

Sterling Standards Library



Services and Adapters

Version 8.0.2, for Sterling B2B Integrator 5.2.2

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Note

Before using this information and the product it supports, read the information in "Notices" on page 287.

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Chapter 1. ACH Deenvelope Service

The following table provides an overview of the ACH Deenvelope service:

Note: ACH Deenvelope service will detect if incoming ACH data contains non-numeric data in cumulative fields and end processing with an appropriate error message.

Service name

DeenvelopeACH

Graphical Process Modeler (GPM) categories

All Services, EDI > ACH

Description

Deenvelopes entry detail records for any ACH SEC code while extracting the associated addenda records

Business usage

Support for the ACH translation standard.

Usage example

This service may convert ACH data into IBM® Sterling B2B Integrator format and invoke a BP on it.

Preconfigured?

Yes.

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

For SEC codes that contain compressed X12 or EDIFACT messages, the appropriate deenveloping service will typically be invoked.

Related BPs: ACH Deenvelope BP; EDI Deenvelope

Application requirements

None

Initiates business processes

This service can invoke a business process if the ACH batch envelope is configured to do so. There are no special business process requirements for this service; however, you cannot use the service outside a business process.

Invocation

You must configure a business process or envelope to call the predefined deenveloping business process. The event calling this service must provide the ACH file as the primary document.

Business process context considerations

Deenveloping details are written to process data.

Returned status values

The Advanced Status message will indicate the de-enveloping error and the status report will give additional information about the error.

If an error occurs, a parameter called "ERROR_CODE" is written to the process data. This parameter can be used by the appropriate business process to determine the type of error that occurred and take the appropriate action. If an interchange level error occurs, this error code is written to the process data of the parent business process. If a batch level error occurs, the error code is written to the process data of the business process invoked when the 820 document was extracted, or to the error business process.

The ERROR_CODE parameter can have one of the following values:

Interchange level error codes (and descriptions):

- NO_PRIMARY_DOCUMENT (Primary document was not supplied to the service)
- INVALID_ACH_HEADER (ACH Header is invalid)
- INVALID_ACH_TRAILER (ACH Trailer is invalid)

Batch level error codes (and descriptions):

- 820_TRANSLATION_ERROR 820 (Error while translating the extracted 820)
- ACH_820_DISCREPANCY (Discrepancy between data in ACH and extracted 820.)
- ACH_VALIDATION_ERROR (ACH document does not conform to specification)
- ENVELOPE_NOT_FOUND (ACH Envelope was not found)
- AMBIGUOUS_ENVELOPES (More than one matching ACH envelopes were found)
- SUCCESS_BPNAME_ERROR (Error determining the BP name to be invoked on extracted 820)
- DUPLICATE_FILEID_MODIFIER (File ID Modifier of the ACH document was previously recorded.)

Restrictions

The ACH Develope supports ACH batch level rejection as follows: if an incoming message contains multiple batches, but some batches are non-compliant, only those non-compliant batches are rejected. The remaining (compliant) batches are processed.

Persistence level

Full persistence (default)

Testing considerations

Need a valid version ACH message. Need ACH file level and batch level inbound envelopes created. For debug messages to be logged, the system log needs to be turned on.

Parameters Passed from Service to Business Process

ExtractedFields

Batch header record fields are put into "Extracted Fields/ACHBatchHeaderRecord". File header records are put into "ExtractedFields/ACHFileHeaderRecord"

Business Process Example

This process de-envelopes the ACH interchange contained in the primary document. It then writes the resultant X12 820 message to the file system.


```

<process name="ACHDeEnvelopeTest">
  <sequence>
    <operation name="ACHDeenvelope" >
      <participant name="InvokeSubProcessService" />
      <output message="Xout" >
        <assign to="INVOKE_MODE">INLINE</assign>
        <assign to="WFD_NAME"
>ACHDeenvelope</assign>
      </output>
      <input message="Xin" >
        <assign to="." from="*"></assign>
      </input>
    </operation>
    <operation>
      <participant name="EDITEST"/>
      <output message="FileSystemInputMessage">
        <assign to="." from="*"></assign>
        <assign to="Action">FS_EXTRACT</assign>
        <assign
to="extractionFolder">/ais_local/share/kwedinger/sandbox/woodstock2/tes
ts/scripts/edi/ach/resultdata/</assign>
        <assign to="assignFilename">true</assign>
        <assign
to="assignedFilename">ACHDeenvelopeTest.out</assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>

```

Chapter 2. ACH Envelope Service

The following table provides an overview of the ACH Envelope service:

Service name

EnvelopeACH

Graphical Process Modeler (GPM) categories

All Services, EDI > ACH

Description

Envelope ACH messages including any associated addenda records.

Business usage

Support for the ACH translation standard in the Sterling Platform.

Usage example

Allows the system to envelope an ACH message, including any addenda records which may be in the ACH or other ACH approved standards syntax, using specified envelopes.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

Available for all platforms.

Related services

EDI Envelope Service

BPs: EDI Envelope BP

EDIEncoder service should be called first to get the enveloping parameters.

Application requirements

None

Initiates business processes?

This service can invoke a business process if the selected ACH outbound envelope is configured to do so. There are no special business process requirements for this service. This service cannot be used outside a business process.

Invocation

If there is an associated addenda doc, then the BP calling this service must provide the data necessary to generate the addenda doc message inside the primary document.

Business process context considerations

None

Returned status values

Enter the possible status values that can be returned from this service.

- Status: Description
- Error: The Advanced Status message will indicate the error and the status report will give additional information.

Restrictions

None

Persistence level

Default

Testing considerations

- Need a valid version 003020 X12 820 message to work with CCD and CTX message types. For other message types, need valid maps that will convert data from IBM Sterling B2B Integrator format to ACH format. Need ACH Batch and File level outbound envelopes created. For debug messages to be logged, the system log needs to be turned on.

Business Process Example

This process uses EDIEncoder to get the envelope settings. It then envelopes the data in the primary document into an ACH message. It then writes the resultant ACH to the file system.

```

<process name="ACHEnvelopeTest1">
  <sequence>

    <operation>
      <participant name="EDIEncoder"/>
      <output message="EDIEncoderTypeInputMessage1">
        <assign to="." from="*"></assign>
        <assign to="AcceptorLookupAlias">CIE</assign>
        <assign to="ReceiverID">111111111</assign>
        <assign to="SenderID">222222222</assign>
        <assign to="EDIStandard">ACH</assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

    <operation>
      <participant name="EnvelopeACH"/>
      <output message="EDIEnvelopeTypeInputMessage">
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

    <operation>
      <participant name="EDITEST"/>
      <output message="FileSystemInputMessage">
        <assign to="." from="*"></assign>
        <assign to="Action">FS_EXTRACT</assign>
        <assign to="extractionFolder">/server/tests/scripts/edi/ach/resultdata/ </assign>
        <assign to="assignFilename">true</assign>
        <assign to="assignedFilename">ACHEnvelopeTest1.out</assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>

```

Using Wildcards when Creating Envelopes

As a way to help reduce the number of envelopes you need to create and use, the ACH Envelope service supports use of an asterisk (*) as a wildcard character in mandatory envelope fields. By using wildcards, you can create one set of envelopes that can be used for multiple trading partners. Then, when the ACH envelope service runs, it will replace the wildcards with correlation values. If certain trading partners have specific requirements, you can still have envelopes that pertain just to them, and the ACH Envelope service chooses the envelope that is the best match. In other words, the envelope that has the most matches to specific fields in the data (for example Receiver ID, Receiver ID Qualifier), is the one selected.

