



IBM Software Group

# IBM® WebSphere® Partner Gateway V6.0 Advanced and Enterprise Editions

## *EDI Flow Configuration*



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This presentation will focus on understanding what and how to configure WebSphere Partner Gateway for EDI input or output. The new native EDI capability brings in new settings for EDI that need to be configured. This presentation will focus on those EDI configurations.

## Agenda

- Overview of EDI Configuration

- EDI De-enveloper

- EDI Envelope Profile and Enveloper

Also covered in  
the ROD or XML  
to EDI flow use  
case presentation

- EDI Connection Profile

- EDI Control Numbers

- EDI Attributes

The agenda for this presentation looks at the EDI configuration focusing on EDI De-enveloper, Enveloper, Connection Profile, Control numbers and EDI specific attributes.

Note that the EDI De-enveloper and Enveloper are covered in the ROD/XML to EDI flow use case presentation also.

## Typical Actions in EDI document Flow

- A document flow for a typical input or output EDI may flow through several interactions through the document manager
- EDI flow consists of the following steps at various point of flow for incoming or outgoing EDI document
- Incoming EDI
  - ▶ De-enveloping of the incoming EDI Interchange from a trading partner
  - ▶ Source validation
  - ▶ Transformation of EDI Transactions – generated from the document manager
  - ▶ Sending acknowledgements to sender
- Outgoing EDI
  - ▶ Transformation to EDI Transactions – generated transactions flow back into the document manager for further processing like Enveloping
  - ▶ Target validation
  - ▶ Enveloping of generated EDI transaction – generated EDI Interchange flows back into the document manager for final processing like packaging before sending to the trading partner

Understanding the different actions for EDI document within the document manager will help understand the different EDI configuration settings.

Unlike simple flows, that have a simple flow of the document and probably one participant connection. EDI configuration is slightly more complex since a EDI document contain EDI transactions that require their own flow. Hence, an incoming EDI document flow requires several participant connections to handle incoming EDI, each different type of transactions. Similarly, an outgoing EDI document requires an connection defined for the generated EDI Interchange, besides the flow for each type of transaction.

An incoming EDI document goes through the actions of de-enveloping, transformation for the transactions to the required output that may be EDI, ROD or XML. An outgoing EDI document goes through the actions of transformation that generates the EDI transactions, and enveloping of the EDI transactions into EDI Interchange.

## Section

# ***EDI Acknowledgements***

The next section provides an overview of the EDI Acknowledgements.

## EDI X12 Acknowledgements

- Acknowledgement to the sender indicating the status of EDI document or its transactions
- Two types of acknowledgement:
  1. ISA acknowledgement for the entire EDI X12 Interchange document – referred to as TA1 acknowledgement
    - ▶ Specified in the EDI Interchange ISA segment of the document (Field # 14)
    - ▶ Indicates a high level acknowledgement
    - ▶ Can be turned off at the hub to ignore the TA1 flag from the incoming EDI Interchange
  2. EDI X12 Transaction acknowledgement – referred to as FA or 997
    - ▶ Specified as FA Map attribute value on the Participant Connection, B2B capabilities or Interaction of the EDI transaction
- When the hub sends an EDI, any receiving TA1 and FA acknowledgement from the target trading partner are consumed by the hub

There are 2 types of acknowledgement in EDI X12 documents. A high level acknowledgement for the entire EDI Interchange called TA1 acknowledgement. The incoming EDI document specifies to the document manager that a TA1 acknowledgement is required by the sender trading partner. This is done by setting a flag in the ISA segment of the EDI document. An option is available in the hub to ignore the TA1 flag in the incoming EDI.

Another kind of acknowledgement is referred to as FA or 997 acknowledgement and is for the EDI transaction. This is specified by the administrator in the hub, based on the mutual understanding between the administrator and the sender trading partner. If FA acknowledgement is set, the hub will create one FA for each transaction, and then envelope these FA transactions into EDI interchange and send it to the sender of the original EDI document.

EDIFACT only has CONTRL acknowledgements and can cover various aspects of the entire Interchange, although their concept is the same as functional acknowledgement in EDI X12.

In UCS standard there is a 999 FA. WPG supports this by specifying FA map name "&DT\_FA999V3R3".

There is also a newer X12 999 FA acknowledgment. WPG does not handle that acknowledgment yet.

## Section

# ***EDI Configuration***

The next section will give more details on the EDI configuration.

## Configuration for EDI Flows

- **De-enveloper** – Used to split the EDI Interchange into its transactions, which then flows through the Document Manager
  - ▶ No configuration needed for De-enveloper
- **Maps** - Validation, Transformation, Functional Acknowledgements maps are used on EDI transactions
  - ▶ EDI related maps are exported to the WPG database from DIS Client or using the DIS Import command (called bcgDISImport)
- **EDI attributes** – Used to modify the default values for the EDI interchange during enveloping
  - ▶ Specified at various places (Participant Connection, B2B Capabilities, and so on) to control the output EDI

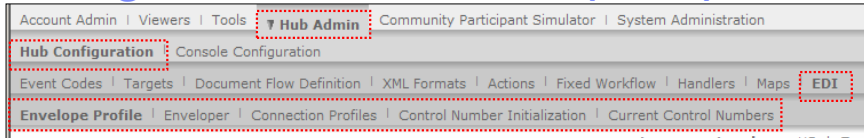
An EDI flow requires several configuration settings. This page and the next one provides a high level description of the different settings. Later, each of the settings are described in more details.

