ebXML Business Process Specification Schema

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ebXML BPSS Summary Outline

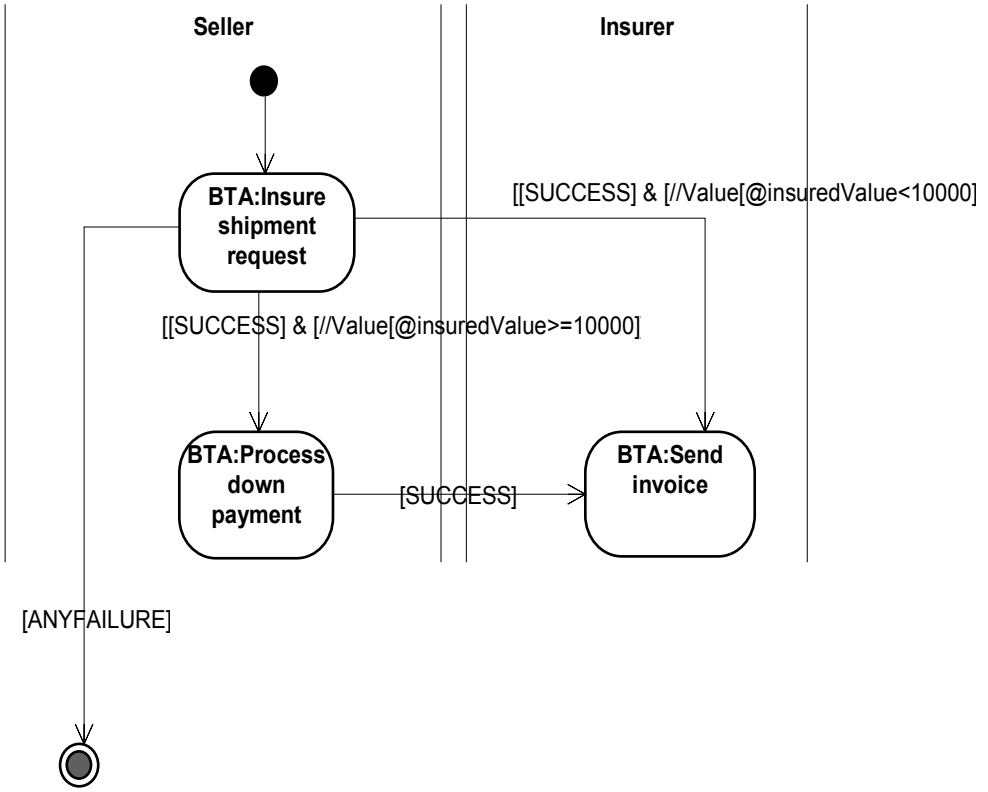
- Business collaboration
  - Role in eBusiness and Business Process Management
  - Role in ebXML architecture
  - Metamodel
- Business semantics
  - Binary and multi-party collaboration
  - Business transaction protocol
  - Business message and signal exchange
  - Logical business documents
- Message controls and choreography
  - Rules and conditions
  - State synchronization
- Relevance to WS-Choreography and its output

