Message from the SoEA4EE 2010 Workshop Co-chairs

Enterprise engineering is the application of engineering principles to the design, restructuring and operation of enterprises and their cooperation with other enterprises. It allows deriving the Enterprise Architecture from the enterprise goals and strategy and aligning it with the enterprise resources. Enterprise architecture [1] [2] aims (i) to understand the interactions and all kind of articulations between business and information technology, (ii) to define how to align business components and IT components, as well as business strategy and IT strategy, and more particularly (iii) to develop and support a common understanding and sharing of those purposes of interest. Enterprise architecture is used to map the enterprise goal and strategy to the enterprise’s resources (actors, assets, IT supports) and to take into account the evolution of this mapping. It also provides documentation on the assignment of enterprise resources to the enterprise goals and strategy.

On the other hand, service is the most important paradigm for the organization of enterprises and the cooperation with other enterprises in order to achieve competitive advantage. Therefore it does not surprise, that leading enterprises in the U.S. derive more than 50% of their revenues from services [2]. Through services, enterprises stabilize their revenues [3]. This applies not only to pure services such as transportation but also for material products that are augmented by services such as maintenance, consulting and training. By exchanging services within partnerships, enterprises are able to combine their competences and thus provide solutions to the customer not possible for the single enterprise.

Furthermore, due to the technical advancements, e.g. Software as a Service, Cloud Computing and Service-Oriented-Architectures for information systems (SOA), enterprises are able to apply service-orientation to new areas. Service-oriented enterprise engineering further develops the enterprise engineering approach selecting service as governing paradigm. The enterprise goals and strategies are mapped to service-oriented enterprise architecture.

Service-oriented enterprise architecture differentiates four layers of services: Business, Software, Platform and Infrastructure. Thus, its scope is much broader than the scope of the service-oriented architecture (SOA) and also includes services not accessible through software such as business and infrastructure services. Services of different layers may be interconnected in service (value) nets to provide higher level services.

The goal of the workshop is to develop concepts and methods to assist the engineering and the management of service-oriented enterprise architectures and the software systems supporting them. Especially three themes of research have been pursued:

1. Alignment of the enterprise goals and strategies with the service-oriented enterprise architecture
2. Design of the service-oriented enterprise architecture
3. Mapping of service-oriented enterprise architecture to enterprise resources

SoEA4EE 2010 workshop is a full day workshop in conjunction with EDOC’2010. We received 13 submissions from Algeria, Brazil, China, Germany, India, Mexico, the Netherlands, South Africa, Spain, United Kingdom and New Zealand. All of them have been peer-reviewed by three members of the international program committee. Seven full papers and one position paper have been presented during the SoEA4EE workshop.
The first paper, *The Relationship between Service Oriented Architecture and Enterprise*, explores the relationship between Service-Oriented-Architecture (SOA) and Enterprise Architecture. Christopher Kistasamy, Alta van der Merwe, and Andre de la Harpe argue that many SOA and EA practitioners as well as organizations today struggle with the notion of practically relating SOA and EA, leading to a lot of confusion for businesses and unnecessary spend on projects. According to those authors, both SOA and EA are distinct disciplines that share a number of common goals, the most noticeable being the fact that they both promise improved interoperability as well as better alignment of business strategy and Information Technology solutions [4]. They identify three problems, arising quickly whether the relationship between the both is not defined appropriately.

The second paper, *Meta-services as Third Dimension of Service-Oriented Enterprise Architecture*, proposes the use of meta-services to represent secondary interactions in service-oriented enterprise architectures.

Such secondary interactions happen in the context of the primary service in order to support the co-creation of value. Rainer Schmidt advocates that understanding services as a co-creation of value, service-oriented enterprise architecture has to be extended. He relates that usually service-oriented enterprise architecture uses two dimensions for service definition: functional and non-functional properties such as quality and availability. Service-oriented enterprise architecture has to take into account not only the primary interaction between service provider and consumer, but also the secondary interactions accompanying the primary interaction. This paper introduces meta-services as conceptualization of these secondary interactions. Meta-Services [5] are services acting upon other services. They are a third dimension for service definition supplementing functional and non-functional properties.

The third paper, *Towards a Definition of Role-Related Concepts for Business Modeling*, from L.O. Meerten, M.E. Iacob and L.J.M. Nieuwenhuis introduces a metamodel and definitions for several role-related concepts based on the practice of existing modeling languages and ontological analysis. The presented work is based on the statement that despite the fact several role-related concepts play an important role in business modeling, their definitions, relations, and use differ greatly between languages, papers, and reports [6], [7], [8], [9]. As a consequence, the knowledge captured by models is not transferred correctly, and models are incomparable. The proposed approach offers a basis for creating comparable, formal business models, which enable further enterprise engineering, in a repeatable way.

The fourth paper, *A Model-Driven Architecture Approach to the Efficient Definition of a Service-orientated Enterprise Architecture*, introduce a methodology and effective guidelines for the efficient identification of specific services from legacy code.

