



IBM Software Group

2004 WDI / WBIC Customer Conference

Global Business Transformation

WebSphere. software

Extensibility of WBIC
Rayne Anderson

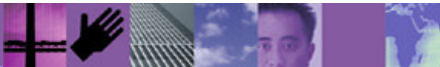


 e-business software

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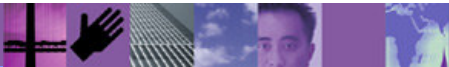
Agenda

- What can be extended
- Overview of WBIC components and flows
- Console configuration examples
- Programming interfaces



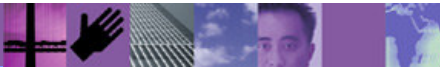
Agenda

- ***What can be extended***
- Overview of WBIC components and flows
- Console configuration examples
- Programming interfaces



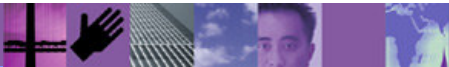
Extensibility Points

- Add new transports
- Modify the support for existing transports.
- Add new business protocols.
- Modify the support for existing business protocols.

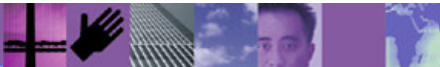
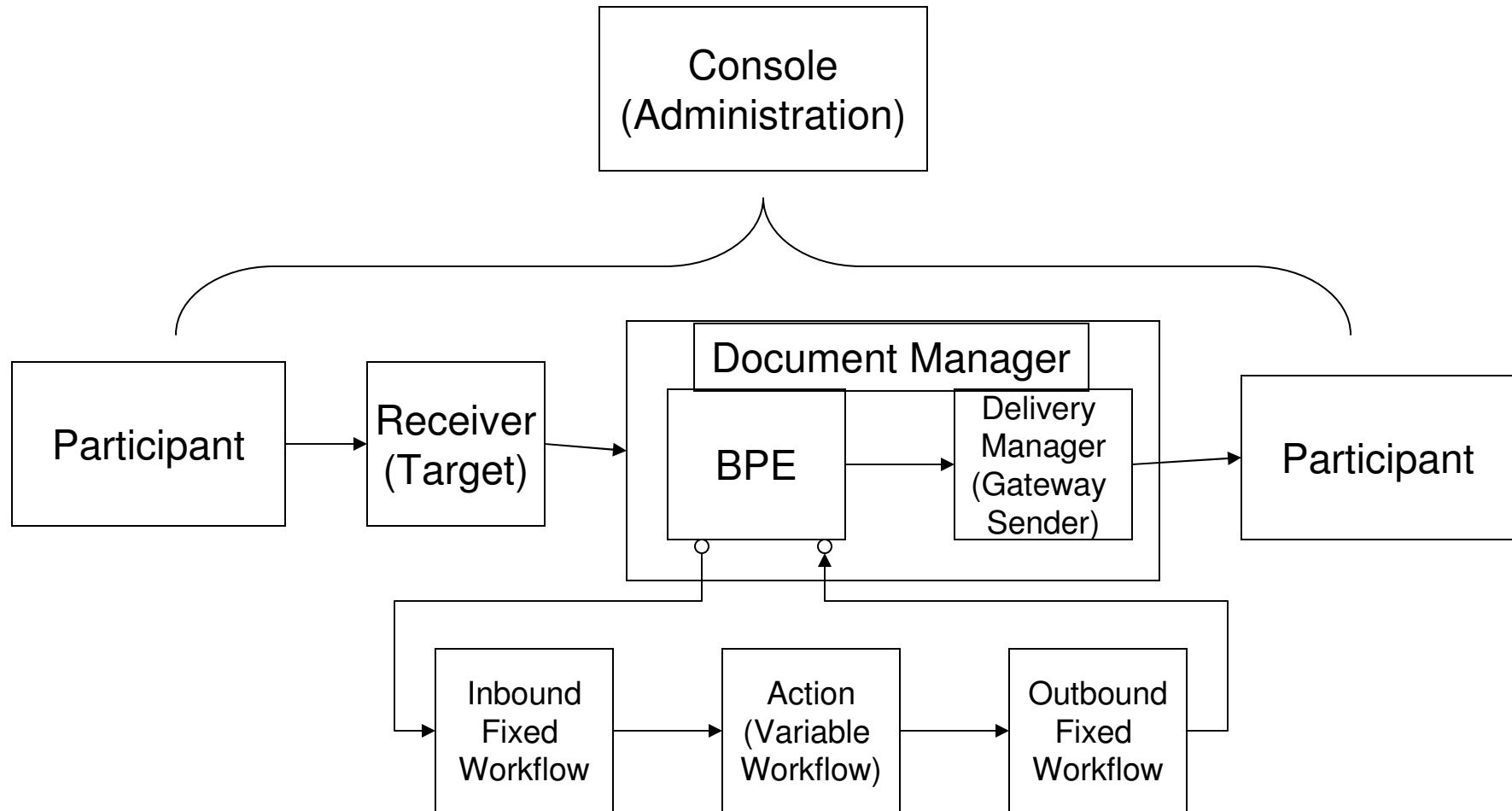