The following list contains the correlation values that need to be set inside of process data in order to support wildcards:

- ACHEnvelopeParms/Out_DestinationIdentification
- ACHEnvelopeParms/Out_OriginIdentification
- ACHEnvelopeParms/Out_DestinationName
- ACHEnvelopeParms/Out_OriginName
- ACHEnvelopeParms/Out_CompanyDiscretionaryData
- ACHEnvelopeParms/Out_DiscretionaryData
- ACHEnvelopeParms/Out_ReferenceCode

The following example shows how you might set correlation values in a business process:

```
<!-- Set up generic envelope correlation data -->
  <assign name="Assign"
to="/ProcessData/ACHEnvelopeParms/Out_DestinationIdentification">
  11111111</assign>
  <assign name="Assign"
to="/ProcessData/ACHEnvelopeParms/Out_OriginIdentification">
  22222222</assign>
  <assign name="Assign"
to="/ProcessData/ACHEnvelopeParms/Out_DestinationName">
  WildcardDestName</assign>
  <assign name="Assign" to="/ProcessData/ACHEnvelopeParms/Out_OriginName">
  WildcardOriginName</assign>
  <assign name="Assign"
to="/ProcessData/ACHEnvelopeParms/Out_ServiceClassCode">
  999</assign>
  <assign name="Assign"
to="/ProcessData/ACHEnvelopeParms/Out_CompanyDiscretionaryData">
  WildcardCDD</assign>
  <assign name="Assign"
to="/ProcessData/ACHEnvelopeParms/Out_DiscretionaryData">
  WC</assign>
  <assign name="Assign" to="/ProcessData/ACHEnvelopeParms/Out_ReferenceCode">
  RefCode</assign>
```

Note: All EDI services assign a Unique ID to each log message.

Adding Translation Map Name to Process Data

The ACH Envelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The ACH Envelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map

name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 3. ACH Return Generation Service

The following table provides an overview of the ACH Return Generation service:

Service name

ReturnGenerationACH

Graphical Process Modeler (GPM) categories

All Services, EDI > ACH

Description

Generates ACH Return entry detail records and forwards them to ACH Enveloping service.

Business usage

Support for the ACH translation standard.

Usage example

Allows the back end system to return those entry detail records which could not be posted successfully.

Preconfigured?

Yes.

Requires third party files?

No

Platform availability

All supported platforms.

Related services

EDI Envelope Service

Related Business Processes: EDI Envelope BP

Application requirements

None

Initiates business processes

There are no special business process requirements for this service. This service cannot be used outside a BP.

Invocation

The service should be called with an XML document as the primary document. This XML document should conform to a schema published by IBM along with other ACH components. This message should contain information necessary to identify the entry detail records being returned and should also contain ACH specific reasons for rejection of those entry detail records.

Business process context considerations

None.

Returned status values

Enter the possible status values that can be returned from this service.

Error: The Advanced Status message will indicate the error and the status report will give additional information.

Restrictions

None.

Persistence Level

Default.

Testing Considerations

The system needs to have processed some ACH Entries. Need a valid XML file referencing these entries as the input. Also need to have outbound envelopes configured so that the generated return entries can be packaged into an ACH interchange. For debug messages to be logged, the system log needs to be turned on.

Business Process Example

This sample business process calls the ACH Return Generation Service, using the supplied document as the primary document.

```
<process name="ACHReturnGeneration">
  <sequence>
    <operation name="ReturnGenerationACH">
      <participant name="ReturnGenerationACH"/>
      <output message="Xout" >
      <assign to="." from="*"></assign>
      </output>
      <input message="Xin" >
      <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>
```

Chapter 4. AS3 Build Service

The following table provides an overview of the AS3 Build service:

System name

AS3 Build Service.

Graphical Process Modeler (GPM) categories

All Services, INTERNETB2B-EDIINT.

Description

This service is used to build an AS3 message, including constructing the message header.

Business usage

A user needs to build an AS3 message and initiate an AS3 message exchange with a trading partner.

Usage example

An example of the usage of this service is as follows:

1. The user wants to initiate an AS3 message exchange with a trading partner.
2. The user writes a business process and includes the AS3 Build service in the process definition.
3. The AS3 Build service starts the AS3 message exchange as configured in the trading partner contract.

Preconfigured?

Yes, a preconfigured instance, AS3BuildService, is created during installation process.

Requires third party files?

No.

Platform availability

All supported application platforms.

Related services

This service is used in conjunction with the AS3 Parse service, File System adapter, and FTP adapter.

Application requirements

An AS3 message exchange agreement is configured with an external trading partner. A trading partner contract must be configured to initiate the AS3 message exchange.

Initiates business processes?

This service initiates the AS3MessageInitiation internal business process.

Business process context considerations

None.

Invocation

This service is invoked from a business process. It can be used in any business process for which this functionality is desired.

Restrictions

No.

Returned status values

Success, Failure

Testing considerations

Debug information for this service can be found in the AS3 log files.

How the AS3 Build Service Works

The following steps summarize how the AS3 Build service works within a business process:

1. The AS3 Build service starts the AS3 message exchange as configured in the trading partner contract.
2. The AS3 Build service initiates a message exchange with the trading partner as specified in the AS3 contract.
3. The AS3 message is exchanged based on the contract configuration.
4. For Bulk Message Generation, a scheduled business process is created. This business process has an instance of a File System adapter that collects the documents from the specified folder and invokes a business process containing the AS3 Build service for each document collected.

Implementing the AS3 Build Service

To implement the AS3 Build service, complete the following tasks:

1. Install the AS3 Build service.
2. Create an AS3 Build service configuration.
3. Configure the AS3 Build service only once in the user interface.
4. Configure the AS3 Build service parameters only once in the GPM.
5. Use the AS3 Build service in a business process or create the one necessary AS3 trading partner contract with the Bulk Message Generation parameter enabled so a scheduled business process that includes the AS3 Build service is created.

Note: Two AS3 contracts are automatically created when you use the AS3 Partner Wizard to create a trading partner contract. The second contract is used by the AS3 Parse Service when parsing incoming AS3 messages.

Configuring the AS3 Build Service

To configure the AS3 Build service, you must complete the following steps:

1. Select **Deployment > Services > Configuration**.
2. Search for AS3 Build service or select it from the list and click **Go!**
3. Click **Edit**.
4. Specify field settings in the Admin Console (“Creating or Setting Up a Service Configuration in the Admin Console”) and the GPM (“Setting Up the Service in the GPM” on page 13).
5. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected and click **Finish**.

