The Third 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 or modern hieroglyphs?

SoEA4EE'2011

30 August 2011, Helsinki, Finland

http://crinfo.univ-paris1.fr/users/nurcan/SoEA4EE_2011/
http://www.soea4ee.org/

Deadline for workshop paper submissions: 15 March 2011

There is a more and more common understanding, that not the ownership of IT resources but their management is the foundation for sustainable competitive advantage[1]. 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).

The management of information technology resources should be done with the application of engineering principles, called enterprise engineering. Enterprise Engineering allows deriving the Enterprise Architecture from the enterprise goals and strategy and aligning it with the enterprise resources as shown in figure 1, but it may also be supported by the Enterprise Architecture if the latter is documented. Enterprise architecture [2, 3] 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. To this end, advantageous patterns (best practices) can be reused and alternative design solutions can be compared. Furthermore, enterprise architecture may be checked for compliance with laws, regulatory rules etc. Finally, enterprise architecture facilitates the measurement the performance and efficiency of the resources used.

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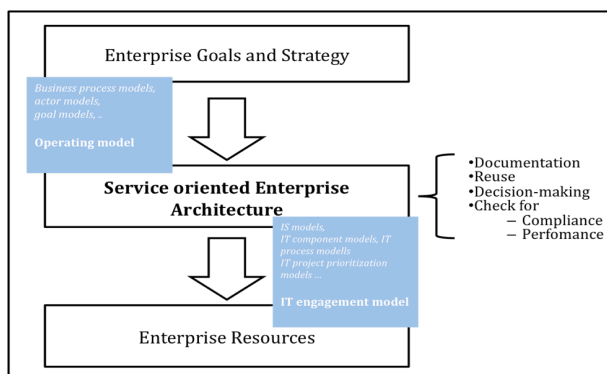

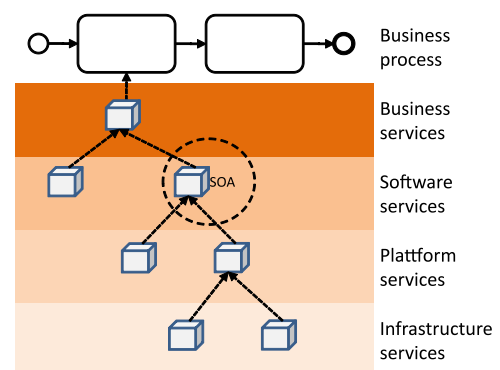Figure 1: Service-oriented Enterprise Engineering

Figure 2: Service-oriented Enterprise Architecture

Service-oriented enterprise architecture differentiates four layers of services, as shown in figure 2. 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.

[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] A. Wegmann, "Systemic Enterprise Architecture Methodology (SEAM)," *SEAM). Published at the International Conference on Enterprise Information Systems 2003 (ICEIS 2003*, Citeseer, 2003, S. 483-490.

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 Service-Oriented-Architectures[4] that are a popular paradigm for creating enterprise software[5].
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 ITILV3[6] or standards such as ISO/IEC 20000 have gained a high popularity.

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. Especially three themes of research shall be 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

Collaboration with the TEAR workshop

The 2011 SoEA4EE workshop will be organised in collaboration with the TEAR workshop. The SoEA4EE 2011 workshop will be held on the 30th of August, while the TEAR workshop will be held on the 29th of August. The organisers of both workshops explicitly invite visitors to visit both workshops, in order to further the integration between the two communities.

Where the TEAR workshop focuses on EA in general, the SoEA4EE workshop focuses on the role of the service oriented paradigm in the context of EA. Authors of papers on topics (that were included in past TEAR call-for-papers) such as: Integrating service oriented and legacy architectures, Service design on application and business levels, Service orientation as EA design paradigm, Service oriented architecture (SOA) and EA, are invited to submit these papers to the SoEA4EE workshop instead of TEAR. Authors of papers dealing with Enterprise Architecture without any link to service orientation in its widest sense are invited to submit these papers to TEAR instead of SoEA4EE.

Topics for Discussion

During the workshop we will discuss the following topics:

1. Alignment of the enterprise goals and strategy with the service-oriented enterprise architecture
   - 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?
   - Are the compliance and governance requirements enforced using service-oriented enterprise architectures?

2. Design of service-oriented enterprise architecture
   - How are business, software, platform and infrastructure services defined?
   - How are business services assigned to business processes?
   - How are business services assigned to non-functional requirements?
   - How are service (value) nets -consisting of business, software, platform and infrastructure services- created?
   - How does service-oriented enterprise architecture interrelate with cloud computing?
   - How do meta-services differentiate for business, software, platform and infrastructure services?
   - How are appropriate meta-services designed?
   - 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 service-oriented enterprise architecture to enterprise resources
   - Which resources are relevant for Service-oriented Enterprise Architecture?
   - How are services mapped to 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 resources?

4 M.P. Papazoglou und W. Heuvel, "Service oriented architectures: approaches, technologies and research issues," The VLDB Journal, vol. 16, 2007, 389-415.
5 OASIS, "Reference Model for Service Oriented Architecture 1.0," Aug. 2006.
6 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. 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 2011 workshop proceedings must be in the IEEE Computer Society format (http://www2.computer.org/portal/web/cscps/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 nurcan@univ-paris1.fr

At least one author of each accepted workshop paper will have to register for the whole EDOC 2011 conference and attend the workshop to present the paper. Analogously to previous years, there will be no workshop-only registration at EDOC 2011. 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 and with EDOC'10 in Brasil. The link for the proceedings of EDOC 2009 workshops is: http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=5331971&isYear=2009. The link for the proceedings of EDOC 2010 workshops is: http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=5626915

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: **15 March 2011**
Workshop paper notification: **7 May 2011**
Workshop paper camera-ready paper due: **1 June 2011**

Organisers

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