

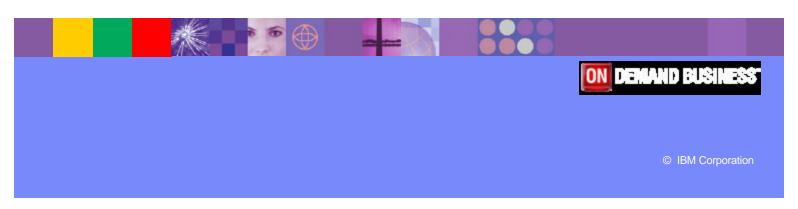
**IBM Software Group** 

#### 2005 B2B Customer Conference

Pioneering New Horizons – Solutions that Evolve

# WebSphere Partner Gateway with EDI Rayne Anderson







#### **Objectives**

- To provide a basic understanding of the EDI Capabilities and configuration within WebSphere Partner Gateway (WPG).
- Managing EDI transactions using reporting capabilities
- Configure for receiving Record Oriented or XML documents for transformation into EDI Transactions.
- Configure for transforming EDI Transactions into Record Oriented or XML documents.
- Configure for Functional Acknowledgments.
- Advanced EDI Interchange configuration for selecting different business packaging or maps by using Connection Profiles.
- Use of the Envelope Profiles and what determines which EDI Transactions are put into an EDI Interchange.
- Batching options for EDI Transactions.
- VAN connectivity configuration.



## Agenda

- Discuss basic EDI flow configuration
- Document viewing and reporting capability
- Advanced EDI configuration



#### **WPG EDI Overview**

- Interchanges and Transactions are treated as business documents.
- There are some special recognition of EDI documents and new EDI components for handling the EDI requirements.
- There are several basic flows required for the different EDI documents.



#### WPG EDI Overview – document flows

#### For EDI documents going to a partner:

- EDI Interchanges require a Participant Connection to a partner. This is for the EDI Interchange that has been created for the Transactions being sent to the partner.
- For each EDI Transaction type (i.e. 850) that is going to a partner a connection will be required for any specific configuration and transformation maps (i.e. XML to EDI 850). Special built in product handling will send these to an Enveloper component for aggregating into an EDI Interchange envelope.
- Functional Acknowledgment transactions:
  - Can be configured to be created for the Transactions received from a partner. These will be created by the Source EDI Validation step in an Action and require their own connection.
  - Can be configured for Overdue status for an Interchange sent to a partner.
  - Reconciliation status will be maintained.

#### For EDI documents coming from a partner.

- EDI Interchanges require a Participant Connection for de-enveloping the Interchange into the individual EDI Transactions.
- Each EDI Transaction from the EDI Interchange de-enveloping will be processed through its own Participant Connection. Typically there will be an EDI Source Validation and Transformation steps.
- Functional Acknowledgments will be consumed by WPG and do not require a Participant Connection.
  - Reconciliation status will be maintained.



#### WPG brief configuration overview

- Document Flow Definition defines the supported packages, protocols, and document types along with global attribute configuration.
- B2B Capabilities defines what documents a partner can send or receive and configuration for those documents.
- Interaction defines how a source document gets processed by WPG into a target document.
- Participant Connection Associates a source and target partner with an Interaction.



## WPG brief configuration overview (cont.)

Example B2B EDI Capabilities:

- EDI-X12  $\rightarrow$  ISA is the EDI Interchange
- X12V2R1 → 850 is the EDI Transaction

Profile, partnera, B2B Capabilities

Cat Causea	Set Target	Enabled	Edit	Document Flow Definition				
Set Source				0 1 2 3 4 All				
*	*1			Package: AS				
*	*			Package: None				
*	*1			Package: Backend Integration (1.0)				
✓	*1	Enabled	<b>Ø</b>	∴ 🗃 Package: N/A				
✓	*1	Enabled	<i>4</i>	Protocol: EDI-X12 (ALL)				
*	*1			: Document Flow: ISA (ALL)				
*	*			Protocol: &DT99737 (ALL)				
*	*			Protocol: &WDIEVAL (ALL)				
✓	*1	Enabled	<i>4</i>	Protocol: X12V2R1 (ALL)				
✓	*1	Enabled	<b>4</b>	Document Flow: 850 (ALL)				
*	*1			Protocol: EDI-Consent (ALL)				
*	*1			: Protocol: EDI-EDIFACT (ALL)				



