



Achieving eBusiness Interoperability

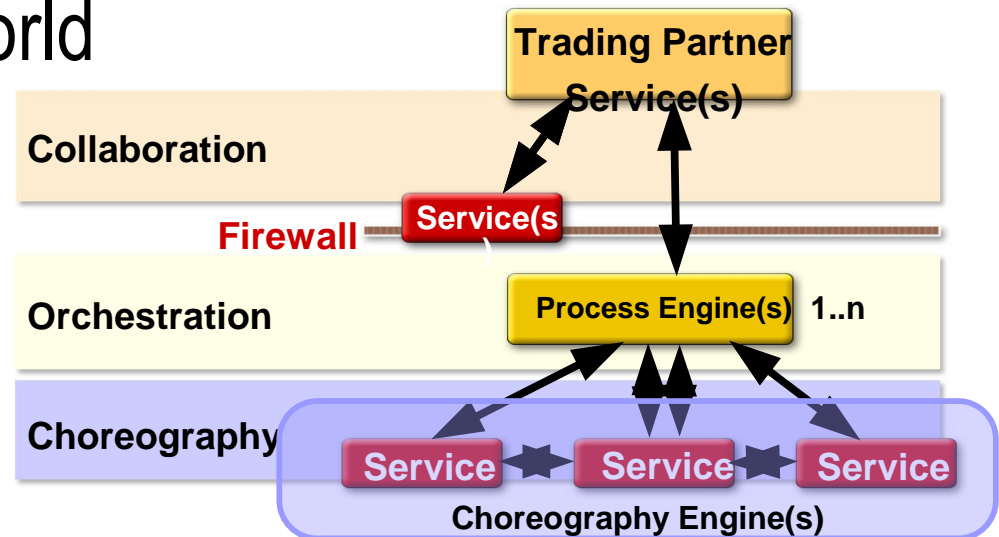
Monica J. Martin
for OASIS 'ebBP' TC

XML Web Services Standards Architect
Sun Microsystems



Achieving eBusiness Interoperability

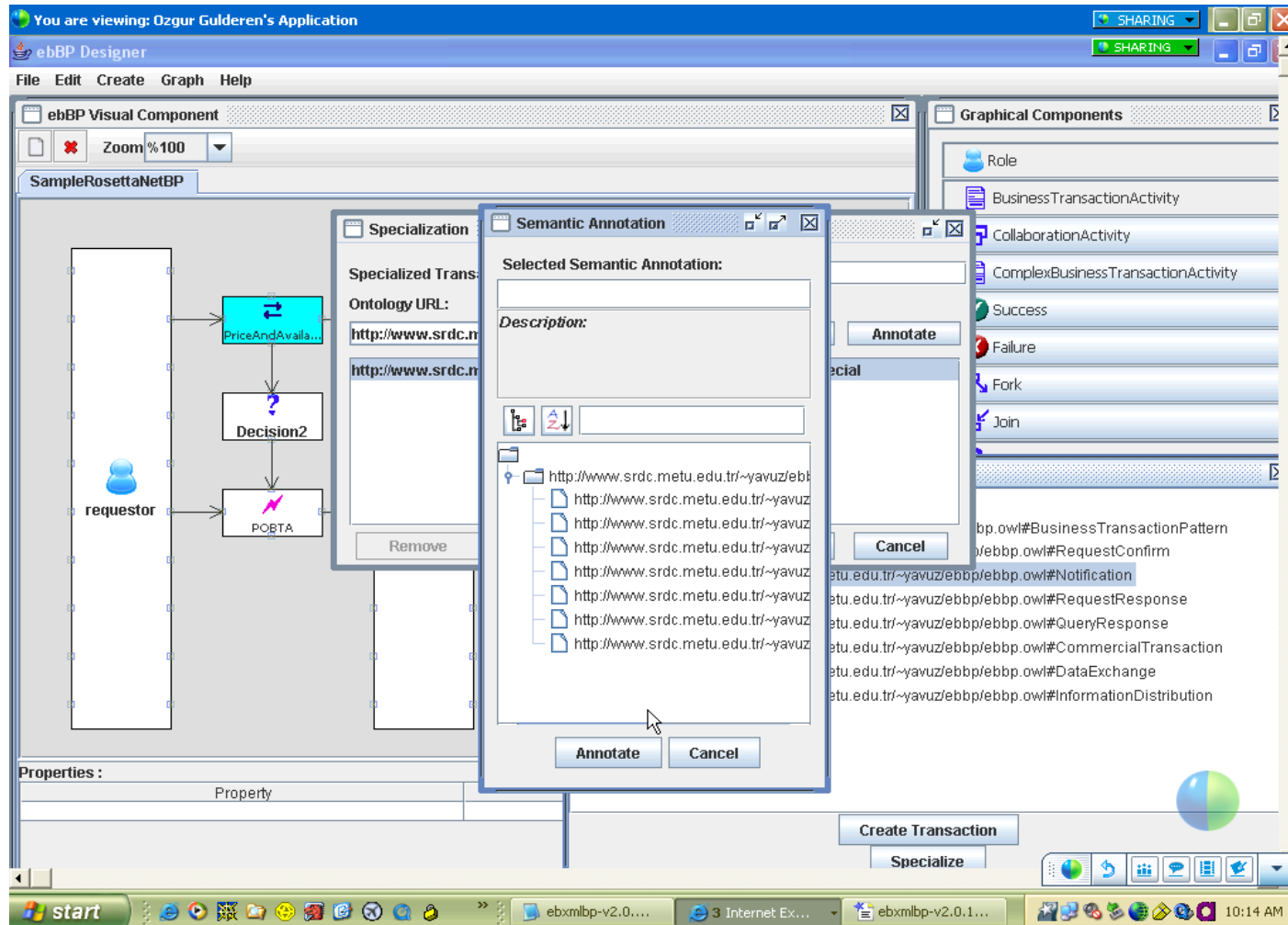
- The eBusiness Domain
 - > Business collaboration
 - > Business and technical expectations
- Focus on the User Community
 - > Domain and partner usability
- Dichotomy of Real-world Use Cases
- The Future
- Summary/Questions



