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Informatica® B2B Data Exchange
EDI Accelerator 10.1.0.1

EDI Accelerator Guide

Informatica B2B Data Exchange EDI Accelerator Guide
EDI Accelerator 10.1.0.1
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Preface

Use the *B2B Data Exchange EDI Accelerator User Guide* to learn how to install and configure the B2B Data Exchange EDI Accelerator. The guide also contains a reference section documenting the transformation components and their properties.

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CHAPTER 1

Introduction to EDI Accelerator

This chapter includes the following topics:

EDI Accelerator Overview

B2B Data Exchange Accelerators provide a packaged B2B Data Exchange solution that addresses common business-to-business integration use cases for vertical industries, and reduces implementation efforts.

EDI-X12 is a uniform standard for inter-industry electronic exchange of business transactions- electronic data interchange (EDI) administrative and financial transactions. For more information about EDI-X12, see the website http://www.x12.org/.

The B2B Data Exchange EDI Accelerator is used to receive EDI-X12 messages (inbound) validate and parse them into Informatica canonical xml format. In the same manner, it is used to send EDI-X12 messages (outbound), serialized from the canonical structure to the EDI-X12 format.

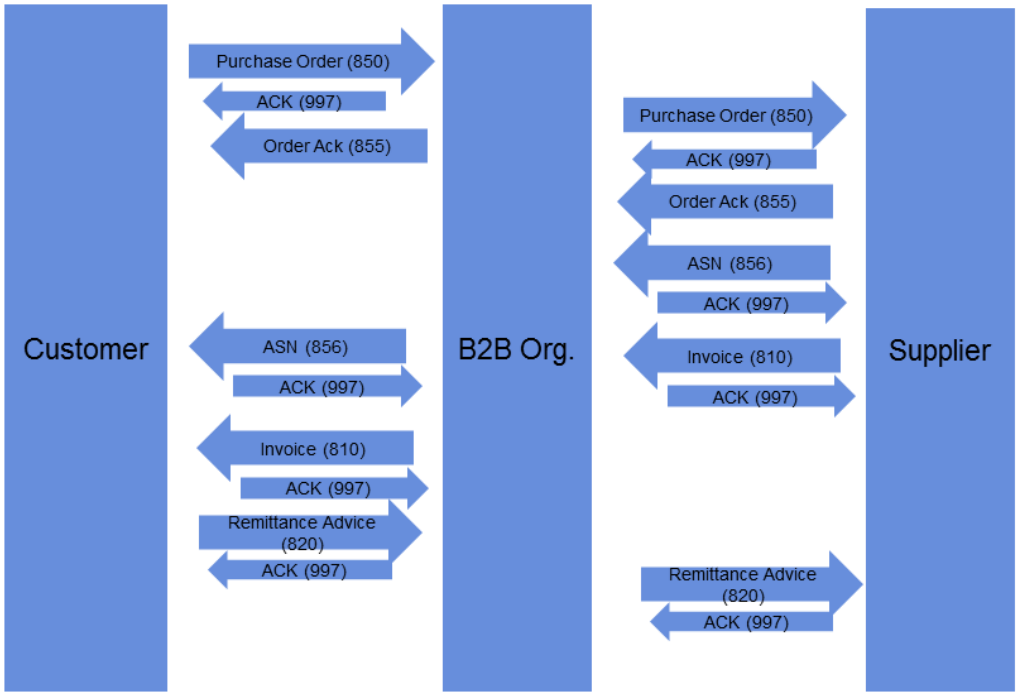
For more information about the Informatica canonical format, see Data Transformation Libraries Guide.

The EDI Accelerator currently supports the following EDI Documents for both Inbound and Outbound traffic:

- EDI 810 Invoice
- EDI 820 Payment Order/Remittance Advice
- EDI 850 Purchase Order
- EDI 855 Purchase Order Acknowledgment
- EDI 856 Advanced Ship Notice (ASN)
- EDI 997 Functional Acknowledgment
- TA1 Interchange Acknowledgment

The EDI Accelerator supports EDI-X12 versions 4010 to 6040.

The following image shows the message processing flows between the customer, the organization B2B EDI Accelerator package, and the supplier.



Package Contents

The EDI Accelerator package includes the following components

B2B Data Exchange Deliverables

1. Sample Partner
   - **p_EDI_GW_PARTNER_1**
2. Sample Profiles
   - **prof_EDI_GW_IB_PARTNER_1** - a DX profile to handle inbound workflow
   - **prof_EDI_GW_OB_PARTNER_1** - a DX profile to handle outbound workflow
3. Sample Account
   - **acc_EDI_GW**
4. Sample Endpoints
   - **ep_EDI_GW_receive** - A file receive endpoint used to receive files from the sample partner for inbound processing and receive files from the back end system for outbound processing
   - **ep_EDI_GW_send** - A file Send endpoint used to send files to the sample partner
5. Workflows, including Portal parameters
   - **wf_IB_Processing** - A workflow to be used for processing outbound EDI messages

- **wf_OB_Processing** - A workflow to be used for processing inbound EDI messages , including acknowledgement messages
- **wf_EDI_GW_ST_Details** - A workflow to be used for processing transaction details

6. The following event statuses

Event Status	Description
Group Processing Initiated	The EDI-X12 message processing has been initiated at the functional group (GS) level
TA1 Rejected Sent	The EDI Accelerator created and sent a TA1 message for an invalid interchange
Transaction initiated	EDI-X12 document processing has been initiated at the transaction (ST) level
Transaction processed	EDI-X12 document has been processed to the transaction (ST) level
Validation Error	The file failed validation process (functional group or transaction level)
997 Rejected	The outbound file failed functional group validation, or had bad input at the transaction level
997 Accepted	The outbound file received a positive functional group validation acknowledgement
885 Rejected	855 document rejecting the corresponding 850 document
885 Accepted	855 document positively acknowledges the corresponding 850 document
Waiting for 855	850 EDI document raised a reconciliation flag for the corresponding 855 arrival
Waiting for Ack	Outbound functional group raised a reconciliation flag for the corresponding 997 arrival
exception	Data Transformation service does not exist in data transformation server service DB
Invalid File	Non-EDI file or unrecognized format
Timed Out	The event status timed out since acknowledgment message did not arrive. The timeout period is defined in the DX profile.
Authentication Error	The values in ISA are different than agreed by partners
Authorization Error	The message type is not authorized for the partner

7. Event Attributes
8. Dashboard Charts - see “DX Dashboard Additional Charts” on page 30
9. Monitor
   The monitor "Overdue 997 and 855" changes events' statuses "Waiting for 855" and "Waiting for ACK" that are still pending to the status "Timed Out", according to the timeout period set in profiles. The Reconciliation tab of the Details of Event shows the timeout period according to the Initiated time and the timeout set in the profile parameter.

   By Default the timeout period is set to 86400 seconds and the monitor's run interval is set to one hour.
10. Event Types

EDI Accelerator defines specific event types indicating the message type, the level of processing (ISA/GS/ST) and whether it is inbound (IB) or outbound (OB) through the entire file life cycle. For acknowledgement messages (997, TA1), reject or acceptance is noted ('**A**' for accepted, '**R**' for rejected).

Event Type	Description
810 (GS)	EDI-X12 810 processing, GS level (IB)
810 (GS) ->	EDI-X12 810 processing, GS level (OB)
810 (ISA)	EDI-X12 810 processing, ISA level (IB)
810 (ISA) ->	EDI-X12 810 processing, ISA level (OB)
810 (ST)	EDI-X12 810 processing, ST level (IB)
810 (ST) ->	EDI-X12 810 processing, ST level (OB)
820 (GS)	EDI-X12 820 processing, GS level (IB)
820 (GS) ->	EDI-X12 820 processing, GS level (OB)
820 (ISA)	EDI-X12 820 processing, ISA level (IB)
820 (ISA) ->	EDI-X12 820 processing, ISA level (OB)
820 (ST)	EDI-X12 820 processing, ST level (IB)
820 (ST) ->	EDI-X12 820 processing, ST level (OB)
850 (GS)	EDI-X12 850 processing, GS level (IB)
850 (GS) ->	EDI-X12 850 processing, GS level (OB)
850 (ISA)	EDI-X12 850 processing, ISA level (IB)
850 (ISA) ->	EDI-X12 850 processing, ISA level (OB)
850 (ST)	EDI-X12 850 processing, ST level (IB)
850 (ST) ->	EDI-X12 850 processing, ST level (OB)
855 (GS)	EDI-X12 855 processing, GS level (IB)
855 (GS) ->	EDI-X12 855 processing, GS level (OB)
855 (ISA)	EDI-X12 855 processing, ISA level (IB)
855 (ISA) ->	EDI-X12 855 processing, ISA level (OB)
855 (ST)	EDI-X12 855 processing, ST level (IB)
855 (ST) ->	EDI-X12 855 processing, ST level (OB)

Event Type	Description
855 - A	EDI-X12 855 accepted
855 - R	EDI-X12 855 rejected
856 (GS)	EDI-X12 856 processing, GS level (IB)
856 (GS) ->	EDI-X12 856 processing, GS level (OB)
856 (ISA)	EDI-X12 856 processing, ISA level (IB)
856 (ISA) ->	EDI-X12 856 processing, ISA level (OB)
856 (ST)	EDI-X12 856 processing, ST level (IB)
856 (ST) ->	EDI-X12 856 processing, ST level (OB)
997 - A	EDI-X12 997 accepted
997 - R	EDI-X12 997 rejected
TA1 - A	EDI-X12 TA1 accepted
TA1 - R	EDI-X12 TA1 rejected

PowerCenter Workflows

- **wf_IB_Processing** - an inbound workflow to receive, parse, validate, and transform EDI-X12 files to Informatica canonical format
- **wf_OB_Processing** - an outbound workflow to receive files in Informatica canonical format, serialize into EDI-X12 text format and Send to Partner
- **wf_EDI_GW_ST_Details** - a workflow to be used for processing transaction details

Data Transformation Services

Both Inbound and Outbound workflows use Data Transformation services. These services are included within the EDI Accelerator Package.