#### To partner – EDI Interchange

- Define a Participant Connection from the CM to the TP.
  - > This is a one time set up for this partner.
- Interaction
  - Action will be Pass Through.
  - No transformation map.
  - From packaging will be N/A
  - > To packaging will depend on how the Interchange will be sent out, such as None or AS2.
  - > From and To Protocol will be EDI-X12.
  - From and To Document Flow will be ISA.



#### To partner – EDI FA Transactions

- Define a Participant Connection for the FA from CM to TP. This is only required if you will be responding back to a Partners received EDI Interchange with an acknowledgment.
  - > This is a one time set up for this partner.
- Interaction
  - Action will be Pass Through.
  - No transformation Map.
  - Document From and To packaging will be N/A.
  - Document From and To protocol will be the same. Note: The protocol will be for the FA Map used for generating the acknowledgment.
  - Document From and To will be 997.
- Document Flow
  - On the Partner configure the Envelope Profile to use.



#### To partner – EDI Transactions

- Define a Participant Connection for each Transaction type from CM to TP.
- Interaction
  - > Action will have the Transformation step.
  - Map will be for the required transformation, such as from XML to EDI 850. Note: the map was previously imported from the DIS Client.
  - From Document Packaging, Protocol and Document Flow depends on how the source was received.
  - To Document Packaging will be N/A, Protocol the will match the Metadictionary value as imported from the DIS Client, Document Flow will the Transaction Type.

#### Document Flow

- Define in the Community Manager (Source)
  - The Source EDI Transaction the qualifier (i.e. 01) and identifier (i.e. 111111111). Tip:
     Define at the protocol level (corresponds to DIS Client Metadictionary) so that you do not need to define on each Transaction type.
- Define in the Partner (Target)
  - The EDI Transaction the qualifier (i.e. 01) and identifier (i.e. 222222222). Tip: Define at the protocol level (corresponds to DIS Client Metadictionary) so that you do not need to define on each Transaction type.
  - The Envelope Profile (defined at the Protocol level.
  - FA Overdue Optionally define "FA required time limit"
  - The EDI Validation Map to use (imported from the DIS Client) for target EDI Validation.



#### From partner – EDI Interchange

- Define a Participant Connection from the TP to the CM.
  - This is a one time set up for this partner.
- Interaction
  - > Action will be De-envelope.
  - No map.
  - From packaging will depend on how the Interchange is received, such as None or AS2.
  - To packaging will be N/A.
  - From and To Protocol will be EDI-X12
  - From and To Document Flow will be ISA
- Partner Profiles
  - For CM define business id as combination of qualifier and business id (i.e. 01-11111111)
  - For TP define business id as combination of qualifier and business id (i.e. 01-222222222)



#### From partner – EDI Transactions

- Define a Participant Connection for each Transaction type from TP to CM.
- Interaction
  - Action will have the EDI Source Validation and Transformation step.
  - Map will be for the required Transformation, such as from EDI 850 to XML. Note: the map was previously imported from the DIS Client.
  - > From Document Packaging will be N/A, Protocol the will match the Metadictionary value as imported from the DIS Client, Document Flow will be the Transaction Type.
  - > To Document Packaging, Protocol and Document Flow depends on how the target will be received.
- Document Flow
  - Define in the Partner
    - The FA Map to use for returning FAs (defined at the Protocol)
    - The EDI Validation Map to use (imported from the DIS Client) for source EDI Validation.



