

Sunday September 17 – Tuesday September 19

## Sunday, September 17, 2023

**15:00** Organizer Setup

**18:00** End of Sunday Session

## Monday, September 18, 2023

**08:30** Doors Open

**09:00** PAT Certification, set up networks

**12:30** Lunch

**13:30** Basic Interoperability, Rogue master

**17:00** Positive leap second

**18:00** End of Monday Session

## Tuesday, September 19, 2023

**08:30** Doors Open

**09:00** Wrong profile traffic, PTP message flood

**12:30** Lunch

**13:30** Simulated congestion, profile specific tests

**16:00** Negative leap second

**17:00** Tear down and pack up

**18:00** End of Tuesday Session

## Wednesday, September 20, 2023

**08:30** **Registration and Morning Coffee**  
*Reception*

**Opening Session**  
*Auditorium*

**09:00** **Conference General Co-Chair Remarks**  
Kang Lee (IEEE IMS TC-9, USA) and Denis Reilly (Equinix, USA)

**Program Committee Co-Chair Remarks**  
Radim Bartos (University of New Hampshire, USA) and Lee Cosart (Microchip, USA)

**09:15** **Keynote Presentation 1**  
*Auditorium*  
Session Chair: Kang Lee (IEEE IMS TC-9, USA)

**These Things Take Time**  
Tommy Cook (Calnex Solutions, UK)

**10:00** **Morning Break**

**10:15** **Session I: Timing Research and Applications**  
*Auditorium*  
Session Chair: Ahmad Byagowi (Meta, USA)

**Comparison of Time Synchronization Sources for PMU Calibration Infrastructures**

**10:15**  
Federica Costa (University of Bologna, Italy)  
Guglielmo Frigo (Swiss Federal Institute of Metrology METAS, Switzerland)  
Dominik Husmann (Swiss Federal Institute of Metrology METAS, Switzerland)  
Antoine Jallageas (Swiss Federal Office of Metrology METAS, Switzerland)  
Jacques Morel (Swiss Federal Institute of Metrology METAS, Switzerland)

**10:40** **Equivalence of JST Algorithm and Kalman Filtering Algorithm for Time Scale Generation**  
Yuyue Yan (Tokyo Institute of Technology, Japan)  
Takahiro Kawaguchi (Gunma University, Japan)  
Yuichiro Yano (National Institute of Information and Communications Technology, Japan)  
Yuko Hanado (National Institute of Information and Communications Technology, Japan)  
Takayuki Ishizaki (Tokyo Institute of Technology, Japan)

**11:05** **Precision Time Protocol Profile for Datacenter Applications**  
Michel Ouellette (Meta, USA)  
Thomas Kernen (NVIDIA, Switzerland)

**11:30** **Synchronization Methods for the Converging Telecom and Data Centre Infrastructures**  
Chellappan Pillai Sreedevi Ullas Kumar (National University of Singapore, Singapore)

**11:55** **SMQTT: A Lightweight Clock Synchronization Algorithm for IoT devices using MQTT**  
Rahul N. Gore (Malardalen University, Sweden)  
Saurabh B. Chauhan (Ahmedabad University, Gujrat, India)

## Wednesday, September 20, 2023

**12:20** **Lunch**  
*Reception*

**13:30** **Promotional Partner Presentations**  
*Auditorium*  
Session Chair: Hans Weibel (Zurich University of Applied Sciences, Switzerland)

**13:30** **Meinberg**

**13:45** **Calnex**

**13:55** **GuideTech Inc**

**14:05** **Microchip**

**14:15** **Saisi Electronic Technology**

**14:30** **Session II: Applications**  
*Auditorium*  
Session Chair: Radim Bartos (University of New Hampshire)

**14:30** **National time scale of Bosnia and Herzegovina as timing and synchronization source in critical infrastructure**  
Sani Sarcevic (Institute of Metrology of Bosnia and Herzegovina, Bosnia and Herzegovina)  
Osman Sibonjic (Institute of Metrology of Bosnia and Herzegovina, Bosnia and Herzegovina)

**14:55** **Best Practices in Industrial Time Dissemination**  
Richard Hoptroff (Hoptroff London Ltd, United Kingdom)  
Robbie Lindauer (Hoptroff London Ltd, United Kingdom)

**15:20** **Afternoon Break**  
*Reception*

**15:35** **Session III: Timing over Wireless**  
*Auditorium*  
Session Chair: Denis Reilly (Equinix, USA)

**15:35** **Exploiting Accurate Ultra Wide Band Time Synchronization at the Application Level in Embedded Systems**  
Stefano Rinaldi (University of Brescia, Italy)  
Alessandro Musatti (University of Brescia, Italy)  
Alessandro Depari (University of Brescia, Italy)  
Paolo Ferrari (University of Brescia, Italy)  
Alessandra Flammini (University of Brescia, Italy)  
Emiliano Sisinni (University of Brescia, Italy)