Data Transformation Service	Description
Infa_B2B_ExtractMessageType	Determine if the file is EDI-X12 message or acknowledgment (997,TA1)
Infa_B2B_get_TA104_TA105	Get the error code within the TA1 message
Infa_B2B_getX12Details	Extract ISA\GS\ST data common to all EDI file
Infa_B2B_IB_ACK	Extract attribute to display in TA1 or 997 root event
Infa_B2B_GS_Splitter	Split EDI file into files containing one GS each and extract common data for the split
nfa_B2B_ST_Splitter	Split GS file into files containing one ST each and extract common data for the split

Data Transformation Service	Description
Infa_EDI_GW_eventAttributes_810	Extract 810 specific attributes. Those attributes are attached to the event.
Infa_EDI_GW_eventAttributes_820	Extract 820 specific attributes. Those attributes are attached to the event.
Infa_EDI_GW_eventAttributes_850	Extract 850 specific attributes. Those attributes are attached to the event.
Infa_EDI_GW_eventAttributes_855	Extract 855 specific attributes. Those attributes are attached to the event.
Infa_EDI_GW_eventAttributes_856	Extract 856 specific attributes. Those attributes are attached to the event.

Installing the EDI Accelerator

Before you install the EDI Accelerator, ensure that you have a license with the EDI-X12 options and activate the license. Also ensure that you have installed the following programs:

- Data Transformation
- PowerCenter
- B2B Data Exchange
- EDI-X12 Data Transformation Library

Complete the following steps to install the EDI Accelerator:

1. Unzip the EDI Accelerator installation .zip file, EDI_Accelerator.zip, to the directory c:\temp. The .zip file contains the following folders: DT_Services, DX_Partners, PowerCenter_Workflows, and Reports. Use these folders to install the EDI Accelerator on the Data Transformation machine, the B2B Data Exchange machine, and the PowerCenter Integration Service machine.
2. Copy the files from the c:\temp\DT_Services folder to the <DTInstall_Dir>\DataTransformation \ServiceDB folder on the Informatica Data Transformation server machine.
3. To define the endpoint file path, in the B2B Data Exchange Operation Console, in the **Navigator**, select the **System Properties** node under the **Administration** node. In the **System Properties** view, define the property **dx.endpoint.file.prefix.path**. The default value is the B2B Data Exchange installation directory.
4. To import all the B2B Data Exchange data, perform the following steps on the B2B Data Exchange server machine:
   a. The EDI Accelerator contains definitions for a sample partner, sample endpoints, sample profiles and workflows, DX event types, DX event statuses and DX event attributes. The sample partner, endpoints and profiles can be used later as an example. To import them, run the following command on the B2B Data Exchange server machine: <Install_Dir>\DataExchange\dx-tools\import-all.bat -f C:\temp\DX_Partners\DX_EDI_Accelerator_export.xml -u <user_name> -p <password>.

      Note: The default behavior is to override the existing DX artifacts with the imported defaults. If you want to change that behavior, follow the DX installation and configuration document.

b. Verify that **LogiXML license** (.lic) is installed under the <DXInstall_Dir> \apache-tomcat-7.0.55\webapps\dx-dashboard folder.

c. To save the previous default Dashboard definitions, rename the file dxdashboard.lgx to another name, such as dxdashboard.lgxORG, in the directory <Install_Dir>\DataExchange\apache-tomcat-<version>\webapps\dx-dashboard_Definitions_Reports.

d. To save the previous default dashboard, rename the file dx_default_dashboard.xml to another name, such as dx_default_dashboard.xmlORG, in the directory <Install_Dir>\DataExchange\apache-tomcat-<version>\webapps\dx-dashboard\dx\saved_dashboards.

e. To update the new default dashboard, copy the dx_default_dashboard.xml file from the C:\temp \Reports\EDI_Accelerator_dashboard_extension\dx\saved_dashboards folder to <DXInstall_Dir> \apache-tomcat-7.0.55\webapps\dx-dashboard\dx\saved_dashboards.

f. To update the default dashboard definitions and copy the new reports, copy all the files (including the new dxdashboard.lgx) from C:\temp\Reports\EDI_Accelerator_dashboard_extension _Definitions_Reports to <DXInstall_Dir>\apache-tomcat-7.0.55\webapps\dx-dashboard _Definitions_Reports.

g. To copy the new reports images, copy all the files from C:\temp\Reports \EDI_Accelerator_dashboard_extension_SupportFiles to <DXInstall_Dir>\apache-tomcat-7.0.55\webapps\dx-dashboard_SupportFiles.

h. Copy _Settings.lgx from C:\temp\Reports\EDI_Accelerator_dashboard_extension_Definitions to <DXInstall_Dir>\apache-tomcat-7.0.55\webapps\dx-dashboard_Definitions.

i. To enable the links of the reports, open the new _Settings.lgx file and search for `DX_CONSOLE_URL=http://localhost:18080/dx-console`. Modify **localhost** to the name of the computer.

j. To install the new EDI Accelerator dashboard, refresh the DX dashboard and press 'Restore Default Dashboard'.

k. According to your preferences, modify the "Timeout for ACK (seconds)" profile parameter in the profiles and set the run interval of the monitor "Overdue 997". By Default the timeout period is set to 86400 seconds and the monitor's run interval is set to one hour.

5. The ODS Database should preferably be named "DX_ODS", since the ACKs reports are set by default to the DX_ODS Database. Otherwise, if you choose not to use this name, open the new file `<DXInstall_Dir>\apache-tomcat-7.0.55\webapps\dx-dashboard\_Definitions\_Settings.lgx`, and search for `DB_ODS="DX_ODS"`. Modify **DX_ODS** to the name of the ODS Database name used.

6. Before importing the PowerCenter workflows into PowerCenter, create an application connection for a JNDI connection that the EDI Accelerator library needs. Specify the connection name as **DX_JNDI_Connection**. The context factory value is **com.informatica.b2b.dx.jndi.DXContextFactory**. The provider URL is **failover:tcp://localhost:18616**, where 18616 is the value of the AMQ port. If you changed the value of the AMQ port, change the URL accordingly.

7. Then create the following application connections for a JMS connection. The destination type is **QUEUE** and the JMS connection factory value is **connectionfactory.local**.

Connection Name	JMS Destination
Infa_B2B_IB_input	queue.wf_EDI_GW_IB The name wf_EDI_GW_IB is also the name of a workflow in B2B Data Exchange
DX_JMS_TSSA_RETURN	queue.tssa.return

Connection Name	JMS Destination
Infa_B2B_IB_GS_Split	queue.Infa_B2B_IB_GS_Split
Infa_B2B_IB_ACK_input	queue.Infa_B2B_IB_ACK_input
Infa_B2B_IB_ST_Split	queue.Infa_B2B_IB_ST_Split
Infa_B2B_OB_input	queue.wf_EDI_GW_OB
Infa_B2B_OB_ST_Split	queue.Infa_B2B_OB_ST_Split
Infa_B2B_ST_Details	queue.Infa_B2B_ST_Details

8. Create a folder in the PowerCenter repository. Use the Repository Manager to import the workflows to that folder.
    a. Import wf_IB_Processing.xml PowerCenter workflow from the c:temp\PwC_ Workflows directory.
    b. Import wf_OB_Processing.xml PowerCenter workflow from the c:temp\PwC_ Workflows directory.
9. From PowerCenter Workflow Manager open the new defined folder as follows:
    a. Drag wf_IB_Processing.xml to the workflow pane
    b. Assign a PowerCenter Integration Service
    c. Start the inbound workflow (wf_IB_Processing)
    d. Drag wf_OB_Processing.xml to the workflow pane
    e. Assign integration service
    f. Start the outbound workflow (wf_OB_Processing)
    g. Drag wf_m_ST_Details.xml to the workflow pane
    h. Assign an integration service
    i. Start the outbound workflow (wf_m_ST_Details)

CHAPTER 2

Process Flows

This chapter includes the following topics:

Detailed Overview of Processing Flows

The EDI file received from each partner is processed and a separate DX event is created for interchange (ISA), functional group\s (GS), and the transaction\s (ST). The events are created hierarchically to reflect the hierarchical structure of the EDI file. A root event will be created for an ISA, a child event will be created for every GS within the ISA, and a child event will be created for every ST in a GS.

Every DX event type of a processed EDI file reflects its envelope level (ISA\GS\ST), its EDI-X12 Document type (e.g. 810,820,850 etc.), and direction (inbound or outbound).The event life cycle is reflected by using DX event statuses which signify success or failure of processing, or any significant event in the processing lifecycle.

Different logs are attached to the DX events to provide additional information. For example, the inbound EDI file is attached to the root event (ISA) and, if needed, the TA1 message that is created and sent back to the partner.

Inbound Process Overview

1. The X12 file is received at the landing zone. The file can contain no more than one ISA segment, with multiple GS groups and multiple ST transactions.
2. The EDI Accelerator receives the X12 file, validates the X12 file at the ISA level, generates a TA1 message, and sends the TA1 message to the sender based on the input ISA14 element.

3. If the file passes ISA level validation, the Accelerator splits the X12 file into separate files, for each GS, where each file contains one ISA segment with one GS segment. The GS segment can contain multiple ST segments of the same EDI document, such as transaction type 850.
4. The Accelerator validates each file with one ISA segment and one GS segment at the GS level. When the "997 Acknowledgment" workflow parameter is enabled (default), the Accelerator creates and sends a 997 message to determine if the file is EDI-X12 compliant. If there is a validation error, an HTML report with error descriptions will be attached to the event.
5. If the file is EDI-X12 compliant, the Accelerator splits the input into files with one ISA segment, one GS segment and one ST segment. The accelerator then parses the files into Informatica EDI-X12 XML canonical format.

Steps 4-5 are repeated for every GS group contained in the original X12 file.

Inbound Process - Detailed Description

Inbound processing starts when an EDI-X12 file arrives to the landing zone. You can use the sample DX file receive endpoint, or any DX endpoint according to client requirements. The EDI Accelerator de-envelopes the input file down to the EDI documents (STs) in the file. An inbound file can contain any of the EDI-X12 documents supported by EDI Accelerator. Files containing a TA1 or 997 are processed.

Assumption: *Each file must contain a single ISA segment and a single EDI document type (810,820 etc.).*

Interchange (ISA) Processing

As part of the interchange processing, an incoming file undergoes an ISA envelope validation (TA1).

If the ISA envelope is not valid, the EDI Accelerator rejects the file and sends a TA1 message and changes the event status to 'TA1 rejected sent'. If it is valid, processing continues. and a TA1 is sent if requested by the originating message.

Event statuses

DX Event Status	Description
Invalid File	Non-EDI file
Exception	The EDI-X12 document is not supported by the EDI accelerator or the corresponding Data Transformation EDI-X12 library service does not reside in the Data Transformation server Service DB
TA1 reject sent	Envelope contained errors. A corresponding TA1 was sent.
Complete	ISA envelope is valid. Processing continues to next level.

