On Challenges in Enterprise Systems Management and Engineering for the Networked Enterprise of the Future

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Abstract. Since 20 years, many traditional firms transform their orientation from products to services, among them also many potential SAP partners, competitors and customers. Powered by globalization, competition, and the Internet, that process happens globally and at accelerating speed. It breaks existing product supply chains and transforms them into a volatile network of collaborating businesses – the business value network. The network forms around service value propositions of the participants that lead to joint value creation. While SAP and other players have developed quite a sophisticated understanding of on premise software solutions and accompanying services, the field of on-demand software services is relatively new to the industry, and the underlying principles of value creation in many successful new service businesses are often a miracle. Business value networks will become increasingly important in the world's economy in the future. Their appropriate IT support must efficiently realize business collaborations and interactions between globally spread organizations. In the past, Enterprise Interoperability has been often seen as a synonym for Enterprise Application Integration at intra- or inter-organizational level. In the future, the ability to adapt to changing market and business requirements together with the ability to reflect the business adaptations on the level of the connected ICT systems will constitute key challenges for the support of business network formations. Enterprise Interoperability will have to address business value networks not only from ICT viewpoint but also as socio-technical systems from the business and operational perspective. Over the past years, SAP Research was involved into intense research that has taken place to explore the Internet of Services. New ways of developing, hosting, aggregating, mediating and finally consuming services have been described and tested. The developed Service Delivery Framework will be presented as a foundation for a Future Internet platform for business value networks demonstrating the key roles and relationships involved in the formation and value creation of business value networks from the business, operational and technical perspective.

Keywords: enterprise systems management; enterprise systems engineering; networked enterprise

Brief Biography

Andreas Friesen holds a doctorate degree in computer science. After his PhD studies on security and trust in service-oriented architectures he joined Siemens Corporate Technology where he worked on multimedia security topics. In 2004 he started to work for SAP Research as senior researcher. Over the past years he was leading a number of EU-funded research projects in the areas of Enterprise Interoperability and Application Integration in Service-oriented Frameworks, Semantic Web Services, Application of Formal Methods in software engineering and business process modeling. Since 2010 he leads a new research program at SAP Research called Service Science.

As member of the SAP Research team he has contributed to a variety of technology transfers to SAP product development teams including use of semantic technologies in business applications, software engineering for the next generation business applications, enterprise interoperability in service-oriented business frameworks, and collaborative business process modeling.

Andreas Friesen is author of over 30 scientific publications published in international conferences, workshops and journals and is member of programme committees of various international conferences and workshops and different working groups related to service science, software and service engineering, and business process modeling.