

Agent Communication Protocol 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):

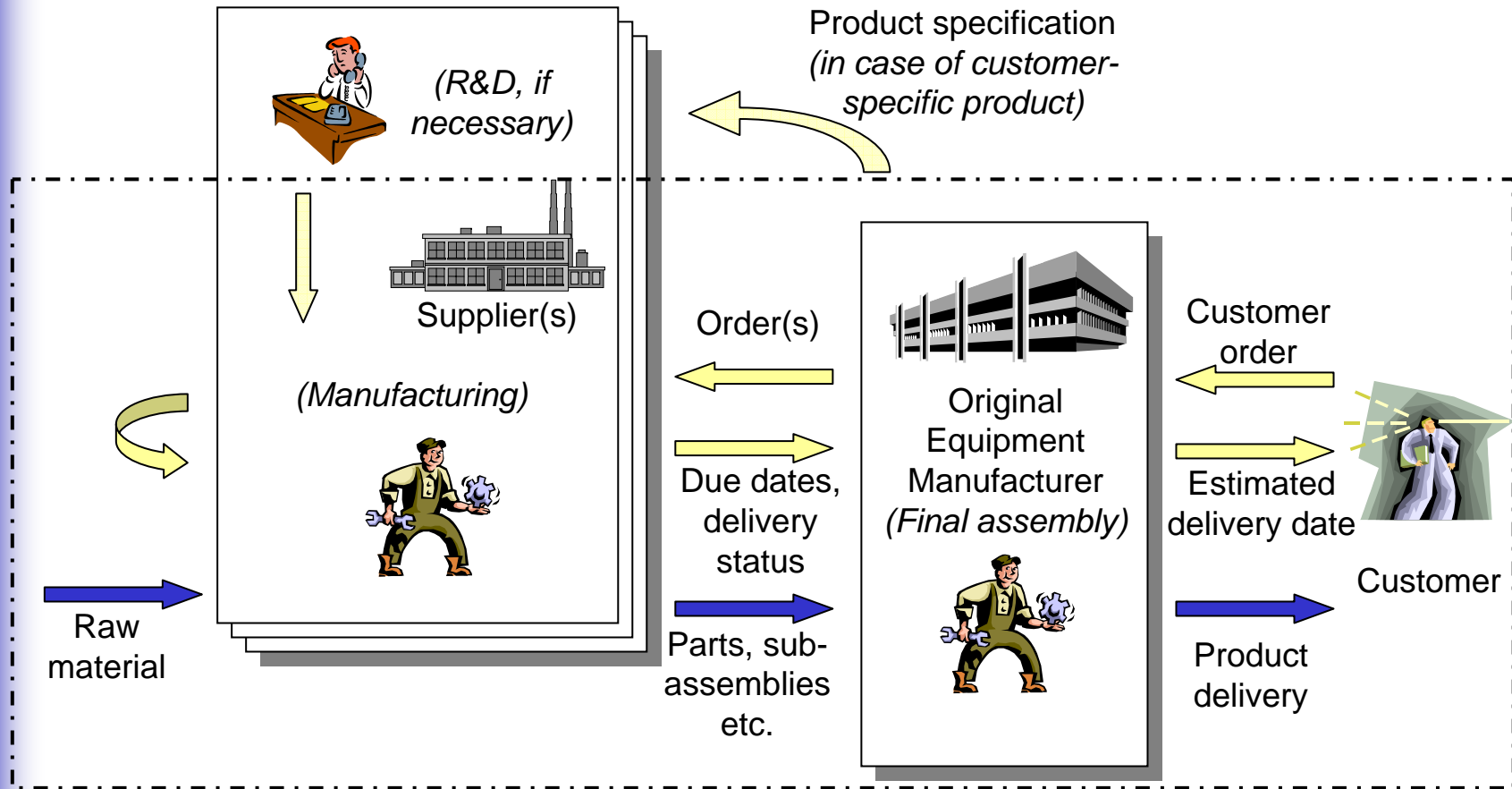
- ▶ Introduction and overview (including structure of the scenario and a brief “storybook”)
- ▶ Testbed architecture
- ▶ Agent communication protocol, ***this document***

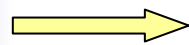

In addition, the interface ontology, which is used to describe information exchanged by the participating multi-agent systems, is available for download.