Creating or Setting Up a Service Configuration in the Admin Console

To configure the AS3 Build service, you must specify settings for the following fields in the IBM Sterling B2B Integrator user interface one time only. Additionally, you will need to specify settings in the GPM:

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – You do not want to include this configuration in a group at this time.
- Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration.
- Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.

Optional.

Setting Up the Service in the GPM

Use the field definitions in the following table to set up the service configuration in the GPM:

Parameter

Description

ContractName

The contract to use when initiating an AS3 message exchange. Value is any valid contract name. Required. BPML element value is **ContractName**.

CustomizedBPML

The customized business process to invoke. Value is any valid IBM Sterling B2B Integrator business process name. By default, the predefined (internal) AS3MessageInitiation business process is invoked. Optional.

BPInvokeMode

The business process invocation mode. Valid values are ASYNC (asynchronous) or SYNC (synchronous). Default is ASYNC. Optional.

MessageStoreDirectory

The directory in which to store the AS3 message that is created or picked up from the trading partner. Value is any valid file directory. Optional.

FileSystemInstance

The File System adapter instance that will write the AS3 message to the file system. Value is any File System adapter instance. Optional.

FTPAdapterName

The FTP adapter instance to use to transport the AS3 message to the trading partner. Value is any valid FTP adapter instance. Default is FTPClientAdapter. Optional.

PipelineTimeoutInSecs

The timeout value for building an AS3 message. Valid value is any numeric value. Default is 1800 seconds. Optional.

Process Data Example

This example shows an example business process using the AS3 Build service to exchange AS3 messages:

```
<process name="test_AS3Build">
  <sequence name="seq1">
    <operation name="AS3 BUILD SERVICE">
      <participant name="AS3Build"/>
      <output message="outmsg">
        <assign to="ContractName">SendToCleo</assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>
```

Chapter 5. AS3 Parse Service

The following table provides an overview of the AS3 Parse service:

System name

AS3 Parse Service.

Graphical Process Modeler (GPM) categories

All Services, INTERNETB2B-EDIINT.

Description

This service is used to parse an AS3 message.

Business usage

A user needs to parse an AS3 message during AS3 message exchange.

Usage example

An example of the usage of this service is as follows:

1. The user wants to send a Message Disposition Notification (MDN) to a trading partner.
2. The AS3 Parse service extracts the payload from the AS3 message.
3. The AS3 Parse service generates an MDN for the received AS3 message.
4. The AS3 Parse service invokes a system business process to send the MDN to the trading partner.
5. If the MDN is sent successfully, the AS3 Parse service places the payload into a PAYLOAD mailbox.
If the MDN is not sent successfully, the AS3 Parse service places the payload into an ERROR mailbox.

Preconfigured?

Yes, a default instance, AS3ParseService, is created during the installation process.

Requires third party files?

No.

Platform availability

All supported application platforms.

Related services

This service is used in conjunction with the AS3 Build service and the FTP adapter.

Application requirements

An AS3 message exchange agreement is specified with an external trading partner. The trading partner contract must be configured (in the IBM Sterling B2B Integrator) to respond to the AS3 message exchange.

Initiates business processes?

This service initiates the AS3MDNInitiation internal business process.

Business process context considerations

None.

Invocation

This service is invoked by the AS3MbxProcessing internal business process.

Restrictions

No.

Returned status values

Success, Failure.

Testing considerations

Debug information for this service is located in the AS3 log files.

How the AS3 Parse Service Works

The AS3 Parse service parses AS3 messages during an AS3 message exchange. The IBM Sterling B2B Integrator gives you two options in delivering MDNs to your trading partners:

1. Send the MDN directly to the trading partner.
2. Place the MDN in an OUTGOING mailbox for the trading partner to pick it up within a specific time period. Default 60 minutes.

The following steps summarize how the AS3 Parse service works to send an MDN directly to a trading partner:

1. The AS3 Parse service extracts the payload from the AS3 message.
2. The AS3 Parse service generates an MDN for the received AS3 message.
3. The AS3 Parse service invokes a system business process to send the MDN to the trading partner.
4. If the MDN is sent successfully, the AS3 Parse service places the payload into a PAYLOAD mailbox.

If the MDN is not sent successfully, the AS3 Parse service places the payload into an ERROR mailbox.

The following steps summarize how the AS3 Parse service works to place an MDN in an OUTGOING mailbox for the trading partner to pick it up within a specific time period:

1. The AS3 Parse service extracts the payload from the AS3 message.
2. The AS3 Parse service generates an MDN for the received AS3 message.
3. The AS3 Parse service places the payload into a HOLDING mailbox and the MDN into the MDN_OUTGOING mailbox.
4. The AS3 Parse service invokes a system business process to monitor if the MDN has been picked up by the trading partner within a specified time period (the maximum time permitted is 60 minutes).
5. If the MDN is picked up within the timeout period, the AS3 Parse service moves the payload into the PAYLOAD mailbox.

If the MDN is not picked up within the timeout period, the AS3 Parse service removes the MDN from the MDN_OUTGOING mailbox and moves the payload into the ERROR mailbox.

Note: When you use the Mailbox Auto Creation option when creating AS3 partner profiles, this feature automatically creates the necessary mailboxes and routing rule to process messages and MDNs. You need a routing rule for both the Incoming AS3 Message (InboundAS3) and the Incoming AS3 MDN (Inbound MDN) mailboxes. This routing rule is used to invoke predefined business processes to process the AS3 messages and MDNs. If you do not use the automatic mailbox creation option, you must create the necessary mailboxes, routing rule, and schedule, and assign the appropriate user permissions.

If you chose to have the necessary mailboxes and routing rule automatically created during the partner profile creation process, the routing rule created is named **Routing Rule created by the AS3 auto create option**. The Incoming AS3 Message (InboundAS3) mailbox and the Incoming AS3 MDN (Inbound MDN) mailbox are attached to the rule. If this routing rule already exists, the AS3 system just adds the two mailboxes to the rule. The routing rule is set up to invoke the predefined AS3MbxProcessing business process, which contains the AS3 Parse service.

Whether you create the mailboxes and routing rule automatically or manually, you need to schedule the routing rule to be run. See *Using AS3* for more information.

Implementing the AS3 Parse Service

To implement the AS3 Parse service, complete the following tasks:

1. Install the AS3 Parse service.
2. Create an AS3 Parse service configuration.
3. Configure the AS3 Parse service only once in the user interface
4. Configure the AS3 Parse service parameters only once in the GPM.
5. Use the AS3 Parse service in a business process or, if you are using the predefined internal AS3MbxProcessing business process, you do not have to create another business process.

Configuring the AS3 Parse Service

To configure the AS3 Parse service, you must complete the following steps:

1. Select **Deployment > Services > Configuration**.
2. Search for AS3 Parse service or select it from the list and click **Go!**
3. Click **Edit**.
4. Specify field settings in the Admin Console (“Creating or Setting Up a Service Configuration in the Admin Console”) and the GPM (“Setting Up the Service in the GPM” on page 18).
5. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected and click **Finish**.