Agenda

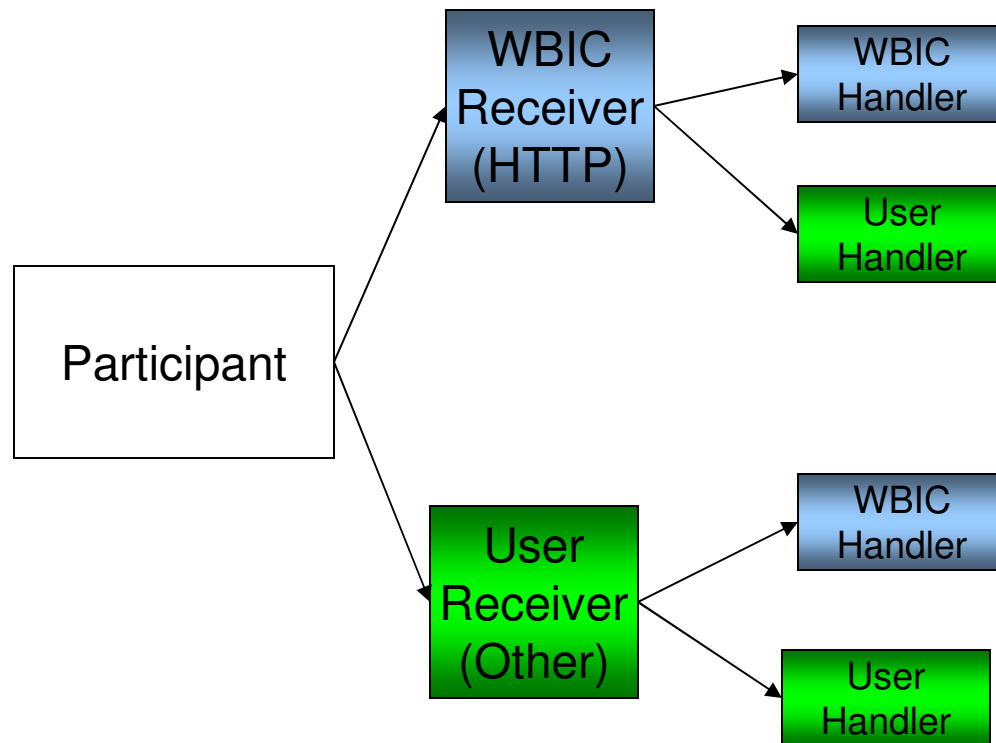
- What can be extended
- ***Overview of WBIC components and flows***
- Console configuration examples
- Programming interfaces



Component Overview – User Exits



Receiver/Handlers

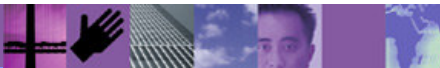


Configuration Points

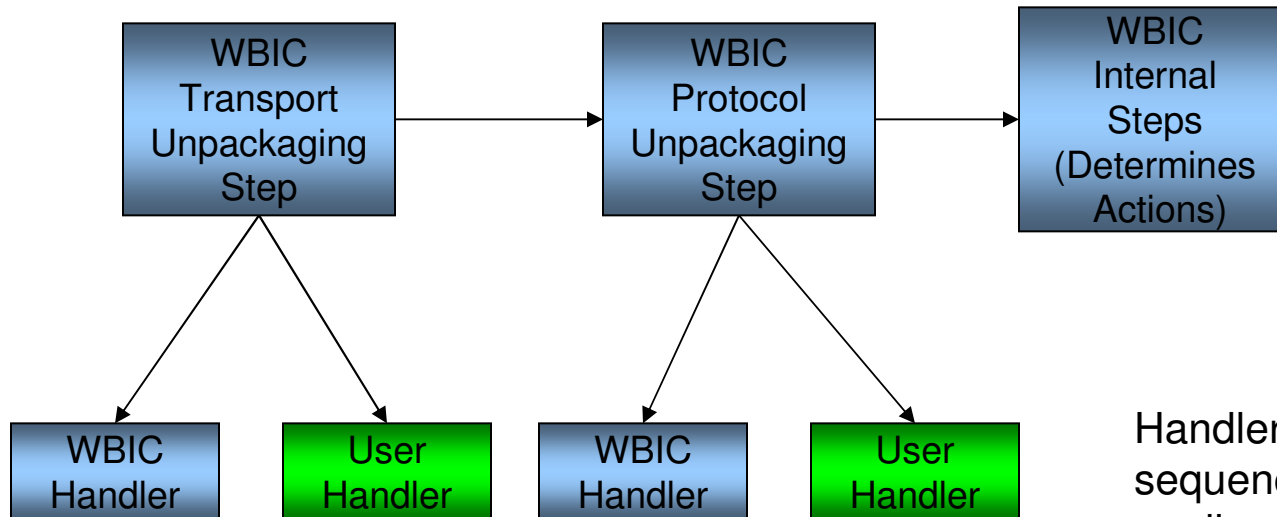
- Preprocess
- SyncCheck
- PostProcess

Handlers are first called in sequence until one returns applies. Only that handler will be invoked.

