

In conjunction with EDOC 2014

The 6th Workshop on

Service oriented Enterprise Architecture for Enterprise Engineering

For engineering service-oriented enterprises in the era of cloud computing
could EA notations be a lingua franca?

SoEA4EE'2014

September 1 or 2, 2014, Ulm, Germany

<http://www.soea4ee.org/>

http://crinfo.univ-paris1.fr/users/nurcan/SoEA4EE_2014/

Several developments, such as the success of cloud-computing show that not the ownership of IT resources but their management is the foundation for sustainable competitive advantage¹. According to Ross et al.² smart companies define how they (will) do business (using an operating model) and design the processes and infrastructure critical to their current and future operations (using an enterprise architecture).

Enterprise Engineering (EE) is the application of engineering principles to the design of Enterprise Architectures (EA). It allows deriving the EA from the enterprise goals and strategy and aligning it with the enterprise resources as shown in Figure 1, EA 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.

There are different paradigms for creating enterprise architecture. The most important is to encapsulate the functionalities of IT resources as services, as shown in Figure 2. By this means, it is possible to clearly describe the contributions of IT both in terms of functionality and quality and to define a service-oriented enterprise architecture (SoEA). SoEA easily integrates wide-spread technological approaches such as SOA or emerging ones as cloud computing because they also use service as structuring and governing paradigm. The enterprise goals and strategies are mapped to a SoEA, as shown in Figure 1.

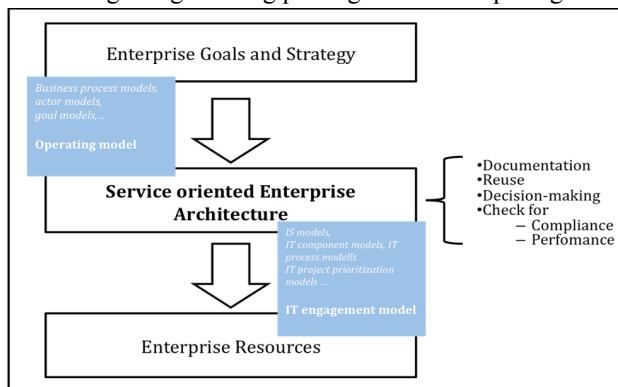


Figure 1: Service-oriented Enterprise Engineering

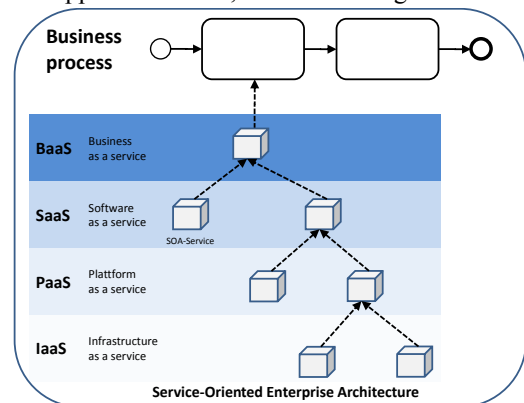


Figure 2: Service-oriented Enterprise Architecture

SoEA differentiates four layers of services, as shown in Figure 2. Thus, its scope is much broader than the scope of 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.

1. Business services are services, which directly support business processes. Business processes can also be developed dynamically (on-the-fly) using business services which are available in a repository for a given business domain. An example is call-centre services provided by an external service provider.
2. Software services exist as two types: (i) human-oriented applications, which are provided as Software as a Service, (ii) application services which are part of so-called SOA³ that are a popular paradigm for creating enterprise software.

¹ F.J. Mata, W.L. Fuerst, und J.B. Barney, "Information Technology and Sustained Competitive Advantage: A Resource-Based Analysis," *MIS Quarterly*, vol. 19, Dec. 1995, S. 487-505.

² J.W. Ross, P. Weill, und D. Robertson, *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, Harvard Business School Press, 2006.

³ M.P. Papazoglou und W. Heuvel, "Service oriented architectures: approaches, technologies and research issues," *The VLDB Journal*, vol. 16, 2007, 389-415.

3. Platform Services provide support of the development of applications. They provide services for the execution of applications, middleware stacks, web servers etc.
4. Infrastructure services are more hardware-flavoured services, which are provided using computers. They may have a human addressee but contain many infrastructure services such as providing computing power, storage etc. They are an important topic in management and practice collections such as ITILV3⁴ or standards such as ISO/IEC 20000 have gained a high popularity.

