

# **2014 IEEE 18th International Enterprise Distributed Object Computing Conference**

**(EDOC 2014)**

**Ulm, Germany  
1-5 September 2014**



**IEEE Catalog Number: CFP14107-POD  
ISBN: 978-1-4799-5471-1**

# 2014 IEEE 18th International Enterprise Distributed Object Computing Conference

## EDOC 2014

### Table of Contents

Message from the General Chair.....	ix
Message from the EDOC Program Co-Chairs.....	xi
Organizing Committee.....	xii
Steering Committee.....	xiii
Program Committee.....	xiv
External Reviewers .....	xvi

---

#### **Session 1: Keynote I**

Process Mining as the Superglue Between Data Science and Enterprise Computing .....	1
<i>Wil van der Aalst</i>	

#### **Session 2: Enterprise Intelligence and Modeling**

A Formalization of Complex Event Stream Processing .....	2
<i>Sylvain Hallé and Simon Varvaressos</i>	
Modeling Exception Flows in Integration Systems .....	12
<i>Daniel Ritter and Jan Sosulski</i>	
Enterprise Architecture Intelligence: Combining Enterprise Architecture and Operational Data .....	22
<i>R.K.M. Veneberg, M.E. Iacob, M.J. van Sinderen, and L. Bodenstaff</i>	

#### **Session 3: Enterprise Analysis**

Extensible Model-Based Approach for Supporting Automatic Enterprise Analysis .....	32
<i>Hector Florez, Mario Sánchez, and Jorge Villalobos</i>	

Overview of Enterprise Information Needs in Information Security Risk Assessment .....	42
<i>Matus Korman, Teodor Sommestad, Jonas Hallberg, Johan Bengtsson, and Mathias Ekstedt</i>	

Enterprise Architecture Analysis with Production Functions .....	52
<i>Ulrik Franke</i>	

## **Session 4: Data Analysis and Management I**

Customization of Domain-Specific Reference Models for Data Warehouses .....	61
<i>Christoph Schütz and Michael Schrefl</i>	

Fuzzy-Set Based Sentiment Analysis of Big Social Data .....	71
<i>Raghava Rao Mukkamala, Abid Hussain, and Ravi Vatrapu</i>	

Predicting iPhone Sales from iPhone Tweets .....	81
<i>Niels Buus Lassen, Rene Madsen, and Ravi Vatrapu</i>	

## **Session 5: Keynote II**

Managing Big Data Effectively - A Cloud Provider and a Cloud Consumer Perspective .....	91
<i>Heiko Ludwig</i>	

## **Session 6: Services and Cloud I**

An Ontological Analysis of Service Modeling at ArchiMate's Business Layer .....	92
<i>Julio Cesar Nardi, Ricardo de Almeida Falbo, and João Paulo A. Almeida</i>	

WPress: An Application-Driven Performance Benchmark for Cloud-Based Virtual Machines .....	101
<i>Amir Hossein Borhani, Philipp Leitner, Bu-Sung Lee, Xiaorong Li, and Terence Hung</i>	

Service Composition for REST .....	110
<i>Florian Haupt, Markus Fischer, Dimka Karastoyanova, Frank Leymann, and Karolina Vukojevic-Haupt</i>	

## **Session 7: Services and Cloud II**

Service Selection for On-Demand Provisioned Services .....	120
<i>Karolina Vukojevic-Haupt, Florian Haupt, Dimka Karastoyanova, and Frank Leymann</i>	

Feature-Based Configuration of Vendor-Independent Deployments on IaaS .....	128
<i>Erik Wittern, Alexander Lenk, Sebastian Bartenbach, and Tobias Braeuer</i>	

Switching Parties in a Collaboration at Run-Time .....	136
<i>Shaya Pourmirza, Remco Dijkman, and Paul Grefen</i>	

Towards Process Support for Cloud Manufacturing .....	142
<i>Stefan Schulte, Philipp Hoenisch, Christoph Hochreiner, Schahram Dustdar, Matthias Klusch, and Dieter Schuller</i>	

## **Session 8: Realization of Complex Enterprise Systems**

Batch Regions: Process Instance Synchronization Based on Data .....	150
<i>Luise Pufahl, Andreas Meyer, and Mathias Weske</i>	
Object-Business Process Mapping Frameworks: Abstractions, Architecture, and Implementation .....	160
<i>Rogel Garcia and Marco Tulio Valente</i>	
Model-Based IT Change Management for Large System Definitions with State-Related Dependencies .....	170
<i>Takayuki Kuroda and Aniruddha Gokhale</i>	

## **Session 9: Keynote III**

Investigating the Process of Process Modeling: Towards an in-Depth Understanding of How Process Models Are Created .....	180
<i>Barbara Weber</i>	

## **Session 10: Business Process Modeling**

The Role of Semantic Annotations in Business Process Modelling .....	181
<i>Chiara Di Francescomarino, Marco Rospocher, Chiara Ghidini, and Andrea Valerio</i>	
Implementation Framework for Production Case Management: Modeling and Execution .....	190
<i>Andreas Meyer, Nico Herzberg, Frank Puhmann, and Mathias Weske</i>	
Informal Process Essentials .....	200
<i>C. Timurhan Sungur, Tobias Binz, Uwe Breitenbücher, and Frank Leymann</i>	

## **Session 11: Data Analysis and Management II**

The Deep Data Warehouse: Link-Based Integration and Enrichment of Warehouse Data and Unstructured Content .....	210
<i>Christoph Gröger, Holger Schwarz, and Bernhard Mitschang</i>	
Integrating Compliance Requirements across Business and IT .....	218
<i>Falko Koetter, Monika Kochanowski, Anette Weisbecker, Christoph Fehling, and Frank Leymann</i>	
Reliability and Availability Properties of Distributed Database Systems .....	226
<i>Jörg Domaschka, Christopher B. Hauser, and Benjamin Erb</i>	

A Life Cycle for Coupled Multi-scale, Multi-field Experiments Realized through Choreographies .....	234
<i>Andreas Weiß and Dimka Karastoyanova</i>	
<b>Author Index</b> .....	<b>242</b>