BizTalk Orchestration

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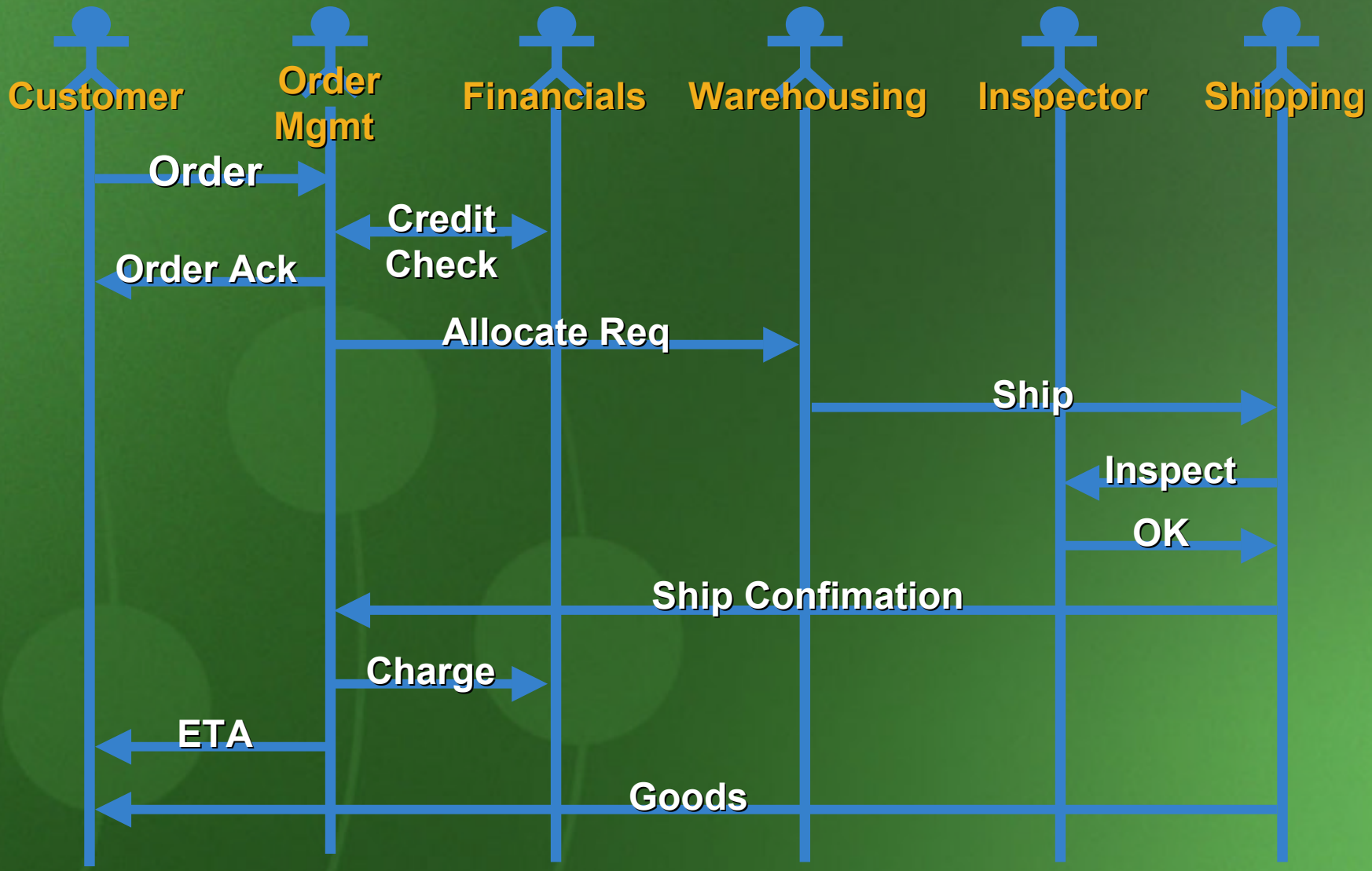
Agenda

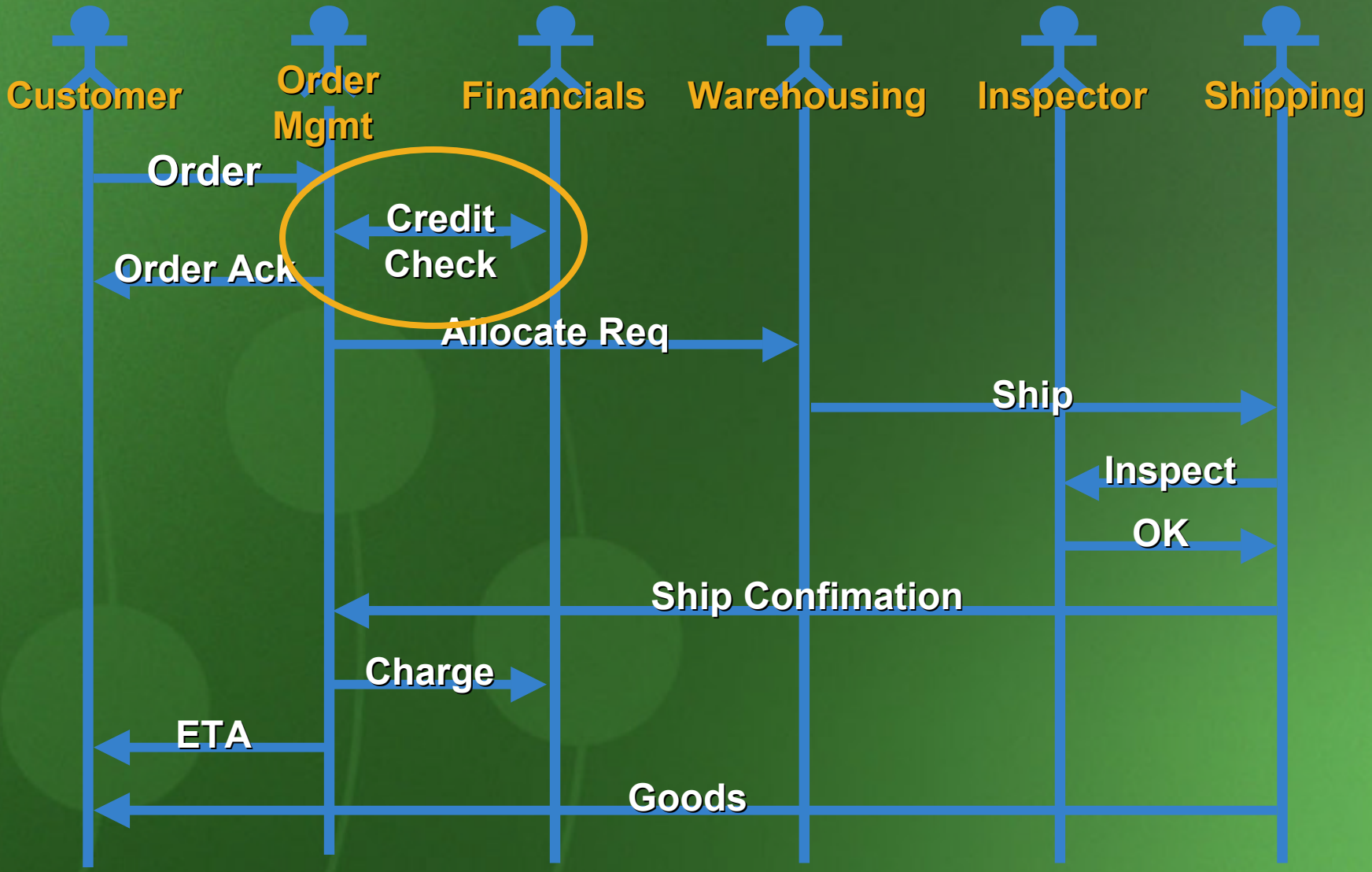
- A Biztalk Application
  - Requirements - Integration, Collaboration, Process Automation
  - Representing Business Process Creating Executable process
  - Build and Run our first BPO application
- Biztalk Orchestration Features
  - Concurrency, Transactions, Dynamic Flow…

