Managing Business Processes Over A Reliable Infrastructure

Monica J. Martin
ebXML BP TC Co-Chair
Sun Microsystems, Inc.

26 April 2004

**http://
oasis-
open.org/
committees/
ebxml-bp**

Presentation Outline

- ## What is ebXML BPSS?
  - BPSS and the ebXML Architecture
  - Current Status and Plans

- ## BPSS and a Reliable Infrastructure
  - Transactions and Quality of Service
  - BSI Process Execution

- ## Business Collaboration Using a Reliable Infrastructure
  - Case Study

- ## Summary and Questions

BPSS and the ebXML Architecture

- BPSS facilitates shared collaboration between partners
  - Choreography
  - State alignment
  - Partner roles
  - Conditions and constraints
  - Expectations on the infrastructure

- Defines the BSI conceptual model
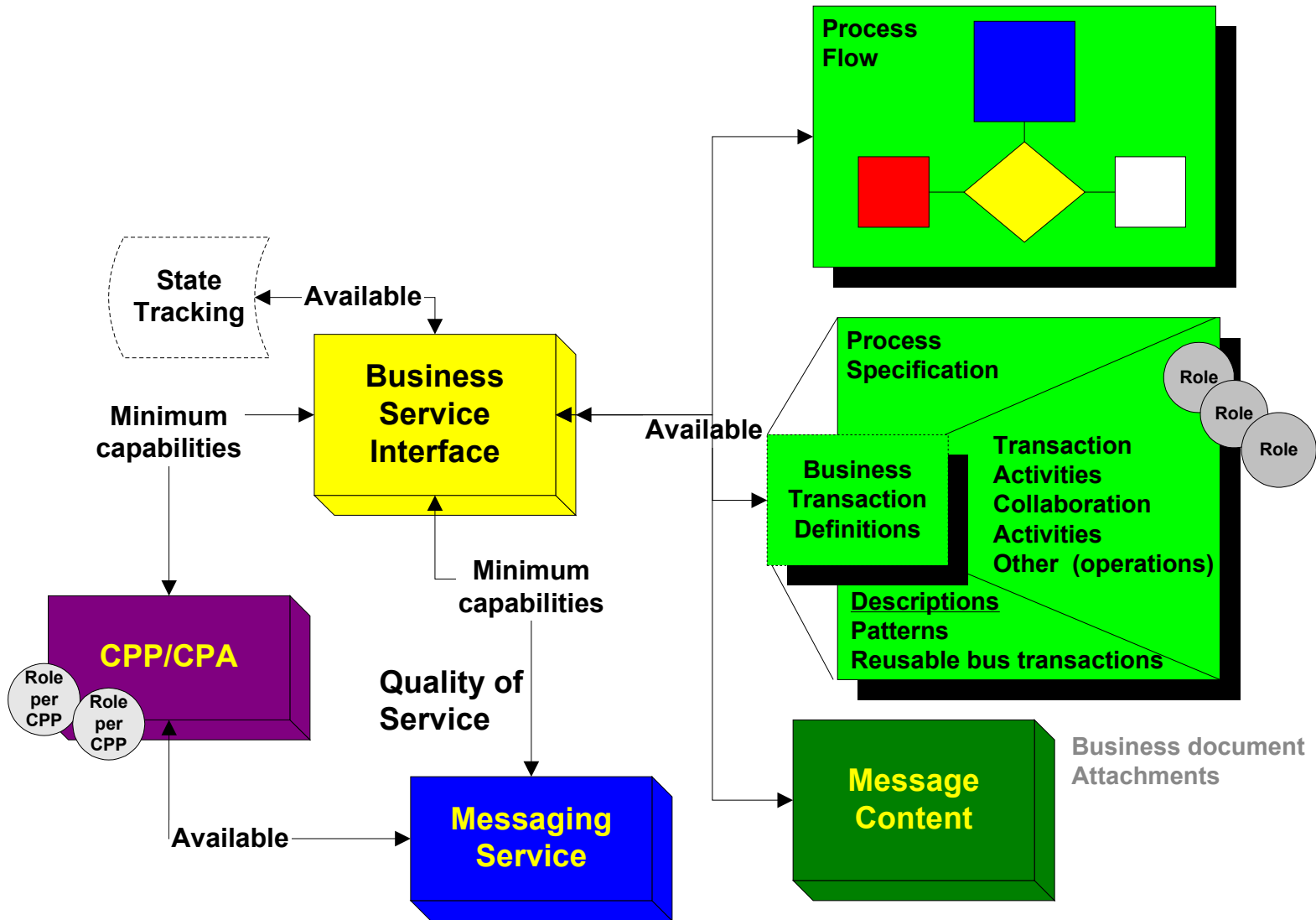 - Defines BSI role and functionality