De-enveloper is used to EDI Interchanged into its transactions. Each transaction then flows back through the document manager for its own processing, based on the connection configured for those transactions.

There are several different types of maps associated with EDI documents. Validation maps are used to validate the source or the target EDI. Transformation maps are used to transform EDI transactions to or from another format, like EDI, XML or ROD. Functional acknowledgement maps are used to create FA transactions. The maps are created by the EDI map developer using the DIS Client tool and exported to the WPG database.

The last EDI configuration setting on this page are the EDI attributes. There are many EDI attributes that can be set at various places within the configuration setting. These EDI attributes control the generated EDI output or control the EDI input processing.

## Configuration for EDI Flow (cont.)



- **Enveloper** - the process of grouping the EDI transactions in a EDI Interchange for a specific source/target trading partners
- **Envelope Profile** - specifies attributes needed to create the envelope
- **Connection Profiles** – provides mechanism to process EDI Transaction and Interchange differently for the same route connection
- **Control Number Initialization** - determines the control numbers in the output EDI Interchange, Group and Transaction segments
  - ▶ Administrator can see the Current Control Numbers used by the trading partners

**Community Operator has the permission for setting most EDI Configuration**



The console screen shows the buttons for the EDI configuration.

Enveloper and Envelope profile are related to process of generating EDI Interchange for the EDI transactions as the transactions are generated by the document manager based on some transformation from ROD, XML or another EDI.

Connections profiles are used to control processing of the EDI transaction or EDI interchange differently even though they use the same participant connection.

Control numbers are used when generating output EDI Interchange to create unique numbers when generating EDI Interchange.

Most of EDI configuration can be performed only by Community Operator.



## Section

# ***EDI De-enveloper***

The next section goes into more specifics of the EDI De-enveloper.

## EDI De-enveloper

- Un-packing single business document (EDI envelope) into multiple business documents (EDI transactions)
- It extracts the following information:
  - ▶ Envelope level
    - Interchange Sender and Receiver qualifier and ID
    - Usage indicator - P for Production, T for Test and I for Information
  - ▶ Group level
    - Application Sender and receiver ID - represents division of company or application
    - Application password – could be any text
  - ▶ Transaction level
    - Document Syntax
    - Protocol (X12, EDIFACT, and so on) and its version (example V4R1)
    - Document Flow - Transaction type (like 850)
    - Document Flow version – transaction version
    - Transaction document ID – example, the transaction control number



De-Enveloping refers to un-packing single EDI Interchange document into its multiple EDI business documents, called transaction. For EDIFACT, these are called messages.

Each of these transaction flows thru the document manager as individual business document flows. Depending on business protocol requirements, there may be additional constraints on the way document manager needs to process these documents. For example in-sequence processing, discard envelope on error. It is important to note that splitting is different than de-enveloping. Splitting applies when multiple EDI Interchange documents are placed together in a file. The documents may not have any relationship with each other.

EDI De-enveloper extracts the Enveloper level, Group level and Transaction level information.

The EDI usage indicator shown at the Envelope level has no relationship with the gateway type. In the participant connection, the administrator can assign different attributes for different usage type. Based on the EDI usage indicator, the appropriate attributes will be applied. For example, if the incoming EDI had a usage type of T for test, and the administrator had set an EDI attribute for participant connection for Test, then those EDI attributes will be applied. This allows an administrator to test EDI flows that may require special attributes without affecting the configuration of the production EDI flows.

## Section

# ***EDI Enveloper and Envelope Profile***

The next section will provide more details on EDI Enveloper and Envelope Profile.

## 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

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



- An Envelope profile defines characteristics required for creating an EDI Interchange envelope for outgoing EDI
  - ▶ Can have one or 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

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.

## EDI – Envelope Profile attributes

Creating new EDI profile

Specify EDI standard

General EDI X12 attributes used for Interchange, Group and Transaction

Envelope profile name: MyEnvProfile

Description:

EDI Standard: Select One

Select One  
X12  
UCS  
EDIFACT

Envelope Profile Attributes

General Interchange Group Transaction

INTCTLEN : Interchange Control Number Length 9

GRPCTLEN : Group Control Number Length 9

TRXCTLEN : Transaction Control Number Length 9

ENVTYP : Envelope Type X12(EDI standard of the p

MAXDOCS : Max Transactions Number 1000

CTLNUMFLAG : Control Numbers by Transaction Id(Yes/No)

Save Cancel

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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.

## EDI – Envelope Profile attributes (cont.)

The screenshot displays three panels of 'Envelope Profile Attributes' in the IBM WebSphere Partner Gateway EDI Configuration tool. Each panel has radio buttons for 'General', 'Interchange', 'Group', and 'Transaction'.