Purpose: To receive documents over a transport.



Inbound Fixed Workflows

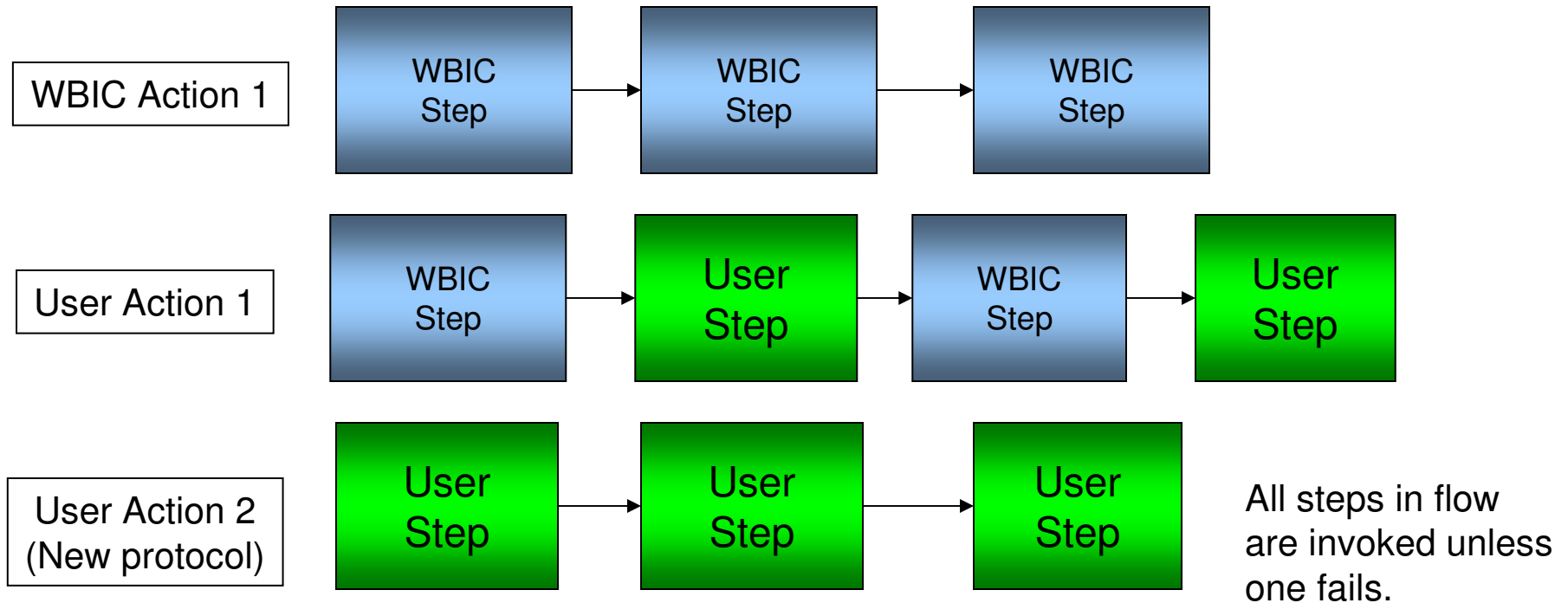


Handlers are first called in sequence until one returns applies. Only that handler will be invoked.

Purpose: To unpack the document, extract a documents partner business ids, document type. Used by rest of the steps to determine the Action to use.



Actions (Variable Workflows)

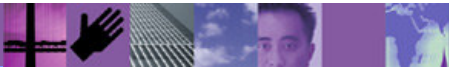


Example User Steps

- Validation
- Transformation

Note: Not all product defined Actions can be modified.

Purpose : To process the document before delivery to the next destination.