## Agenda

- Discuss basic EDI flow configuration
- Document viewing and reporting capability
- Advanced EDI configuration



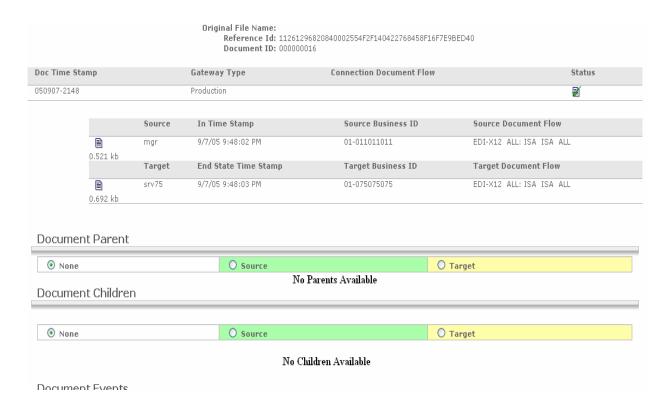
### Document viewing and reporting - overview

- General document viewing
  - Can drill down from parent (i.e. EDI Interchange) to child (i.e. EDI Transaction)
  - Can drill up from child (i.e. EDI Transaction) to parent (i.e. EDI Interchange)
  - Can view related Functional Acknowledgments.
- Reporting
  - Show Functional Acknowledgements that are overdue.
  - > Show EDI Transactions that received FAs indicate have failed.



## Document viewing – drill down

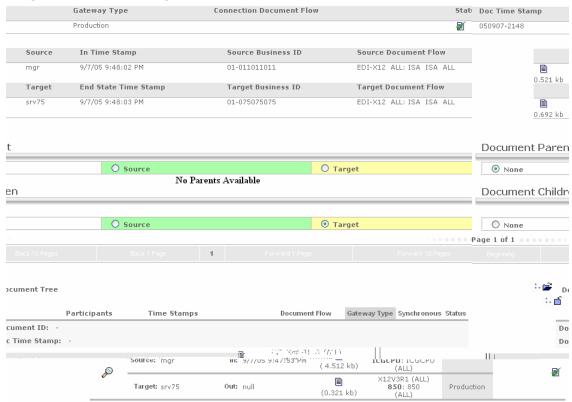
#### Showing EDI Interchange





## Document viewing – drill down (cont.)

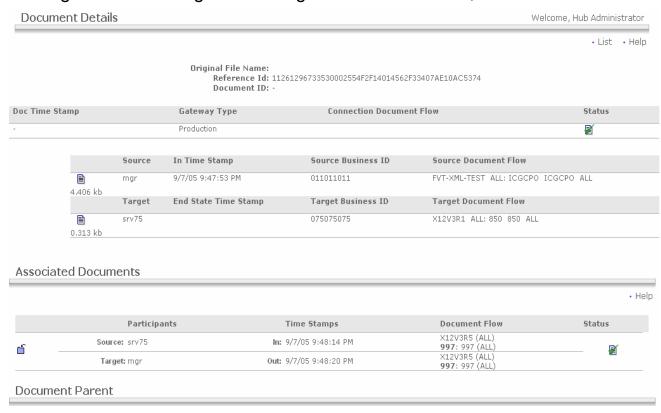
#### Showing EDI Interchange - Children expanded





### Document viewing – drill down (cont.)

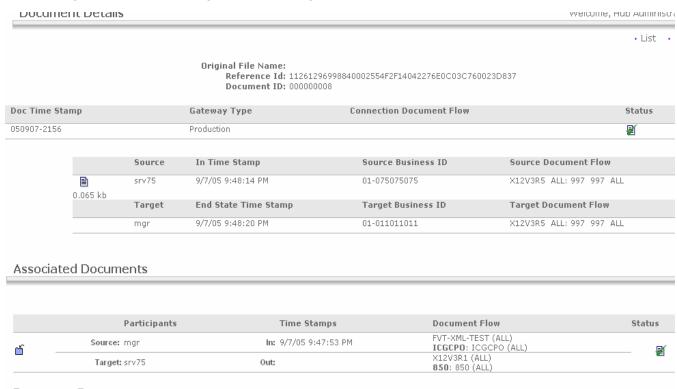
Showing EDI Interchange – showing one of the children, note the associated FA