- Interchange Attributes (Left Panel):**
  - ISA01 : Authorization Information Qualifier
  - ISA02 : Authorization Information
  - ISA03 : Security Information Qualifier
  - ISA04 : Security Information Qualifier
  - ISA05 : Interchange Sender Qualifier
  - ISA06 : Interchange Sender Id
  - ISA07 : Interchange Receiver Qualifier
  - ISA08 : Interchange Receiver Id
  - ISA09 : Interchange Date
  - ISA10 : Interchange Time
  - ISA11 : Interchange Standards Id
  - ISA12 : Interchange Version Id
  - ISA13 : Interchange Control number
  - ISA14 : Acknowledge Requested
  - ISA15 : Test Indicator
  - ISA16 : Subelement Separator
- Group Attributes (Middle Panel):**
  - GS01 : Functional Group Id
  - GS02 : Application Sender
  - GS03 : Application Receiver
  - GS04 : Group Date
  - GS05 : Group Time
  - GS06 : Group Control Number
  - GS07 : Group Agency
  - GS08 : Group Version
- Transaction Attributes (Right Panel):**
  - ST01 : Transaction Code
  - ST02 : Transaction Control Number
  - ST03 : Implementation Convention Id String

Attributes in dotted boxes (ISA05-ISA16, GS04-GS08, ST01-ST03) are provided by runtime, maps, or connection/protocol. A note at the bottom states: 'Values in dotted boxes are provided by the runtime, maps (in case of ROD) or set in connection or protocol'.

Callouts identify the dotted attributes as:
 

- EDI X12 Interchange attributes for the profile (ISA05-ISA16)
- EDI X12 Group attributes for the profile (GS04-GS08)
- EDI X12 Transaction attributes for the profile (ST01-ST03)

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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

ISA\*01\*ISA0000002\*02\*ISA0000004\*01\*987654321\*01\*123456789\*050418\*0721\*u\*\*123456789\*0\*T\* ~

Source Business ID

Target Business ID

- 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

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.



## Enveloped EDI - Source and Target Business IDs

- For all use cases (ROD, XML or EDI to EDI), the enveloped EDI business IDs in the EDI interchange, are specified:
  - ▶ For Target ID: At the target trading partner of the EDI flow – attributes at the participant connection for the target partner is used
  - ▶ For Source ID: At the target trading partner of the EDI flow – the attributes at the participant connection for the source partner is not for the generated EDI envelope – hence, the source ID is specified at the source trading partner's B2B capabilities

Example: XML → EDI Transaction

Enabled	B2B Capabilities	Connection Details	B2B Capabilities	Deactivate
✓	Package: None (N/A) Protocol: FVT-XML-TEST (ALL) Document Flow: ICPCPO (ALL)	Attributes   Actions   Gateways   Attributes	Package: N/A (N/A) Protocol: MX12V3R1 (ALL) Document Flow: 850 (ALL)	✗

**No place to specify Source business ID - Hence specified at the Source trading partner B2B capability**

Enveloping occurs here  
Need to specify Enveloping Profile, Target business ID and other attributes on the EDI protocol (MX12V3R1) in this example

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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.

## EDI Attributes in Transformation Map or Document Definition

- EDI attributes (like business IDs) can be specified in the transformation map or the document definition in the DIS Client tool
  - In the maps, the attributes are defined as properties using the setProperty() function
- In addition, for ROD document definition, there are fields in the Raw data panel to specify
  - Sending and Receiving trading partner IDs
  - Sender and Receiver qualifier and ID for the generated EDI Interchange

Used in generated EDI Interchange Sender and Receiver qualifiers and IDs.

Trading partners defined in the hub must have the same IDs

Sender and Receiver Trading partner IDs – If none specified here, it will accept the EDI IDs for trading partners

