Interoperability of virtual organisations on complex semantic Grid

inteliGrid

The **context** of the inteliGrid project are dynamic virtual organisations (VOs) that collaborate on the design, production and maintenance of products described in complex, structured, product model databases. Such VOs are typical for industries with long and dynamically changing supply chains such as the automotive, shipbuilding and aerospace industries. Perhaps the most complex VOs are in the architecture, engineering and construction (AEC) sectors. Semantic interoperability of software and information systems belonging to members of the VO is essential for efficient collaboration within the VO. The vision of the project is to extend the semantic Grid paradigm to support the interoperability of such VOs.

The **hypothesis** of this project is that the collaboration platform — the semantic Grid itself — must be aware of the business concepts (e.g. car, airplane, skyscraper) that the VO is addressing. The Grid itself needs to commit to the product's and process's ontology thereby evolving into an ontology committed semantic Grid. The goal of this project is to create an architecture and a prototype for such an infrastructure, based on existing Grid middleware and to test it in the context of the AEC sector.
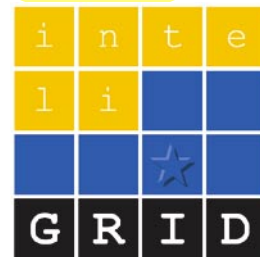
The main **results** of the project are generic business-object-aware extensions to Grid middleware, implemented in a way that would allow Grids to commit to an arbitrary ontology. These extensions are propagated to toolkits that allow hardware and software to be integrated into the Grid. The demonstration will show the next generation of key engineering collaboration software using the inteliGrid middleware — an ontology service, a product model database server, a project web collaboration service, and characteristic computer-aided design software.

The project's **impact** is wide: it creates knowledge, infrastructure and toolkits that will allow for a broad transition of the AEC sector towards semantic, model-based, ontology-committed collaboration using the Grid as the infrastructure, thus enabling the Grid to become a mainstream collaboration paradigm

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004664

Type of project
Specific targeted research project

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Project website
http://www.inteliGrid.com

Maximum Community contribution to project
EURO 2 122 000

Project start date
1 September 2004

Duration
30 months

Project partners
Organisation name and country

Organisation name	Country
UNIVERZA V LJUBLJANI, FAKULTETA ZA GRADBENISTVO IN GEODEZIJO, D.O.O.	SI
TECHNISCHE UNIVERSITAET DRESDEN	DE
TECHNICAL RESEARCH CENTRE OF FINLAND	FI
INSTYTUT CHEMII BIOORGANICZNEJ PAN W POZNANIU	PL
OBERMEYER PLANEN+BERATEN PLANUNGSGESELLSCHAFT FUER BAU, UMWELT, VERKEHR UND TECHNISCHE AUSRUESTUNG MBH	DE
SOFISTIK HELLAS S.A.	EL
CONJECT AG	DE
ESOCE NET (EUROPEAN SOCIETY OF CONCURRENT ENGINEERING)	IT
EPM ENGINEERING AND PROJECT MANAGEMENT TECHNOLOGY AS	NO

Information Society Technologies

European Commission