Edge Cloud Empowered 5G Networks

TROPIC Training Workshop

18th and 19th of February 2015

Université di Roma "La Sapienza", Coliseum, Rome, Italy

Chairs:

Emilio Calvanese Strinati, CEA-LETI, France
Sergio Barbarossa, Univ. La Sapienza Università di Roma, Italy

Steering Committee:

Josep Vidal, UPC, Spain
Felicia Lobillo, Atos, Spain

Local Arrangements:

Stefania Sardellitti, Univ. La Sapienza Università di Roma, Italy

Workshop Description

The aim of the workshop is to address the joint allocation of computation and communication resources in a Mobile Edge-Computing (MEC) scenario, aimed at augmenting the capabilities of any mobile device through proximity-enabled high bandwidth radio access to distributed computational resources. The goal is to propose a holistic view and optimization of computation/communication resources in order to improve energy efficiency within latency constraints and/or empower smartphones with additional computing capabilities.

Mobile edge-computing provides a series of benefits for mobile users, operators, service provides, vendors, and manufacturers, as it enhances users' Quality of Experience (QoE), improves system efficiency, and opens a potential stream of revenues to operators by enabling disruptive vertical services.

Recently, several ambitious initiatives were launched worldwide to tackle these issues. ETSI launched a new standardization activity on MEC at the end of 2014. The TROPIC project (https://www.ict-tropic.eu) is a concerted effort with partners from industry and academia that addresses the challenge of boosting mobile users' experience. It started in September 2012, and will conclude in March 2015; it has the overall goal to design a system able to provide proximity low latency radio access to cloud resources through optimal joint allocation of communication and computational resources.

This workshop we offers an opportunity for industry, in particular mobile operators and network equipment vendors, and to academia to discuss the project's results and gain expertise on making mobile communications networks more efficient than what they are today. TROPIC's tangible results will be presented, ranging from a suitable architecture, suitable models, and application offloading techniques, radio/computation resources allocation, evaluation methodologies, and how all these solutions can be combined. Practical demonstrators will be showcased.

Workshop Program

18th of February 2015

9:30 – 10:00 Welcome introduction and TROPIC overview
Josep Vidal, *UPC, Spain*, TROPIC coordinator
10:00 – 10:45 *An architecture for mobile computation offloading on cloud-enabled LTE-Advanced*
Zdenek Becvar, CTU, Czech Republic
10:45 – 11:15 Coffee break

11:15 – 12:00 *PHY layer enablers to edge cloud-assisted application offloading*
Prof. Josep Vidal, *UPC, Spain*
12:00-12:45 *The Local Cloud Management of Virtual Machines*
Miguel Angel Puente, *Atos, Spain*
12:45 – 14:30 Lunch
14:30 – 15:15 *TROPIC practical results and demonstration*
Prof. Alessandro Mei and Julinda Stefa, *CINI, Italy*
15:15 – 16:00 Keynote talk
Cloud Technologies for Flexible Radio Access Networks (iJoin Projet)
Peter Rost, NEC, Germany
16:00 – 16:30 Coffee break
16:30 – 17:15 Keynote talk
Services Empowered by Edge Cloud
Atos, Spain

19:00 – 22:30 Social Event

19th of February 2015

9:00 – 9:45 Communicating while computing: Joint optimization of radio/computing resources for distributed mobile cloud computing.
Prof. Sergio Barbarossa, *Università di Roma La Sapienza, Italy*
9:45 – 10:45 Keynote Talk
Edge Cloud and new internet paradigms for the IoT
Pascal Thubert, Principal Engineer, *CISCO, France*
10:45 – 11:15 Coffee break & TROPIC demonstration
11:15 – 11:45 LTE/MEC related standardization topics
Mariana Goldhamer, *4GCellEx, Israel*
11:45 – 12:30 The operator perspective on Edge Cloud
Dario Sabella, Telecom Italia, *Torino, Italy*
12:30 – 14:00 *Lunch Break*
14:00 – 14:45 Cluster-based resource allocation for D2D communications
Afef Kefi, *Huawei, France*
14:45 – 15:30 TBD
Samsung, UK
15:30 – 16:00 Coffee break
16:00 – 17:00 Panel discussion: *In what direction are mobile cloud networks heading?*
Moderator: Emilio Calvanese Strinati
Participants: CISCO, Telecom Italia, Huawei, Samsung, ATOS, NEC
17:00 – 17:15 Wrap-up and end of the workshop
Emilio Calvanese Strinati, *CEA-LETI, France*

Practical Information

WORKSHOP REGISTRATION

Participation is free. However the number of participants is limited depending on room capacity availability and a ***registration is requested***.

