

# **Enterprise Modelling and Information Systems Architectures**

An International Journal

Volume 6 No. 3 September 2011 Special Issue on Model Supported Management



September 22-23, 2011, Hamburg, Germany



4<sup>th</sup> International Workshop on

# Enterprise Modelling and Information Systems Architectures

**Concepts and Applications** 

Call for Participation

### **About the Workshop**

The 4<sup>th</sup> International Workshop on Enterprise Modelling and Information Systems Architectures is jointly organized by the GI Special Interest Group on Modelling Business Information Systems (GI-SIG MoBIS) and the GI Special Interest Group on Design Methods for Information Systems (GI-SIG EMISA). The workshop will be a full 2-day event featuring presentations from academia and practice organised in 12 full papers and 12 research-in-progress papers.

Detailed information as well as registration fees and registration are available at:

#### www.wiso.uni-hamburg.de/conferences/emisa2011

#### **Program Chairs**

Markus Nüttgens University of Hamburg, Germany

Oliver Thomas University of Osnabrück, Germany

Barbara Weber University of Innsbruck, Austria

### Location

The 4<sup>th</sup> International Workshop on Enterprise Modelling and Information Systems Architectures (EMISA'11) will be hosted by the University of Hamburg, Germany. EMISA'11 is colocated with the IFIP 8.6 Working Conference 2011. IFIP 8.6 website: www.ifip86.uni-hamburg.de.



#### **Co-located Events**

IFIP WG 8.6 Conference, see www.ifip86.uni-hamburg.de

Meetings of the Management Boards of GI-SIG MoBIS and GI-SIG EMISA



**SIG** EMISA

Special Interest Group on Design Methods for Information Systems SIG MoBIS
Special Interest Group
on Modelling Business Information Systems

## Thursday, September 22, 2011

| Track 1

| Track 2

Keynote 1: Information Generation, Management and Use in Disaster Management: A Transformation from "Command and Control" to "Repertoires of Collaboration" – Deborah Bunker

Session 1: Enterprise Architecture and its Applications

Enterprise Architecture as an Instrument of Strategic Control Beate Hartmann

*Towards a More Integrated EA Planning: Linking Transformation Planning with Evolutionary Change* Stephan Aier, Sabine Buckl, Bettina Gleichauf, Florian Matthes, Christian Schweda, Robert Winter

Applying Soft Systems Methodology in Enterprise Architecture Creation Workshops Agnes Nakakawa, Patrick Van Bommel, Erik Proper

Session 2: Organizational and Human Aspects in Process Design

Creative Personality and Business Process Redesign Kathrin Figl, Barbara Weber

*Workflow Nets with Roles* Sebastian Mauser, Robin Bergenthum, Jörg Desel

Abstractions in Actor and Activity Modelling Matthias Wester-Ebbinghaus, Daniel Moldt Session 1: Advancements and New Avenues in Process Modelling

Integration of Process Constraints from Heterogeneous Sources in Process-Aware Information Systems Stefanie Rinderle-Ma, Juergen Mangler

Assessing Process Models with Cognitive Psychology Stefan Zugal, Jakob Pinggera, Barbara Weber

Eye Tracking Experiments in Business Process Modelling: Agenda Setting and Proof of Concept Frank Hogrebe, Nick Gehrke, Markus Nüttgens

**Session 2: Conceptual Model Analysis** 

A Generic Multi-purpose Conceptual Model Analysis Approach – Conceptual Specification and Application Sebastian Herwig, Łukasz Lis, Matthias Steinhorst, Jörg Becker, Patrick Delfmann

Fast Pattern Matching in Conceptual Models – Evaluating and Extending a Generic Approach Hanns-Alexander Dietrich, Matthias Steinhorst, Jörg Becker, Patrick Delfmann

System Architecture Validation with UML André Pflüger, Wolfgang Golubski, Stefan Queins

Panel 1: IT-Governance and -Sustainability

Social Event: Senate Reception at the Hamburg Town Hall

### Friday, September 23, 2011

| Track 2 | Track 1 Keynote 2: Business Process Modelling – A few Suggestions for a Future Research Agenda – Ulrich Frank Session 1: Model and Information Quality Session 1: Applications of Models in Practice Some Guidelines for the Conception of Domain-Specific Towards Automated Financial Process Auditing: Aggregation Modelling Languages and Visualization of Process Models Ulrich Frank Niels Mueller-Wickop, Martin Schultz, Nick Gehrke, Markus Nüttgens Tool Support for the Comprehensive Modelling of Quality Understanding IT-Management and IT-Consulting Teaching as Information within Business Process Models Product Service System: Application of an Engineering Model Robert Heinrich, Alexander Kappe, Barbara Paech Matthias Boehm, Carl Stolze, Oliver Thomas Towards Process-oriented Information Logistics: Why Quality Modelling Choreographies: BPMN 2.0 versus BPEL-based Dimensions of Process Information Matter Approaches Bernd Michelberger, Bela Mutschler, Manfred Reichert Oliver Kopp, Frank Leymann, Sebastian Wagner Panel 2: The Diffusion of Research Results in the Age of Web 2.0 Session 2: Information Extraction and Semantic Session 2: Partner Selection and Value Creation in **Descriptions** Networks