## Document viewing – drill down (cont.)

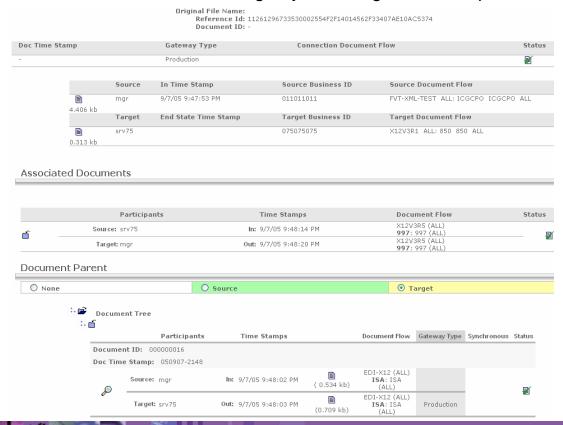
Showing EDI Interchange – showing the FA, note the associated Trans.





Document viewing — drill up

Drilled up from Transaction to Interchange by selecting document parent





## Reporting – Overdue Functional Acknowledgments

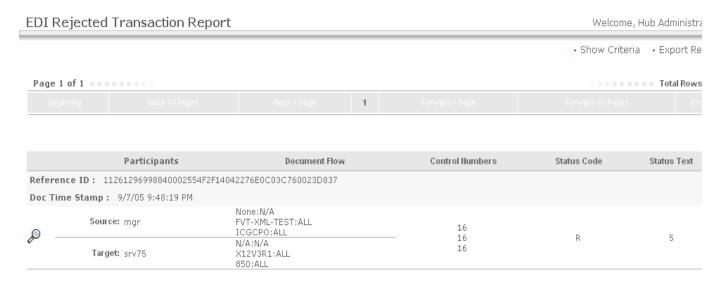
EDI FA (	Overdue Report					Welcome, Hub Adı	ministrato
						+ Show Criteria + Ex	port Resi
Page 1 of	f 1					Tot	al Rows:
			1 Forwar				
Ignore	Selected Records	Document Flow	Co	ntrol Numbers	Expected Time	Overdue Time (d:	:h:m)
eference.	· ID: 11262791557240002554	F2F140493240E80BB4FD15A2A49				,	
oc Time	Stamp: 9/9/05 3:19:21 PM						
□ & —	Source: mgr	None:N/A FVT-XML-TEST:ALL ICGCPO:ALL		3	9/9/05 3;20:21 PM	0.00.16	
	Target: srv75	N/A:N/A X12V3R1:ALL 850:ALL		3 3	9/9/05 3:20:21 PM	0:00:16	
Reference	e ID: 11262794897830002554	F2F140493240B768FAFEB5E9796					
oc Time	<b>Stamp:</b> 9/9/05 3:24:57 PM						
□ 🔑 —	Source: mgr	None:N/A FVT-XML-TEST:ALL ICGCPO:ALL		5	9/9/05 3:25:57 PM	0:00:11	
	Target: srv75	N/A:N/A EDI97B:ALL ORDERS:ALL		5	27 27 00 3 12 3 13 7 FM	0.00.11	



#### Reporting – Failed Transactions

Showing Transactions that failed per the returned FA.

Clicking document details will take you to the Document viewer.