Creating or Setting Up a Service Configuration in the Admin Console

To configure the AS3 Parse service, you must specify settings for the following fields in the IBM Sterling B2B Integrator user interface one time only. Additionally, you will need to specify settings in the GPM:

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – You do not want to include this configuration in a group at this time.

- Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration.
- Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.

Optional.

Setting Up the Service in the GPM

Use the field definitions in the following table to set up the service configuration in the GPM:

Parameter

Description

CustomizedBPML

The customized business process to invoke. Value is any valid business process name in the system. Default is the AS3MessageInitiation business process. Optional.

MDNStoreDirectory

The directory in which to store the MDN that is created or received from a trading partner. Value is any valid directory in the system. Optional.

MessageStoreDirectory

The directory in which to store the AS3 message created or picked up by the trading partner. Value is any valid directory in the system. Optional.

FileSystemInstance

The file system adapter instance to use to write the AS3 message to the file system. Value is any valid file system adapter instance in the system. Optional.

FTPAdapterName

The FTP adapter instance to use. Value is any FTP adapter configured in the system. Default is FTPClientAdapter. Optional.

PipelineTimeoutInSecs

The time out value for building an AS3 message. Valid value is any numeric value. Default is 1800 seconds. Optional.

mdnDocument

The MDN document generated. Optional.

Note: The MDN is only generated when it is requested by the incoming AS3 message. This Value is returned by the service if an MDN exists.

payloadDocument

The document ID of the payload document extracted from the incoming AS3 message. Optional.

Note: This parameter is only available when an AS3 message is received. A payload is not extracted when an MDN is received.

Process Data Example

By default, the AS3 Parse service is invoked from the AS3MbxProcessing internal business process. The AS3MbxProcessing business process is triggered by a mail routing rule when an AS3 message is received from a trading partner.

This example shows an example business process for invoking the AS3 Parse service:

```
<process name="test_AS3Parse">
  <sequence name="seq1">
    <operation name="AS3 PARSE SERVICE">
      <participant name="AS3Parse"/>
      <output message="outmsg">
        </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>
```

Chapter 6. CHIPS Adapter

The CHIPS adapter sends CHIPS messages using MQ or SWIFTNet.

The following table provides an overview of the CHIPS adapter:

System Name

CHIPSAdapter

Graphical Process Modeler (GPM) categories

All Services.

Description

This adapter sends CHIPS messages using MQ or SWIFTNet to The Clearing House.

Business usage

Use this adapter to send CHIPS financial information using MQ or SWIFTNet to the CHIPS network. The business value of this adapter is inherent in using the benefits of the CHIPS network to exchange financial messages.

Usage example

A user needs to send CHIPS payment messages to The Clearing House and does so using the CHIPS adapter.

Preconfigured?

A default version of the CHIPS adapter is preconfigured.

Requires third party files?

MQSeries[®], com.ibm.mq.jar and mqji_en_US.properties must be installed to use MQ delivery.

Platform availability

All supported application platforms.

Related services

This adapter works with the CHIPS Utility service, the Websphere MQ Suite Async Receive adapter, the HTTP Server adapter, and the SWIFTNet Server adapter.

Application requirements

None.

Initiates business processes?

Yes, either a user-created business process or the sample business process provided with the IBM Sterling B2B Integrator (CHIPS business process).

Invocation

A user who has permission to perform this activity must execute the business process that invokes this adapter.

Business process context considerations

The configuration parameters are picked up by the adapter in the workflow. In receiving mode, the adapter puts the incoming documents into the workflow.

Returned status values

Success, Failure.

Restrictions

Either MQ or SWIFTNet transport can be used with the CHIPS adapter.

Persistence level

N/A

Testing considerations

To test this adapter, run the CHIPS adapter business process and verify that it completes successfully. Debug information for this service is located at:

Operations > System > Logs > CHIPS

How the CHIPS Adapter Works

The CHIPS adapter sends CHIPS messages to the CHIPS Central Computer, using either the SWIFTNet network (optionally using Websphere MQ) or The Clearing House Frame Relay Network (a proprietary network that uses Websphere MQ). The Clearing House provides a TCP/IP interface for communicating with CHIPS. All CHIPS messages include a message header and all message requests require a message acknowledgement. When the participant sends a message request, the participant expects a CHIPS acknowledgement or CHIPS Invalid Message Acknowledgement message. When CHIPS sends a message request, the participant returns a participant acknowledgement message. Acknowledgements are sent to CHIPS based on the transport mode for which the CHIPS Adapter is configured. When the CHIPS line is inactive, the CHIPS Adapter enables you to send supervisory STATUS messages to CHIPS to test the connection.

You must configure the CHIPS adapter prior to sending any messages to CHIPS. The message payload is passed through a business process that you must also create (or configure the predefined business process).

The CHIPS adapter uses five handlers to send and receive messages:

- The **Send Handler** sends outbound messages (if the communications method selected is functioning) and stores outbound messages in a local database. The Send Handler creates two mailboxes, based on the participant number, to handle the sending of outbound messages. It stores all the messages into the mailbox for auditing purposes, regardless of the status of CHIPS line. The Send Handler checks the line status in the IBM Sterling B2B Integrator database and, if the line is functioning, it sends the message based on the transport mode (either Websphere MQ or SWIFTNet). If the line is inactive, all messages are stored in a local database table until they can be processed (when the line is functioning again, the Resend Handler batches and sends the locally stored messages in the database).
- The **Resend Handler** checks for messages that have exceeded the specified resend count. If there are no messages that have exceeded the resend count, it will collect all outbound messages that were stored locally (that is, when the messages were first sent, the selected communication method was unavailable and the messages were stored in the local database). Additionally, the Resend Handler resends messages that have not been acknowledged for more than sixty seconds. If the number of messages collected is greater than the batch number, the messages are sent. If the number of messages collected is less than the batch number, the Resend Handler continues to collect messages for the CHIPS adapter instance (for which the line status is down). In case of a payment message, this handler also includes a possible duplicate tag (PSN [271]) to indicate that the message could be a duplicate. If there are messages that have exceeded the resend count, the Resend Handler will send a STATUS supervisory

message to CHIPS. All the other resend messages or new incoming messages are not sent. When the acknowledgement is received, the locally stored messages will be sent in the next time interval. If it does not receive an acknowledgement, it sets the line status to inactive.

Each time a message is resent, the Resend Handler generates a new message number for the message from the database. If the resend count of a message is greater than three (that is, the Resend Handler has attempted to send a particular message three times with no success), the Resend Handler sends an event to the Heartbeat Handler to send a supervisory message to CHIPS. If this occurs, other resend messages or new incoming messages are not sent. You can configure the Resend Handler to start at specific intervals (for example, every ten minutes).