Business Integration Today

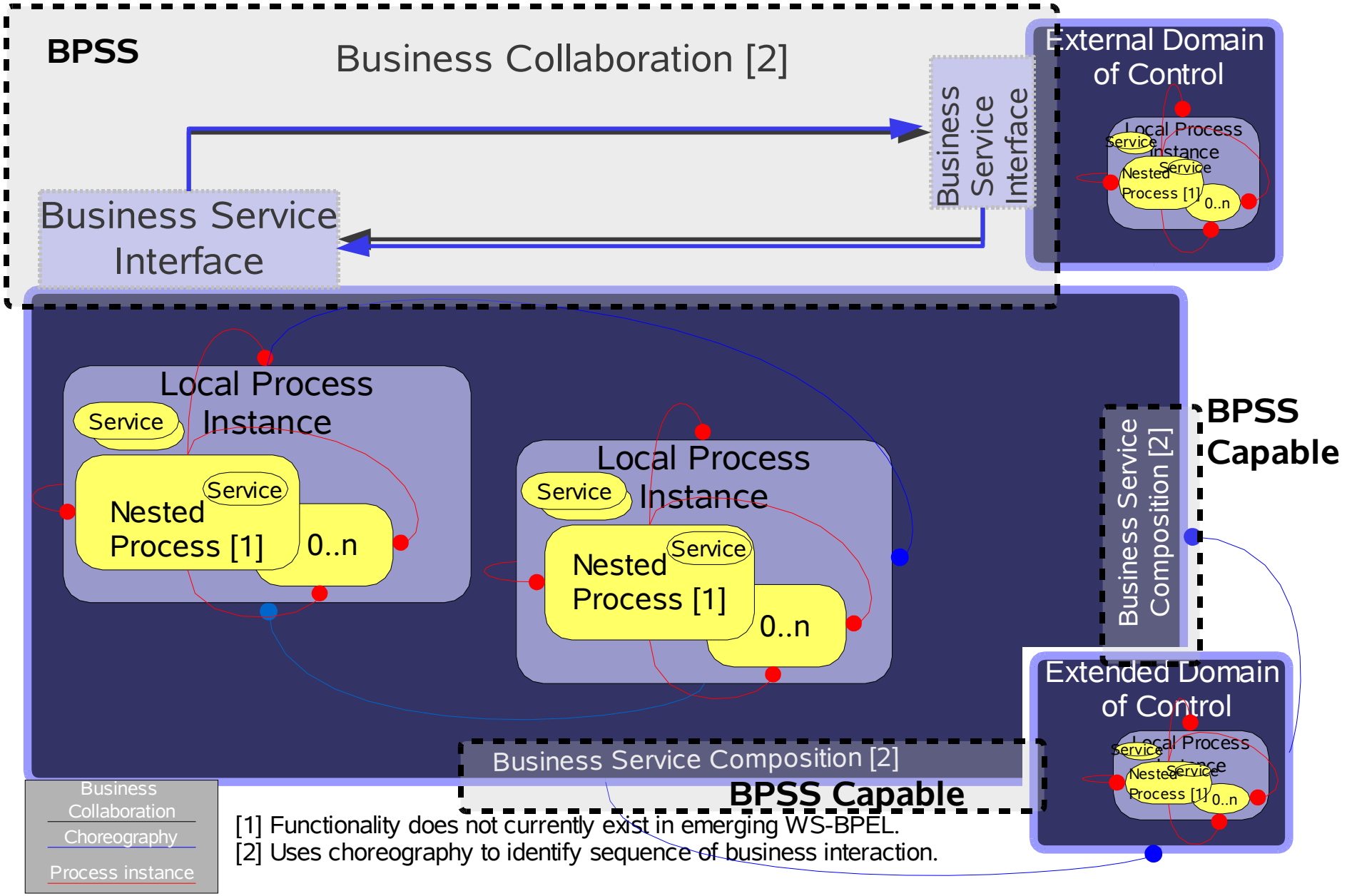
- Collaboration: Business semantics
  - Two or more peers
  - Business-oriented goals
- Choreography: Interface and active monitor
  - Message sequencing “interface”
    - Service operations and externally observable behavior
  - Message exchange patterns with timeouts
  - Can be client/server
    - Constrains client using the Service
- Orchestration: Domain actors
  - Run business processes under central control or from one partner's view
    - Stateful
    - Invokes and offers Services
    - Conforms to Choreography for Services used

BPSS Basics

- Business collaboration
  - Comprised of business transaction patterns and business semantics:
    - Binary and multi-party collaboration
    - Business messages and signals
    - Business transaction protocol
      - Business transactions
      - Business transaction activities
      - Business signals
    - Message controls and choreography
      - Business state synchronization
      - Conditions
      - Transitions