The eBusiness Domain

- Technical perspective
 - > Peer-to-peer heterogeneous environments
 - > Guided by partner expectations
 - > Differs in complexity of business processes
- Business perspective
 - > Pressure to:
 - > Save cost yet add business value
 - > Increase business visibility
 - > Focus on monitoring for business users
 - > Interest in emerging technology innovation but tied to business return

Collaboration Gets Complex Quickly (2)



Support Business Collaborations for user communities and experts

Basic eBusiness Terminology

- Business Transaction:
 - > Unit of work in trading relationship
 - > Based on standard or extensible patterns
- Business Collaboration: Peer-to-peer partner activities
 - > Exchange business messages and signals
 - > Nests business transactions or collaborations
- Business Signal: A non-substantive object
- Business Service Interface: Manages eBusiness assets
- Choreography: Ordering and transitions of Business Transactions

Business Collaboration

With ebBP (ebXML Business Process Specification Schema)

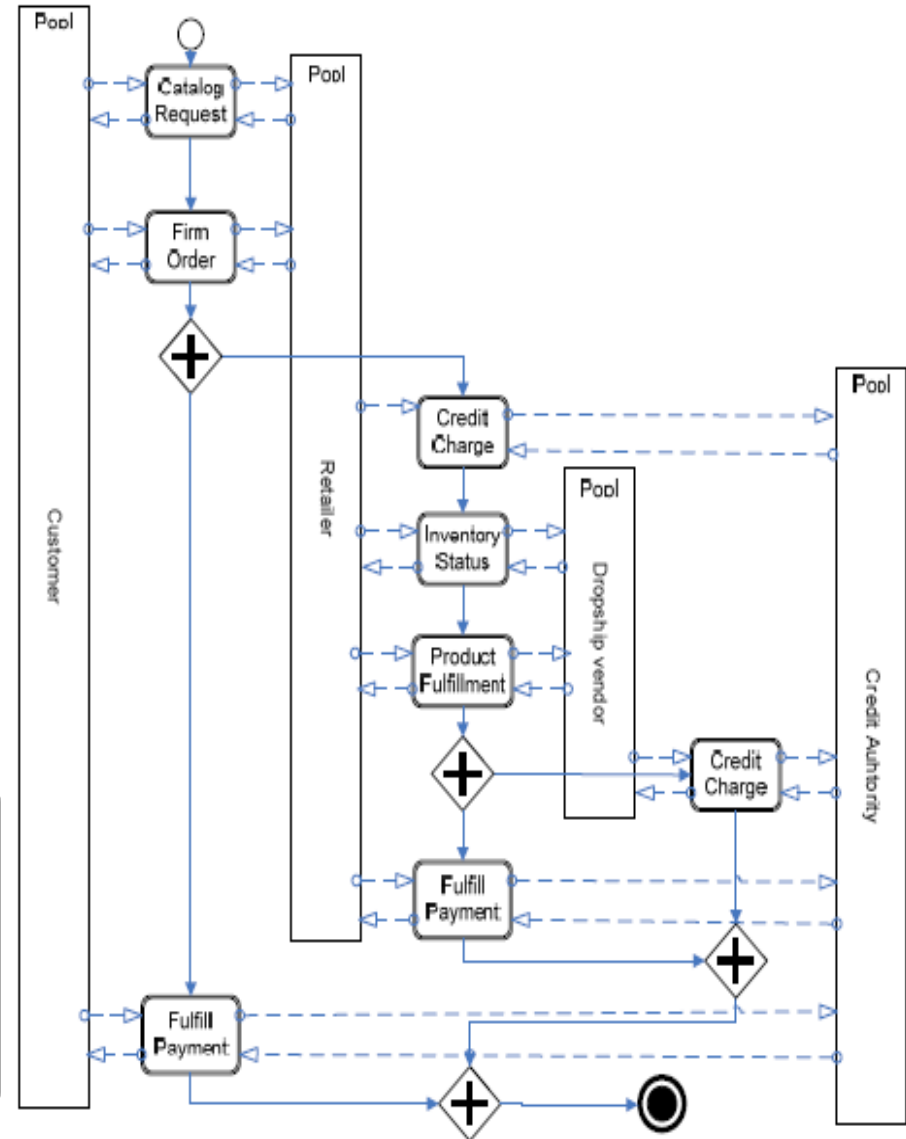
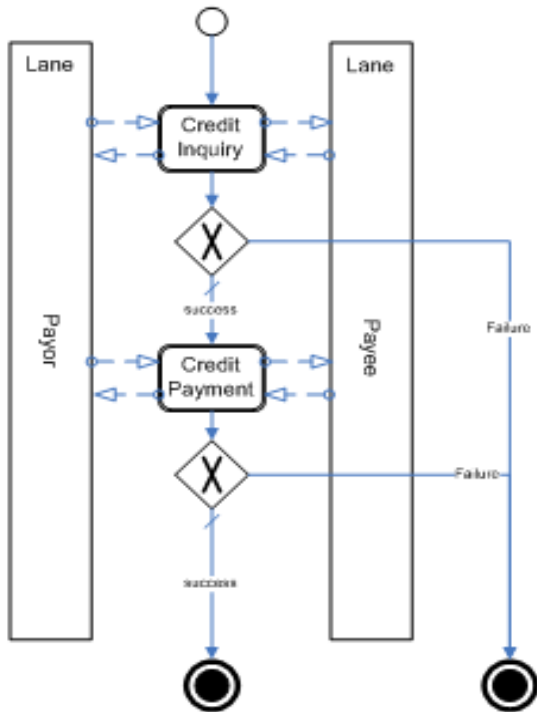
- Two+ business partners or collaborating parties
 - > Roles typically change and are bound from design to process execution
- Simple modular to complex nested business activities
 - > Business transactions, choreography, and business collaboration
- Simple to complex assemblies of business documents
 - > Often, involve semantic details important to business process and processing

Business Collaboration using ebBP

Guide for Technical Configuration and Messaging Services

- Uses standard or extensible business transaction patterns that provide core operational semantics
 - > Maps WSDL MEP to business transaction patterns.
Leverages Collaboration Protocol Agreement (CPA)
- Specifies quality, document security and other business Quality of Service expectations
- Uses semantic variables and external references
 - > Guides business document and activity use
- Provides status visibility for complex business transaction activities
- Provides business basis for technical configuration

