

WORKSHOP
— ON —
SYNCHRONIZATION
— AND —
TIMING SYSTEMS

Virtual Webinar Series
Session 3
Timing Security, Resilience
and GNSS Issues
May 20, 2020

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Timing Security, Resilience and GNSS Issues Overview



Marc Weiss
Time & Frequency Expert
Consultant

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- The vWSTS webinar series is being held in place of the annual face-to-face WSTS.
- Today's webinar is the third in a series of three:
 - **May 6** – 5G and Smart Cities
 - **May 13** – Timing in Finance, Electric Power and Broadcast
 - **May 20** – Timing Security, Resilience and GNSS Issues
- Thank you to today's speakers, as well as Meinberg for sponsoring this webinar.
- Attendees will receive an email with the slides and a link to the recording shortly following today's broadcast.
- There are two Q&A sessions during this webinar.
 - Submit questions at any time using the question tab on the control panel located on the right side of your screen.
- Follow ATIS on Twitter @atisupdates

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Chair: Marc Weiss – Time & Frequency Expert Consultant

Vice Chair: Kishan Shenoi – CTO, Qulsar

Speakers: Karen Van Dyke – Director, PNT & Spectrum Management, DOT

Heiko Gerstung – Managing Director, Meinberg

Karen O’Donoghue – Director, Internet Trust & Technology, Internet Society

Doug Arnold – Principal Technologist, Meinberg USA

Josh Clanton – Principal Engineer, IS4S

David Hodo – Director of Assured PNT, IS4S

Andreas Bauch – Head of Time Dissemination Working Group, PTB

Akis Drosinos – Member of the Technical Staff, Spirent Communications

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Session 3: Timing Security, Resilience and GNSS Issues

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- Resilient PNT for Transportation Applications, Karen Van Dyke
- Meinberg Sponsor Presentation, Heiko Gerstung
- Time Security – The Winding Path to Deployment, Karen O’Donoghue
- Secure PTP Using TLS Key Management, Doug Arnold
- A Multi-Level Approach for Integrating GNSS Integrity into Critical Timing Applications, Josh Clanton, David Hodo
- Timing Services Based on European GNSS Technologies, Andreas Bauch
- Effect of GNSS Multipath on Timing Receivers, Akis Drosinos

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Critical timing issues

- As seen in our previous two webinars **timing is becoming a critical enabler** in many industries: 5G, Smart Cities, Smart Grid, Finance, and Broadcast
- Our Keynote today brings in the importance of timing in transportation, touching on some of the **US government efforts to support Resilience**
- Since **timing must be delivered** from the source to the user, there are many places in the chain where vulnerabilities appear
- Our speakers today address issues both in using **GNSS** for timing, the method most use to receive UTC, and in using **networks**