ebBP Current Status and Plans

- v2.0 well underway - New and improved functions
  - Explicit and extendable business transaction patterns
  - Conditional changes on process characteristics (late binding)
  - Abstract integration using interface definition language (i.e. WSDL)
  - Improved packaging and reusability
  - Flexible role bindings
  - Draft schema in final stages; next is technical spec.

- v3.0 potential plans
  - Business entities, validation, and late binding
  - Additional multi-party support (role and context)

BPSS and A Reliable Infrastructure (1)

- ## Business transaction activities
  - Present sufficient info for messaging service to exchange messages.
  - Aid in business collaboration composition.
    - For roles and partners
    - With state, transitions and guards
    - Bolstered by Quality of Service expectations

- ## Quality of Service (QoS)
  - Business focused
    - Interaction predictability, non-repudiation, document security
    - Reliability, authorization

ebBP Functional View

Process Flow

State Tracking

Available

Business Service Interface

Minimum capabilities

Available

Process Specification

Role Role Role

Business Transaction Definitions

Transaction Activities Collaboration Activities Other (operations)

Descriptions Patterns Reusable bus transactions

Minimum capabilities

CPP/CPA

Role per CPP Role per CPP

Quality of Service

Available

Messaging Service

Message Content

Business document Attachments

BPSS and A Reliable Infrastructure (2)

- ## BSI process execution
  - BSI understands business semantics
    - Initiating and accepting business activities and business signals
    - State transitions
    - Quality of Service (QoS) aspects
  - Provides interfaces to participants' systems.
  - Prepares business transaction payload and provides it to the messaging service.

- ## BSI operational requirements
  - Exists behind partner firewalls.
  - Available and maintains active state.

BPSS and A Reliable Infrastructure (3)

- Provide an automated interface to business systems.
  - Able to recognize and monitor processes.

- Fits behind a reliable infrastructure.
  - Doesn't specify how transactional semantics implemented.

- BSI implements a role in collaboration.
  - Detection of transaction open/close
  - Transfer of control
  - Detection of failures, timeouts, and exceptions

Business Collaboration Using a Reliable Infrastructure [1]

- ## Case Study: Auto supply chain
  - Large auto manufacturer uses many small production suppliers.
  - Goals:
    - Automate purchase decisions.
    - Achieve confidence in infrastructure.
      - Non-repudiation, security, persistence, reliability
    - Enable delegation of underlying functions to other systems where required.
      - Ensure quality measures achieved.

Business Collaboration Using a Reliable Infrastructure [2]

- Case Study: Auto supply chain
  - As Buyer, Corporate HQ uses warehouse and forecast data to drive buying decisions.
  - Supplier receives purchase requests.
    - Supplier acts as Distributor.
    - Supplier may act as Buyer for verification of payment history before product/item delivery.
    - Supplier notifies Corporate HQ of delivery intent.
    - Supplier, as Distributor, delivers product
  - Corporate HQ or designee Warehouse, as Buyer, receives product.