## Agenda

- Discuss basic EDI flow configuration
- Document viewing and reporting capability
- Advanced EDI configuration



### Advanced EDI configuration - overview

- Connection Profile
- EDI Control number initialization
- Envelope Profile
- EDI Document Flow attributes
- Receiver Splitter Handlers
- FTP Scripting transport
- Enveloper
- DIS Client
- EDI Maps Validation, Transformation, FA's.
- EDI Actions



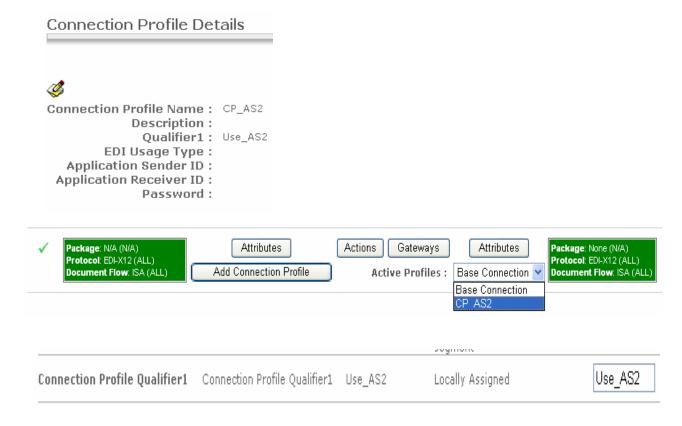
- Participant Connections are determined based on To / From Business Ids and Source document type.
- Connection Profiles are used when additional criteria is required to differentiate similar connections.
- Two major uses:
  - An EDI Interchange to a partner can use different Packages and / or Gateways depending on the Transaction types within the Interchange.
  - An EDI Transaction from a Partner can use different processing criteria, such as transformation map or target Gateway, depending on the Group information.



#### EDI Interchanges to a partner

- Create a Connection Profile and set the Qualifier1 attribute with a unique value
- Create a Participant Connection for the Interchange and associate the Connection Profile
- For each Transaction types that are to be put into that Interchange set the Document Attribute value for Connection Profile Qualifier 1 with the same value as in the Connection Profile







#### **EDI Transactions**

- Define Connection Profile with the applicable group information
- Define a Participant Connection using that Connection Profile
- During runtime the group information for the de-enveloped
   Transaction will be used to help determine the connection to use



#### **Connection Profile Details**



Connection Profile Name: CP\_Purchasing

Description : Qualifier1 :

EDI Usage Type :

Application Sender ID: Purchasing

Application Receiver ID:

Password: ABC



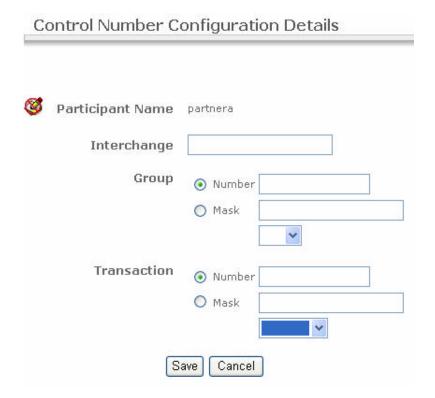
#### Control Number Initialization

- Used by the EDI Enveloper.
- > For the first time an EDI document is sent to a partner.
- If not set then default values will be used.

#### Current Control Numbers

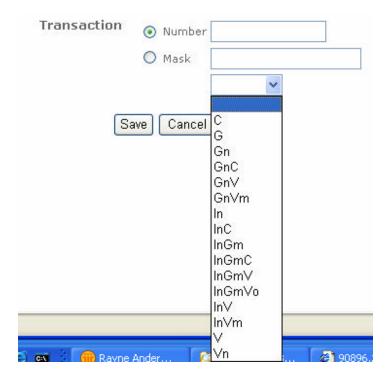
The next control number to be used between partner pairs.







#### From Control Number Configuration Details view





#### **Control Number Status**





#### **Control Number Details**





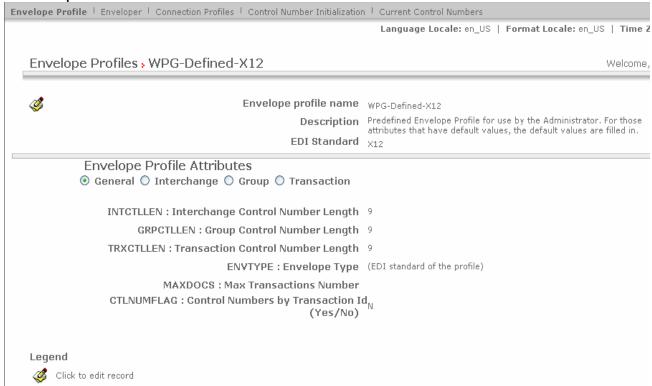
### EDI Configuration – EDI Envelope Profile