ROD Document Definition in DIS Client tool

Development - ROD Document Definition - ADF-TO-EDI\_DICT DTADF-TO-EDI\_ADF

General Details Overview **Raw Data** Comments

Beginning Record DEMO850CLREC

Ending Record

Field Containing the Interchange Sender Qualifier

Field Containing the Interchange Sender ID FFROMPARTNER

Field Containing the Interchange Receiver Qualifier

Field Containing the Interchange Receiver ID FTOPARTNER

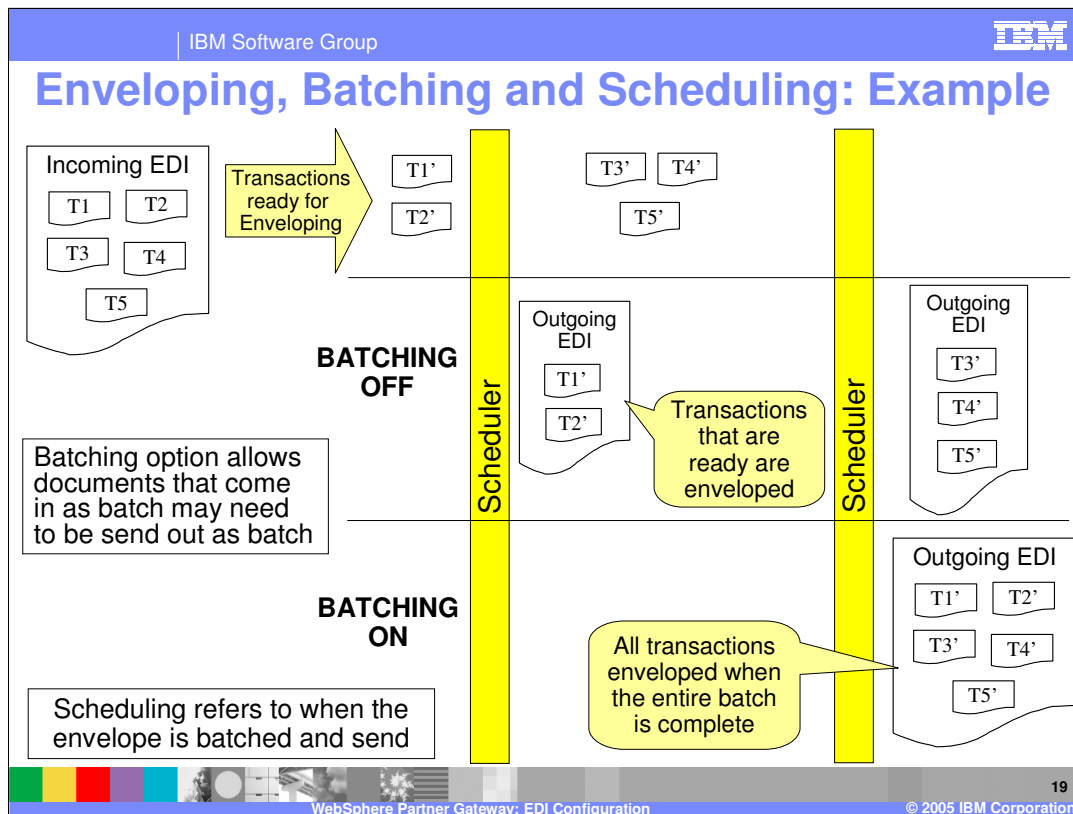
Field Containing the Sending Trading Partner Business ID

Field Containing the Receiving Trading Partner Business ID CUSTSUPPLIERNBR

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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.

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## Enveloper Options

Max. lock time to lock the database to prevent multiple enveloper to access the same data

Max. lock time for queuing database access request

EDI Enveloper global batching option

- To turn on Batching option:
  - ▶ The global setting must be on
  - ▶ In addition, for XML and ROD splitter handler, the batch option on the splitter handler must be turned ON

EDI Enveloper Scheduling option – Interval or calendar based

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The global panel for Enveloper configuration are shown on this page.

WPG supports multiple document manager as part of the hub topology. This leads to multiple active enveloper within the hub.

It is possible, therefore, for two (or more) instances of an Enveloper to attempt to poll transactions waiting to be enveloped. To ensure that a given transaction is polled by exactly one Enveloper, locks are used.

The database lock indicates the max. time the database is locked for a enveloper to access data, and the queue time indicates the maximum time the enveloper will wait for database access to be made available.

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. In addition, when using the ROD or XML splitter handler on a receiver, the batch option on the Receiver splitter handler must also be turned ON. EDI splitter handler does not have any , there is no special flag needed, only the global setting applies.

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

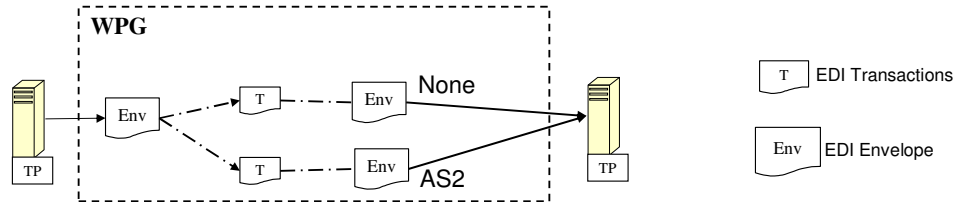
Enveloper Configuration determines how often to perform the envelope operation, by time interval or schedule (date/time) for each destination trading partner.

## Section

# ***EDI Connection Profile***

The next section will give provide more details for the Connection Profile.

## EDI – Connection Profile – Use Case



- EDI Transactions from same input EDI need to be enveloped into different output EDI envelopes
- Generated EDI envelopes may need to be sent differently via different packages or Gateways
- Connection Profiles are used to help make the decisions
- Participant connections can have multiple connection profiles – for each connection profile, different attribute values can be specified

Two different EDI Interchanges with the same Transaction types, but different Group information, can require either different validation maps or transformation maps. Similarly, two different enveloped EDI Interchanges may require different packaging (i.e. None or AS2) or gateways.

However because the basic connection lookup criteria is the same for the Transactions with the different Group information, there is a need to provide additional Connection sub-criteria for connection lookup.

