IBM Software Group

Implementing RosettaNet with WBI Connect

e business on demand software

Objectives

After completing this module, you will be able to:

- Understand the origin and intent of the RosettaNet solution architecture
- Understand the significance of the RNIF (RosettaNet Implementation Framework) and the RosettaNet PIPs (Partner Interface Processes)
- Understand how WebSphere BI Connect implements RosettaNet
- Going through a demo of installing a RN PIP, configuring and testing transactions.

Rosettanet! Where did the name come from?
Who came up with it?

RosettaNet Vision & Mission

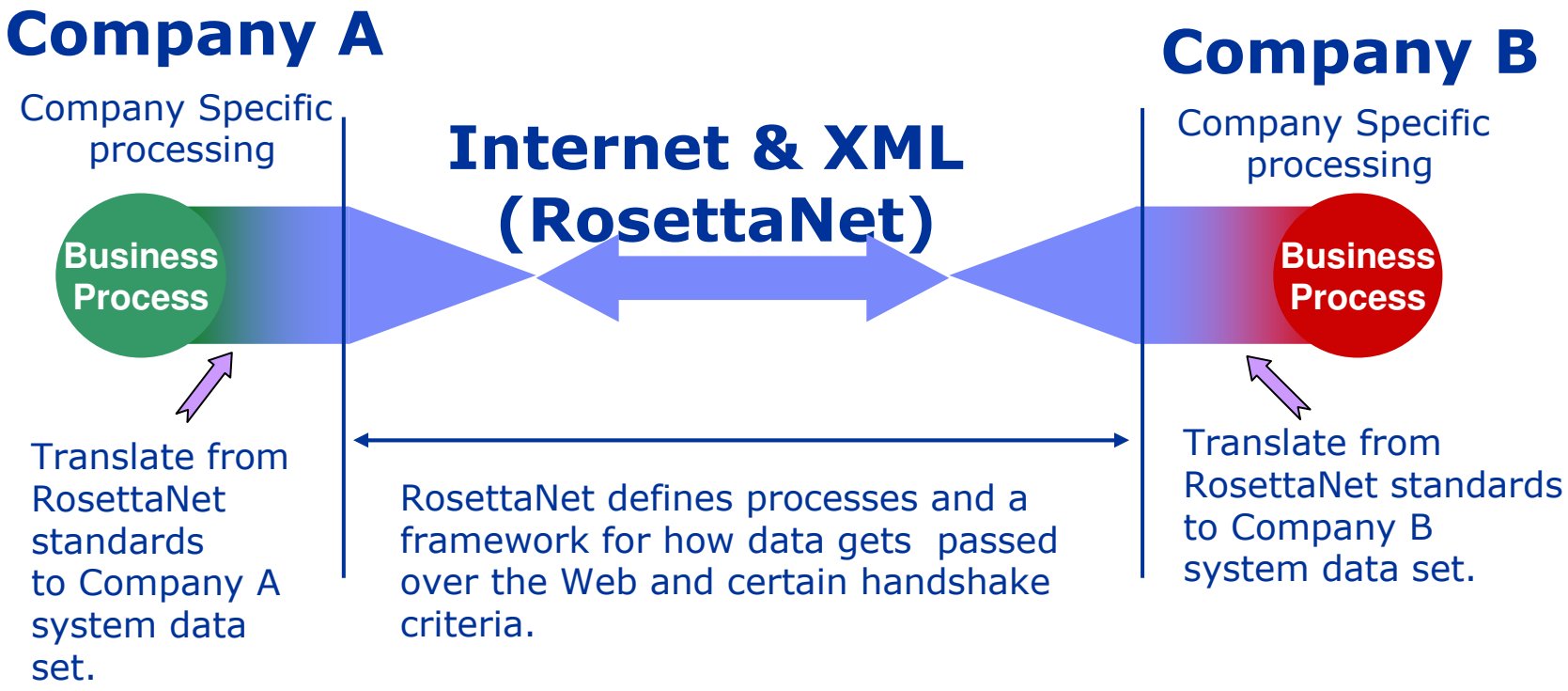
Vision: The leader in global e-business standards.

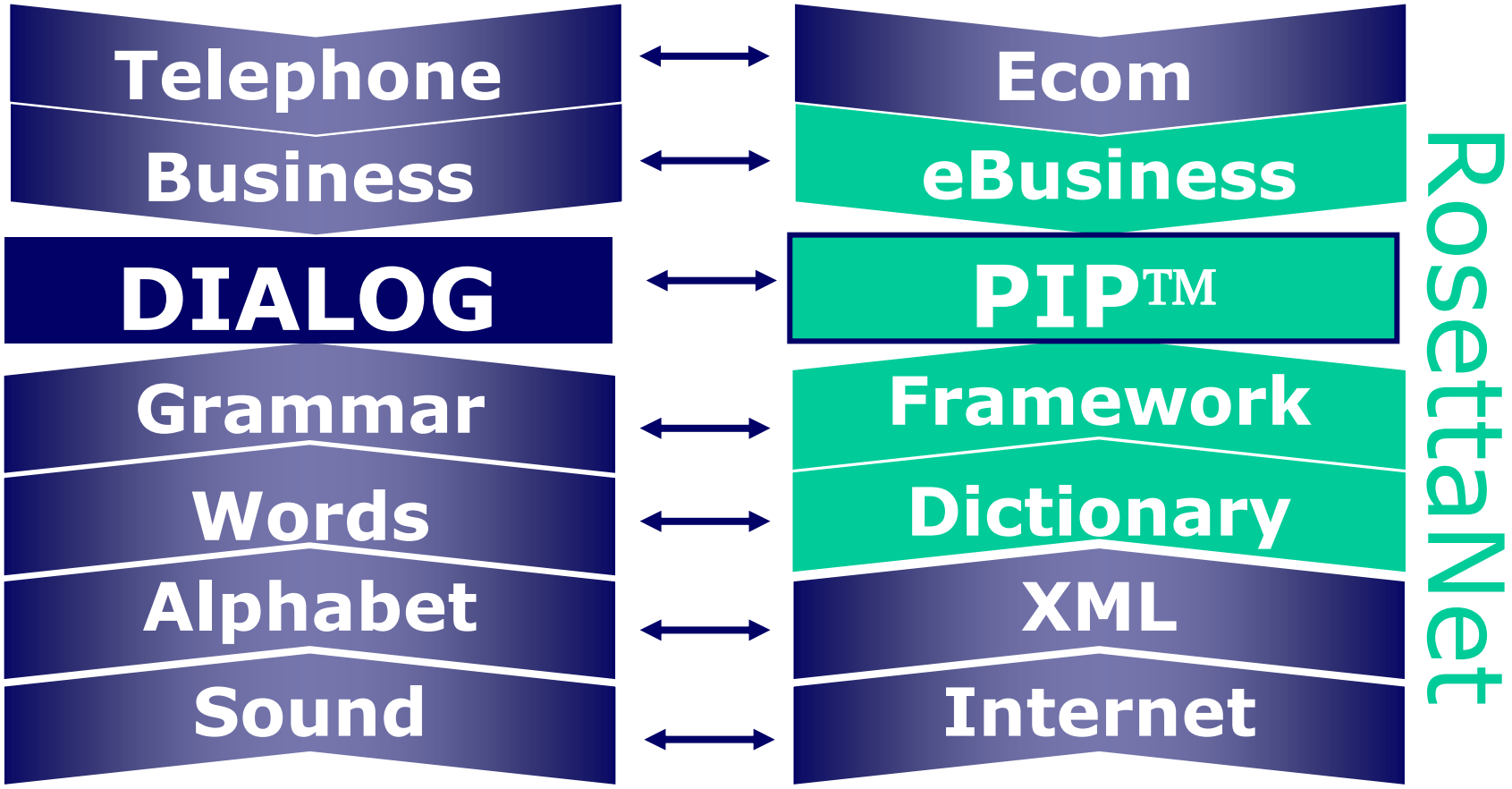
Mission: RosettaNet drives collaborative development and rapid deployment of Internet-based business standards, creating a common language and open processes that provide measurable benefits and are vital to the evolution of the global trading network.

RosettaNet Overview

- **What is RosettaNet?**
  - RosettaNet is a self-funded, non-profit organization dedicated to creating, implementing and promoting open e-business process standards.
  - Visit www.rosettanet.org for the detailed information
- **What is RosettaNet e-business standards?**
  - RosettaNet standards offer a robust solution for e-business standardization
    - encompassing data dictionaries
    - implementation framework (RNIF)
    - XML-based business message schemas and processes (PIP)

RosettaNet e-business standard





human-to-human
business exchange

Partner-to-Partner
eBusiness exchange

RosettaNet in a Trading Partner Implementation

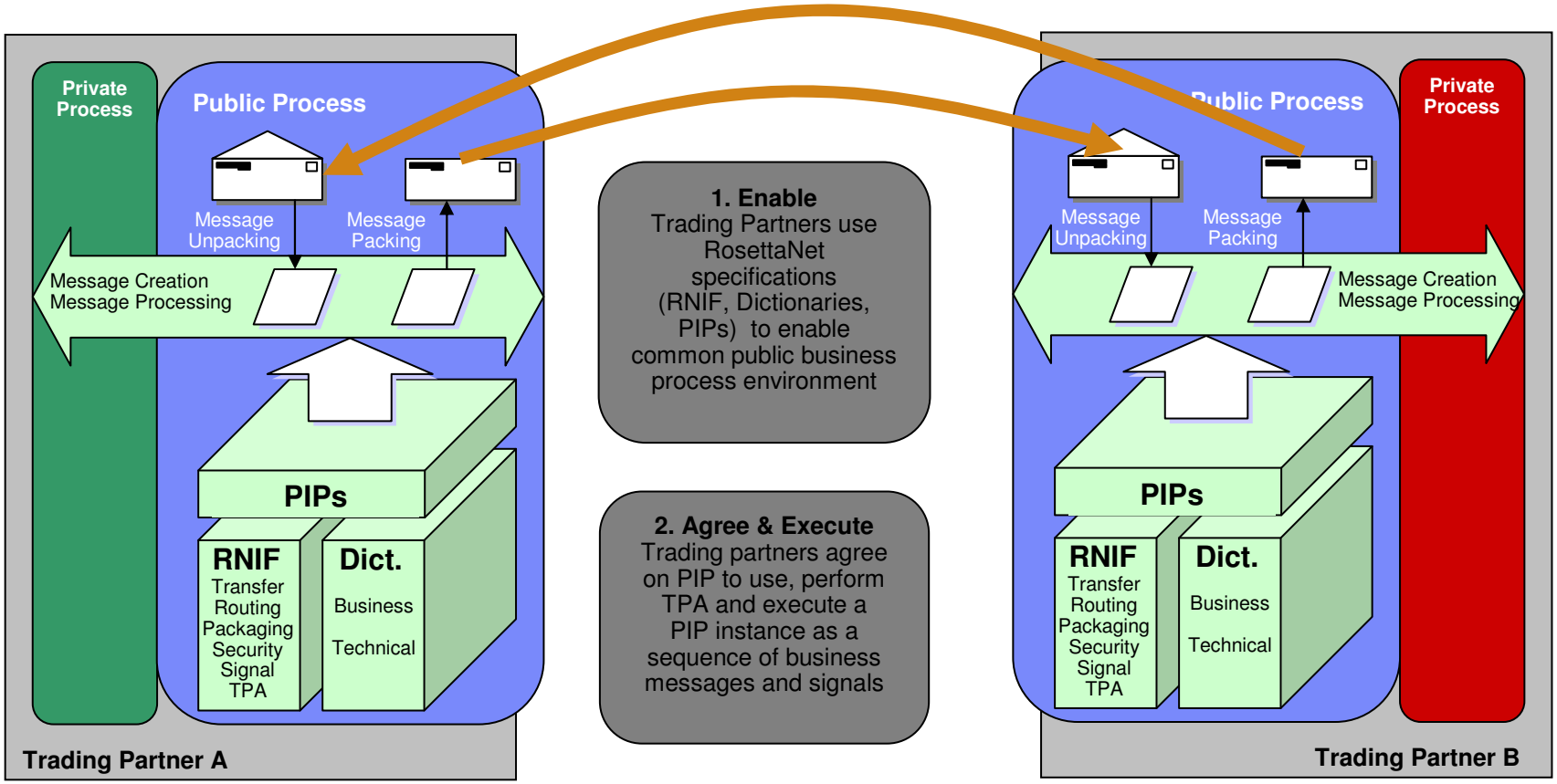


Figure from RosettaNet Implementation Framework V02.00

RosettaNet Implementation Framework (RNIF)

