First IEEE International Workshop on

Orchestration for Software-Defined Infrastructures (O4SDI 2016)

To be held in conjunction with the
IEEE International Conference on Communications (ICC 2016)

23-27 May 2016 – Kuala Lumpur, Malaysia

Call for Papers

Scope

The current convergence between computing and networking eco-systems clearly shows that software will play an unprecedented dominant role in future communication environments. Computing, storage, and connectivity services will be deployed as *generalized virtual functions* within a software-defined infrastructure composed of a "fog" of micro-clouds, typically located at the edge of the network. Suitable orchestration mechanisms must then be devised to facilitate the live deployment and dynamic lifecycle management of these virtual elements, at the application level, the server level, and the network level, within a single domain and across multiple domains. The open issues that must still be addressed include: unified management of computing, storage, and network resources; abstraction models and open standard interfaces; adaptation and optimization mechanisms to be enforced at global and/or local levels.

The *First IEEE International Workshop on Orchestration for Software-Defined Infrastructures (O4SDI)* aims at providing an international forum for researchers and practitioners to discuss and address the challenges that must be faced in order to facilitate orchestration and programmability of generalized virtual functions in Software Defined Infrastructures (SDI). The workshop welcomes contributions from both computing and network-oriented research communities, with the aim of facilitating interdisciplinary discussion, cross-fertilization and exchange of ideas and best practices.

Topics of Interest

Due to the highly interdisciplinary scope of the workshop, contributions are expected from both computer science and communications areas. Works that discuss lessons learnt and best practices, describe practical deployment and implementation experiences, and/or demonstrate innovative use-cases are especially encouraged for presentation in the workshop. We are particularly interested in papers that cover, but are not limited to, the following topics:

- single domain and cross domain orchestration issues
- integrated network and computing resource control and management
- control and abstraction of heterogeneous networks
- orchestration in SDN/NFV
- orchestration for next-generation IP and optical networks
- QoS/QoE in software-defined infrastructures
- orchestration for high-availability and resilience in software-defined infrastructures
- network programmability for service chaining

- run-time orchestration
- dynamic service composition and delivery
- software engineering and operating systems techniques applied to orchestration
- description, specification, and abstraction languages for orchestration
- optimal orchestration algorithms
- context-aware orchestration
- functional architectures of orchestrating elements
- testbed experiments on orchestrations
- performance evaluation of orchestration elements
- standardization issues in orchestration

O4SDI 2016 will also feature a panel discussing Orchestration in the context of Software Defined Infrastructures, as well as invited talks. Dr. Stuart Clayman, University College London, will moderate the panel and will also give a talk about the role of abstractions in software which will be particularly important for network orchestration, one of the most important interdisciplinary aspects of the workshop theme.

Workshop Co-Chairs

Walter Cerroni, University of Bologna, Italy – walter.cerroni@unibo.it
Barbara Martini, CNIT, Pisa, Italy – barbara.martini@cnit.it
Federica Paganelli, CNIT, Firenze, Italy – federica.paganelli@cnit.it

Additional Information

Additional information on the O4SDI community can be found at http://www.o4sdi.unibo.it

Important Dates

Paper submission deadline: December 4, 2015
Acceptance notification: February 21, 2016
Camera-ready papers: March 13, 2016

Submission information

Paper submissions will be handled on-line through the EDAS system. Further information will be soon available at http://icc2016.ieee-icc.org/cfw