

**Testbed Architecture of the
*Agent.Enterprise NetDemo***

<http://www.agententerprise.net>

presented by
the working group Agent.Enterprise

Hannover, July 24th 2005

Welcome to the *Agent.Enterprise NetDemo*

Our website www.agententerprise.net provides you some detailed information about the NetDemo of the *Agent.Enterprise* Virtual Supply Chain and Manufacturing Model.

These information consist of three sets of slides (as PDF files):

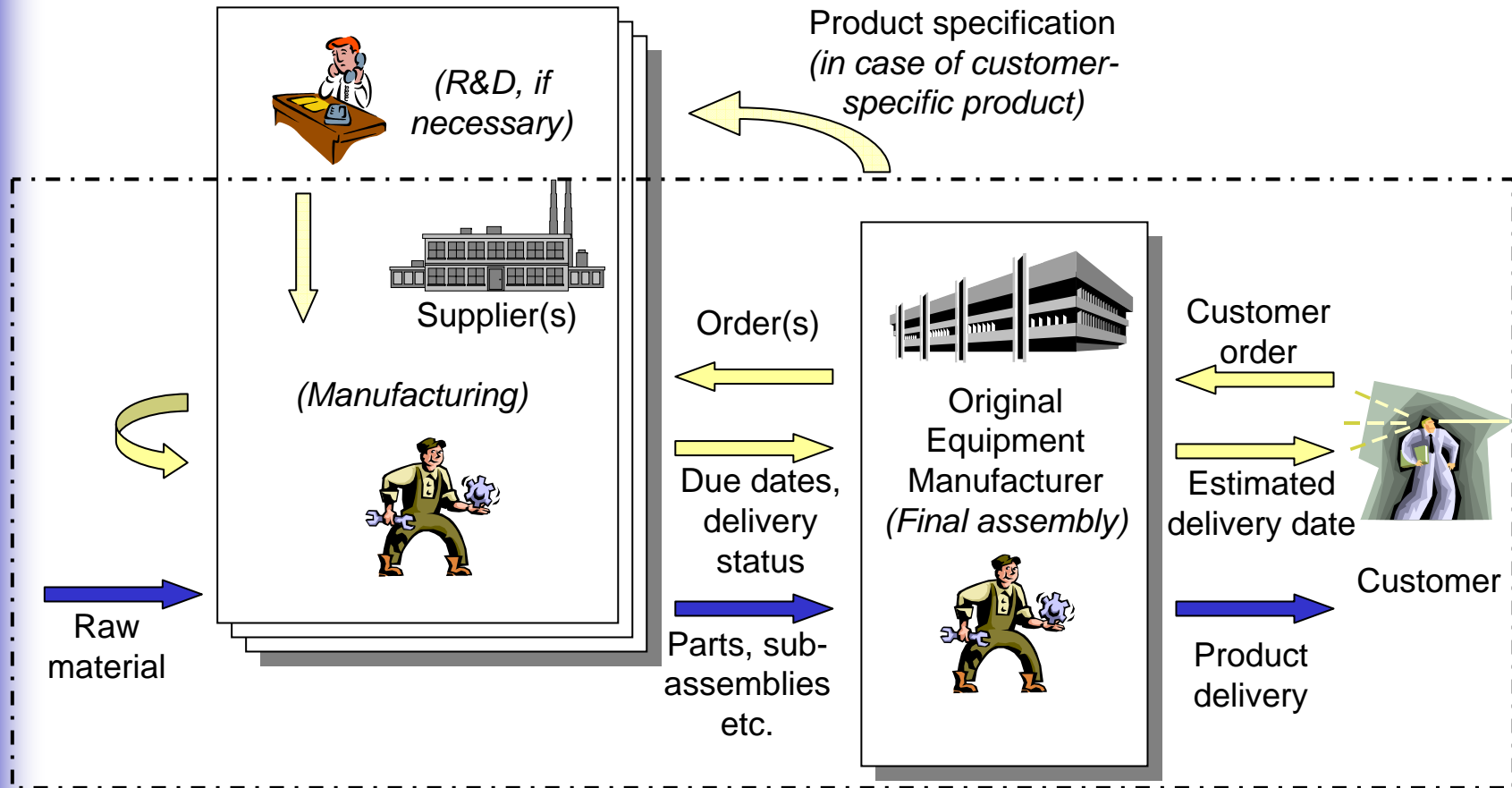
- ▶ Introduction and overview (including structure of the scenario and a brief “storybook”)
- ▶ Testbed architecture, ***this document***
- ▶ Agent communication protocol

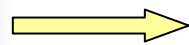

In addition, the interface ontology, which is used to describe information exchanged by the participating multi-agent systems, is available for download.