A new feature will enable supplying Connection sub-criteria profiles on the Source document. Although there is no restriction on what business protocols can set the sub-criteria, only EDI will make use of the information during runtime.

For Source documents converted into EDI Transactions it does not make sense to define a Target Gateway for that connection since the transactions will get put into an Interchange that has its own Target Gateway. To help make this clearer, create a dummy Gateway named "Not Applicable" to use as the Target Gateway on the transaction connection.

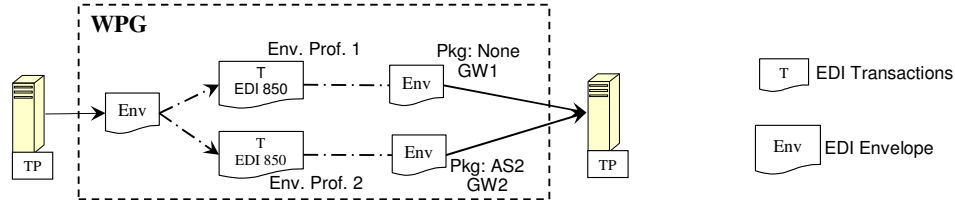
Some transactions that are de-enveloped from an Interchange may have different transformation mapping requirements depending on the group information or EDI Usage indicator. In this case the Source criteria for the connection lookup is identical so the Connection Profile can be used as additional criteria to distinguish the connections.

## EDI – Connection Profiles

- For EDI documents, there can be several connections that apply to the same participants - the various connections are differentiated using connection profiles
  - ▶ Instead of creating different participant connection between the participants, the same connection is used, associating different connection profiles on the connection
  - ▶ For each connection profile, different attributes, gateways, actions can be modified
- Connection Profiles (CP) are used for 2 purposes:
  - ▶ With de-enveloped transaction or generated transactions
  - ▶ With interchanges to allow the same interchange to be delivered in different ways

Connection Profiles in WPG are used for 2 purposes – one for the de-enveloped or generated transaction, if they need to be enveloped differently. Second for the generated Interchange, if they need to be delivered differently. There is only 1 participant connection for the flow defining transaction or the flow defining the generated EDI ISA. Using different Connection profiles on the same connection provides a mechanism to define different attributes like envelope profile for EDI transactions, or different gateways for the generated EDI interchange.

## EDI – Connection Profile – Use Case



- EDI Transactions (like 850) from same input EDI need to be enveloped into different output EDI envelopes
- Generated EDI envelopes may need to be sent differently via different packages or Gateways
- Connection Profiles are used to help make the decisions
- Participant connections can have multiple connection profiles – for each connection profile, different attribute values can be specified

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Some transactions that are de-enveloped from an Interchange may have different transformation mapping requirements depending on the group information or EDI Usage indicator. In this case the Source criteria for the connection lookup is identical so the Connection Profile can be used as additional criteria to distinguish the connections.



## EDI - Connection Profile (CP)

- CPs are associated with EDI transactions and Interchange connections
  - ▶ For transactions , CPs are used to envelope them into different EDI envelopes
  - ▶ For Interchange, CPs are used to possibly output them differently like using different gateways
- CPs are associated with the source or target of the participant connection

Connection Profile Details

Connection Profile Name : Connection Profile 1

Description :

Qualifier1 : Q1

EDI Usage Type : T

Application Sender ID : APP1

Application Receiver ID : APP2

Password :

Used with EDI Interchange – Connection CP qualifier must match Qualifier1 specified here

Used with EDI Transaction – Application Sender/receiver IDs match with the Transaction Group Sender/Receiver ID

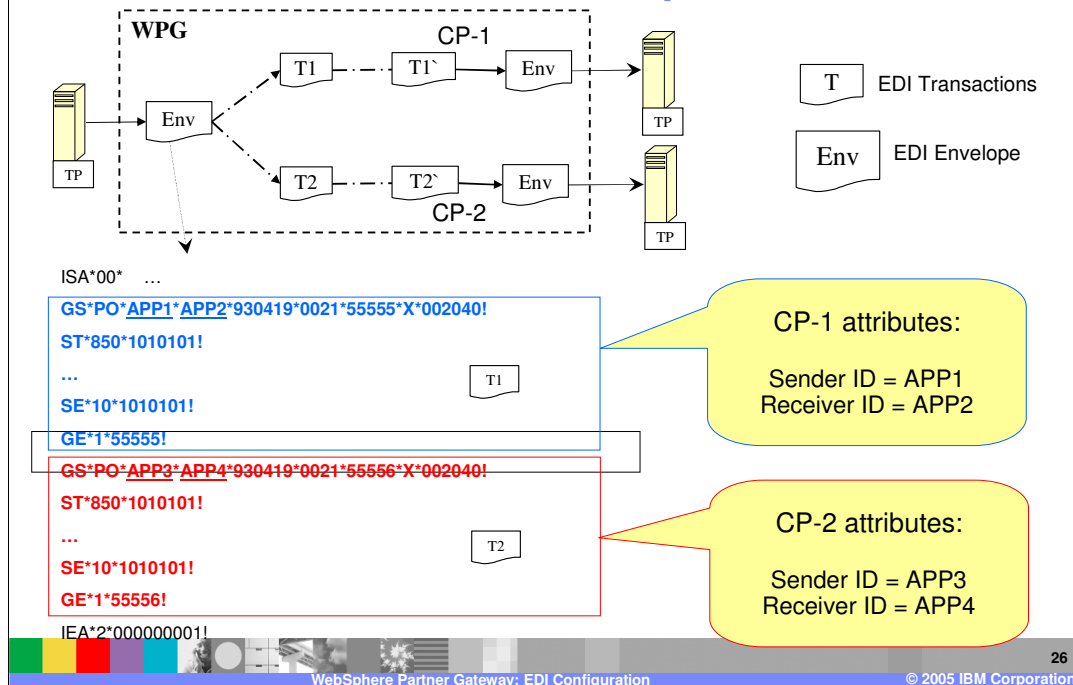
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Connection Profile attributes are used by EDI interchange and transactions. The “Qualifier1” attribute is used by the EDI interchange to decide the Interchange attributes, gateways, whereas the Application Sender ID, Receiver ID, EDI usage type are used by the EDI transactions. This allows the administrator to have different attributes for the same participant connection for different EDI transactions and Interchanges.

