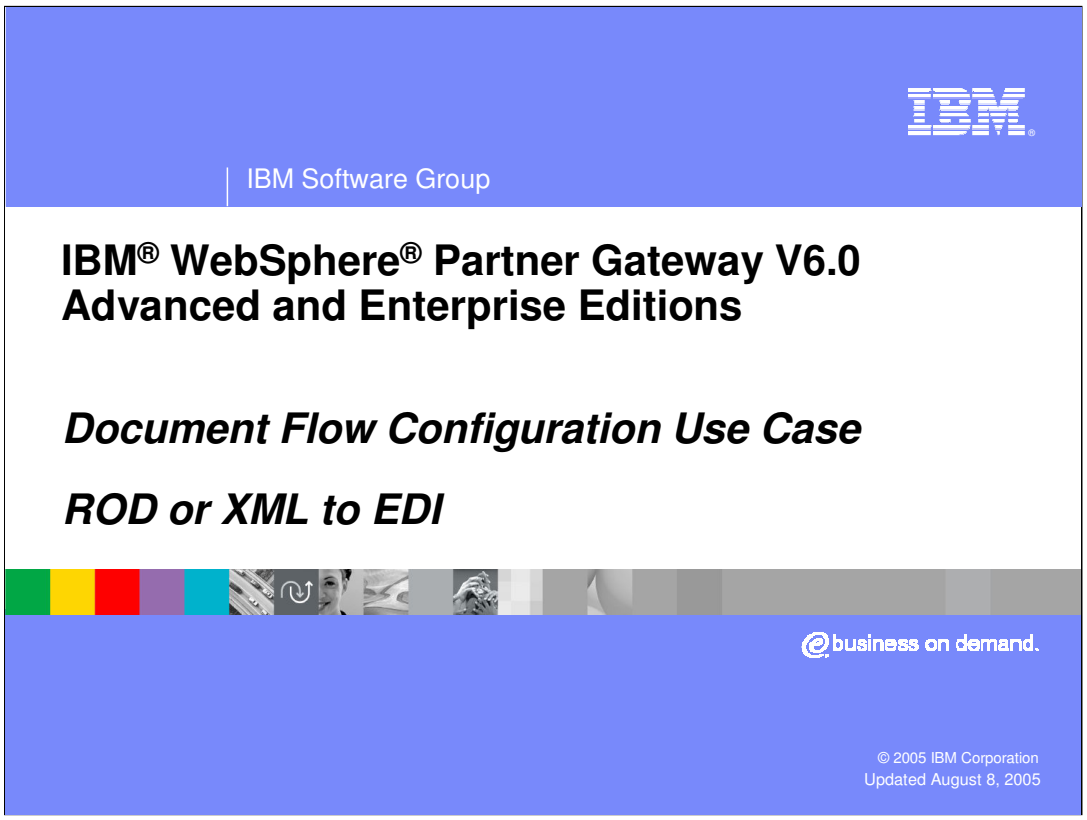

This goal of this presentation is to understand the details of document flow configuration of XML or ROD to EDI use case, in WebSphere Partner Gateway V6.0.

Agenda

- Overview of ROD or XML to EDI
- ROD or XML to EDI document flow stages
  - Translation
  - Enveloping
- Summary

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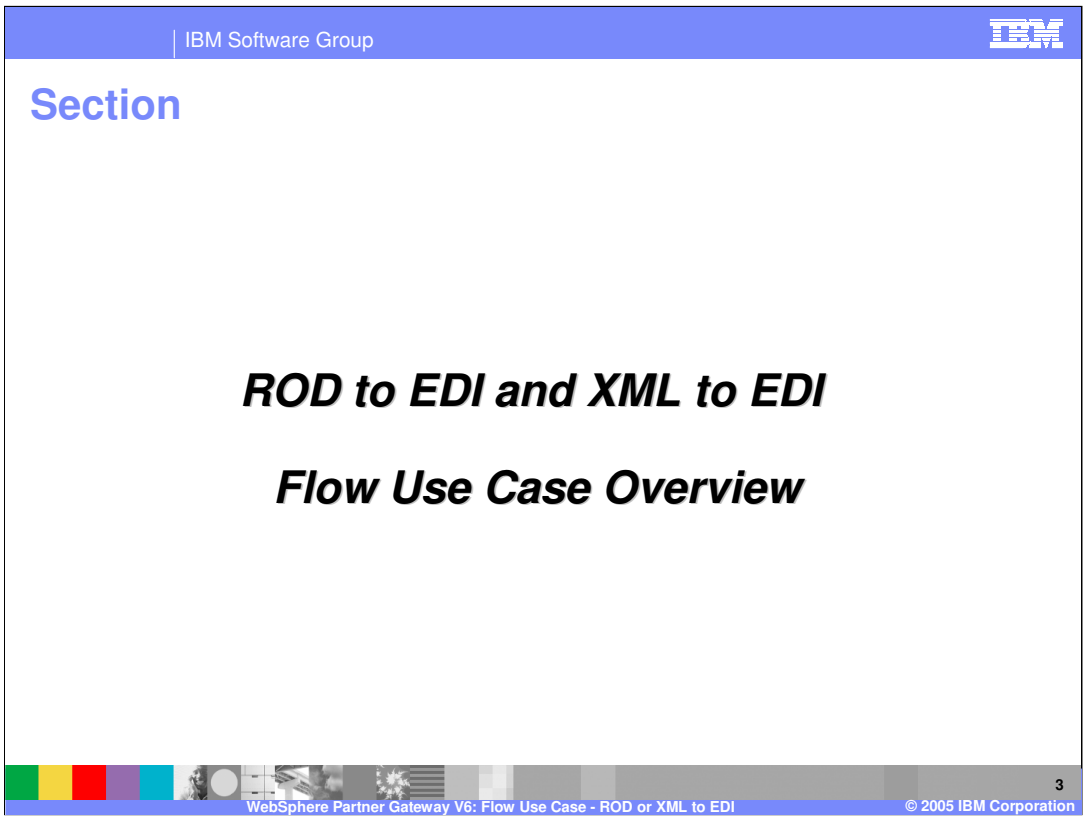
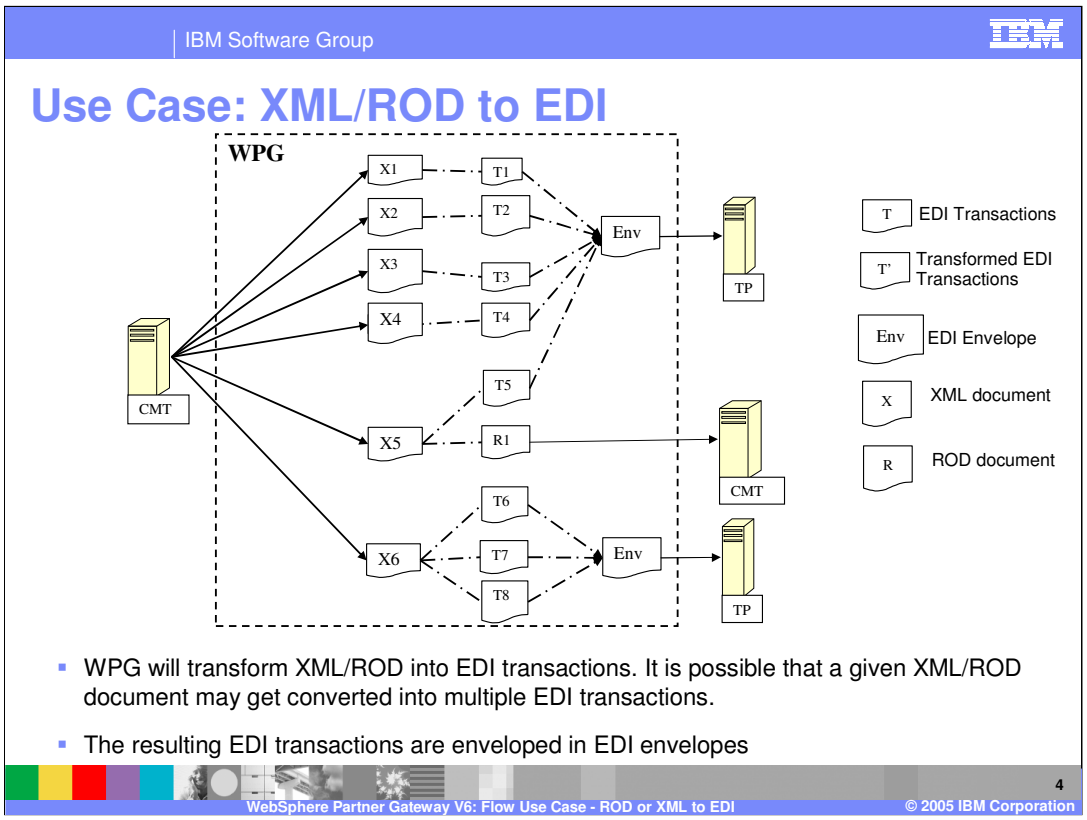
The agenda is shown on the page, starting with the overview to the ROD or XML to EDI document flow stages of translation followed by enveloping stages of the flow.



The next section will show the ROD or XML to EDI document flow use case within the WebSphere Partner Gateway in more details.

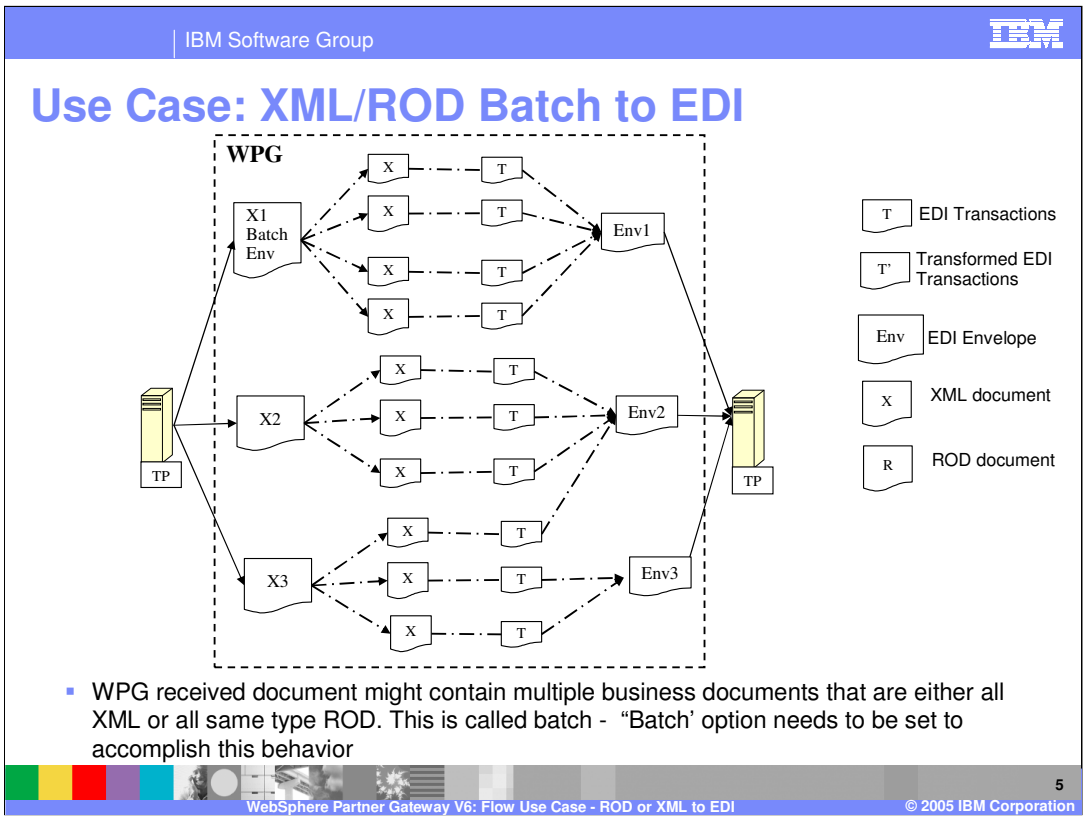


The page shows the high level flow of the XML or ROD to EDI flow through the hub.

X1 to X4 are XML/ROD transactions getting converted into EDI transactions.

X5 uses a Polymorphic map converting X5 into EDI and ROD. In this case the ROD document R1 is sent back to the initiating partner. An example of this usage could be an account update being made. A more realistic scenario for this is with the originating logical entity being the Community Manager so CMT is used to depict this.

X6 is an example of the polymorphic map converting into multiple EDI transactions. Note that in this scenario it is shown that all 3 EDI transactions are enveloped in one envelope. This is because of the logic written in the translation map and not due to batching or because they were coming in same source XML/ROD document.



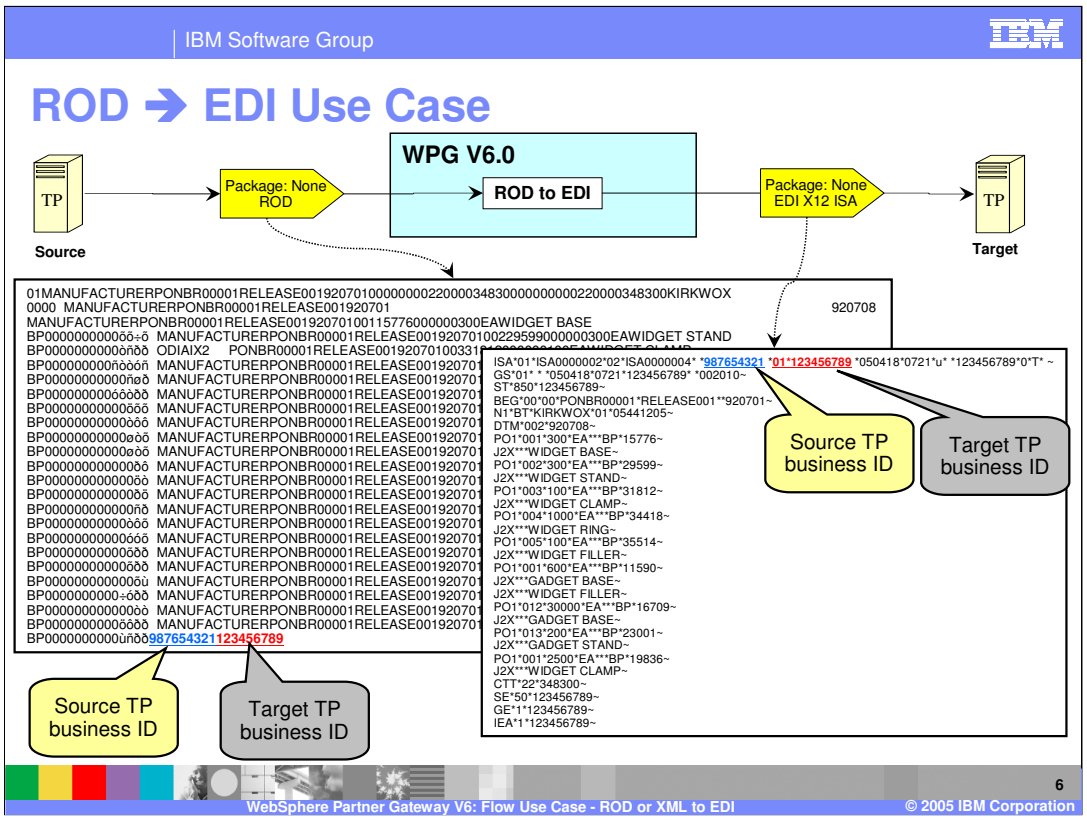
For a batch transformation to EDI. the resulting EDI transactions are enveloped in the same order as the documents, and are put in the same EDI envelope

In the diagram:

•X1 batch denotes the batch of XML transactions going to one trading partner. XML splitter breaks the batch into individual documents. Note that splitters are/will be configured in pre-processing exit of WPG receivers. They need to be translated and enveloped in one envelope.

