

ASG - Integrated Project -

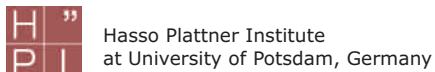
Competence, knowledge and expertise of major European research institutions with significant contributions from the Software, Telecommunications, and Telematics industry:



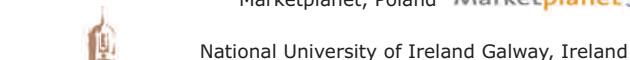
DaimlerChrysler AG, Germany **DAIMLERCHRYSLER**



Fraunhofer IESE, Germany **Fraunhofer** Institut Experimentelles Software Engineering



Marketplanet, Poland **Marketplanet**



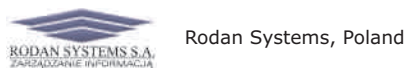
National University of Ireland Galway, Ireland



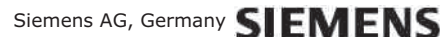
NIWA, Austria **niwa**



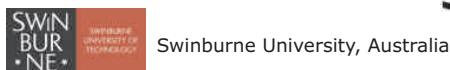
The Poznan University of Economics, Poland



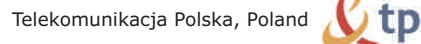
Rodan Systems, Poland



Siemens AG, Germany **SIEMENS**



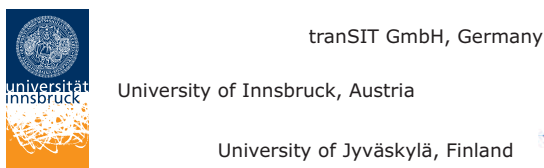
Swinburne University, Australia



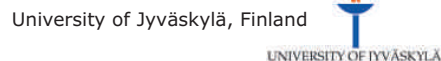
Telekomunikacja Polska, Poland



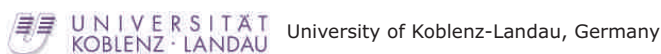
Telenor ASA, Norway



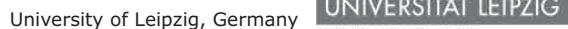
University of Innsbruck, Austria



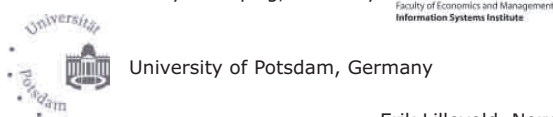
University of Jyväskylä, Finland



University of Koblenz-Landau, Germany



University of Leipzig, Germany



University of Potsdam, Germany

Erik Lillevoid, Norway

For More Information

ASG Website

www.asg-platform.org

Email

info@asg-platform.org

Project Board

Administrative Coordination (C-0 Management)

Dr. Regina Gerber, Int. Research Co-operation Officer
University of Potsdam
Am Neuen Palais 10, 14469 Potsdam, Germany
Phone: +49-331-9771080
Email: rgerber@rz.uni-potsdam.de

Scientific Coordination (Scientific Board)

Dr. Dominik Kuroпка
Hasso-Plattner-Institute at University of Potsdam
Prof.-Dr.-Helmert-Str. 2-3, 14482 Potsdam, Germany
Phone: +49-331-5509-193
Email: dominik.kuroпка@hpi.uni-potsdam.de

Dissemination Coordination (C-D Dissemination)

Dipl.-Ing. Holger Krause
tranSIT - Thüringer Anwendungszentrum für
Software-, Informations- und
Kommunikationstechnologien GmbH
Langwiesener Str. 32, 98693 Ilmenau, Germany
Phone: +49-3677-845109
Email: krause@transit-online.de

Work Component Leaders

C-1: Service Semantics

Dr. Sven Groppe
DERI at University of Innsbruck, Austria
(sven.groppe@deri.org)

C-2: Service Discovery & Composition

Harald Meyer
HPI-BPM at University of Potsdam, Germany
(harald.meyer@hpi.uni-potsdam.de)

C-3: Service Integration & Development

Klaus Jank
Siemens AG, Germany
(klaus.jank@siemens.com)

C-4: Adaptive Process Management

Prof. Dr. Ryszard Kowalczyk
Swinburne University of Technology, Australia
(rkowalczyk@it.swin.edu.au)

C-5: Services Infrastructure

Peter Tröger
HPI-DCL at University of Potsdam, Germany
(peter.troeger@hpi.uni-potsdam.de)

C-6: ASG Development Methodology

Dr. rer. nat. Joachim Bayer
Fraunhofer IESE, Germany
(joachim.bayer@iese.fraunhofer.de)

C-7: Usability and Demonstration

Dr. Josef Noll
Telenor R&D, UniK, Norway
(josef.noll@unik.no)



European Integrated Project
Adaptive Services Grid (ASG)