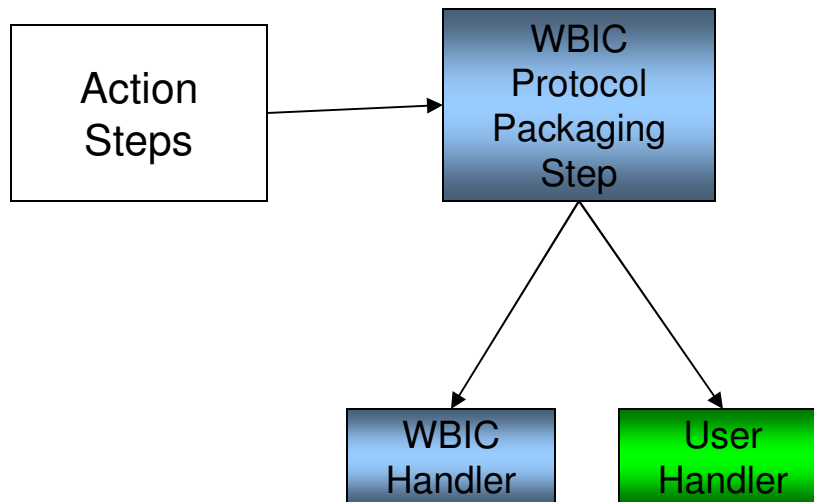
Actions that can be modified

Following list indicates the product provided Actions that can be modified

- Yes - Pass through
- No - Community Manager Cancellation of RosettaNet Process
- Yes - RosettaNet Pass Through with Process Logging
- No - Bi-Directional Translation of RosettaNet and RosettaNet Service Content with Validation
- No - Bi-Directional Translation of RosettaNet and XML with Validation
- Yes - Bi-Directional Translation of Custom XML with Duplicate Check and Validation
- Yes - Custom XML Pass Through with Duplicate Check and Validation
- No - Custom XML Pass Through with Duplicate Check
- Yes - Bi-Directional Translation of Custom XML with Validation
- Yes - Bi-Directional Translation of Custom XML
- Yes - Custom XML Pass Through with Validation
- No - Bi-Directional Translation of Community Manager Custom XML to RosettaNet with Content Duplicate Check and Validation



Outbound Fixed Workflows

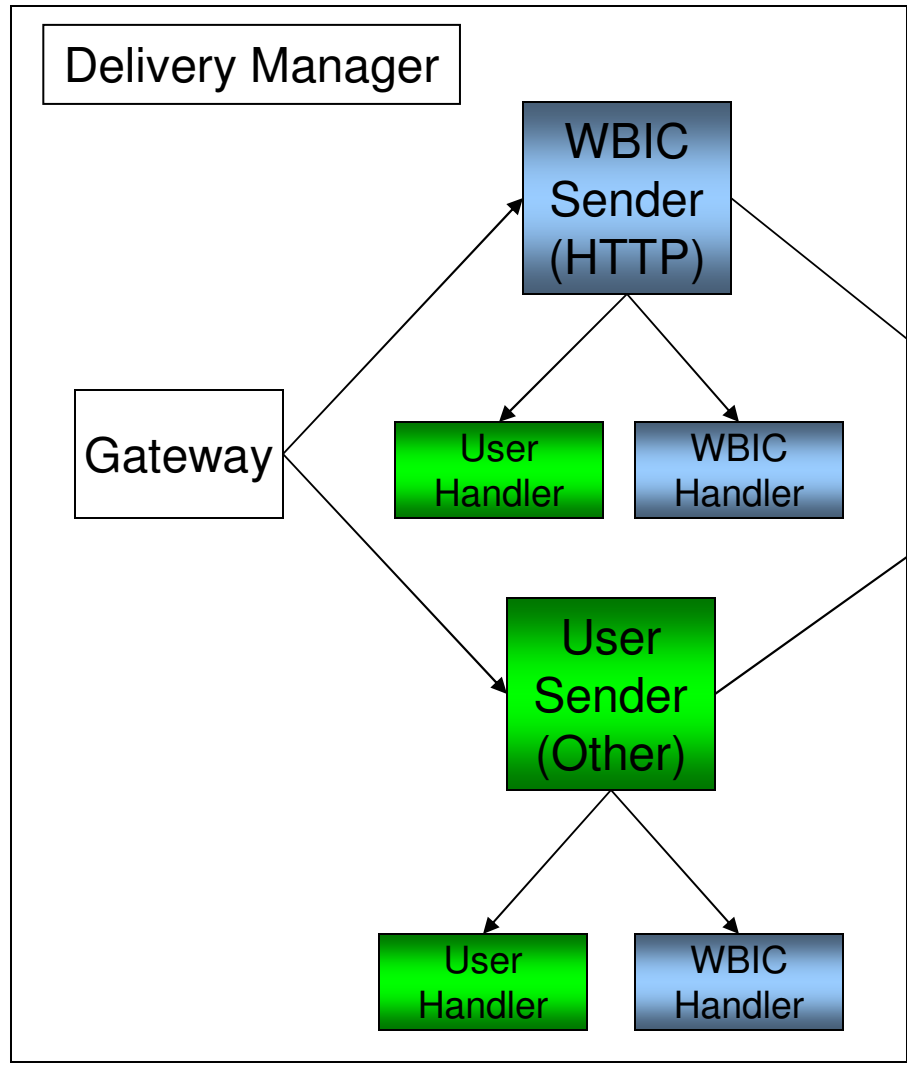


Handlers are first called in sequence until one returns applies. Only that handler will be invoked.

