

# Service Provisioning in the Dynamic Enterprise Space<sup>1</sup>

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The World Wide Web has gradually made its way from a simple communication space to a full-fledged enterprise space far beyond mere representation of and advertising for major companies. The service requirements of the future dynamic and mobile commerce including mobile user-workers and roaming executives in the grid-aware economy will essentially require an integrated service provisioning environment which is to deliver support for both service specification, service level agreement composition and monitoring including outsourcing management services.

With the emergence of the Web services paradigm the idea of service and content provisioning over the Internet using its pervasiveness and ubiquity has become feasible for the first time. Thus its impact on today's economical structure is still underestimated. Previous approaches towards E-business and their subsequent failure where lacking some of the typical characteristics and requirements that are typical for today's economic culture. Instances of these requirements are e.g. advocacy-trust services or user-centered help-desks plus knowledge management services that allow individual staff to efficiently cope with their daily work and life. Topics like the integration of some encapsulated tasks that are value-adding in a complex economic process or dynamic workflow, without necessarily providing the whole process or achieving the entire goal, decomposition strategies of complex tasks or workflows and the personalisation of such services for B2B or B2C service provisioning still have to be understood in more detail.

Far from offering just simple information services Web services also can be expected to become an important platform for the outsourcing of certain procedures that cannot be performed in a company's routine either due to a lack of resources or expertise, but that are necessary in e.g. B2B interaction and product development or user-centered services that allow individual persons to efficiently cope with their daily life, e.g. supporting a nomadic lifestyle via mobile devices. In near future (especially considering the convergence of 4G networks) we can expect a growing number and increasing variety of services that are provided over the Internet, advertised in central yellow page style service directories like UDDI and even allow for integration into more complex workflows by offering semantic descriptions and classification into entire service ontologies to meet a company's or user's needs (e.g. DAML+OIL, WSMF, etc.).

But to effectively employ of such services some more things beyond the underlying protocols, inference languages or shared ontologies are needed. The problem of permanently monitoring service offerings, level of service guarantees, quality assessments, estimates of costs and personalisation in both finding and selecting the appropriate service for subsequent execution is tantamount. Moreover, to allow for outsourcing demanding problems are also transaction models for execution, adequate business models for billing, assurance of security and privacy. In our talk we will address some of these problems and propose preliminary results from our current research in provisioning of Web services in mobile user-centered environments and present case studies for problems like personalized discovery and cooperative behaviour of services.

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