Simple to Complex Collaborations

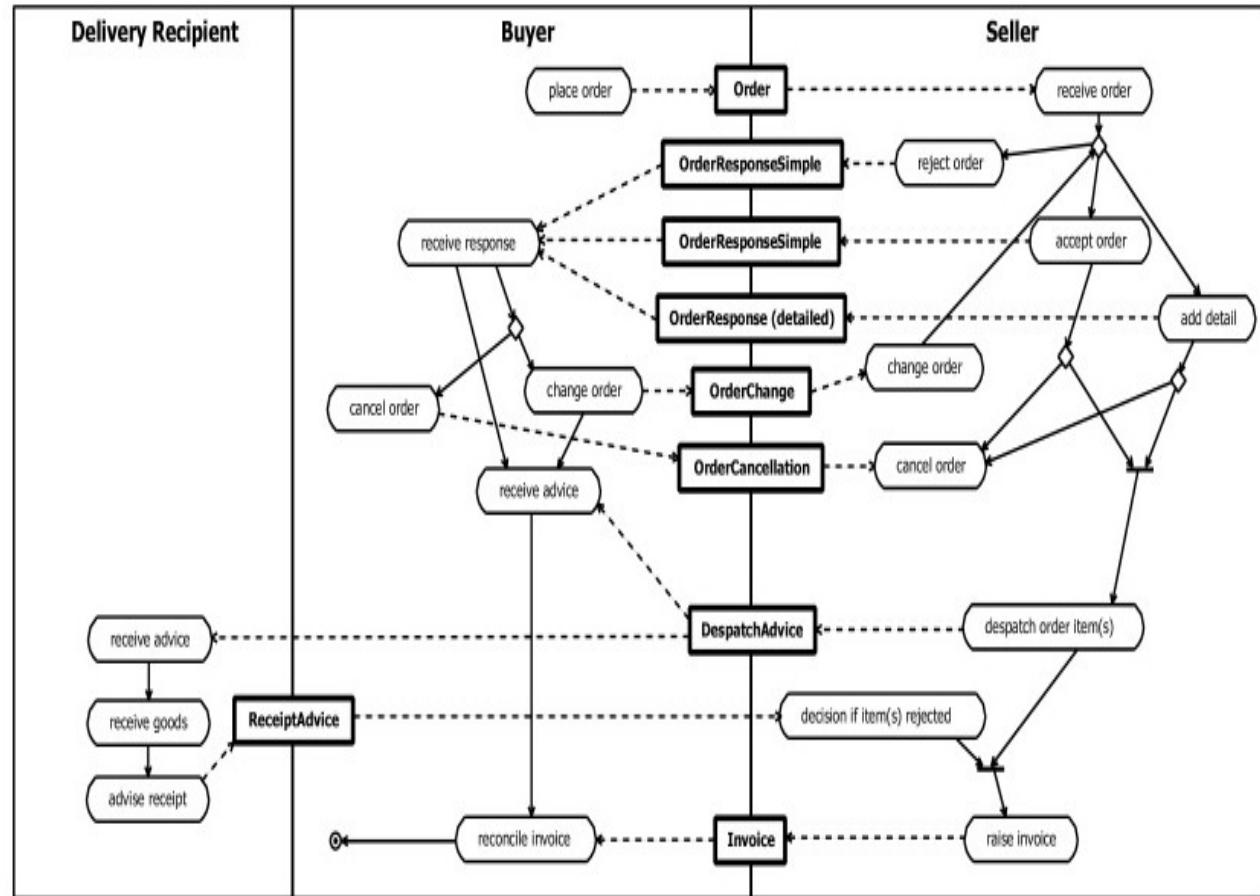


- Multiple partners and roles
- Nested activities driven by business content and conditions
- Seizes power of reusability
- Driven by community needs

ebBP Focus: The User Community

Focus on Domain and Partner Usability

- Business requirements
- Use cases; domain limits
- Encourage interoperability
- Progressive changes for:
 - > Reusability
 - > Compose where needed