- The **Heartbeat Handler** is a “listener event”; it is initiated when an event is called by the Resend Handler or the business process that checks the status of CHIPS line. The Heartbeat Handler sends a STATUS supervisory message. It starts the sixty second timer and waits for the response. If there is no response, it updates the database with the status that the line is down. Otherwise, it updates the database with the status “Line up.”
- The **Receive Handler** receives all messages from CHIPS (through the communication method you specify, either MQ or SWIFTNet), sets the timestamp of each received messages in the appropriate database table, and returns an acknowledgement message if the incoming message is not the CHIPS Acknowledgement message. The Receive Handler stores all incoming messages except heartbeat messages in the appropriate mailbox and the IBM Sterling B2B Integrator database table, and parses and validates the header of all incoming CHIPS messages. Heartbeat messages are available in FS_INBOUND database table. If a message received is a Response Acknowledgement from CHIPS, the Receive Handler sets the Acknowledged flag in the appropriate database table, notes the timestamp of the acknowledgement, and decrements the MQ counter (if you are using MQ as your transport mode). If a message received is not a Response Acknowledgement from CHIPS, the Receive Handler notifies the Acknowledgement Handler to send a participant acknowledgement response to CHIPS.
- The **Acknowledgement Handler** sends the appropriate participant acknowledgement response (transaction code 05) to CHIPS (the response is based on the incoming message). If you are using MQ transport mode, the Acknowledgement Handler uses the MQ parameters you specified for the CHIPS adapter to send the acknowledgement response. If you are using SWIFTNet transport mode, the Acknowledgement Handler encodes the acknowledgement response and sets it in the Primary Document, and this is used to return the SWIFTNet Server response.

Please note that the CHIPS adapter automatically performs the following:

- If the transport mode used is SWIFTNet, the payload *must* be base64 encoded, and the response that is received must be decoded.
- If the transport mode used is SWIFTNet, the Request Type is set to **chips.payment** if the transaction code is 10; for all other transaction codes, the Request Type is set to **chips.message**.

How the CHIPS Adapter Communicates with SWIFTNet

When the CHIPS adapter is used with the SWIFTNet network, it receives acknowledgement messages from CHIPS in the SWIFTNet Response within sixty seconds, and any incoming messages (for example, heartbeat message, resolver

notification) are received by SWIFTNet Server adapter. The return acknowledgement of the incoming messages is performed by the Receive Handler and Acknowledgement Handler within the CHIPS adapter (the business process is bootstrapped using the SWIFTNet Routing Rule).

Note: The SWIFTNet adapter must be preconfigured to start up the SWIFTNet MEFG Server to listen for incoming messages.

The SWIFTNet transport process handles batches of messages as a sequential request and response process.

The SWIFTNet Client service is executed to create the SWIFTNet message header based on the configuration set in the CHIPS adapter. The request type is either chips.payment (if the transaction code is 10) or chips.message (for all transaction codes except 10).

How the CHIPS Adapter Communicates with MQ

When the CHIPS adapter is used with MQ, any acknowledgement from CHIPS and any incoming messages (for example, heartbeat message, resolver notification, and so forth) are received by the Websphere MQ Suite Async Receive adapter.

The return acknowledgement of the incoming messages is performed by the Receive Handler and Acknowledgement Handler within the CHIPS adapter (the business process is bootstrapped from the Websphere MQ Suite Async Receive adapter).

Note: A unique set of the MEFG Server IP, MEFG Server Port, Queue Manager, Channel Name, and Send Queue parameters can only be used in *one* CHIPS adapter configuration. Therefore, if a unique set of these parameters is used, it must not be used in any other CHIPS adapter configuration. Additionally, each line connection can only have one queue active.

The MQ transport process handles batches of messages as follows: open session, open queue, send multiple messages, close queue, and close session.

With MQ, a participant can have more than one connection through clustering, and each connection can be one set of a line configuration. Each line configuration represents a CHIPS adapter configuration, so each participant in this scenario can have up to two CHIPS adapter configurations when using MQ.

Implementing the CHIPS Adapter

To implement the CHIPS adapter, complete the following tasks:

1. Create a configuration of the CHIPS adapter to enable you to send a CHIPS message. For information about the fields specific to this adapter, see “Configuring the CHIPS Adapter” on page 25.

Note: If you create a new configuration, you must also create a new business process or edit a copy of the appropriate predefined business process, to update it to use your adapter configuration. You do not need to create an instance of the CHIPS adapter for every message; you can reuse the CHIPS adapter instance and pass the parameters that differ from the sample adapter through the business process.

2. Specify field settings for the adapter configuration in the IBM Sterling B2B Integrator admin console and in the GPM as necessary. See “Configuring the CHIPS Adapter.”
3. Perform the additional tasks necessary to use the CHIPS adapter. See “Additional Tasks Necessary to Use the CHIPS Adapter” on page 33 for more information.
4. If you are communicating through Websphere MQ Server, configure the Websphere MQ Suite Async Receive adapter. See the *Websphere MQ Suite Async Receive Adapter* documentation for more information.
5. If you are communicating through SWIFTNet, configure the following:
 - SWIFTNet Server Adapter (see the *SWIFTNet Server Adapter* documentation for more information)
 - HTTP Server Adapter
 - SWIFTNet Routing Rule (see the *Using SWIFTNet* documentation for more information)
6. Create the necessary business process to pass the payload.
 - For a single document, you must pass the payload as an input document or indicate the document_id as a BPML parameter.
 - For multiple documents (document_list), you must indicate the document_list and document_id as BPML parameters, or, if you do not enter the document_list in the BPML, the adapter reads (from process data) the following format for processing multiple documents, which is taken from Process Data:

```

<document_list>
  <document_id>abc1</document_id>
  <document_id>abc2</document_id>
  <document_id>abc3</document_id>
</document_list>

```

Note: See “Parameters Passed From Business Process to Adapter” on page 32 for more information on creating the appropriate BPML.

- Per CHIPS, the CHIPS message input should not exceed 12,200 characters.

Configuring the CHIPS Adapter

1. Select **Deployment > Adapters > Configuration**.
2. Search for CHIPS adapter or select it from the list and click **Go!**
3. Click **Edit**.
4. Specify field settings in the Admin Console or Business Process (“Creating or Setting Up a Adapter Configuration in the Admin Console or Business Process”), or the GPM (“Parameters Passed From Business Process to Adapter” on page 32).
5. On the Confirm page, verify that the **Enable Adapter for Business Processes** check box is selected.

Creating or Setting Up a Adapter Configuration in the Admin Console or Business Process

Use the field definitions in the following table to create a new configuration of the CHIPS adapter, or to set up the configuration provided with the IBM Sterling B2B Integrator. Some fields are available in both the Admin Console and in the GPM.

Field Description

Name Unique and meaningful name for the adapter configuration. Required.

Description

Meaningful description for the adapter configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – Do not include the configuration in a group at this time.
- Create New Group – Enter a unique name for a new group, which will be created with this configuration. (You can then add other adapters to the group as well.)
- Select Group – If adapter groups already exist for this adapter type, they are displayed in the list. Select a group from the list.