Business Process Summary



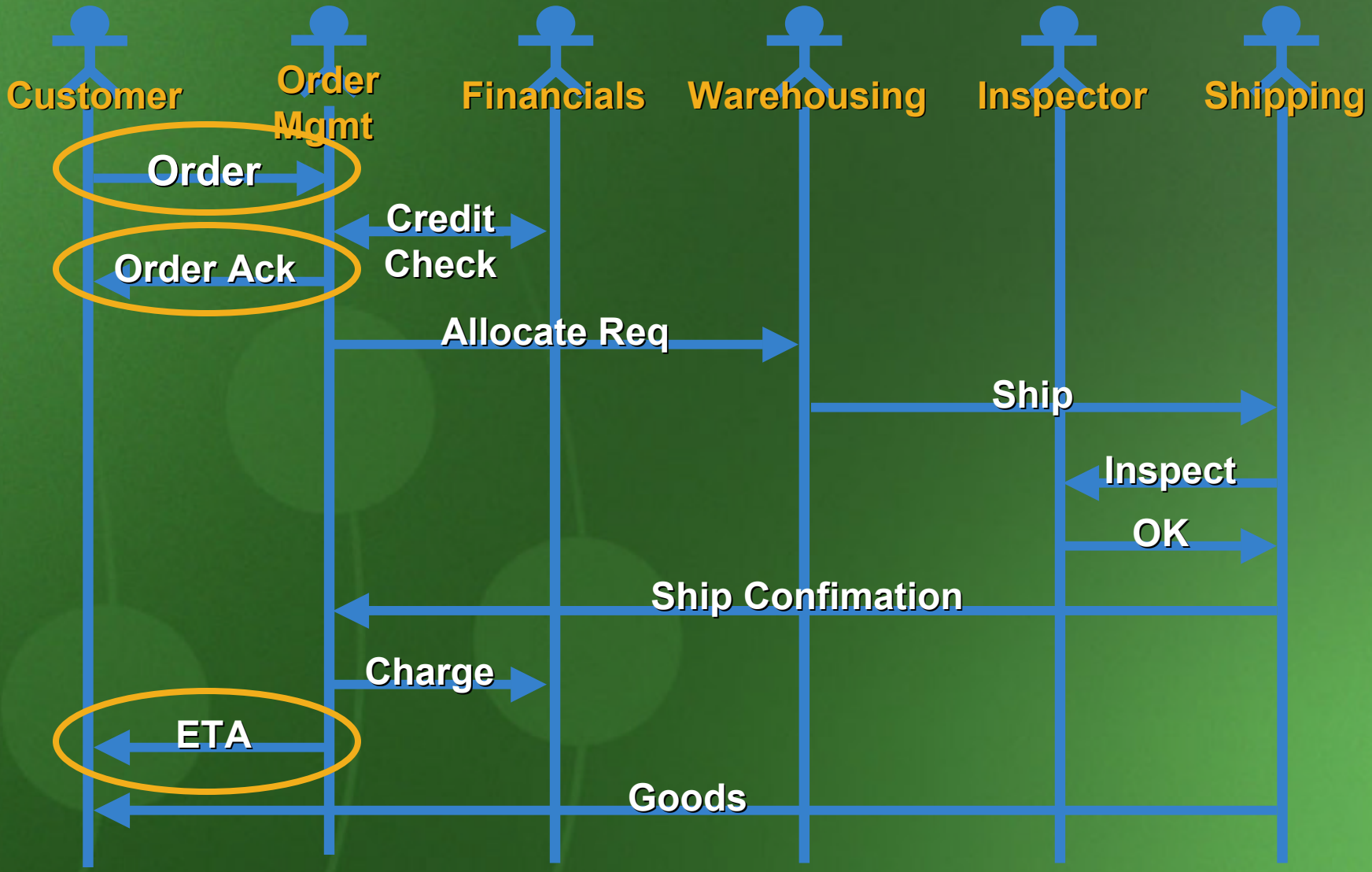
Business Process Summary

A2A Integration



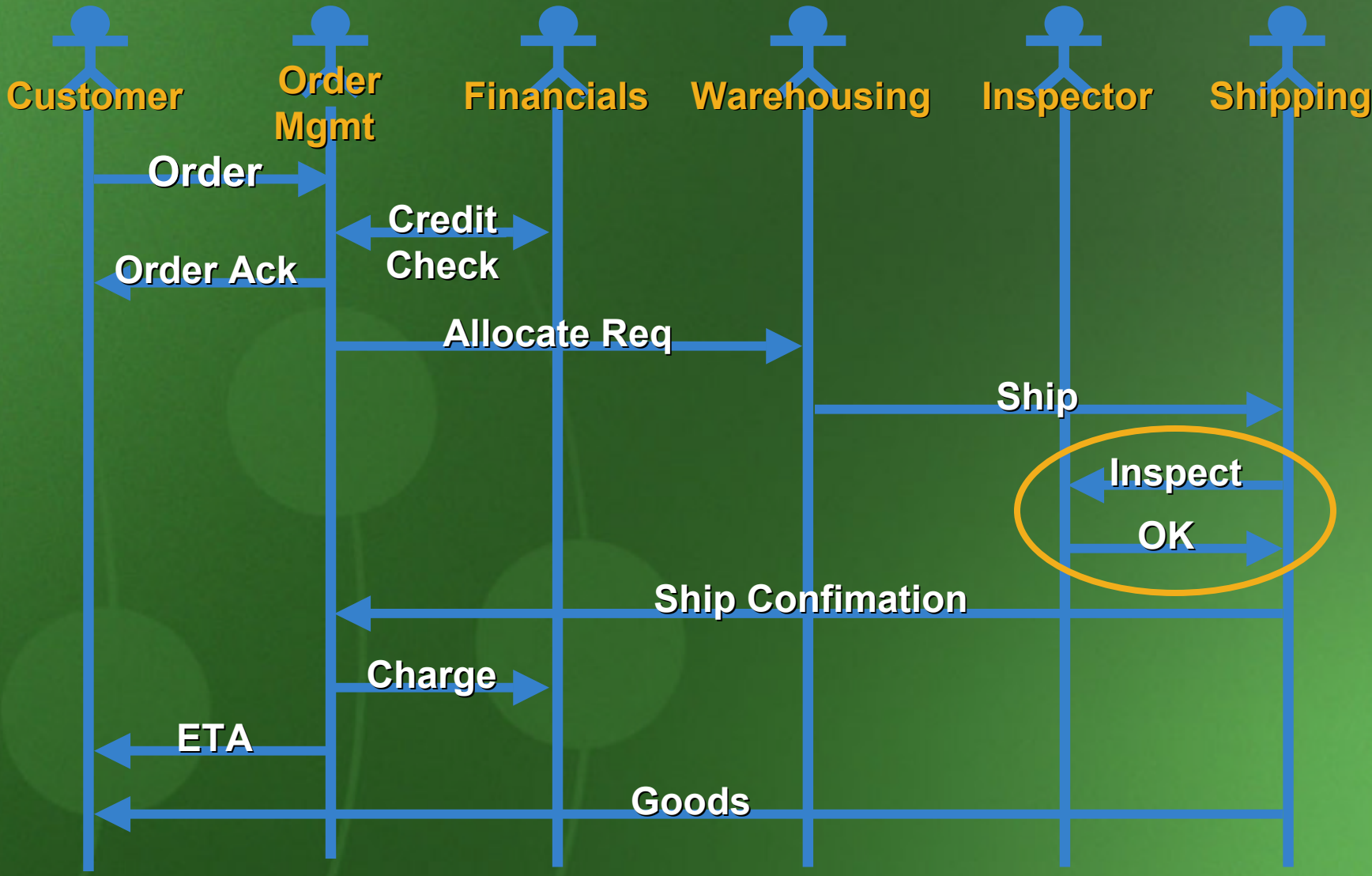