Check for payment history
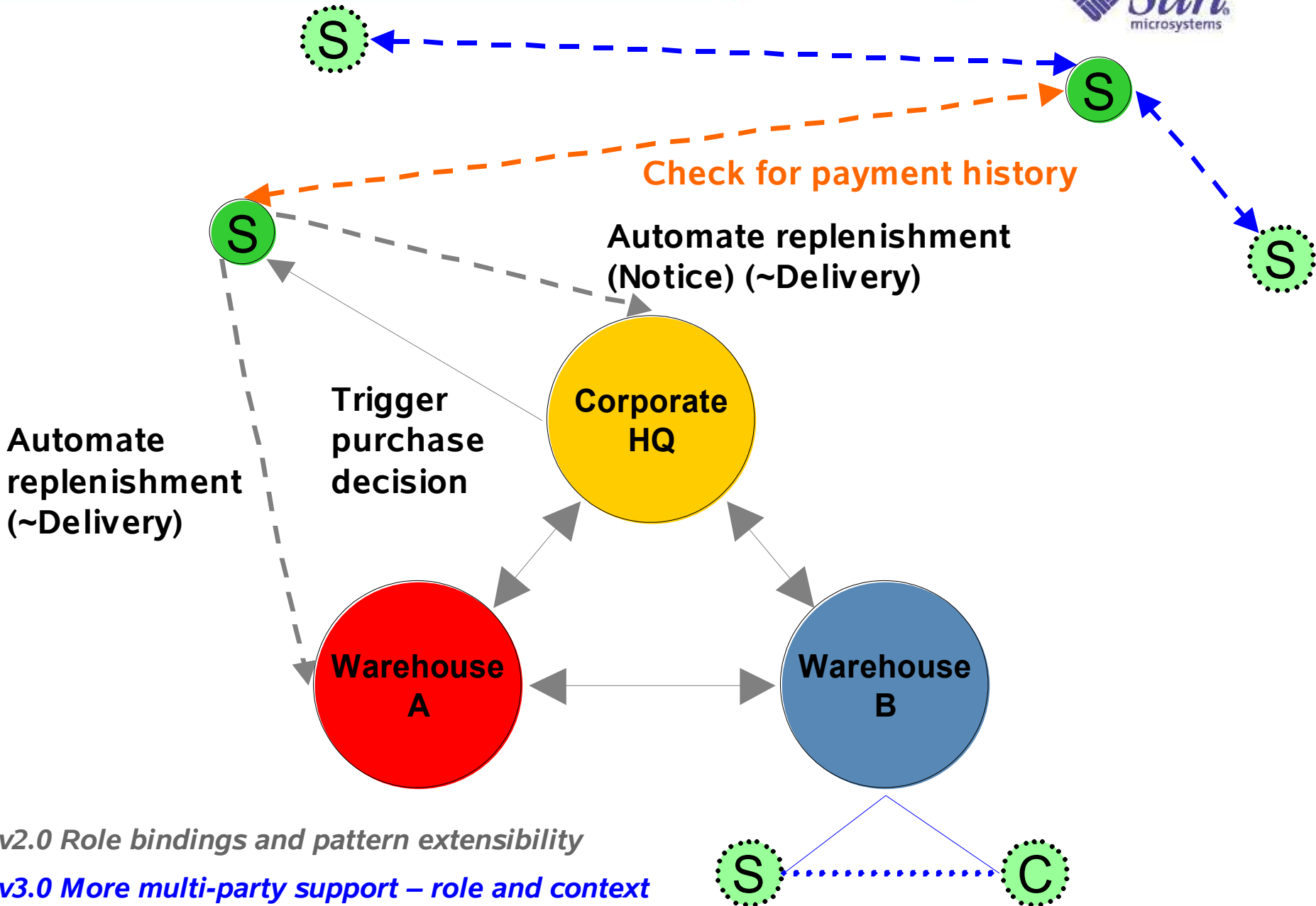
Automate replenishment (Notice) (~Delivery)

Corporate HQ

Trigger purchase decision

Automate replenishment (~Delivery)

Warehouse A

Warehouse B

Third-party flow (optional)

Check for payment history

Automate replenishment (Notice) (~Delivery)

