

**MESOCA**

Maintenance and Evolution of  
Service-Oriented and Cloud-Based Systems

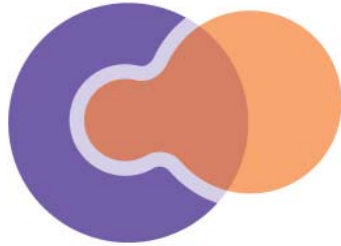
# 2012 IEEE 6th International Workshop on the Maintenance and Evolution of Service-Oriented and Cloud-Based Systems (MESOCA 2012)



**28TH IEEE INTERNATIONAL CONFERENCE ON  
SOFTWARE MAINTENANCE (ICSM 2012)**

**RIVA DEL GARDA, TRENTO, ITALY  
SEPTEMBER 24, 2012**

**GENERAL CHAIR: GRACE A. LEWIS  
PROGRAM CO-CHAIRS: ANCA IONITA AND MARIN LITOIU**



**MESOCA**

Maintenance and Evolution of  
Service-Oriented and Cloud-Based Systems

**Welcome**



**GRACE A. LEWIS**  
**CMU SOFTWARE ENGINEERING INSTITUTE,**  
**USA**

## Goal for MESOCA 2012



- Create a focal point and an ongoing forum for researchers and practitioners to share results and open issues in the area of maintenance and evolution of service-oriented and cloud-based systems.
- Identify promising areas of research to address existing gaps and problems

# Five Papers, Two Keynotes, One Invited Speaker and Three Organizers from Nine Countries



**Brazil  
Canada  
Germany  
Greece  
Hungary  
Romania  
Switzerland  
Spain  
USA**

Created using Google Maps (<http://maps.google.com>)

# Abstract Tag Cloud



applications architecture benefits  
business challenges **cloud** code complex  
components **computing** core cost **data** database deployed  
development different dimension enterprise environment  
existing experiment framework infrastructures integrated  
**legacy** linking managing migration **model**  
modernization organization paradigm **performance process**  
providers requirements resources runtime saas security  
service several **software** support **systems** techniques  
technology virtual years

## Interesting Observations

Multiple tags related to “foundation elements”:  
architecture, legacy, environment, model, framework, process, infrastructures, requirements

Multiple tags related to “execution aspects”:  
business, service, performance, security, SaaS, resources, security, support, runtime

The *technology* tag is quite small

# Agenda – Morning



09:00 – 09:15	<b>Welcome and Introduction</b> <i>Grace A. Lewis, Software Engineering Institute, USA</i>
09:15 – 10:30	<b>Opening Keynote: SOA and Cloud: Experiences from a Large Enterprise</b> <i>Carl Worms (CREDIT SUISSE AG – IT Strategy and Architecture, Switzerland)</i>
10:30 – 11:00	<b>Coffee Break</b>
11:00 – 12:30	<b>Paper Presentations - Chair: Marin Litoiu (York University, Canada)</b>  Cloudstep: A Step-by-Step Decision Process to Support Legacy Application Migration to the Cloud <i>Patricia Beserra, Alessandro Camara, Rafael Ximenes, Adriano Albuquerque and Nabor Mendonca (University of Fortaleza (UNIFOR), Brazil)</i>  Linking Legacy Services to the Business Process Model <i>Harry Sneed (ANECON GmbH, Hungary), Stephan Sneed and Stefan Schedl (Metasonic AG, Germany)</i>  Policy Modeling and Compliance Verification in Enterprise Software Systems: A Survey <i>Georgios Chatzikonstantinou and Kostas Kontogiannis (National Technical University of Athens, Greece)</i>
12:30 – 14:00	<b>Lunch</b>

# Agenda – Afternoon



14:00 – 15:30	<p><b>Paper Presentations</b> - Chair: Anca Ionita (University Politehnica of Bucharest, Rumania)</p> <p>CDOSim: Simulating Cloud Deployment Options for Software Migration Support <i>Florian Fittkau, Sören Frey and Wilhelm Hasselbring (University of Kiel - Software Engineering Group, Germany)</i></p> <p>A Three-Dimensional Data Model in HBase for Large Time-Series Dataset Analysis <i>Dan Han and Eleni Stroulia (University of Alberta, Canada)</i></p> <p><b>Invited Presentation: Smart Applications on Cloud Infrastructures</b> <i>Marin Litoiu (York University, Canada)</i></p>
15:30 – 16:00	<b>Coffee Break</b>
16:00 – 17:15	<p><b>Closing Keynote: From Software as a Good to Software as a Service: Preparing the Evolution of Software Products into the Cloud</b> <i>Leire Orue-Echevarria Arrieta (TECNALIA, Spain)</i></p>
17:15 – 17:30	<p><b>Summary and Wrap-Up</b> <i>Grace A. Lewis, Software Engineering Institute, USA</i></p>

# Session Logistics



- **Session Format**

1. Introduction
2. Presentation
3. DISCUSSION

- **Other Notes**

- We expect a highly interactive session
- We will be taking notes throughout the day and present a summary at the end
- Talks and summary will be available in PDF format on the MESOCA web site  
(<http://www.sei.cmu.edu/workshops/mesoca/2012/>)