Event types

The event type format is '<edi document identifier> (ISA)'. For example, the event type will be '**810 (ISA)**' for EDI Document 810.

Event attributes

none

Document attached

Log Name	Description
Input	The incoming EDI-X12 file received from a partner
TA1 Data	TA1 file sent back to the partner in case it was requested by the incoming message

Functional Group (GS) Processing

GS level validation is done, for each file with one ISA and one GS segment.

The file is processed in these steps.

1. Split the incoming EDI file into separate files for each functional group (GS-GE).
2. Create a DX child event for every split (functional group) and attach the split to the DX event.
3. Validate functional group file using the corresponding Data Transformation library service. (e.g. for 810 document and 4010 EDI control version the **X12_4010_810_Parser** DT Service is used).
4. Create a 997 message, if requested in the incoming message, and send it back to the partner. Attach the HTML validation report if errors are found.

Event statuses

DX Event Status	Description
Group Processing Initiated	Start processing of Functional Group
Complete	End processing of Functional Group without errors
Validation Error	A validation error was found

Event types

The event type format is '<edi document identifier> (GS)'. For example, the event type will be '**810 (GS)**' for EDI Document 810.

Event attributes

none

Documents attached

Log Name	Description
HTML Report	HTML Report of the errors found in the Functional Group. If no errors are found, the document is not attached
997 ACK	Errors formatted to 997 EDI document. Sent to the partner if requested

Transaction Set (ST) Processing

Parsing is done for each file with one ISA and one GS and one ST segment.

The file is processed in the following steps.

1. Split the file into separate files for each transaction set (single ST).
2. Create a DX event for every file and attach the file to the DX event.
3. Parse the files to Informatica canonical xml format and add that output to the event.
4. Event attributes are also extracted and can be reviewed from the event attributes tab of the event.
5. Transactions in XML format and in EDI text format are uploaded to a Queue to be consumed later by a Customer Specific mapping. A mapping is provided that reads the queue. If needed, customer specific mapping can be added there.

Note: The EDI-X12 library includes parsing to EDI-X12 Informatica canonical XML format. To map the Informatica canonical XML format to customer-specific formats, you can create and configure a DT Mapper and/or DT Serializer. For more information about how to create a DT Mapper or a DT Serializer, see the *Data Transformation User Guide*.

Note that converting from Canonical XML, to load the data into the backend systems, needs to be developed as part of the project implementation, and is beyond the scope of the EDI Accelerator.

Event statuses

DX Event Status	Description
Transaction initiated	Start processing of EDI document type
Transaction processed	EDI document has been parsed

Event types

The event type format is '<edi document identifier> (ST)'. For example, the event type will be '**810 (ST)** ' for EDI Document 810.

Event attributes

DX Event Attribute	Description
GS_control_number	Functional Group control number as appears in GS\R06
ISA_control_number	Interchange control number as appears in ISA\R13
ST_control_number	EDI Document Control Number as appears in ST\R02
ST_transaction_type	EDI Document type as appears in ST\R01

The following table describes the specific event attributes extracted per EDI document:

DX Event Attribute Name	Transaction Name	Loop ID	Segment ID	Element ID	EDI Name
Invoice_Number	810		BIG	02	Invoice Number
Purchase_Order_Number	810		BIG	04	Purchase Order Number
Monetary_Amount	810		TDS	01	Monetary Amount
Number_of_Line_Items	810		CTT	01	Number of Line Items
Monetary_Amount	820		BPR	02	Monetary Amount
Purchase_Order_Number	850		BEG	03	Purchase Order Number
Number_of_Line_Items	850	CTT	CTT	01	Number of Line Items
Monetary_Amount	850	CTT	AMT	02	Monetary Amount
Purchase_Order_Number	855		BAK	03	Purchase Order Number
Number_of_Line_Items	855	CTT	CTT	01	Number of Line Items
Monetary_Amount	855	CTT	AMT	02	Monetary Amount
Shipment_Identification	856		BSN	02	Shipment Identification
Number_of_Line_Items	856		CTT	01	Number of Line Items

Documents attached

The following documents are attached:

Log Name	Description
ST Data	Transaction Set wrapped by ISA and GS
Converted XML	Output in Informatica canonical XML format

Reconciliation

The EDI Accelerator can reflect the correlation between a received 850 transaction and an Outbound 855 message.

If the "855 Acknowledgment" workflow parameter is set to "Enabled", a correlation flag will be created as part of the inbound 850 processing. In this case a new child event with "Waiting for 855" status will be created, and a reconciliation flag will be set to 'pending'.

When the corresponding outbound 855 DX event is created, the status of the inbound 850 DX event is changed accordingly, and the reconciliation flag is changed to 'Complete'.

Event statuses

DX Event Status	Description
Waiting for 855	850 EDI document was received and is waiting for an Outbound 855 EDI document to arrive
855 Accepted	Corresponding 855 EDI document was generated and positively acknowledged the 850 EDI Document
855 Rejected	Corresponding 855 EDI document was generated and rejected the 850 EDI Document

Event types

The event type format is '**850**'.

Event attributes

none

Inbound Authentication

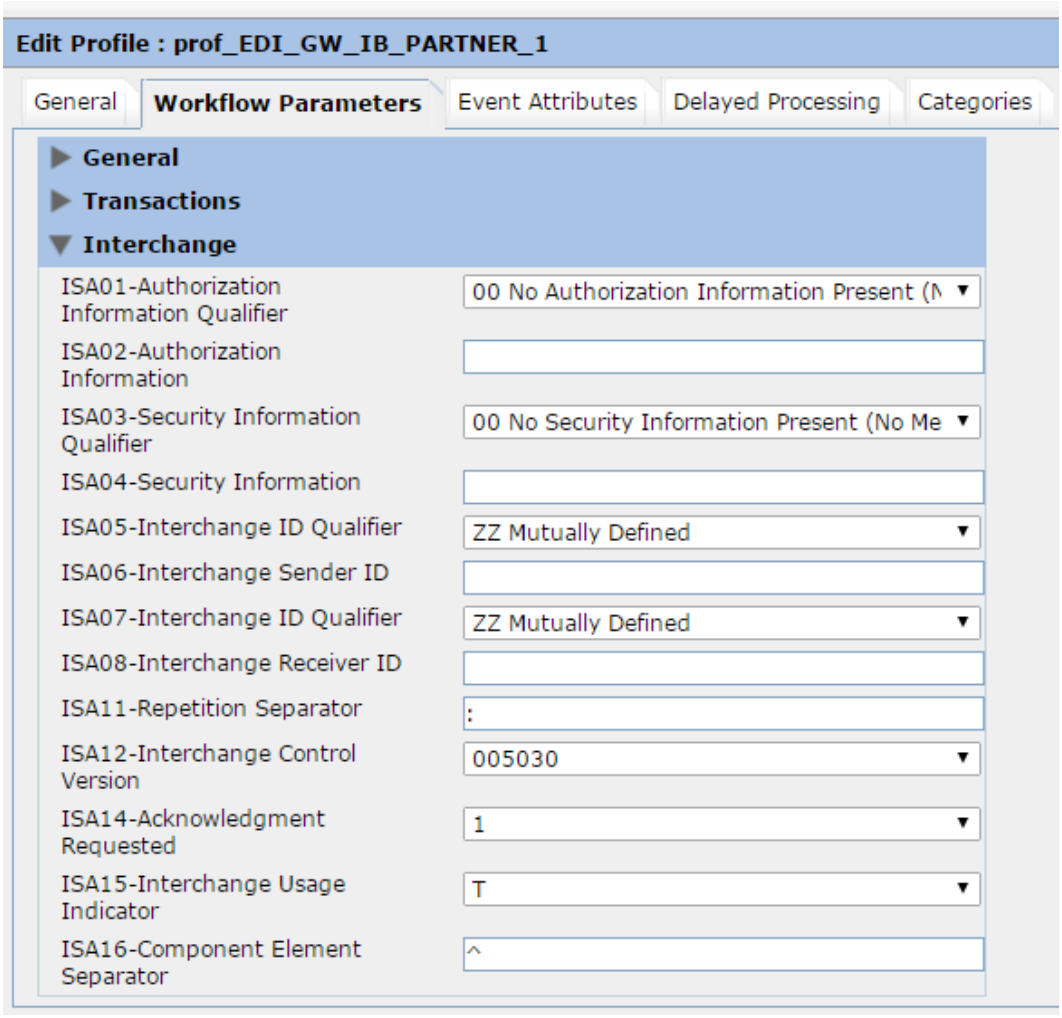
The goal of the Authentication process is to make sure that the incoming file is sent according to the agreement with the partner.

Once the EDI file arrives in the landing zone and the ISA level processing starts, an authentication process takes place. The authentication is done by comparing parameters in the file to the workflow parameters defined in the "Interchange" section of the DX profile (please refer to the Workflow Parameters image below for an example). The Authentication process verifies that the values received in the EDI message (ISA level) from a partner are the same as those defined in the configured workflow parameters of the profile. The following parameters are defined:

ID	Label	Type	Representation
ISA01_IB	ISA01-Authorization Information Qualifier	Text	Dropdown List
ISA02_IB	ISA02-Authorization Information	Text	Entry Field
ISA03_IB	ISA03-Security Information Qualifier	Text	Dropdown List
ISA04_IB	ISA04-Security Information	Text	Entry Field
ISA05_IB	ISA05-Interchange Qualifier	Text	Dropdown List
ISA06_IB	ISA06-Interchange Sender ID	Text	Entry Field
ISA07_IB	ISA07-Interchange Qualifier	Text	Dropdown List
ISA08_IB	ISA08-Interchange Receiver ID	Text	Entry Field
ISA11_IB	ISA11-Repetition Separator	Text	Entry Field

ID	Label	Type	Representation
ISA12_IB	ISA12-Interchange Control Version	Text	Dropdown List
ISA14_IB	ISA14-Interchange Acknowledgment Request	Text	Dropdown List
ISA15_IB	ISA15-Interchange Usage Indicator	Text	Dropdown List
ISA16_IB	ISA16-Component Element Separator	Text	Entry Field

Figure 1. Workflow Parameters of Inbound profile



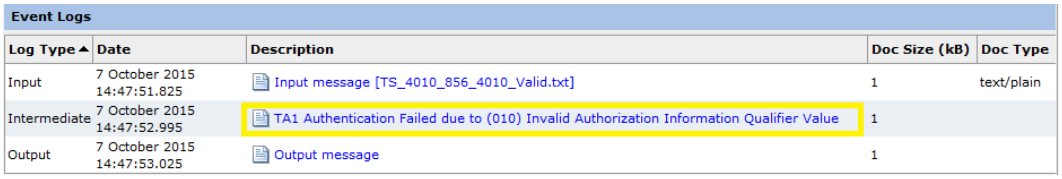
Note: An empty workflow parameter in the "Interchange" section indicates that this specific authentication check is skipped.

