ConPaaS Generic Service for Automated Application Deployment in Distributed Clouds

Myriads project-team
Team objectives and local collaborations

Myriads objectives
• Design and implementation of system services for dependable application execution in clouds
  • Multi-site and multi-domain distributed clouds
  • Mobile cloud computing
  • Energy efficiency in clouds

Objectives related with “Smart City & Mobility Innovations: Towards environmental and social sustainability”
• Cloud support for mobile and IoT applications
• Frameworks for efficient data stream processing in clouds

Myriads in Inria@SiliconValley program
• Christine Morin, scientific coordinator of Inria@SiliconValley (2011-2013)
• DALHIS Inria associate team with the Data Science and Technology department at Lawrence Berkeley Lab
• Participant in Inria City Lab project
Quality of Experience in Mobile Interactive Apps

Mobile interactive apps require **low latency** (<50 ms) access to services. Today’s mobile networks slow & unpredictable → **bad user experience**

**Deploy apps in a data center close to the user**

**Genesis of the ConPaaS Generic Service**

- ConPaaS open source PaaS created in Contrail European project
- ConPaaS PaaS further developed in Harness European project
- From research to innovation with the EIT ICT Labs MC-DATA project
  - Deployment of interactive applications in multi-cloud environments

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![Contrail](contrail.png)  
![Harness](harness.png)  
![ConPaaS](conpaa.png)
ConPaaS Generic Service

Deploy any application in a multi-data center environment

Creation of a Manager & an Application VM from
  • an application package
  • a set of scripts for init, start, scale out

Features under development
  • Automatic selection of the best cloud for low latency
  • Roaming: efficient VM migration

Upcoming ConPaaS release including the Generic Service
Mobile Interactive Applications

- Social apps
- Real-time augmented reality (Google Glass)
- E-Health (Apple Watch)
- Multiplayer games/Cloud gaming
- Hyper-local advertising
Next steps

Future work

• Quality of experience in multi-user applications running on off-the-shelf mobile or wearable devices connected by regular mobile phone networks
• H2020 European project submitted

Expected collaborations with industry

• Application providers (U-hopper, Proxible, VTT, … )
• Mobile network operators (Vodafone, Ericsson, … )
Thank you

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See a demo today

Teodor Crivat, software engineer, University of Rennes 1

More information: http://www.conpaas.eu