Semantic-Based Interoperability

Session Topic

Internet computing is the dominating paradigm in 21st century's IT. Corporate environments, public bodies and social networks are opening up to the Web to share their data, services and resources at a global scale. While the Internet provides the technological infrastructure to interlink the various interacting actors, it does not respond to the interoperability needs inherently appearing in such open heterogeneous computing environments. With the emergence of Web services and Service-oriented Infrastructures, interoperability is becoming a crucial aspect for the success of every business.

> "Despite years of work on Web services standards, interoperability remains a bugaboo. Because of interoperability problems, service-oriented architecture is not as easy as it might be in the best of all loosely coupled worlds".
>
> Rich Seeley @ SearchSOA.com

Most industrial IT solutions for interoperability focus on the technical layer, dealing with problems such as protocol interoperability, message format interoperability and alike. Unfortunately, achieving interoperability at the technical or syntactic level is not enough as it does not take into account the actual meaning of the exchanged information. To achieve interoperability at this level, a formal description conveying the semantics of the content of the exchanged messages is required. Semantic technologies can solve this issue..

While service orientation is widely acknowledged for its potential to revolutionize the world of computing by abstracting from underlying hardware and software layers, its success still depends on resolving fundamental challenges that current SOA does not yet address. Interoperability in terms of mutual understanding of messages, shared objects and in- and output parameters is certainly one of them. Moving towards computing at Web scale or in mobile or even ubiquitous environments brings in additional complexities. In such settings, there are no a priori boundaries to the number and diversity of data, respectively service providers and consumers. Semantic technologies are a major building block in addressing heterogeneities at various levels and from various view points.

This special session provides a platform to some of the most representative European research projects in the area of Service-oriented infrastructures (SOA4All, COIN, SLA@SOI, and others) to present their recent achievements towards novel approaches in semantics-based interoperability. We expect contributions from selected projects that consider semantic interoperability at

the level of service composition and negotiation, including discovery, selection and adaptation of service executions.

Organizers

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Session Organization

1. Welcome Note, Opening (20 minutes)
2. Project Paper Presentations (up to 30 minutes each)

The duration of the session can be either 90 or 180 minutes, depending on the program of the main conference.