Example

Universal Business Language v1.0: Order to Invoice

ebBP: Modular Process Definition

```

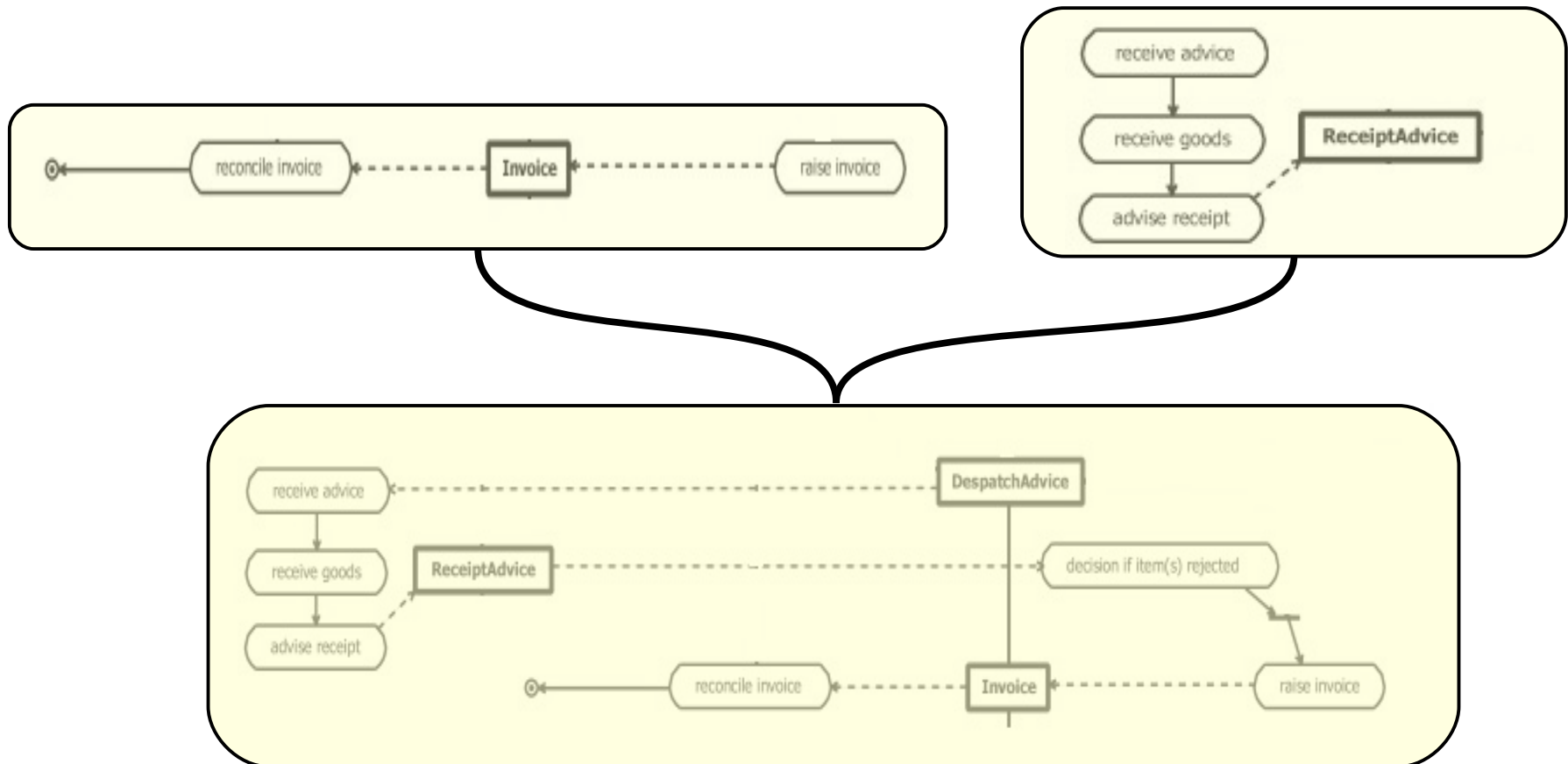
<?xml version="1.0" encoding="UTF-8"?>
<ProcessSpecification xmlns="http://docs.oasis-open.org/ebxmlbp/ebbp-2.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" name="UBL 1.0 Small Business Subset Invoice Notification" nameID="UBL1SBSInvoiceNotification_PS"
specificationVersion="2" instanceVersion="1.0.2" xsi:schemaLocation="http://docs.oasis-open.org/ebxmlbp/ebbp-2.0 ebbp-2.0.2.xsd" uuid="bpid:urn:oasis:names:tc:bpss:ubl-1-sbs-invoice-notification">
  <Documentation/>
  <!--Business signal definitions-->
  <BusinessDocument name="UBL 1.0 SBS Invoice" nameID="Invoice_UBL1SBSInvoiceNotification_BD">
    <!--Specification of UBL SBS Invoice-->
    <!--Specification externalDocumentDefRef-->
  </BusinessDocument>
  <Package name="UBL1SBSInvoiceNotification" nameID="UBL1SBSInvoiceNotification">
    <Documentation/>
    <!--Notification Business Transaction-->
    <!--RequestingRole and RespondingRole-->
    <!--Receipt Acknowledgements and AcceptanceAcknowledgements / Business signals-->
    <!--RequestingBusinessActivity-->
    <!--RespondingBusinessActivity-->
  </Notification>
  <!--BusinessCollaboration-->
  <!--Role name and nameID--><TimeToPerform/>
  <!--Start-->
  <!--BusinessTransactionActivity-->
  <TimeToPerform/>
  <!--Performs for roles assumed by business partner in this BTA: currentRoleRef and performsRoleRef-->
  </BusinessTransactionActivity>
  <!--Success conditions-->
  <!--Failure conditions-->
</BusinessCollaboration>
</Package>
</ProcessSpecification>