Business Process Summary

B2B Integration

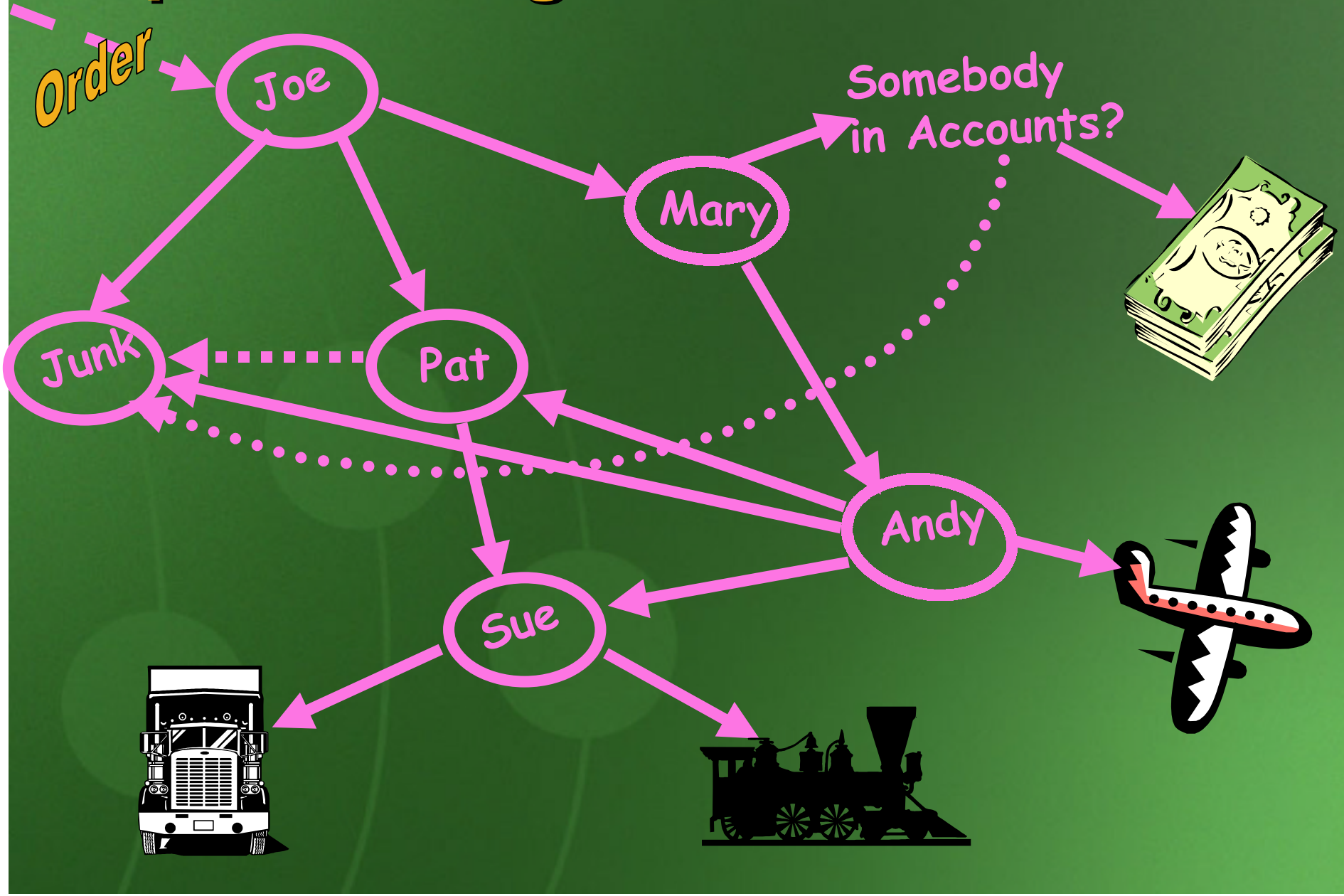


Business Process Summary

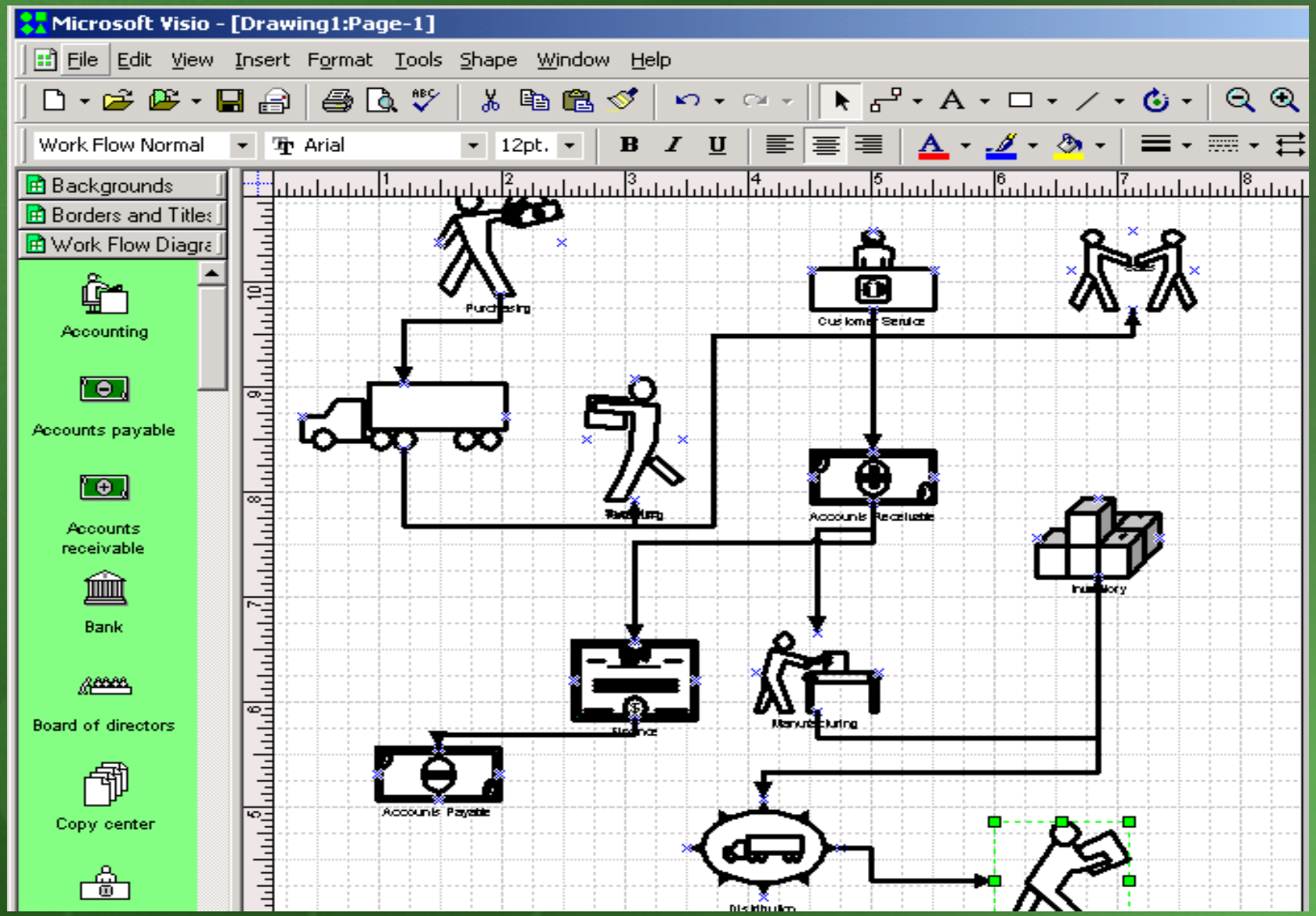