•X2 denotes the multiple business documents are NOT required to end up in the same Envelope so the batch option is not set. Because the batch option is not set the resultant envelope may contain transactions from other sources as well (in this case X3). Even though it may be permissible (not required) by business protocol semantics to package the resultant EDI transactions into the envelope Env1, these will still be enveloped separately in Env2. Reason being Env1 is created by enveloper with the intention to batch transactions from the batch (X1 batch). Additionally note that Env2 can contain EDI transactions from other sources as well. This is allowed because Env2 is not created from the transactions, source of which had the batch option.

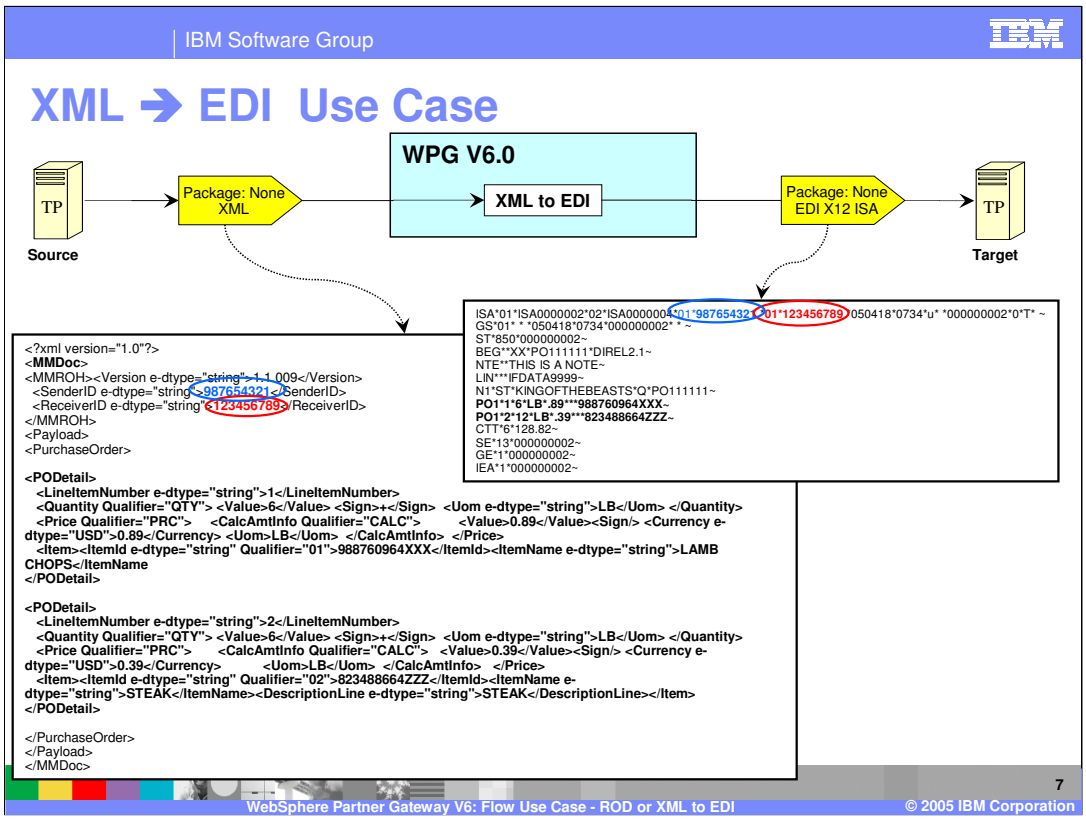
•X3 is similar to X2. Here Env2 and Env3 are two envelopes getting created. This is because either the semantics business protocol dictate that the resultant transactions need to be enveloped separately or the Enveloper happened to process waiting transactions before all of the X3 documents were finished.



The ROD to EDI example involves an incoming ROD to be translated to an EDI transaction, based on the mapping, and then the transaction to be enveloped in an EDI X12 ISA. The output EDI is then send to the target partner.

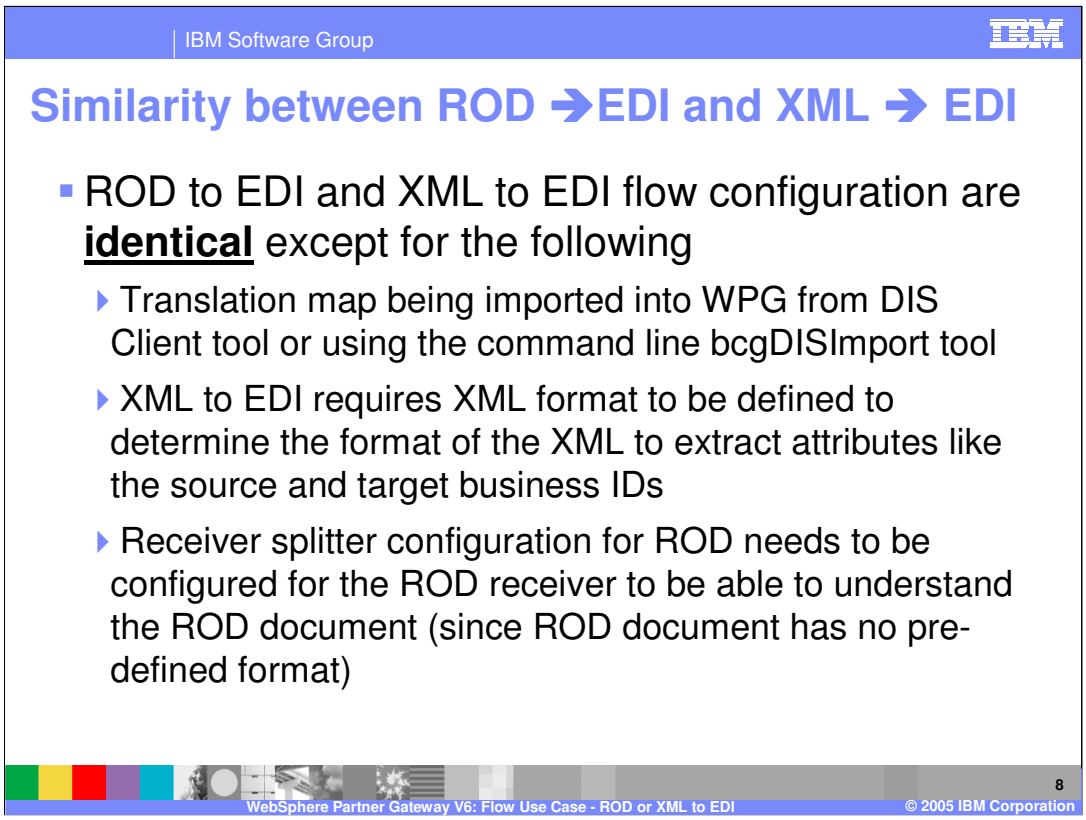
The incoming ROD and the outgoing EDI document are shown on the page.

The incoming ROD contains the source and the business trading partner IDs. The ROD to EDI map contains the information of where in ROD are the business IDs located.



The XML to EDI example involves an incoming XML to be translated to an EDI transaction, based on the mapping, and then the transaction to be enveloped in an EDI X12 ISA. The output EDI is then send to the target partner.

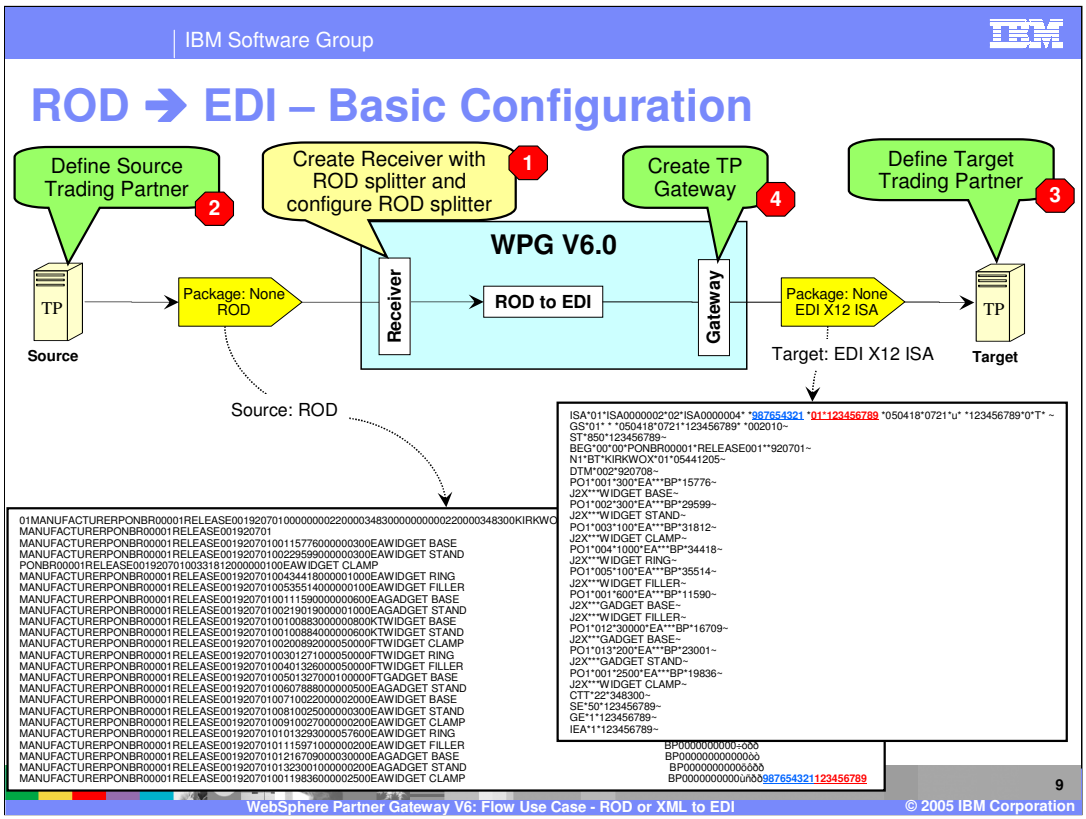
The incoming XML and the outgoing EDI document are shown on the page.



ROD to EDI and XML to EDI configuration are very similar with few differences. The maps are different.

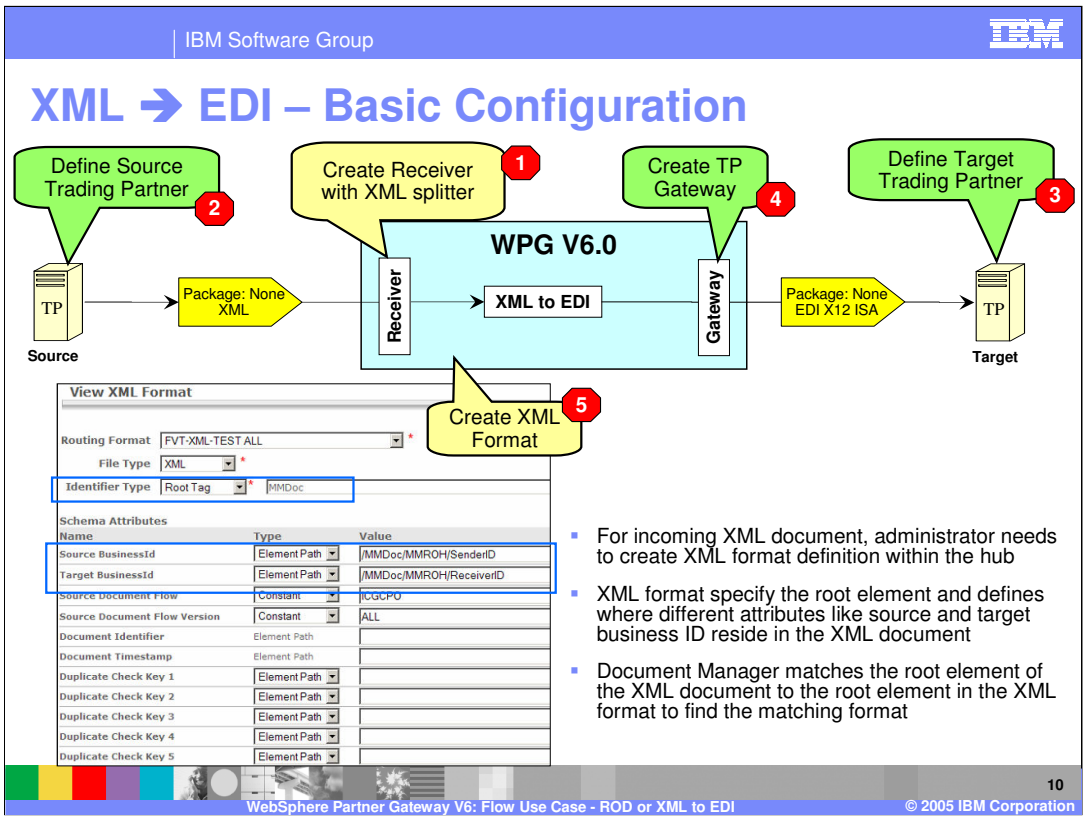
For the XML to EDI flow, a XML format needs to be defined to allow the hub to identify the input XML and where to get the source and target business ids from the incoming XML file.

For the ROD to EDI flow, the ROD splitter will need to be configured with the appropriate data dictionary and meta data values as defined in the map of the ROD to XML in the DIS Client tool. This allows the receiver to understand the ROD format.



This page shows the basic configuration of defining the Receivers for incoming document, the source and the target trading partners and the trading partner's gateway for sending outgoing document.

Other presentations cover the details of these basic configuration.



This page shows the basic configuration of defining the Receivers for incoming document, the source and the target trading partners and the trading partner's gateway for sending outgoing document.

An additional configuration needed for incoming XML document are definitions of XML format, as shown in step 5.

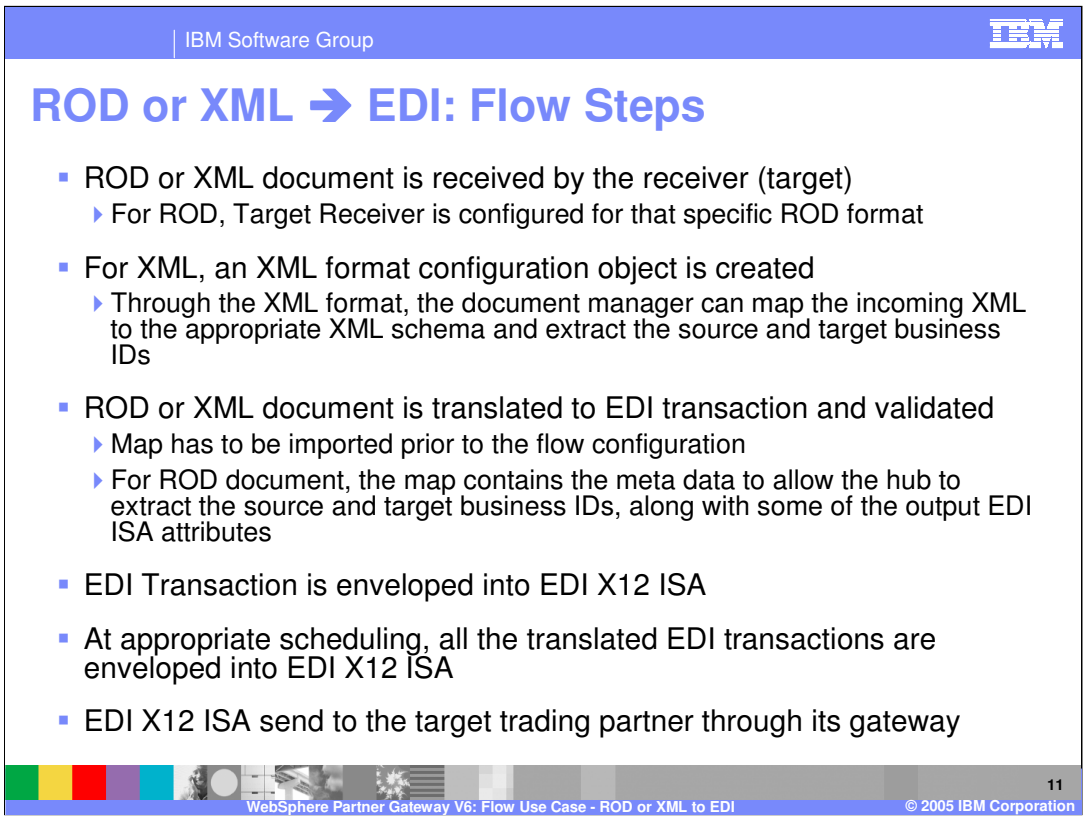
XML format definitions within the hub are used to match the incoming XML file with the XML schema and extract the necessary attributes. For an input XML file, the root element field is used to determine if the incoming XML matches this XML format definition.