# Special Thanks!



- **Publications Chair**

- Cu Nguyen Duy, FBK, Italy

- **Program Committee**

- Massimiliano Di Penta, University of Sannio, Italy
- Hausi Müller, University of Victoria, Canada
- Dana Petcu, West University of Timisoara, Romania
- Mike Smit, York University, Canada
- Harry Sneed, ANECON GmbH, Austria
- Gabriel Tamura, Icesi University, Colombia
- Scott Tilley, Florida Institute of Technology, USA
- Norha Villegas, University of Victoria, Canada
- Norman Wilde, University of West Florida, USA
- Andreas Winter, Carl von Ossietzky University, Germany



# Introductions



**Briefly state your name, organization, research/work area  
and workshop expectations**

# Opening Keynote: SOA and Cloud — Experiences from a Large Enterprise



**CARL WORMS**  
**CREDIT SUISSE AG, SWITZERLAND**

# Carl Worms



- Enterprise architect in Credit Suisse Private Banking IT with focus on strategy and architecture of software engineering processes
- Received the Walter Masing Award of the German Society for Quality in 1993
- Joined Credit Suisse IT architecture in 1999 as leading methodologist
- Led the first software process improvement program from 2002-2005 and in 2007 the Quality Management organization
- Since 2008, as process architect for IT private banking, he has developed the roadmap for the next 10 years for application development processes, methods and tools



# Paper Presentations



**CHAIR: MARIN LITOIU  
YORK UNIVERSITY, CANADA**

# Migrating to SOA and Cloud



- From a recent survey\* of cloud adopters
  - 60% of respondents: cloud applications are better than those on premises in terms of **availability, TCO, time to value** (TTV)
  - 64% said they would have most of the applications in the public cloud in the next 3 years
- Challenges in cloud adoption
  - More than 75%: **cloud to cloud integration** and **mobility access** are the main challenges
  - Only 4% have integrated the cloud applications
  - **What is the role of processes?**
  - **Is SOA the answer?**
  - **What is the role of policies?**

\*Balakrishna Narahsiman, Ryan Nichols, State of the Cloud, in IEEE Computer, March 2011

\*\*CIO Research Journal

# Papers



- **Cloudstep: A Step-by-Step Decision Process to Support Legacy Application Migration to the Cloud**  
Patricia Beserra, Alessandro Camara, Rafael Ximenes, Adriano Albuquerque and Nabor Mendonca (University of Fortaleza (UNIFOR), Brazil)
- **Linking Legacy Services to the Business Process Model**  
Harry Sneed (ANECON GmbH, Hungary), Stephan Sneed and Stefan Schedl (Metasonic AG, Germany)
- **Policy Modeling and Compliance Verification in Enterprise Software Systems: A Survey**  
Georgios Chatzikonstantinou and Kostas Kontogiannis (National Technical University of Athens, Greece)

# Paper Presentations



**ANCA IONITA**  
**UNIVERSITY POLITEHNICA OF BUCHAREST,**  
**ROMANIA**



# Challenges of Cloud Environments



- Selecting a cloud provider
- Virtual machines — configuration and deployment
- Runtime adaptation strategies
- Selecting a database management system
- Solutions for massive data repositories
- Performance and security with Cloud architectures
- Transforming existing applications

# Papers



- **CDOSim: Simulating Cloud Deployment Options for Software Migration Support**

Florian Fittkau, Sören Frey and Wilhelm Hasselbring (University of Kiel - Software Engineering Group, Germany)

- **A Three-Dimensional Data Model in HBase for Large Time-Series Dataset Analysis**

Dan Han and Eleni Stroulia (University of Alberta, Canada)

# Invited Presentation: Smart Applications on Cloud Infrastructures



**MARIN LITOIU**  
**YORK UNIVERSITY, CANADA**

# Marin Litoiu



- **Professor at York University**
- **Prior to that a Senior Research Staff Member with the Centre for Advanced Studies, IBM Toronto Lab, where he led the research programs in Autonomic Computing, System Management and Software Engineering**
- **Was the Chair of the Board of CSER, a Canadian Consortium for Software Engineering Research and Director of Research for Centre of Excellence for Research in Adaptive Systems**
- **Research interests include autonomic computing; high performance software design; performance modeling, performance evaluation and capacity planning for distributed and real time systems**



# Closing Keynote: From Software as a Good to Software as a Service: Preparing the Evolution of Software Products into the Cloud



**LEIRE ORUE-ECHEVARRIA ARRIETA**  
**TECNALIA, SPAIN**

# Leire Orue-Echevarria Arrieta



- Lead for TECNALIA's “Migration to Cloud (SaaS)” product
- Certified in CMMI (SEI), RUP (IBM), and ITIL (OGC)
- Has worked in a variety of sectors across the EU in roles related to the entire software life cycle
- Has led multiple R&D, software quality and software development projects, including off-shore teams
- Current research areas are transition to cloud computing — migration of legacy software to the cloud, business models, and Service Engineering