Purpose : To package the document for delivery to the next destination.



Gateway/Handlers



Configuration Points
 •Preprocess
 •Postprocess

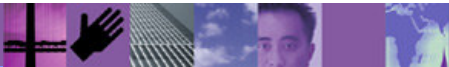
Participant

Handlers are first called in sequence until one returns applies. Only that handler will be invoked.

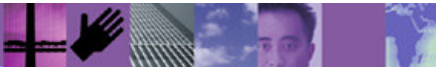
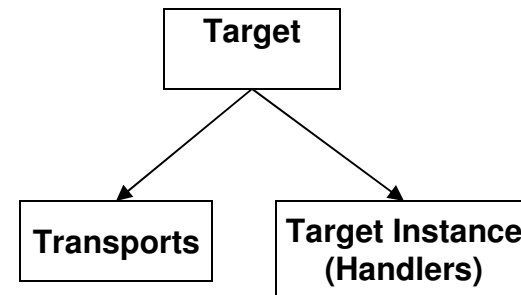
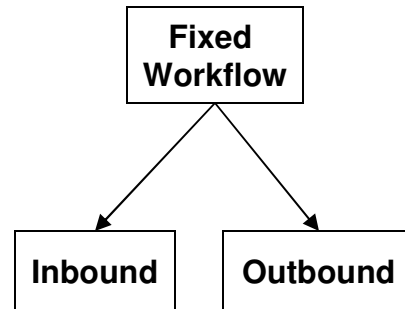
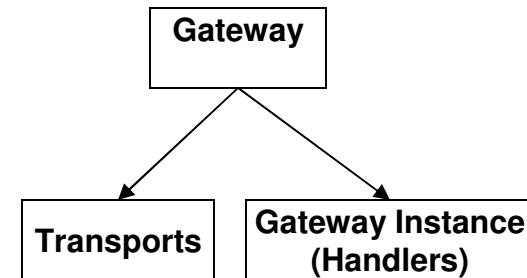
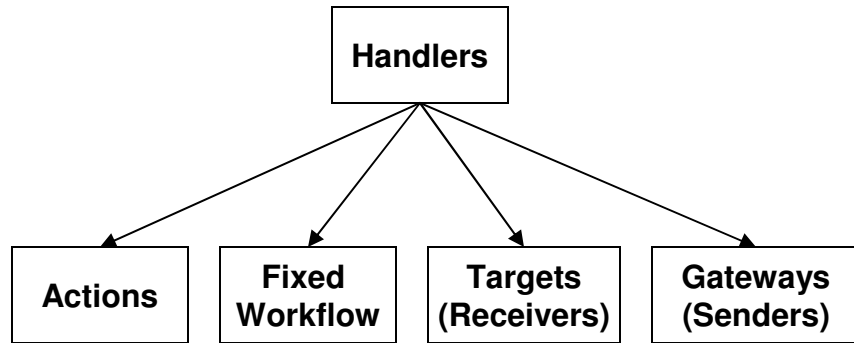
Purpose : To deliver the document to the next destination.

Agenda

- What can be extended
- Overview of WBIC components and flows
- ***Console configuration examples***
- Programming interfaces



Console Administration



Handlers List navigation

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration | Logout

Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | Fixed Workflow | **Handlers**
























Action | Target | Gateway | Fixed Workflow

Language Locale: en_US | Format Locale: en_US | Time Zone:

HandlersList

Welcome, Hub Administrator

• Import • HandlerTypes • He

	HandlerType	Classname	Provider	
 	ACTION.DUPLICATECHECK	com.ibm.bcg.duplicate.ContentDuplicateProcessFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.outbound.OutboundDocFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.passthrough.No_op	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.rosettanet.passthru.ProcessLoggingFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.server.pkg.UnPackagingFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.sponsor.SponsorBusProcessFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.translation.protocol.RNXsltProtFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.translation.protocol.StdRNandRNSCProtFactory	Product	
 	ACTION.TRANSFORMATION	com.ibm.bcg.translation.protocol.translators.xslt.XSLTranslationFactory	Product	
 	ACTION.VALIDATION	com.ibm.bcg.validation.OutboundValidationFactory	Product	
 	ACTION.VALIDATION	com.ibm.bcg.validation.ValidationFactory	Product	
 	ACTION.VALIDATION	com.mycompany.WorkHandler	User	



Handler Details – with attributes

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration

Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | Fixed Workflow | **Handlers**

Action | Target | Gateway | Fixed Workflow

Language Locale: en_US | Fo

Handler Details



Classname com.mycompany.WorkHandler
HandlerType ACTION.VALIDATION
Provider User
Description My companies handler.