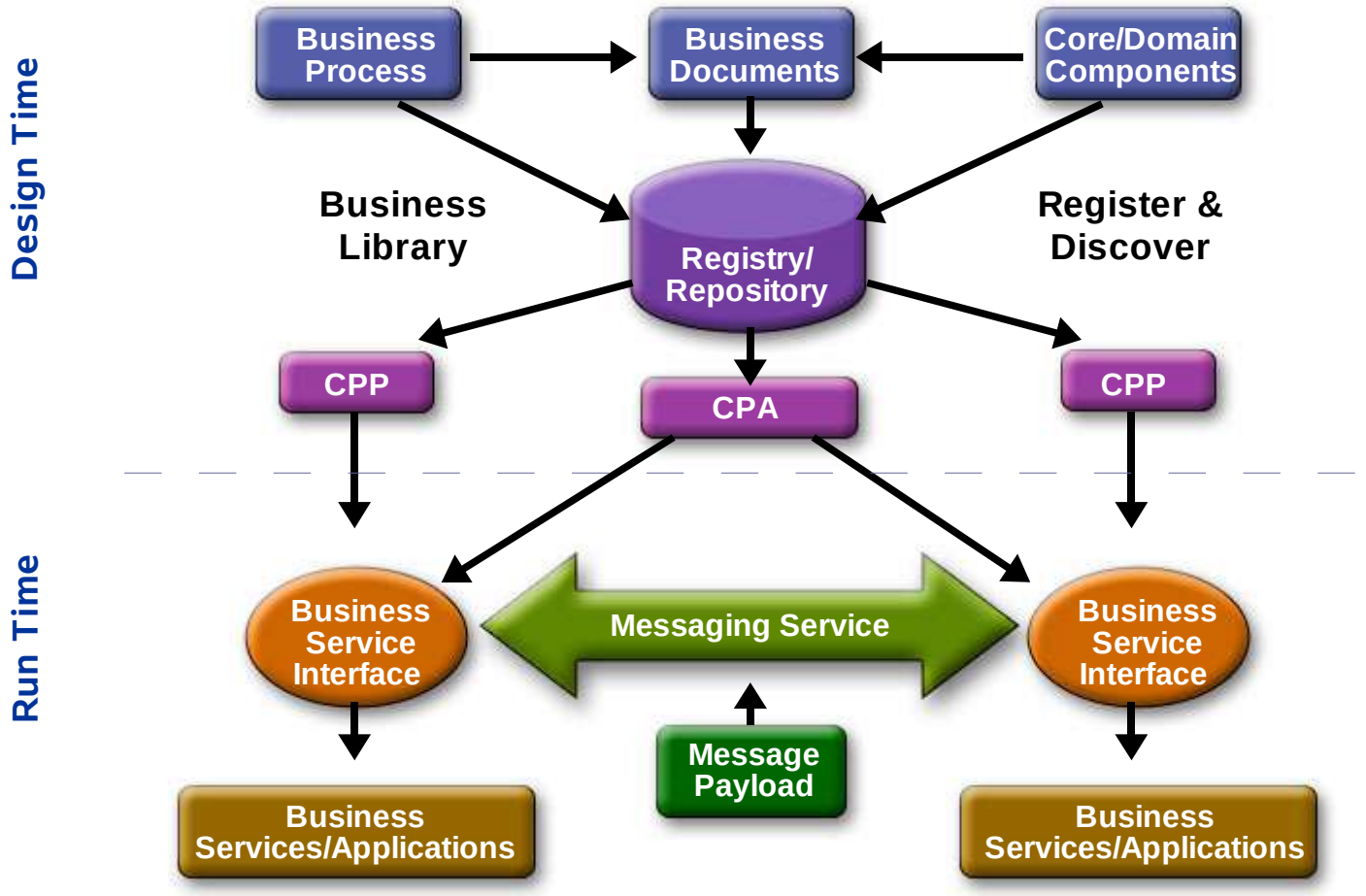


BPSS Role in Business Process Management



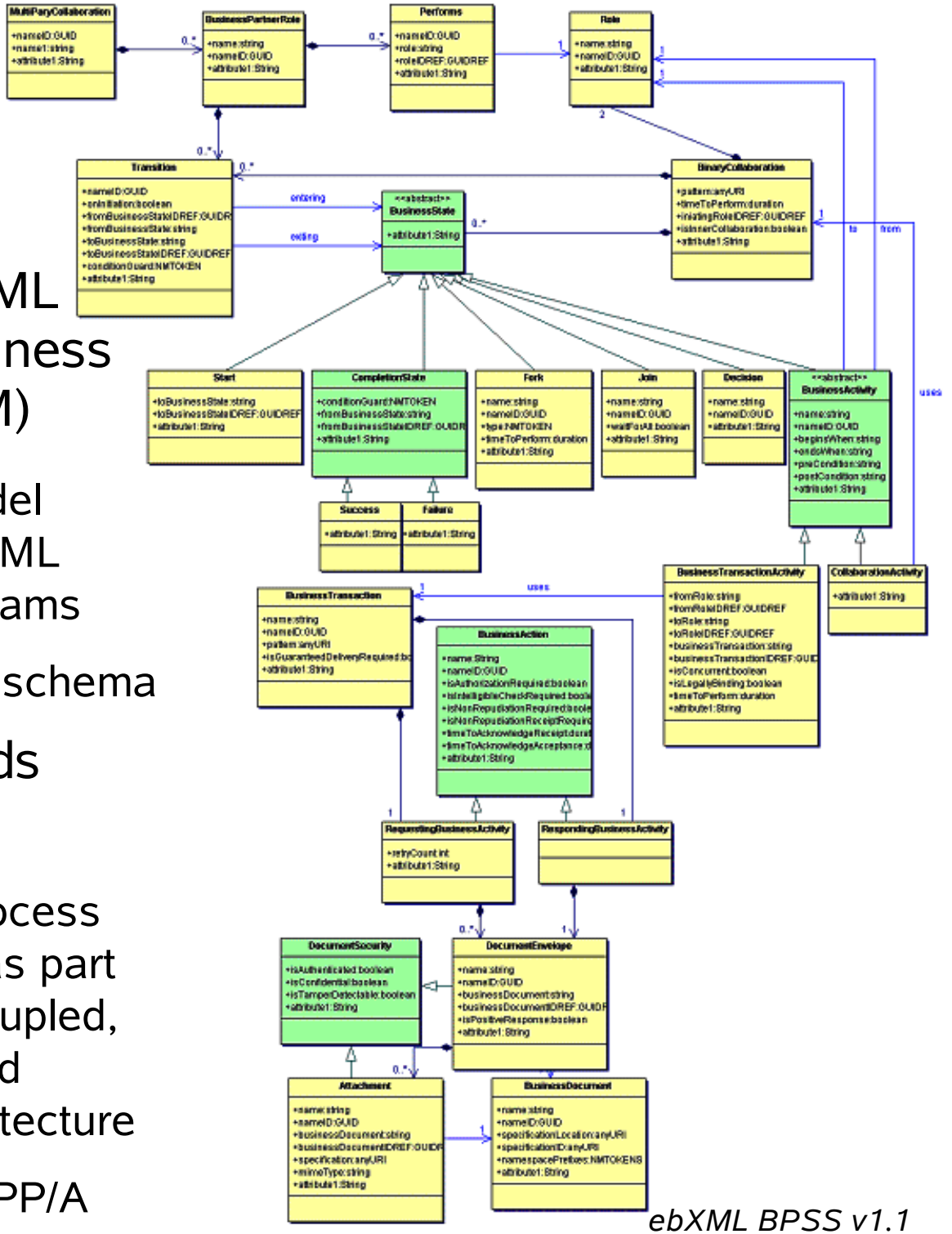
[1] Functionality does not currently exist in emerging WS-BPEL.
[2] Uses choreography to identify sequence of business interaction.

BPSS in the ebXML Architecture



Metamodel for BPSS