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)

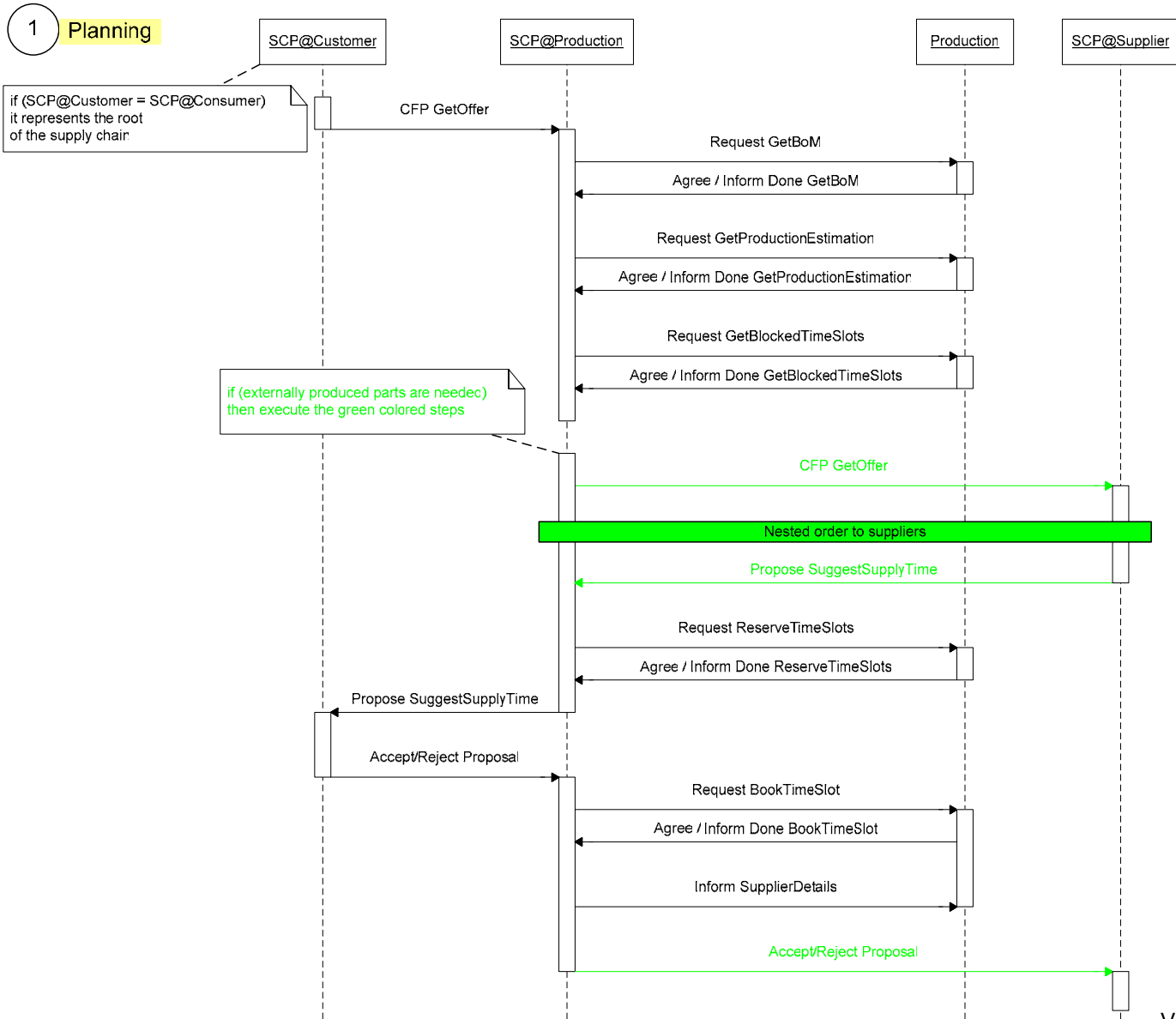
Core *Agent.Enterprise* scenario implemented in the *Agent.Enterprise NetDemo*