Here’s a scenario to show how it works:

You are in the midst of migrating your company from using a VAN (None packaging) or the Internet (AS2 packaging). You want 840 (Request for Quote) Transactions to use VAN and 850 (Purchase Order) Transactions to use the Internet as AS2. There will be two participant connections, both with the same Source Interchange but different Targets (one with None packaging and the other with AS2 packaging). Set the Connection Qualifier 1 attribute on both the 840 and 850 transactions. The value should be meaningful, such as AS2 and None respectively. Then define two connection profiles (could name AS2 and None) each with the Qualifier 1 attribute set to match the transactions (i.e. AS2 and None). The Enveloper will use the Connection Qualifier 1 attribute as one of the break points to separate the Transactions into two different Interchanges. The Connection Qualifier 1 value will also be set on each created Interchange so that the appropriate Connection will be looked up for each.

## EDI - Connection Profile - Example



This page shows an example of the use of Connection profile using a simple example of an EDI envelope that has 2 groups, each containing 1 850 transaction, T1 and T2 as shown in the EDI document. The goal is to translate T1 to T1` document and T2 to T2` document and apply different attributes. There is one participant connection for the 850 transaction. Using Connection profiles, the administrator can specify different attributes, maps, actions on the same participant connection.

The connection profile will be used to specify different maps on the participant connection. The participant connection will use 2 different connection profiles, CP-1 and CP-2, as shown. The attributes of CP-1 match the first group application sender and receiver attributes, namely APP1 and APP2. Similarly, the attributes of CP-2 match the second group application sender and receiver attributes, namely APP3 and APP4.

The map and attributes specified for the participant connection for CP-1 will be used for T1 transaction. whereas, the map and attributes specified for the participant connection for CP-2 will be the used for T2 transaction.

Hence, connection profiles can be used as part of participant connections to change the attributes, maps, gateways for the document flows using the same participant connection.

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## EDI – Associating Connection Profile (CP)

Package: N/A (N/A)  
Protocol: X12V2R1 (ALL)  
Document Flow: 850 (ALL)

Attributes Actions Gateways Attributes

Add Connection Profile Active Profiles : CP-1

Base Connection  
CP-2  
CP-1

Package: N/A (N/A)  
Protocol: X12V2R1 (ALL)  
Document Flow: 850 (ALL)

EDI Transaction Participant Connection

Active CP

Add CPs (must have already been defined)

Associated CPs

Base connection provides the default behavior

- The example shows the participant connection for EDI transaction - similar interactions are possible for the generated EDI Interchange connection
- For the active CP, the appropriate source attributes, gateways can be defined, as appropriate
- For an incoming document, the CP attributes are matched with the attributes in the incoming document and once a match is made, the appropriate attributes, gateways are then applied

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The participant connection is shown on this page, where the administrator can associate different connection profiles through the “Add Connection profile” button. Once the connection profile is added, they appear in the profiles list.

To change the attribute of the participant connection for a given connection profile, make the connection profile active, and then change the attributes, gateway, actions, through the buttons shown on the console.

This allows administrator to specify different attributes, gateways, actions for the same participant connection. An incoming document that has a matching connection profile will use the attributes, gateways, actions of the participant connection for that connection profile. If no matching connection profile is found, then the attributes, gateways, actions of the Base connection is used.

