

CloudWays

Preface of CloudWays 2017

Cloud computing has been the focus of attention of both academic research and industrial initiatives. From a business point of view, organizations can benefit from the on-demand and pay-per-use model offered by cloud services rather than an upfront purchase of costly and over-provisioned infrastructure. From a technological perspective, the scalability, interoperability, and efficient (de-)allocation of resources through cloud services can enable a smooth execution of organizational operations.

Regardless of the benefits of cloud computing, many organizations still rely on business-critical applications in the form of legacy systems that have been developed over a long period of time using traditional development methods. Despite often serious maintainability issues, (on-premise) legacy systems are still crucial as they support core business processes. Therefore, migrating legacy systems towards cloud-based platforms allows organizations to leverage their existing systems deployed and provided (using publicly available resources) as scalable cloud services.

This third edition of the workshop – the Third International Workshop on Cloud Adoption and Migration (CloudWays 2017) – was held in Oslo, Norway, on September 27, 2017, as an ESOC satellite event. The first edition was held in September 2015 in Taormina, Italy, and the second in September 2016 in Vienna, Austria, both also as a satellite events of ESOC. The workshop’s goals were: to bring together cloud migration and cloud architecture experts from both academia and industry; to promote discussions and collaboration among participants; to help disseminate novel cloud adoption, migration, and architecture practices and solutions; and to identify future cloud challenges and dimensions that help software applications to be architecture for and deployed in the cloud.

In this third edition, six full papers were accepted for presentation during the workshop, out of a total of nine submissions.

The first paper “Engineering Cloud-Based Applications: Toward an Application Life Cycle” by Vasilios Andrikopoulos aims to distill the challenges of adopting and architecting cloud-based applications into a life cycle framework that takes cloud characteristics such as service orientation, distribution, multi-tenancy, and utility computing into account.

The second paper “A Cloud Computing Workflow for Managing Oceanographic Data” by Salma Allam, Antonino Galletta, Lorenzo Carnevale, Moulay Ali Bekri, Rachid El Ouahbi, and Massimo Villari was the first in the workshop to focus on data aspects, which was done through the discussion of workflow concerns in the context of an oceanography use case.

The third paper “Pattern-Driven Architecting of an Adaptable Ontology-Driven Cloud Storage Broker” by Divyaa Manimaran Elango, Frank Fowley, and Claus Pahl looks at interoperability in cloud computing. A cloud service broker is introduced from

a software design perspective, looking at architecture and design patterns used in the construction.

The fourth paper “Cloud-Native Databases: An Application Perspective” by Josef Spillner, Giovanni Toffetti Carughi, and Manuel Ramírez López continues the data focus. Here databases as a services are investigated as an architectural concern by looking at cloud-nativeness as a property.

The fifth paper “Using a Cloud Broker API to Evaluate Cloud Service Provider Performance” by Divyaa Manimaran Elango, Frank Fowley, and Claus Pahl reports on performance testing and comparison of different storage services. A broker API is used to monitor and compare the different services.

The final paper “TosKer: Orchestrating Applications with TOSCA and Docker” by Antonio Brogi, Luca Rinaldi, and Jacopo Soldani is also concerned with interoperability. Raising the abstraction level through standards, languages such as the orchestration language TOSCA is used to manage Docker containers.

In addition to the presentation of the accepted papers, an invited talk titled “Business Processes and Smart Devices — A Marriage of Convenience?” was jointly organized with participants of the BPM@Cloud workshop focusing on the challenges and perspectives with process modelling in the cloud, looking specifically also at edge and IoT as a context. The presentation was given by Prof. Pierluigi Plebani from the Politecnico di Milano, Italy.

We take this opportunity to thank all authors, members of the Program Committee, and workshop attendees, whose participation was invaluable to the success of the event. We also acknowledge the support provided by The Irish Centre for Cloud Computing and Commerce (IC4) and the Free University of Bozen-Bolzano (UniBZ).

Claus Pahl
Nabor Mendonça
Pooyan Jamshidi

Organization

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