The approach focuses on identifying these services based on a Model-Driven Architecture approach supported by guidelines over a wide range of possible service types. Saad Alahmari, Ed Zaluska, David De Roure, suggest to use UML activity diagrams together with BPMN business process diagrams. The proposed approach incorporates also the ability to trace key requirements to ensure that critical business changes are implemented. The analysis is designed to facilitate data exposure and process access functions through flexible and reusable services [10].

The fifth paper, *The Analysis Activity in a Systematic SOA-based Architecture Process*, introduces a detailed SOA analysis activity not found in traditional architecture processes. It comprises both architecture and SOA features. José Jorge Lima Dias Jr., Eduardo Santana de Almeida, Silvio Romero de Lemos Meira present in this paper the analysis activity of a systematic SOA-based architecture process that comprises the main software architecture foundations and SOA features, such as quality
attribute orientation, support for multiple development teams, service identification and categorization, and service-orientation principles. In addition, this paper presents an experimental study that has been performed in order to evaluate the analysis activity.

The sixth paper, Stakeholder Interactions to Support Service Creation in Cloud Computing, from Lei Wang, Chihung Chi, Luis Ferreira Pires, Andreas Wombacher, and Marten J. van Sinderen, presents the modeling efforts of the authors towards service creation at the infrastructure level. The purpose of these modeling efforts is to understand and reason about the service creation process. The paper presents a conceptual model represented as a UML class diagram, and identifies the interactions between service providers and infrastructure providers that are necessary in order to set up an execution environment and deploy services on top of infrastructure services.

The seventh paper, Exploiting Rules and Processes for Increasing Flexibility in Service Composition, reminds us that recent trends in the use of service oriented architecture for designing, developing, managing, and using distributed applications have resulted in an increasing number of independently developed and physically distributed services. As a matter of fact, these services can be discovered, selected and composed to develop new applications and to meet emerging user requirements [11].

Brahmananda Sapkota and Marten van Sinderen exploit processes and rules to provide a flexible service composition approach. To provide support for adaptability, reusability and increased flexibility, the authors aim at exploiting business processes and rules in a loosely-coupled fashion. They provide a design solution that allow independent changes of rules and composition processes when needed.

Finally, the eighth paper, An Approach for a More Agile BPM-SOA Integration Supported by Dynamic Services Discovery, highlights the fact that integrating BPM and SOA, often considered as a powerful strategy for companies to be more agile, has many challenges especially when composition of applications is envisaged. This paper addresses the problem of web services discovery, proposing a model that deals with discovery over largely distributed services providers, including QoS and business processes’ semantics [12] [13]. State of practice on BPM&SOA integration presented in the paper shows that companies use to make the composition in a fixed, not much assisted and hard-coded way. Alexandre Perin de Souza and Ricardo J. Rabelo conclude that the large use of standards is highlighted as a key enabler element to enhance the envisaged agility.

Giancarlo Guizzardi is an Associate Professor at the Computer Science Department at the Federal University of Espírito Santo, in Vitória, Brazil, where is one of the coordinators of the Ontology and Conceptual Modeling Research Group (NEMO – http://nemo.inf.ufes.br/). He is also the EDOC 2010 PC Co-chair.

Foundational Ontologies are formal ontological theories in the philosophical sense, for the ontological analysis and (re)design of conceptual modeling languages. By using a Foundational Ontology as a Reference Model, it is possible to: (i) provide real world semantics for these modeling languages; (ii) provide methodological guidelines for the correct use of their modeling primitives; (iii) systematically evaluate these languages w.r.t. representation adequacy, i.e., how truthful are these languages to the underlying domain in reality they are supposed to represent.

Selmin Nurcan is Associate Professor at the Business School of the University Paris 1 Panthéon Sorbonne and a senior researcher at the ‘Centre de Recherche en Informatique’ (CRI). She has a Ph.D and an engineering degree in Computer Science. Her research activities include enterprise computing, business process management, change modeling, and business/IS alignment, process (re)engineering and IS engineering and CSCW. Selmin Nurcan is also co-organizer of the BPMDS workshop series at
CAISE and the BPMS02 workshop at BPM, co-chair of the "Business Process Management" Track during the four last editions of the IRMA International Conference and member of IFIP WG 8.1.

Rainer Schmidt is Professor for business information systems at Aalen University. He has a Ph.D. and an engineering degree in Computer Science. His current research areas are service science, business process management, social software and the integration of these themes. Rainer Schmidt is co-organizer of the BPMDS workshop series at CAISE, the BPMS02 workshop at BPM and member of the program committee of several workshops and conferences.

Rainer Schmidt is serving on the editorial boards of International Journal of Information Systems in the Service Sector and International Journal on Advances in Internet Technology. Rainer Schmidt applies his research in a number of projects and co-operations with industry. He has industrial experience as management consultant and researcher.

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Selmin Nurcan  
University Paris 1 Panthéon Sorbonne, France  
SoEA4EE’2010 Workshop Co-chair

Rainer Schmidt  
University of Applied Sciences, Aalen, Germany  
SoEA4EE’2010 Workshop Co-chair