In the example on the page, the Root tag value is "MMDoc". If the input XML file has the root tag of "MMDoc", this XML format will be the matching one.

Once the XML format is determined, the source and target business IDs can be extracted. They can be hard coded within the XML format, or extracted from the input XML file, by specifying the element path for the source and the target business IDs.

Once the source and the target IDs are determined, the matching source and target trading partners are established by the hub to find the participant connection for the input XML file.

Other presentations cover the details of these basic configuration.



The basic steps of ROD to EDI or XML to EDI are specified here at a high level. The ROD or XML is received at the target. If the target is been defined to have receive both the XML and ROD document, then the receiver is configured to use ROD splitter and XML splitter, with the ROD splitter being the last in the order.

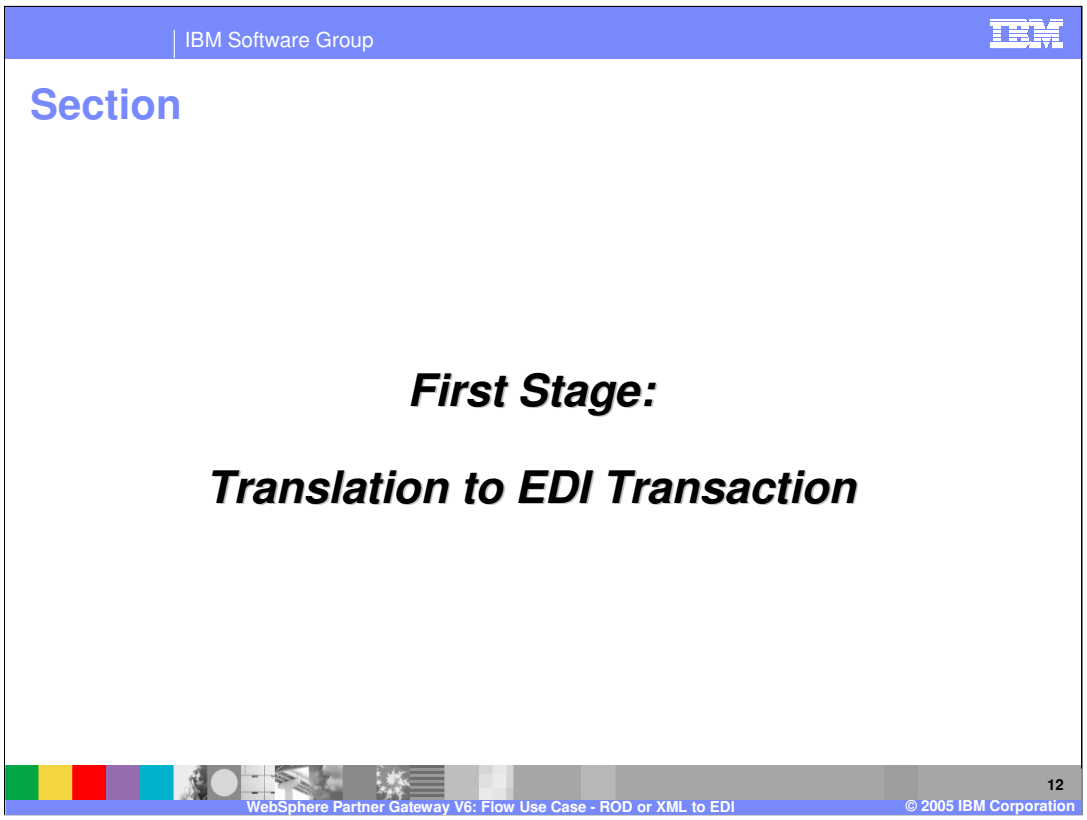
For incoming XML document, the administrator must define the XML format, which is used to identify the path where the source and target business IDs are located in the incoming XML.

Once the trading partners are identified for the XML or ROD, the appropriate connections are found. The first connection will translate the ROD or XML into EDI transaction based on the map. The EDI transaction is then enveloped in a EDI X12 ISA envelope, based on the envelop profile and the enveloper.

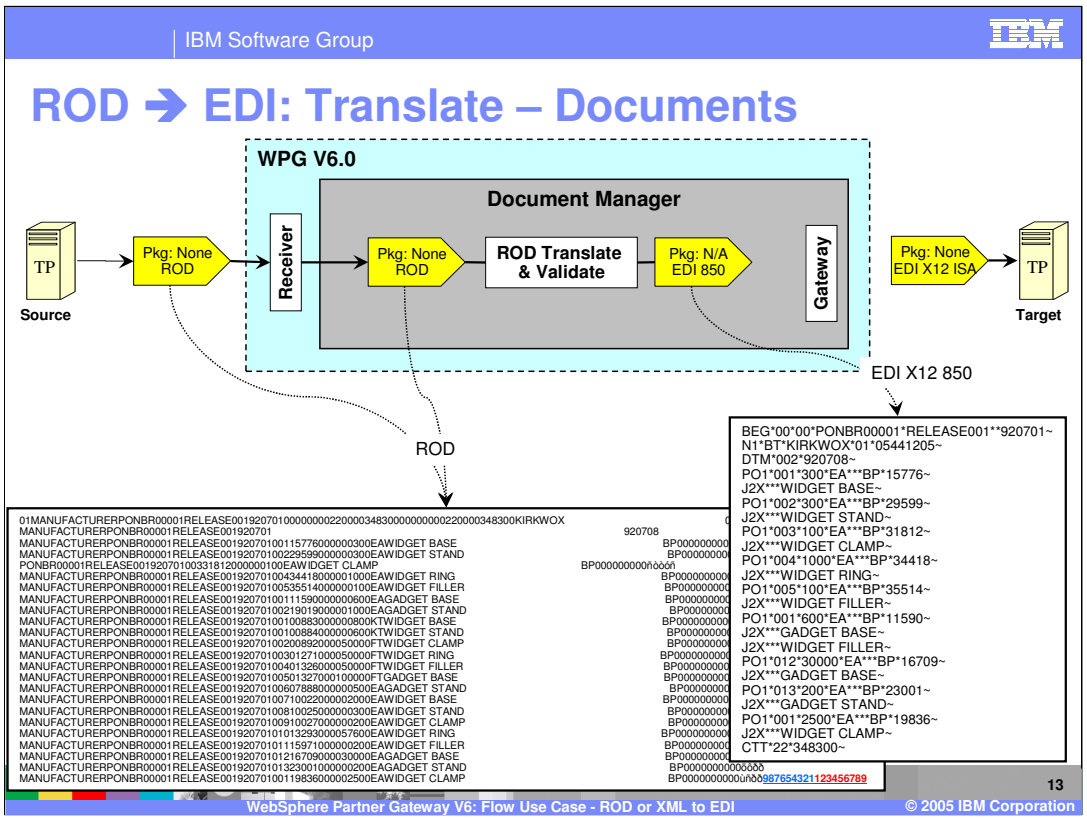
The generated EDI ISA is then send to the target trading partner through its gateway.

The rest of this presentation will go into more details of these high level steps.

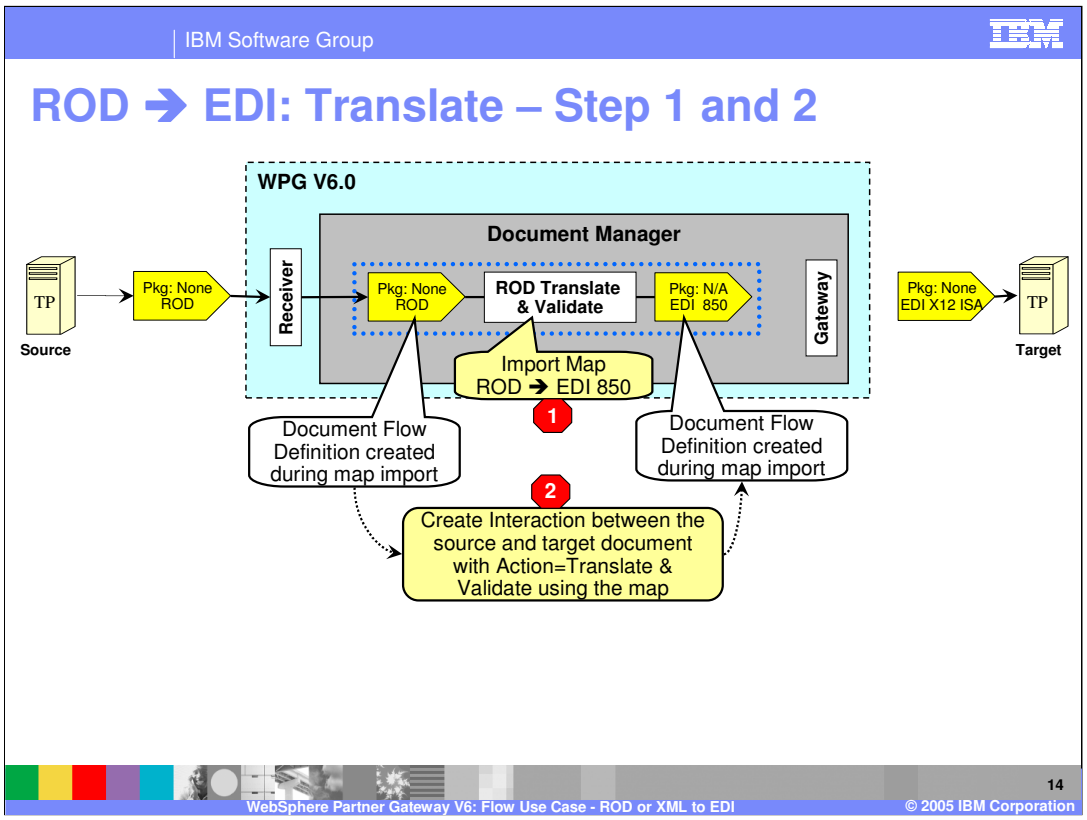
If the generated EDI envelope has the TA1 flag set, then the hub should expect to receive a TA1 acknowledgment from the target partner. In addition, the target partner may send 997 functional acknowledgement. More details on receiving these acknowledgements are discussed in separate presentation.



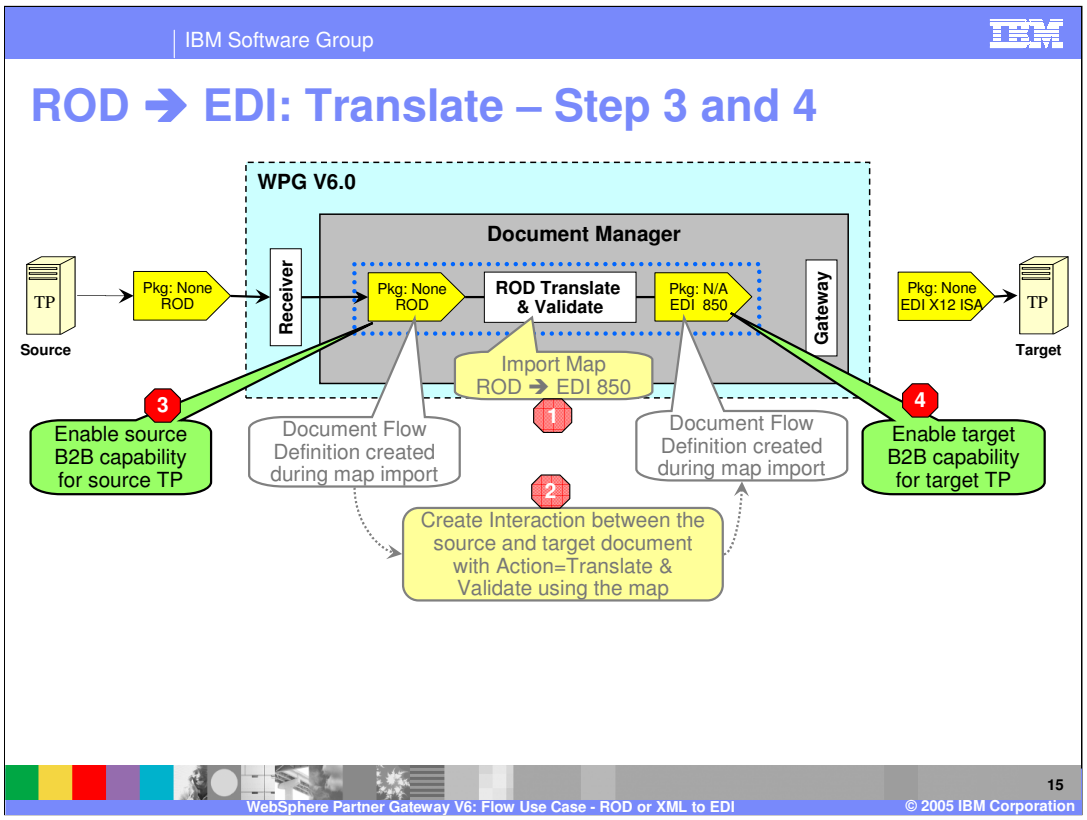
The next section will provide more details on the Translation stage of the ROD to EDI document flow



The first stage of the document flow is the translation of ROD document to EDI transaction, based on the map. Here, the incoming ROD and the translated output of the EDI transaction is shown.