A Reference Architecture for Semantic Content Management Systems

Fabian Christ, Benjamin Nagel

Enriched Service Descriptions Using Business Process Configurations Mohammed Abujarour, Ahmed Awad

Process Model Verification with SemQuu Michael Fellmann, Oliver Thomas Developing a Cloud Provider Selection Model Jonas Repschläger, Stefan Wind, Rüdiger Zarnekow, Klaus Turowski

Designing a Risk-based Partner Selection Process for Collaborative Cloud Computing Environments Benedikt Martens, Novica Zarvic, Frank Teuteberg, Oliver Thomas

Introducing a Co-Creation Perspective to Service Business Models Andreas Zolnowski, Martin Semmann, Tilo Böhmann







September 22-24, 2011, Hamburg, Germany

# IFIP WG 8.6 Conference

## **Governance and Sustainability in Information Systems** - Managing the Transfer and Diffusion of IT -

## Call for Participation

#### About the Conference

The conference focus will be on theories, tools and best practices of governance and sustainability in information systems. It will be a full 3-day event featuring presentations from academia and practice.

Detailed information as well as registration fees and registration are available at:

#### www.ifip86.uni-hamburg.de

#### **General Chair**

Karlheinz Kautz, Copenhagen Business School

#### **Program Co-Chairs**

Markus Nüttgens, Hamburg University Andreas Gadatsch, Bonn-Rhine-Sieg University of Applied Sciences

#### **Organizing Chairs**

Markus Nüttgens, Hamburg University Ingrid Schirmer, Hamburg University

**HISDoC Chair:** 

Tilo Böhmann, Hamburg University

#### Location

The IFIP WG 8.6 Conference will be hosted by Hamburg University, Germany.

#### Social Events

Senate reception (Hamburg town hall, September 22th) Hamburg Evening (Barbecue at the Elbe beach, September 23rd)

#### **Co-located Events**

4th International Workshop on Enterprise Modelling and Information Systems Architectures (EMISA'11) www.wiso.uni-hamburg.de/conferences/emisa2011

Meetings of the Management Boards of GI-SIG MoBIS and GI-SIG EMISA

Hamburg IS Doctoral Consortium (HISDoC)

#### **Academic Program Overview**

## Thursday, September 22

eynote 1 eborah Bunker. Information Generation, Management and Use in Disaster Management: A Transformation from Jommand and Control" to "Repertoires of Collaboration"

Research Track: Governance (1) Arias Shollo. Using Business Intelligence in IT Governance Decision making (2) Mario Schauschmidt, Mathias Bertram and Harald von Kortzfleisch. Exposing Differences in Governance (с) текло эсливатестники, маятыва челтата and Harald von Kortzfleisch. Exposing Differences in Governance Approaches in Single and Multi Vendro Open Source Software Development (3) Jan Pries-Heje and Ann-Dorte Fladkjær Nielsen. Innovative Project Idea Maturation: An important part of Governance

Research in progress/ Practice Track: Governance & Sustainability 1 (1) Chadi Aoun, Savanid Vatanasakdakul, Yang Chen. IT Governance Framework Adoption: Establishing Success

wernance Jörg Becker, Christoph Ahrendt, André Coners, Burkhard Weiß and Axel Winkelmann, Modeling and Analysis of (4) Orgo Decker, Orlandon Antonio, Andre Coners, Durkhad Year and Keel Winkenhalth, modeling and Pranysis Business Process Compliance (4) Claudia Loebbecke, Bernard Thomas and Thomas Ullrich. Assessing Cloud Readiness: Introducing the Magic Matrices Method Used by Continental AG

Research Track: Sustainability (1) David Witstruck and Frank Teuteberg. Towards a holistic Approach for Sustainable Partner Selection in the Electrics and Electronics Industry (2) Carl Stoke, Matthias Boohm, Novica Zaruć and Oliver Thomas. Towards Sustainable IT by Teaching Governance Practices for Inter-Organizational Dependencies (6) Danyoush Daniel Vaziri. Sustainability aspects of barrier free information and communication technology in the

## Research in progress/ Practice Track: Governance & Sustainability 2 (1) Jörg Becker, Philipp Bergener, Dominic Breuker, Patrick Delfmann and Mathias Eggert. An Efficient Business

(1) uorg tecker, Philipp Bergener, Dominic Breuker, Patrick Delfmann and Mathias Eggert. An Efficient Business Process Compliance Checking Approach.
(2) Jan Omland, Nick Gehrke, Niels Müller Wickop. A maturity model for segregation of duties in standard business software

software (3) loanna Constantiou, Anastasia Papazafeiropoulou and Sabine Madsen. Investigating the influence of information management practices on IS governance (4) Weitske Van Osch and Michel Avital. The Green Vistas of Sustainable Innovation in IT

#### Friday, September 23

Keynote 2 Ulrich Frank. Business Process Modelling – A few Suggestions for a Future Research Agenda