Workflow and Collaboration



Representing Business Process



Representing Business Process



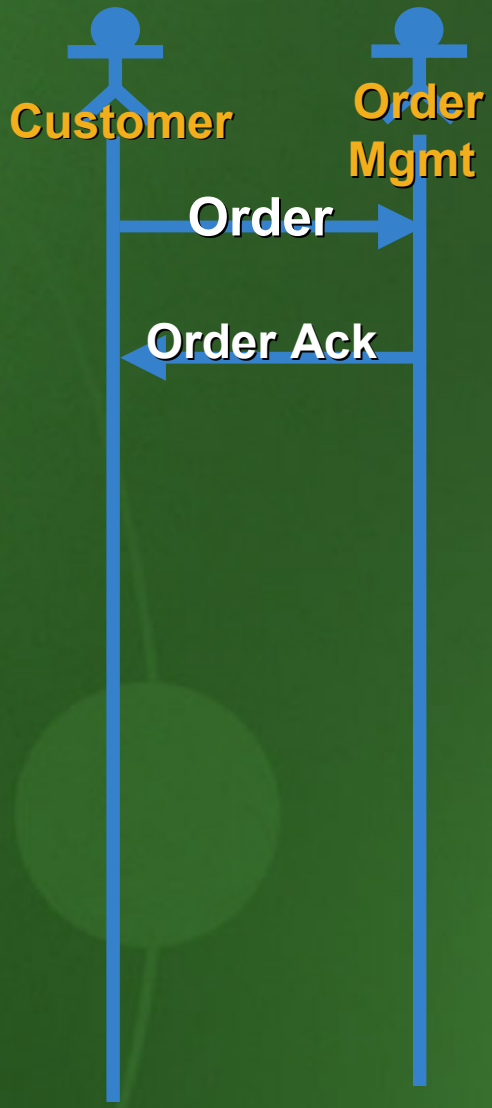
But we want to….