About the *Agent.Enterprise* Interaction Protocol

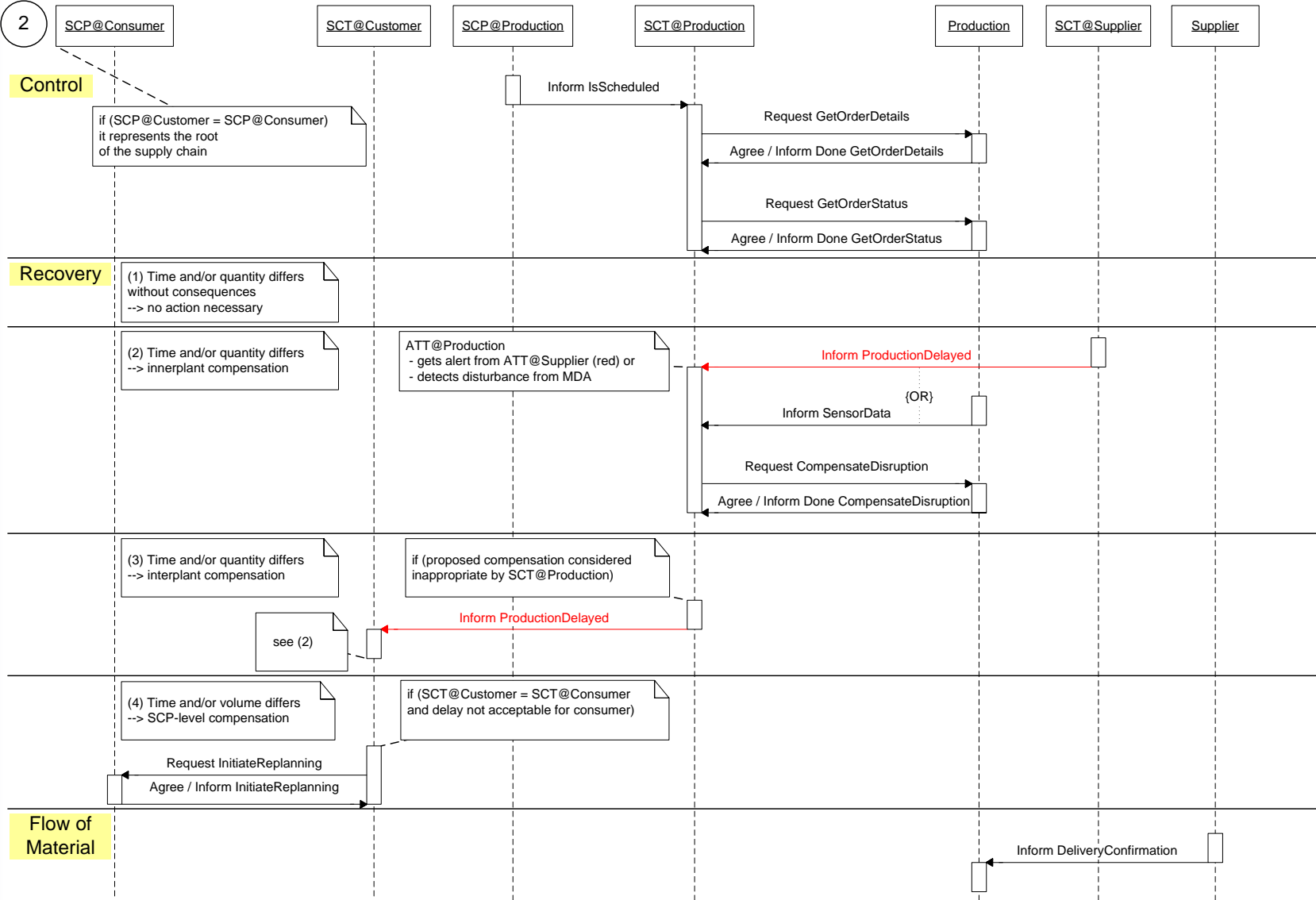
- ▶ Specification of interaction protocols using (A)UML
- ▶ *Agent.Enterprise* Communication Protocol consists of nested, FIPA-compliant communication protocols *
- ▶ Roles of the involved agents:
 - ▶ “SCP” = Agent performing Supply-Chain Planning
 - ▶ “SCT” = Agent performing Supply-Chain Tracking and Tracing
- ▶ Agents operate at different tiers of the supply-chain:
 - ▶ “Production” = Manufacturing or assembly site of a company at the n^{th} tier of the supply-chain
 - ▶ “Customer” = Customer of the “production” company, $(n-1)^{\text{th}}$ tier (if “production” company is 1^{st} tier, then “customer” equals the consumer who placed the order)
 - ▶ “Supplier” = Supplier of the “production” company, $(n+1)^{\text{th}}$ tier of the supply-chain

