Call for Papers

1st International Workshop on

High-Precision Networks Operations and Control

HiPNet 2018

Rome, Italy, November 9th 2018

Co-located with CNSM 2018

Technically co-sponsored by IFIP, IEEE Communications Society, IEEE Computer Society

http://www.cnsm-conf.org/2018/hipnet2018.html

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New waves of networked applications continue to push the limits of what is possible with networks today. Augmented Reality and Tactile Internet require ultra-low latency measured in single-digit milliseconds. Requirements of Industrial Internet applications that involve real-time industrial control are even more stringent and tolerate no jitter at all. Compounding this situation is the fact that many of those applications are mission-critical and cannot afford any loss in connectivity or even single packets. Collectively, these applications require High-Precision Networks that are characterized by very stringent service level boundaries and associated guarantees that border on determinism. This requires a rethinking of many of the principles underlying existing "Best Effort" internetworking technology. This will involve advances over a wide range of areas, such as programming and processing of packets in the data plane, high-precision measurements and telemetry with nanosecond accuracy at scale, control interfaces and ultra-low latency control loops to optimize service levels, as well as advances in the related platforms and algorithms that allow for their management and control.

The workshop aims to provide a forum for researchers, students and professionals from industry and academia to discuss challenges and present work-in-progress and solution approaches to deliver on High-Precision Networks and their management and control. Topics of Interest to the workshop include but are not limited to the following:

- Platforms to manage and operate high-precision networks and services, e.g. Industrial Networks, Tactile Networks, Augmented Reality (AR)
- Proof and validation of high-precision service level guarantees
- High-precision measurement techniques for ultra-low latency and jitter
- Service assurance for micro services, for service function chains
- Applications for Inband Network Telemetry and IOAM
- High-precision networking using service function chaining
- In-network service level tuning and optimization
- Novel network programming models with applications in high-precision Networking
- Applications of Artificial Intelligence for high-precision networking
- Time-Sensitive Networking (TSN) interconnect and wide-area TSN; IP and TSN convergence
- SDN applications for high-precision, high-performance networking
- High-precision networking over 5G
- High-Precision networking services using Fog and Edge Computing
- Deployment and operational experiences with Industrial Internet, Tactile Internet, networked AR

Authors are invited to submit original unpublished papers that are not already under review elsewhere. Submissions will be subjected to a peer-review process. Papers must be prepared in IEEE 2-column format and not exceed 6 pages. Papers accepted and presented at HiPNet will be published open access on the CNSM conference Web site with IFIP copyright, and will be submitted for possible inclusion in IEEE Xplore, ACM and IFIP Digital Libraries.

Important Dates:

Paper submission:	~~July 29th~~ August 20 (registration)
(final extension)	August 23 (upload)
Notification:	~~Sept 16th~~ - Sept 24
Camera-ready:	~~Sept 29th~~ Oct 7
Workshop:	Nov 9th

Questions? Please contact alexander.clemm@huawei.com