## Wednesday, September 20, 2023

**16:00** **Exploring Wireless Clock Synchronization with OCP-TAP Time Cards and RTL-SDRs**  
 Wilbur Myrick (ENSCO, USA)  
 Nobuyasu Shiga (National Institute of Information and Communications Technology, Japan)  
 Julian St. James (Meta, USA)  
 Ahmad Byagowi (Meta, USA)

**16:25** **A Solution for Wireless Precision Synchronization**  
 Nobuyasu Shiga (National Institute of Information and Communications Technology, Japan)  
 Satoshi Yasuda (National Institute of Information and Communications Technology, Japan)  
 Julian St. James (Meta, USA)  
 Ahmad Byagowi (Meta, USA)

**16:50** **End of Wednesday Session**

**17:00**  
**18:30** **Welcome Reception**

## Thursday, September 21, 2023

**08:30** **Registration and Morning Coffee**  
*Reception*

**09:00** **Session IV: Timing Hardware and Software**  
*Auditorium*  
 Session Chair: Douglas Arnold (Meinberg USA, USA)

**09:00** **Using Higher Stability Oscillators for NICs and CPUs**  
 Ali Rouhi (SiTime Corporation, USA)  
 Ahmad Byagowi (Meta, USA)  
 Markus Lutz (SiTime Corporation, USA)

**09:25** **linuxptp Servo Optimization for Network Adapters with High-Precision Oscillators**  
 Tamás Kováčsházy (Budapest University of Technology and Economics, Hungary)  
 Zoltan Fodor (Intel UK, Ltd., United Kingdom)

**09:50** **Holdover Improvements to the linuxptp Servo for Network Adapters with High-Precision Oscillators**  
 Tamás Kováčsházy (Budapest University of Technology and Economics, Hungary)

**10:15** Morning Break  
 Reception

**10:30** **Keynote Presentation 2**  
*Auditorium*  
 Session Chair: Radim Bartos (University of New Hampshire)

**10:30** **Resilient Time for the Future**  
 Leon Lobo (National Physical Laboratory, UK)

## Thursday, September 21, 2023

<b>11:15</b>	<b>Session V: Timing Protocols</b> <i>Auditorium</i> Session Chair: Radim Bartos (University of New Hampshire)
<b>11:15</b>	<b>Simple Precision Time Protocol (SPTP)</b> Oleg Obleukhov (Meta, Ireland) Alexander Bulimov (Meta, Ireland) Ahmad Byagowi (Meta, USA)
<b>11:40</b>	Industry Session Paper <b>A New Approach to IEEE1588: Applying a Client/Server Model to Unicast PTP as an Alternative to NTP</b> Heiko Gerstung (Meinberg Funkuhren GmbH & Co. KG, Germany) Thomas Behn (Meinberg Funkuhren GmbH & Co. KG, Germany)
<b>12:05</b>	<b>Lunch</b> <i>Reception</i>
<b>13:15</b>	<b>Keynote Presentation 3</b> <i>Auditorium</i> Session Chair: Denis Reilly (Equinix, USA) White Rabbit PTP for Precise Time and Frequency Dissemination for Science and Industry Namneet Kaur (National Physical Laboratory, UK)
<b>14:00</b>	Session VI: Analysis of Timing <i>Auditorium</i> Session Chair: Ahmad Byagowi (Meta, USA)
<b>14:00</b>	<b>Characterization of Time Error and Time Holdover Utilizing Estimation Calculations</b> Lee Cosart (Microchip, USA)
<b>14:25</b>	<b>Proving Advanced Synchronization Characteristics of PTM Enabled Hardware</b> Brandon Frech (Calnex Solutions, USA) Julian St. James (Meta, USA) Armando Pinales (Meta, USA)
<b>14:50</b>	<b>Automated Root Cause Analysis in Time-Sensitive Networks based on Fault Models</b> Tobias Ferfers (Research - & Fraunhofer IOSB-INA, Germany) Sebastian Schriegel (Fraunhofer IOSB-INA & Application Center Industrial Automation, Germany) Jürgen Jasperneite (Fraunhofer IOSB-INA, Germany)
<b>15:15</b>	<b>Afternoon Break</b> <i>Reception</i>
<b>15:30</b>	<b>NPL Tour</b>

## Thursday, September 21, 2023

**16:40** **Breaking News: latest updates from IEEE 1588, NTP and IEEE 1952**  
Douglas Arnold (Meinberg USA, USA)

**17:05** **Plugfest Report**  
Douglas Arnold (Meinberg USA, USA)

**17:20** **Closing Session**

**17:40** **End of Thursday Session**

**19:00** **Conference Dinner at The King's Head**

## Friday, September 22, 2023

**08:30** **Registration and Morning Coffee**  
*Reception*

**09:00** **IEEE P3335 Session**  
*Auditorium*

**10:15** **Morning break**  
*Reception*

**10:30** **IEEE P3335 Session (continued)**  
*Auditorium*

**12:00** **End of Symposium**