

Interoperability - Industry Needs vs. European Research and Development Plans

Workshop 7a & 8a: 14:00, 16:00 Thursday 20 October, 2005

Abstract

The increasing ease of physically connecting information systems to intranets, extranets and the Internet, is opening the door to a plethora of enhanced functionalities of IT applications. Organisations are trying to leverage their data by combining it with data from peripheral applications and their network of suppliers and customers to reduce time to market, reduce their costs and improve the quality of their products and services. Many companies are realising that using IT tools they are able to focus on their core competencies while outsourcing peripheral processes, improving all of these objectives. The rapid evolution of this “collaborative” grey area is straining the Enterprise applications themselves, which are increasingly being required to import and manage data that was generated by other applications. It is also creating a situation where brand new business processes are surfacing to deal with the new relationships evolving between organisations. To a great extent the logical connections between applications are often being dealt with on an “as needed” basis using a number of different middle ware and a wide variety of technologies. These ad hoc attempts to deal with IT fragmentation are costing the economy billions of Euros every year. The Gartner Group estimates that organisations are currently spending 40% of their IT budgets to deal with interoperability and interconnection of legacy systems. However there are standardisation and technology trends that promise to tackle these interoperability problems. Technologies including model driven configuration tools, ontology based reconciliation systems, business process modelling /exchange and international standardisation attempts will undoubtedly change the topology of this domain in the very near future.

This cross-cutting session will address technologies and upcoming standards which are attempting to deal with the problem of Interoperability of Enterprise Applications. It will outline the major challenges yet to be tackled. It will explore the approaches being brought forward in Europe and the United States, and focus on the European Commission’s initiatives and future plans including the Athena Integrated Project and the Interop Network of Excellence. Visions, objectives and perceived obstacles to interoperability will be addressed by high level Speakers from NASA and EADS who will outline challenges for large complicated industries, while the CEO from a small company (Antara) will outline why interoperability is life or death for the numerous SMEs in Europe. We will also hear what the European Commission plans to do to pilot this developing situation. Two separate sessions will deal first with needs of Users (industry and Government) and later with current work going on in the R&D fields and the European Commissions plans for the Upcoming Framework Programme. These two strands will come together at the end to examine if current and planned work covers all of the needs expressed by the user present. It will attempt to draw conclusions for recommendations to the commission and field questions from the audience. The outcome will be not only an improved sensibility of these questions and better general knowledge, but also guidelines and input for the European Commission as it moves towards FP7.

Layout

This workshop will be made up of two separate slightly shortened sessions taking place sequentially followed by a joint session debate including feedback from the audience. The first will deal with problems and plans as seen by industry, while the second will address ongoing research in the domain and the plans of the European Commission. After the two sessions are concluded a plenary session roundtable made up of all speakers will attempt to understand if industry’s problems are currently being addressed by ongoing research and if not to see what plans the European Commission has to address these questions in future research. Where a gap exists notes will be taken and recommendations will be forwarded to the European Commission as suggestions for themes in the upcoming Framework Seven Programme. Each session will have a short introduction to the topic by the chairman followed by a (4 x 15 min.) of leading experts. A 10-minute discussion

with the audience will follow each session to collect unaddressed questions or reservations for the plenary. After the two sessions are concluded all of the speakers will be asked to form a round table to discuss whether we are on the right track or whether improvement can be made in the current state of affairs and planned research. The chairman will close the session with a brief summary and details of any suggestions that the group would make to the European Commission.

Objectives

The Workshop has the primary goal of eliciting areas that are not sufficiently being studied in the area of application interoperability, but will undoubtedly give the general audience a familiarity with the major trends, research communities, commission objectives and obstacles in the Interoperability Domain. Cutting across organisational structures and sector domains, the session has the goal of demonstrating that there are common Interoperability problems that can be worked on collectively. It should be the first step in creating research synergies in order to give sensible indications on the work still to be done. It will be a demonstration of the interest the European Commission and Industry have for this problem. It will lay down the basis for all those interested in collaboration with the Athena and Interop groups who will be present.

Participants will develop a more in-depth understanding of teamwork, what they can do to aid in effective team communication, and how to see and solve common problems in team functioning.

Agenda

14:00 Welcome and Introduction

Ricardo Gonçalves – UNINNOVA

14:05 Interoperability in the Manufacturing Sector: leveling the ground

Steven R. Ray, National Institute of Standards and Technology, United States

This presentation will depict what Steve thinks are the major obstacles to be overcome in the field of Enterprise Application Interoperability in the manufacturing sector. He will address the activities that are going on in the Department of Commerce and in his Manufacturing Systems Integration Division at NIST. He will give an outlook for the future of this domain and highlight what he would expect the research community to focus on.

14:20 Making Interoperability fly

Nicolas Figay, EADS, France

Mr. Figay will discuss the enormous enterprise application interoperability challenges of a company like EADS that has grown out of the conglomeration of numerous others. He will outline EADS plans to manage the complexity and plans for the migration towards interoperability of systems. He will explain how standardization is seen as a fundamental factor that should be integrated everywhere for truly sustainable interoperability.

14:35 Small isn't easy

Miguel Borrás, Antara, Spain

Mr. Borrás will discuss interoperability solutions that SMEs are using today. He will discuss how SMES are using data and information system modelling to facilitate business connections with partners and members of industrial districts and how interoperability is essential to the growth of the single European Electronic Market.

14:50 European Commission perspective on Interoperability

Peter Fatelnig, European Commission

Mr. Fatelnig will describe the direction the eBusiness unit is heading. He will describe the particular societal problems the Commission is trying to resolve with their activities in this area and what they

see as the largest obstacles to overcome. He will give his general ideas for topics to be included in FP7.

15:15 Discussion

15:30 Coffee Break

16:00 Welcome and Introduction

Richard Stevens – Gruppo Formula

16:05 The Research Community “one vision”

Prof. Jean Paul Bourrières - University of Bordeaux France

Prof. Jean Paul Bourrières will discuss interoperability issues as they impact the European Research community dealing with Interoperability issues. He will outline the work being done by the Interop Network of excellence (NoE). He will discuss the three domains that are currently being studied in the Interop NoE, their relevance and the work that is planned to be carried out over the course of the next work programme.

16:20 Model Driven Interoperability - a standards based approach

Arne Berre, Sintef, Norway

Prof. Berre will describe the technologies which underlie the interoperability framework being developed in Athena which is divided into three areas: conceptual interoperability, technical Interoperability and applicative interoperability. He will outline the use of profiling for specific interoperability situations including collaborative product development, e-procurement, supply-chain and product portfolio management.

16:35 Ontology based interoperability

Michele Missikoff, LEKS CNR, Italy

Prof. Missikoff will discuss the use of Ontologies to support interoperability. He will describe the general trends and more specifically machine supported building of enterprise domain ontologies. He will outline the activities that are being carried out in this direction in the Athena and Interop integrated projects.

16:50 A MDD Approach to the Development of Interoperable Service Oriented Architectures

Lorenzo Pondrelli, Gruppo Formula, Italy

This presentation illustrates an approach to interoperability from the service oriented architectural perspective.

17:05 Structured panel discussion “Industry Needs vs. European Research and Development Plans”

All of the speakers in the first two sessions will come together in a panel discussion as the rapporteur reads back the “requirements”. The panel will discuss if the current projects and Commission plans adequately address those requirements.

17:25 Summary, Future Activities and Information Sources

17:30 End of Activities