For further information, please contact info@agententerprise.net .

Scenario of *Agent.Enterprise*

Agent.Enterprise

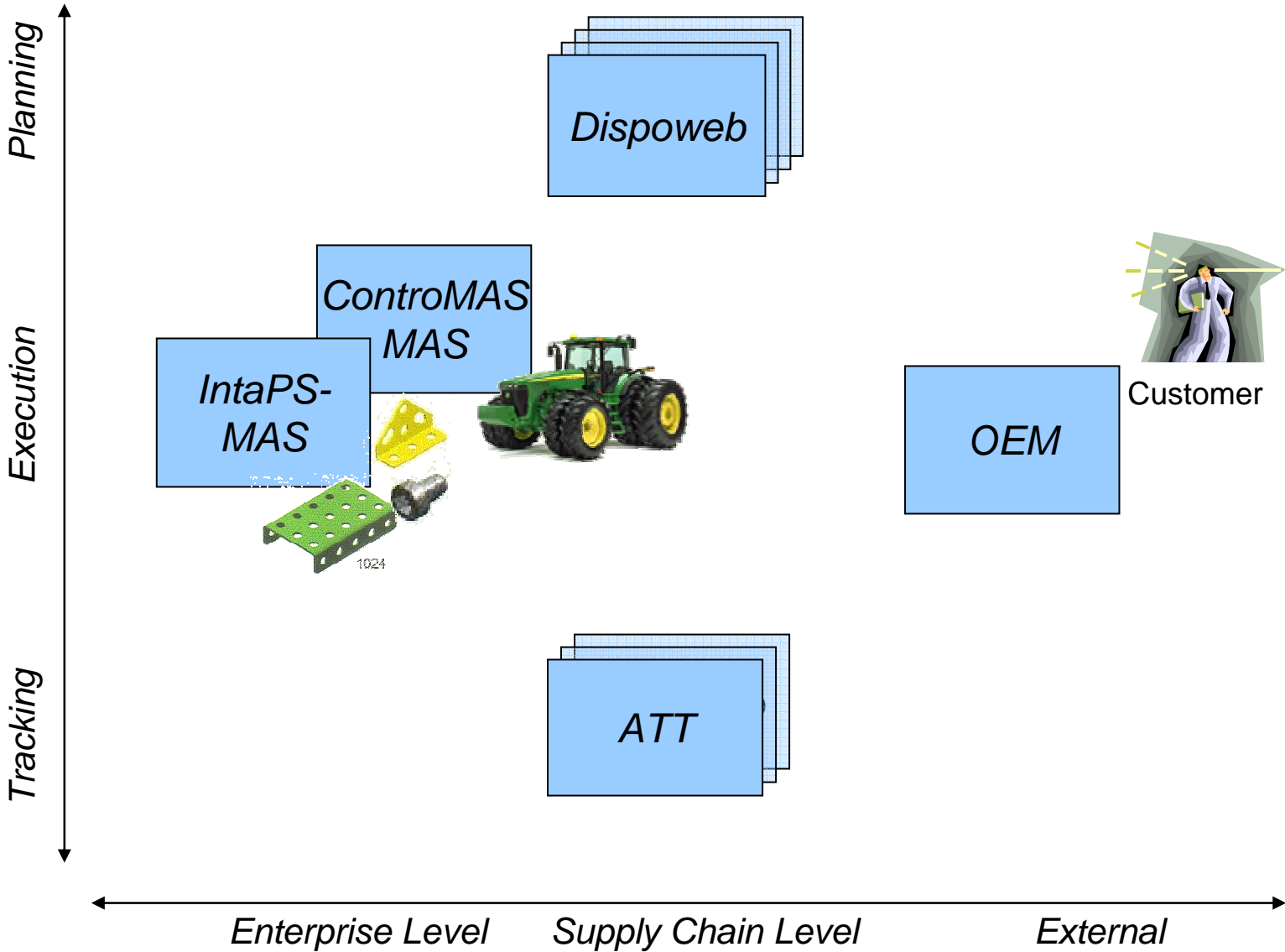


-  Flow of information
-  Flow of material (may involve an external logistics service provider)

