

# Report on the Workshop on Software Architectures for Business Process Management in Heidelberg

On June 14<sup>th</sup> and June 15<sup>th</sup> a two-day workshop called *Software Architectures for Business Process Management* (SABPM'99) took place in Heidelberg, Germany. This workshop was one of the pre-conference workshops of the 11<sup>th</sup> Conference on Advanced Information Systems Engineering (CAiSE\*99). The goal of the workshop was to discuss the impact of the process-centered paradigm on both organizational structures and IT-infrastructures. The paradigm shift from organization and data to processes has resulted in new software tools such as Workflow Management (WFM) systems, Computer Supported Cooperative Work (CSCW) systems (groupware), and Enterprise Resource Planning (ERP) systems. However, these systems suffer from many deficiencies both from an organizational point of view (e.g., lack of flexibility) and a technical (e.g., limited scalability) point of view. Therefore, we organized a workshop targeting these issues by means of invited talks, refereed contributions, and, last-but-not-least, an open discussion.

When we started the preparation of the SABPM'99 workshop our ideas of what should be discussed did not overlap that much. However, the invited talks, our own talks, as well as the refereed talks showed that somehow our ideas were converging. The following presentations, in chronological order, were given:

- Jörg Desel:  
Extending the Workflow Reference Architecture for Business Process Management
- Kees van Hee, Robert van der Toorn, Peter Verkoulen:  
A Framework for Component Based Software Architecture
- Germán Destéfánis, Manuel Cabrera, Sergio Mabres:  
The Need for new Ways of Developing Applications
- Amit Sheth (keynote talk):  
Processes Driving the Networked Economy: ProcessPortals, ProcessVortex and Dynamically Trading Processes
- Joachim Wehler:  
Towards an Interaction Theory of Business Modeling
- Roland Kaschek:  
Requirements for Software Architectures Supporting Dynamic Business
- Anatol W. Holt:  
Software Architecture in Support of Organized Activity
- Elvira Kuhn:  
Support for the Reaction to Changing Business Contexts within Robust Enterprises
- Paolo Predozani, Giancarlo Succi, Tullio Vernazza:  
Reflecting Business Process Variability in Information Systems
- Wil van der Aalst:  
Workflow Management: Three Problems: One Solution?
- Christoph Bussler:  
Workflow Class Inheritance and Dynamic Workflow Class Binding
- Stefan Jablonski (keynote talk):  
Experiences in Applying Workflow Technology in Industrial Projects
- Shazia W. Sadiq & Maria E. Orłowska:  
Architectural Considerations for Systems Supporting Dynamic Workflow Modification

In his keynote talk, Amit Sheth presented his vision on the future of business process management in the networked economy. This vision triggered a discussion on the impact of E-commerce on the IT-infrastructure, in particular the role of workflow management systems. Stefan Jablonski focussed in his keynote talk on the practical problems related to the introduction of workflow management software. A topic, which was addressed in several talks, was inheritance of business processes. It is clear that appropriate notions of inheritance could solve one of the most notorious problems business process management systems are facing: allowing for restricted flexibility while enhancing management tools. The topic of inheritance of dynamic behavior, or process specialization, was discussed at the level of business process modeling, workflow modeling, Petri nets, and IT-architectures. This discussion showed that there is not a single inheritance concept: Different applications require different inheritance concepts. Furthermore the discussion showed, that it was by no means a simple task to compare the results presented. Another issue raised during the workshop was the question what kind of ontology is to be used as a suitable basis of process modeling and what kind of semantic model should be applied to conceptualize a reality which fits to a given ontology. Also more technical aspects of business process management were discussed, e.g., the impact of component orientation on software architectures and the limitations of existing architectures such as the one proposed by the WfMC.

The workshop proceedings, which contains eight refereed papers, are published as report 390 of the AIFB of the University of Karlsruhe. The proceedings are edited by Wil van der Aalst ([wsinwa@win.tue.nl](mailto:wsinwa@win.tue.nl)), Jörg Desel ([desel@aifb.uni-karlsruhe.de](mailto:desel@aifb.uni-karlsruhe.de)) and Roland Kaschek ([Roland.Kaschek@ifit.uni-klu.ac.at](mailto:Roland.Kaschek@ifit.uni-klu.ac.at)). Copies of the proceedings can be ordered by sending a request to Institut AIFB, Universität Karlsruhe (TH), D-76128, Karlsruhe, Germany.

The workshop organizers consider process inheritance an interesting and promising topic for a workshop which is to continue the work begun with the workshop reported on within this note. We welcome ideas for organizing such an event. If you have any questions or remarks concerning such a workshop possibly called SABPM'99, please feel free to contact us by email.

Wil van der Aalst

Jörg Desel

Roland Kaschek