Participant Number

Participant number assigned by CHIPS (either the Sender ID or ABA number). Required. The BPML element is **participant_num**.

Number of msgs in a batch

The number of messages allowed in a batch during the resend process. The default is 40 and the number should be 40 or less to allow new incoming messages to be processed. Required. The BPML element is **msg_num_in_batch**.

Resend Count

Maximum number of times that a message may be resent. If the maximum number specified is exceeded, a supervisory message is sent to CHIPS. Default is 3. Required. The BPML element is **resend_count**.

Workflow to bootstrap during CHIPS/Websphere MQ failure

Select the workflow to invoke if the CHIPS or MQ Server fails, to inform the administrator of the failure. Optional. The BPML element is **workflow_failure**.

Note: This associates a customized business process that enables you to perform administrative work such as notifying an administrator through e-mail when CHIPS or MQ is down.

Environment

Whether the environment is test or production (default). Required. The BPML element is **environment**.

Transport Mode

The mode of transport to the CHIPS Network. Valid selections are Websphere MQ Server (default) or SWIFTNet. Required. The BPML element is **transport_mode**.

Websphere MQ Server Name

The host name of the MQ Server. Required. The BPML element is **mq_hostname**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**.

Websphere MQ Server Port No.

The port number of the MQ Server. Required. The BPML element is **mq_port**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**.

Websphere MQ Server User ID

The MQ user identifier used to log in to the MQ server. Optional. The BPML element is **mq_userId**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**.

Websphere MQ Server Password

The MQ password used to log in to the MQ server. Optional. The BPML element is **mq_password**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**.

Channel Name

The channel for the MQ server (server-connection type). Required. The BPML element is **mq_channelName**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**. The Channel Name, Reply-To Queue Manager, and Reply-To Queue parameters are mandatory and must be configured the same as you configure for the WebsphereMQ Async Receiver adapter. When the incoming message is received, it invokes the Receive Handler based on the three values to look up for the matched CHIPS adapter. Based on the CHIPS adapter configuration, it will then be able to send back the acknowledgement message using the same configured MQ information.

Queue Manager

The name of the queue manager. Required. The BPML element is **mq_qManager**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**.

Send Queue

The name of the send queue (Remote Definition queue). Required. The BPML element is **mq_sendQueue**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**.

Reply-To Queue Manager

The name of the reply-to queue manager. Required. The BPML element is **mq_replyToqManager**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**. The Channel Name, Reply-To Queue Manager, and Reply-To Queue parameters are mandatory and must be configured the same as you configure for the WebsphereMQ Async Receiver adapter. When the incoming message is received, it invokes the Receive Handler based on the three values to look up for the matched CHIPS adapter. Based on the CHIPS adapter configuration, it will then be able to send back the acknowledgement message using the same configured MQ information.

Reply-To Queue

The name of the reply-to queue. Required. The BPML element is **mq_qManager**.

Note: Only displayed when Transport Mode is set to **Websphere MQ Server**. The Channel Name, Reply-To Queue Manager, and Reply-To Queue parameters are mandatory and must be configured the same as you configure for the WebsphereMQ Async Receiver adapter. When the incoming message is received, it invokes the Receive Handler based on the three values to look up for the matched CHIPS adapter. Based on the CHIPS adapter configuration, it will then be able to send back the acknowledgement message using the same configured MQ information.

Requestor DN

Distinguished name of the requestor. Required. The BPML element is **swift_requestorDN**.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation. Only displayed when Transport Mode is set to **SWIFTNet**. The Requestor DN, Responder DN, and Service Name are automatically saved in the SWIFTNet Routing Rule to allow the incoming CHIPS messages to bootstrap the Receive Handler based on the three values.

Responder DN

Distinguished name of the responder. Required. The BPML element is **swift_responderDN**.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation. Only displayed when Transport Mode is set to **SWIFTNet**. The Requestor DN, Responder DN, and Service Name are automatically saved in the SWIFTNet Routing Rule to allow the incoming CHIPS messages to bootstrap the Receive Handler based on the three values.

Service Name

Name of the service to which both SWIFT correspondents have subscribed. Required. This must be a SWIFTNet service to which you are subscribed. The BPML element is **swift_serviceName**.

Note: Only displayed when Transport Mode is set to **SWIFTNet**. The Requestor DN, Responder DN, and Service Name are automatically saved in the SWIFTNet Routing Rule to allow the incoming CHIPS messages to bootstrap the Receive Handler based on the three values.

SWIFTNet Operation

Whether the communication is handled in Synchronous (default) or Asynchronous mode. Required. The BPML element is **swift_op**.

Note: Only displayed when Transport Mode is set to **SWIFTNet**.

Request Reference

User reference of the request. Optional. The BPML element is **swift_requestReference**. Only displayed when Transport Mode is set to **SWIFTNet**.

MEFG Server IP

The IP address of the SWIFTNet MEFG Server. Required. The BPML element is **mefg_server_ip**.

Note: Only displayed when Transport Mode is set to **SWIFTNet**.

MEFG Server Port

The port of the SWIFTNet MEFB Server. Required. The BPML element is **mefg_server_port**.

Note: Only displayed when Transport Mode is set to **SWIFTNet**.

MEFG HTTP Response Timeout

The timeout value for SWIFT to return a response. Optional. Default is 60. The BPML element is **mefg_response_timeout**.

Note: Only displayed when Transport Mode is set to **SWIFTNet**.

Use SSL

Specify whether to use SSL between the IBM Sterling B2B Integrator and MEFB Server. Valid selections are True and False (default). Required. The BPML element is **useSSL**.

Note: Only displayed when Transport Mode is set to **SWIFTNet**.

Run As User

Identify the user who has permission to run the scheduled activity. Optional. You can type the user ID. Or you can click the button, select the user ID from the list, and click **Save**. Required.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Use 24 Hour Clock Display

By default, the scheduling wizard displays times using a 12-hour clock (which designates hours as a.m. or p.m.). Use this option to display times using a 24-hour clock. Optional.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Do not use schedule

If you select this option, you cannot enable the schedule in the future. You must recreate the schedule instead. Use this option only when you do not need a schedule for a service or report.

Note: You must select one of the **Schedule** options. For this scheduling wizard, the type of schedule you select determines what options are displayed on subsequent pages.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Run based on timer

Run the scheduled activity at a certain time or time interval, such as every 2 hours.

Note: You must select one of the **Schedule** options. For this scheduling wizard, the type of schedule you select determines what options are displayed on subsequent pages.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Run daily

Run the scheduled activity one or more times every day.

Note: You must select one of the **Schedule** options. For this scheduling wizard, the type of schedule you select determines what options are displayed on subsequent pages.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Run based on day(s) of the week

Run the scheduled activity on certain days of the week, such as every Monday.

Note: You must select one of the **Schedule** options. For this scheduling wizard, the type of schedule you select determines what options are displayed on subsequent pages.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Run based on day(s) of the month

Run the scheduled activity on certain days of the month, such as the 1st or 15th of every month.