Core *Agent.Enterprise* scenario implemented in the *Agent.Enterprise NetDemo*

Current Participants of *Agent.Enterprise*

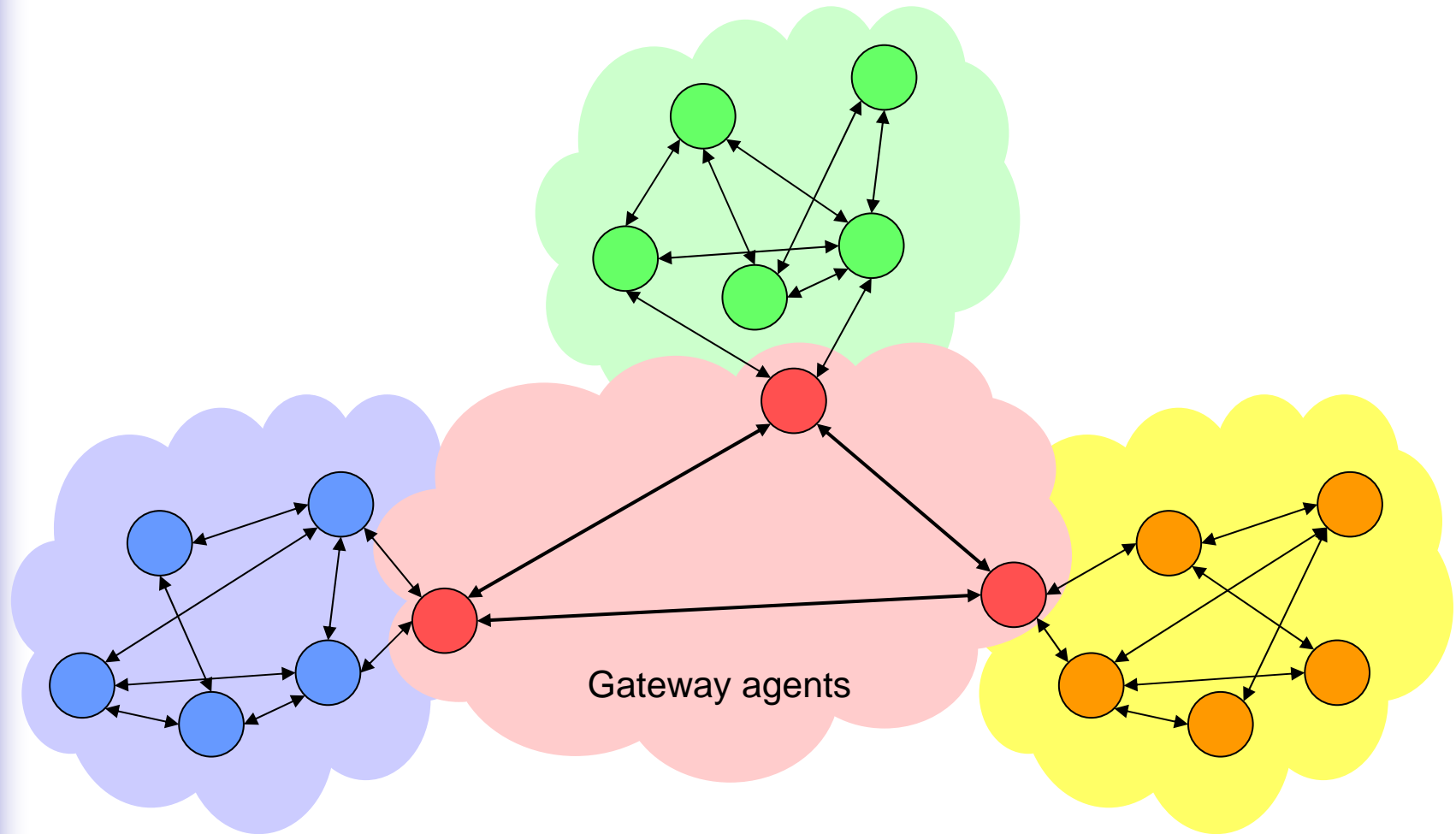
Agent.Enterprise