If the Authentication process fails:

1. The status of the event is updated to "Authentication Error"
2. A TA1 message is sent to the partner
3. The TA1 message is added to the DX Event with a description of the Authentication error

as shown in the following image.

Figure 2.



Event Logs

Log Type	Date	Description	Doc Size (kB)	Doc Type
Input	7 October 2015 14:47:51.825	Input message [TS_4010_856_4010_Valid.txt]	1	text/plain
Intermediate	7 October 2015 14:47:52.995	TA1 Authentication Failed due to (010) Invalid Authorization Information Qualifier Value	1	
Output	7 October 2015 14:47:53.025	Output message	1	

The following table shows the error code that will be shown in the TA1 message for each mismatch.

Profile Parameter Name	TA104	TA105	Error Description
ISA01-Authorization Information Qualifier	R	010	Invalid Authorization Information Qualifier Value
ISA02-Authorization Information	R	011	Invalid Authorization Information Value
ISA03-Security Information Qualifier	R	012	Invalid Security Information Qualifier Value
ISA04-Security Information	R	013	Invalid Security Information Value
ISA05-Interchange Qualifier	R	005	Invalid Interchange ID Qualifier for Sender
ISA06-Interchange Sender ID	R	006	Invalid Interchange Sender ID
ISA07-Interchange Qualifier	R	007	Invalid Interchange ID Qualifier for Receiver
ISA08-Interchange Receiver ID	R	008	Invalid Interchange Receiver ID
ISA11-Repetition Separator	R	026	Invalid Data Element Separator
ISA12-Interchange Control Version	R	003	This Version of the Controls is Not Supported
ISA14-Interchange Acknowledgment Request	R	019	Invalid Acknowledgment Requested Value
ISA15-Interchange Usage Indicator	R	020	Invalid Test Indicator Value
ISA16-Component Element Separator	R	027	Invalid Component Element Separator

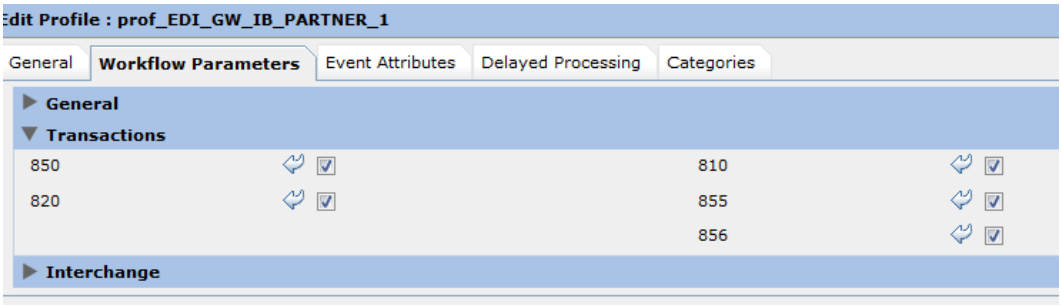
Inbound Authorization

The authorization process verifies that the partner that sent the specific EDI message is, indeed, authorized to send this EDI message.

The authorization process is performed as part of the GS level processing. This process is done by comparing the EDI message type received in the GS01 and ST01 elements to the DX workflow parameters

defined in the "Transactions" section of the partner's profile. To allow a partner to send a specific EDI message, you must check the relevant EDI Transaction.

Figure 3. Workflow Parameters

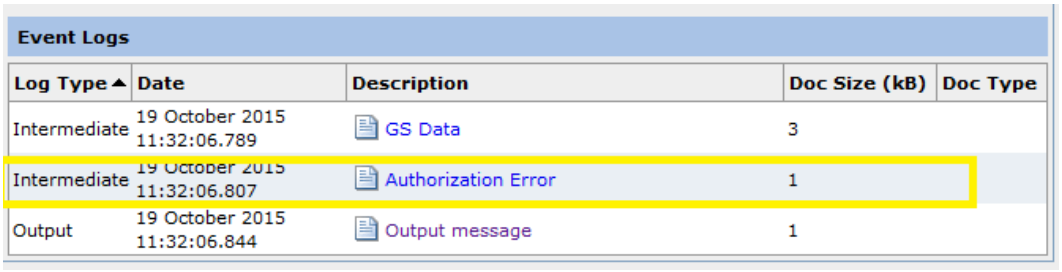


If a particular message type is not authorized the following actions occur:

1. The DX event status is updated to "Authorization Error".
2. An EDI ACK (997 for EDI) is generated with the appropriate error message and sent back to the partner.
3. EDI ACK is added to the DX Event.

The following image shows the actions:

Figure 4.



Outbound Process Overview

The Outbound files are processed in the following steps.

1. An EDI interchange in Informatica canonical XML format format arrives to the landing zone. The file can contain no more than one ISA segment, with multiple GS groups and multiple ST transactions (EDI documents).
2. The EDI Accelerator receives the file and validates it. If errors are found, processing stops and an error document is attached to the event.
3. If the file passes validation, the Accelerator serializes it into EDI-X12 format. (This serialized EDI-X12 file is sent to the partner at the end of the process). The Accelerator splits the serialized EDI-X12 file into separate files, where each file contains one ISA segment with one GS segment. The GS segment can contain multiple ST segments of the same EDI document, such as transaction type 850.
4. The Accelerator splits the input into files with one ISA segment, one GS segment, and one ST segment, and attributes are extracted.

Steps 3-4 are repeated for every GS group contained in the original X12 file.

Example

The EDI-GW Accelerator receives the following file:

```
ISA/GS/ST/ST/GE/GS/ST/ST/GE/IEA
```

The Accelerator splits the EDI-X12 file into files each contains one ISA segment with one GS segment:

```
ISA/GS/ST/ST/GE/IEA
ISA/GS/ST/ST/GE/IEA
```

Next the Accelerator splits the above to files containing one ISA segment, one GS segment, and one ST segment:

```
ISA/GS/ST/GE/IEA
ISA/GS/ST/GE/IEA
ISA/GS/ST/GE/IEA
ISA/GS/ST/GE/IEA
```

Outbound Process - Detailed Description

Outbound processing starts when EDI-X12 data in Informatica canonical XML format arrives to the landing zone (DX file receive endpoint). The file is Serialized into a single EDI-X12 message. If errors are found, the event status is changed to be 'Validation Error' and processing stops. Each file is expected to contain a single ISA segment and single document type (810,820 etc.).

Note: Extracting the data from backend systems and converting it to Canonical XML needs to be developed as part of the project implementation, and is beyond the scope of the EDI Accelerator.

Interchange (ISA) Processing

Valid messages are Serialized and sent to the partner and are attached to the DX event. If the message is valid, the DX event status is set to 'Complete' and next level processing begins.

When validation errors are found, a document with errors description is attached to the DX event and the Event status is set to 'Validation Error'.

Event statuses

DX Event Status	Description
Invalid File	File structure is not recognized as Informatica XML canonical format
Exception	The EDI-X12 document is not supported by the EDI accelerator or the corresponding Data Transformation EDI-X12 library service does not reside in the Data Transformation server Service DB
Validation Error	Document content does not conform to the ED-X12 standard
Complete	ISA envelope valid and processing continues to next level

Event types

The event type format is '<edi document identifier> (ISA)->'. For example, the event type will be '**810 (ISA)->**' for EDI Document 810

Event attributes

none

Documents attached

Log Name	Description
Input message	The incoming message in Informatica canonical XML format (data from the backend system after transformation to the Informatica XML canonical format)
Output message	Serialized EDI file that is sent to the partner
Logging information	Error description and additional information in case of an error

Functional Group (GS) Processing

The serialized file is split into separate files, and each file contains only one functional group (GS). A child event is created for each split (Functional Group) and the split is attached to the child event.

Reconciliation

The EDI Accelerator can reflect the correlation between the outbound functional group sent to a partner and an Inbound 997 received back from that partner for the sent EDI message.

When the "997 Acknowledgment" workflow parameter is set to "Enabled" (default), the event status will be changed to 'Waiting for ACK' and a reconciliation flag will be raised. Upon arrival of the corresponding 997, the status will be changed accordingly and the reconciliation flag will be set to 'Complete' .

Event statuses

DX Event Status	Description
Group Processing Initiated	Start processing of Functional Group
Waiting for ACK	The Functional Group is waiting to get acknowledgment from respective partner
Complete	Acknowledgment is not needed and processing is finished without errors
997 Accepted	Functional Group was positively Acknowledged
997 Rejected	Corresponding 855 EDI document was generated and rejected the 850 EDI Document

Event types

The event type format is '<edi document identifier> (GS) -> '. For example,the event type will be **'810 (GS)->**' for EDI document 810.

Event attributes

none

Documents attached

Log name	Description
GS Data	An EDI file with only one ISA and one GS

Transaction Set (ST) Processing

Each Transaction Set is processed in these steps.

1. Split the file into separate files for each transaction set (single ST).
2. Create a DX child event for each file and attach the file to the event.
3. Event attributes are also extracted and can be reviewed from the event attributes tab of the event.
4. Transactions in EDI text format are uploaded to a Queue. A Mapping is provided that reads the queue. If needed, customer specific mapping can be added there.

Event statuses

DX Event Status	Description
Transaction initiated	Start processing of EDI document type
Transaction processed	EDI document has been parsed

Event types

The event type format is '<edi document identifier> (ST)->'. For example, the event type will be '**810 (ST)->** ' for EDI Document 810.