- Used by the EDI Enveloper
- Used for grouping together common configuration elements
- Some predefined Envelope Profiles provided with the product which can then be modified or copied
- Configured on the Protocol (i.e. X12V2R1) or Document (i.e. 850)



### EDI Configuration – EDI Envelope Profile (cont.)

#### Example





#### EDI Configuration – EDI Document Attributes

- There are several key attributes to configure for EDI.
- For EDI documents going to a partner
  - Envelope Profile to use (on target partner).
  - > FA overdue duration (on target partner).
  - Interchange Business ID Qualifier and Identifier (on both target and source partner)
- For EDI documents coming from a partner
  - EDI Interchange No required attribute configuration.
  - > EDI Transaction (on source partner)
    - EDI Validation map to use. This assumes validation will be done.
    - FA Map to use set at the Protocol. Requires EDI Validation to be done.
    - Can optionally set "Validation level" and "Max validation error level"



#### EDI Configuration – EDI Document Attributes (cont.)

- There are optional attributes such as:
  - Delimiters
  - Group information
  - Connection Profile (discussed earlier).
- Some can be set only on the Protocol and others at either the Protocol or Document.



### EDI Components – Enveloper

#### **Purpose**

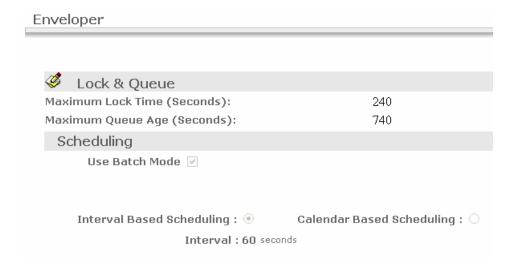
- For packaging transactions into an Interchange envelope.
- Will use various break point criteria for which Transactions go into an Interchange, such as:
  - Partner pairs
  - Envelope Profile
  - Connection qualifier
  - Batching

#### Configuration

- Batch mode whether or not to honor batching. Applies to EDI to EDI, XML Splitting and ROD Splitting.
- Locking based on Partner pairs
- A scheduled transport, either interval or calendar.
- Will use configuration information from Control numbers, Envelope Profile, and Document attributes.



# EDI Components – Enveloper (cont)





### EDI Components – Receiver Splitter handlers

- There are XML, ROD and EDI pre-process handlers for the different Receiver Target transports.
- Used when multiple documents come in a single file, for example from a VAN, or for ROD documents.
- XML Splitter Handler
  - Used for splitting a file into the individual XML documents.
  - Can set batch documents to true which means if these documents get transformed into EDI Transactions, then try to keep all the transactions in the same EDI Interchange document.
- ROD Splitter Handler
  - Used for splitting a file into the individual ROD documents. All documents must be the same type.
  - Configures the document type, metadictionary and metadocument values that apply.
  - Can set batch documents to true which means if these documents get transformed into EDI Transactions, then try to keep all the transactions in the same EDI Interchange document.
- **EDI Splitter Handler** 
  - Used for splitting a file into individual EDI Interchanges.
  - > Can be used to set the encoding of the EDI Interchanges. Encoding applies to all Interchanges.
  - EDI Interchanges implicitly have the batch documents set to true for the EDI Transactions within the Interchange, but this does not apply across multiple Interchanges.



### EDI Components – FTP Scripting

#### **Purpose**

- For general FTP document transfer or VAN connectivity.
- For receiving or sending documents.

#### Configuration

- A script driven transport supporting a sub-set of standard FTP commands.
- There are two special commands:
  - > getdel used for receiving a single file and then deleting the file.
  - mgetdel used for receiving multiple files and then deleting them.
- Script file can use substitution parameters.
- A scheduled transport, either interval or calendar.
- Locking based on userid and IP address.