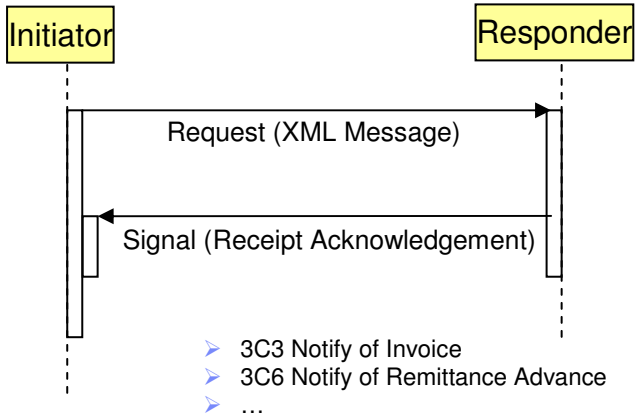
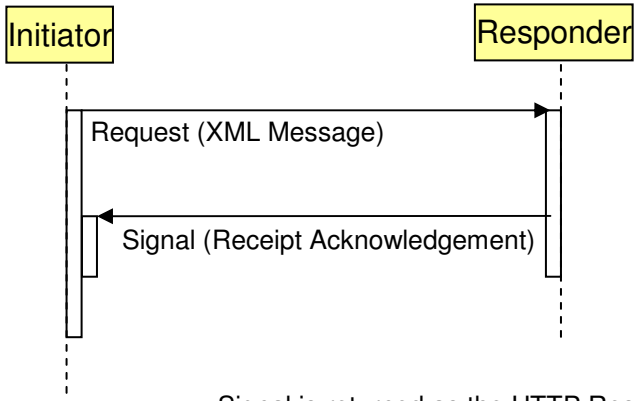
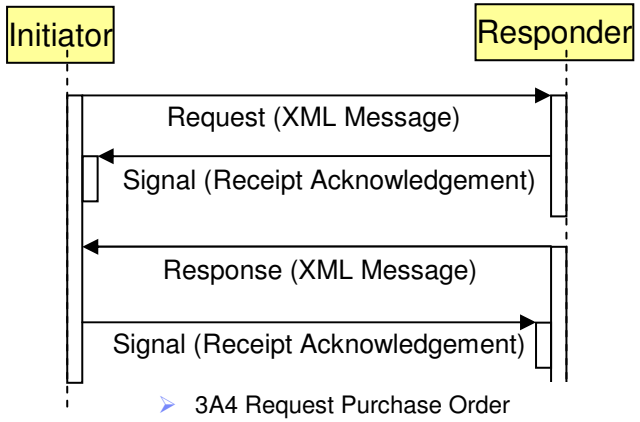
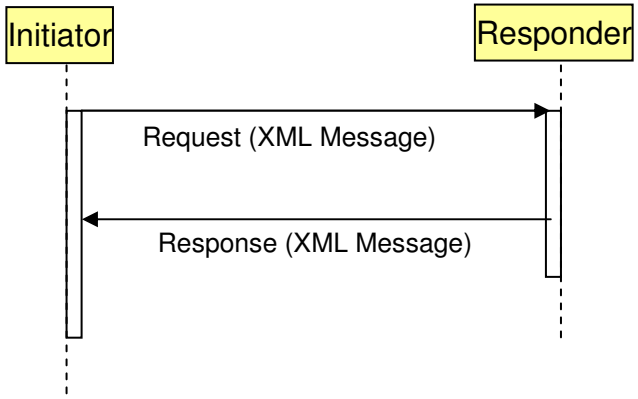
- Concept
  - Transport / Routing / Packaging / Security / Message Delivery
- RNIF 1.1
  - Transport: HTTP(s) only
  - Routing: Pier to pier
  - Packaging: RosettaNet Object (RNO) format
    - Preamble Header / Service Header
    - Service Content
  - Security: Digital Signature
  - Message Delivery: Signals and Retry (Acknowledgements/Exceptions)
- RNIF 2.0
  - Transport: HTTP(s) and SMTP
  - Routing: “Pier to pier” and “through Hub”
  - Packaging: S/MIME
    - Preamble Header / Delivery Header /Service Header
    - Service Content
    - Attachments
  - Security: S/MIME based Digital Signature and Encryption
  - Message Delivery: Signals and Retry (Acknowledgements/Exceptions)
- RNIF 1.1 and 2.0 are NOT mutually interoperable

RosettaNet Partner Interface Processes (PIPs)

- Concept
  - Public business process that are executed between two trading partners (e.g. PIP3A4: Request Purchase Order)
  - Each Activity Contains a Set of one or more Actions (eg. Purchase Order Request Action, Purchase Order Confirmation Action)
  - Each Action sends a Message (e.g. PurchaseOrderRequest, PurchaseOrderAcceptance)
  - Each partner has a specific role in the process (e.g. Buyer, Seller)

- Clusters
  - 0: RosettaNet Support
  - 1: Product and Service Review
  - 2: Product Information
  - 3: Order Management
  - 4: Inventory Management
  - 5: Marketing Information Management
  - 6: Service and Support
  - 7: Manufacturing

PIP Business Process Patterns

	Asynchronous	Synchronous
Single-action	 ➢ 3C3 Notify of Invoice ➢ 3C6 Notify of Remittance Advance ➢ …	 Signal is returned as the HTTP Response
Two-action	 ➢ 3A4 Request Purchase Order ➢ 3A5 Query Order Status ➢ …	 Response is returned as the HTTP Response

UCCNet and RosettaNet

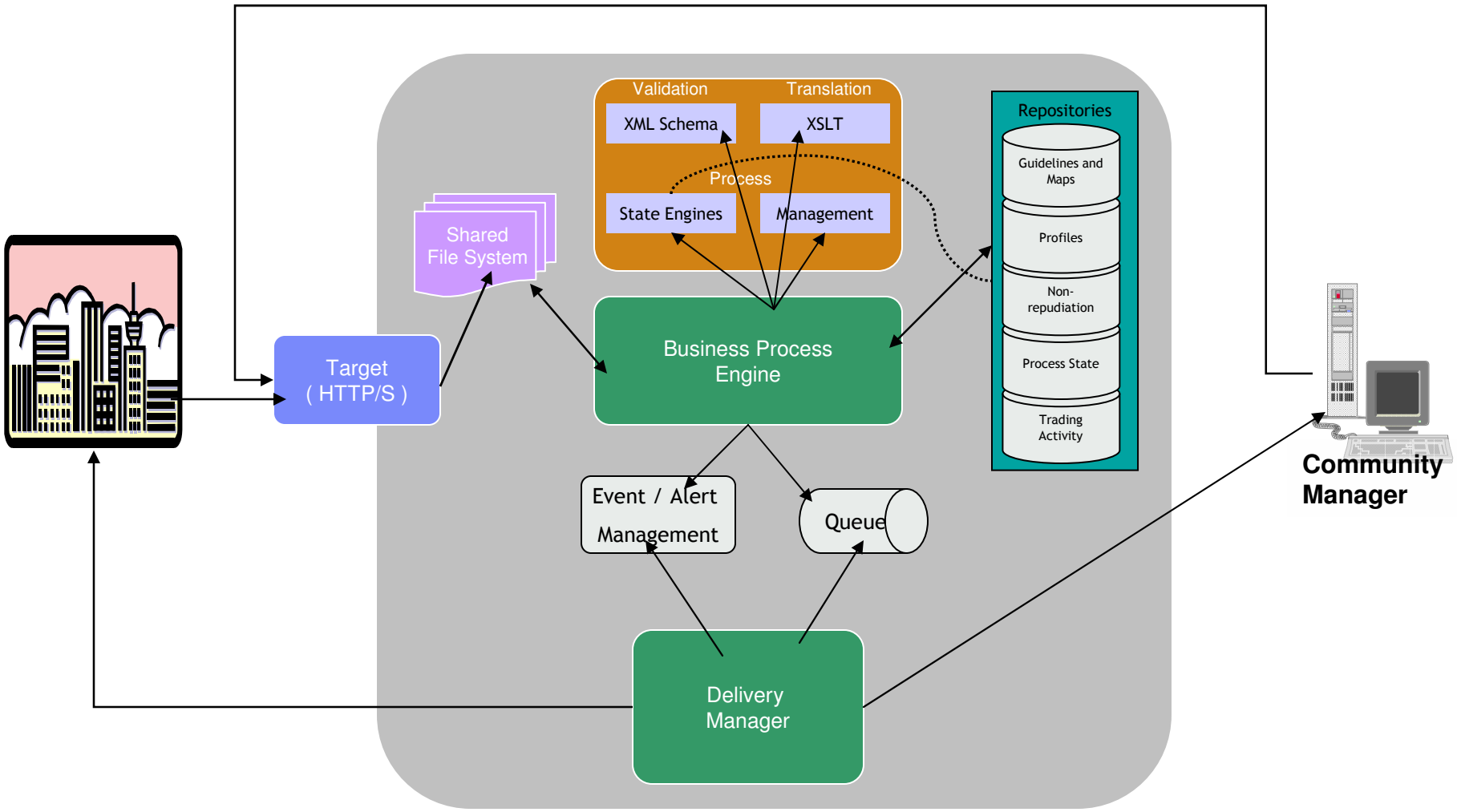
UCC and RosettaNet have had a common vision regarding convergence and interoperability to provide value for their respective industries.

- The two organizations plan to work jointly on a collaborative B2B architecture to support multiple industry domains, leveraging best practices and standards that both organizations have developed to date.
- UCC/RosettaNet merger has been well received by community in general.
- Supply Chain Implementations across all Industry Segments like manufacturing, distribution, OEM, Logistics (focused on material location and movement) continue to accelerate particularly in Asia.
- Private networks with Decision Support Structures (HUBs) that aggregate responses to forecast changes and generate dislocations are gaining momentum in North America

RosettaNet and WebSphere BI Connect

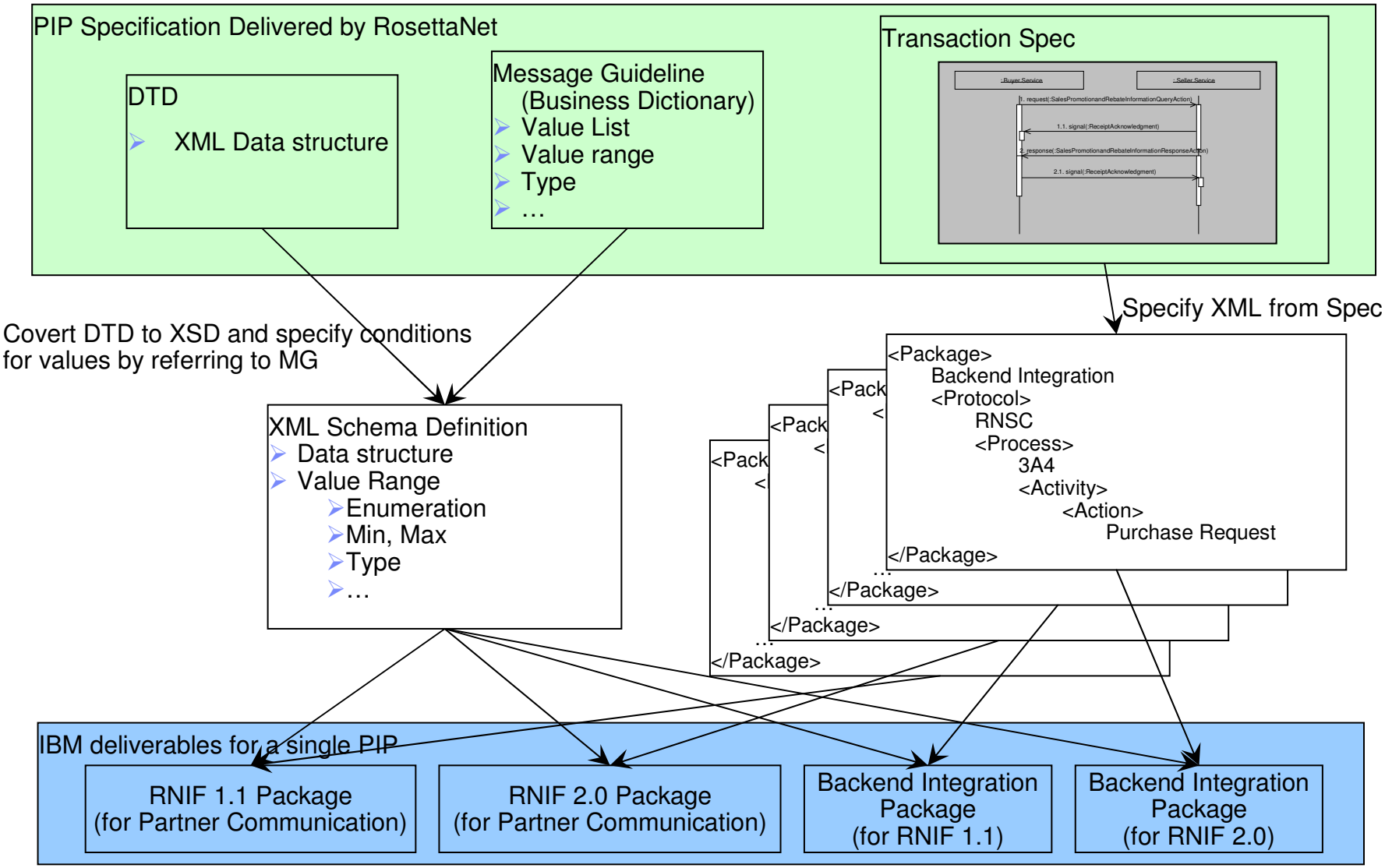
- RosettaNet is supported in the following WBI Connect Editions
  - Advanced
  - Enterprise
- Both RNIF 1.1 and RNIF 2.0 supported (No RNIF 2.0 SMTP support)
- 23 PIPs are supported today with WBIC 4.2.1
  - Two packages for each PIP
    - Partner Communication
    - Internal Integration (RNSC)
  - List of supported PIPs is growing
  - Additional utilities and methodologies to create custom PIPs