Event attributes

DX Event Attribute	Description
GS_control_number	Functional Group control number as appears in GS\R06
ISA_control_number	Interchange control number as appears in ISA\R13
ST_control_number	EDI Document Control Number as appears in ST\R02
ST_transaction_type	EDI Document type as appears in ST\R01

The following describes the specific event attributes extracted per EDI document:

DX Event Attribute Name	Transaction Name	Loop ID	Segment ID	Element ID	EDI Name
Invoice_Number	810		BIG	02	Invoice Number
Purchase_Order_Number	810		BIG	04	Purchase Order Number
Monetary_Amount	810		TDS	01	Monetary Amount

DX Event Attribute Name	Transaction Name	Loop ID	Segment ID	Element ID	EDI Name
Number_of_Line_Items	810		CTT	01	Number of Line Items
Monetary_Amount	820		BPR	02	Monetary Amount
Purchase_Order_Number	850		BEG	03	Purchase Order Number
Number_of_Line_Items	850	CTT	CTT	01	Number of Line Items
Monetary_Amount	850	CTT	AMT	02	Monetary Amount
Purchase_Order_Number	855		BAK	03	Purchase Order Number
Number_of_Line_Items	855	CTT	CTT	01	Number of Line Items
Monetary_Amount	855	CTT	AMT	02	Monetary Amount
Shipment_Identification	856		BSN	02	Shipment Identification
Number_of_Line_Items	856		CTT	01	Number of Line Items

Reconciliation

The EDI Accelerator can reflect the correlation between an outbound 850 transaction and an inbound 855 transaction.

When the "855 Acknowledgment" workflow parameter is set to "Enabled", a correlation flag will be created as part of the outbound 850 processing. In this case, a new child event with "Waiting for 855" status will be created and a reconciliation flag will be set to 'pending'.

When the corresponding inbound 855 DX event is created, the status of the outbound 850 DX event is changed accordingly and the reconciliation flag is changed to 'Complete'.

Event statuses

DX Event Status	Description
Waiting for 855	An 850 EDI transaction was created and the event is waiting for an inbound 855 EDI document to arrive
855 Accepted	Corresponding 855 inbound EDI document arrived and positively acknowledged the sent 850 EDI Document
855 Rejected	Corresponding 855 inbound EDI document arrived and rejected the sent 850 EDI

Event types

The event type format is '850-> '.

Event attributes

none

Note: The EDI-X12 Accelerator uses Informatica EDI-X12 Serializers from EDI-X12 Informatica canonical XML format. To map customer-specific formats to EDI-X12 Informatica canonical XML format, you can create and

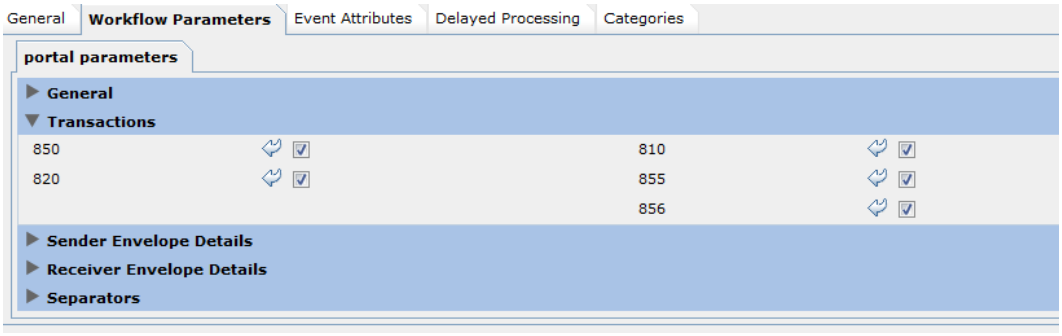
configure a DT Mapper and/or DT Serializer. For more information about how to create a Mapper and Serializer, see the *Data Transformation User Guide* .

Outbound Authorization

The authorization process verifies that the specific EDI message sent to the partner is, indeed, authorized by the Partner's Agreement.

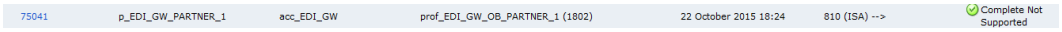
The authorization process is performed as part of the ISA level processing. This process is done by comparing the EDI message type in the GS01 and ST01 elements to the DX workflow parameters defined in the "Transactions" section of the partner's profile. To allow a partner to receive a specific EDI message, you must check the relevant EDI Transaction.

Figure 5. Workflow Parameters



If a particular message is not authorized, the DX event status is updated to "Complete not Supported" and processing stops as shown in the following image.

Figure 6.



CHAPTER 3

Dashboard

This chapter includes the following topics:

DX Dashboard Additional Charts

The EDI Accelerator dashboard charts are divided into the Customers tab and the Suppliers tab. The Customers tab displays information about EDI data exchange with the organization's customers. The Suppliers tab displays information about the EDI data exchange with the organization's suppliers.

Note: The Total displayed in all the charts corresponds to the top 10 or top 20 selected.

Suppliers Tab

This tab contains the following panels:

- **Total Monetary Amount of POs Sent to Suppliers**. This panel displays the top suppliers to which POs with the highest total monetary amount were sent for the selected timeframe.
- **Total POs sent to Suppliers**. This panel displays the top suppliers for which the highest number of POs was sent for the selected timeframe. Use this panel to analyze volume of operation per supplier.
- **Total Monetary Amount of Invoices Received from Suppliers**. This panel displays the top suppliers from which invoices with the highest total monetary amount were received for the selected timeframe.
- **Total Invoices Received from Suppliers**. This panel displays the top suppliers from which the highest number of invoices was received during the selected timeframe. Use this panel to analyze supplier activity or identify potential bottlenecks.
- **Overdue 997 by Suppliers (After Timed Out)**. This panel displays the top suppliers with the highest number of events waiting for 997 ACK for the selected timeframe and the selected event type. 'After Timed Out' indicates that the timeframe defined by the customer for receiving ACK has passed. Use this panel to identify potential bottlenecks per supplier.

  Note: The same partner can potentially appear in the chart twice, each time for data on a different event type - 820, 850. The chart tooltip shows the event type.
- **Overdue Suppliers' 997 by Event Type (After Timed Out)**. This panel displays the top event types with the highest number of events waiting for 997 ACK from supplier for the selected timeframe. 'After Timed Out' indicates that the timeframe defined by the customer for receiving ACK has passed. Use this panel to identify potential bottlenecks by event type.

- **Overdue OB 855 by Suppliers (After Timed Out)**. This panel displays the top suppliers from which the highest numbers of POs are awaiting 855 acknowledgments for the selected timeframe. 'After Timed Out' indicates that the timeframe defined by the customer for receiving ACK has passed. Use this panel to identify potential bottlenecks or other issues that might require further attention.

Customers Tab

This tab contains the following panels:

- **Total Monetary Amount of POs Received from Customers**. This panel displays the top customers from which POs with the highest total monetary amount were received for the selected timeframe.

  Note: If a message was received with a Correlation Id (PO number concatenated with Partner ID) that was already used by the partner, an error will appear at the ST level and will be count in the report.
- **Total POs Received from Customers**. This panel displays the top customers from which the highest number of POs was received for the selected timeframe. Use this panel to analyze customer activity or to identify potential bottlenecks.
- **Total Monetary Amount of Invoices Sent to Customers**. This panel displays the top customers to which invoices with the highest total monetary amount were sent for the selected time frame.
- **Total Invoices Sent to Customers**. This panel displays the top customers for which the highest numbers of invoices was sent for the selected timeframe. Use this panel to analyze customer activity or to identify potential bottlenecks.
- **Overdue 997 by Customers (After Timed Out)**. This panel displays the top customers with the highest number of events waiting for the customer's 997 ACK for the selected timeframe and the selected event type. 'After Timed Out' indicates that the timeframe defined by the supplier for receiving ACK has passed. Use this panel to identify potential bottlenecks or other issues that might require further attention.

  Note: The same partner can potentially appear in the chart three times, each time for data on a different event type - 810, 855, 856. The chart tooltip shows the event type.
- **Overdue Customers' 997 by Event Type (After Timed Out)**. This panel displays the top event types with the highest number of events waiting for customer's 997 ACK for the selected timeframe. 'After Timed Out' indicates that the time frame defined by the supplier for receiving ACK has passed. Use this panel to identify potential bottlenecks or other issues that might require further attention.
- **Overdue IB 855 by Customers (After Timed Out)**. This panel displays the top customers for which the highest numbers of POs are awaiting 855 acknowledgements for the selected timeframe. 'After Timed Out' indicates that the timeframe defined by the supplier for sending ACK has passed. Use this panel to identify potential bottlenecks or other issues that might require further attention.

Updating the Dashboard

The dashboard can be updated in these ways.

Adding new reports

New reports can be added to an existing tab or a new tab.

- To add a report in an existing tab, position the cursor on  (on the right of the title tab), then left click on the icon and choose "add Panels". The panels' list will appear.

- To add a report in a new tab, click on  "add tab".

Restore default dashboard

Select the dashboard option "Restore Default Dashboard".

Create new default dashboard

To transform a current dashboard to the permanent default dashboard, rename dxdashboard999.xml located under <DXInstall_Dir> \apache-tomcat-7.0.55\webapps\dx-dashboard\dx\saved_dashboards to dx_default_dashboard.xml

CHAPTER 4

Implementation

This chapter includes the following topics:

Implementation Guide

This section details assumptions and how to integrate with backend systems.

Assumptions

Note the following assumptions in using the accelerator.

1. **Received control number (GS06) is unique for a partner**- If a partner sends a functional group with same control number (GS06) and the "997 Acknowledgment" parameter is set to "Enabled" the event status will be set to "Error" due to failure of correlation creation.
2. **Received PO number (BEG03 and BAK03) is unique for a Partner** - If a partner sends an EDI transaction with the same PO number and the "855 Acknowledgment" parameter is set to "Enabled" the event status will be set to "Error" due to failure of correlation creation.

Extending EDI Accelerator with Backend Systems Integration

EDI-X12 messages should be mapped to customer-specific formats and then loaded into back-end systems. The mapping and the loading process **are not part** of the Accelerator as they are customer specific. Accelerator users can add specific B2B Data Exchange and PowerCenter implementations for mapping and loading, and define endpoint connectivity for B2B Data Exchange communication.

The EDI Accelerator package includes a workflow wf_EDI_GW_ST_Details. Inputs for that workflow are transaction sets in EDI text format, and also in Informatica canonical XML format for inbound messages. Customers can modify the workflow to conform to the organization's needs.

EDI Accelerator Outbound messages start from Informatica canonical format since the back-end format is customer specific. Those back-end files need to be mapped to Informatica canonical format. Accelerator users can add specific B2B Data Exchange and PowerCenter implementations for mapping from customer specific format to the Informatica canonical XML format. The Accelerator includes a sample PowerCenter mapping (can be found in the c:\temp\Examples\PwC_Workflows) that can be used as a guideline for development of customer specific mappings to Informatica canonical format.