- *Execute* our Business Process
- Be able to change the Business Process without changing code
- Be able to attach and detach our Business Process to and from Implementation
- So we need a more rigorous expression of our business process…..

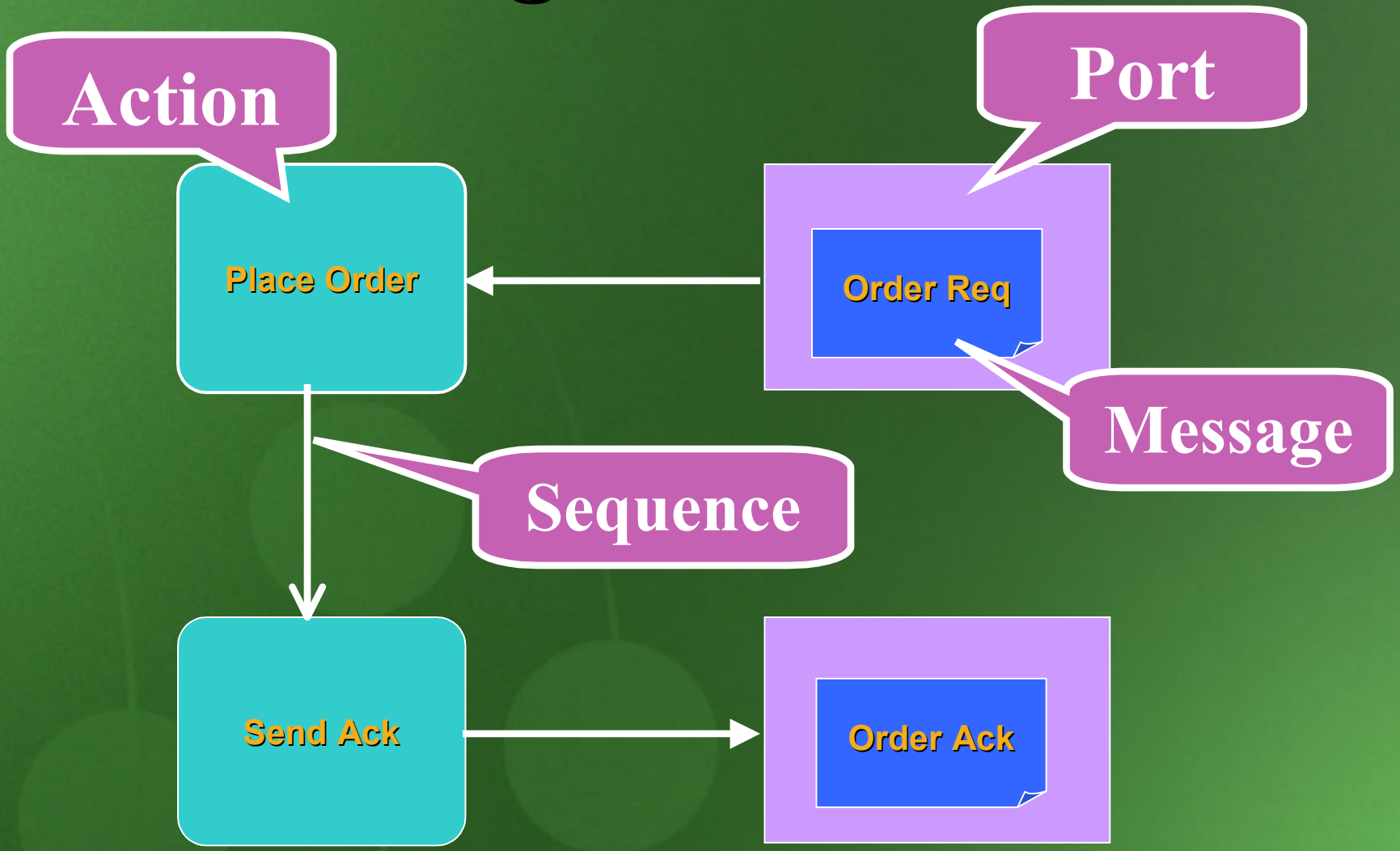
BizTalk Application Designer

- Visual design and build executable business processes.
- Brings together business analyst and developer in common design environment.
- Separates process definition from the underlying implementation