Next Generation Service Delivery

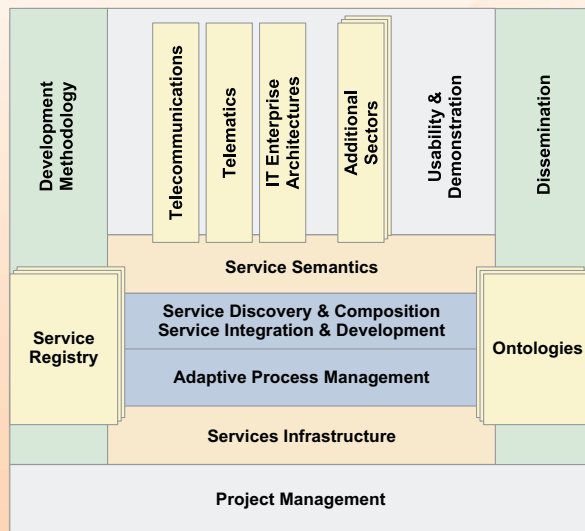
General Project Information
at a glance



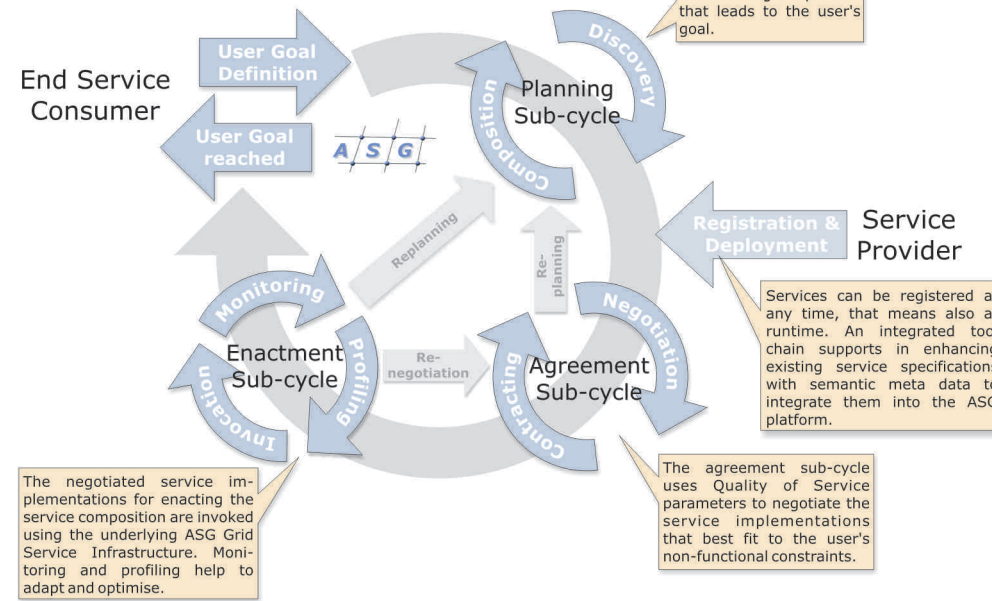
Introduction

In the interconnected world of the Web, users are able to take advantage of services on a broad range of functionality such as searching, ordering, making reservations or retrieving any kind of information. In the future services will provide far more functionality to users in using a wide range of different service components and by applying complex processes in the form of service-oriented applications. Such service applications will have their runtime environments within a worldwide network and be powerful through dynamic performance capabilities in which many flexible service components are available. Reliability, easy service creation and composition as well as service maintenance take on a new meaning when a service is created not only from one source, but also from a network of service providers. The Integrated project Adaptive Services Grid tackles such challenges by developing an open platform for adaptive and flexible service discovery, creation, composition and enactment. Positioned in the field of service-oriented architectures (SOA), ASG attempts to raise SOA technology to a new level, by incorporating and carrying out research on a number of concepts and techniques drawn from the latest technologies such as semantic web services, grid technology, agent-based negotiation or model-driven service creation.

Work Components



ASG's Service Delivery Lifecycle



Research Challenges

ASG faces several research challenges along a service delivery lifecycle that enables provision and consumption of complex, add-value composite services:

- Semantic specification of services including functional and non-functional properties of services
- Dynamic service composition based on semantic service specifications
- Automatic negotiation of service level agreements (SLA) based on user-specified quality of service (QoS) parameters
- Easy integration of external standardized services incl. registration and deployment
- Adaptive service enactment including monitoring of SLA fulfillment, replanning and renegotiation as well as service profiling

The resulting semantic web service platform will be able to react adaptively to runtime changes in the service environment as registration of new, or failure of already registered services. Thus, a user goal can be

fulfilled as long as the service landscape allows it. Due to the underlying services grid infrastructure, the platform will provide high scalability, reliability and performance for all related service tasks.

Expected Results

- A reference architecture for a semantic web service environment including semantic service specification, registration, discovery, and composition as well as adaptive service enactment
- Methods and tools for realization of service-based systems based on the ASG reference architecture
- Business potential and Market exploitation of ASG-based services and developments in selected areas of Telecommunications, Telematics and IT-Industry, supported by ASG scenarios and prototypes
- Prototypical implementation of usage scenarios in the Telecommunications domain in order to demonstrate feasibility and usability of ASG's developed concepts, methods, architectures, and tools

Project Vision

The vision of the Integrated Project Adaptive Services Grid is to provide the next level of service provision and delivery by developing concepts, languages and tools for an open architecture for adaptive service discovery, creation, composition and enactment. Furthermore, the platform will stimulate business use by adding functionalities and procedures in order to respect quality of service parameter defined by users.