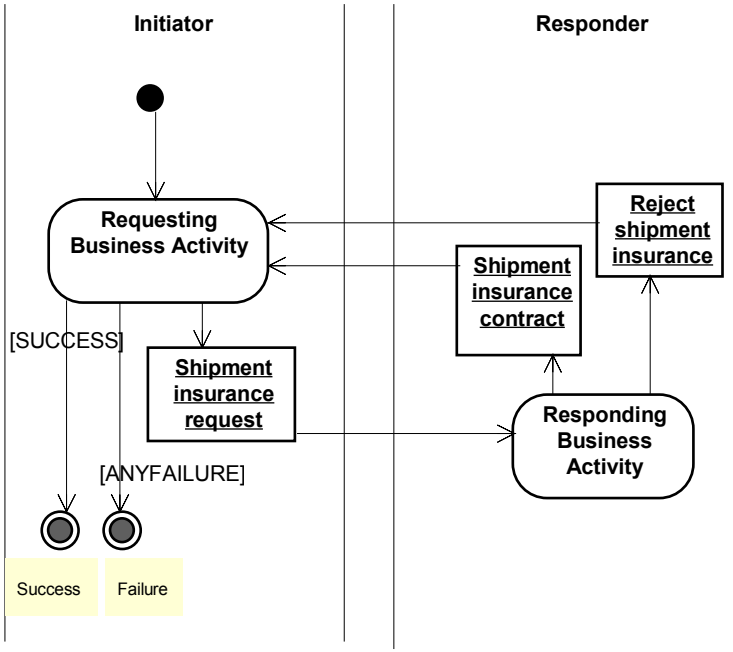
- Borne from UML profile for business process (UMM)
  - Process model defined by UML activity diagrams
  - Computable schema
- Geared towards eBusiness
  - Business process description as part of loosely coupled, highly aligned ebXML architecture
  - Used with CPP/A