Simple Example



Modeling the Process



Demo: Build a simple application

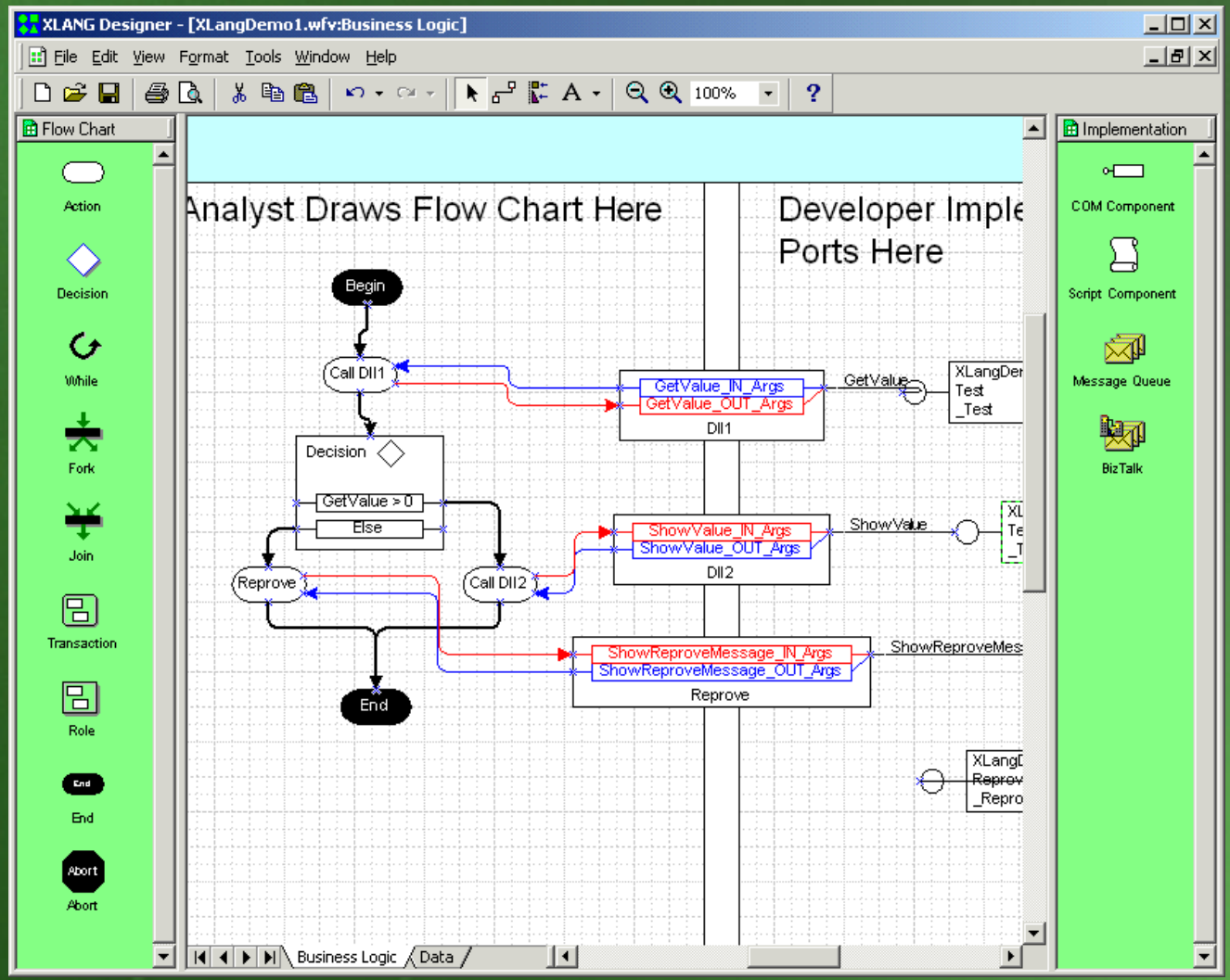
BizTalk Orchestration

- Technology Features
  - Separation of Definition and Implementation
  - Concurrency and Synchronization
  - Long Running Transactions
  - Dynamic Ports
  - Composability
  - Management and Monitoring
  - Process definition language - XLANG

Separation of Definition and Implementation

- Process MUST be separate
  - Process shouldn't dictate hardware/software and vice versa
  - Easier to modify and maintain processes
  - Processes scale more easily
  - Business analysts focus on process
  - Developers focus on software

Separation of Definition and Implementation



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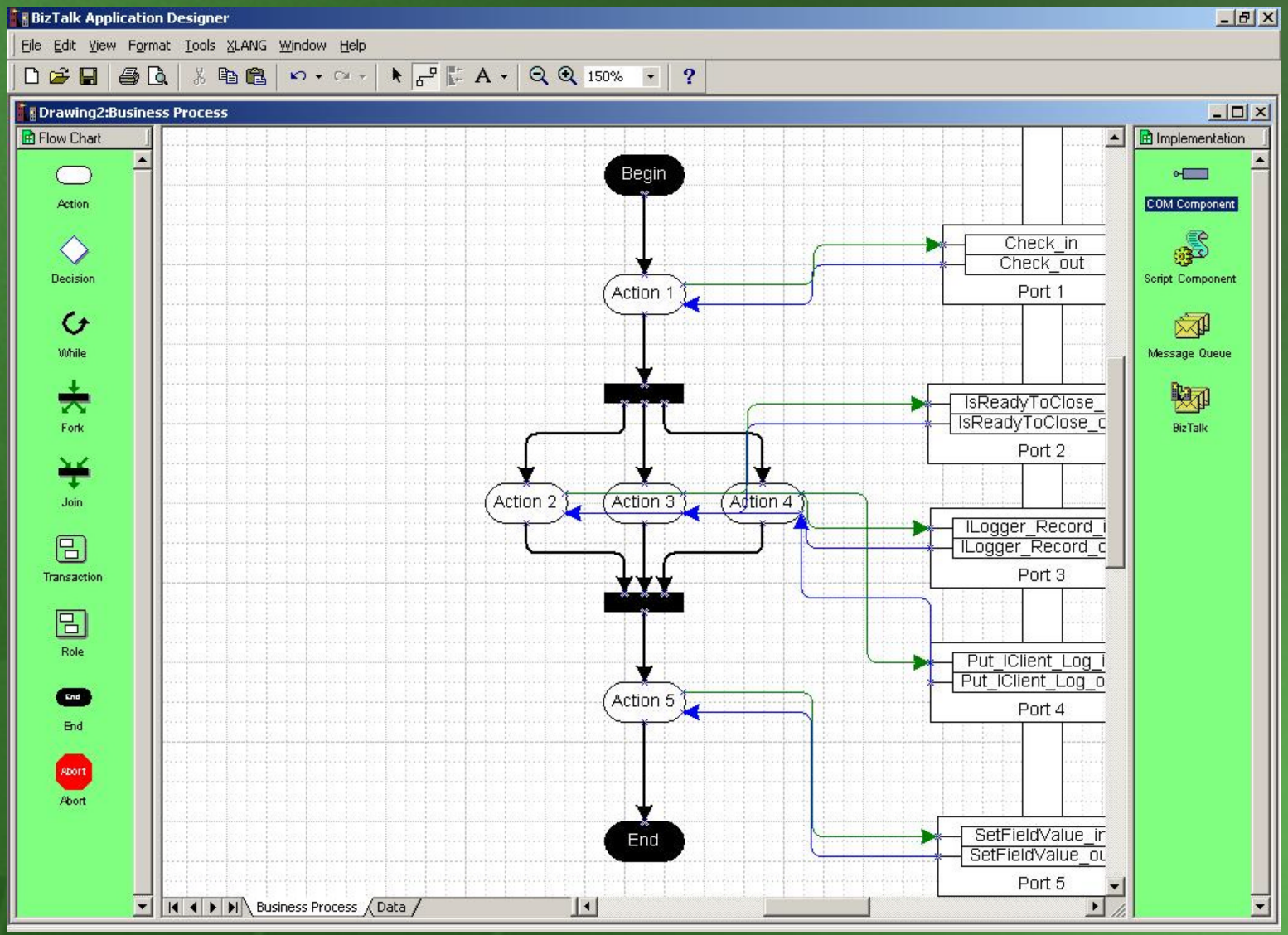
Concurrency and Synchronization

