

Call for Papers

Seventh International Workshop on Cloud Technologies and Energy Efficiency in Mobile Communication Networks (CLEEN 2020)

How cloudy and green will mobile network and services be?

In conjunction with ICC2020, 11 June 2020, Dublin, Ireland

Scope and Objectives:

This workshop explores novel concepts to allow for flexibly centralised radio access networks using cloud-processing based on open IT platforms, exploiting network virtualization and multi-access edge computing technologies that are recognized as key enablers for the definition of 5G systems and beyond. The aim is to allow for a guaranteed high quality of experience for mobile access via efficient management of cloud resources and services, and to allow for a future network evolution focused on energy efficiency and cost-effectiveness. In fact, all future innovative network solutions will be conceived and deployed with a long term perspective of sustainability, both in terms of energy consumption of the mobile network, its related interoperability with terminals and the cost efficiency of the different deployment and management options. This requires new concepts for the design, operation, and optimization of radio access networks, backhaul networks, operation and management algorithms, and architectural elements, tightly integrating mobile networks and cloud-processing. The emerging paradigm of distributed cloud environment is also a key topic. This workshop will cover technologies across PHY, MAC, and network layers, technologies which extrapolate the cloud-paradigm to the radio access and backhaul network, and will analyse the network evolution from an energy efficiency perspective. It will study the requirements, constraints, and implications for mobile communication networks, and also potential relationship with the offered service, both from an academic and industrial point of view.

We solicit original submissions in the following areas:

- Aggregate management of communication, computing, storage resources in mobile infrastructures
- Centralized/decentralized PHY/MAC/.../App computing and processing
- Flexible assignment of functionality in mobile networks
- Joint operation and optimization of radio access and backhaul networks for cloud-based mobile networks
- Integration of cloud-services into green heterogeneous wireless networks;
- Management of cloud-based/cloud-operated heterogeneous networks providing access to cloud-services
- Service and energy management for cloud-based mobile networks
- Application development toward distributed computing systems
- Task offloading and distributed computing environments
- Energy efficiency vs. QoS vs cost-efficiency trade-offs
- Multi-access Edge Computing and related enablers (e.g. new interfaces, protocols, node-to-node communication, Sidelink communication, innovative cache support,...), including Multi access technologies
- Architectural evolution of mobile networks and cost effective deployment strategies for evolved heterogeneous wireless network
- Storage and computation capability of small cells
- Resource allocation techniques; interference analysis, avoidance, and mitigation for heterogeneous networks
- Testbeds and performance evaluation for cloud-based mobile communication networks
- Machine learning and Artificial Intelligence for cloud efficiency

Important Dates:

Paper Submission: 20/01/2020
Acceptance Notification: 20/02/2020
Camera-Ready: 01/03/2020
Workshop: June 11, 2020

Submission Guidelines:

Accepted papers should be presented for publication in IEEE Xplore. A full version of each paper has to be submitted through the EDAS system under the workshop track. Guidelines for submission can be found in the CLEEN2020 website (<https://5g-ppp.eu/cleen2020/>).

Organising Committee:

General Chairs

Dario Sabella (INTEL, Germany)
Emilio Calvanese Strinati (CEA LETI, France)

TPC co-chairs

Miquel Payaró (CTTC, Spain)
Sergio Barbarossa (Univ. La Sapienza, Rome, Italy)
Panagiotis Demestichas (University of Piraeus, Greece)

Publicity co-chairs

Vincenzo Mancuso (IMDEA networks, Spain)
Zdenek Becvar (Technical University Prague, Prague)

Steering committee

Antonio De La Oliva, UC3M, Spain
Carlos J. Bernardo (UC3M)
Maurizio Mayer (AICT, Italy)
Chuan Heng Foh (University of Surrey, IEEE ComSoc TCGCC, UK)
Antonio Manzalini (TIM, Telecom Italia group, Italy, IEEE SDN chair)
Jinsong Wu (Universidad de Chile, IEEE ComSoc TCGCC, Chile)
Xavier Costa, NEC Eurolabs, Germany
Tao Chen, VTT, Finland

Technical Programme Committee (TBC):

Alain Mourad, Interdigital, UK
Antonio De Domenico, CEA-LETI, France
Antonio De La Oliva, UC3M, Spain
Carlos Donato, Antwerp University, Belgium
Fabio Giust, Athonet, Italy
Giovanni Stea, University of Pisa, Italy
Ginés García Avilés, UC3M, Spain
Josep Vidal, UPC, Spain
Konstantinos Samdanis, Huawei, Germany
Luca Cominardi, UC3M, Spain
Loreto Pescosolido, Italian National Research Council, Institute for Informatics and Telematics, Italy
Marco Di Girolamo, Hewlett Packard Enterprise, Italy
Matthieu De Mari, Singapore University of Technology and Design (SUTD), Singapore
Miltiadis Filippou, Intel, Germany
Muhammad Imran, Univ. of Glasgow, UK
Nicola Di Pietro, CEA-LETI, France
Ranga Rao Venkatesha Prasad, EWI, TUDelft, The Netherlands
Romeo Giuliano, Guglielmo Marconi University, Italy
Tapio Rautio, VTT, Finland
Vincenzo Mancuso, IMDEA Networks, Spain
Vincenzo Sciancalepore, NEC Eurolabs, Germany
Zdenek Becvar, Czech Technical University in Prague, Czech Republic

<https://5g-ppp.eu/cleen2020/>