

# **Service-oriented computing (SOC) and the relationship to EBTs**

## **1 Introduction**

The purpose of this seminar paper is to give the reader a picture on how service-oriented computing can be used for business-process engineering and business-to-business automation. While it is possible to use collaborative business processes with service-oriented computing the safeguarding of business-to-business automation is still a challenge. If the automation isn't safeguarded, enterprises will not see all the potential benefits and advantages service-oriented computing has to offer. Safeguarding issue can be addressed with injecting business semantics into eBusiness transactions. Transactions should also be able to cope with exceptions and know how to handle different sorts of compensations.

To actually implement inter-organizational eBusiness transactions in a Web service or Services-oriented architecture context some changes in currently used techniques need to be done. Loose-coupled environments like the Web need different kinds of transaction principles than the back-end systems behind Web services that still often remain to be strongly-coupled and therefore work really well with ACID transactions. Transaction protocol for Web services and eBT should be specified so that it takes ACID into consideration but still manages to satisfy all the needs of eBusiness participants.

The need for this kind of protocol or technique that could successfully safeguard inter-organizational eBusiness transactions is obvious because more and more business is being conducted in an electronic environment. eBusiness also enables new kinds of organization models the use of which could considerably increase competitive edge of companies. Because of this safeguarding mechanisms become increasingly important and the lack of a proper eBT protocol keeps hindering the progress and usability of modern systems.

## 2 Tentative table of contents

Below is the tentative table of contents of the seminar paper. Possible references for the topics are represented in the parenthesis following each topic.

- introduction
- service-oriented computing (LiFr03)
- service-oriented architecture stack (LiFr03)
- eBusiness transactions(LiFr03)
- ACID
- UDDI(Be103)
- WSDL (Chr01)
- BPT(LiFr03)
- WS-BPEL (Cur02)
- Summary and conclusions

## References

- Be103      Bellwood, T. and L. Clement, and D. Ehnebuske et al, 2003. UDDI Version 3.0, Published Specification. <http://uddi.org/pubs/uddi-v3.00-published-20020719.htm>
- Cur02      Curbera, F. and Y. Goland, J. Klein, F. Leymann, D, S. Thatte, and S. weerawarana, 2002. Business Process Execution Language for Web-Services 1.0. <http://www.ibm.com/developerworks/library/ws-bpel/>
- Chr01      Christensen, E and F. Curbera, G. Meredith, S Weerawarana, 2001. Web Services Description Language 1.1. <http://www.w3.org/TR/wsdl>
- LiFr03      Little, M and Freund, Thomas, 2003. A comparison of web services transaction protocols. <http://www.ibm.com/developerworks/webservices/library/ws-comproto/>