# EDI Components – FTP Scripting (cont)

```
# My sample receiver script
open %BCGSERVERIP% %BCGUSERID% %BCGPASSWORD%
cd %BCGOPTION1%
mget *
quit
```



# EDI Components – FTP Scripting (cont)

Target Name Status Description Transport	
Target Configuration	
Gateway Type:	Production
Server IP: User Id: Password:	localhost { Script parameter BCGSERVERIP } xxx { Script parameter BCGUSERID } ********* { Script parameter BCGPASSWORD }
Script File(maximum 2kb):	# My sample receiver script open %BCGSERVERIP% %BCGUSERID% % BCGPASSWORD% cd %BCGOPTION1% mget * quit
Connection Timeout:	120.0 seconds
Lock User:	Yes     No
Global FTP Scripting Attribute	es
Lock Retry Interval (Seconds): Lock Retry Count: Maximum Lock Time (Seconds): Maximum Queue Age (Seconds):	260 3 240
User defined attributes	
Option 1:	mydirectory { Script parameter BCGOPTION1 }



### EDI Components – DIS Client

This is basically the WDI Client but tailored to WPG.

- Used for creating the Validation, Transformation and FA maps for using in the EDI processing.
- Does not have partner management, connectivity configuration, or operational reporting.
- Can export directly to WPG or to an \*.eif file.
  - bcgDISImport will import an \*.eif file into WPG.
- Contains additional data transformation properties for WPG



### **EDI Configuration – EDI Maps**

- Three types of maps created via DIS Client and imported into WPG.
- EDI Validation
  - Used by the EDISourceValidationFactory (before transformation) and EDITargetValidationFactory (after transformation) Action steps.
  - > Set on the EDI Transaction Document (i.e. 850) for the source partner for Source validation.
  - Set on the EDI Transaction Document (i.e. 850) for the target partner for Target validation
- Functional Acknowledgment Used by the EDISourceValidationFactory Action step.
  - For creating the FA for reply back to the sending partner.
  - Set on the EDI Transaction Document Protocol (i.e. X12V2R1) for the source partner.
- Transformation
  - Used by the EDITranslatorFactory, XMLTranslatorFactory, or RODTranslatorFactory Action steps.



### EDI Configuration – EDI Actions

- There are several Actions for use with EDI Documents.
- Actions are set on the Interaction or Participant Connection.
- For EDI documents going to a partner
  - Pass Through
    - For the Interchange coming from the Enveloper.
    - For the FA coming from the Source EDI Validator.
  - ROD Translate and EDI Validate
    - Can be used for both to a partner or from a partner.
  - XML Translate and EDI Validate
    - Can be used for both to a partner or from a partner.
- For EDI documents coming from a partner
  - > EDI De-envelope
    - For the EDI Interchange from the partner.
  - > EDI Validate and EDI Translate
    - For the EDI Transactions that where de-enveloped from the Interchange.



## Summary

- The basic document flows and how they interrelate:
  - ROD / XML to EDI Transaction.
  - **EDI Interchanges**
  - **Functional Acknowledgments**
  - Batching
- Functional Acknowledgment reporting and Document viewing.
- Configuration
  - For different packagings and connections using Connection Profile.
  - Enveloper
  - **Envelope Profile**
  - **EDI Control Numbers**
  - Maps
  - Actions
- Major components and their purpose:
  - FTP Scripting
  - Receiver Splitter Handlers
  - Enveloper
  - **DIS Client**