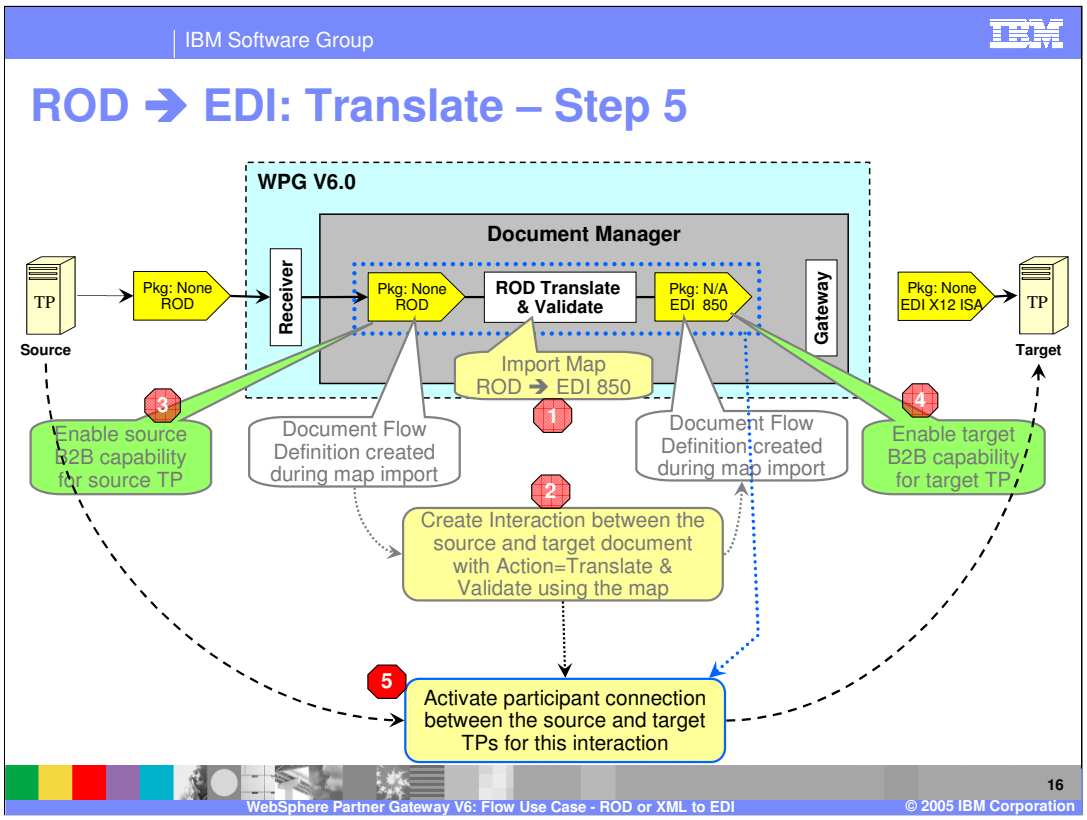


The first configuration step is to import the ROD to EDI map from the DIS client or use the bcgDISImport command, as indicated by step 1. When the map is imported into the WPG database, the document flow definitions for the ROD and EDI transaction are already created. The next step is to create an interaction between the source ROD and the target EDI transaction document, as shown by step 2.

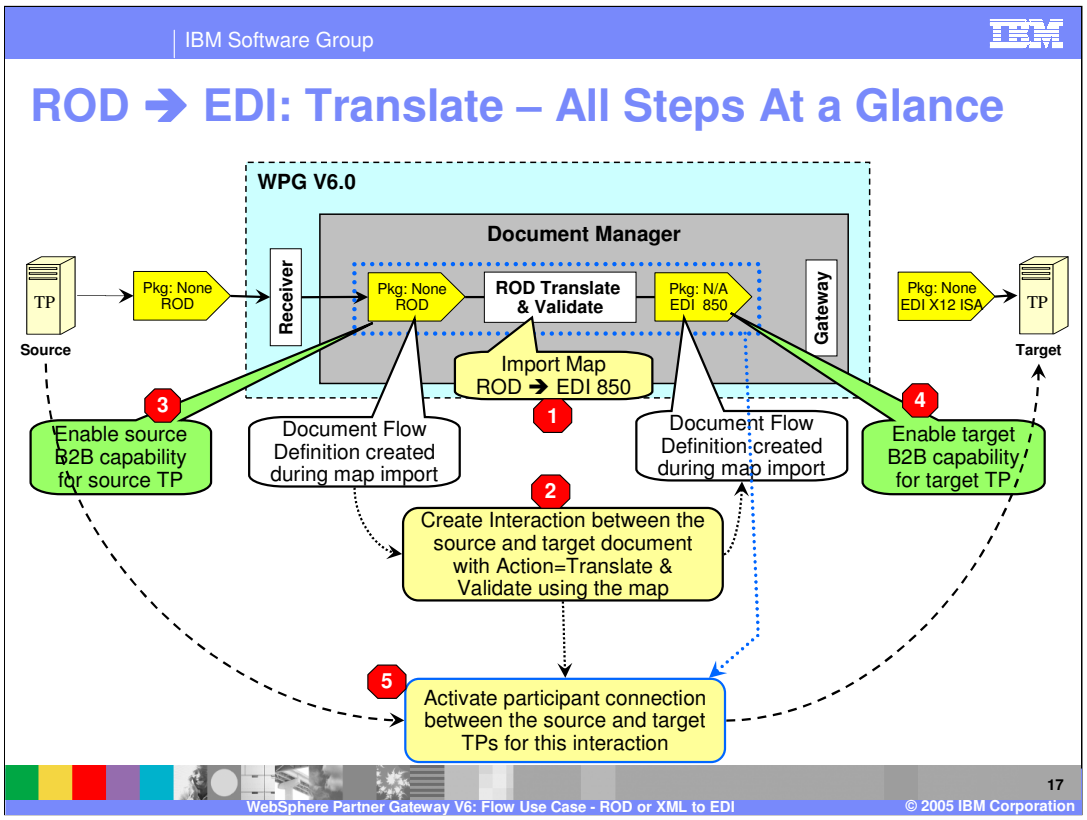


The enabling of the B2B capabilities of the source and the target trading partner is shown here, as indicated by steps 3 and 4.

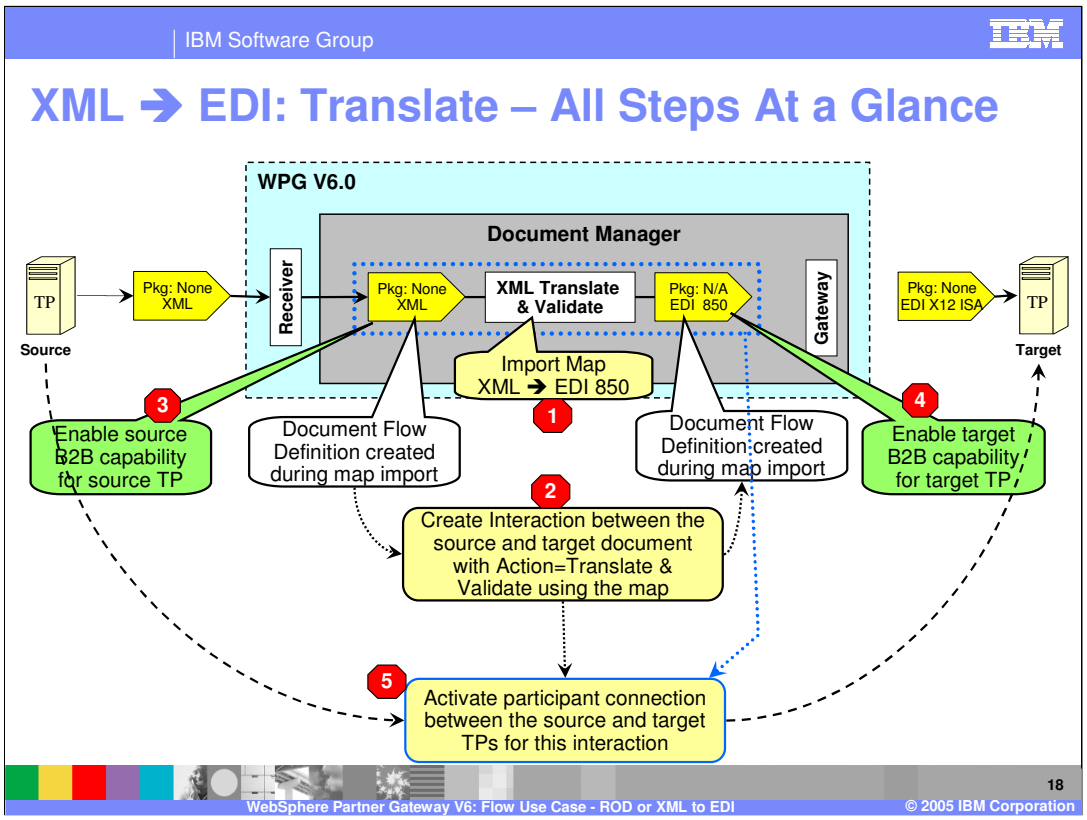
B2B capabilities specify the types of documents that will be supported by the trading partner to send or receive from the hub. Hence the source trading partner must enable the source document type, and the target trading partner need to enable the target document type.



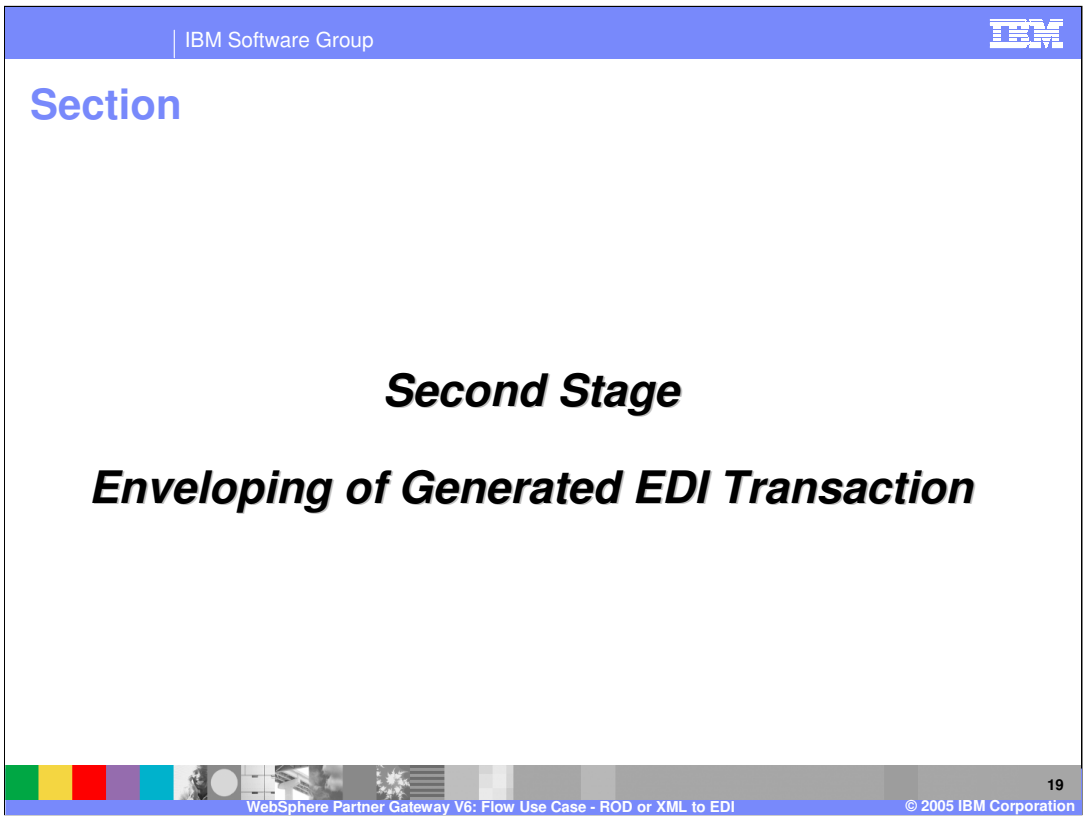
Once the interaction has been created and the trading partner have enabled the source document, and the target trading partner have enabled the target document, a participant connection can be activated between the source and the target trading partner, as shown in step 5.



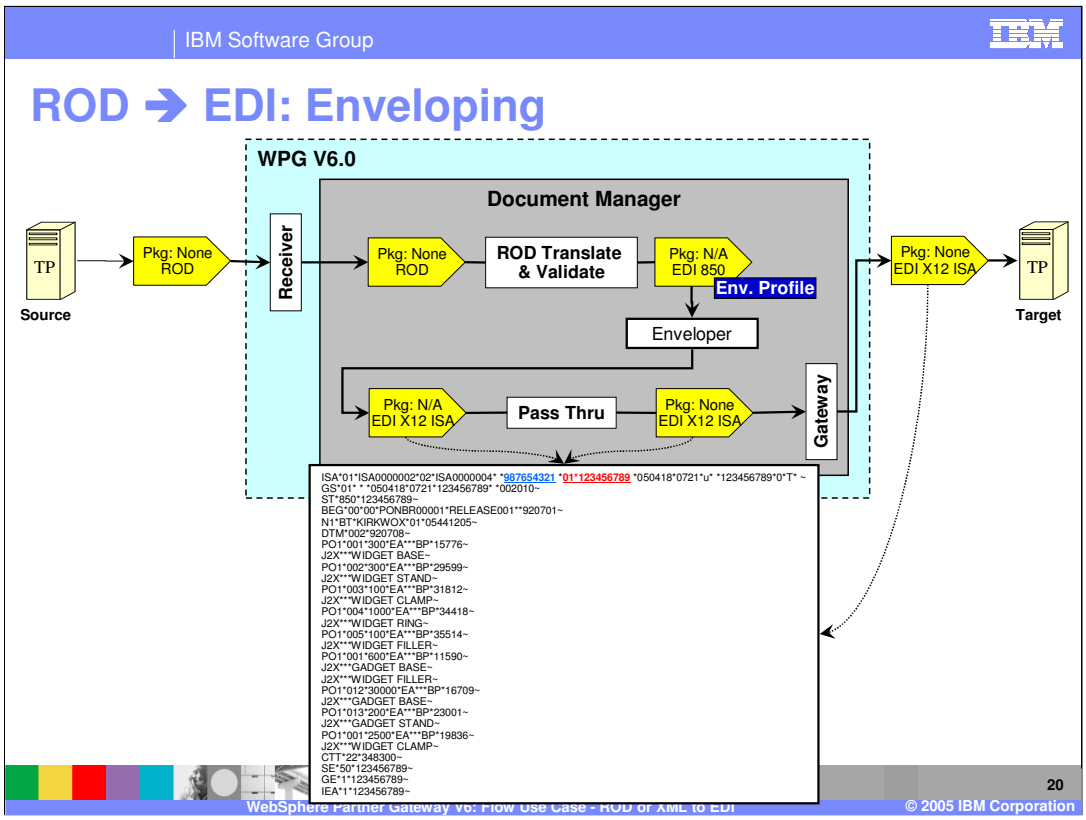
This summarizes all the configuration steps for the ROD to EDI document translation phase. The output EDI document is not ready to be send to the target trading partner. The transaction need to be enveloped before it can be send out. Next phase will describe the enveloping part.



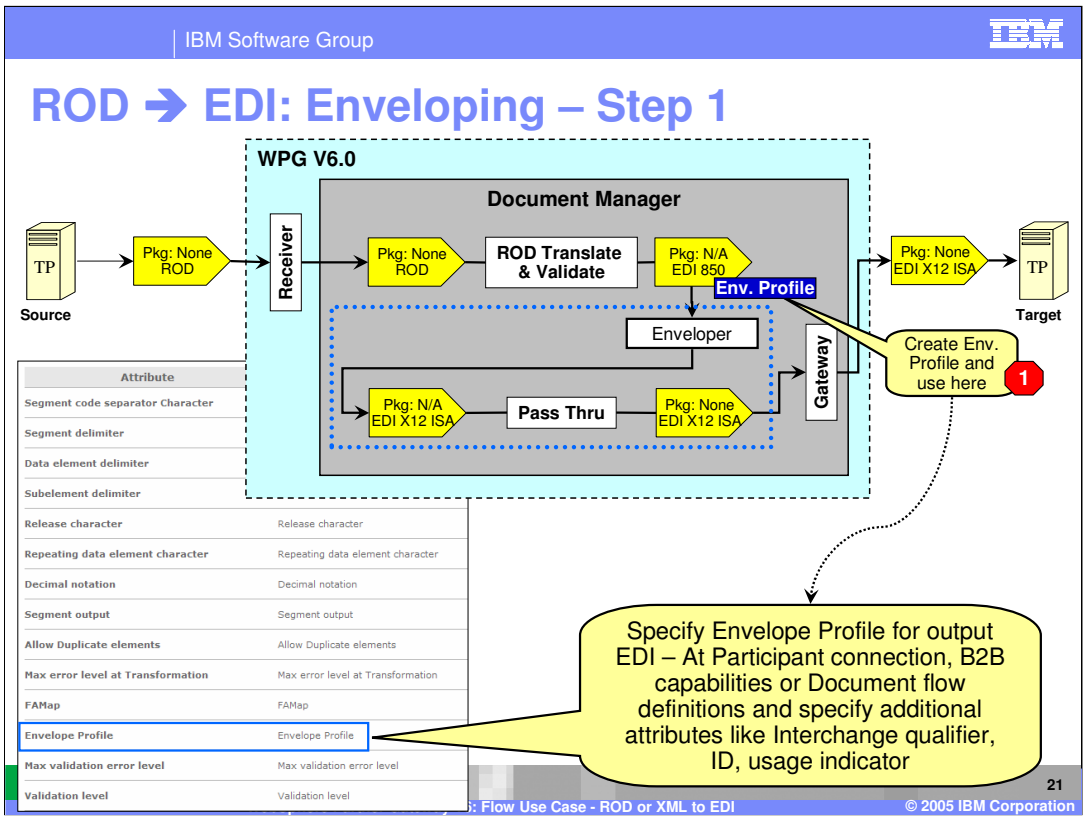
The XML to EDI configuration is similar to ROD to EDI. This summarizes all the configuration steps for the XML to EDI document translation phase. The output EDI document is not ready to be send to the target trading partner. The transaction need to be enveloped before it can be send out. Next phase will describe the enveloping part.