WebSphere BI Connect – RosettaNet Architecture



WebSphere Business Integration Connect

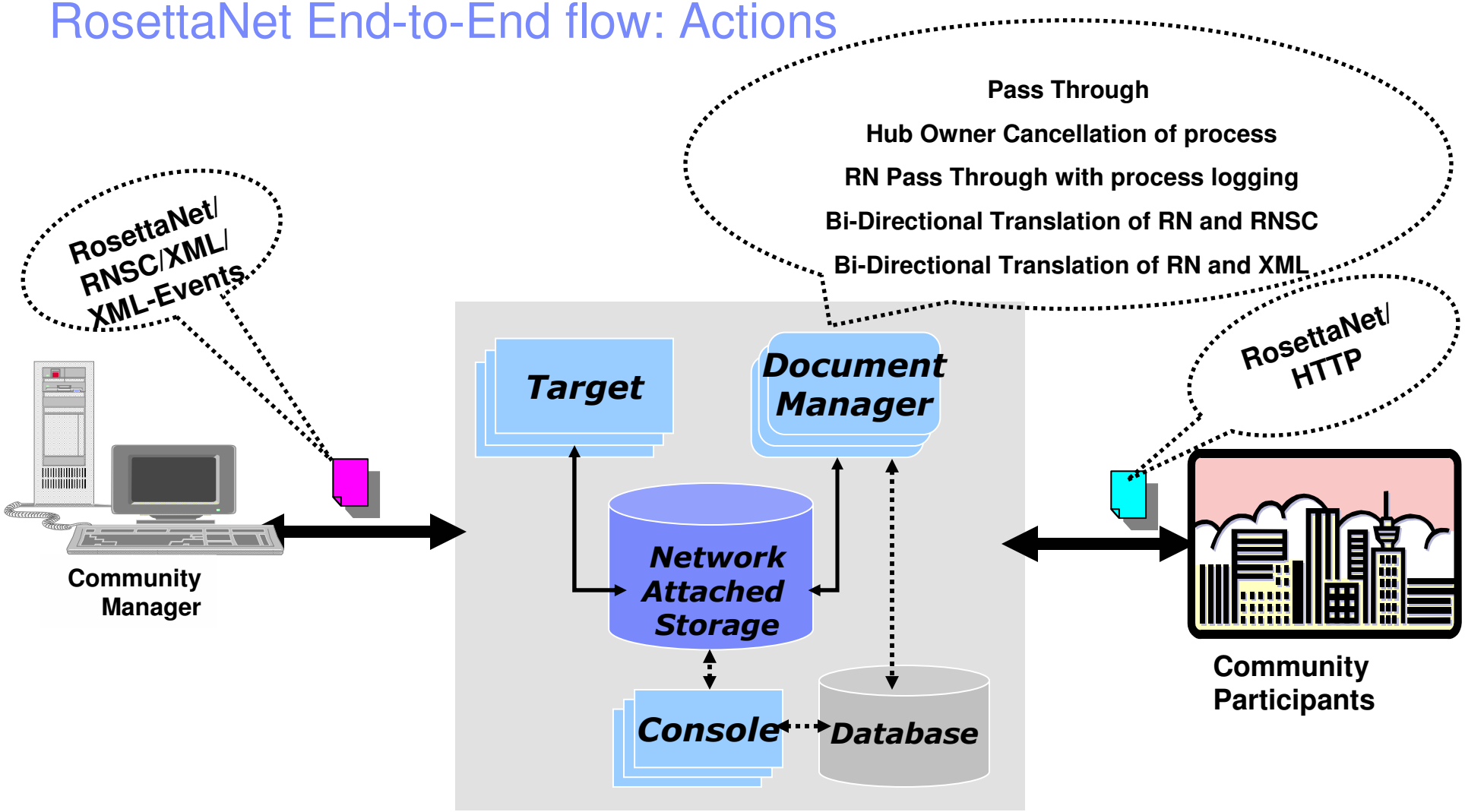
RosettaNet PIPs



RosettaNet PIPs Release Contents

PIP			
ID	Version		Description
2A12	V01.03	Single-action	Distribute Product Master
3A1	V02.00	Two-action	Request Quote
3A2	R02.01	Two-action	Request Price and Availability
3A4	V02.02	Two-action	Request Purchase Order
3A5	R02.00	Two-action	Query Order Status
3A6	V02.02	Single-action	Distribute Order Status
3A7	V02.02	Single-action	Notify of Purchase Order Update
3A8	V01.02	Two-action	Request Purchase Order Change
3A9	V01.01	Two-action	Request Purchase Order Cancellation
3B2	V01.01	Single-action	Notify of Advance Shipment
3C3	V01.01	Single-action	Notify of Invoice
3C4	V01.00	Single-action	Notify of Invoice Reject
3C6	V01.00	Single-action	Notify of Remittance Advice
3D8	V01.00	Single-action	Distribute Work in Process
4A1	V02.00	Single-action	Notify of Strategic Forecast
4A3	V02.00	Single-action	Notify of Threshold Release Forecast
4A5	V02.00	Single-action	Notify of Forecast Reply
4B2	V01.00	Single-action	Notify of Shipment Receipt
4C1	V02.03	Single-action	Distribute Inventory Report
5C1	V01.00	Single-action	Distribute Product List
5C4	V01.02	Single-action	Distribute Registration Status
5D1	V01.00	Two-action	Request Ship from Stock and Debit Authrization
7B1	V01.00	Single-action	Distribute Work in Process
0A1	1.0	Single-action	Notify of Failure
0A1	V02.00	Single-action	Notify of Failure

RosettaNet End-to-End flow: Actions



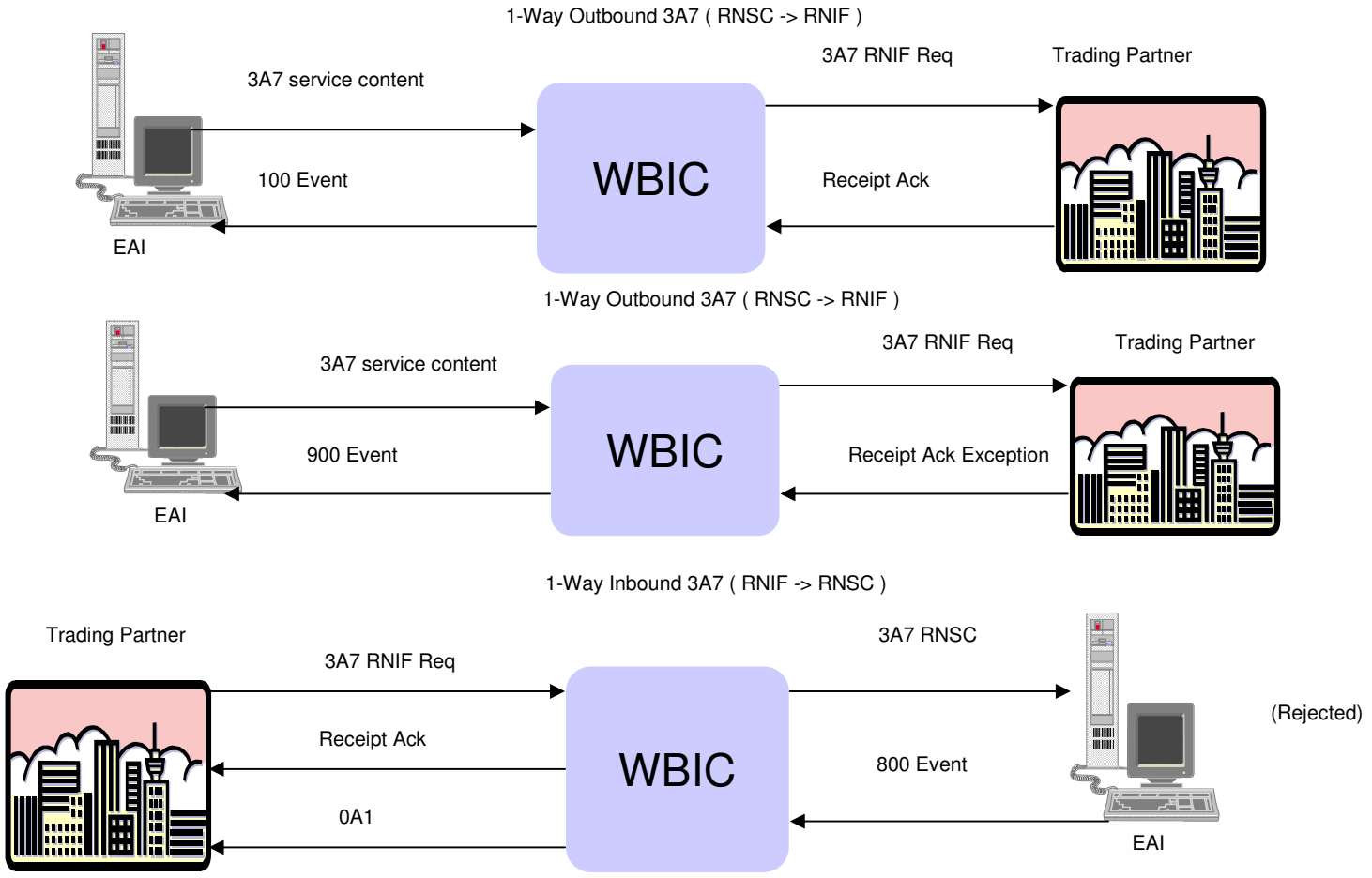
Actions and Message

- Pass Through
  - Community Manager: RosettaNet message
  - Community Participant: RosettaNet message
- RN Pass Through with process logging
  - Community Manager: RosettaNet message
  - Community Participant: RosettaNet message
- Bi-Directional Translation of RN and RNSC
  - Community Manager: RosettaNet Service content
  - Community Participant: RosettaNet message
- Bi-Directional Translation of RN and XML
  - Community Manager: XML
  - Community Participant: RosettaNet message