# Back up slides

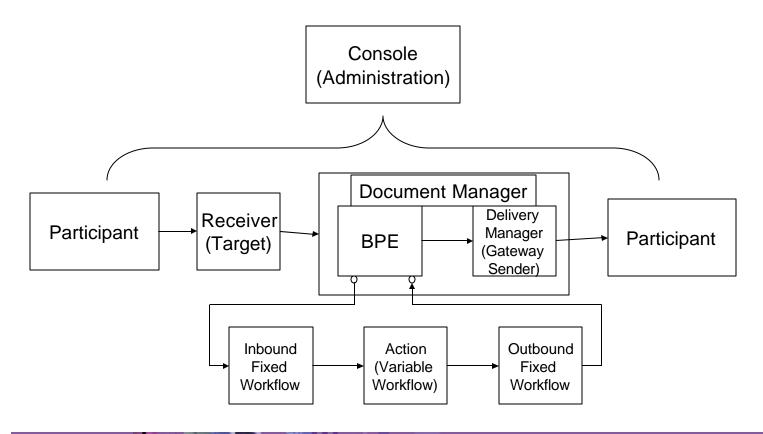


# Major components and configuration areas

- Components
  - FTP Scripting
  - Receiver Splitter Handlers
  - Enveloper
  - Workflow steps / handlers
  - DIS Client
- Configuration areas
  - EDI Actions
  - Envelope Profile
  - Control numbers
  - Maps
  - Participant Connections

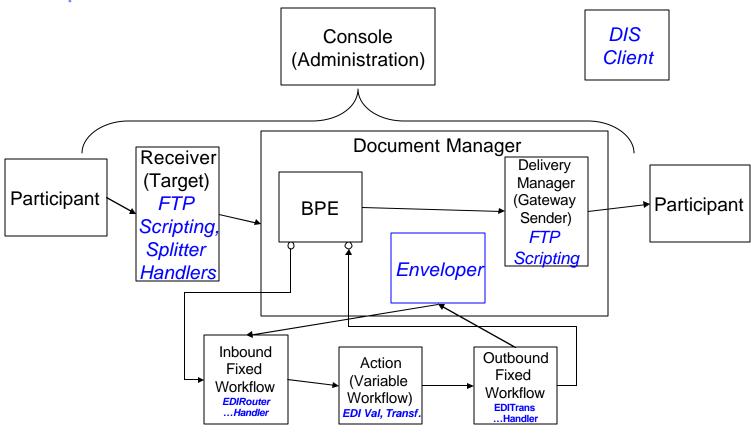


# Components – High level



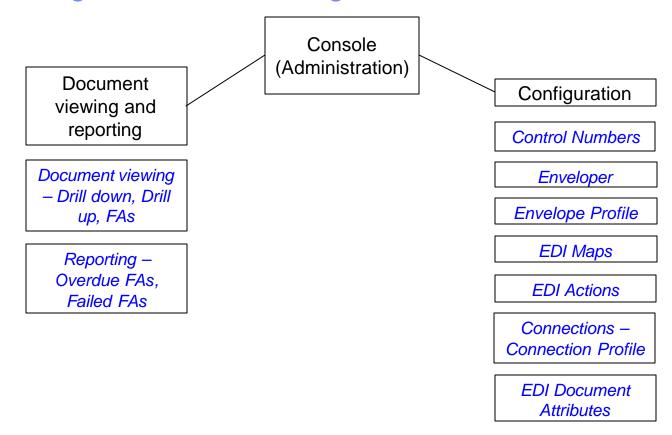


## Components – EDI Additions





# Configuration and viewing – EDI additions





### **EDI Components – Workflow handlers**

#### Fixed inbound workflow

- EDIRouterBizProcessHandler (modified from previous releases)
  - For determining EDI Interchange type and business ids.
  - For an Functional Acknowledgement Transaction will update reconciliation tables (used in document viewing).

#### Action steps

- EDIDenvFactory For de-enveloping an EDI Interchange (extracting the transactions).
- EDISourceValidationFactory Validates transactions in an EDI Interchange and generates the Functional Acknowledgement.
- EDITranslatorFactory Transforms an EDI Transaction.
- XMLTranslatorFactory Transforms an XML document.
- RODTranslatorFactory Transforms an ROD document.
- EDITargetValidationFactory Validates an EDI Transaction created from a transformation.

#### Fixed outbound workflow

EDITransactionHandler – Sends EDI Transactions to the Enveloper.