Today, foundations of social computing influence enterprise architecture in new ways. Hierarchical and top-down organizational structures are more and more replaced by egalitarian and bottom-up organizational structures. The senior management defines organizational structures no longer alone, but weak ties that are initiated by individuals superimpose the organization. Innovation is no longer a process guided by an elite, but can be initiated by every member of an organization. Decision are no longer made by experts but are results of collaborative processes. In addition, Big Data technology allows to process data with higher velocity, variety and volume. Batch-oriented analysis is replaced by stream processing and the (near-) real-time detection of events. Big Data allows the creation of new information flows within enterprise architectures enabled by a number of technological advancements. This requires integrating data services into enterprise architecture.

Goal and Objectives

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.

Topics for Discussion

During the workshop we will discuss the following topics:

1. Alignment of the enterprise goals and strategy with the SoEA
 - Which interdependencies exist between services and business strategy?
 - Which concepts and methods are necessary to align services with the business strategy?
 - Which new potentials to reengineer business processes are created by services?
 - How are non-functional requirements derived from enterprise goals and strategy?
 - How are services aligned with non-functional requirements?
 - How are services aligned with compliance requirements?
2. Design of SoEA
 - How are business, software, platform and infrastructure services defined?
 - How are business services assigned to business processes?
 - Which phases do the lifecycle of business, software, platform and infrastructure services contain?
 - How can the fulfilment of non-functional requirements be monitored?
 - Which benchmarks and key performance indicators should be applied to services?
 - Which approaches exist for the continual improvement of services?
3. Mapping of SoEA to cloud-based enterprise resources
 - Which resources are relevant for SoEA?
 - How are services mapped to cloud-based enterprise resources?
 - Which approaches exist to map services to resources?
 - Which information system architectures are adequate for services?
 - How can non-functional requirements be mapped to capacity planning of cloud-based resources?
4. Management of SoEA
 - Are the compliance and governance requirements enforced using SoEA?
 - How do meta-services differentiate for business, software, platform and infrastructure services?
 - How are appropriate meta-services designed?
 - How are service (value) nets -consisting of business, software, platform and infrastructure services- created?
 - Which meta-services are necessary for cloud-environments?
5. SoEA and influence of social and big data in Enterprise Engineering
 - How does SoEA have to change in order to comply with the new possibilities of Big Data (volume, variety, velocity, veracity)?
 - What are the information flows of Big Data integrated into Enterprise Architecture?
 - How does social production influence SoEA?
 - How can the creation of weak ties be supported in SoEA?
 - How to support collective decision processes in SoEA?
 - How does SoEA interrelate with cloud computing?
 - How are Enterprise Architectures designed using cloud-services?
 - How differ cloud-services from other kinds of services?
 - How are Enterprise Architectures designed using cloud-environments?

⁴ Ogc, ITIL Lifecycle Publication Suite, Version 3: Continual Service Improvement, Service Operation, Service Strategy, Service Transition, Service Design: Service Operation and Continual Service Improvement, Stationery Office Books, 2007.

Submission

Full papers (8-10 pages in the IEEE-CS format) describing mature results are sought. In addition, short papers (4 pages in the IEEE-CS format) may be submitted to facilitate discussion of recent research results and ongoing projects. Industry experience reports provide new insights gained in case studies or when applying service-oriented EA for enterprise engineering are also welcome. The paper selection will be based upon the relevance of a paper to the main topics, as well as upon its quality and potential to generate relevant discussion. All contributions will be peer reviewed based on the complete version, being full or short.

All papers published in the EDOC 2014 workshop proceedings must be in the IEEE Computer Society format (<http://www.computer.org/portal/web/cscsps/formatting>). It is strongly recommended that all papers are already in this format when they are first submitted to workshops. This gives precise picture of the paper length and avoids rework if the paper is accepted.

Please submit your paper to EasyChair at <https://www.easychair.org/conferences/?conf=soea4ee2014>

At least one author of each accepted workshop paper will have to register for the whole EDOC 2014 conference and attend the workshop to present the paper. Analogously to previous years, there will be no workshop-only registration at EDOC 2014. If a paper is not presented in the workshop, it will be removed from the workshop proceedings published in the IEEE Xplore digital library.

The SoEA4EE workshop has been a full day workshop in conjunction with EDOC'09 in New Zealand, with EDOC'10 in Brasil, EDOC'11 in Finland, EDOC 2012 in China, and EDOC'2013 in Canada. The programs of the previous editions can be found from the portal www.soea4ee.org

Expected results

All papers will be published in the workshop wiki (www.soea4ee.org) before the workshop, so that everybody can learn about the problems that are important for other participants. The workshop will consist of long and short paper presentations, brainstorming sessions and discussions. A workshop report will be created collaboratively using the workshop wiki.

Important dates

Workshop paper submission due: **April 8th, 2014**

Workshop paper notification: **May 27th, 2014**

Workshop paper camera-ready paper due: **June 14th, 2014**

Organisers

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For information about the venue and other organisation aspects, please visit :

<http://www.edoc2014.org/>

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