Attributes

Attribute 1

Attribute 2

Attribute2DefaultValue



Where Used view

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration

Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | Fixed Workflow | **Handlers**

Action | Target | Gateway | Fixed Workflow

Language Locale: en_US | Form.

Where Used List

HandlerType

ACTION.VALIDATION

Classname

com.ibm.bcg.validation.ValidationFactory

Components Using

- HubOwnerCancellationOfRNProcess
- BiDirectionalTranslationOfRNAndRNSC
- BiDirectionalTranslationOfRNAndXML
- BiDirectionalTranslationOfCustomXMLWithDupCheckAndValidation
- CustomXMLPassThruWithDupCheckAndValidation
- BiDirectionalTranslationOfCustomXMLWithValidation
- CustomXMLPassThruWithValidation
- BiDirectionalTranslationOfOwnerCustomXMLToRNWithDupCheckAndValidation



Handler Types view

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration

Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | Fixed Workflow | **Handlers**

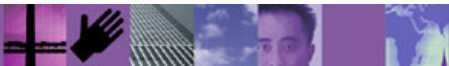
Action | Target | Gateway | Fixed Workflow

Language Locale

Handler Types

Actions

HandlerType	Description
ACTION.VALIDATION	
ACTION.TRANSFORMATION	
ACTION.DUPLICATECHECK	



Upload Handlers view

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration

Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | Fixed Workflow | **Handlers**

Action | Target | Gateway | Fixed Workflow

Language Locale: en_US

Import Handler

Load Only Valid Handler XML File

File:

Commit to database: Yes No

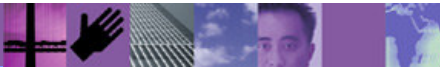
Overwrite data: Yes No



Handler import XML example

```
<?xml version="1.0" encoding="UTF-8"?>
<tns:HandlerDefinition xmlns:tns="http://www.ibm.com/websphere/bcg/2004/v0.1/import/external"
xmlns:tns2="http://www.ibm.com/websphere/bcg/2004/v0.1/import/external/types"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.ibm.com/websphere/bcg/2004/v0.1/import/external bcghandler.xsd
http://www.ibm.com/websphere/bcg/2004/v0.1/import/external/types bcgimport.xsd ">
  <tns:HandlerClassName>com.mycompany.WorkHandler</tns:HandlerClassName>
  <tns:Description>My companies handler.</tns:Description>
  <tns:HandlerTypes>
    <tns:HandlerTypeValue>ACTION.VALIDATION</tns:HandlerTypeValue>
  </tns:HandlerTypes>
  <tns:HandlerAttributes>
    <tns2:ComponentAttribute>
      <tns2:AttributeName>Attribute 1</tns2:AttributeName>
    </tns2:ComponentAttribute>
    <tns2:ComponentAttribute>
      <tns2:AttributeName>Attribute 2</tns2:AttributeName>

      <tns2:AttributeDefaultValue>Attribute2DefaultValue</tns2:AttributeDefaultValue>
    </tns2:ComponentAttribute>
  </tns:HandlerAttributes>
</tns:HandlerDefinition>
```



Fixed Workflow List navigation

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration



Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | **Fixed Workflow** | Handlers


Inbound | Outbound

Language Locale:

Inbound Fixed Workflow Step List

Step name	
	com.ibm.bcg.server.transport.TransportUnPackagingFactory
	com.ibm.bcg.server.ChannelParseFactory

Legend

 Click to view details



Fixed Workflow Step Details – viewing

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration


Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | **Fixed Workflow** | Handlers

Inbound | Outbound

Language Locale:


Step Details

 **Step name** com.ibm.bcg.server.transport.TransportUnPackagingFactory
ConfiguredList

com.ibm.bcg.ediint.ASUnPackagingHan
com.ibm.bcg.server.pkg.NullUnPackagir
com.ibm.bcg.server.pkg.MimeMultipartU
com.ibm.bcg.eai.EAIUnPackagingHandl

[View Details](#)

Legend

 Click to edit record



Fixed Workflow Step Details – in edit mode

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration

Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | Actions | **Fixed Workflow** | Handlers