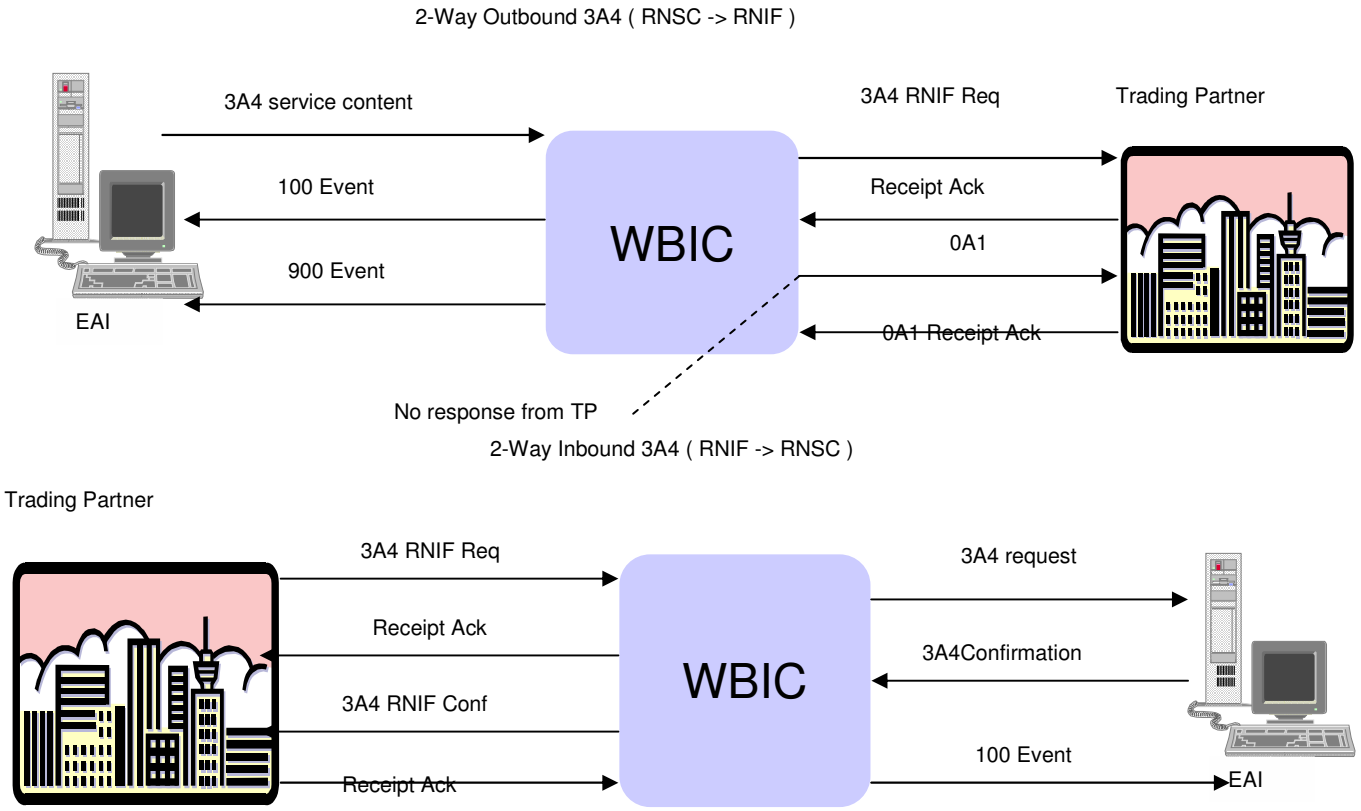
Integration with backend applications

- RosettaNet back end integration:
  - Community Manager
    - Packaging: Backend Integration packaging
    - Transport: HTTP, JMS
  - Message format depends on action configured in participant connection
- WebSphere Business Integration
  - JMS:
    - WBI JMS Adapter version 2.4.1 and above
    - EAI packaging requires special JMS headers
  - HTTP:
    - WBI servlet delivered with WebSphere Business Integration Connect
    - Servlet does not works with WebSphere Business Integration Interchange Server 4.2.2
    - XML Connector 3.0.0 and above
    - XML DataHandler 2.4.1 and above

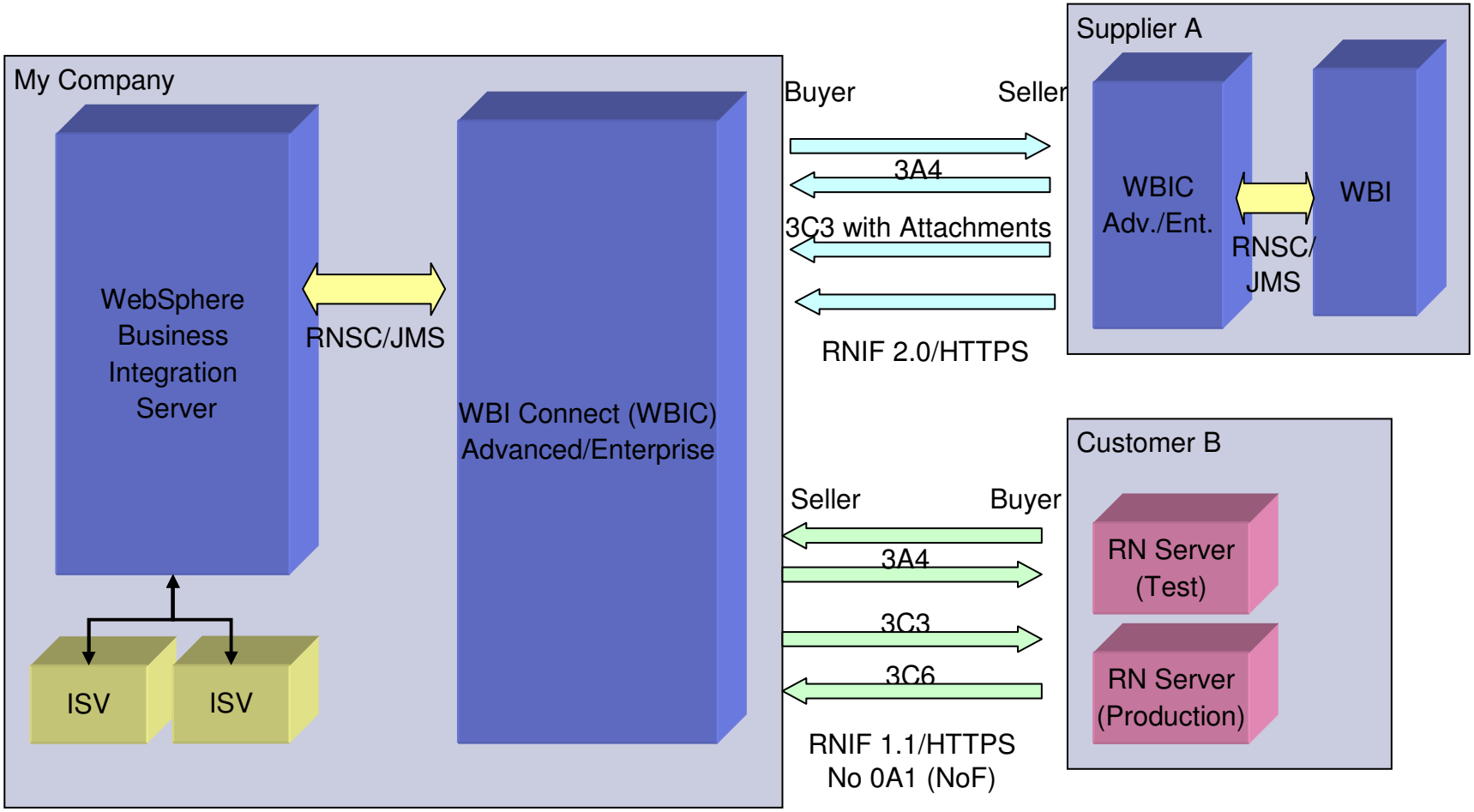
WebSphere Business Integration Connect – RosettaNet Events



WebSphere Business Integration Connect – RosettaNet Events Contd…



Trading Environment Scenario



Required Packages for Sample Trading

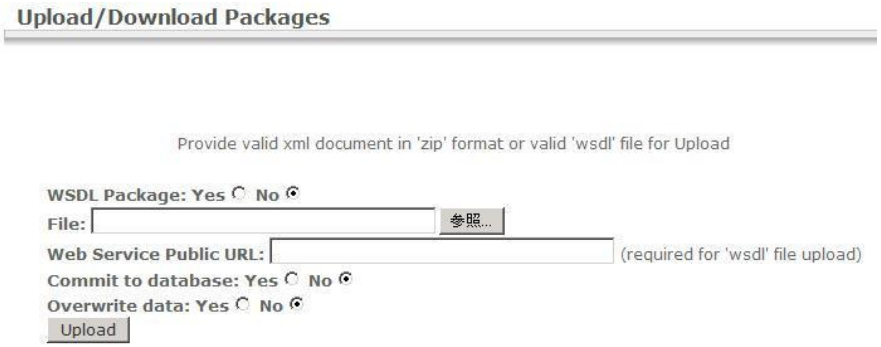
- Trading with Supplier A
  - RNIF 2.0
    - B2BIntegration\Package_RNIF_V02.00.zip
    - BCG_Package_RNIFV02.00_0A1V02.00.zip
    - BCG_Package_RNIFV02.00_3A4V02.02.zip
    - BCG_Package_RNIFV02.00_3C3V01.01.zip
  - RNSC for RNIF 2.0
    - B2BIntegration\Package_RNSC_1.0_RNIF_V02.00.zip
    - BCG_Package_RNSC1.0_RNIFV02.00_0A1V02.00.zip
    - BCG_Package_RNSC1.0_RNIFV02.00_3A4V02.02.zip
    - BCG_Package_RNSC1.0_RNIFV02.00_3C3V01.01.zip
- Trading with Customer B
  - RNIF 1.1
    - B2BIntegration\Package_RNIF_1.1.zip
    - BCG_Package_RNIF1.1_3A4V02.02.zip
    - BCG_Package_RNIF1.1_3C3V01.01.zip
    - BCG_Package_RNIF1.1_3C6V01.00.zip
  - RNSC for RNIF 1.1
    - B2BIntegration\Package_RNSC_1.0_RNIF_1.1.zip
    - BCG_Package_RNSC1.0_RNIF1.1_3A4V02.02.zip
    - BCG_Package_RNSC1.0_RNIF1.1_3C3V01.01.zip
    - BCG_Package_RNSC1.0_RNIF1.1_3C6V01.00.zip

Overview of Steps to Set up RosettaNet connection

1. Upload RNIF, RNSC and PIP packages for document flow definition
2. Define Interactions between source and target document flow
3. Configure security certificate for the partners and the community manager
4. Enable B2B capability for each partner
5. Enable Participant Connections (Channels) between trading partners
6. Change the RN attributes for the channel

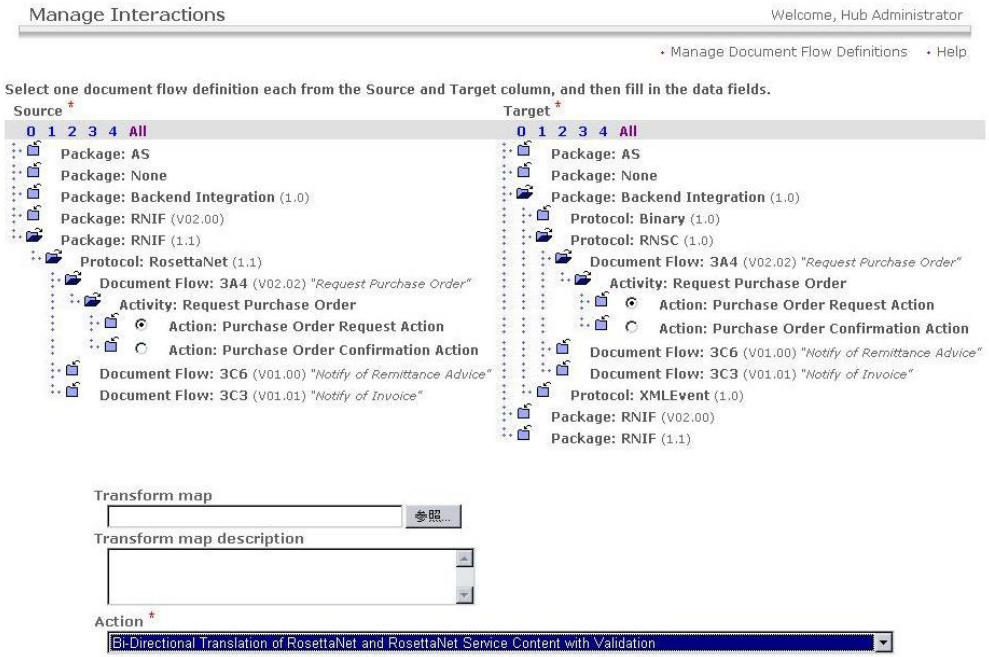
Document Flow Definitions for Hub Admin

Status	Actions	Document Flow Definitions 0 1 2 3 4 All
Enabled		Package: AS
Enabled		Package: None
Enabled		Package: Backend Integration (1.0)
Enabled		Protocol: Binary (1.0)
Enabled		Protocol: RNSC (1.0)
Enabled		Document Flow: 3A4 (V02.02) "Request Purchase Order"
Enabled		Document Flow: 3C3 (V01.01) "Notify of Invoice"
Enabled		Protocol: XMLEvent (1.0)
Enabled		Package: RNIF (V02.00)
Enabled		Protocol: RosettaNet (V02.00)
Enabled		Document Flow: 3A4 (V02.02) "Request Purchase Order"
Enabled		Document Flow: 3C3 (V01.01) "Notify of Invoice"
Enabled		Package: RNIF (1.1)
Enabled		Protocol: RosettaNet (1.1)
Enabled		Document Flow: 3A4 (V02.02) "Request Purchase Order"
Enabled		Document Flow: 3C3 (V01.01) "Notify of Invoice"