ebXML BPSS v1.1

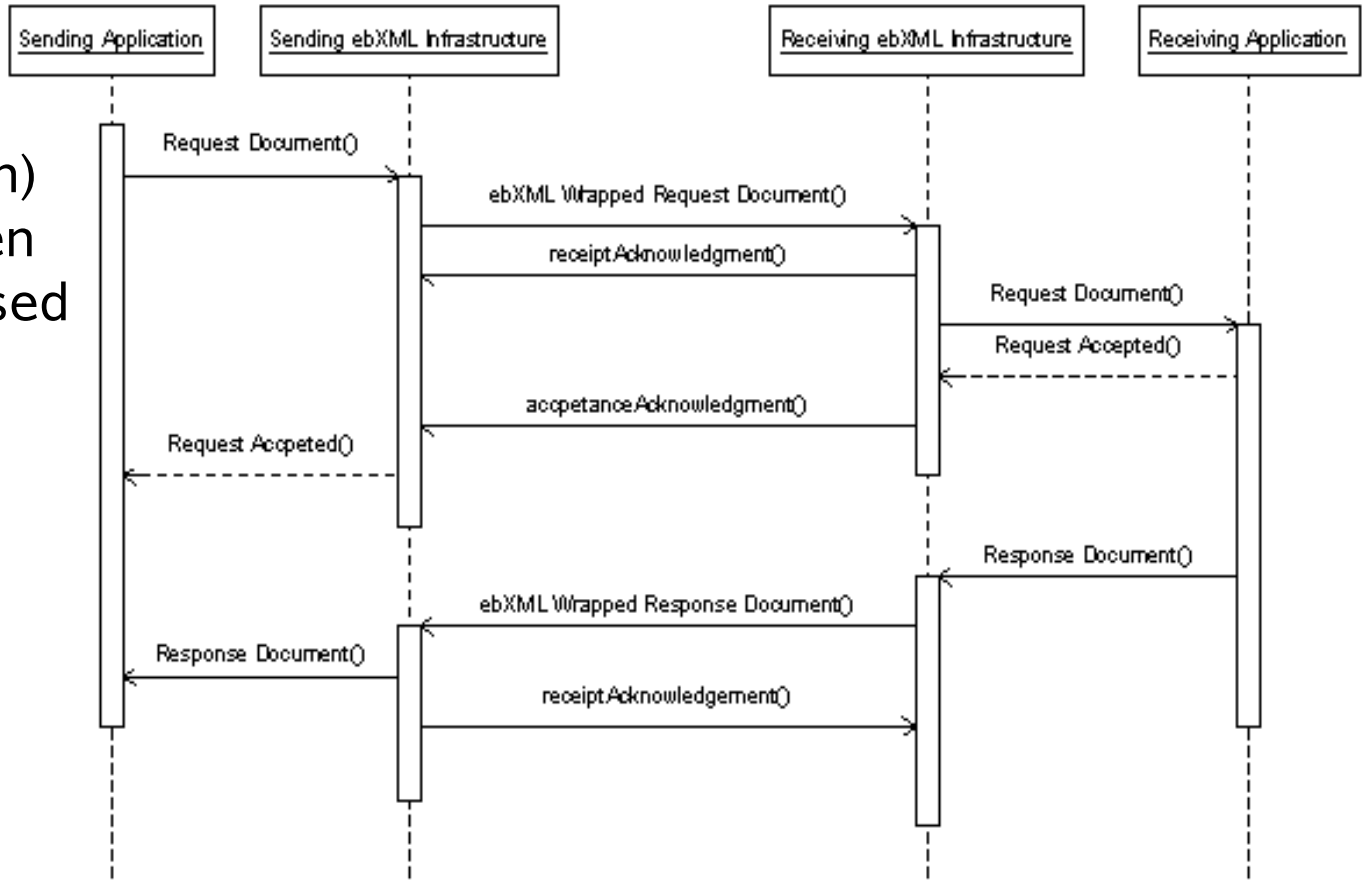
Business Semantics

- Binary and multi-party collaboration: A special type of business process or activity conducted between two or more parties to achieve a commonly defined goal or outcome. Can be decomposed into one or more business transactions
  - Business transactions: An atomic message exchange of electronic business documents between 2 abstract roles (initiator/responder)
    - Follows specific business message exchange patterns based on business transaction purpose (notification, commitment, etc)
    - Represents choreography definition state (i.e. the choreography is in the state of executing this business transaction). The business activity is an abstract kind of business state