```



Compose Activities and Collaborations

- Mix and/or match activities into Business Collaborations
- Add conditions, transitions given partner expectations



ebBP: Composed Collaboration



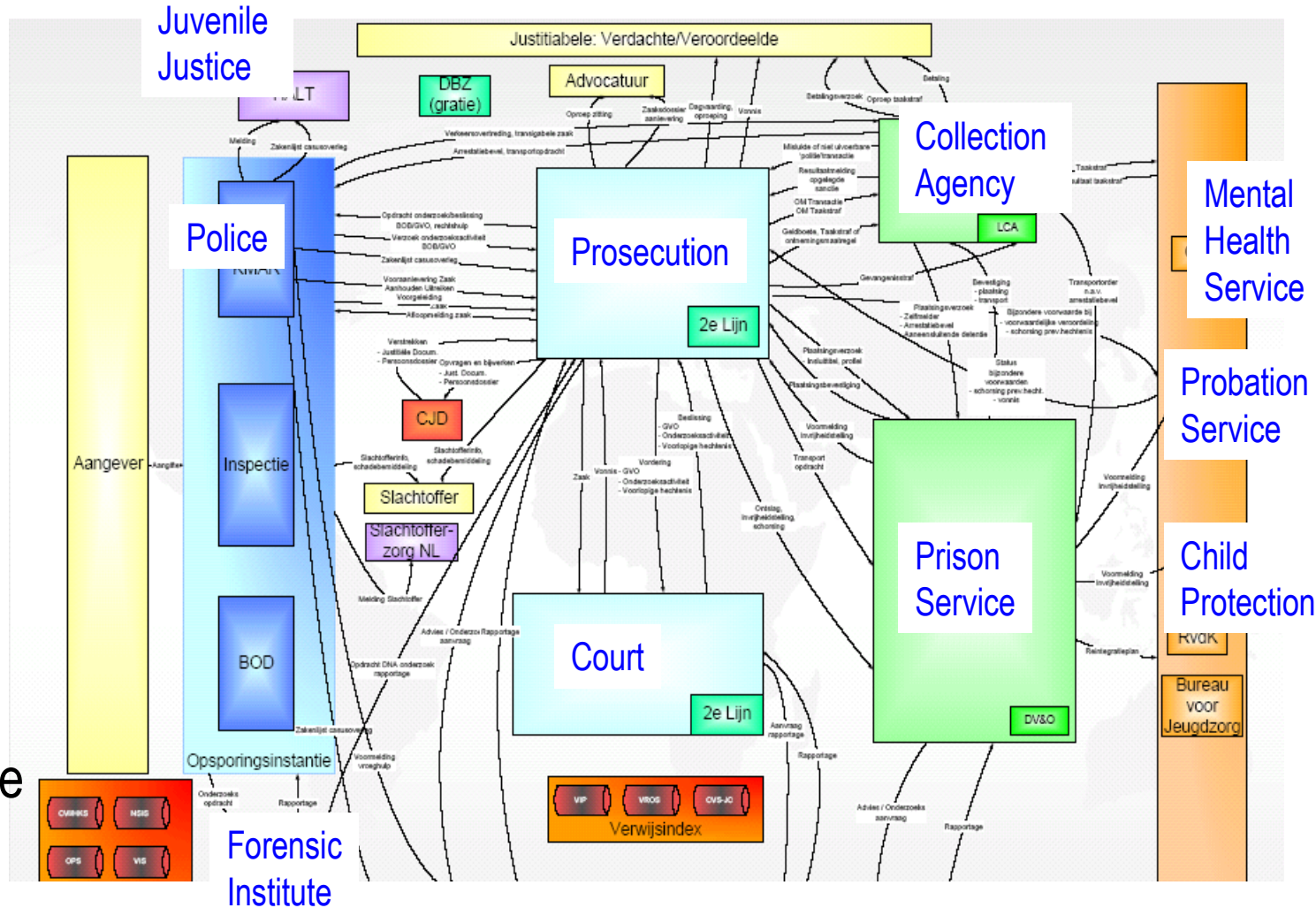
```

...<!-- remember to add XInclude namespace if XInclude is to be used -->
<ProcessSpecification name="Custom Process UBL 1.0 Small Business Subset ReceiptAdvice Invoice" nameID="CustomProcessUBL1SBSReceiptAdviceInvoice_PS" specificationVersion="2"
instanceVersion="1.0.3" uuid="bpid:myuid:custom-process-ubl-1-sbs-receipt-advice-invoice" xmlns="http://docs.oasis-open.org/ebxml-bp/ebbp-2.0" xmlns:xi="http://www.w3.org/2001/XInclude"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://docs.oasis-open.org/ebxml-bp/ebbp-2.0 ebbp-2.0.3.xsd">
  <!-- Business signals definitions from process definitions-->
  <!-- Business Documents from receipt advice and invoice process definitions -->
  <!-- xincludes to be used where supported by software -->
  <!--
  <xi:include href="http://docs.oasis-open.org/ubl/cs-UBL-1.0-SBS-1.0/universal-business-process-1.0-ebBP/ebxmlbp-2.0_ubl-1-sbs-receipt-advice-notification-1.xml" parse="xml"
xpointer="xpointer(/ProcessSpecification/Package[1])"/>
  <xi:include href="http://docs.oasis-open.org/ubl/cs-UBL-1.0-SBS-1.0/universal-business-process-1.0-ebBP/ebxmlbp-2.0_ubl-1-sbs-invoice-notification-1.xml" parse="xml"
xpointer="xpointer(/ProcessSpecification/Package[1])"/>
  <!-- packages with transaction from receipt advice and invoice process definitions (equivalent to using XInclude)-->
  <!-- new combined collaboration, the purpose of this custom, combination process definition -->
  <Package name="Custom Receipt Advice Invoice" nameID="CustomReceiptAdviceInvoice">
    <BusinessCollaboration name="Custom Receipt Advice Invoice" nameID="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_BC"
pattern="Notification">
      <Documentation/>
      <!--Roles-->
      <TimeToPerform/>
      <!--Start and links-->
      <BusinessTransactionActivity name="Notify Receipt Advice" nameID="NotifyReceiptAdvice_CustomProcessUBL1SBSReceiptAdviceInvoice_BTA"