- Login as Hub admin
- Open “Flow Definitions” of Hub Admin
- Select “Upload/Download Package”
- Select zip files to be installed
  - Notice: When “My Company” setup both RNSC for RNIF 1.1 and RNSC for RNIF 2.0, “Overwrite Data” flag for upload must be “No” for the package to be uploaded in the latter.
    - BCG_Package_RNSC1.0_RNIFV02.00_3A4V02.02.zip -- Overwrite Data “Yes”
    - BCG_Package_RNSC1.0_RNIF1.1_3A4V02.02.zip -- Overwrite Data “No”

Configuration of Interactions
Inbound 3A4 Request Message



- Login as Hub admin
- Open “DocumentFlow Definitions” of Hub Admin
- Open “Manage Interactions” and select “Create Interaction”
- From Source expand “Package: RNIF1.1” , “Protocol: RosettaNet”, “Document Flow : 3A4”, select “Purchase Order Request Action” in activity.
  From target expand “Package: Backend Integration”, “Protocol: RNSC”, “Document Flow : 3A4”, select “Purchase Order Request Action” in activity.
- From Action list select “Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation” and save

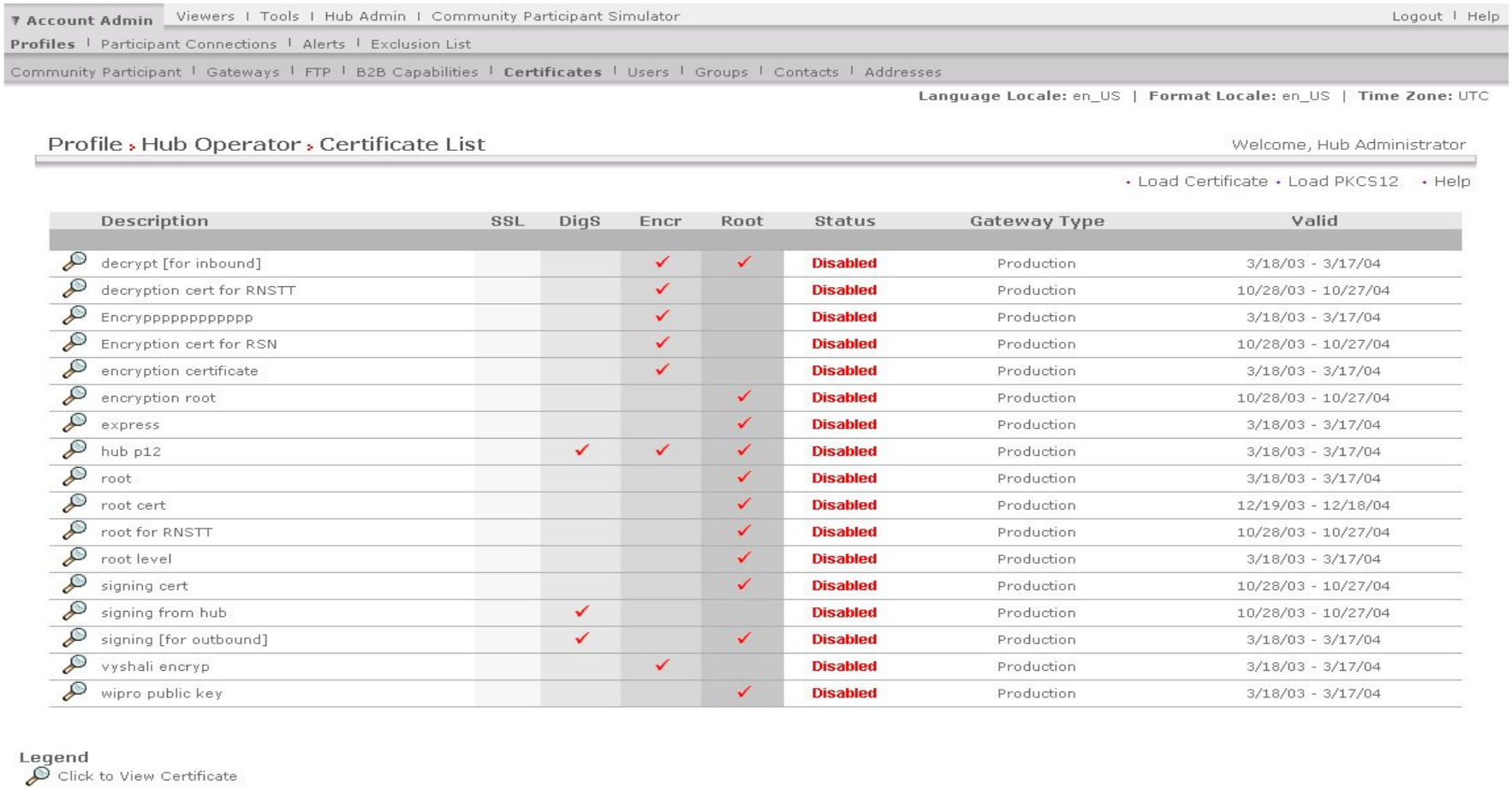
Interactions required for Sample Trading Environment

	Role	Source	Target	Action
Supplier A	3A4 (RNIF 2.0) Buyer	Backend Integration RNSC 3A4 Request Purchase Order Purchase Order Request Action	RNIF 2.0 RosettaNet V02.00 3A4 Request Purchase Order Purchase Order Request Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
		RNIF 2.0 RosettaNet V02.00 3A4 Request Purchase Order Purchase Order Confirmation Action	Backend Integration RNSC 3A4 Request Purchase Order Purchase Order Confirmation Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
	3C3 (RNIF 2.0) Invoice Receiver	RNIF 2.0 RosettaNet V02.00 3C3 Notify of Invoice Invoice Notification Action	Backend Integration RNSC 3C3 Notify of Invoice Invoice Notification Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
	0A1 (RNIF 2.0) PIP Failure Notifier	Backend Integration RNSC 0A1 Distribute Notification of Failure Failure Notification Action	RNIF 2.0 RosettaNet V02.00 0A1 Distribute Notification of Failure Failure Notification Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
	0A1 (RNIF 2.0) PIP Failure Report Administrator	RNIF 2.0 RosettaNet V02.00 0A1 Distribute Notification of Failure Failure Notification Action	Backend Integration RNSC 0A1 Distribute Notification of Failure Failure Notification Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation

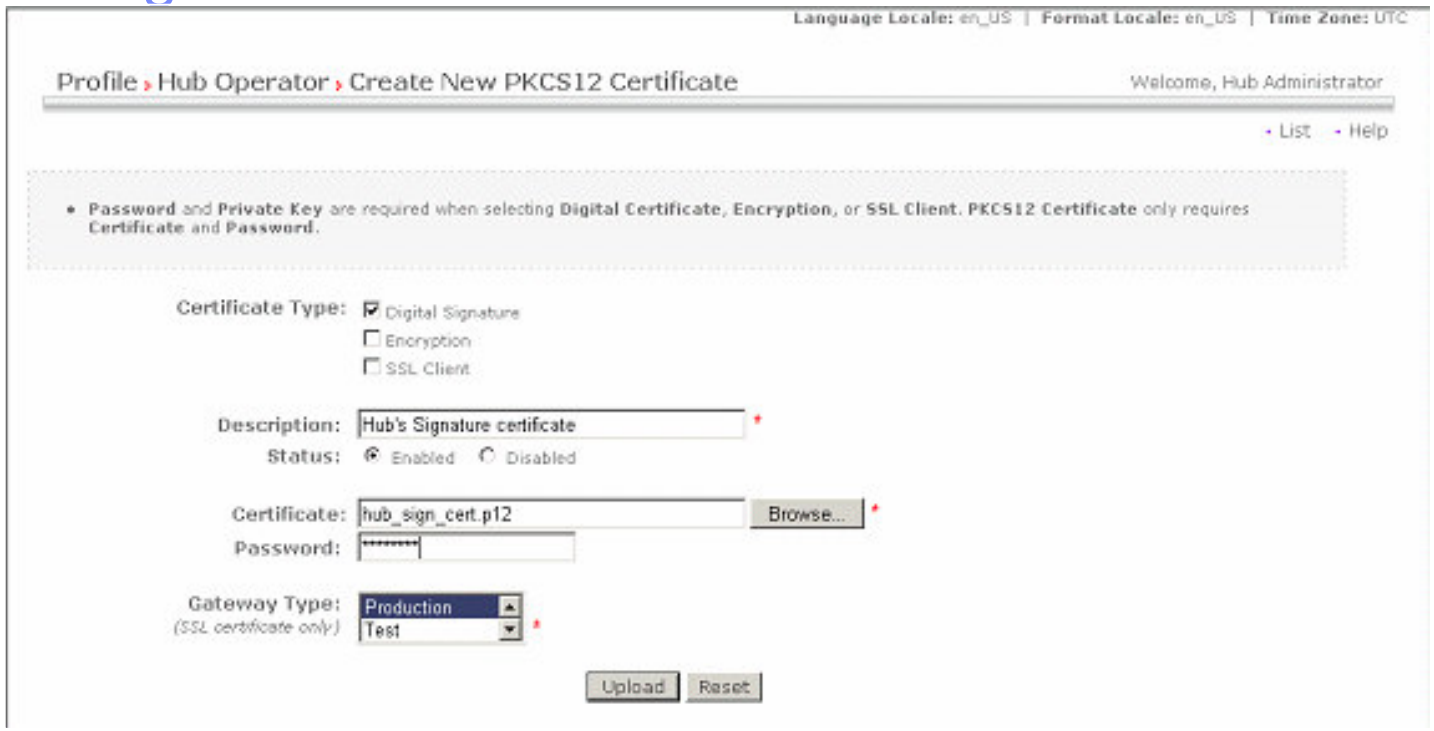
Interactions required for Sample Trading Environment (Cont'd)

	Role	Source	Target	Action
Customer B	3A4 (RNIF 1.1) Seller	➢RNIF 1.1 ▸RosettaNet 1.1 ➢3A4 ➢Request Purchase Order ➢Purchase Order Request Action	➢Backend Integration ▸RNSC ➢3A4 ➢Request Purchase Order ➢Purchase Order Request Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
		➢Backend Integration ▸RNSC ➢3A4 ➢Request Purchase Order ➢Purchase Order Confirmation Action	➢RNIF 1.1 ▸RosettaNet 1.1 ➢3A4 ➢Request Purchase Order ➢Purchase Order Confirmation Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
	3C3 (RNIF 1.1) Invoice Provider	Backend Integration ▸RNSC ➢3C3 ➢Notify of Invoice ➢Invoice Notification Action	➢RNIF 1.1 ▸RosettaNet 1.1 ➢3C3 ➢Notify of Invoice ➢Invoice Notification Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation
	3C6 (RNIF 1.1) Payee	➢RNIF 1.1 ▸RosettaNet 1.1 ➢3C6 ➢Notify of Remittance Advice ➢Remittance Advice Notification Action	➢Backend Integration ▸RNSC ➢3C6 ➢Notify of Remittance Advice ➢Remittance Advice Notification Action	Bi-Directional Translation of RosettaNet and RosettaNet Service Contents with Validation