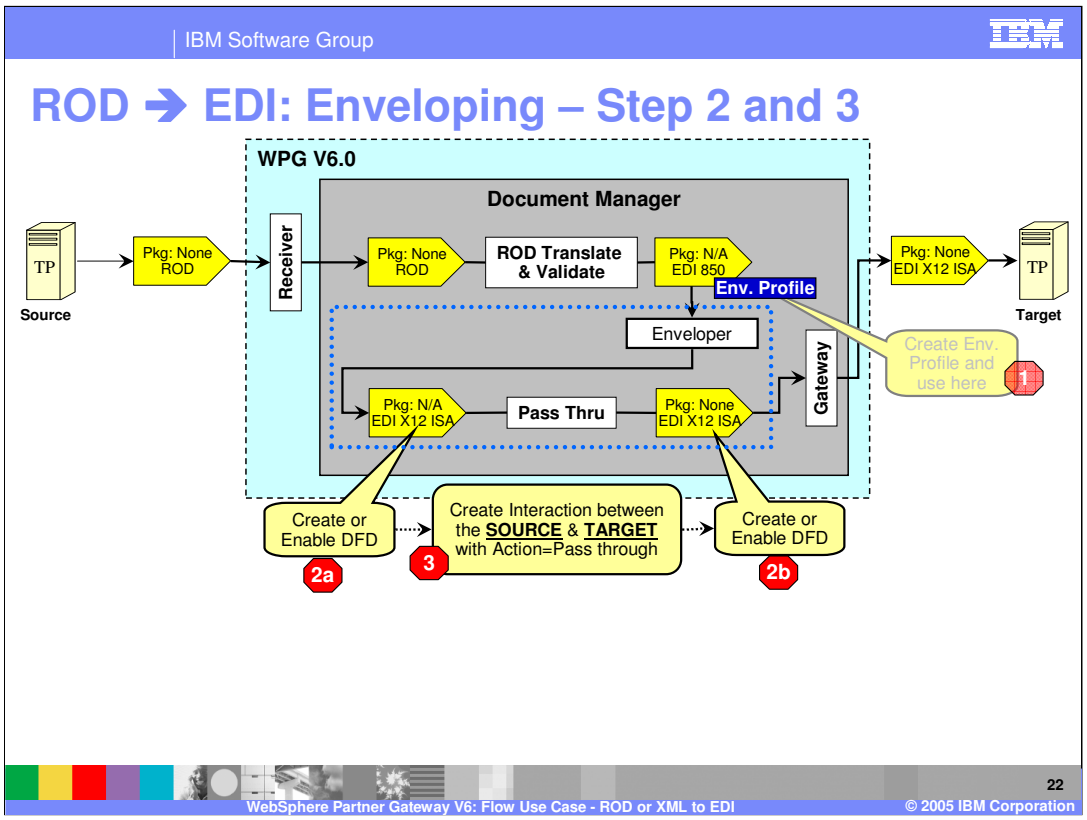
The next section will provide a description of the enveloping of EDI transaction, generated from the ROD to EDI translation.



The EDI transaction that was generated in the translation phase, goes through the enveloping phase. Based on the scheduling of the enveloper and other rules, the ready EDI transactions will be enveloped into a EDI X12 ISA envelope. The enveloped EDI X12 ISA then flows back through the document manager, for any final packaging that has been configured by the connection.

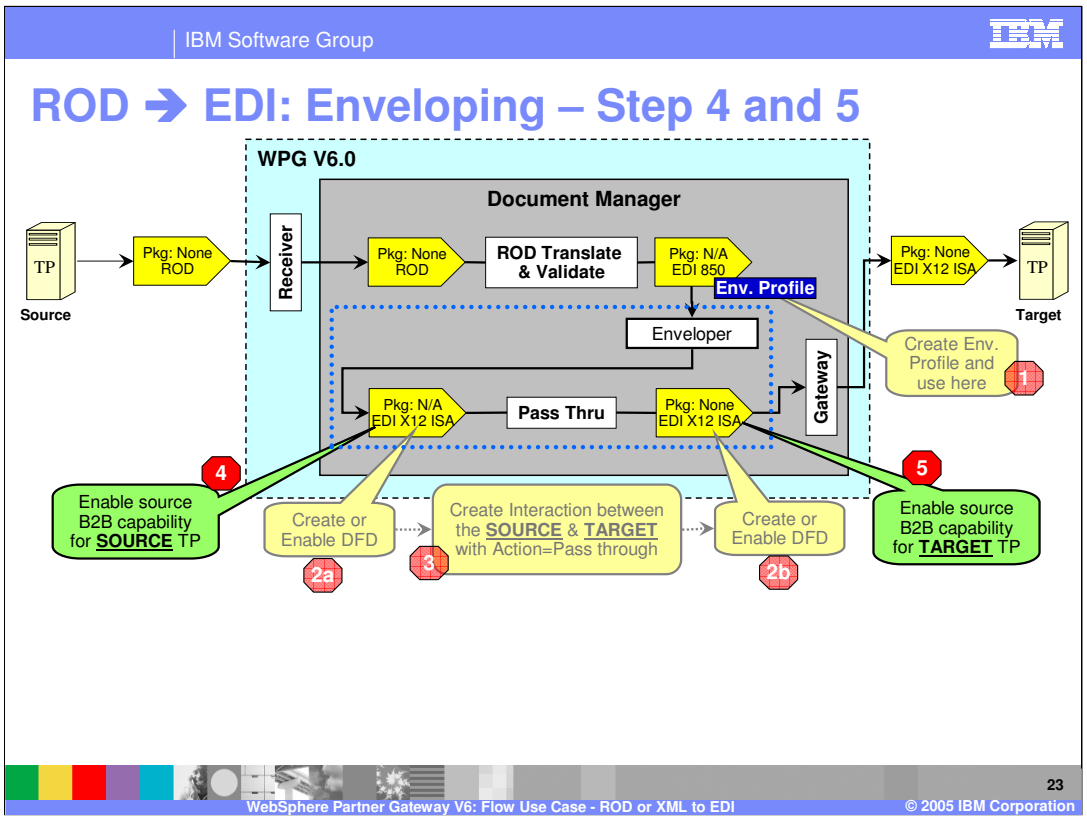


The first configuration step is to create an Envelope profile and then use it for the generated EDI transaction. The enveloper uses the envelope profile attributes and any other attributes on the EDI transaction connection to envelope the transactions in a EDI X12 ISA envelope. The attributes Interchange qualifier and ID form the target business ID for the enveloped EDI, if the ROD map does not provide any information.



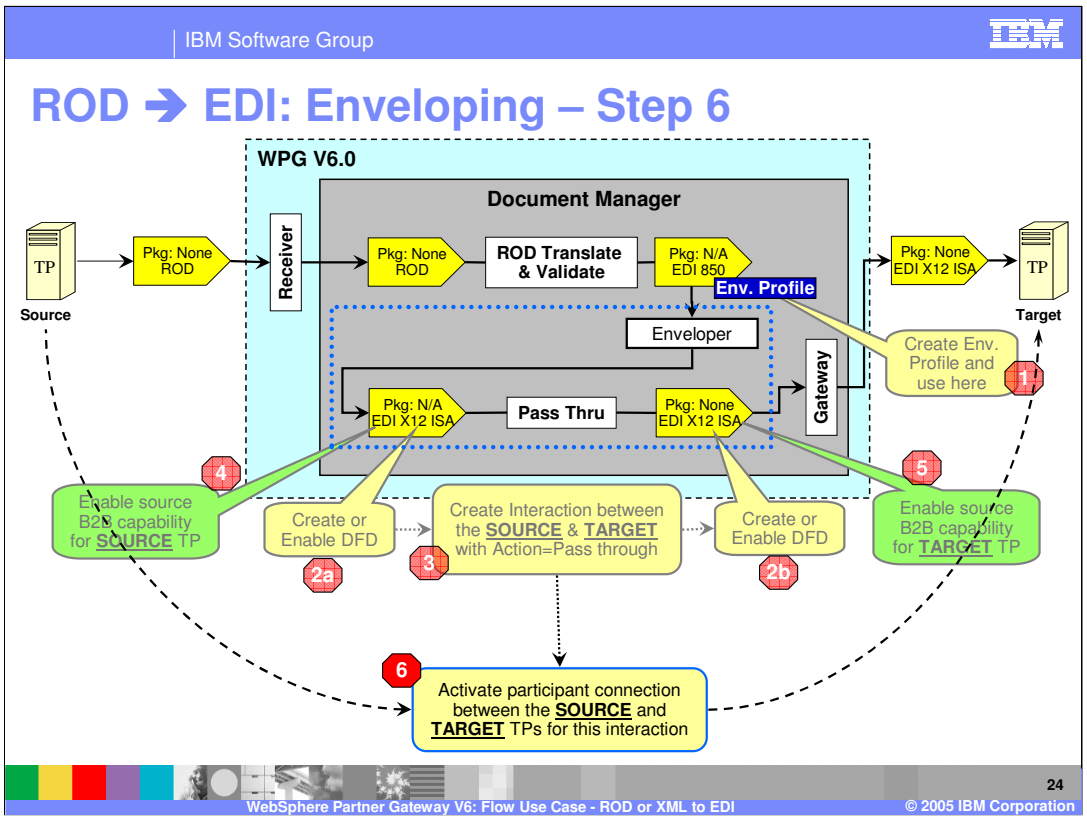
The second step is to make sure that the DFD is enabled for the EDI X12 ISA participant connection. By default, this is already enabled as part of the product install.

The third configuration step is to create an interaction that takes in EDI X12 ISA source with N/A packaging to EDI X12 ISA with the required packaging, like AS2.

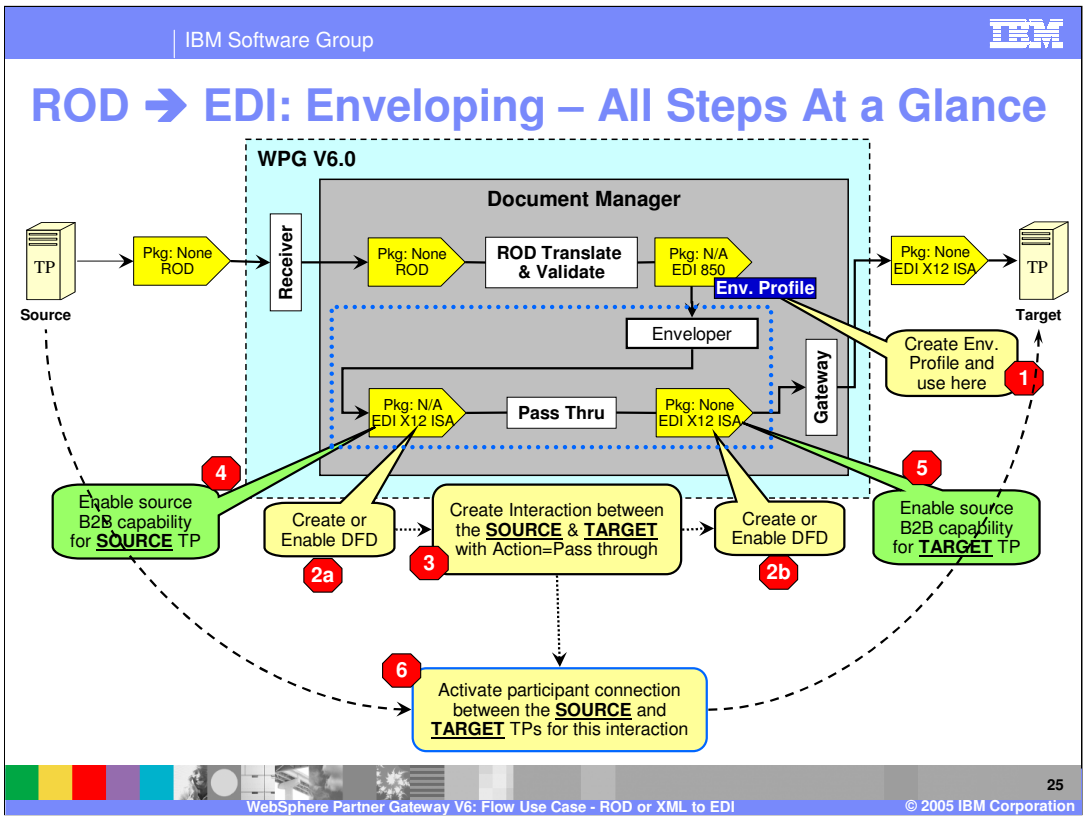


Configuration steps 4 and 5 configuration are enabling the B2B capabilities for the source and target trading partners.

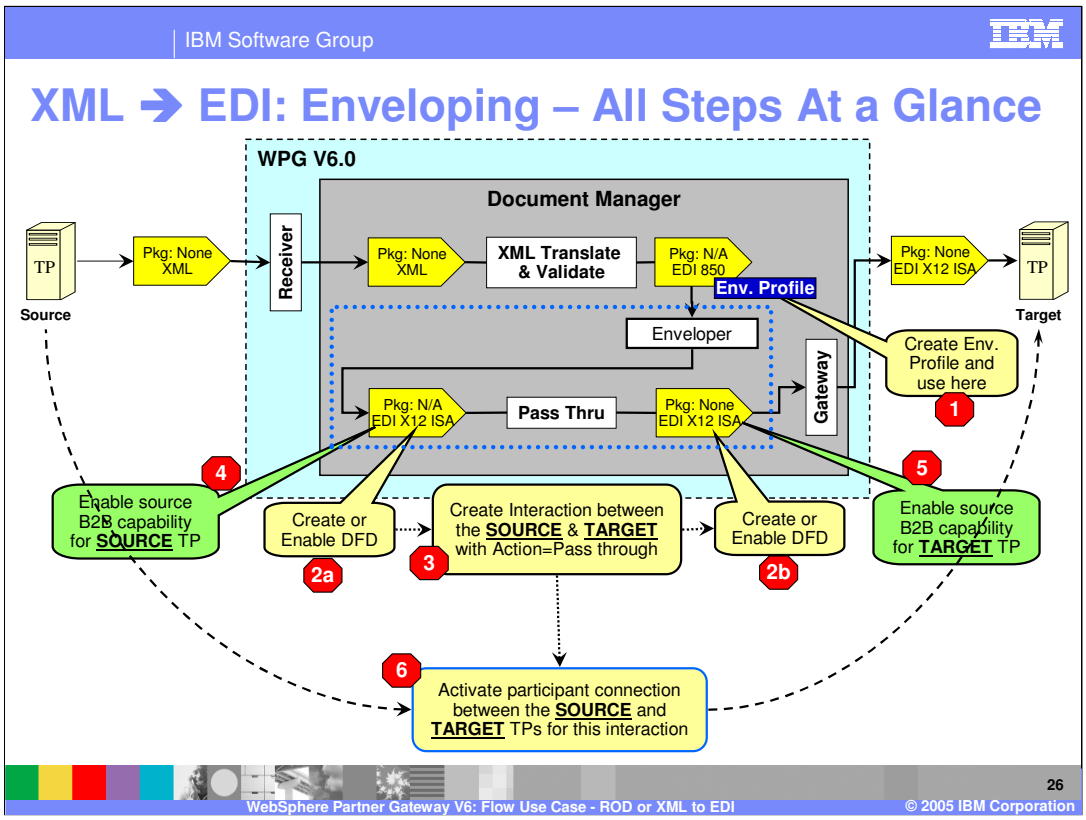
B2B capabilities specify the types of documents that will be supported by the trading partner to send or receive from the hub. Hence the source trading partner must enable the source document type, and the target trading partner need to enable the target document type.