## Section

# ***EDI Control Numbers***

The next section will give

## EDI - Control Number Initialization



Community  
Operator

- Control numbers are assigned to various part of the EDI Interchange, Groups and Transactions to provide uniqueness
- Hub administrator can define the initial control number and the mask to be used when generating envelopes
- The current Control numbers between a source and target Trading partner can be viewed in the console

The screenshot shows the 'Control Number Initialization' page in the IBM WebSphere Partner Gateway console. The page is titled 'Participant Name Trading Partner 1'. It contains three main sections: 'Interchange', 'Group', and 'Transaction'. Each section has a 'Number' and a 'Mask' field. The 'Group' and 'Transaction' sections also have radio buttons to select between 'Number' and 'Mask'. Two dropdown menus are visible, one for the 'Group' section and one for the 'Transaction' section, both showing a list of options including 'C', 'G', 'Gn', 'GnC', 'GnV', 'GnVm', 'In', and 'InC'. The top navigation bar includes 'Hub Admin', 'Control Number Initialization', and 'Current Control Numbers'.

Control numbers in an interchange, group and transactions between a source and target trading partner provides uniqueness. The enveloper uses a set of initial control numbers and, or the mask, defined by the administrator. The hub maintains the current control numbers used between a given source and target trading partner. It increments the numbers as the envelopes are generated for the target trading partner for a given source trading partner.

The hub administrator can specify the initialization of the control numbers for the EDI Interchange, Group and the transactions for a specific trading partner.

As the documents flow, the administrator can view the current control numbers using the current control number panel in the console, as shown on the top menu bar, next to the Control number initialization option.

## Section

# ***Specifying EDI Attributes***

The next section will provide more details on EDI attributes.

## Specifying Attributes

- Attributes can be specified at the following places
  - ▶ Transformation maps or Document Definitions (like ROD)
    - Specified using the DIS Client tool
  - ▶ Participant connection
  - ▶ B2B capabilities
  - ▶ Document Flow Definition (DFD)
  - ▶ Envelope profile
  - ▶ Default values in enveloper
- Within the Participant connection, B2B capabilities, or DFD, the hierarchy is
  - ▶ Document types
  - ▶ Protocols
  - ▶ Package



Typically the connection to use is based on criteria such as the From/To partner id, document package/protocol/document type, and gateway type.

Once the connection is determined then the attribute values are obtained for that connection.

Attributes can be specified at several configuration places, starting with Transformation map or Document definitions within the DIS client, or from the console at the participant connection, B2B capabilities, Document flow definition, envelope profile and global enveloper values. There is an order of precedence as shown on the page.

For the Participant connection, B2B capabilities or the Document flow definition, the attributes can be defined for the document types (like EDI ISA), protocols (like EDI X12) or at the package level. Here too there is a order of precedence, as shown.

## EDI Attributes in Transformation Map or Document Definition

- EDI attributes (like business IDs) can be specified in the transformation map or the document definition in the DIS Client tool
  - ▶ In the maps, the attributes are defined as properties using the setProperty() function
- In addition, for ROD document definition, there are fields in the Raw data panel to specify
  - ▶ Sending and Receiving trading partner IDs
  - ▶ Sender and Receiver qualifier and ID for the generated EDI Interchange

Used in generated EDI Interchange Sender and Receiver qualifiers and IDs.

Trading partners defined in the hub must have the same IDs

Sender and Receiver Trading partner IDs – If none specified here, it will accept the EDI IDs for trading partners

ROD Document Definition in DIS Client tool

Development - ROD Document Definition - ADF-TO-EDI\_DICT DTADF-TO-EDI\_ADF

General Details Overview **Raw Data** Comments

Beginning Record DEMO850CLREC

Ending Record

Field Containing the Interchange Sender Qualifier

Field Containing the Interchange Sender ID FFROMPARTNER

Field Containing the Interchange Receiver Qualifier

Field Containing the Interchange Receiver ID FTOPARTNER

Field Containing the Sending Trading Partner Business ID

Field Containing the Receiving Trading Partner Business ID CUSTSUPPLIERNBR

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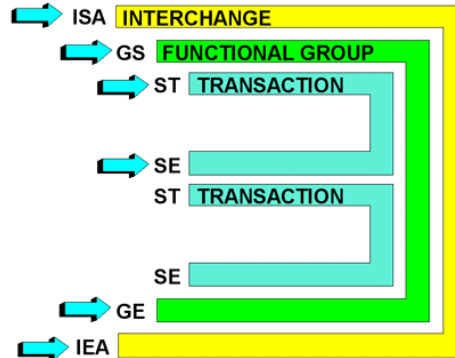
Using the DIS Client tool, the EDI mapping specialist can specify the EDI attributes as properties in the transformation maps, using the setProperty() function.

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.



## EDI Attributes for Generated EDI Envelop

- All the EDI X12 attributes on the ISA, Group and Transaction can be specified for the outgoing generated EDI documents at various places
- EDIFACT Transactions are called Messages and they do not have to be put into Groups
- EDIFACT uses the UNB segment (this is similar to X12 ISA segment)
- EDIFACT has an optional UNA segment that goes at the beginning of the Interchange – this is supported by WPG, but the Document Flow Definition still uses UNB



A very brief recap of the EDI X12 data structure is shown here where the Interchange contains groups and groups contain transactions.

EDIFACT uses slightly different conventions and uses UBM segment which is similar to the X12 ISA segment, but basically, they are very similar.