Register now, sending an email to stefania.sardellitti@uniroma1.it, emilio.calvanese-strinati@cea.fr and sergio.barbarossa@uniroma1.it indicating your name surname, company and position in the company.

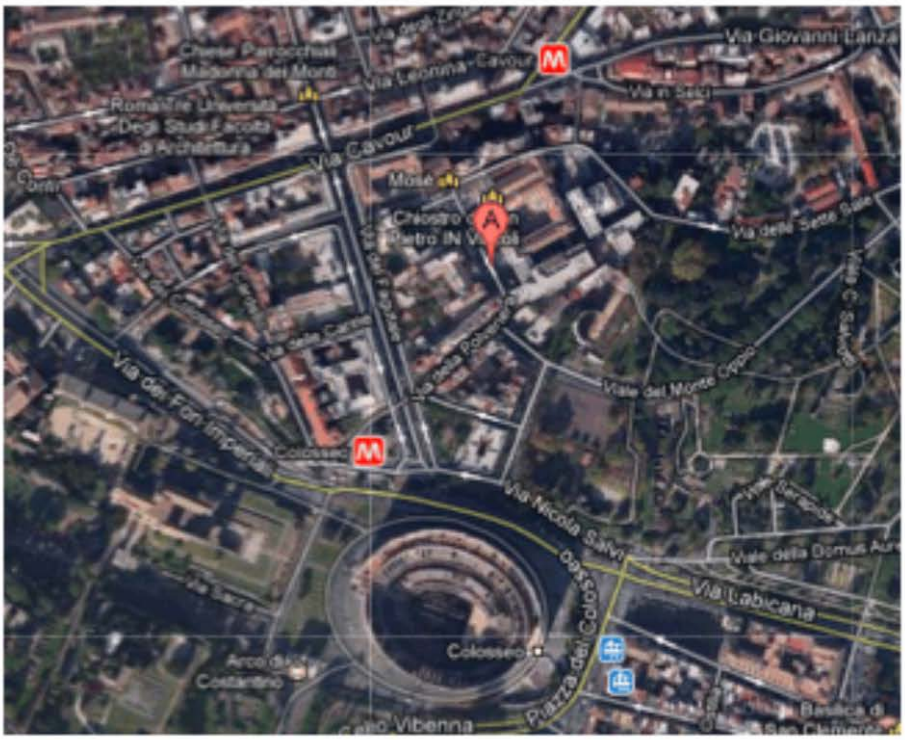
WORKSHOP DOCUMENTATION

There will be no proceedings, nor any documentation being distributed at the workshop. Nevertheless, after the workshop, a pdf version of the presentations will be made available at the TROPIC website (https://www.ict.tropic.eu).

WORKSHOP VENUE

Università di Roma "La Sapienza"
Facoltà di Ingegneria (school of Engineering), San Pietro in Vincoli

Address: Via Eudossiana 18, 00184 Rome, Italy



The University La Sapienza is located within 400 meters from the Colosseo and very easy to reach with public transportation and taxi.

How to reach San Pietro in Vincoli:
Rome has two major airports: Fiumicino and Ciampino. From Fiumicino airport, you can reach the center of Rome by taxi (approximately 40+ Euros) or by train, up to Stazione Termini. From Stazione Termini, you can take Metro B (direction Laurentina) and get out at the first metro stop (Cavour), from which you can reach San Pietro in Vincoli through a staircase. From Ciampino, there are taxis or coaches leading to Stazione Termini.

ACCOMODATION
There are plenty of hotels in Rome, which can be booked via the several booking portals.