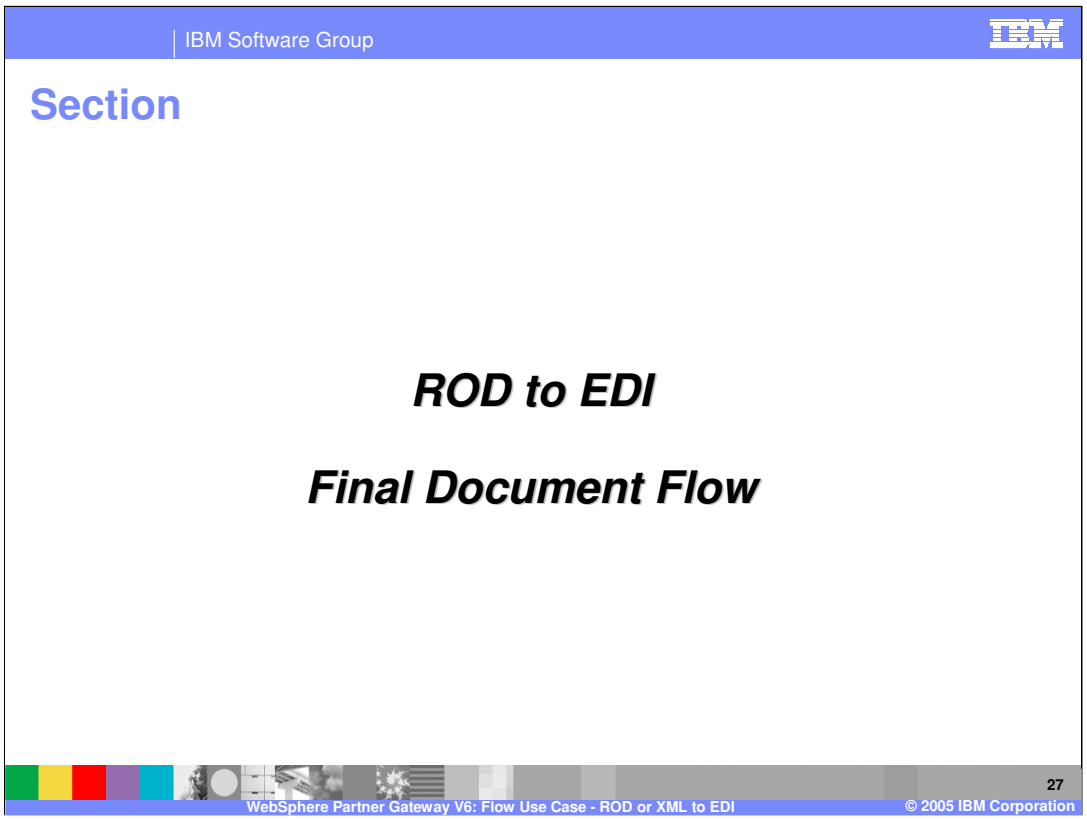
Once the interaction has been created and the trading partner have enabled the source document, and the target trading partner have enabled the target document, a participant connection can be activated between the source and the target trading partner, as shown in step 6.



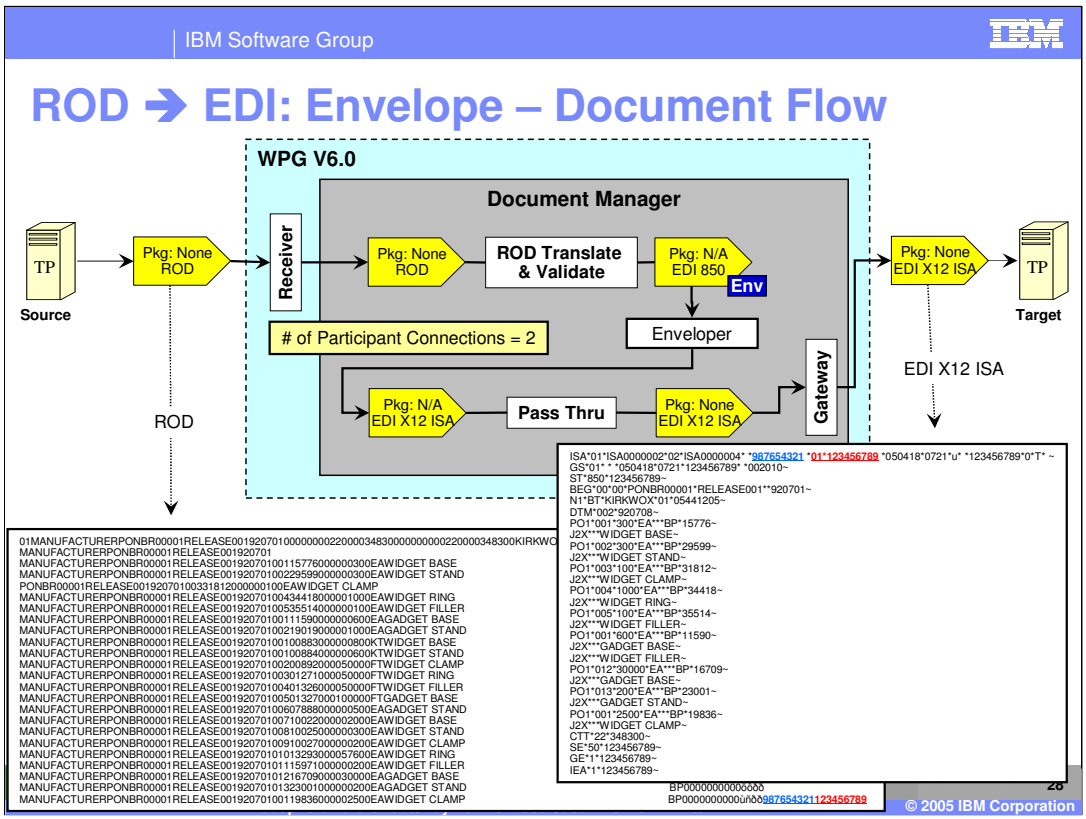
This summarizes all the configuration steps for the ROD to EDI document enveloping phase. The output EDI X12 ISA is now ready to be send to the target trading partner.



This summarizes all the configuration steps for the XML to EDI document enveloping phase. The output EDI X12 ISA is now ready to be send to the target trading partner. This is similar to the ROD to EDI scenario.



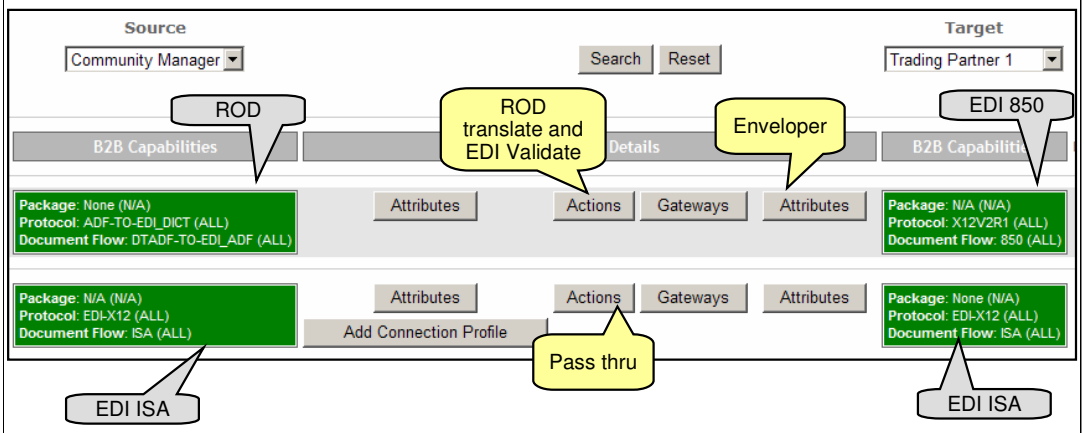
The next section will provide a brief summary of the final document flow of ROD to EDI.



All the participant connections for the ROD to EDI document flow along with the incoming ROD document and the outgoing EDI X12 ISA is shown on this page. This summarizes the ROD to EDI flow and the connections required for enabling a ROD document flow to EDI X12 ISA.

ROD to EDI: Participant Connection in Console

- Participant connections for ROD to EDI
  - FA and TA1 are not included here – the source and the target will be reversed for them



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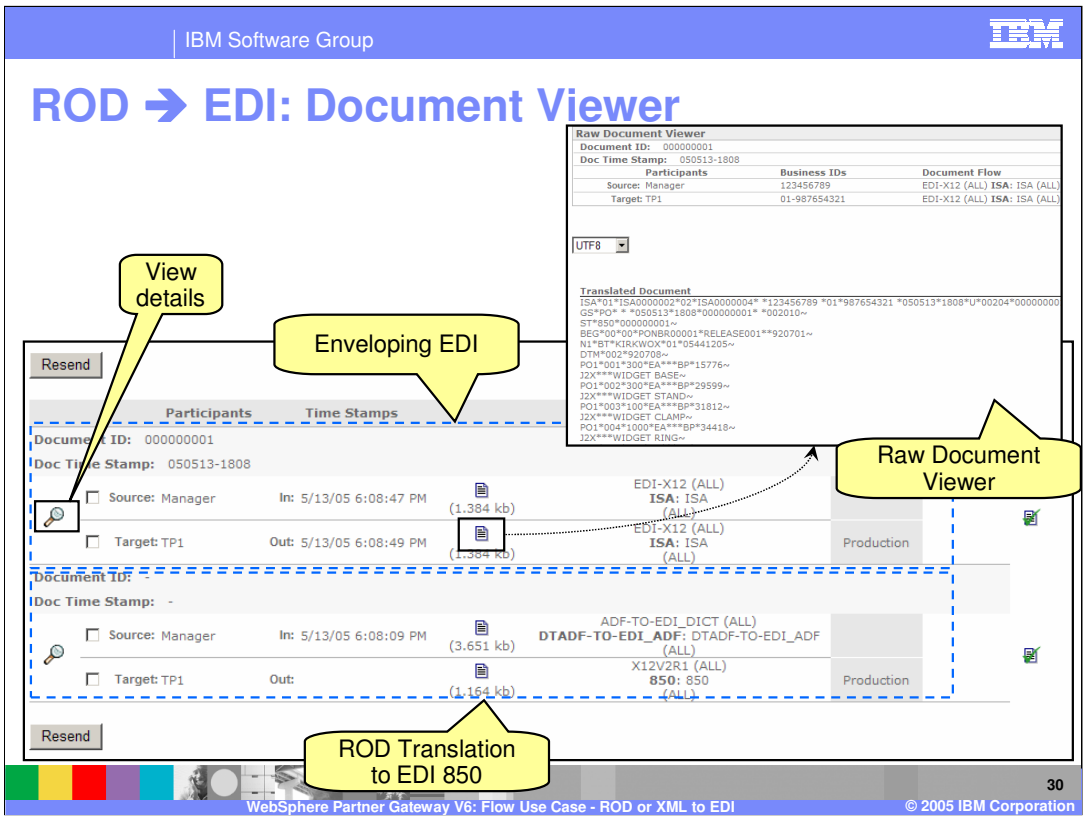
This page shows the console for the participant connections used for the ROD to EDI flow. Note that the participant connection for the TA1 and FA that hub receives from the receiving trading partner of the EDI document is not included here.

The first participant connection represents the ROD transformation to EDI transaction (850 in this example). Additionally, Envelope profile is specified on the target attribute to envelope the generated EDI transaction.

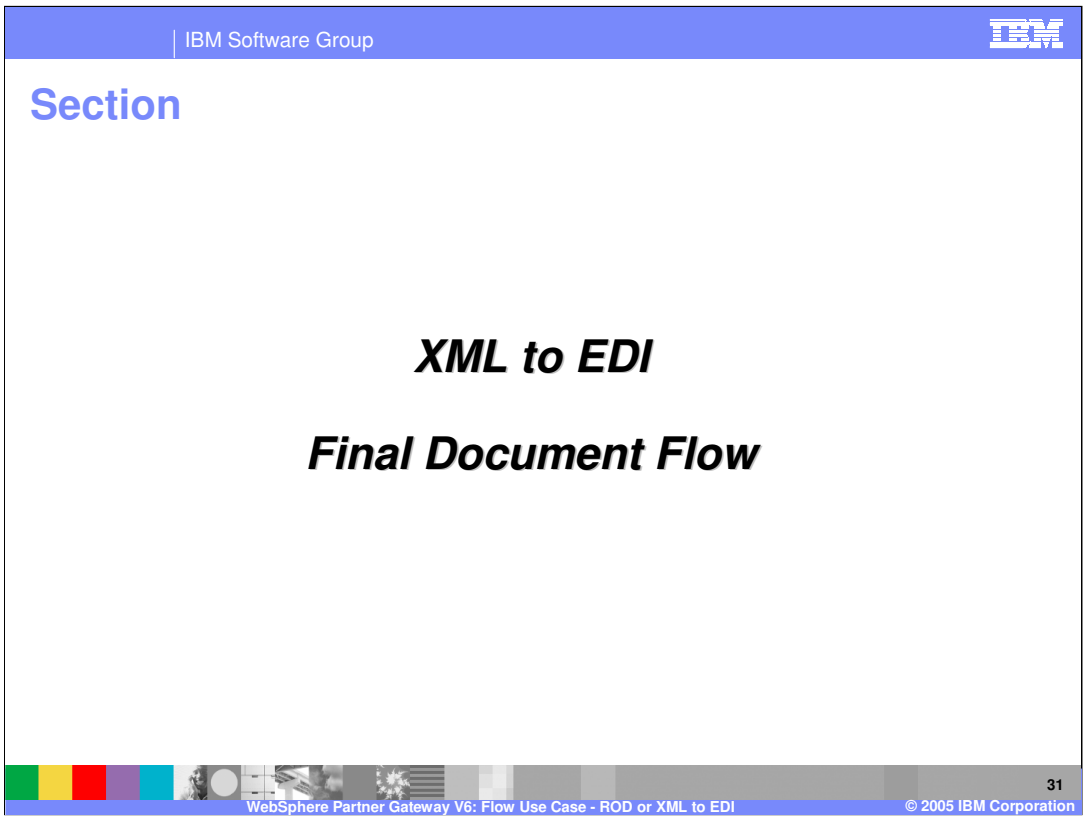
The second participant connection represents the enveloped EDI flowing back through the hub as a pass through to the receiving target trading partner.