## EDI Protocol Attributes

Attribute	Description
Segment code separator Character	Segment code separator Character
Segment delimiter	Segment delimiter
Data element delimiter	Data element delimiter
Subelement delimiter	Subelement delimiter
Release character	
Repeating data element character	
Decimal notation	Decimal notation
Segment output	Segment output
Allow Duplicate elements	
Max error level at Transformation	
FAMap	
Envelope Profile	
Max validation error level	
Validation level	

Char set validation table	Char set validation table
Alphanumeric validation table	Alphanumeric validation table
Generate group level info only in functional Ack	Generate group level info only in functional Ack
Century control year	Century control year
Detailed validation of segment	Detailed validation of segment
Connection Profile Qualifier1	Connection Profile Qualifier1
Interchange qualifier	Interchange qualifier
Interchange Identifier	Interchange Identifier
Interchange usage indicator	Interchange usage indicator
Group application sender identifier	Group application sender identifier
Group application receiver identifier	Group application receiver identifier
Interchange reverse routing	Interchange reverse routing
Interchange routing address	Interchange routing address
Group application sender qualifier	Group application sender qualifier
Group application receiver qualifier	Group application receiver qualifier
Group application password	Group application password

Allows duplicate EDI control number

For EDI Transaction, specify the FA Map here

Specify Envelope Profile for output EDI

Connection Profile qualifier – used to find matching connection profiles for the EDI ISA output

ISA business ID used in the EDI output

Applies to all EDI protocols – EDIFACT, EDI-Consent, EDI-X12

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The page shows the EDI protocol attributes when editing the protocol section of the attribute configuration at the participant connection, B2B capabilities or document flow definition.

Some of the important EDI attributes are highlighted. The “Allow Duplicate elements” is for allowing duplicate control numbers in the EDI send by the trading partner. This becomes useful when in a test environment, where same EDI document may be send by the trading partner.

If FA needs to be created, then the FAMap attribute must specify the name of the FA map. Other parameters include the EDI profiler name, information about the connection profiles and the business qualifier and id used by the EDI enveloper when generating an EDI document.

## EDI Document Attributes

Specify  
Envelope Profile  
for output EDI

Connection  
Profile qualifier –  
used to find  
matching  
connection  
profiles for the  
EDI ISA output

Attribute	Description
Validation Map	Validation Map
Envelope Profile	Envelope Profile
Max validation error level	Max validation error level
Validation level	Validation level
Char set validation table	Char set validation table
Alphanumeric validation table	Alphanumeric validation table
Connection Profile Qualifier1	Connection Profile Qualifier1

The panel shows the attributes where the different EDI document or transaction attributes, including the Envelope profile, connection profile and so on.

## Important EDI Attributes

- Interchange Qualifier and ID – used in the generated EDI envelope
  - ▶ When specified at the target of the connection, it represents the receiver
  - ▶ When specified at the source of the connection, it represents the sender
  - ▶ The sender and receiver qualifier and IDs are used to determine the source and target Trading Partners
- Discard on Error
  - ▶ If this attribute is set then if any of the transactions fail either validation or transformation then all of the transactions will be failed
- FA Map
  - ▶ When FA Map is specified, Document Manager will create FA, envelope it in EDI document and send it to the sender - the administrator will need to create the appropriate participant connection
- Envelope Profile – used in the generated EDI envelope
  - ▶ Used to specify attributes for the Envelope
- Connection Profile Qualifier1 - used in the generated EDI envelope
  - ▶ Used to distinguish different enveloped EDI Interchanges that may require different protocols or gateways or other attributes
- Allow Documents with Duplicate IDs
  - ▶ Allows processing of input EDI with the same control numbers
  - ▶ Sometimes may be needed in test environments

Some of the Important EDI attributes are specified here.

The Interchange qualifier and business ID are used as the business qualifier and ID in the ISA or UNB segment of the generated EDI Interchange. There must be trading partners that have the same business qualifier and ID. It might be necessary to assign multiple business IDs for the trading partner, one to satisfy the trading partners business IDs in the incoming document and one used in the generated EDI Interchange.

The Discard on Error flag will fail all EDI transactions if any one of the transaction validation or transformation fails.

The FA Map attribute, when specified on the EDI transaction, will indicate to the document manager to generate a FA for that transaction. The value of the FA map attribute is the FA transaction map.

The Envelope profile is the profiler to be used for the generated EDI and contains the EDI attributes, discussed earlier.

On a given participant connection, the Connection Profile qualifier 1 is used to associate different attributes, gateways for the different generated EDI envelopes.

The “Allow documents with duplicate IDs” flag is used to accept incoming EDI documents with same control numbers. This can be used in a test environment, where the same EDI is being send to test out the hub configuration.

## Section

# *Summary*

The next section provides a summary of this presentation.

## Summary

- The presentation covered EDI specific configuration in details, like
  - ▶ Enveloper and Envelope profile
  - ▶ Connection Profile
  - ▶ Control Numbers
  - ▶ EDI Attributes

In Summary, this presentation focused on EDI configuration listed on this page. There are several EDI configuration. Some of the hands on labs provided with this education material will help explore these configurations and how to use them.

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