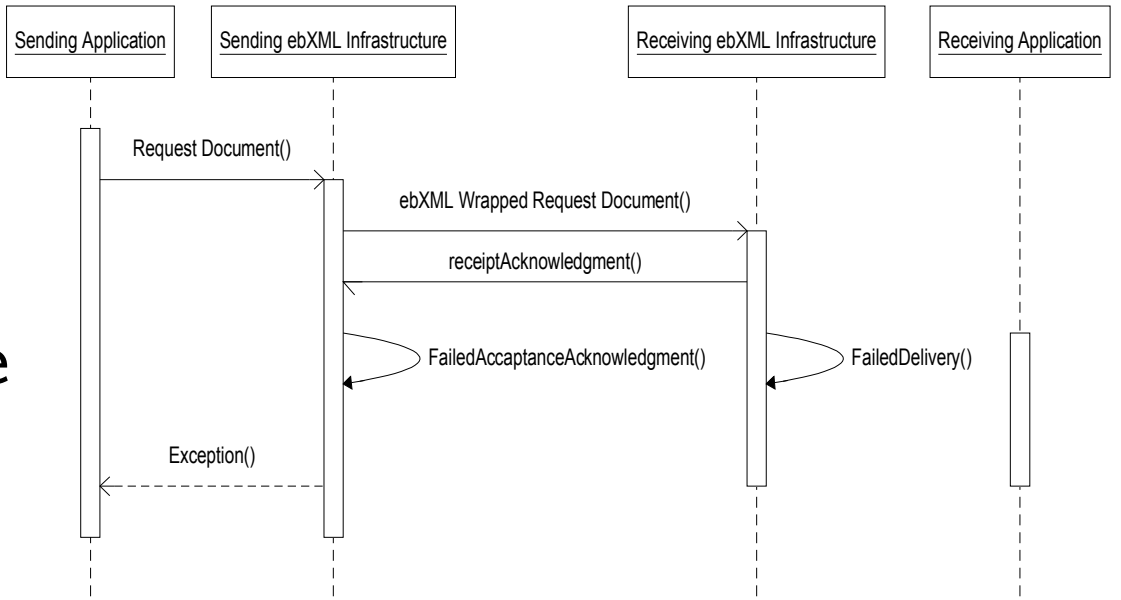
Business Semantics [2]

- Business transaction activities: Roles of the binary collaboration are assigned to the execution of the business transaction
  - The abstract roles (of the binary collaboration and business transaction) become explicit when the transaction is used within a business transaction activity within a binary collaboration



Business Semantics [3]

- Business signals: Optional messages that guarantee “state alignment” between parties. Layered atop reliable messaging
  - Receipt Ack: Message received and passed structural validity checks by receiving party
  - Acceptance Ack: System passed business rules of receiving party and is now in a system of record (rules and the system are not exposed in BPSS)
  - Exceptions
    - Technical
    - Business
    - Timeouts
- Business Service Interface
  - Runtime software that can isolate the internal communications of a given legacy or other application from the collaboration model, and once built represent the party in a collaboration model