Trigger purchase decision

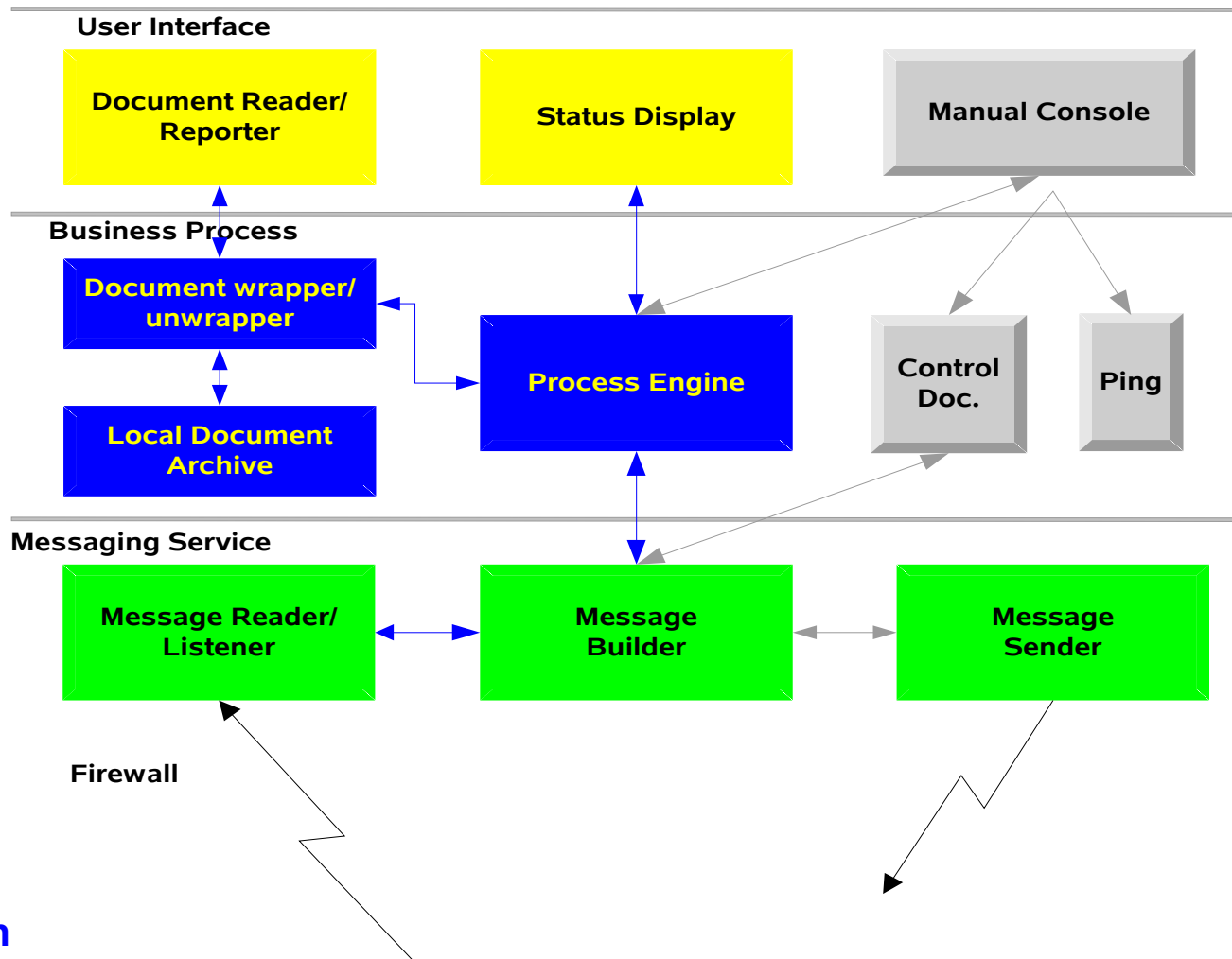**Corporate HQ**

Automate replenishment (~Delivery)

