# **Aggregated Systems Challenge**

#### **Problem Dimensions**



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## **Goal of Challenge**

Demonstrate practical approaches to guaranteeing end-to-end timeliness in applications running in complex, aggregated environments



### **Goal of Session**

- Identify the requirements of problem space
- Select or synthesize a small number of use cases.
- Drive statement of requirements based on the experience of users.



## **Characteristics of Environment**

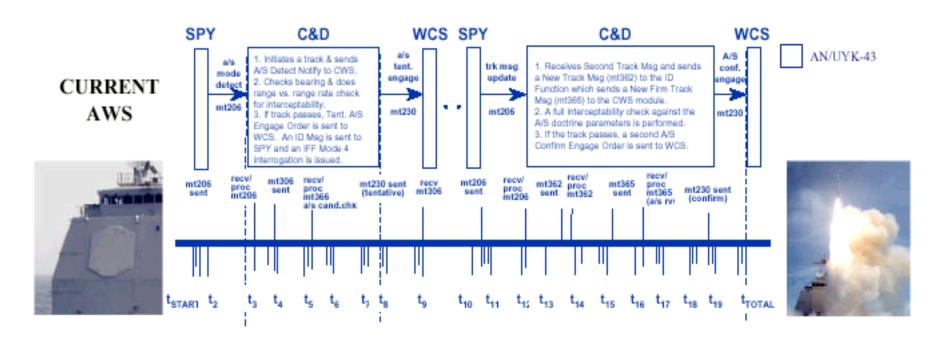
- Predictable response critical
- Multiple programming and communication paradigms
  - E.g., database, remote invocation, messaging passing
- Multi-vendor
- Distributed

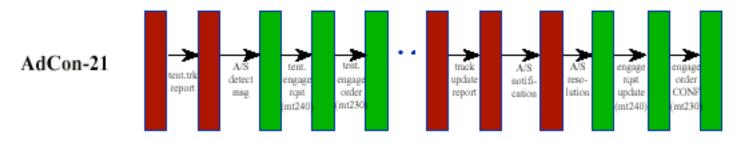




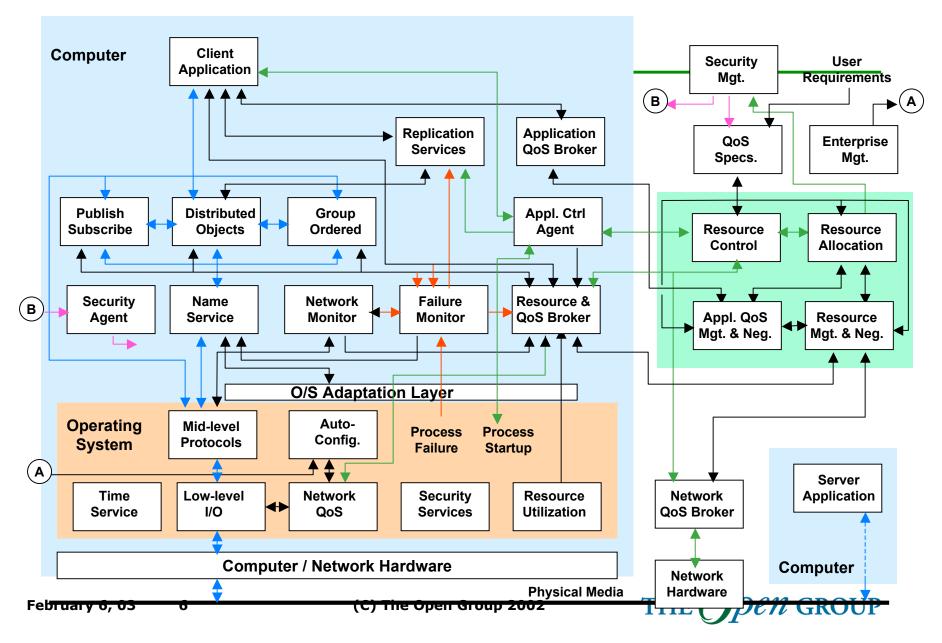
#### Why DD-21 Needs Assured Response: SPY Radar Auto-Special Time-Line