Inbound | Outbound

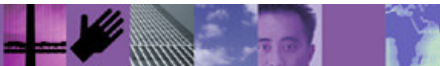
Language Locale: en_US | For

Step Details

Step name com.ibm.bcg.server.transport.TransportUnPackagingFactory

<p>AvailableList</p> <div style="border: 1px solid gray; height: 150px; width: 100%;"></div> <p style="text-align: center;">Add</p> <p style="text-align: center;">View Details</p>	<p>ConfiguredList</p> <div style="border: 1px solid gray; padding: 5px;"> <p>com.ibm.bcg.ediint.ASUnPackagingHan</p> <p>com.ibm.bcg.server.pkg.NullUnPackagir</p> <p>com.ibm.bcg.server.pkg.MimeMultipartU</p> <p>com.ibm.bcg.eai.EAIUnPackagingHandl</p> </div> <p style="text-align: center;">Remove</p> <p style="text-align: center;">View Details</p>	<p>Move Up</p> <p>Move Down</p> <p>Configure</p>
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Save Cancel



Actions List

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | System Administration








































Hub Configuration | Console Configuration

Event Codes | Targets | Document Flow Definition | XML Formats | Validation Maps | **Actions** | Fixed Workflow | Handlers

Language Locale: en_US | Format Locale: en_US | Tir

Actions Welcome, Hub Admin


[+ Create](#)

 	Action Name	Status	Provider	
 	Pass Through	Enabled	Product	
 	Community Manager Cancellation of RosettaNet Process	Enabled	Product	
 	RosettaNet Pass Through with Process Logging	Enabled	Product	
 	Bi-Directional Translation of RosettaNet and RosettaNet Service Content with Validation	Enabled	Product	
 	Bi-Directional Translation of RosettaNet and XML with Validation	Enabled	Product	
 	Bi-Directional Translation of Custom XML with Duplicate Check and Validation	Enabled	Product	
 	Custom XML Pass Through with Duplicate Check and Validation	Enabled	Product	
 	Custom XML Pass Through with Duplicate Check	Enabled	Product	
 	Bi-Directional Translation of Custom XML with Validation	Enabled	Product	
 	Bi-Directional Translation of Custom XML	Enabled	Product	
 	Custom XML Pass Through with Validation	Enabled	Product	
 	Bi-Directional Translation of Community Manager Custom XML to RosettaNet with Content Duplicate Check and Validation	Enabled	Product	



Action Details – in create/edit mode

Actions

 **Id** New

Name *

Definition

Enabled

<p>AvailableList</p> <div style="border: 1px solid gray; padding: 2px;"><p>com.ibm.bcg.passthrough.No_op</p><p>com.ibm.bcg.rosettanet.passthru.Pro</p><p>com.ibm.bcg.server.pkg.UnPackaging</p><p>com.ibm.bcg.sponsor.SponsorBusPr</p><p>com.ibm.bcg.translation.protocol.RN</p><p>com.ibm.bcg.translation.protocol.Std</p><p>com.ibm.bcg.translation.protocol.tran</p><p>com.ibm.bcg.validation.OutboundVali</p><p>com.ibm.bcg.validation.ValidationFac</p><p>com.mycompany.WorkHandler</p></div> <p><input type="button" value="Add"/></p> <p><input type="button" value="View Details"/></p>	<p>ConfiguredList</p> <div style="border: 1px solid gray; height: 100px;"></div> <p><input type="button" value="Remove"/></p> <p><input type="button" value="View Details"/></p>	<p><input type="button" value="Move Up"/></p> <p><input type="button" value="Move Down"/></p> <p><input type="button" value="Repeat"/></p> <p><input type="button" value="Configure"/></p>
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Creating a custom action by copy

Actions

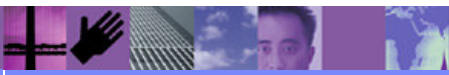
Id New

Name *

Definition

Enabled

<p>AvailableList</p> <div style="border: 1px solid gray; padding: 2px;"> <p>com.ibm.bcg.duplicate.ContentDuplicate</p> <p>com.ibm.bcg.rosettanet.passthru.Process</p> <p>com.ibm.bcg.server.pkg.UnPackagingFa</p> <p>com.ibm.bcg.sponsor.SponsorBusProce</p> <p>com.ibm.bcg.translation.protocol.RNXslt</p> <p>com.ibm.bcg.translation.protocol.StdRN</p> <p>com.ibm.bcg.translation.protocol.transla</p> <p>com.ibm.bcg.validation.OutboundValidat</p> </div> <p style="text-align: center;"><input type="button" value="Add"/></p> <p style="text-align: center;"><input type="button" value="View Details"/></p>	<p>ConfiguredList</p> <div style="border: 1px solid gray; padding: 2px;"> <p>com.ibm.bcg.validation.ValidationFactor</p> <p>com.mycompany.WorkHandler</p> <p>com.ibm.bcg.passthrough.No_op</p> </div> <p style="text-align: center;"><input type="button" value="Remove"/></p> <p style="text-align: center;"><input type="button" value="View Details"/></p>	<p><input type="button" value="Move Up"/></p> <p><input type="button" value="Move Down"/></p> <p><input type="button" value="Repeat"/></p> <p><input type="button" value="Configure"/></p>
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Creating Receiver target from custom transport