Partners

The EDI accelerator includes definition for a sample Partner (p_EDI_GW_partner_1), sample account (acc_EDI_GW), sample profiles (prof_EDI_GW_IB, prof_EDI_GW_OB) and sample endpoints (ep_file_recieve, ep_file_send).

It is recommended to define the backend system internal identification of the supplier\customer as the DX Partner account number.

Profile and Profile Parameters

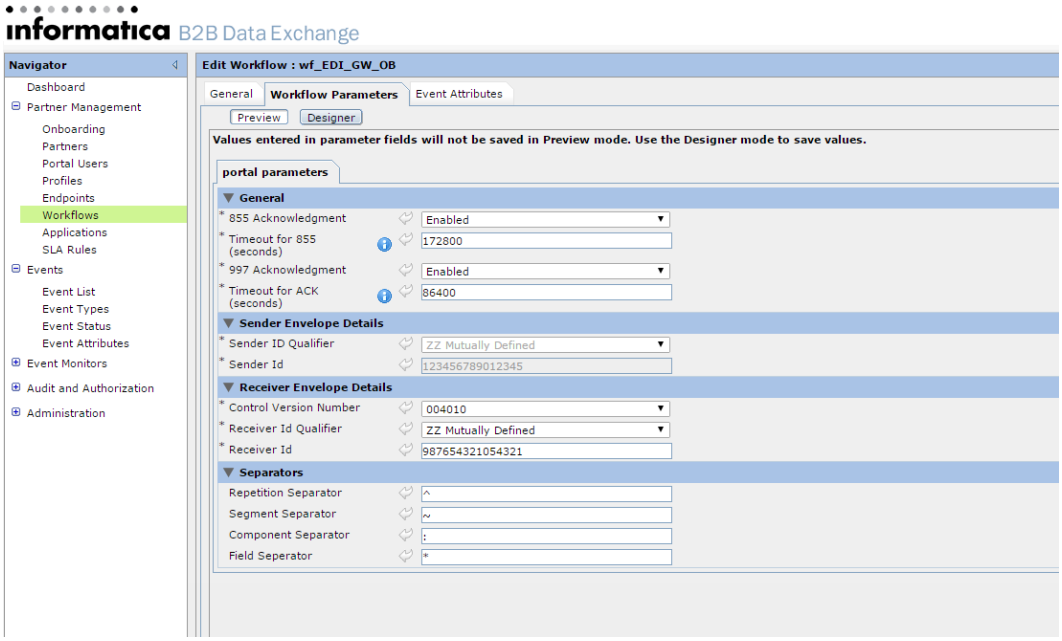
Each Partner should have a profile for outbound inbound traffic and for inbound traffic.

The following are the profile parameters for **outbound traffic:**

Parameter	Description
997 Acknowledgment	A 997 acknowledgment should be returned by Partner
855 Acknowledgment	A 855 acknowledgment should be returned by Partner
Timeout for ACK (seconds)	Timeout period for receiving 997 Ack. After time out period event status of the originating GS will be changed to '**Timed Out**'.
Timeout for 855 (seconds)	Timeout period for receiving 855 Ack. After time out period event status of the originating 850 will be changed to '**Timed Out**'.
Sender ID Qualifier	Mutually agreed value (ISA05)
Sender ID	The Organization Sender ID as defined in ISA06
Control Version Number	ASC X12 Release of the EDI document (ISA12,GS08)
Receiver ID Qualifier	Mutually agreed value (ISA07)
Receiver ID	Received ID as defined in ISA08
Repetition Separator	Value of separator as agreed by partners
Segment Separator	Value of separator as agreed by partners
Field Separator	Value of separator as agreed by partners
Component Separator	Value of separator as agreed by partners

Note: Outbound parameters are grouped under "portal parameters" tab, in order to present them in the Partners Portal, which enables Partners to configure their preferences.

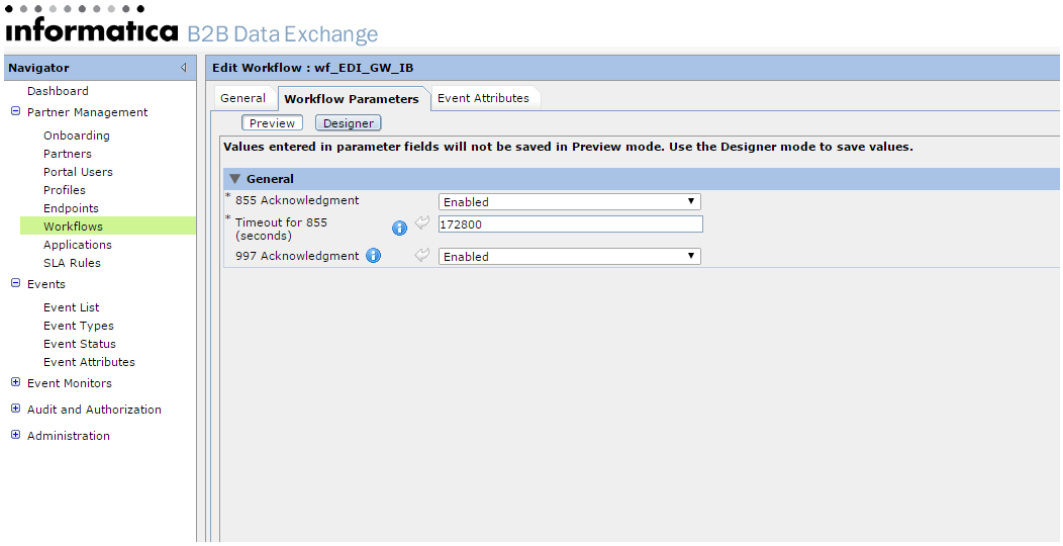
Figure 7.



The following are the profile parameters for **inbound traffic:**

Parameter	Description
997 Acknowledgment	Determines whether a 997 acknowledgment will be sent to Partner
855 Acknowledgment	Determines whether a 855 acknowledgment will be sent to Partner
Timeout for 855 (seconds)	Timeout period for issuing 855 Ack. After time out period event status of the originating 850 will be changed to '**Timed Out**'.

Figure 8.



Endpoints

Receive endpoint - Both inbound and outbound files arrive to the receive endpoint directory and DX server routs them to the corresponding profile based on the file pattern.

If it is not possible to identify the file type based on the file pattern a DX "traffic cop" workflow can be implemented to extend the EDI Accelerator.

Send endpoint - Serialized outbound files, 997 acknowledgments and TA1 acknowledgments are routed to the send endpoint to be taken by the partner.

The endpoint type (AS2, FTP etc.) can be determined as part of the project implementation.

Inbound

As soon as the connection is established and a file arrives to the receive endpoint it will be consumed by the DX server and a DX event will be created and seen on the DX console 'Event List'.

Outbound

Outbound files are assumed to be in Informatica canonical format. If an outbound file is structured in a back-end customer specific format it must be first mapped to the Informatica canonical format. Informatica

canonical format contains information about the EDI document structure and version. For more information about the Informatica canonical format see EDI-X12 library guide.

It is recommended to create a DT Mapper per every EDI type and EDI control version. For example, to support EDI type 810 and versions 4010 and 5030 create two separate Mappers, a Mapper per EDI version. These Mappers will map from the back-end customer specific format to the Informatica canonical format. For more information about DT Mappers development see *Data Transformation User Guide*. Please use the Outbound workflow parameters in order to map their values into the Informatica canonical format. For example, use the Separators parameters to populate their values into the Informatica canonical format as part of the Mapper.

A PowerCenter mapping that will use the Data Transformations services should be created. The EDI Accelerator package contains an example that can be used as a starting point. More information about PowerCenter mapping development can be found in the *PowerCenter Designer Guide*.

Inbound/Outbound

For a partner that belongs to a supplier's community or to a customer's community, some of the relations that exist between the inbound and outbound traffic are reflected in the EDI Accelerator through the DX console. The relations are shown both on the functional group and on the transaction set.

Functional group relations

This relation is captured for outbound traffic for both supplier's and customer's community. To capture the relation two profile parameters are used:

Parameter	Description
997 Acknowledgment	Indicates whether a 997 acknowledgment will be returned from Partner
Timeout for ACK (seconds)	Timeout period for receiving 997 Ack. After time out period, the event status of the originate GS will be changed to Timeout.

If the first parameter (997 Acknowledgment) is set to "Enabled" the 2nd parameter (Timeout for ACK (seconds)) will be set as the time out period.

A flag is raised (reconciliation flag) for every functional group of the outbound traffic. This flag will be reconciled when the corresponding 997 acknowledgement is received from the partner. If the Timeout period passed and no acknowledgement was received, the event status of the functional group will be changed to 'Timed Out'.

Transaction set relations

This relation between a Purchase order (850) and a Purchase Order Acknowledgement (855) is captured for both supplier's and customer's community. To capture the relation two profile parameters are used:

Parameter	Description
855 Acknowledgment	855 acknowledgment is returned
Timeout for 855 (seconds)	Timeout period for receiving 855 Ack. After time out period, the event status of the originate 850 will be changed to Timeout.

Following are supplier's community relations:

Outbound	Inbound	Correlation
850	855	V
	856	X
	810	X
820		X

Following are customer's community relations:

Outbound	Inbound	Correlation
855	850	V
856		X
810		X
	820	X

If the first parameter (855 Acknowledgment) is set to "Enabled", the 2nd parameter (Timeout for 855 (seconds)) will be set as the time out period. A flag is raised (reconciliation flag) for every 850 transaction set. This flag will be reconciled when the corresponding 855 acknowledgement arrives. If the Timeout period passed and no acknowledgement was received, the event status of the functional group will be changed to 'Timed Out'.

Note: Reconciliation between 850 and 855 occurs for inbound and outbound traffic.

For the supplier's community, a reconciliation flag will be raised for the created outbound 850 and will be reconciled with receiving the corresponding inbound 855 Acknowledgment.

For the customer's community, a reconciliation flag will be raised for the inbound 850 and will be reconciled when the respective 855 outbound acknowledgment is created.

CHAPTER 5

EDI Partner Import

This chapter includes the following topics:

EDI Partner Import Overview

On-boarding is the process by which the organization configures their B2B Data Exchange document communications with partners. You use the EDI Partner Import tool to rapidly on-board and configure B2B Data Exchange partners, accounts, profiles, and endpoints.

Use the EDI Partner Import tool to import many partners at once using a single Excel spreadsheet, which accelerates and automates the on-boarding process. After using the EDI Partner Import tool to on-board and configure the B2B Data Exchange partners, the EDI Accelerator can send and receive messages with B2B Data Exchange.