Research Track: Design Themes (1) David Wastell and Sue White. Make kitsch the enemy: the "monstrous carbuncle" of the UK's vetting and barring (1) Darto reases and out mile: make make make metering: the information calculate of the Ort's realing and calling 20 Panjan Vaidya, Michael Myers and Lesley Gardner. The design – reality gap: The impact of stakeholder strategies on 15 implementation in developing countries (3) Manuel Wiesche, Michael Schemann and Helmut Kormar. Understanding the Role of Information Technology for Organizational Control Design: Risk Control as New Control

Research in progress/ Practice Track: Governance & Sustainability 2 (1) Duane Truex, Katarina Lindblad Gidlund, Leif Olsson, Johanna Sylyrin, Aron Larsson, Old Nilsson, Karen Anderson, Erk Borglund and Viveca Asproth. Position Statement: Sustainabile Information and IS (SIIS) (2) Gitte Skou Petersen. Sustainability and IS research – an interaction design prespective (3) Markus Helfert and Tony OBrien. Sustaining Data Quality. Creating and Sustaining Data Quality within diverse Enterprise Resource Planning and Information Systems (4) Peter Bednar and Christine Welch. Sustainability in IS: the case for an open systems approach

Research Track: Customer and User Integration (1) Yogsh Dwived, Nripendra P. Rana, Hsin Chen, Michael Williams. A Meta Analysis of the Unified Theory of Acceptance and Use of Technology (UTAUT) (2)Ulinto Bretschneider and Jan Marco Lelmeister. Getting customers' motives: Lean on motivation theory for designing virtual (deas communities (3) Björn Johansson. Diffusion of Open Source ERP systems development: How Users are Involved

Research in progress/ Practice Track: Idea Cloud (1) Dorothee Zerwas and Harald F.O. von Kortzfleisch. Potentials of Living Labs for the Diffusion of Information (1) Dorothee Zerwas and Harato F.U. Vor Nortzeester. For Nortzeester. For Nortzeester. For Nortzeester. Parking Sciencester. Nortzeester. Nortzee

### Saturday, September 24

Keynote 3 Peter Axel Nielsen. Building Sustainable Governance Structures for IT Management: A case of what public organisations do and don't and how they should improve

Research Track: Future Subjects (1) Jörg H. Mayer, Neon Steinecke and Reiner Quick. Improving the Applicability of Environmental Scanning Systems: State of the Art and Future Research (2) Torsti Rantapuska and Sariseelia Sore. Progress of Commitment in Co-Operative Software Acquisition

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Enterprise Modelling and Information Systems Architectures

## **Editorial Preface**

Conceptual modelling has become an essential tool for the management of enterprises. The conference 'Modeling business information systems (MobIS)' is the most important conference in the German-speaking community on this topic. The twelfths issue was held from the 15 to 17 of September 2010 at the Technical University of Dresden. The conference offered space for interesting discussions and the presentation of state-of-the-art research results in a very familiar atmosphere.

Model based management was in the main focus of the conference. The presented papers covered following topics: methods, tools, operations on models as well as those with a strong focus on the application in areas like health care, telecommunication, energy, simulation and engineering. While prior research focussed on business process modelling the current research shifts from the strategic level to the operational level. Challenges like energy management, the simulation of technical processes or audits for risk management require conceptual modelling of operational aspects. Therefore conceptual modelling becomes increasingly important as instrument for problem-solution and for the operational management of organisations.

This special issue presents advancements of the most promising research papers of the MobIS 2010. The paper 'Prolegomena of a Modelling Method in Support of Audit Risk Assessment' (Strecker, Heise, Frank) shows how complexity in risk management can be reduced using conceptual modelling techniques. A domain-specific language is developed for the support of internal controls modelling. Therefore the terminology in the auditing domain is refined and structured.

Fellmann et al. show in their submission 'Towards Checking the Semantic Correctness of Process Models' how ontologies, rules and reasoning can be used to semantically check process models. Feasibility is demonstrated by applying the approach administrative processes. Schlieter and Esswein ('Reference Modeling in Health Care – State of the Art and Proposal for the Construction of a Reference Model') demonstrate how adaptive reference-models can be built grounded on empirical surveys and how reference model improve the documentation of healthcare processes. The paper contributes a modelbased quality management approach in the ambulant health care sector. Complex systems and problems can be structured using frameworks that guide analysis, design and implementation. Using conceptual models to represent the parts of frameworks is a well-established approach. Nevertheless, the vertical integration of framework layers is a remaining problem.

In 'Vertical Model Integration' Bögel and Esswein evaluate the state of the art of integration approaches and identify design dimensions essentially in vertically integrating framework layers. In a case study, the applicability of the approaches to integrate models for simulating mobile constructions machinery is shown.

We want to thank all contributors of the MobIS 2010 and we are looking forward to see you at the Enterprise Modelling and Information Systems Architectures (EMISA 2011) in Hamburg from 22 to 23 September 2011.

Dresden, June 2011

Werner Esswein

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