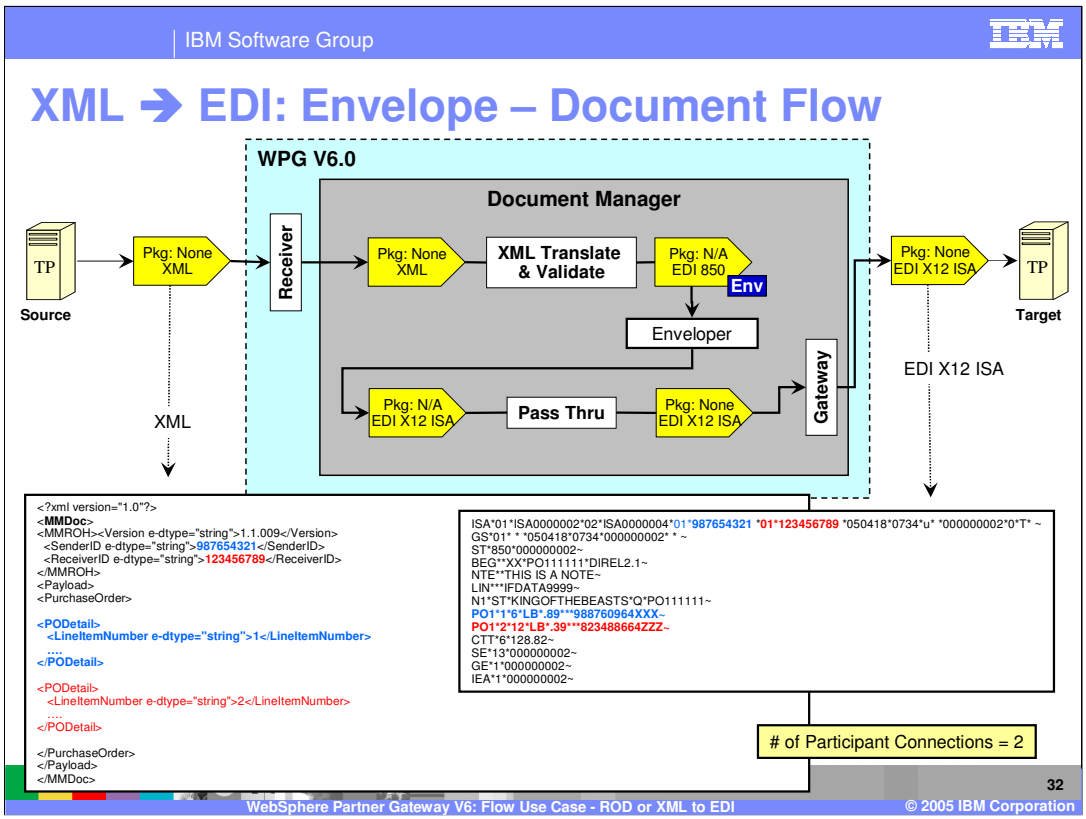
The document Viewer shows the example of the ROD to EDI documents as they are processed by the document manager. The bottom document shows the translation of the ROD to EDI 850 transaction, and the upper one shows the passing through the enveloped EDI Interchange through the hub.

Using the Document viewer, the administrator can view the raw documents, see the status of the document flow, look at the events associated with the documents, and be able to resend the documents.

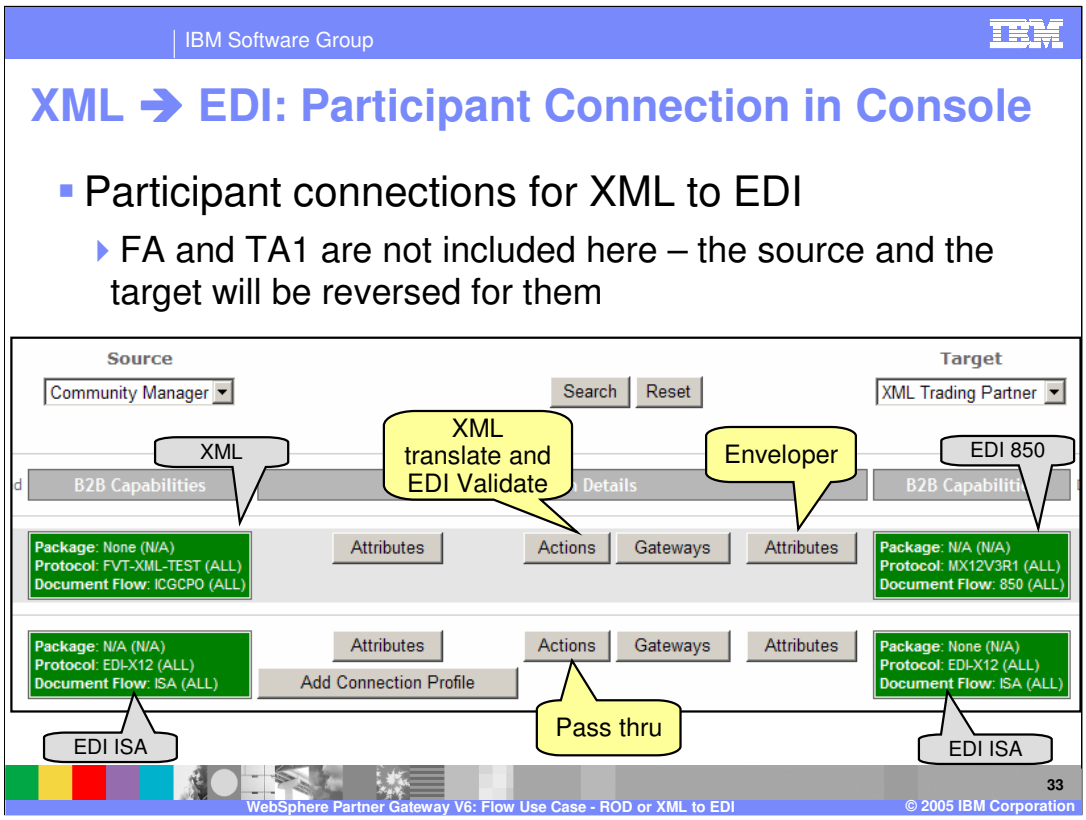
The document viewer is the primary tool for an EDI administrator to view the status of the EDI documents being processed through the hub.



The next section will provide a brief summary of the final document flow of XML to EDI.



All the participant connections for the XML to EDI document flow along with the incoming XML document and the outgoing EDI X12 ISA is shown on this page. This summarizes the XML to EDI flow and the connections required for enabling a XML document flow to EDI X12 ISA.



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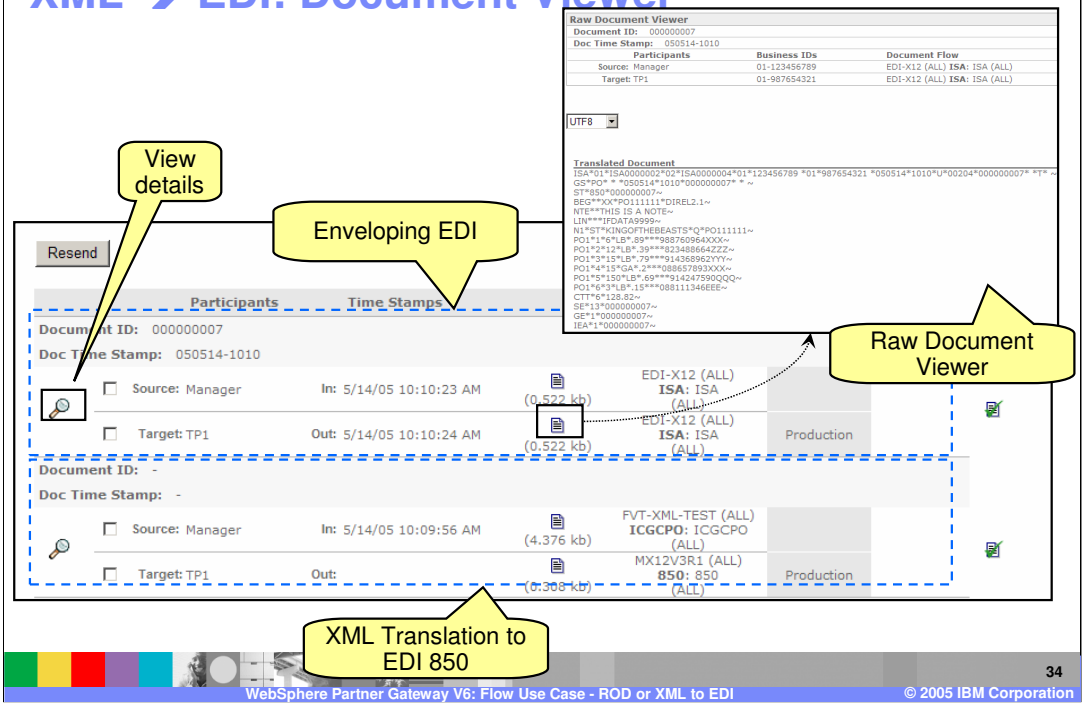
The second participant connection represents the enveloped EDI flowing back through the hub as a pass through to the receiving target trading partner.

XML ➔ EDI: Document Viewer



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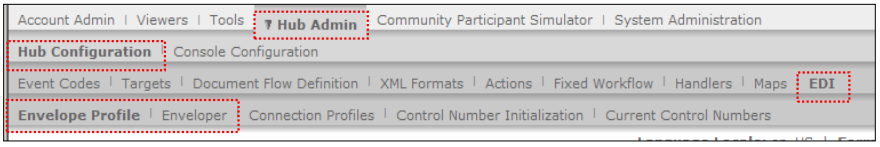
Section

EDI Enveloper and Envelope Profile



WPG Hub Console

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During the configuration, it was shown where Envelope profile is being used and the process of enveloping. The next section will provide more details on EDI Enveloper and Envelope Profile. The console shows where to set the Enveloper properties and create new Envelope profiles.

EDI – Enveloper

- EDI enveloper puts a EDI envelope wrapper around the generated EDI transactions
  - Individual EDI transactions are never send to the Trading partner – they must be within an EDI envelope
- EDI enveloper groups transactions that have the same values listed below:
  - Envelope Profile – provides attributes used by Enveloper for output EDI
  - Trading partner pair: Sender and Receiver qualifiers and IDs
  - Connection Profile
  - # of transactions are within the global maximum # of transactions setting
- When enveloping, the Enveloper assigns EDI control numbers to the different parts (Interchange, Group and Transaction) within the EDI Interchange
  - Control start numbers can be controlled by administrator
- Administrator can set the global batching and scheduling attributes on the Enveloper

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EDI Enveloper creates an EDI envelope for the generated EDI transactions that have the same characteristics, like EDI profile, sender and receiver trading partners, connection profiles. The Enveloper assigns unique EDI control numbers for the different parts of the EDI Interchange, based on the control start numbers provided in the Control number administration.

Global attributes like batching, scheduling can be configured by the Community Operator. The details of these global values are discussed later.

EDI - Envelope Profile

Community Operator

- An Envelope profile defines characteristics required for creating an EDI Interchange envelope for outgoing EDI
  - Can have one of more Envelope profiles with unique names
  - They are used by Enveloper component
- Envelope profiles provide default values for Enveloper and some of them can be overridden at Routing or Connection level
- Envelope profile is then associated with the EDI transaction flow as an attribute at several possible configuration points – Participant Connection, B2B Capabilities or Document Flow Definition
- Console provides an ability to define Envelope profiles

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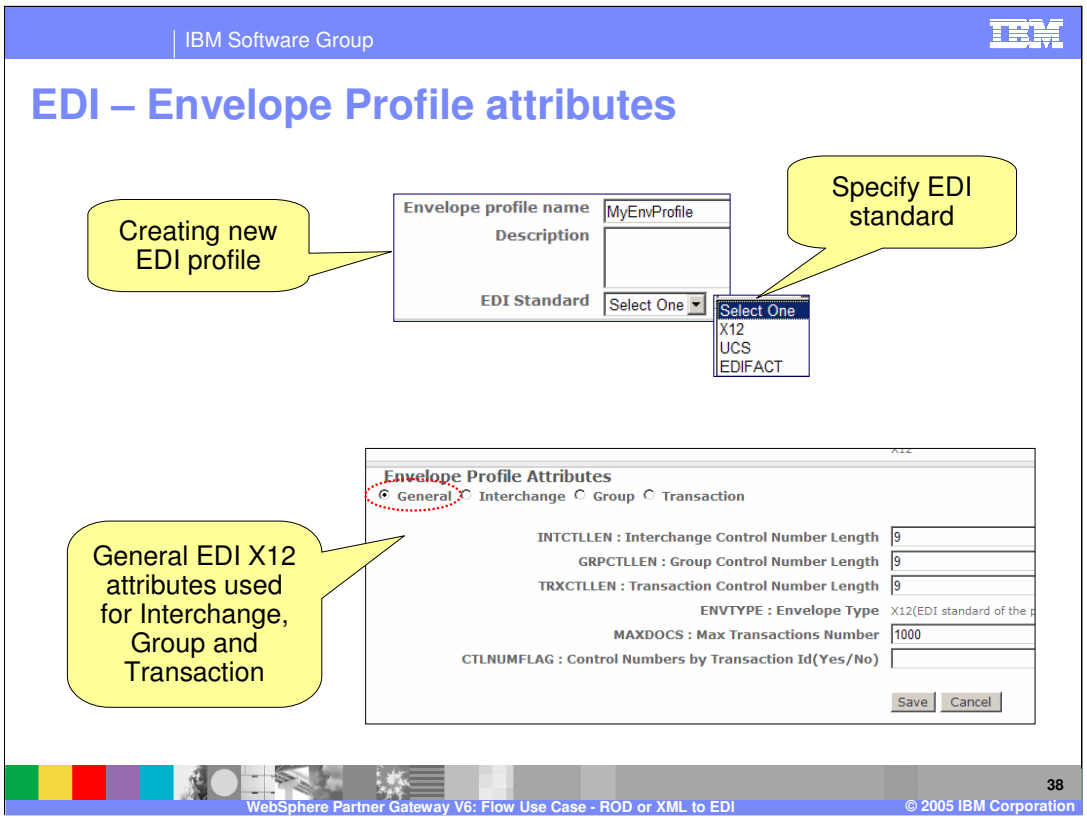
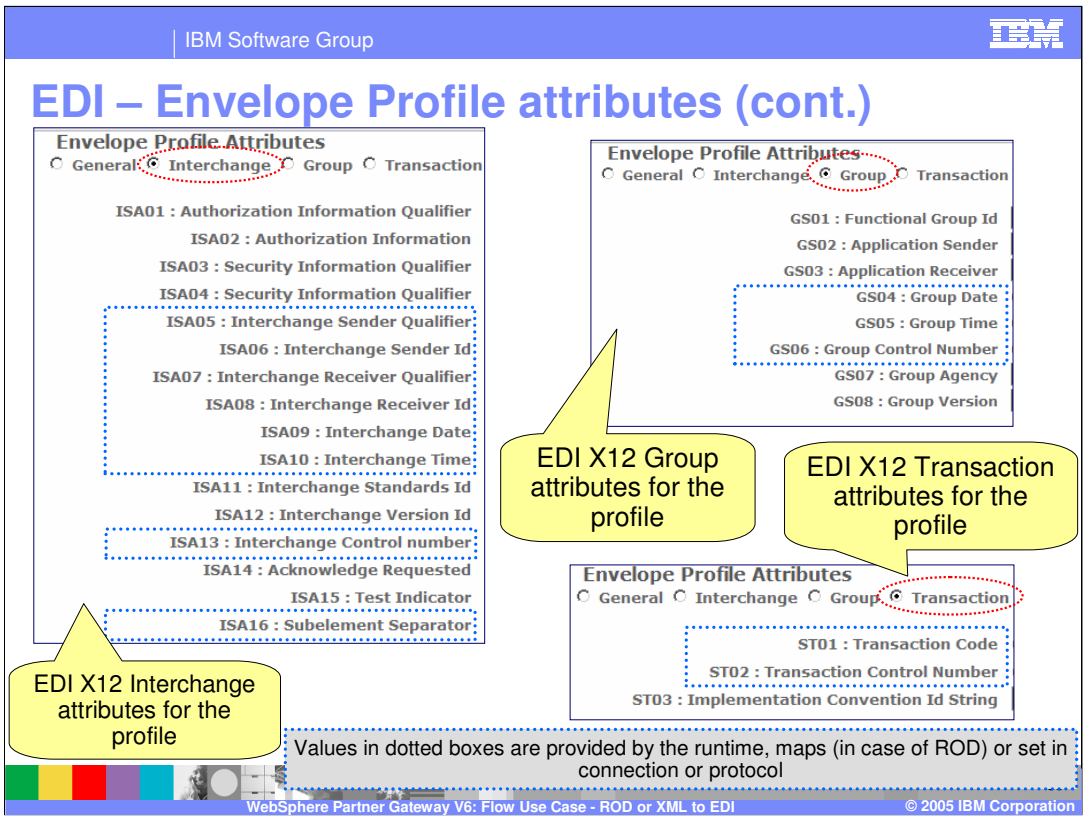
Envelope profile defines attributes that the Enveloper uses when generating the EDI Interchange. Some examples of attributes are ISA Security attributes, Interchange standard ID, Acknowledge requested, and so on. Envelope profiles are associated with the connection. The enveloper will use the attributes in the Envelope profile for the generated EDI interchange.