EDI Import Partner Tool Components

The EDI Accelerator package includes the following components associated with the EDI Import Partner tool:

- `wf_partners_import_tool_all_steps.XML`: PowerCenter workflow.
- `create_staging_tables.sql`: SQL script.
- `dx_partners_import_tool_template.xlsx`: Excel template.

Prerequisites

Before you import EDI partners, ensure that you have the following prerequisites:

- B2B Data Exchange version 10.1.
- PowerCenter version 10.1.
- B2B Data Exchange includes the workflows **wf_EDI_GW_IB & wf_EDI_GW_OB**, indicating that you successfully installed EDI Accelerator 10.1.0.1.
- B2B Data Exchange WebService API is running.
- Oracle DB
- Install EDI DT library
- Ensure that the following B2B Data Exchange web services are installed and running and protection is disabled:
  - wf_m_DX_TPM_ACCOUNT
  - wf_m_DX_TPM_PARTNER
  - wf_m_DX_TPM_PROFILE

Running B2B Data Exchange Web Services

To ensure that the B2B Data Exchange web services are deployed and running, perform the following steps:

1. In the PowerCenter Repository Manager, import the B2B Data Exchange web services from the following files:
   - `wf_m_DX_WS_Endpoint.XML` file in the directory `<DX Installation>\powercenter\webservices\`
   - `wf_m_DX_WS_TPM.XML` file in the directory `<DX Installation>\powercenter\webservices\`
2. Assign the B2B Data Exchange web services to a PowerCenter Integration Service.

Removing Protection from B2B Data Exchange Web Services

To remove protection from the B2B Data Exchange web services, perform the following steps:

1. In the Powercenter Workflow Manager drag the B2B Data Exchange web service workflows **wf_m_DX_TPM_ACCOUNT**, **wf_m_DX_TPM_PARTNER**, and **wf_m_DX_TPM_PROFILE** to the workflow designer pane.
2. To remove protection, select **Workflows** > **Edit** > **General**. In the **Configuration Service** tab, clear the **Protected** option.

EDI Partner Import Process

The EDI import process performs the following steps:

1. Imports the data in the EDI Partner Import tool Excel template to the B2B Data Exchange staging tables.
2. Validates the data obtained from the EDI Partner Import tool Excel template.
3. If requested to delete partners, accounts, or profiles, they are deleted from B2B Data Exchange.

4. Creates partners, accounts, and profiles in B2B Data Exchange.
5. If required to create endpoints, creates endpoints in B2B Data Exchange.
6. If required to provide the load status of import artifacts, adds the load status to the Excel file.

EDI Partner Import Excel Parameters

The following table indicates which of the Partner parameters in the EDI Partner Import Excel are required.

Parameter	Required
partner_name	Required The following validation rules apply to this field: - The partner name length is less than 60 characters. - The partner name is not empty. - If the partner exists, it is not created. - If the partner does not exist, it is not deleted. - The partner name is unique.
partner_description	Optional
operation	Required

The following table indicates which of the Contact parameters in the EDI Partner Import Excel are required.

Parameter	Required
contact_name	Optional
contact_description	Optional
title	Optional
address	Optional
phone_number	Optional
business_phone_number	Optional
fax_number	Optional
email_address	Optional
category	Optional

The following table indicates which of the Account parameters in the EDI Partner Import Excel are required.

Parameter	Required
account_name	Required The following validation rules apply to this field: - The partner associated with the account is valid. - The account name and ID length are less than 60 characters. - The account name is not empty. - If the account exists, it is not created. - If the account does not exist, it is not deleted. - The account name is unique for any system with the parameter setting **dx.system.account.uniqueness=SYSTEM**, or unique for the partner for any system where the parameter setting **dx.system.account.uniqueness** is not **SYSTEM**.
account_id	Required
account_description	Optional

The following table indicates which of the Inbound Profile parameters in the EDI Partner Import Excel are required.

Parameter	Required
inbound_profile_name	Required The following validation rules apply to this field: - The profile name is unique. - The partner and account associated with the profile are valid. - The profile name is less than 60 characters. - If workflow exists in the B2B Data Exchange repository. - If workflow name is not empty.
inbound_profile_description	Optional
inbound_workflow_name	Required
855 Acknowledgement	Optional
Timeout for 855 (seconds)	Optional
997 Acknowledgement	Optional
850	Optional
820	Optional
810	Optional
855	Optional
856	Optional
ISA01-Authorization Information Qualifier	Optional
ISA02-Authorization Information	Optional

Parameter	Required
ISA03-Security Information Qualifier	Optional
ISA04-Security Information	Optional
ISA05-Interchange ID Qualifier	Optional
ISA06-Interchange Sender ID	Optional
ISA07-Interchange ID Qualifier	Optional
ISA08-Interchange Receiver ID	Optional
ISA11-Repetition Separator	Optional
ISA12-Interchange Control Version	Optional
ISA14-Acknowledgment Requested	Optional
ISA15-Interchange Usage Indicator	Optional
ISA16-Component Element Separator	Optional

The following table indicates which of the Outbound Profile parameters in the EDI Partner Import Excel are required.

Parameter	Required
outbound_profile_name	Required The following validation rules apply to this field: - The profile name is unique. - The partner and account associated with the profile are valid. - The profile name is less than 60 characters. - If workflow exists in the B2B Data Exchange repository. - If workflow name is not empty.
outbound_profile_description	Optional
outbound_workflow_name	Required
855 Acknowledgement	Optional
Timeout for 855 (seconds)	Optional
997 Acknowledgement	Optional
Timeout for ACK (seconds)	Optional
850	Optional
820	Optional
810	Optional

Parameter	Required
855	Optional
856	Optional
Sender ID Qualifier	Optional
Sender Id	Optional
Control Version Number	Optional
Receiver Id Qualifier	Optional
Receiver Id	Optional
Repetition Separator	Optional
Segment Separator	Optional
Component Separator	Optional
Field Separator	Optional

The following validation rules apply to all the inbound and outbound profile parameters except the inbound_profile_name and outbound_profile_name parameters:

- The associated partner, account, and profile are valid.
- The profile parameter exists.
- The required values are not empty.
- The Boolean parameters contain true or false.
- The numeric parameters contain numeric values.
- If the parameter has a drop-down list in the Excel, the value is part of the list.

If you do not fill in the following fields, they are calculated and filled in based on the partner name:

- account_name
- account_id
- profile_name
- inbound_profile_name
- outbound_profile_name
- Receive Endpoint Name
- Send Endpoint Name
- Receive Incoming File Path
- Send Incoming File Path

It is advisable to fill in all the columns to avoid the necessity for manual corrections.

The following table indicates which of the Receive Endpoint parameters in the EDI Partner Import Excel are required.

Parameter	Required
Receive Endpoint Name	Required
Receive Use Endpoint Root Directory	Required
Receive Incoming File Path	Required
Receive File Name Pattern 1 For Outbound Profile	Required
Receive File Name Pattern 2 For Inbound Profile	Required

The following table indicates which of the Send Endpoint parameters in the EDI Partner Import Excel are Required.

Parameter	Required
Send Endpoint Name	Required
Send Use Endpoint Root Directory	Required
Send Incoming File Path	Required
Send File Name Pattern	Required

Installing and Configuring the EDI Partner Import Tool

Before you perform partner on-boarding with the EDI Partner Import Tool, set up the relevant PowerCenter workflow and enter the partner, account, profile, and endpoint data that you want to import into the EDI Partner Import Tool Excel template.

1. On the machine where you installed the PowerCenter client, B2B Data Exchange, and EDI Accelerator, copy the EDI Partner Import Tool Excel template file named `dx_ partners_import_tool_template.xlsx` from the directory `<EDI Accelerator installation>\EDI_Accelerator\PartnersImportTool\` to the directory that you choose. Use this copy as the input file for the EDI partner import process, not the original template. Save the template for future use.
2. In the PowerCenter Workflow Manager, create a PowerCenter relational connection named **B2BDX_Data** to the Oracle database that contains the staging tables.
3. In the PowerCenter Repository Manager, create a folder named **EDI_GW_ partners_import_tool** that will hold the EDI Partner Import Tool workflow.
4. In the PowerCenter Repository Manager, import the workflow named **wf_partners_import_tool_all_steps.xml** from the directory `<EDI Accelerator installation>\EDI_Accelerator\PartnersImportTool\PWC\` into the repository folder named **EDI_GW_Mass_Onboarding**.

5. On the machine where you installed the Data Transformation client, add the ServiceDB directories named `m_step_5_update_xlsx_with_status` and `mplt_xlsx_to_relational` to `$INFA_HOME/DataTransformation/ServiceDB`. Get the ServiceDB directories from the directory `<EDI Accelerator installation>\EDI_Accelerator\PartnersImportTool\DT_Services\`.
6. On the machine where you installed the PowerCenter client, B2B Data Exchange, and EDI Accelerator, run the SQL script named `create_staging_tables.sql` located in the directory `<EDI Accelerator installation>\EDI_Accelerator\PartnersImportTool\Oracle\`.
7. On the machine where you copied the EDI Partner Import Tool Excel input file, update the Excel input file with partner, account, profile, and endpoint data, and EDI Accelerator parameter settings.
   - To create a partner, in the **operation** field select **create**.
   - To delete a partner, in the **operation** field select **delete**.
8. In the PowerCenter Workflow Manager, update the workflow `wf_partners_import_tool_all_steps.s_m_step_1_normalize_xls_and_load_into_staging` with the full path for the EDI Partner Import Tool Excel input file.
   a. Double-click the object **s_m_step_1_normatlize_xls_and_load_into_staging**.
   b. In the **Edit Tasks** window select the **Mapping** tab.
   c. In the **Task type** pane, select the source `mplt_xlsx_to_relational.Read_xls_file_path`.
   d. In the **Properties** section, the path and file name of the `xls_file_path.txt` file are specified. This file contains a default path to the EDI Partner Import Tool Excel input file. Update the path in this file to match the location where you put the file.

      If the `xls_file_path.txt` file does not exist, create it, and then add to it the path to the EDI Partner Import Tool Excel input file. Provide a path to the input file that you use for the import process, not the template file. The default path for the `xls_file_path.txt` file is defined in the workflow variable **$PMSourceFileDir**.
9. In the PowerCenter Workflow Manager, update the workflow parameters.
   a. Select **Workflow** > **Edit**.
   b. In the **Workflow Configuration** window select the **Variables** tab.
   c. Define the workflow variables. The following table contains the workflow variables and their default values.

