibre optic infrastructure of TOP-IX is directly connected to the Time and Frequency laboratories of INRIM and, thanks to the joint technological work with Aruba, has been extended to the Data Centre Campus of Ponte San Pietro. This makes it possible to provide the service in two different modes, related to the protocols used to distribute the time reference and to the users of the service itself: NTP TaaS and PTP TaaS.

NTP TaaS (Network Time Protocol) - The NTP protocol is the most commonly used protocol to synchronise computer and telecommunications systems over time. When the servers providing the NTP reference sources are reached via the Internet, they can be exposed to DDoS type attacks capable of inhibiting the synchronisation processes and rendering them inaccessible. Aruba and TOP-IX, through the network created, are able to avoid attacks since this infrastructure does not convey the signal on a public network but on a private network, carefully monitored and protected.

PTP TaaS (Precision Time Protocol) - In many areas, synchronisation requirements demand greater accuracy than that achieved by the NTP protocol. One example is ESMA's MiFID II directive, which for online trading requires minimum requirements such as 100 us accuracy relative to UTC and 1 us granularity.

Although these levels of accuracy can also be achieved by GNSS (Global Navigation Satellite System like GPS or Galileo) type sources, this mode has some limitations: radio signals can be jammed by external sources, in some cases the system is operated by entities outside the EU, and accuracy is subject to the will of the operator. Finally, regulations such as MiFID II require systems to be referenced against UTC (Coordinated Universal Time), derived from national atomic clocks.

The PTP TaaS service overcomes these limitations as it is provided by the public scientific research organisation INRIM via a fibre-optic infrastructure and not radio, made available by Aruba and TOP-IX.

"From the financial services sector to that of online gaming, there are more and more companies for which Time as a Service represents an essential tool to meet compliance requirements and maintain a very high precision and reliability time synchronisation - commented Fabrizio Garrone, Enterprise Solution Director of Aruba - The TaaS, which we propose, represents a new element in the offer available to customers who choose the Data Center Campus of Ponte

San Pietro to take advantage of a wide range of services ranging from colocation to the most advanced cloud, both when they are provided in managed mode, and when customers choose to manage them independently."

"The TOP-IX Consortium has the TaaS service in its portfolio on its network between Turin and Milan: its uniqueness on the Italian market is given by the UTC reference made available by INRIM, the National Metrological Institute, a member of the Consortium, and by the propagation of the synchronisation signal over fibre optic infrastructure," explains Andrea Casalegno, Technical Director of the TOP-IX Consortium. - The partnership with Aruba allows them to extend the service to their Data Centres in Ponte San Pietro, and thus to all their customers who need secure and reliable synchronisation services."

For further information: <http://aru.ba/entaas>

Aruba S.p.A.

Aruba S.p.A., founded in 1994, is the leading Italian cloud provider and the first company in Italy for data centre, cloud, hosting, trust services, email, PEC and domain registration services, aimed at individuals, professionals, businesses and Public Administration. Aruba manages 2.6 million registered domains, 9.4 million e-mail accounts, 8.8 million PEC accounts, 130,000 managed servers, for a total of 16 million users. Aruba PEC and Actalis are the 2 Certification Authorities of Aruba, both accredited with AgID (Agenzia per l'Italia Digitale), they provide highly qualified services. In March 2021 Aruba enters the Telco market with the offer of ultra-broadband connectivity services in the Italian territory, based on Open Fiber's all fibre optic network (FTTH - Fiber To The Home). In almost 30 years, the company has acquired extensive experience in the development and management of high-tech Data Centres, owned and located throughout the country (the largest is in Ponte San Pietro - BG), characterised by infrastructures and plants 'green by design' that comply with the highest safety standards in the sector (Rating 4 ANSI/TIA-942 and ISO 22237) and are designed to have minimal environmental impact. It also produces clean energy through photovoltaic plants and hydroelectric power plants. The infrastructure network also extends across Europe with a proprietary Data Centre in the Czech Republic and partner facilities located in France, Germany, Poland and the UK. Since 2014 Aruba has been the official registry of the authoritative '.cloud' extension for the worldwide registration of Internet domains. Since 2015 Aruba.it Racing has been the official Ducati team in WorldSBK and World Champion for the 2022 season. For further information on the Aruba Group visit: <https://www.aruba.it>

TOP-IX

TOP-IX (Turin Piedmont Internet eXchange) is a non-profit consortium established in 2002 with the aim of creating and managing an Internet Exchange (IX) for the exchange of Internet traffic in the North West area. Starting from its strong roots in the Piedmont area, TOP-IX operates in the borderless global space that is the network. Besides building and managing the network infrastructure to provide the typical services of an Internet Exchange, it promotes and supports technological and/or business innovation projects based on the use of broadband Internet. The two actions act synergistically to foster growth in the area. For info: <http://www.top-ix.org>

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