NIST Confirms STL as an Accurate and Reliable Source for Wide-Area Delivery of Coordinated Universal Time

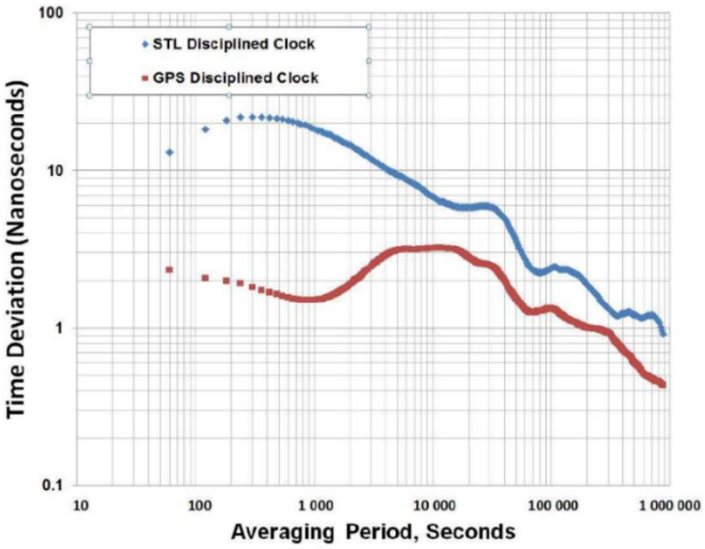
Study by U.S. Government agency responsible for maintaining national time scale shows that Satelles provides a signal that is independent of GNSS and delivers exceptional timing stability

RESTON, Va., April 21, 2021 – Satelles, Inc. (www.satelles.com), innovative provider of highly secure satellite-based time and location services, today announced an important new finding by the U.S. National Institute of Standards and Technology (NIST) about Satellite Time and Location (STL). Following a detailed performance study in 2020, NIST determined that STL is a reliable source of timing that is highly consistent with Coordinated Universal Time (UTC) and is based on a signal that is independent from the Global Positioning System (GPS) and other Global Navigation Satellite Systems (GNSS). The STL service was able to deliver this consistent performance in a deep indoor environment where GNSS signals did not reach.

The results of the study were shared by Dr. Elizabeth Donley, Chief of the Time and Frequency Division at NIST, when she presented at the recent Workshop on Synchronization and Timing Systems (WSTS) conference organized by the Alliance for Telecommunications Industry Solutions (ATIS). She addressed the WSTS audience about NIST's work to develop non-GNSS sources of Coordinated Universal Time (UTC) and in her presentation categorized STL as one of the non-GNSS sources of UTC.

Dr. Donley articulated the details of the study conducted by NIST last year in which a GPS-disciplined clock (GPSDC) and a Satelles EVK-2 evaluation unit with a quartz oscillator comparable to that in the GPSDC were both compared to UTC(NIST), the national time scale in the United States, for a period of 50 days. In this evaluation, the GPS device received its signal from an outdoor antenna whereas the Satelles device was connected to an indoor antenna in a deep indoor environment where GNSS signals were not able to reach.

Time deviation (TDEV) calculations estimated the stability of the two signals with respect to the UTC(NIST) time scale. Based on one day of averaging, the GPS instability was less than two nanoseconds (< 2 ns), and the STL instability was only slightly higher at under three nanoseconds (< 3 ns). These measurements demonstrated that STL delivers stability that is comparable to GNSS and does so in an indoor location where GPS signals usually cannot penetrate.



(*source: NIST*)

STL delivers a positioning, navigation, and timing (PNT) service from satellites in low Earth orbit (LEO) to back up or augment GPS and other GNSS. The evaluation by NIST confirms that users of PNT-reliant

applications can obtain accurate and reliable timing without using GNSS.

“We are thrilled that NIST has performed these independent tests which confirm what we have long known, which is that STL delivers an independent timing source that is reliable and highly consistent with UTC. This report complements and reinforces the findings of the U.S. Department of Transportation which identified STL as a top-ranked PNT system in its technology demonstration report released earlier this year and showed STL to be the only solution that demonstrated a wide-area timing capability that works indoors and out,” said Dr. Gregory Gutt, President and CTO of Satelles.

Dr. Michael O’Connor, CEO of Satelles, was also complimentary of the NIST report and its significance. “The challenge of providing reliable back-up sources of PNT is critical to our society. The data from this important report by NIST underscores that solutions exist **today** that provide an essential contingency capability to protect the operations of PNT-dependent critical infrastructure and ensure the survivability and resilience of our nation.”

For more information about STL visit www.satelles.com.

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About Satelles

Satelles provides secure time and location signals from low Earth orbit (LEO) that are independent of the Global Positioning System (GPS) and other Global Navigation Satellite Systems (GNSS). Satelles’ Satellite Time and Location (STL) service safeguards against devastating attacks to GPS/GNSS capable of disrupting or disabling electrical grids, wireless communications networks, financial systems, and other private and public infrastructure in ways that seriously imperil the safety and security of our society.

Available anywhere on the planet, the STL service delivers assured positioning, navigation, and timing (PNT) via a satellite broadcast signal that is stronger and more secure than other solutions. The company delivers assured PNT at levels of stability, reliability, and trust required by commercial enterprises and government entities across a range of critical infrastructure, IoT, and cybersecurity applications. Satelles partners with device manufacturers to incorporate STL signal support into today’s latest equipment, bringing the benefits of Satellite Time and Location to customers around the world.

Satelles Media Contact
Kirk Vespestad
Satelles, Inc.
kvespestad@satelles.com
+1 (703) 282-1800

Corporate Website: https://www.satelles.com/
Twitter: https://twitter.com/satellesinc
LinkedIn: https://www.linkedin.com/company/satelles/