Envelope profile can be created only by the Community Operator.



This page shows the console panels to enter the attributes within the EDI envelope profile.

The attributes depends on the type of EDI standard used. This page shows the selection box for the EDI standards, and based on that, the appropriate attributes for the Interchange, Group and transactions are shown.

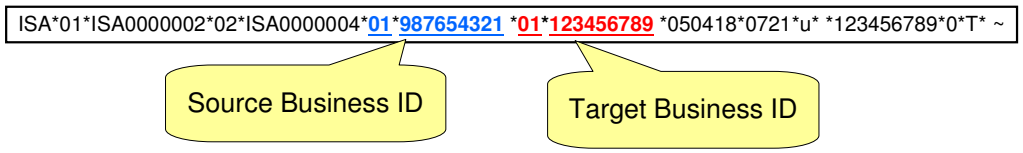


This page shows the Interchange, Group and Transaction attributes of the EDI X12 Envelope profile.

Attributes in the dotted boxes are either set some other place like participant connection or document flow definition protocol, or they are provided by the runtime.

The help system will provide more details on each of these attributes.

Enveloped EDI - Source and Target Business IDs



- The source and the target business qualifier and IDs used in the enveloped EDI can be different than the business IDs of the trading partner
- This provides flexibility of being able to generate the business qualifiers and IDs in the enveloped EDI

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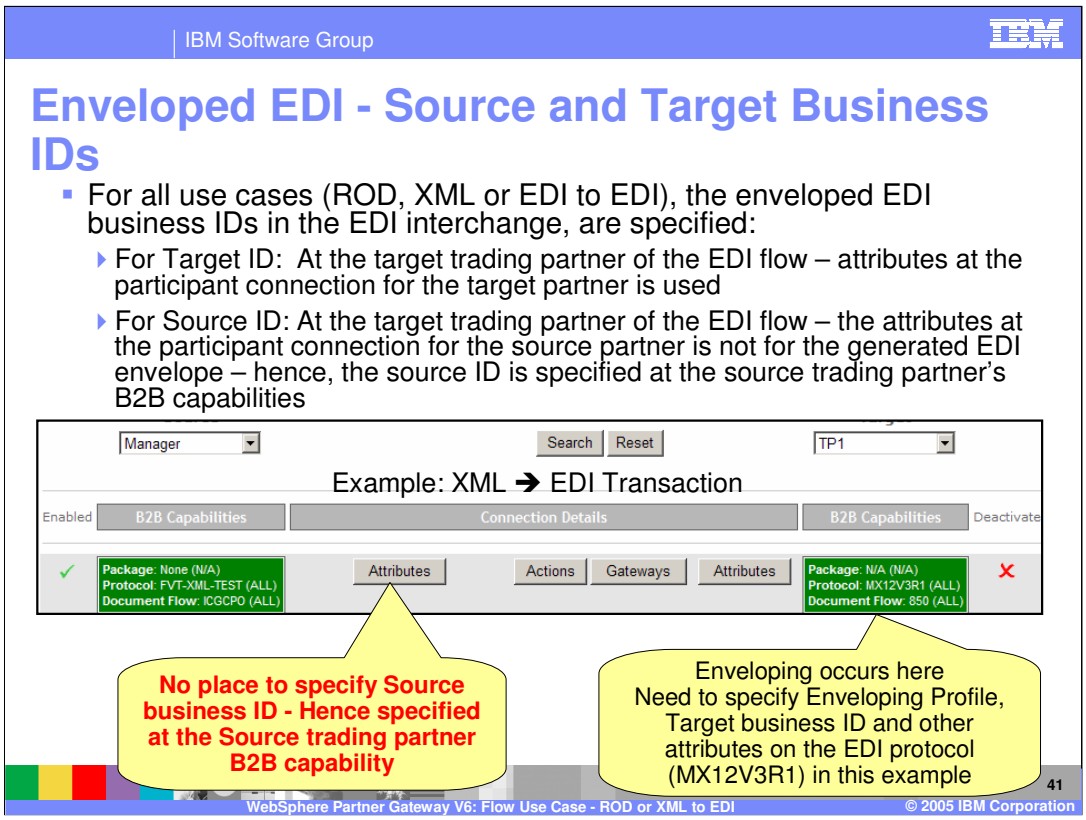
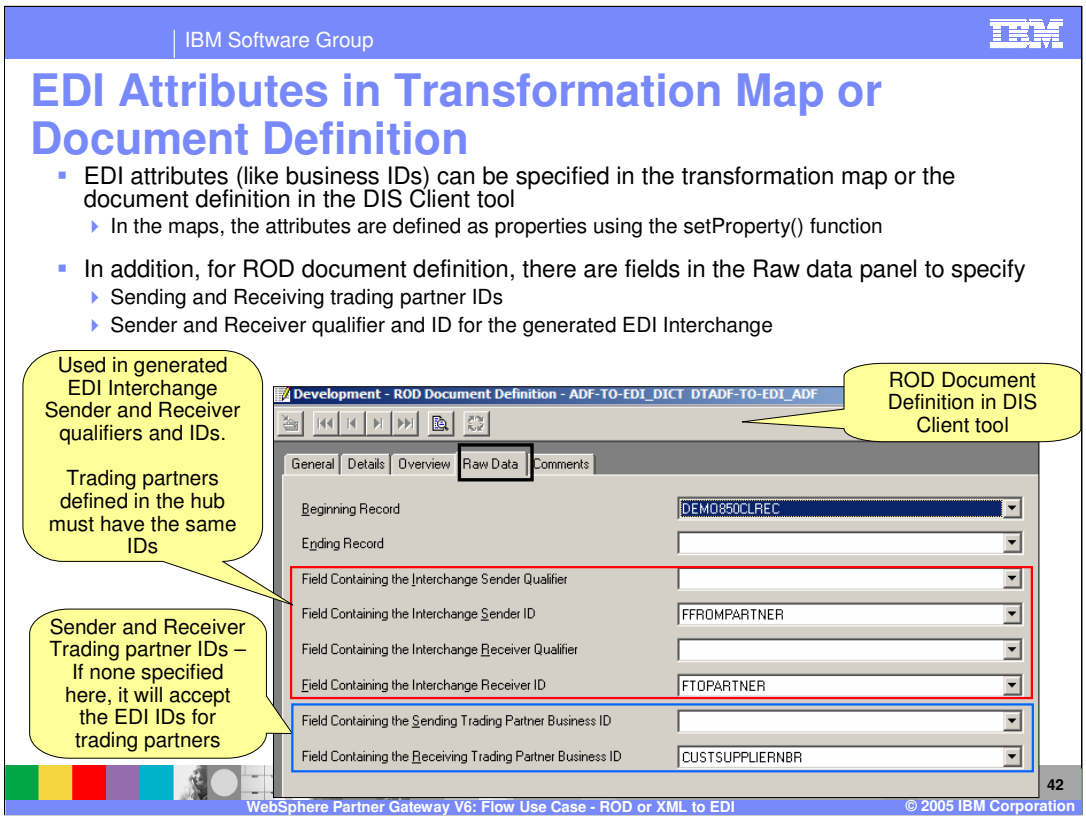
The source and business IDs for the generated EDI interchange can be different than the business IDs of the trading partners. This provides the flexibility of not tying the generated EDI interchange IDs to have the same value as the trading partner business IDs.

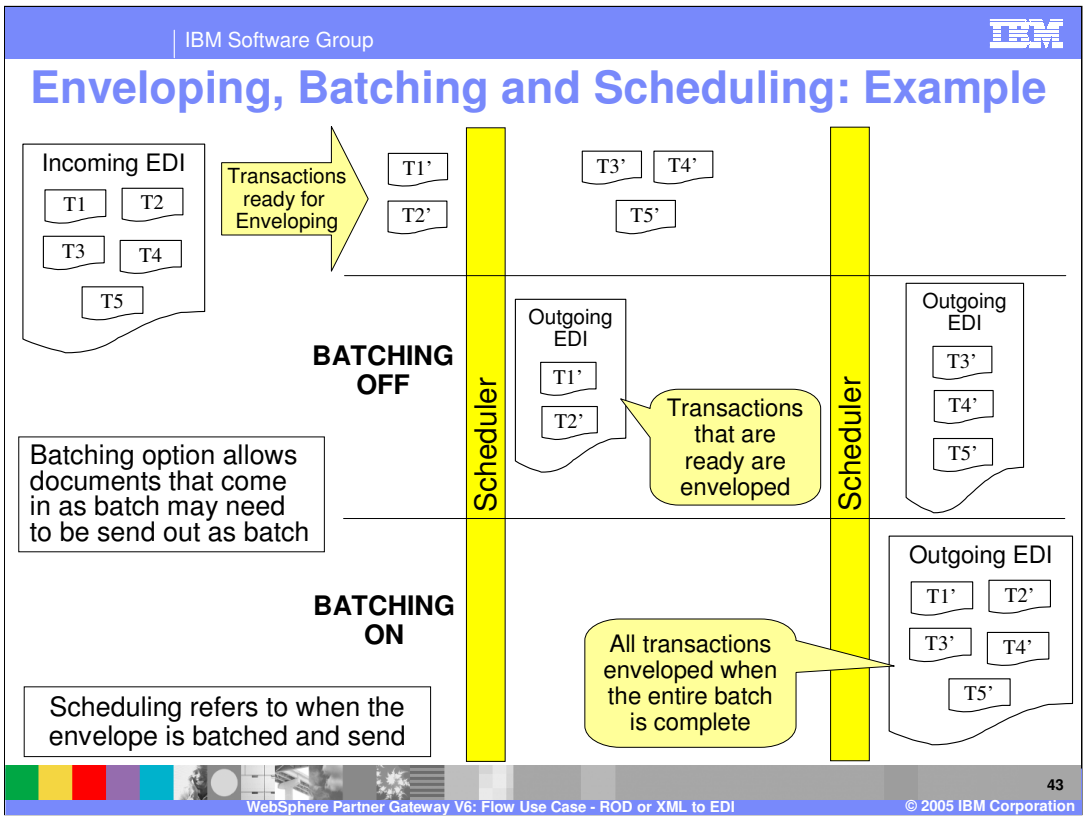


Normally, the source and target attributes of the source and the target in the participant connection. However, when having a ROD to EDI, or XML to EDI or source EDI to another target EDI, the source document at the connection is not the final EDI document. In the example, shown on this page for the XML to EDI participant connection, the target business ID for the EDI interchange can be set on the target EDI at the connection. There is no place to set the source business ID for the EDI interchange, since the source is the XML document for the connection. To work around this case, the source business IDs is set on the B2B capabilities attribute for the source trading partner. Recall that attributes can be set at different levels, at the participant connection, B2B attributes and so on. Hence, you can use the B2B capabilities for the source trading partner to specify the source business ID to be used for the EDI interchange.



Using the DIS Client tool, the EDI mapping specialist can specify the EDI attributes as properties in the transformation maps, using the setProperty() function.

For the ROD document definition, as part of the ROD raw data, the mapping specialist can specify the EDI ISA sender and receiver qualifier and business ID fields. The values of these fields in the ROD document are used by the EDI enveloper in the generated output EDI. Within the raw data, the sender and receiver trading partner business id fields.



Customers expect that the transactions which either came in one batch or which need to be sent out as a batch are enveloped together. Therefore it is expected that envelopers should try to envelope the transactions which are part of one batch, in a single envelope and in the same sequence as in the source document. For example, if input file to WPG receiver is a document containing multiple XML documents which should be transformed into EDI, the customer expectation is that the resultant EDI transactions need to be enveloped together.

Batching applies to processing the documents that come in as a batch to be send out as a batch in one EDI envelope.

Batching is important requirement because of various reasons:

- Many applications have been developed with processing logic of transactions coming in one batch are flowing out in one batch.
- Automated testing suites developed by customers expect that transactions incoming in a batch will flow out as one batch.

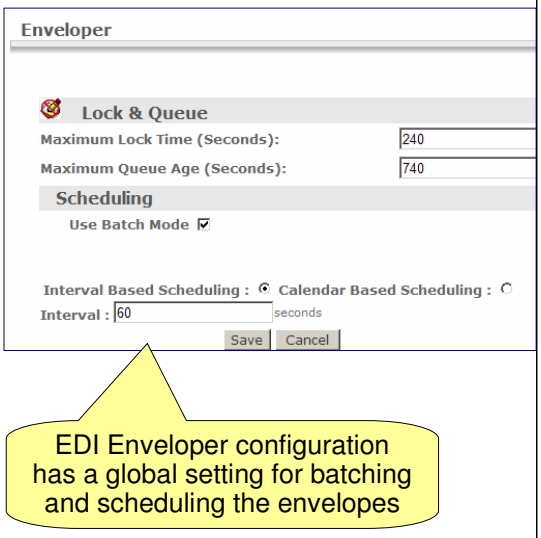
Scheduling refers to when the envelope is batched and send.

Without batching, the Enveloper will envelope and send the processed transactions when the scheduler time is up. What gets enveloped may not be all the transactions from the incoming document. The receiver may get one or more EDI envelopes from an incoming input document. there may be more that may be enveloped later.

With Batching turned ON, the enveloper will wait until all the transactions related to the batch are processed and can be enveloped. Hence batching may not send any envelope when the scheduler cycle complete, if there are pending transactions of that batch.

Enveloper Batching and Scheduling Console UI

- To turn on Batching options, the global setting must be on as well as the batch option on the Receiver Splitter handler



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The global panel for Enveloper configuration are shown on this page. The scheduling is based on 2 factors, batching and scheduler interval.

For the batching to be on for a input document from a trading partner, the global setting shown here must be ON, as well as the batch option on the Receiver splitter handler configures at the Receiver Target.

Scheduling can be interval based (like, every 60 seconds) or calendar based (like, 1 AM every day or every Monday)

Enveloper Configuration determines how often to perform the envelope operation, by time interval or schedule (date/time) for each destination trading partner.

The next section will provide a brief summary.

Summary

- This presentation covered in details of the ROD or XML to EDI flow use cases showing the configuration needed for the flow and the document views that appear in the document viewer of the product.

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The presentation focused on the EDI to XML or ROD flow. There are tutorials available for some hands on experience with the EDI to XML and EDI to ROD flows. Going through the tutorials is encouraged and they will give the basic understanding of the configuration needed for these flows.

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