- Concurrency is a business reality but difficult to implement in practice.
- Asynchronous environment poses correlation challenges
  - Many processes/many messages
- BizTalk Orchestration handles the complexity for the user

Concurrency and Synchronization



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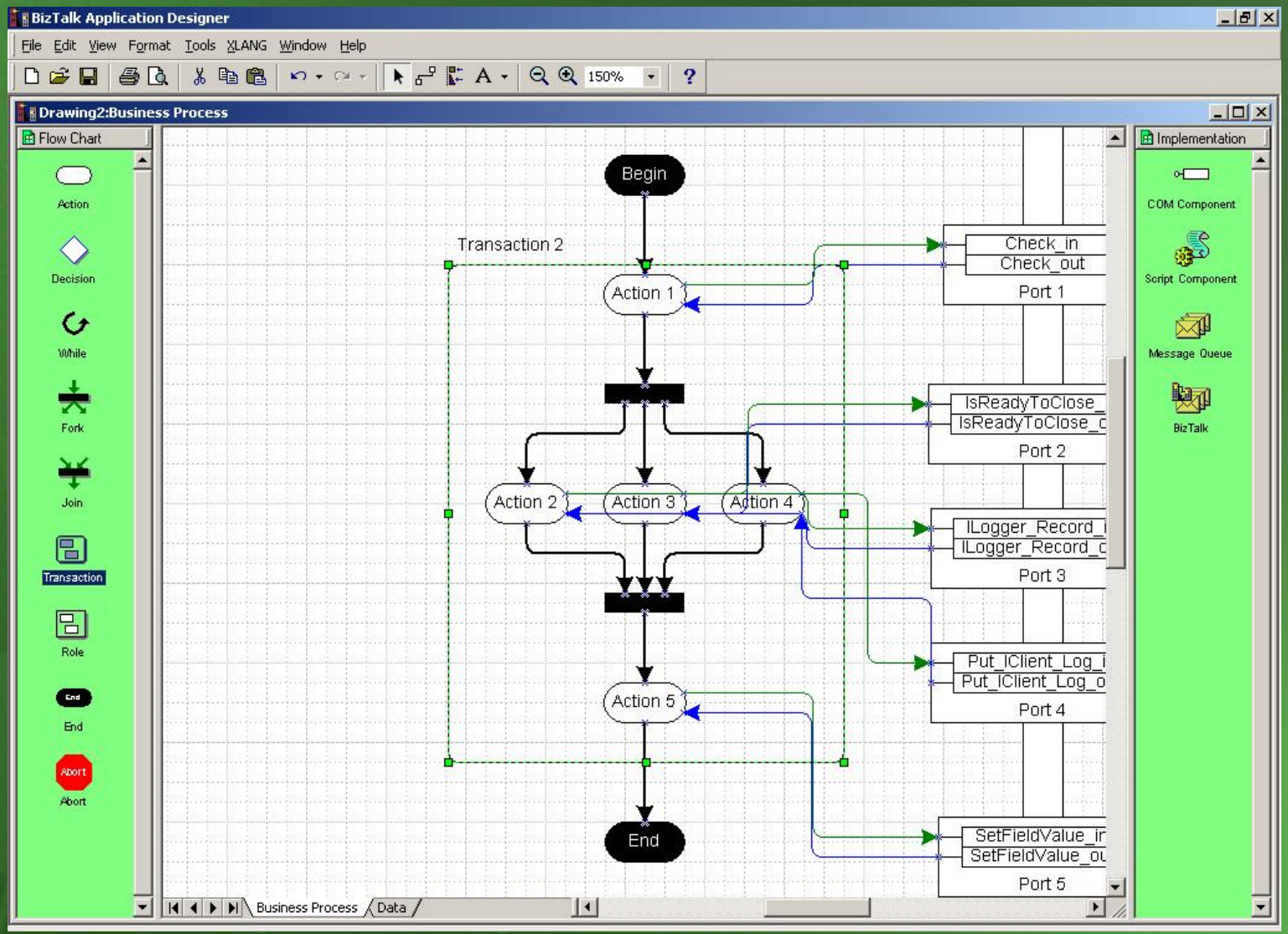
Long Running Transactions



Long Running Transactions

- Transactions are difficult in loosely coupled environments involving many participants
- ACID vs. Long Running
- Compensating Processes
  - Predictability
  - Reliability

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Dynamic Ports

- Don’t know who the participants are until the process is executed.
- Unique participants for every instance of a process
- Design Time = Shipper
- Run Time = Federal Express