businessTransactionRef="NotifyReceiptAdvice_UBL1SBSReceiptAdviceNotification_N" hasLegalIntent="true" isConcurrent="false">
        <TimeToPerform/>
        <Performs currentRoleRef="Delivery_CustomProcessUBL1SBSReceiptAdviceInvoice" performsRoleRef="Initiator_UBL1SBSReceiptAdviceNotification"/>
        <Performs currentRoleRef="Despatch_CustomProcessUBL1SBSReceiptAdviceInvoice" performsRoleRef="Responder_UBL1SBSReceiptAdviceNotification"/>
      </BusinessTransactionActivity>
      <Transition name="Forward Receipt To Present Invoice" nameID="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_ST">
        <FromLink fromBusinessStateRef="NotifyReceiptAdvice_CustomProcessUBL1SBSReceiptAdviceInvoice_ST" />
        <ToLink toBusinessStateRef="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_BTA"/>
      </Transition>
      <BusinessTransactionActivity name="Present Invoice" nameID="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_BTA"
businessTransactionRef="PresentInvoice_UBL1SBSInvoiceNotification_N" hasLegalIntent="true" isConcurrent="false">
        <TimeToPerform/>
        <Performs currentRoleRef="InvoiceInitiator_CustomProcessUBL1SBSReceiptAdviceInvoice" performsRoleRef="Initiator_UBL1SBSInvoiceNotification"/>
        <Performs currentRoleRef="InvoiceReceiver_CustomProcessUBL1SBSReceiptAdviceInvoice" performsRoleRef="Responder_UBL1SBSInvoiceNotification"/>
      </BusinessTransactionActivity>
      <Success name="Success" nameID="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_Success">
        <FromLink fromBusinessStateRef="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_BTA">
          <ConditionExpression expressionLanguage="ConditionGuardValue" expression="Success"/>
        </FromLink>
      </Success>
      <Failure name="Failure" nameID="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_Failure">
        <FromLink fromBusinessStateRef="CustomReceiptAdviceInvoice_CustomProcessUBL1SBSReceiptAdviceInvoice_BTA">
          <ConditionExpression expressionLanguage="ConditionGuardValue" expression="Failure"/>
        </FromLink>
      </Failure>
    </BusinessCollaboration>
  </Package>
</ProcessSpecification>