Account Admin | Viewers | Tools | **Hub Admin** | Community Participant Simulator | Sy

Hub Configuration | Console Configuration

Event Codes | **Targets** | Document Flow Definition | XML Formats | Validation Maps | Ac

Target Details

Target Name *

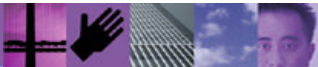
Status Enabled Disabled

Description

Transport *

- Select Transport Type
- FTP Directory
- JMS
- POP3
- HTTP/S
- File Directory
- MYHTTP**

MYHTTP transport
previously imported



Transport XML sample

```
<?xml version="1.0" encoding="UTF-8"?>
<tns:TargetDefinition xmlns:tns="http://www.ibm.com/websphere/bcg/2004/v0.1/import/external"
xmlns:tns2="http://www.ibm.com/websphere/bcg/2004/v0.1/import/external/types"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.ibm.com/websphere/bcg/2004/v0.1/import/external bcgtarget.xsd
http://www.ibm.com/websphere/bcg/2004/v0.1/import/external/types bcgimport.xsd ">
  <tns:TargetClassName>com.mycompany.MyHTTPTransport</tns:TargetClassName>
  <tns:Description>My company HTTP Transport</tns:Description>
  <tns:TransportTypeName>MYHTTP</tns:TransportTypeName>
  <tns:TransportAttributes>
    <tns2:ComponentAttribute>
      <tns2:AttributeName>URI</tns2:AttributeName>
      <tns2:AttributeDefaultValue>localhost</tns2:AttributeDefaultValue>
    </tns2:ComponentAttribute>
    <tns2:ComponentAttribute>
      <tns2:AttributeName>Timeout</tns2:AttributeName>
    </tns2:ComponentAttribute>
  </tns:TransportAttributes>
  <tns:TargetConfigurationPoints>
    <tns:Preprocess>RECEIVER.PREPROCESS.MYHTTP</tns:Preprocess>
    <tns:SyncCheck>RECEIVER.SYNCHECK.MYHTTP</tns:SyncCheck>
  </tns:TargetConfigurationPoints>
</tns:TargetDefinition>
```



Transport configuration point

Target Details



Target Name: *

Status: Enabled Disabled

Description:

Transport: *

Imported MYHTTP Handler after importing the transport

Target Configuration

Gateway Type: *

URI:

Timeout:

Configuration Point Handlers:

AvailableList

com.mycompany.RecvHandler

Add

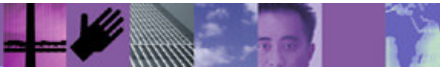
ConfiguredList

Remove

Move Up

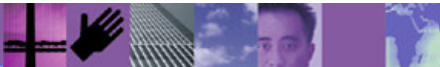
Move Down

Configure



Agenda

- What can be extended
- Overview of WBIC components and flows
- Console configuration examples
- ***Programming interfaces***



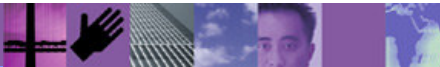
Handler Interfaces

- Receiver, Fixed Workflow and Gateway handlers have three methods to implement.
 - init - For initializing the handler.
 - applies - Used by WBIC to determine if a handler can process a business document.
 - process - Used by WBIC to have the handler perform the processing.
 - The Interface name, parameters and Exceptions will vary by component.
- Action steps have two interfaces to implement.
 - Factory Interface
 - getBusinessProcess – Used by WBIC to get the object that can process the business document.
 - returnBusinessProcess – Used by WBIC when finished processing the document.
 - Business Process Interface
 - process – Performs the actual work on the document



Receiver Interface

- Receiver Interface
 - init - For initializing the Receiver.
 - refreshConfig- This method will be called by WBIC when it detects change in configuration for this receiver.
 - startReceiving – WBIC will call this method in its thread to start Receiving documents.
 - processResponse - called by WBIC for non-blocking synchronous requests, when the response is ready.
 - stopReceiving – WBIC will call this method when shutting down. Receiver should stop receiving the documents.



Gateway Sender Interface

- Gateway Interface
 - init - For initialization
 - send - Called by WBIC to send the business document
 - cancel - Stops message delivery and any transport retries.



Other Interfaces and Utilities

- Business Document Interface
 - Methods for obtaining connection configuration information.
 - Methods for reading and writing the document to the file system.
- Security Service Interface
 - For encrypting, decrypting, signing, verification
- Map Service Interface
 - For obtaining validation and transformation maps.
- BCGUtil
 - For generating unique identifiers, trace logging and event logging.
- BCGDocumentConstants – defined constants for partner ids, etc.