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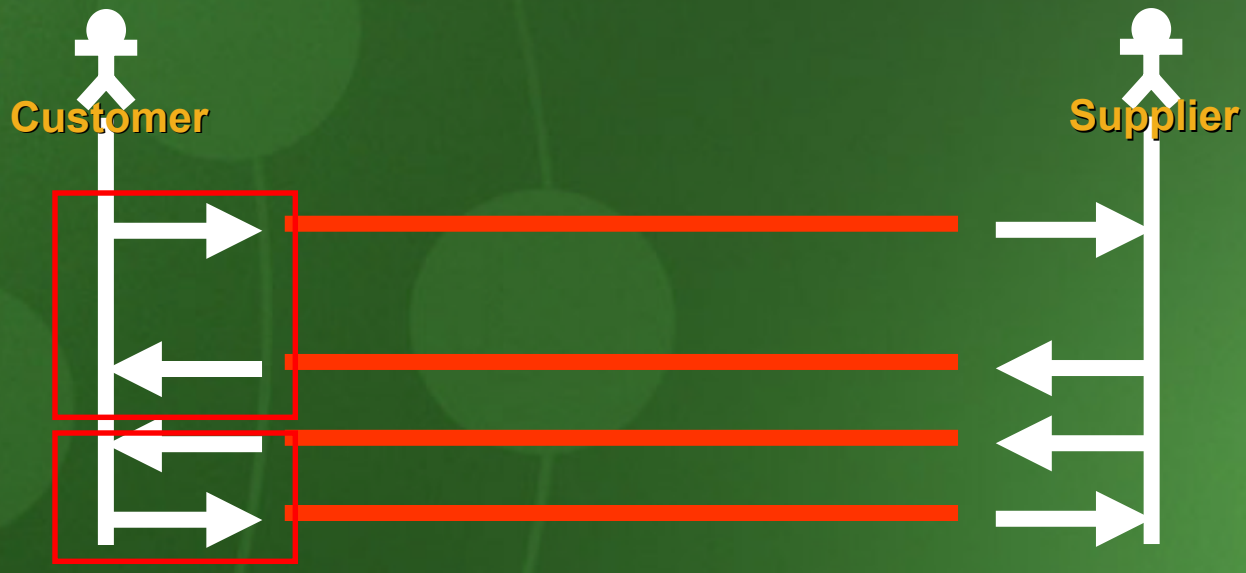
Composability

- "Schedules" can be built out of other schedules
- Allows for the distribution of the application across functional boundaries
- Divisional Schedules can be composed of group schedules etc.
- Schedules can be composed across companies.



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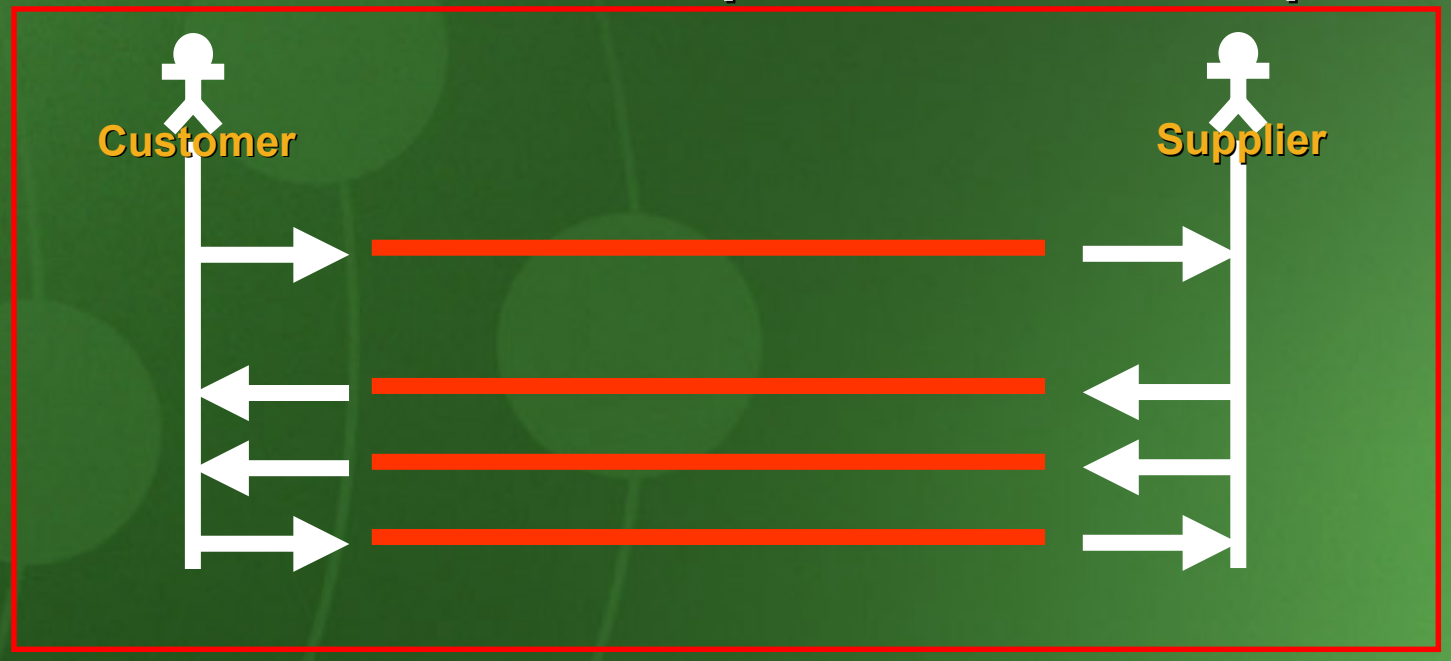

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Management and Monitoring

- Persist state in XML
- Store state information in SQL Server
- Complete Instrumentation
  - Event Architecture
- Query able data
- Dehydration/Rehydration

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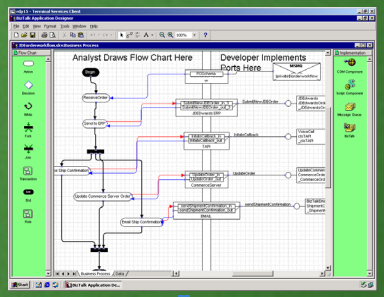
XLANG("exlang")

- Language for describing processes
- Persisted in XML
- Rigorous mathematical foundation
- Generated by BizTalk Application Designer
- Executed by BizTalk Orchestration Engine

Summary

BizTalk Application Designer



<XLANG>
Process
</XLANG>

Internal Applications

COM

MSMQ

Web Service

BizTalk Orchestration Engine

BizTalk Transform/ Routing Engine

BizTalk Doc Editor

BizTalk Mapper

BizTalk Mngmt Desk

BizTalk Admin Console

Programmatic Access

Web Service

B2B Trading Partners

Key Takeaways

- BizTalk Orchestration:
  - Separates the process definition from the underlying software.
  - Creates executable business processes
  - Addresses the challenges of building distributed business processes.
    - Concurrency and Synchronization
    - Long Running Transactions
    - Composability
  - Uses BizTalk Messaging to integrate with applications and businesses.

Questions?