WebSphere Business Integration Connect – Security Configuration for Hub Operator



WebSphere Business Integration Connect – Security Configuration for Hub Admin

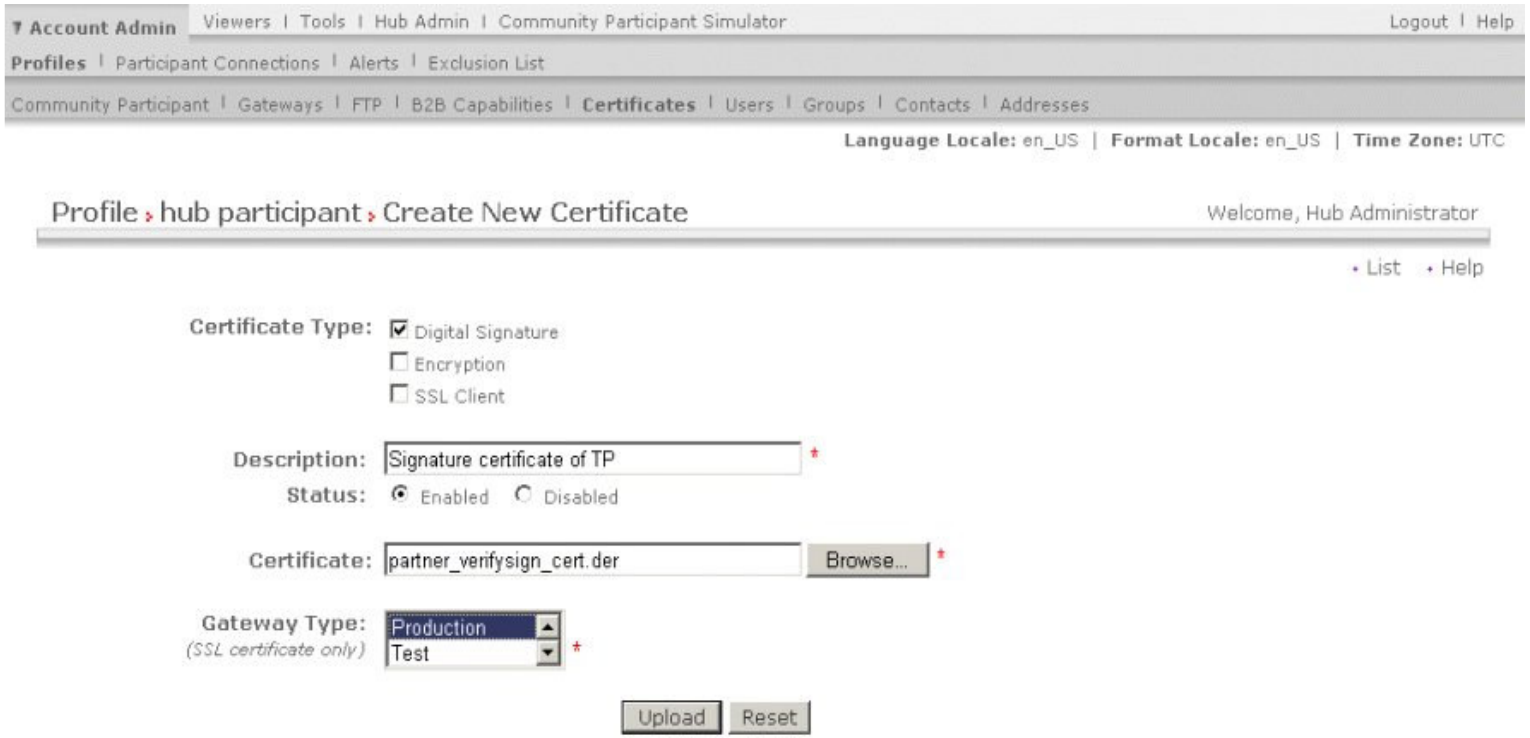


- Login as Hub admin
- Open Hub Operator -> Certificates, click on 'Load PKCS12' to load sign certificate
- Select Certificate Type as 'Digital Signature', load private certificate and password
- Select Gateway and Upload
- Same certificate can be used for Encryption, SSL Client authentication. Different certifications can be used , uploading them separately

WebSphere Business Integration Connect – Security Configuration Cont'd…

- Login as Hub admin
- Open Hub Operator -> Certificates,
- Select Certificate Type as 'Root Certificate', Load Community Participant root certificate which is used for signature verification
- Select Gateway and Upload

WebSphere Business Integration Connect – Security Configuration for Community Participant



- Login as Hub admin
- Open hub participant -> Certificates,
- Select Certificate Type as ‘Digital Signature’, Load Community Participant Public Certificate which is used for signature verification.
- Select Gateway and Upload
- Use the same screen to upload public certificate of partner for encryption

Set up for B2B Capabilities

- For “My Company”

Set Source	Set Target	Enabled	Edit	Document Flow Definition (0 1 2 3 4 All)
				Package: AS
				Package: None
✓	✓	Enabled		Package: Backend Integration (1.0)
✗	✗	Disabled		Protocol: Binary (1.0)
✓	✓	Enabled		Protocol: RNSC (1.0)
✓	✓	Enabled		Document Flow: 3A4 (V02.02)
✓	✓	Enabled		Document Flow: 3C6 (V01.00)
✓	✓	Enabled		Document Flow: 3C3 (V01.01)
✓	✓	Enabled		Protocol: XMLEvent (1.0)
				Package: RNIF (V02.00)
				Package: RNIF (1.1)

- For “Supplier A”

Set Source	Set Target	Enabled	Edit	Document Flow Definition (0 1 2 3 4 All)
				Package: AS
				Package: None
				Package: Backend Integration (1.0)
✓	✓	Enabled		Package: RNIF (V02.00)
✓	✓	Enabled		Protocol: RosettaNet (V02.00)
	✓	Enabled		Document Flow: 3A4 (V02.02)
✓		Enabled		Document Flow: 3C3 (V01.01)
				Package: RNIF (1.1)

- For “Customer B”

Set Source	Set Target	Enabled	Edit	Document Flow Definition (0 1 2 3 4 All)
				Package: AS
				Package: None
				Package: Backend Integration (1.0)
				Package: RNIF (V02.00)
✓	✓	Enabled		Package: RNIF (1.1)
✓	✓	Enabled		Protocol: RosettaNet (1.1)
✓		Enabled		Document Flow: 3A4 (V02.02)
	✓	Enabled		Document Flow: 3C6 (V01.00)
✓		Enabled		Document Flow: 3C3 (V01.01)

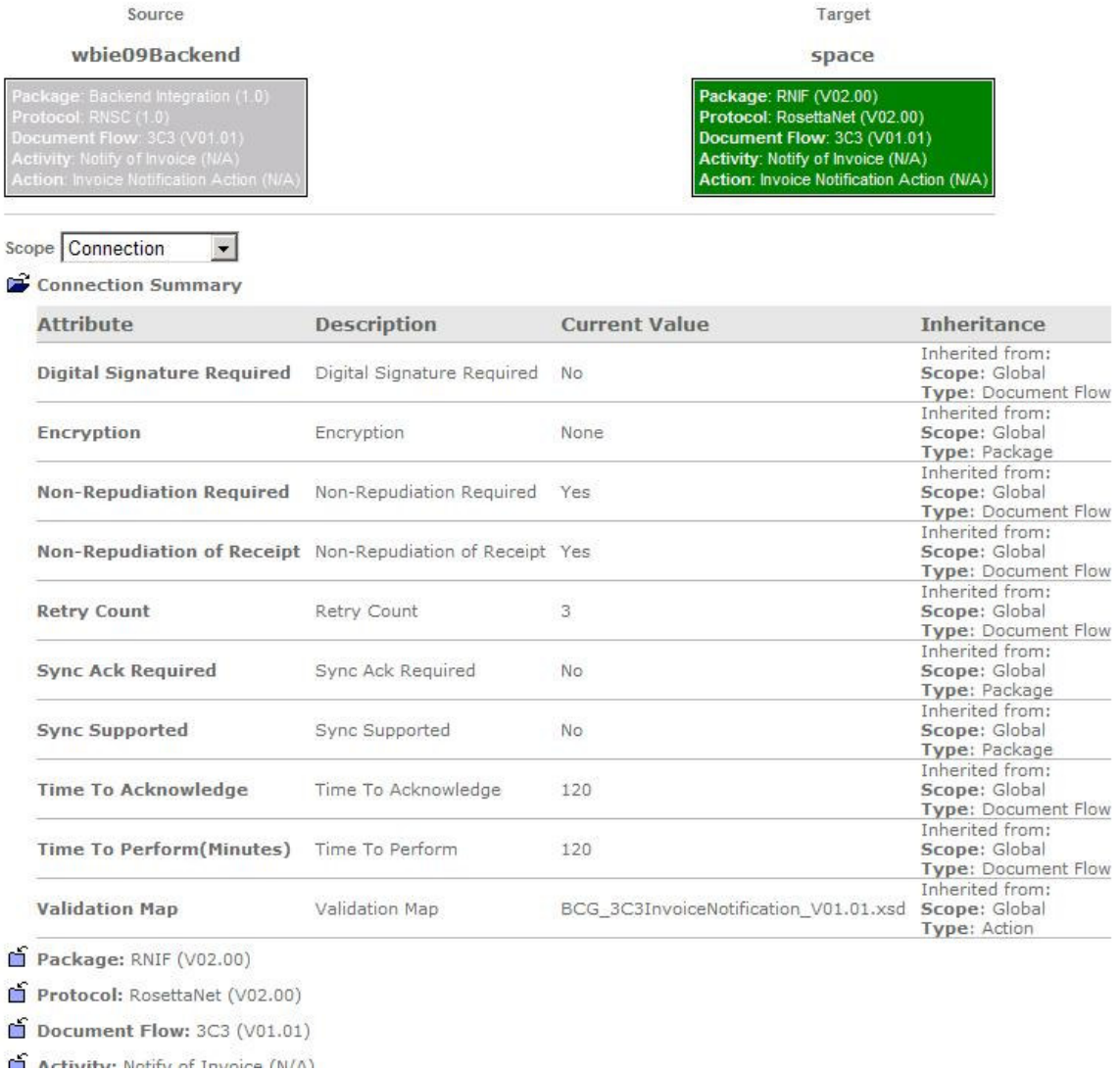
Set up Participant Connections

Source: My Company	Target: Supplier A
Package: Backend Integration (1.0) Protocol: RNSC (1.0) Document Flow: 3A4 (V02.02) Activity: Request Purchase Order (N/A) Action: Purchase Order Request Action (N/A)	Package: RNIF (V02.00) Protocol: RosettaNet (V02.00) Document Flow: 3A4 (V02.02) Activity: Request Purchase Order (N/A) Action: Purchase Order Request Action (N/A)
Source: Supplier A	**Target: My Company**
Package: RNIF (V02.00) Protocol: RosettaNet (V02.00) Document Flow: 3A4 (V02.02) Activity: Request Purchase Order (N/A) Action: Purchase Order Confirmation Action (N/A)	Package: Backend Integration (1.0) Protocol: RNSC (1.0) Document Flow: 3A4 (V02.02) Activity: Request Purchase Order (N/A) Action: Purchase Order Confirmation Action (N/A)
Package: RNIF (V02.00) Protocol: RosettaNet (V02.00) Document Flow: 3C3 (V01.01) Activity: Notify of Invoice (N/A) Action: Invoice Notification Action (N/A)	Package: Backend Integration (1.0) Protocol: RNSC (1.0) Document Flow: 3C3 (V01.01) Activity: Notify of Invoice (N/A) Action: Invoice Notification Action (N/A)

- Configurable Participant Connections are automatically generated by using Document flow interactions and B2B capability of the participants.
- Individual connections are composed of four components: attributes, action, gateway, and gateway type. They are modified for each connection.

Changing RNIF Attributes

- Default values for RNIF Attributes are defined in document flow package
- Attributes values are changed for each Connection
  - PIP transactions with different companies may have different attributes
  - PIP transactions on different GW type (Test, Production) may have different attributes



Source

wbie09Backend

Package: Backend Integration (1.0)
Protocol: RNSC (1.0)
Document Flow: 3C3 (V01.01)
Activity: Notify of Invoice (N/A)
Action: Invoice Notification Action (N/A)

Target

space

Package: RNIF (V02.00)
Protocol: RosettaNet (V02.00)
Document Flow: 3C3 (V01.01)
Activity: Notify of Invoice (N/A)
Action: Invoice Notification Action (N/A)