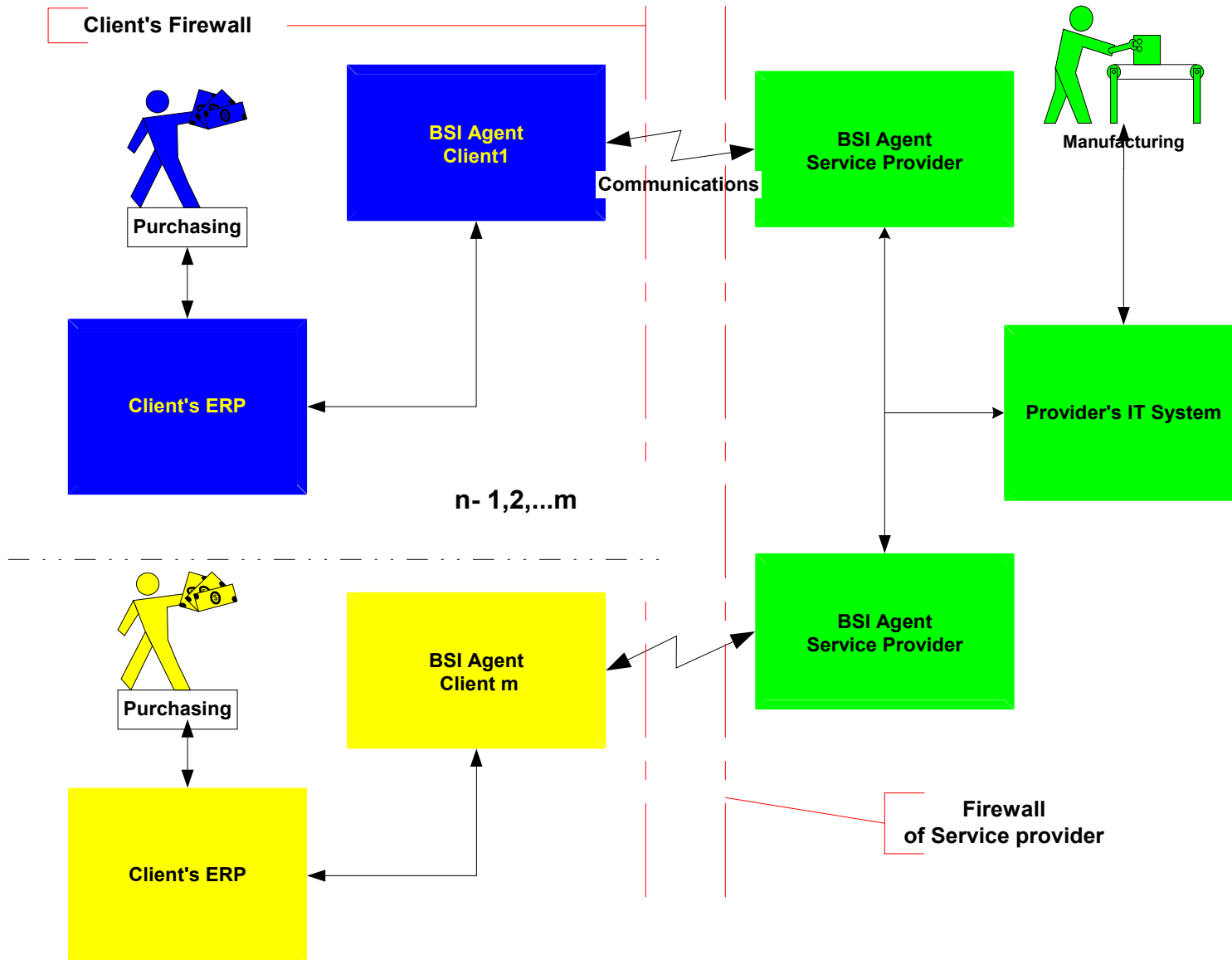**Warehouse A**

Warehouse B

v2.0 Role bindings and pattern extensibility

v3.0 More multi-party support – role and context

Business Collaboration Using a Reliable Infrastructure [5]

User Interface

| Document Reader/ Reporter | Status Display | Manual Console |

Business Process

Document wrapper/ unwrapper

Process Engine

Control Doc.

Ping

Local Document Archive

Messaging Service

| Message Reader/ Listener | Message Builder | Message Sender |

Firewall

Test

Production

BSI Technical View

Client's Firewall

BSI Agent
Client1

Communications

BSI Agent
Service Provider

Manufacturing

Purchasing

Client's ERP

Provider's IT System

n- 1,2,...m

BSI Agent
Client m

BSI Agent
Service Provider

Purchasing

Firewall
of Service provider

Client's ERP

Summary

- Business process is more than a process description.

- Provides guidelines for directing underlying infrastructure.

- Transforms the business semantics into composable business process flows to marry business-technical capabilities.

- Stay tuned for ebBP v2.0 this summer.

Managing Business Processes Over A Reliable Infrastructure

Monica J. Martin
monica.martin@sun.com

and the OASIS ebBP Team!

http://oasis-open.org/committees/ebxml-bp