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Editorial Preface

Mature traditional engineering disciplines, which have already concluded the change from a crafts-like fabrication to an industrial mass production, are the guiding model for sophisticated (software) reuse strategies. This encompasses using (software) components as well as using (software) services.

Industrial mass production is characterised by the reuse of existing solutions, the reduction of production depth, and platform concepts that allow for assembling new products or services from existing (standardised) components, which may have been furnished by others. Hereby, competitive advantages mainly result from important gains in terms of quality and efficiency.

By using software components – which after all offer software services – users delegate the responsibility for developing the used component, according to the black box principle, to the component developer. However, the component user has to provide a suitable runtime environment and has to ensure the component's proper operation.

With respect to pragmatics Service-oriented Architecture (SOA) goes one step further, as the service user may also delegate the responsibility for the service operation towards a third party. This allows for further sophisticated outsourcing concepts as far as e.g., Business Process Outsourcing (BPO) or dynamic service re-binding.

This special issue focuses on the field of component and service engineering, its state of the art, remaining challenges, and directions for further research. It features the following contributions:

Adnene Guabtni, Dennis Kundisch, and Fethi A. Rabhi contributed 'A User-Driven SOA for Financial Market Data Analysis'. Their paper focuses on the design of a SOA which makes it possible to define re-usable and interoperable software components as web services to manipulate entities of an underlying event-based data model, which allows for a coherent representation of market activities as events. The authors also describe an implementation of a user-driven composition tool based on the SOA, which allows domain experts to conveniently compose services to execute individualised processes.

Stephan Aier and Joachim Schelp discovered that, by looking at the still increasing complexity of application landscapes following the introduction of SOA, re-use and cost cutting arguments may lead to disappointment.

Within their contribution 'How to Preserve Agility in Service Oriented Architectures' they discuss the problems of re-use and cost cutting expectations in SOA and contrasts them with the potentials related to make sustainable contributions to corporate agility. They further discuss structures, processes, and instruments to realise these potentials with reference to a literature review as well as to selected case studies.

Combining software components or services of different vendors to customer-individual business application systems requires sophisticated specification techniques. If a component or a service allows for parameterisation, the parameterisation properties must be included in the specification. The contribution 'Domain Level Specification of Parameterisable Business Components' from Jörg Ackermann and me discusses how parameterisation issues can be specified on a domain level. This encompasses the question of how to describe parameterisable business terms, business tasks, and parameterisation effects.

In addition, this special issue does also encompass the contribution of Corinna Pütz and Elmar J. Sinz, which was initially not submitted to the special issue's call for papers. With their paper 'Model-driven Derivation of BPMN Workflow Schemata from SOM Business Process Models', they round up the special issue's topic towards business process modelling by providing a bridge to another rather central concern of SOA. They

propose a two-stage approach to overcome the semantic gap between business process models and workflow schemata and illustrate it by a case study of an online auction house.

Every submission in this special issue has been reviewed in a double-blind process by three carefully selected reviewers. The review of the contribution from Jörg Ackermann and me has been reviewed according to the same principles. Its review was organised by the editor in chief to ensure a double-blind review.

I am grateful for the thorough evaluations and the constructive comments that have been provided by the reviewers, and I trust that this special issue will provide you with a contemporary overview of the research that is currently conducted with respect to component and service engineering.

Klaus Turowski