* For more information please refer to www.fipa.org

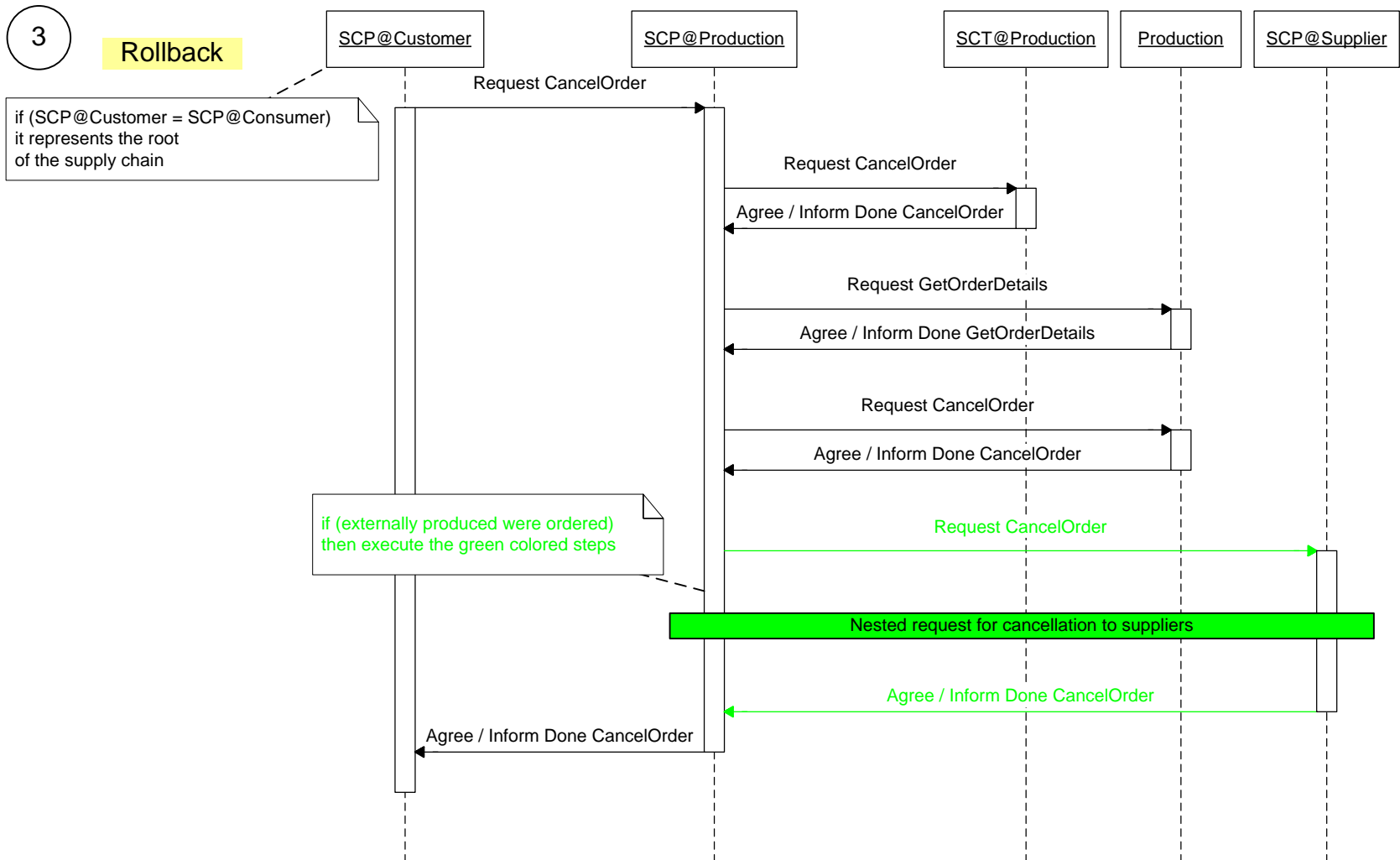
Agent Interaction Protocol (1 of 3)



Agent Interaction Protocol (2 of 3)



Agent Interaction Protocol (3 of 3)



Note: “Rollback” is not jet part of the implementation of the *Agent.Enterprise NetDemo*