

# Preface

This volume contains the technical papers presented at the six high-quality workshops associated with ESOC 2015 (European Conference on Service-Oriented and Cloud Computing), held in Taormina, Messina, September 15–17, 2015. The workshops focused on specific topics in service-oriented and cloud computing-related domains: Third International Workshop on CCloud for IoT (CLIoT 2015), 5th International Workshop on Adaptive Services for the Future Internet (WAS4FI 2015), Second Workshop on Seamless Adaptive Multi-Cloud Management of Service-Based Applications (SeaClouds 2015), First International Workshop on Cloud Adoption and Migration (CloudWay 2015), First International Workshop on Digital Enterprise Architecture and Engineering (IDEA 2015), the First Workshop on Federated Cloud Networking (FedCloudNet 2015).

Moreover, this volume also includes papers presented at the European Projects Track (EU Projects 2015) in conjunction with ESOC 2015.

There were a total of 48 submissions, from which 24 papers were accepted giving an acceptance rate of 50 %. The review and selection process was performed rigorously, with each paper being reviewed by at least two Program Committee (PC) members. Here, a brief description of each workshop is given.

The CLIoT 2015 workshop aimed at discussing the limits and/or advantages of existing cloud solutions for IoT and at proposing original and innovative contributions for enhancing real-world resources over cloud environments. Smart connectivity with existing networks and context-aware computation is becoming indispensable for IoT. Cloud computing provides a very strategic virtual infrastructure that integrates monitoring devices, storage devices, analytics tools, virtualization platforms, and client delivery. It supports enormous amounts of data generated for IoT purposes, which have to be stored, processed, and presented in a seamless, efficient, and easily interpretable form. The first part of this volume includes all the technical papers of CLIoT 2015.

The WAS4FI 2015 workshop focused on Future Internet (FI) technologies. The FI has emerged as a new initiative to pave a novel infrastructure linked to objects (things) of the real world to meet the changing global needs of business and society. It offers Internet users a standardized, secure, efficient, and trustable environment, which allows open and distributed access to global networks, services, and information. There is a need for both researchers and practitioners to develop platforms made up of adaptive FI applications. In this sense, the emergence and consolidation of service-oriented architectures (SOA), cloud computing, and wireless sensor networks (WSN) give benefits, such as flexibility, computing, scalability, security, interoperability, and adaptability for building these applications. FI systems will need to sense and respond to a huge amount of signals sourced from different entities in real time. WAS4FI addresses different aspects of adaptive FI applications, emphasizing the importance of governing the convergence of contents, services, things, and networks to achieve building platforms for efficiency, scalability, security, and flexible adaptation. WAS4FI

2015 covered the foundations of these technologies as well as new emerging proposals. The second part of this volume includes all the technical papers of WAS4FI 2015.

The SeaCloud 2015 workshop focuses on enabling an efficient and adaptive deployment and management of service-based applications across multiple clouds. Deploying and managing in an efficient and adaptive way complex service-based applications across multiple heterogeneous clouds is one of the problems that have emerged with the cloud revolution. The current lack of universally accepted standards supporting cloud interoperability is severely affecting the portability of cloud-based applications across different platforms. At the same time, even at the level of a single cloud, adaptation of cloud services to their execution environment is strongly desirable in order to take appropriate actions in response to changes in the highly dynamic environment of the cloud. Adaptations can be performed at runtime (dynamic adaptation) and at development time. In the latter case runtime and contextual data provided to business application developers can allow them to enhance their applications based on the actual operating conditions. The SeaCloud 2015 workshop covered solutions and perspectives of the ongoing research activities aimed at enabling an efficient and adaptive management of service-based applications across multiple clouds. The third part of this volume includes all the technical papers of SeaCloud 2015.

The CloudWay 2015 workshop focused on novel cloud service migration practices and solutions, and aims to identify future cloud migration challenges and dimensions. Major IT companies and start-ups envision cloud computing as an economic strategy to meet business objectives cost effectively and a way to remain competitive by exploiting technical resources efficiently. Given the potential benefits of cloudification, an increasing number of organizational business-critical applications – so-called legacy systems – are being migrated to cloud environments. Regardless of the benefits of cloudification, many organizations still rely on legacy software systems developed over the lifetime of an organization using traditional development methods. Therefore, migrating legacy systems toward cloud-based platform allows organizations to leverage their existing systems deployed (over publicly available resources) as scalable cloud services. The CloudWay 2015 workshop covered novel cloud migration practices and solutions to identify future cloud migration challenges and dimensions. The fourth part of this volume includes all the technical papers of CloudWay 2015.

The IDEA 2015 workshop focused on the digitization of enterprises in the cloud computing era in order to advance digital enterprise architectures. Digitization is the use of digital technologies for creating innovative digital business models and transforming existing business models and processes. On a technological level, digitization embraces the automation of processes and decisions. Advanced analytics provides the automation of decisions hitherto made by human beings. Typical elements of digital enterprise architectures are the use of decision automation, predictive or even prescriptive analytics. In this way, digital technologies such as service orientation, cloud computing, big data, mobile or the Internet of Things enable the creation of new options for enterprises and organizations. Owing to the high diversity of concepts, the complexity of systems involved, and the heterogeneity of stakeholders, a methodological foundation is crucial to the success of digitization. The IDEA 2015 workshop covered business with technological themes and applied methodical and engineering

principles to the design of digital enterprise architectures (EA). The fifth part of this volume includes all the technical papers of IDEA 2015.

The FedCloudNet 2015 workshop focused on federated cloud networking services. Cloud federation enables cloud providers to collaborate and share their resources to create a large virtual pool of resources at multiple network locations. In order to support this scenario, it is necessary to research and develop techniques to federate cloud network resources, enabling the instantiation and provision of overlay networks across geographically dispersed clouds, and to derive the integrated management cloud layer that enables an efficient and secure deployment of federated cloud applications. Emerging topics in this research area includes cloud network federation models and architectures, cross-data-center software-defined networking (SDN), network function virtualization (NFV), data center interconnection, overlay networks, virtual private networks (VPNs), federated cloud network security, geographic location-aware networks with high availability and elasticity. The FedCloudNet 2015 workshop covered the latest research results on traffic engineering for cloud network federation. The sixth part of this volume includes all the technical papers of FedCloudNet 2015.

EU Projects Track 2015 aimed at presenting the major running European-funded projects highlighting the main industrial and academic trends in terms of research and innovation. The seventh part of this volume includes all poster papers of EU Projects 2015.

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