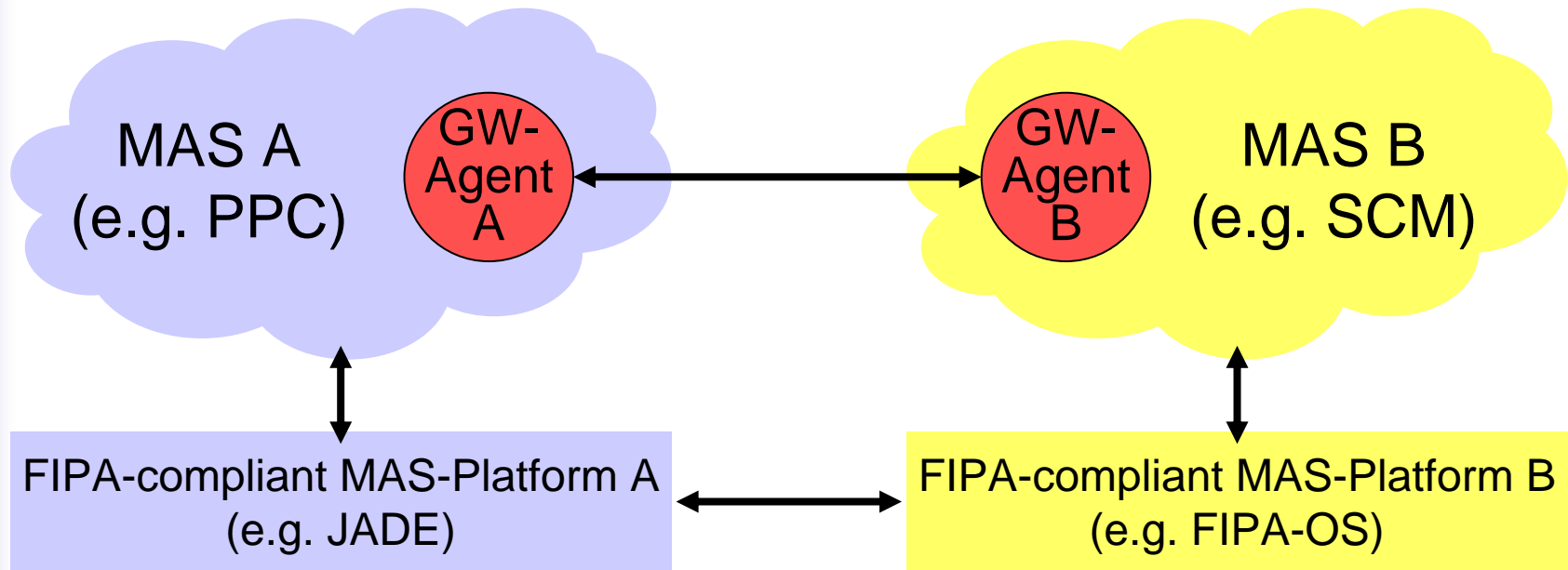
Technical Agreements: Gateway Agents

"Gateway-Agent Concept"

Agent. Enterprise



Technical Agreements: Gateway Agents



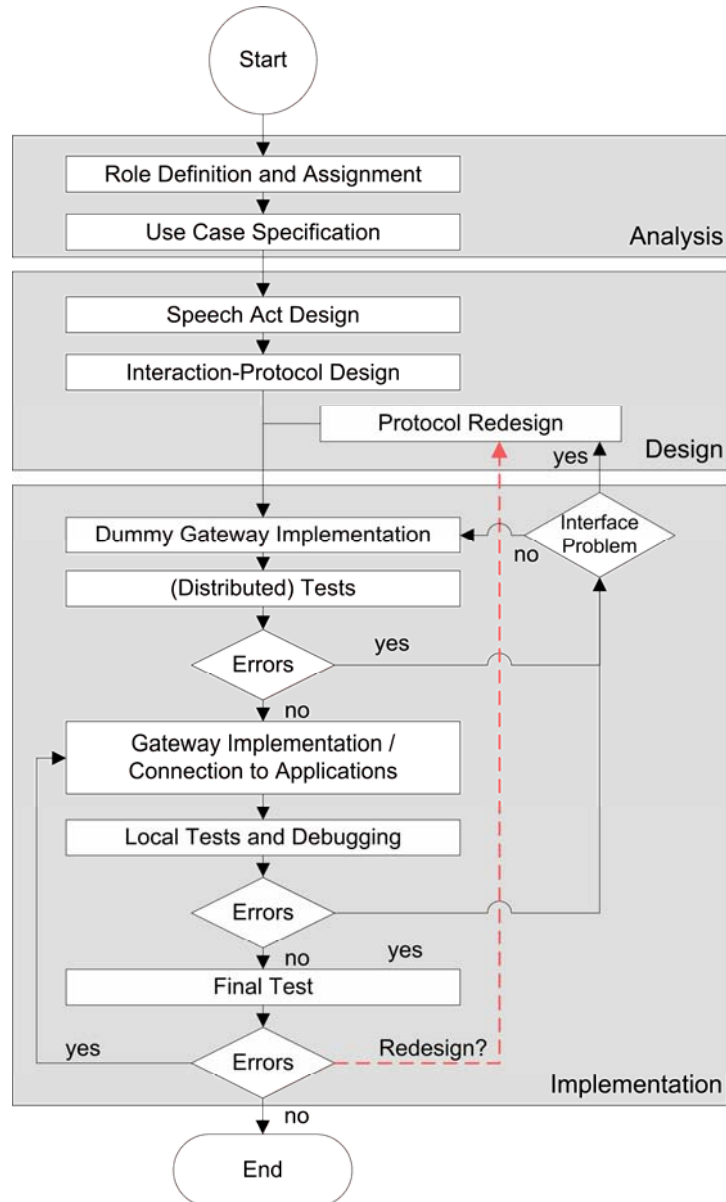
Issues solved:

- ▶ Technical communication (e.g. different MTPs)
- ▶ Data formats (FIPA-SL)

Issues still open:

- ▶ Semantic understanding, interaction dynamics,...

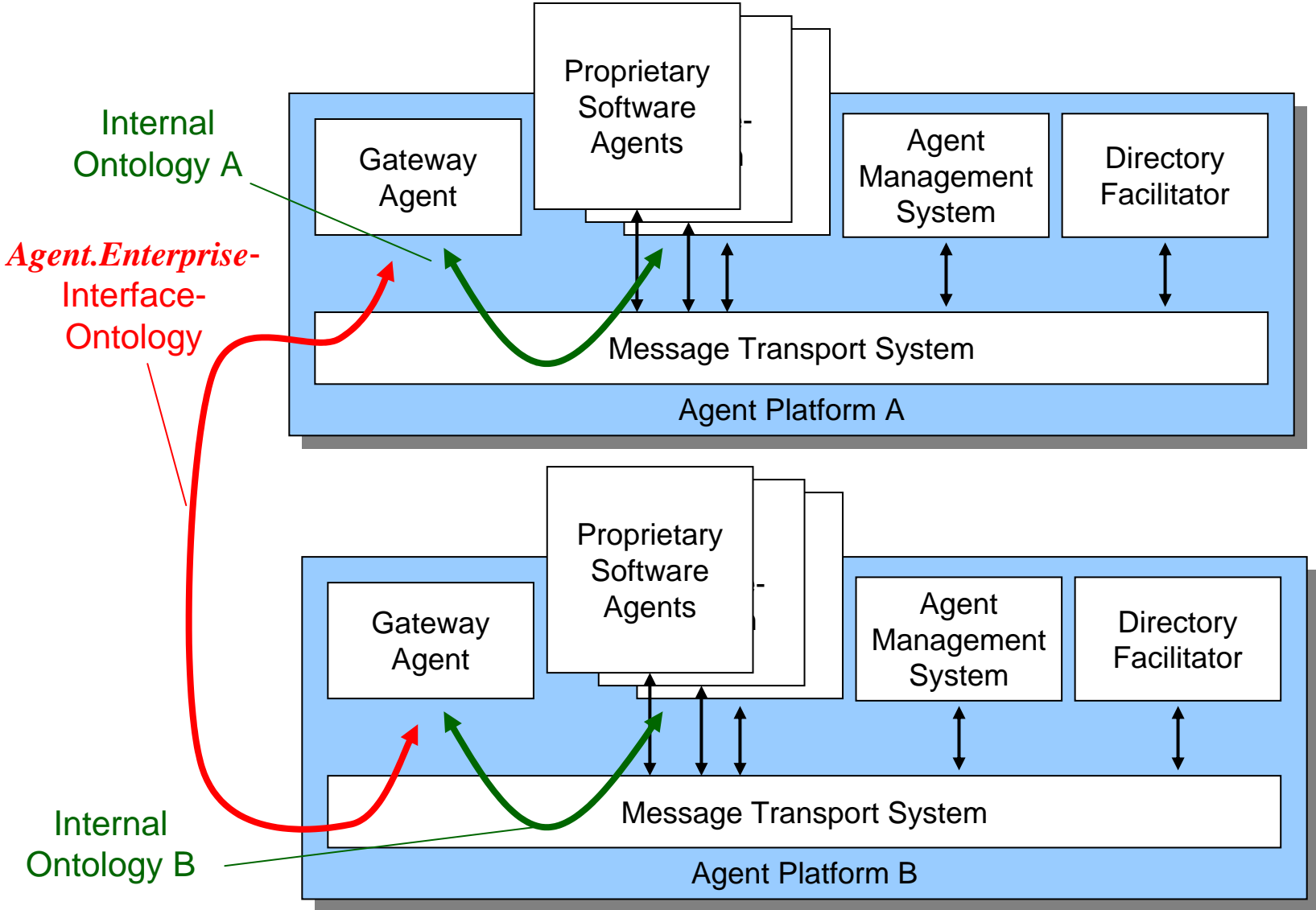
Methodology Overview



- ▶ Objective:
Don't bring unnecessary new technology into the participating projects
- ▶ Restriction:
Weakly coupled development process
- ▶ Agent.Enterprise is based on
 - ▶ Technical agreements
 - ▶ Iterative development

Gateway Agents and Ontologies

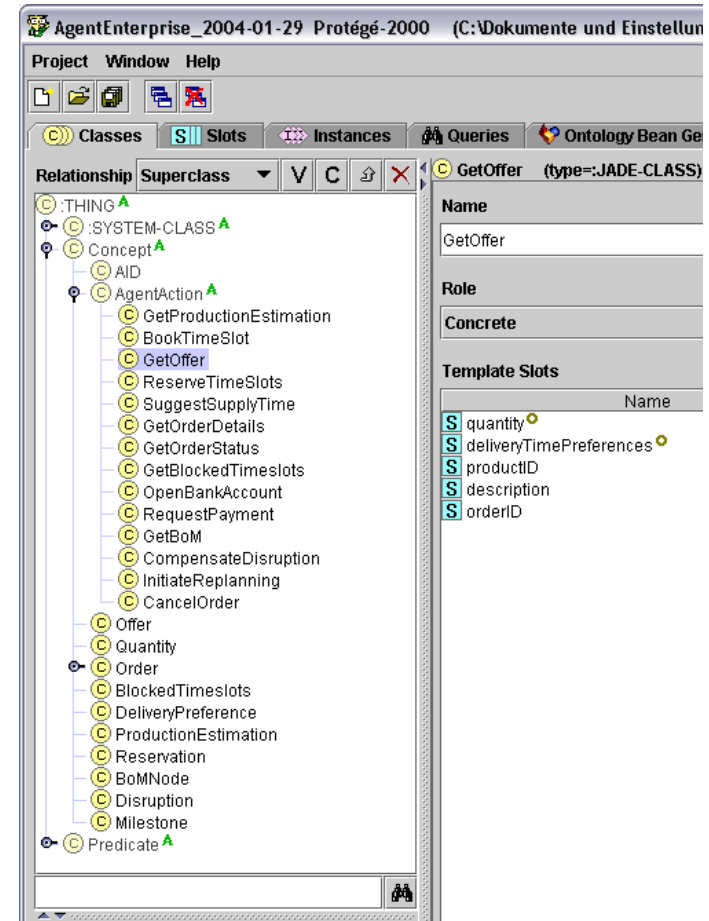
Agent.Enterprise



Architecture according to FIPA

Speech Act Design

- ▶ Design of shared communication ontology
 - ▶ Starting with agent actions
 - ▶ Supported by tool with automated code generation
 - ▶ Translation must be realized in Gateway-Agents
- ▶ See additional files at www.agententerprise.net for the final interface ontology



Management of Multi-MAS by ASCML

Agent.Enterprise

Repository (Default Project)

- SocietyTypes
 - AgentEnterpriseSociety
 - AgentEnterprise
 - TractorsIncSociety
 - TractorsInc
 - Templates
 - Agents
 - KrashAgent
 - References
 - running Instances
- AgentTypes
 - KrashAgent

Type Settings AgentEnterprise

AgentEnterprise - Details

Society-Instance name: AgentEnterprise

Description:

Agent-Instances

Agent-Name	Agent-Type
------------	------------

Society-Instance References

Society-Type Name	Society-Instance Name
DispowebSociety	Dispoweb
org.realagents.agententerprise.age...	TractorsInc
org.tzi.dagent.gateway.IntaPSSociety	IntaPS

Start Instance

Welcome to the ASCML