```

ebBP: Communities of Interest

Netherlands
 Italy
 Canada
 Asia
 UK
 ...in
 Retail
 Government
 Criminal Justice
 Transport



Solutions for Real-World Use Cases

- Maximize use of conditions, choreography and patterns to enable simple=>complex activities and processes
 - > i.e. Implicit or manual processes, recursive or optional activities
- Concentrate on logical Business Document for optimal compositional capabilities
 - > Support tailoring of or adding context to Business Documents, processing or the ebBP process definition
- Allow for modular to complex, nested activities and Business Collaborations
 - > Broad swath of composition desired and technology used
 - > Technical state alignment using Business Signals
 - > Visibility to other definitions and status

Achieving eBusiness Interoperability

The ebBP Basic Tenets

- The eBusiness Domain: Heterogeneous and focused on partner expectations
- The Community: Global + domain perspectives
- Solutions: Turn domain capabilities into assets
 - > Build from modular process definitions
 - > Compose into complex Business Collaborations
 - > Leverage emerging technologies
- The Future: Adoption and deployment
 - > More visibility, multi-party, late binding, deployment template
 - > Deployment template for ebBP
 - > Move from Committee Specification to OASIS Standard

Helpful References and Examples

OASIS ebXML Business Process

- OASIS site: Committee Specification packages, et al
http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ebxml-bp
- ePV Example: Netherlands, Criminal Justice
http://www.oasis-open.org/committees/document.php?document_id=16436&wg_abbrev=ebxml-bp
- UBL Small Business Subset Process Definitions:
 - > **Universal Business Processes (UBP):**
<http://docs.oasis-open.org/ubl/cs-UBL-1.0-SBS-1.0/universal-business-process-1.0-ebBP/>
 - > **Composed example:** http://www.oasis-open.org/committees/download.php/17798/custom-process-ebxmlbp-v2.0_ubl-v1.0-sbs-receipt-advice-invoice-1-april2006.xml
- New book on business processes including ebBP:
<http://www.ies.aust.com/ten/ten32.htm> (See Part 3, Chapter 14)
- **freexmlbp Editor:** <http://sourceforge.net/projects/freexmlbp> (Screen shots on ebBP public web site)
- **Tutorial:** (vanderEijk) http://www.oasis-open.org/events/symposium_2006/tutorials.php



Achieving eBusiness Interoperability

Monica J. Martin

monica.martin@sun.com