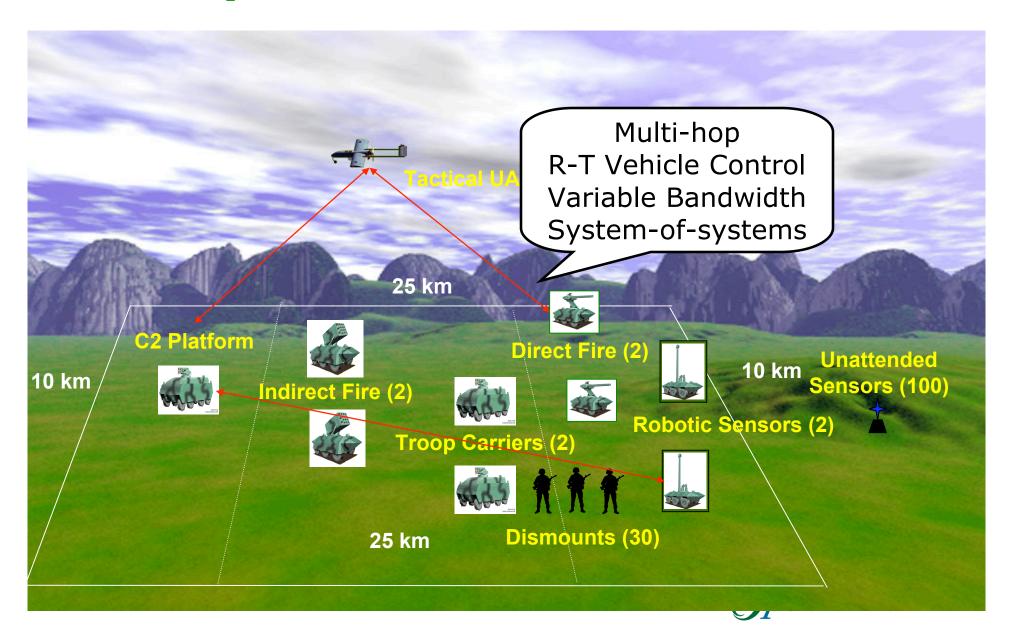




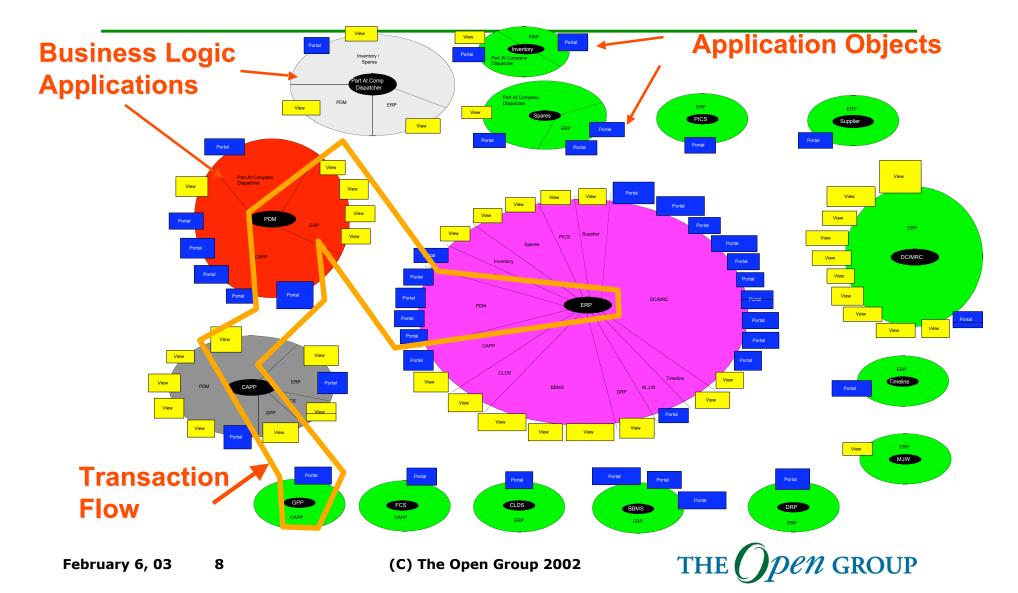
### **OACE Reference Architecture**



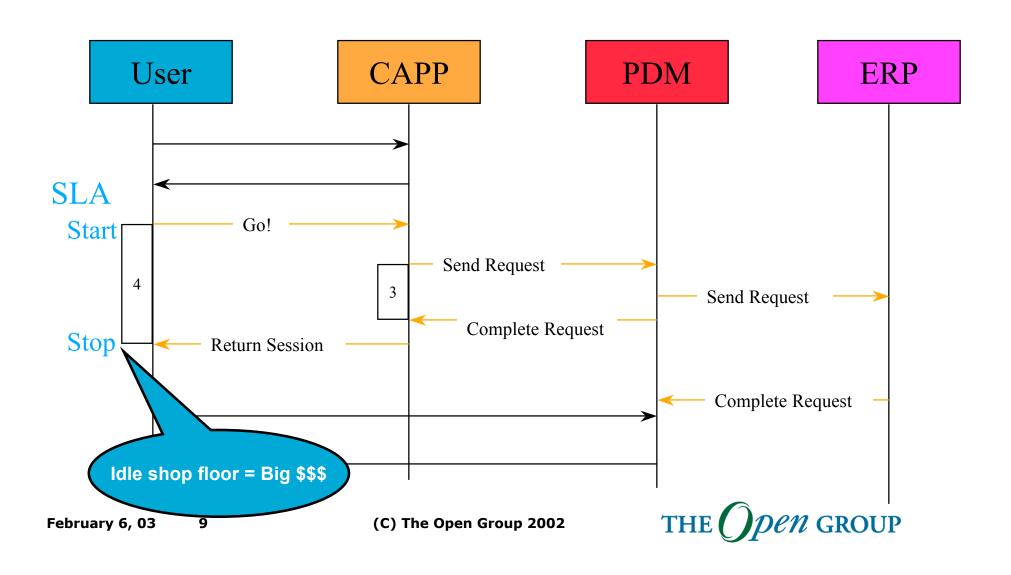
## **Example: FCS**



## **Example: Manufacturing**



## **Real-Time- Temporal Value Function**



## **Next Steps**

- Brainstorming on example problem
- Requirements Gathering
  - Objectives
  - Format
  - Guidelines
- Identification of Resources
- Action Plan