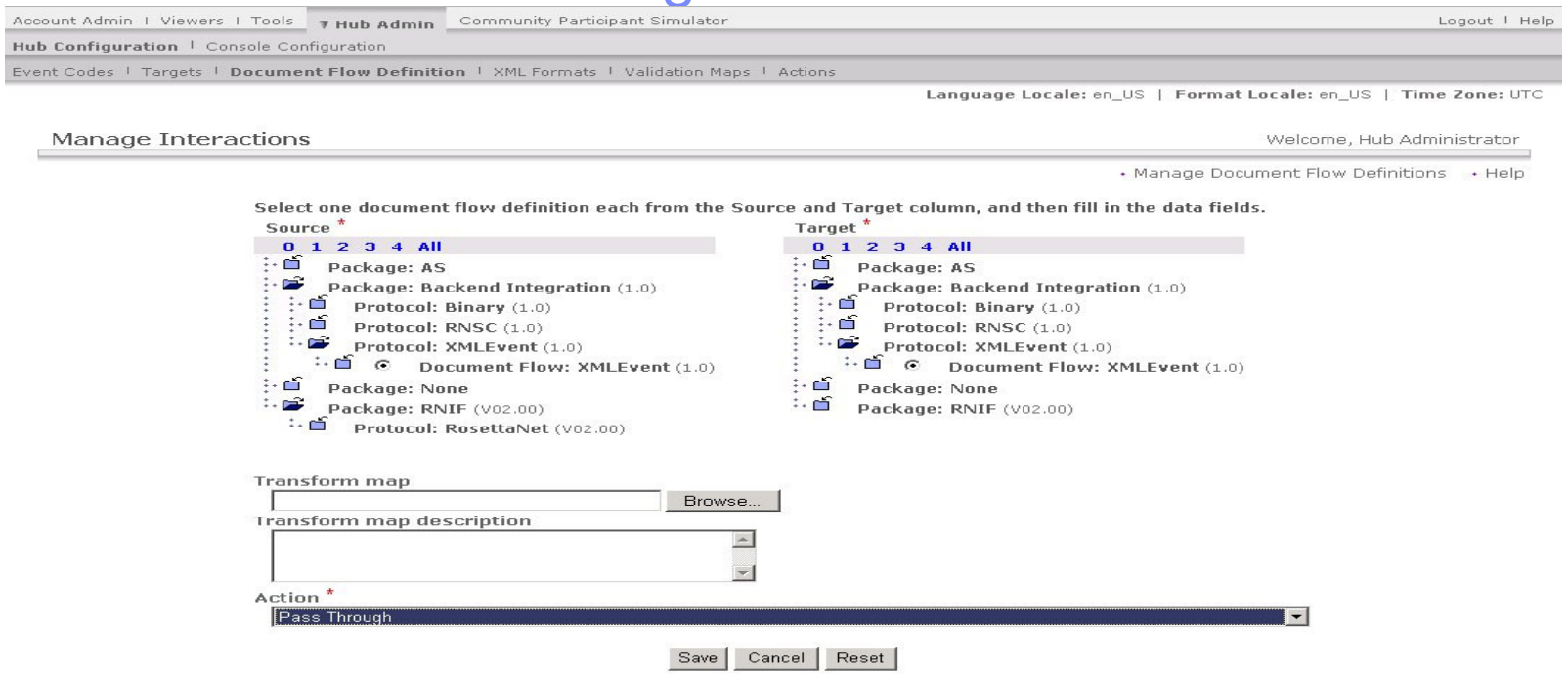
Scope: Connection

Connection Summary

Attribute	Description	Current Value	Inheritance
Digital Signature Required	Digital Signature Required	No	Inherited from: Scope: Global Type: Document Flow
Encryption	Encryption	None	Inherited from: Scope: Global Type: Package
Non-Repudiation Required	Non-Repudiation Required	Yes	Inherited from: Scope: Global Type: Document Flow
Non-Repudiation of Receipt	Non-Repudiation of Receipt	Yes	Inherited from: Scope: Global Type: Document Flow
Retry Count	Retry Count	3	Inherited from: Scope: Global Type: Document Flow
Sync Ack Required	Sync Ack Required	No	Inherited from: Scope: Global Type: Package
Sync Supported	Sync Supported	No	Inherited from: Scope: Global Type: Package
Time To Acknowledge	Time To Acknowledge	120	Inherited from: Scope: Global Type: Document Flow
Time To Perform(Minutes)	Time To Perform	120	Inherited from: Scope: Global Type: Document Flow
Validation Map	Validation Map	BCG_3C3InvoiceNotification_V01.01.xsd	Inherited from: Scope: Global Type: Action

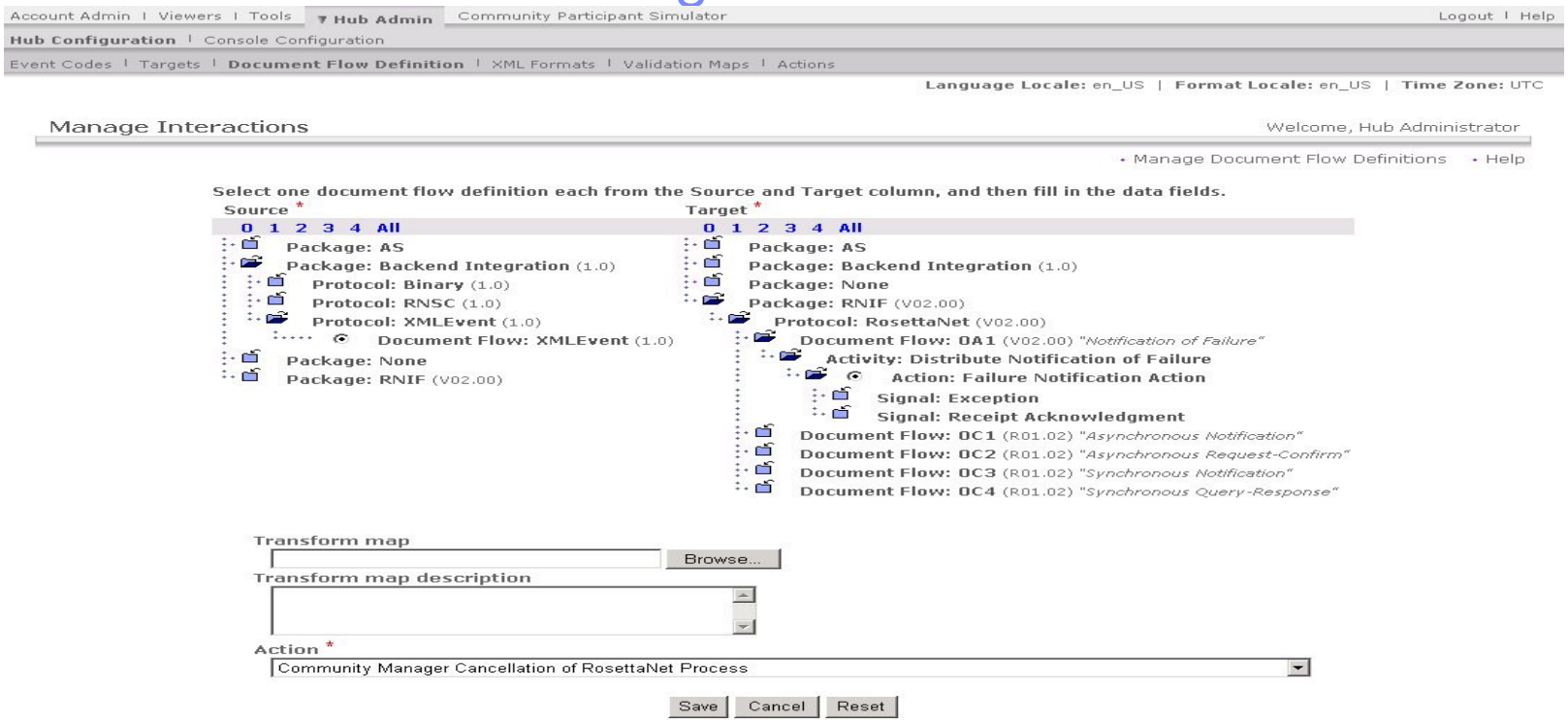
Package: RNIF (V02.00)
Protocol: RosettaNet (V02.00)
Document Flow: 3C3 (V01.01)
Activity: Notify of Invoice (N/A)

WebSphere Business Integration Connect – RosettaNet Events Configuration



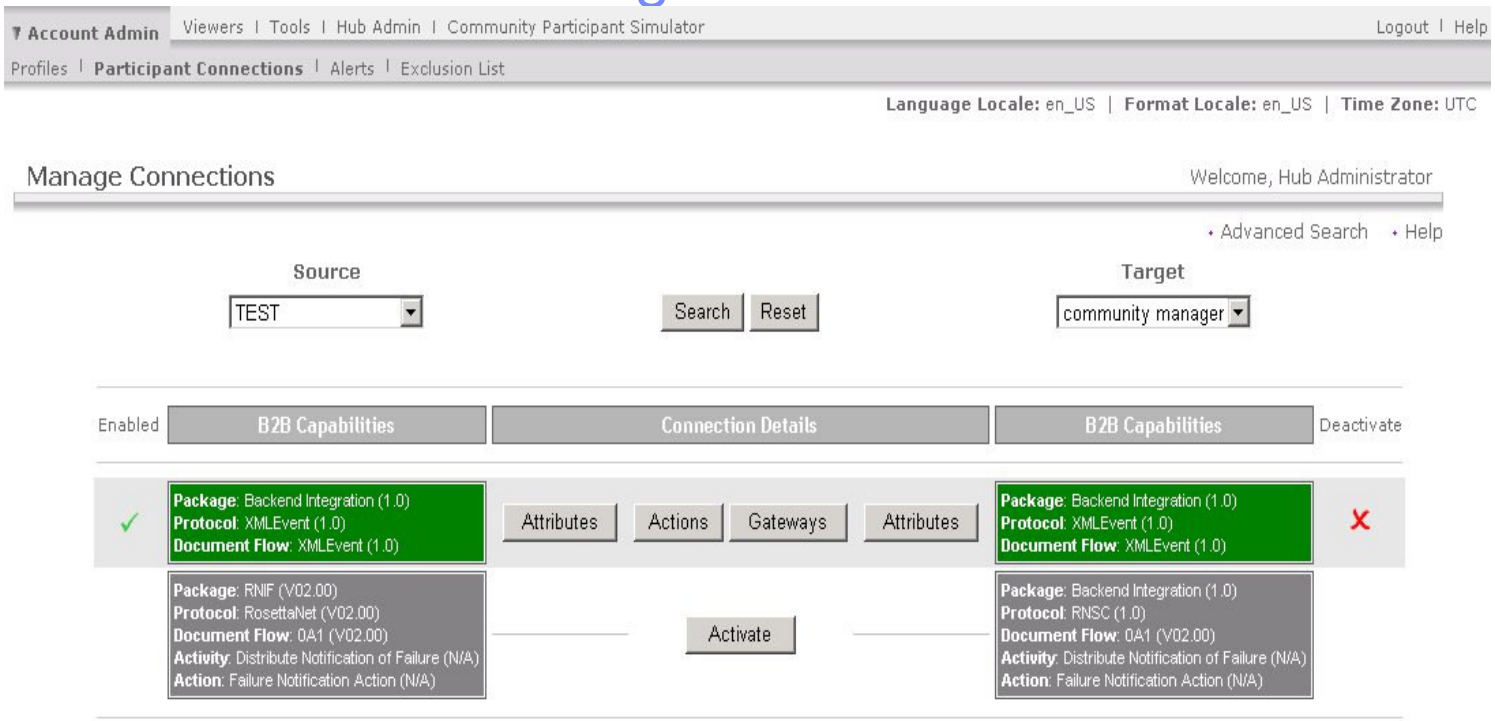
- Login as Hub admin
- Open “Document Flow Definitions” of Hub Admin
- Open “Manage Interactions” and select “Create Interaction”
- From Source expand “Package: Backend Integration” , select “Document Flow : XML Event”. From target expand “Package: Backend Integration”, select “Document Flow: XML Event
- From Action list select “Pass Through” and save

WebSphere Business Integration Connect – RosettaNet Events Configuration Contd…



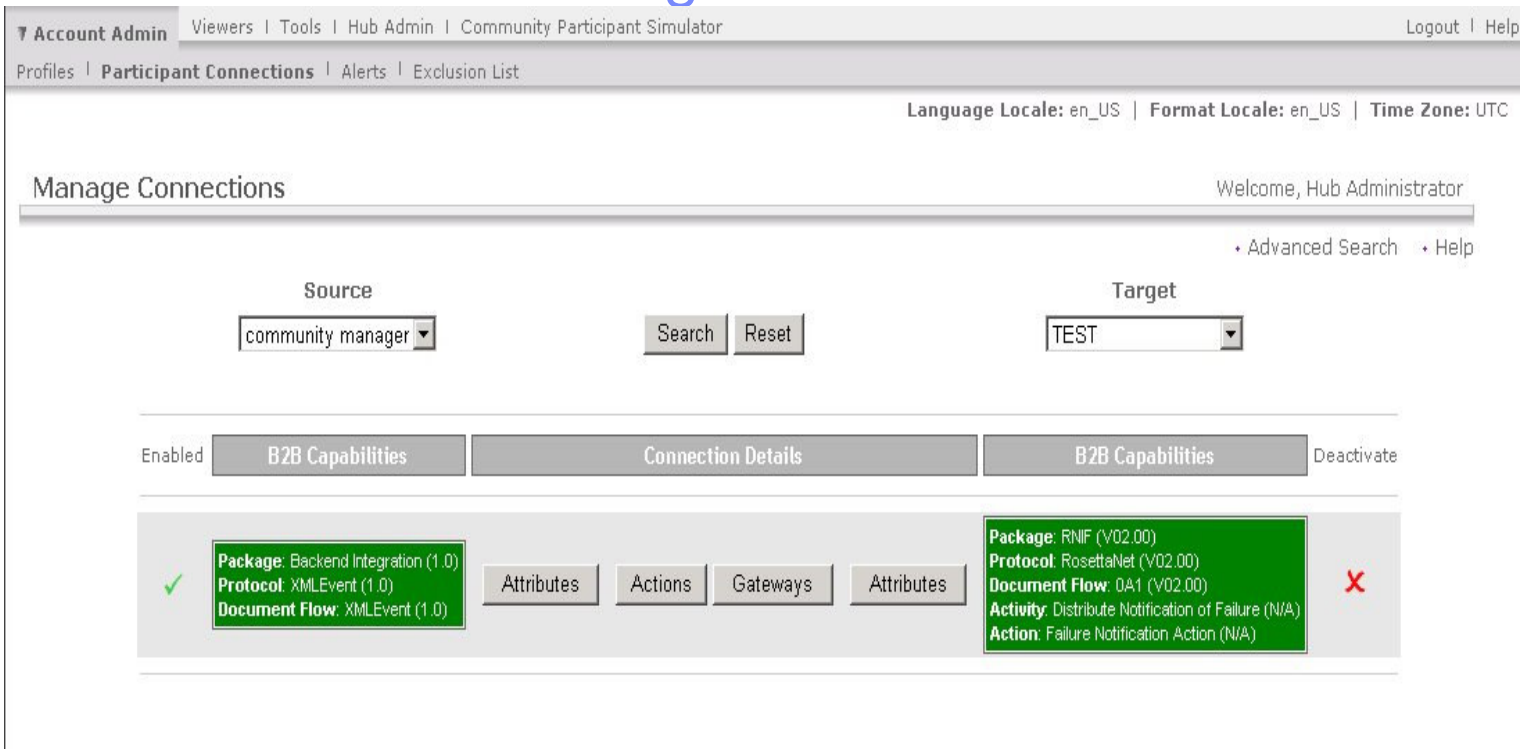
- Login as Hub admin
- Open “Document Flow Definitions” of Hub Admin
- Open “Manage Interactions” and select “Create Interaction”
- From Source expand “Package: Backend Integration” , select “Document Flow : XML Event”. From target expand “Package: RNIF ->Document Flow: 0A1”, select “Action: Failure Notification Action”
- From Action list select “Community Manager Cancellation of RosettaNet Process” and save