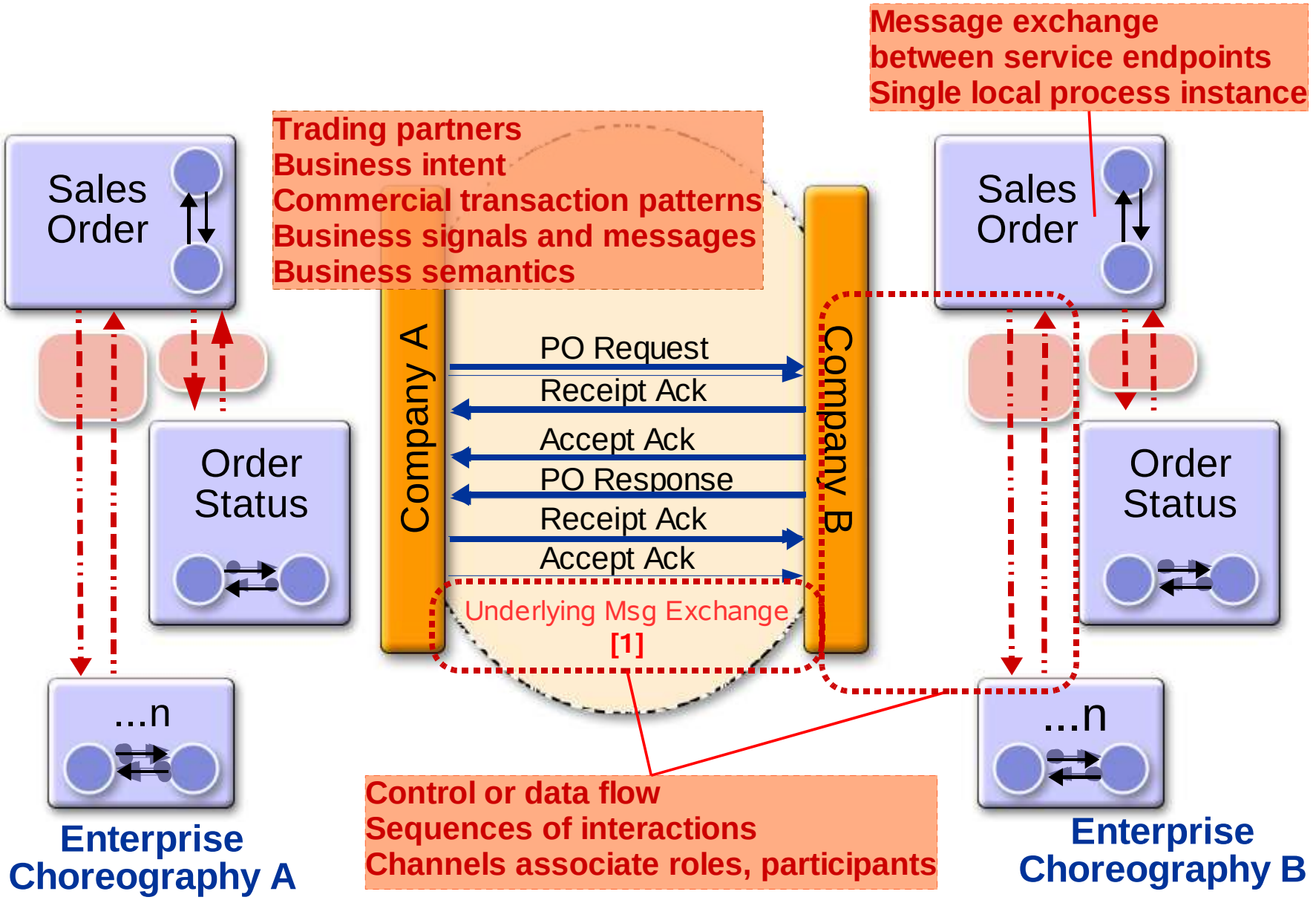
Message Controls and Choreography

- Message controls / choreography: Business collaboration choreography describes ordering and transitions between business transactions or sub collaborations within a binary collaboration
  - Choreography equates to and transitions between business states. Transitions happens between business activities. Requests can occur within the timeToPerform of the binary collaboration
    - A timeToPerform is the period of time, starting upon initiation of the first activity, within which this entire collaboration must conclude from the requester's perspective
    - Control flow based on state/transition model
  - Rules
    - Production rules: Maps UML model to schema. Currently represented syntactically as strings
    - Condition guards and expressions on state transitions: Account for success, failure or timeout
      - Transitions: Can be used to created nested activities
      - Guard: Status of business transaction activity
      - Condition expression: Conditions true in logical document

BPSS into the Future

- Service-oriented architecture
  - BSI Interface binding for business messages and signals
- Updates/enhancements to ebXML BPSS 1.01, later versions
  - Tightening business semantics for controls
  - Enhancements to production rules, state management, timing
- Reuse or reference to other technologies: Understanding terminology and scope are important
  - Other choreography definitions or transaction protocols
    - WS-Choreography output
    - WS-CAF output (coordination)
    - Other higher level business constructs

Potential Mapping BPSS and WS-Chor Output



[1] Between logical business message and application transport

Summary

- BPSS is focused on business semantics for business collaboration
- WS-Choreography is focused on the externally observable behavior of composed services
- Maximize benefit to both
  - Complementary aspects of emerging standards in BPM
  - Leverage existing capabilities
  - Investigate in more detail expected future capabilities, for example:
    - Business rules
    - Choreography
    - Multi-party collaboration