

Human Interaction in (semi-) Automated Business Processes

André Höing, Odej Kao, Ulf Rerrer-Brusch



BIS-Grid

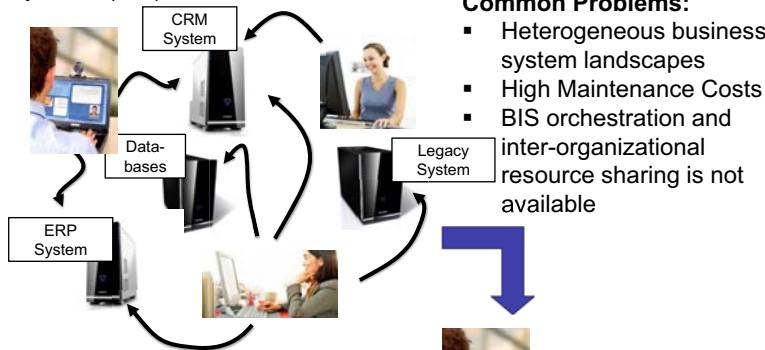
WS-Human Interaction

Enterprise Application Integration using Grid Technologies

Objective: BIS-Grid will extend Grid technology to be used as a highly capable means for integrating decentralized Business Information Systems (BIS).

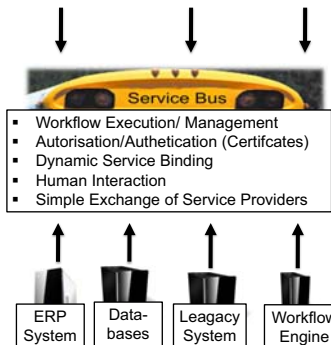
Common Problems:

- Heterogeneous business system landscapes
- High Maintenance Costs
- BIS orchestration and inter-organizational resource sharing is not available

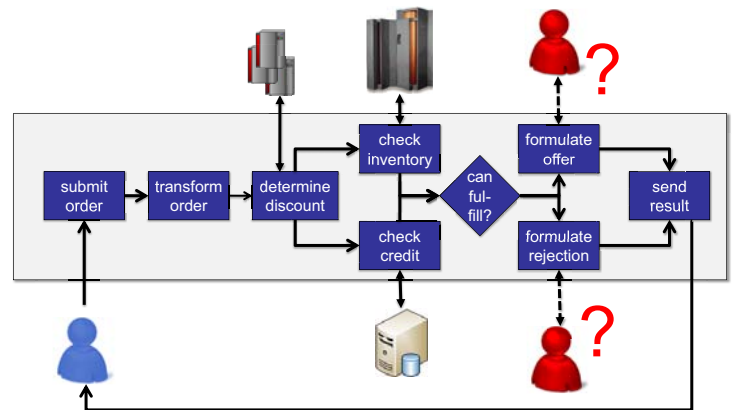


BIS-Grid Approach:

- New collaboration and business models for Grid Providing
- Aimed at SMEs
- Utilization of WS-BPEL to orchestrate stateful WSRF/ Grid Services
- Integration with UNICORE 6 (German Grid Middleware)
- Evaluation of results in application scenarios at our industrial partners
- Based on international standards



Specification for integrating Humans in automated Workflows



WS-Human Interaction (WS-HI):

- Proposal in standardization Process
- Definition of interfaces for interaction
- Humans seen as Web Service
- Definition of Human Task Lifecycle
- Definition of roles and groups
- Extendable

Missing Issues:

- Lack of integration of humans in service-oriented architectures
- Some workflows need human interaction
- Difficult planning of resources especially human resources
- Monitoring of workload and progress (services and human)
- Assignment of task to human experts with free capacity

Human-Centric Integration in (Semi-) Automated Workflows

Integration and Optimization of human tasks in (semi-) automated workflows considering their experiences, preferences, and workload.

- Modeling of automated and human tasks
- Data and control flow modeling
- Costs and risk assessment

Modelling

Business Process

Optimizing

Execution

- **Automated Orchestration of Business Processes**
- WS-BPEL as de-facto industrial standard
- **Integration of an expert system including personal preferences**
- Consistent use of Web services and human work
- Consideration of current workload and personal preferences during Task assignment
- Dynamic service selection using several parameters (costs, throughput, human selection response time, knowledge, competency...)
- **Monitoring of business processes for analysis and optimization**
- Progress monitoring of single process instances and the complete workflow

- **Bottlenecks**
- **Individual Preferences**
- Business Risk Assessment
- **Compensation & Benefits**
- Deadlines/Priorities