WebSphere Business Integration Connect – RosettaNet Events Configuration Contd…



- Login as Hub admin
- Open “Participant Connections” of Hub Admin
- Select “community participant “ in the source , “community manager” in the target and search possible connections.
- Active XML Event to XML Event connection
- This connection enables WBIC to send Event messages to EAI with possible event codes as ‘100’ or ‘900’

WebSphere Business Integration Connect – RosettaNet Events Configuration Contd…

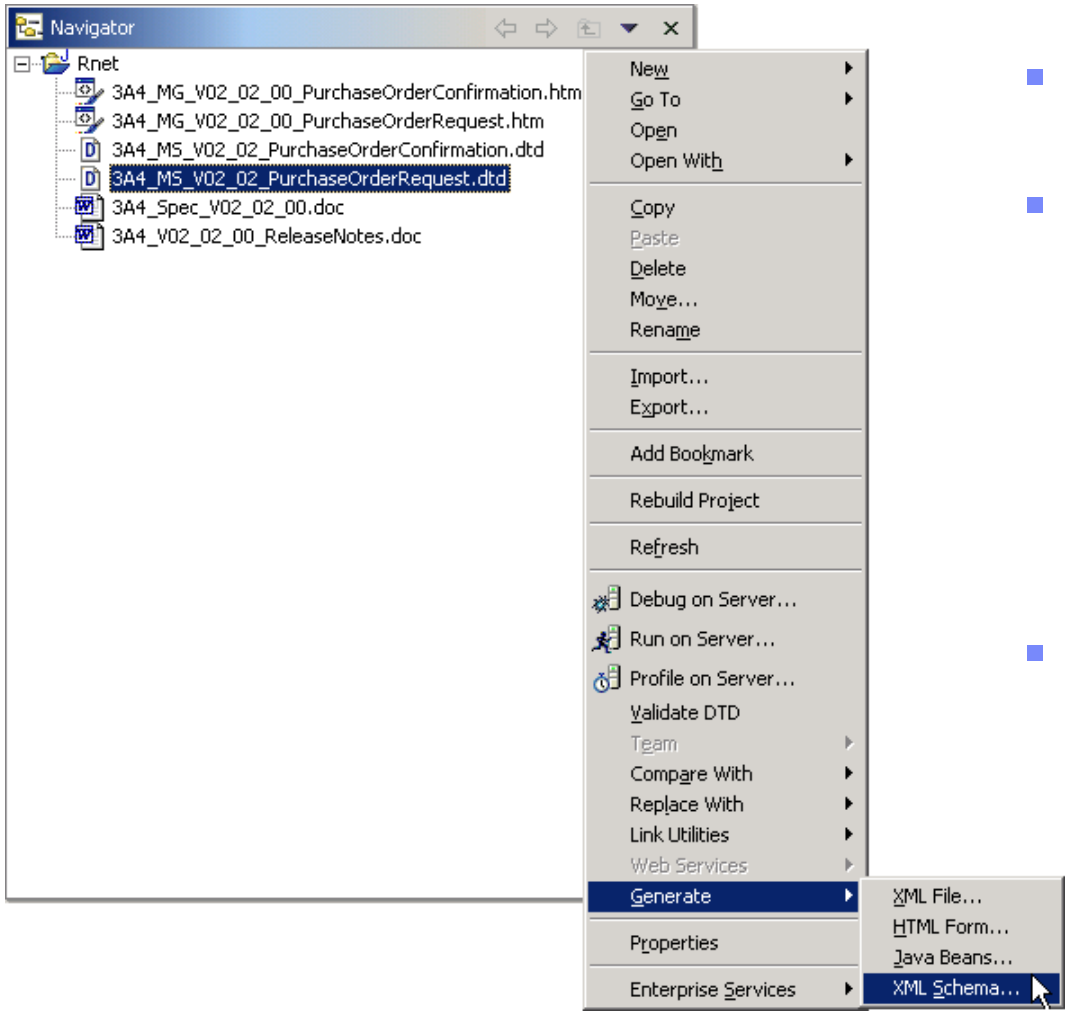


- Login as Hub admin
- Open “Participant Connections” of Hub Admin
- Select “community manager “ in the source , “community participant” in the target and search possible connections.
- Active XML Event to 0A1 connection
- This connection enables WBIC to send 0A1 message upon receiving 800/801 event from EAI

Custom PIPs

- Business Objects
- Development of “flows”/PIP Choreography

Business Objects: Conversion of XML DTD to XSD



- Import DTD to XML editor such as WSAD
- Convert DTD to XSD by using XML editor

- Manually modify the generated XML to satisfy rules defined in Message Guideline

Modification on Document Structure

1	1..n	DesignRegistrationInformation
2	0..1	|-- designEngagementDate.DatePeriod
3	1	| |-- beginDate.DateStamp
4	1	| |-- endDate.DateStamp
5	1	|-- DesignProjectInformation
6	0..n	| |-- DesignAssemblyInformation
7	0..1	| | |-- assemblyComments.FreeFormText
8	0..1	| | |-- demandCreatorTrackingIdentifier.ProprietaryReferenceIdentifier
9	0..n	| | |-- DesignPartInformation
10	1	| | | |-- demandCreatorTrackingIdentifier.ProprietaryReferenceIdentifier
11	0..1	| | | |-- GeographicRegion

Message structure definition in Message Guideline

- In several case, Elements defined in DTD are inconsistent with that defined in Guideline, because of the limitation of DTD.
  - Ex. PIP 5C4 V01.03

productProviderSalesRepresentative.ContactInformation

1	contactName
0..1	EmailAddress
0..1	facsimileNumber
0..1	PhysicalLocation
0..1	telephoneNumber

(fromRole.PartnerRoleDescription.ContactInformation)

1	contactName
1	EmailAddress
0..1	facsimileNumber
1	telephoneNumber

Add enumeration values

GlobalRegistrationComplexityLevelCode	lines 139
Entity Instances	
Above average	Above average complexity
Average	Average complexity
Maximum	Maximum complexity
Minimum	Minimal complexity
None	No complexity
Some	Some complexity

```
<xsd:simpleType name="_GlobalRegistrationComplexityLevelCode">
   <xsd:restriction base="xsd:string">
         <xsd:enumeration value="Above average"/>
         <xsd:enumeration value="Average"/>
         <xsd:enumeration value="Maximum"/>
         <xsd:enumeration value="Minimum"/>
         <xsd:enumeration value="None"/>
         <xsd:enumeration value="Some"/>
   </xsd:restriction>
</xsd:simpleType>
```

Add data type, range and value pattern

Fundamental Business Data Entities					
Name	**Definition**	**Data Type**	**Min**	**Max**	**Representation**
CommunicationsNumber	The electro-technical communication number, e.g., telephone number, facsimile number, pager number.	String	1	30	X(30)
DateStamp	Specifies a specific date. Date stamp based on the ISO 8601 specification. The "Z" following the day identifier (DD) is used to indicate Coordinated Universal Time. Informal format: YYYYMMDDZ	Date	9	9	9(8)X

```
<xsd:simpleType name="_common_DateStamp">
   <xsd:restriction base="xsd:string">
         <xsd:pattern value="[0-9]{8}Z" />
   </xsd:restriction>
</xsd:simpleType>
```

Develop XML for Package Definitions (PIP Choreography)

1. Identify the collaboration pattern for the new PIPs
   - Single Action & two Action
   - Synchronous & Asynchronous
2. Collect information for the PIP Specification
3. Develop XML
   - Use existing XML as the template
     - Single-action Asynchronous
     - Two-action Asynchronous

Information required to define XML for Package

Item	Description	Refer	Example in case PIP 5C4 V01.03
PIP ID	Identifier of the PIP	Cover Page of the PIP Spec	5C4
Version	Version Number of the PIP	Cover Page of the PIP Spec	V01.03
DTD Name for Request Message	DTD file name for the request message without extension	DTD name included in the ZIP for the Spec	5C4_MS_V01_03_RegistrationStatusNotification
DTD Name for Response Message	DTD file name for the Response message without extension	DTD name included in the ZIP for the Spec	N/A
XSD Name for Request Message	XSD file name for the request message which defines the root element of the message		BCG_5C4RegistrationStatusNotification_V01.03
XSD Name for Request Message	XSD file name for the response message which defines the root element of the message		N/A
Root Element name for the request message	Name for the root element for the request message	Define in DTD	Pip5C4RegistrationStatusNotification
Root Element name for the response message	Name of the root element for the response message	Define in DTD	N/A

Information required to define XML for Package (cont'd)

Item	Description	Refer	Example in case PIP 5C4 V01.03
Activity Name	The name of PIP which is stored in the message as GlobalProcessCode	The Name of PIP specified in the cover sheet of the spec	Distribute Registration Status
Initiator Role Name	Role of the trading partner who initiates this PIP	"Role Names" in the Partner Role Description table	Product Provider
Responder Role Name	Role of the trading partner who responds this PIP		Demand Creator
Initiator Service Name	Service Name of the partner who initiates this PIP	"Service Names" in the Network Component Specification	Product Provider Service
Responder Service Name	Service Name of the Partner who respond this PIP		Demand Creator Service
Request Action Name	Name of Action which produce Request Message. This is Stored in GlobalBusinessActionCode of the request message	Business Actions specified in the table containing the Business Action – Business Document Mapping in FSV	Registration Status Notification
Respond Action Name	Name of Action which produce Response Message. This is Stored in GlobalBusinessActionCode of the Response message (two action PIP only)		N/A
Attributes for Messaging	Attributes for messaging, such as Digital Signature, TimeToAck, TimetoPerform, and NonRepudiation	Message Exchange Control Table in Specification	

Recommendation to start new PIP development

- PIP development is explained in “Administration Guide” with example.
- Existing PIP package will be used as template for New PIP development
  - Single-action PIP
  - Two-action PIP
- PIP Package contains XSDs which define commonly used data types, such as Currency Code, Unit of Measure Code, and DateTimeStamp.

Customization of Predefined PIPs package

- XSD Customization may be required for the customer's requirements
  - Add additional enumeration values for an element
  - Remove type checks on an element
  - Add patterns of data to a specific element
  - …
- Steps to customize PIP package
  - Download the registered PIP Package by using Upload/Download Interface of Console
  - Modify XSDs by using XML Editor (WebSphere Studio or other)
  - Upload modified XSDs to replace

Summary

- The origin/intent of the RosettaNet solution architecture is built on a shared public process model
- The RNIF (RosettaNet Implementation Framework) provides the Transport, Routing and Packaging
- The RosettaNet PIPs (Partner Interface Processes) provide the definition of common objects and conversational process support
- WebSphere BI Connect implements RosettaNet through integration of the RNIF and PIPs to support B2B interactions over RosettaNet

Demo Overview

Overview of Steps to Set up RosettaNet connection

1. Upload RNIF, RNSC and PIP packages for document flow definition
2. Define Interactions between source and target document flow
3. Configure security certificate for the partners and the community manager
4. Enable B2B capability for each partner
5. Enable Participant Connections (Channels) between trading partners
6. Change the RN attributes for the channel