Option	Description
$$wkf_create_end_point	Indicates whether to create the B2B Data Exchange endpoints. Default is No.
$$WKF_DX_TOOL	The command line to create the B2B Data Exchange endpoints. Default is `C:\Informatica\B2B\DataExchange\dx-tools\run-cli.bat`.
$$WKF_DX_CMD_LINE	A parameter used for the command line to create the endpoints. Default is `com.informatica.b2b.dx.cli.importexport.ImportExportMain -c import`
$$WKF_DX_USER	The B2B Data Exchange user name. Default is `sys`.

Option	Description
$$WKF_DX_PWD	The B2B Data Exchange password. Default is `sys`.
$$WKF_SPEC_FILE	The specification file to use with the EDI Partner Import process. Default is `C:\Informatica\B2B\DataExchange\dx-tools\samples\import-all-specification-sample.xml`.
$$WKF_END_POINT_FILE_SEND	The path of the XML file to used to create the send file endpoint. Default is `$PMTargetFileDir\dx_endpoint_file_send.xml`.
$ $WKF_END_POINT_FILE_RECEIVE	The path of the XML file to used to create the receive file endpoint. Default is `$PMTargetFileDir\dx_endpoint_file_receive.xml`.
$$generate_xlsx_file_updated	Indicate whether to create a file with the status results of the EDI partner import process. Default is Yes.
$$generate_xlsx_result	The path of the file with the status results of the EDI partner import process. Default is `C:\EDI\mass_onboarding\OUT\dx_partners_import_tool_RESULT.xlsx`.
$$WKF_DX_Version	The version of B2B Data Exchange. Default is 10.1.

10. In the PowerCenter Workflow Manager, update the object `wf_partners_import_tool_all_steps.s_m_step_5_update_xlsx_with_status` with the on-boarding status attributes.

Importing Partners

The EDI Partner Import tool Excel template contains fields for the B2B Data Exchange partner, account, profile, and endpoint parameters. Prepare this data in advance so that you can fill in the template correctly.

For more information about the partner, account, profile, and endpoint settings, refer to the *B2B Data Exchange Operator Guide*.

1. Update the EDI Partner Import tool Excel input file. Enter the partner, account, profile, and endpoint data.

   Do not use the original template. Use a copy of the template and save the template for future use.

2. In the PowerCenter Workflow Manager, run the **wf_ partners_import_tool _all_steps** workflow.

   The workflow creates partners, accounts, and endpoints in B2B Data Exchange.

3. To view the status of all the updated parameters, check the Excel file with the status results of the EDI partner import.

   The EDI Partner Import process writes the status results to the file that you specified in the workflow variable **$$generate_xlsx_result**. In the Excel each imported artifact, whether a partner, account, inbound profile, outbound profile, receive end point, or send end point object, has a **load_status** column indicating if the import process succeeded or failed. The **load_status_desc** column contains a description of what was created and troubleshooting information if relevant.

4. In the B2B Data Exchange Operation Console, view the imported partners.

APPENDIX A

Working with VAN

This appendix includes the following topics:

Overview

The EDI Accelerator enable users that are working with VAN to receive messages, and to authenticate and authorize them with the corresponding Partner that is defined within the EDI Accelerator.

Package Installation

Installation of VAN support is optional.

Package Contents

The VAN package includes the following components.

B2B Data Exchange Deliverables

1. Partner
   - **VAN**
2. Profile
   - **prof_VAN_1**
3. Sample Account
   - **acc_VAN_1**
4. Endpoint
   - **ep_VAN_receive**

5. Workflow
   - **wf_IB_Rout_To_Partner**
6. The following event statuses

Event Status	Description
Invalid File	File is not recognized as EDI message
Error	Routing failed due to either: - Partner definition could not be found - More than one partner definition that corresponds to the message is found

PowerCenter Workflows

- **wf_IB_Route_To_Partner** - A workflow to extract the sender id from ISA06 and locate the partner with the sender id value. It routs the message to the Partner's inbound profile.

Data Transformation Services

Data Transformation Service	Description
Infa_B2B_Extract_RoutingID	Extract sender id information from the inbound message

Installing VAN Support

Before you install VAN Support, ensure that you have a license with the EDI-X12 options and activate the license. Also ensure that you have installed the EDI Accelerator and its prerequisites.

Follow these steps to install the VAN support:

1. Create the following application connection for a JMS connection. The destination type is **QUEUE** and the JMS connection factory value is **connectionfactory.local**.

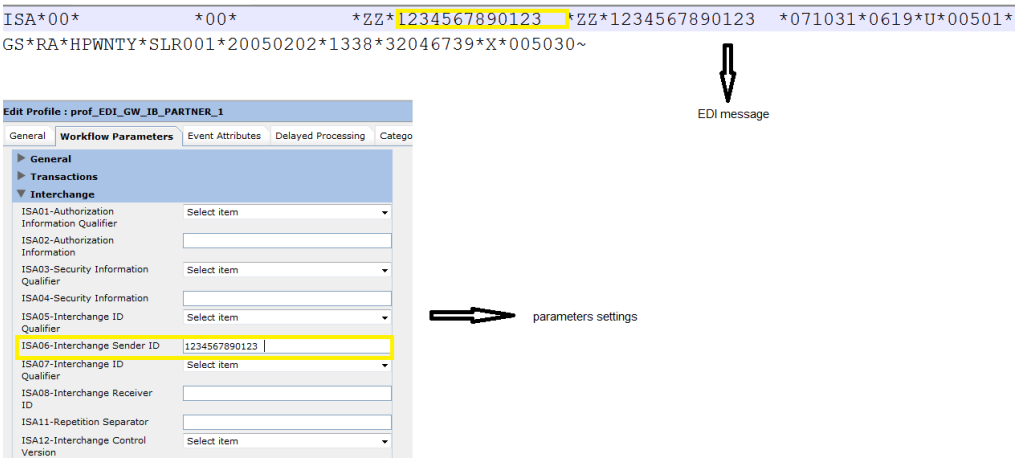
Connection Name	JMS Destination
Infa_B2B_VAN_input	queue.wf_IB_Rout_To_Partner The name wf_IB_Rout_To_Partner is also the name of a workflow in B2B Data Exchange

2. Import wf_IB_Rout_To_Partner.xml PowerCenter workflow from the c:temp\PwC_ Workflows directory to the same PowerCenter folder you have imported the EDI Accelerator workflows .
3. From PowerCenter Workflow Manager open the new defined folder as follows:
   a. Drag wf_IB_Processing.xml to the workflow pane
   b. Assign a PowerCenter Integration Service
   c. Start the workflow (wf_IB_Rout_To_Partner)

Detailed Overview of Processing Flows

For VAN users, the routing of the message is done according to the Interchange sender ID that is found in the ISA segment and the ISA06 interchange ID inbound profile parameter value defined for the partner. VAN routing is based on the assumption that the partner sender id is unique and the value appears in the partner profile parameters. When an EDI file is received from VAN, a DX event is created and processed as follows.

1. The ISA06 (Interchange Sender ID) value is extracted from the ISA segment.
2. The DX repository is searched to find a matching profile.
3. If a matching profile is found, the message is routed to that profile via DX return queue. The following screenshot shows the match on Sender ID.
4. **Figure 9.**



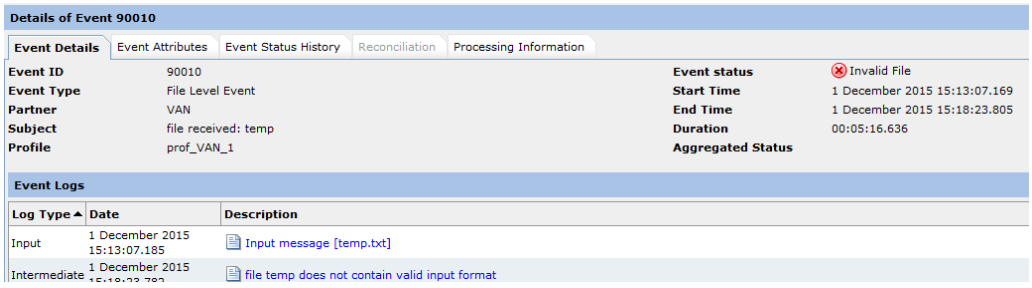
When the message arrives at the Partner, the profile process continues as described in the EDI Accelerator Release notes.

Error Handling

The following errors can occur in processing the message.

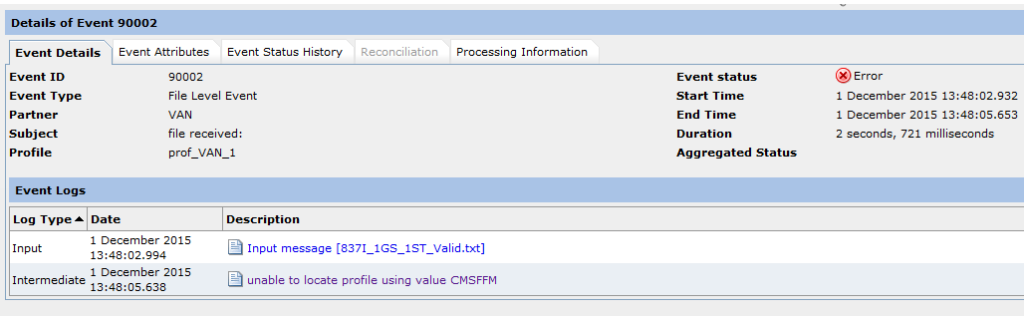
- **ISA06 cannot be extracted from input** - The event status is changed to Invalid File and a document is added to the event with the error description.

Figure 10.



- **A matching profile with the extracted sender id could not be found** - Either no such sender id is defined or more than one profile with the same sender id is found. The event status is changed to Error and a document is added to the event with the error description. The extracted sender id appears within the error message.

Figure 11.



Implementation Guide

This section details assumptions and how to integrate with B2B Data Exchange.

Assumptions

Note the following assumptions in using VAN.

1. The ISA06 Interchange sender id is defined for each partner that sends messages using VAN.
2. The ISA06 Interchange sender id is unique among partners.

Using the VAN

Every partner must have a Partner definition within the Informatica B2B Data Exchange. Therefore define a profile within the Informatica B2B Data exchange for each partner. Fill in the ISA06 - Interchange sender id parameter value.

As soon as connection is established and the file arrives at the VAN file receive endpoint, the file will be consumed by the DX server, and routed to the matching partner. An event will be created which can be seen on the DX console 'Event List'.

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