Note: You must select one of the **Schedule** options. For this scheduling wizard, the type of schedule you select determines what options are displayed on subsequent pages.

Note: The scheduler is used to start the resend business process at a specified time interval (preferably every ten minutes), so that any locally stored messages or messages that have not yet been acknowledged can be sent.

Physical Filename

Physical name of the file to send. Required if put or get is selected for the SWIFTNet Operation. BPML element value is **physicalFilename**.

Logical Filename

Logical name of the file to send. This name is communicated to the IBM Sterling B2B Integrator SWIFTNet Server. By default, this name is the Physical Filename without the path. Optional. BPML element value is **logicalFilename**.

File Information

User information about the file transfer. Optional. BPML element value is **fileInfo**.

File Description

User description about the file transfer. Optional. BPML element value is **fileDesc**.

Business Process Examples

The examples in this section involve the CHIPS adapter sending these four message types:

- sendCHIPSRequest
- resendCHIPSRequest
- runSupervisoryCheck

This example sends a document using the CHIPS adapter:

```
<process name="CHIPSadapter">
  <sequence name="CHIPSadapter">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation>
      <participant name="CHIPSAdapter"/>
      <output message="sendCHIPSRequest">
        <assign to="." from="*" />
        <assign to="document_id">test-doc-id</assign>
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

This example does not need to be created. It is automatically created when the schedule is configured. When the CHIPS adapter is scheduled, the Schedule_CHIPSAdapter business process is

automatically created.

```
<process name="Schedule_CHIPS_ADAPTER_MQ">
  <sequence>
    <operation name="Service">
      <participant name="CHIPSAdapter"/>
      <output message="resendCHIPSRequest">
        <assign to="." from="*" />
      </output>
      <input message="Xin">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

This example sends a Supervisory STATUS message:

Note: In the IBM Sterling B2B Integrator, the business process used to send the supervisory STATUS is CHIPSAdapter_SupervisoryCheck.

```
<process name="CHIPSAdapterSupervisoryCheck">
  <sequence name="CHIPSAdapter">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation>
      <participant name="CHIPSAdapter"/>
      <output message="runSupervisoryCheck">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

Parameters Passed From Business Process to Adapter

The following table contains the parameters passed from the business process to the CHIPS adapter:

Parameter	Description
-----------	-------------

document_list	
----------------------	--

The list of documents. If you do not enter the document_list in the BPML, the adapter reads (from process data) the following format for processing multiple documents:

```
<document_list>
<document_id>abc1</document_id>
<document_id>abc2</document_id>
<document_id>abc3</document_id>
</document_list>
```

Optional.

Note: The payload is passed using the BPML, and you can override the CHIPS adapter configuration using these BPML parameters. For example, the payload can be sent in batches. If you want to send a single document, use the document_id parameter. You can also predefine a Process Data tag name (such as DocList) that enables you to put multiple document_id parameters into the tag so the CHIPS adapter picks up all the document_ids at once.

document_id	
--------------------	--

This is the document identifier if the document is already present in the Document area for single document processing. If document_list or document_id is not specified in the BPML, the document is passed in as the Primary Document. If no document is found, the BPML fails. Optional.

Additional Tasks Necessary to Use the CHIPS Adapter

In addition to configuring the CHIPS adapter, you must also perform the following tasks:

- Create a mailbox routing rule to invoke the `CHIPSExtractMailboxMessage` business process.
- Enable the predefined `MailboxEvaluateAllAutomaticRulesSubMin` schedule (installed with the IBM Sterling B2B Integrator).

Creating the Mailbox Routing Rule

You must create a mailbox routing rule to invoke the `CHIPSExtractMailboxMessage` business process, which extracts each mailbox message received by the CHIPS adapter and bootstraps the `EDIDevelope` business process for each extracted mailbox message.

To create the necessary mailbox routing rule:

1. From the **Deployment** menu, select **Mailboxes > Routing Rules**.
2. Next to **Create a new Routing Rule** click **Go!**
3. Specify a Name for the routing rule. This name must be unique for each routing rule. It is used to identify the routing rule in other parts of the IBM Sterling B2B Integrator.
4. In the Rule Application page, select **Evaluate Manually** as the **Evaluation Mode**. This specifies that the rule must be evaluated manually or evaluated using a scheduled business process.
5. For **Action Type**, accept the default **Business Process** selection. This specifies that the rule will notify a business process when a match is found.
6. Click **Next**.
7. In the Rule Pattern page, select **Filter by Name**.
8. From the **Available Mailboxes** list, select the **mailbox that contains your sender ID**, and click the single down arrow to add the mailbox to the Selected Mailboxes list.

Note: All groups in the Selected Mailboxes list are searched by the routing rule.

9. For **Message Name Pattern**, type `CHIPSIN_*` and click **Next**.

Note: This is the message name or pattern that the routing rule searches for in the mailboxes specified.

10. In the Rule Action page, select the `CHIPSExtractMailboxMessage` business process and click **Next**.
11. In the Run Rule as User page, select the **admin** user ID and click **Next**.
12. In the Confirm page, verify the parameters and click **Finish**.
13. When the system update is complete, click **Return**.

Enable the Predefined Schedule

The mailbox routing rule you created above is executed automatically when the predefined `MailboxEvaluateAllAutomaticRulesSubMin` schedule is enabled. This means that the IBM Sterling B2B Integrator will evaluate all mailbox routing rules on an automatic basis.

To enable the MailboxEvaluateAllAutomaticRulesSubMin schedule:

1. From the **Deployment** menu, select **Schedules**.
2. In the Search section, type **Mailbox** and click **Go!**.
3. Locate the **MailboxEvaluateAllAutomaticRulesSubMin** schedule in this list and select the check box in the Enable column.
4. Click **Return**.

Enabling CHIPS Document Tracking

When you are creating or editing your CHIPS business process in the business process text editor, you can enable CHIPS document tracking in the IBM Sterling B2B Integrator by selecting the **Document Tracking** check box on the Process Levels page. Set the following options as needed and leave the rest of the business process parameters as the defaults:

- On the **Deadline Settings** page, set the deadline and notification options, if necessary.
- On the **Life Span** page, set the life span, if necessary.

Chapter 7. CHIPS Utility Service

The CHIPS Utility service is responsible for the start of day, end of day, and CHIPS adapter lookup functions.

The following table provides an overview of the CHIPS Utility service:

System Name

CHIPSUtilityservice

Graphical Process Modeler (GPM) categories

All Services.

Description

This service is responsible for the start of day, end of day, and CHIPS adapter lookup functions.

Business usage

This service is used by the CHIPS adapter to execute:

- Start of Day functions (reset the CHIPS status to 1, CHIPS message number to 1, and the MQ_counter to 0)
- End of Day functions (move the outbound messages into the history table, move the inbound messages into the history table, update Mailbox_id in the MBX table with the Mailbox_id of the <participant_num>_history mailbox)
- CHIPS adapter lookups (based on the channel information, get the CHIPS adapter name related to the appropriate set)

Usage example

Used to prepare for daily CHIPS usage, perform end of day housekeeping functions to properly store the data in the database, and look up the CHIPS adapter name when a message is received from the WebsphereMQ Async Receiver adapter (to allow the IBM Sterling B2B Integrator to send back an acknowledgement message using the correct CHIPS adapter and transport mode). The predefined CHIPSUtility_ReceiveHandler business process is provided to handle incoming messages from CHIPS.

Preconfigured?

Yes.

Requires third party files?

No.

Platform availability

All supported application platforms.

Related services

This service works with the CHIPS adapter.

Application requirements

None.

Initiates business processes?

No. However, a predefined business process (CHIPSUtilitySOD) is provided to execute the CHIPS Utility service start-of-day actions. You can schedule this predefined business process to be started every morning. Also, a predefined business process (CHIPSUtilityEOD) is provided to

execute the CHIPS Utility service end-of-day actions. You can schedule this predefined business process to be started every evening.

Invocation

A user who has permission to perform this activity must execute the business process that invokes this service.

Business process context considerations

N/A

Returned status values

Success, Failure.

Restrictions

None.

Persistence level

N/A

Testing considerations

To test this service, run the CHIPS Utility service business process and verify that it completes successfully. Debug information for this service is located at:

Operations > System > Logs > CHIPS

How the CHIPS Utility Service Works

The CHIPS Utility service prepares for daily CHIPS usage, performs end of day housekeeping functions to properly store the data in the database, and perform lookups to the CHIPS adapter name when a message is received from the WebsphereMQ Async Receiver adapter (to allow the IBM Sterling B2B Integrator to send back an acknowledgement message using the correct CHIPS adapter and transport mode).

Implementing the CHIPS Utility Service

You do not need to do anything to implement the CHIPS Utility service.

Configuring the CHIPS Utility Service

You do not need to do anything to configure the CHIPS Utility service.

Parameters Passed From Business Process to Service

The following table contains the parameter passed from the business process to the CHIPS Utility service:

Parameter**Description****serviceName**

This is the CHIPS Adapter Instance Name.

Business Process Example

This example uses the following message types for CHIPS Utility service:

- startOfDay
- endOfDay
- handleCHIPSReceiveRequest

This example sets the start of day parameters:

```
<process name="CHIPSUtilitySOD">
  <sequence name="CHIPSUtility_StartOfDay">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- Start of Day Process-->
    <operation>
      <participant name="CHIPSUtilityService"/>
      <output message="startOfDay">
        <assign to="." from="*" />
        <assign to="serviceName">CHIPSAdapter</assign>
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

This example sets the end of day parameters:

```
<process name="CHIPSUtilityEOD">
  <sequence name="CHIPSUtility_EndOfDay">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- End of Day Process-->
    <operation>
      <participant name="CHIPSUtilityService"/>
      <output message="endOfDay">
        <assign to="." from="*" />
        <assign to="serviceName">CHIPSAdapter</assign>
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

This example handles incoming CHIPS requests. The CHIPSUtility_ReceiveHandler is preloaded into the IBM Sterling B2B Integrator:

```
<process name="CHIPSUtility_ReceiveHandler">
  <sequence name="CHIPSAdapter">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
```

```
        <assign to="." from="*" />
    </input>
</operation>
<!-- handle incoming CHIPS request -->
<operation>
    <participant name="CHIPSUtilityService" />
    <output message="handleCHIPSReceiveRequest">
        <assign to="." from="*" />
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
</sequence>
</process>
```

Chapter 8. CII Deenvelope Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the CII Deenvelope service:

System name

DeenvelopeCIIType

Graphical Process Modeler (GPM) categories

All Services, EDI > CII

Description

Parses the message group. Using values found in the message group header, the service attempts to find a matching envelope. If a matching envelope is found, the envelope defines how the message group should be further processed. If a matching envelope is not found, the service fails and the compliance report indicates that the envelope could not be found.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

No

Application requirements

No

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM: it must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Setting Description

- none** Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional.
- basic** Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional.

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Note: All EDI services assign a Unique ID to each log message.

Adding Translation Map Name to Process Data

The CII Deenvelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The CII Deenvelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 9. CII Envelope Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the CII Envelope service:

System name

EnvelopeCIIType

Graphical Process Modeler (GPM) categories

All Services, EDI > CII

Description

Relies on the EDI Encoder service to locate the document envelope to be used to envelope the messages. Takes as input one or more messages. Envelopes the messages with a message group header and trailer. Values defined in the CII document envelope associated with the messages are used to build the message group header. Similar to the X12 and EDIFACT envelope services.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

EDI Encoder service

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a predefined EDI business process.

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM: it must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Setting Description

- none** Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional.
- basic** Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional.

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Note: All EDI services assign a Unique ID to each log message.

Adding Translation Map Name to Process Data

The CII Envelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The CII Envelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your

process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 10. Correlation Service

The following table provides an overview of the Correlation service:

System name

CorrelationServiceType

Graphical Process Modeler (GPM) categories

All Services, System

Description

Adds a record to the correlation table to enable you to track a document or business process.

Collects the information for a specific name and value pair from either documents that pass through a business process, or from the business process itself. The correlation name and value pairs are saved in the correlation table.

Preconfigured?

No

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a business process.

Business process context considerations

No

Returned status values

None

Restrictions

No

Persistence level

None

Using Correlations in the IBM Sterling B2B Integrator

IBM Sterling B2B Integrator uses correlations to define specific data items as tracking points for business processes and documents. Rather than having to search all of the IBM Sterling B2B Integrator or a particular invoice, for example, you can define a correlation that enables you to search for that invoice number, which saves you time.

The data for the correlations is stored as name/value pair records in the Correlation table in the IBM Sterling B2B Integrator. You can then search the data using the Correlation Search option.

Data for correlations can be collected by:

- Using the Correlation service in a business process.
- Using an Update standard rule in a map.
- Using one or more of the EDI services in a business process.

For information about these services, see the sections on the EDI services in this guide.

How the Correlation Service Works

Each configuration of the Correlation service is set up to collect the information for a specific name and value pair from either documents that pass through a business process, or from the business process itself. If you choose to collect information from a document, the document's correlation value is written associated to the primary/non-primary document identifier. If the Correlation service is used to collect information about the business process, the correlation value for that process is written associated with the process ID. The correlation name and value pair are saved in the correlation table. You can then locate the document or business process using its associated name/value pair.

Correlation Service Example

You want to be able to view the contents of incoming purchase orders. In this case, the inbound purchase orders go through a business process that includes the Translation service. The Correlation service configuration is added to the business process after the Translation service, so it starts after translation.

The Correlation service has the following parameters set: the Correlation name is PONumber, and the Type is Document. When purchase orders pass through the Correlation service during the business process, they pass the information for the PONumber to the service.

The name and value pair you specify can then be used in Correlation Search to locate the correlation object, which in this case is a document. For this example, the Correlation Search will display a link to the primary document created from the Translation service, since the Correlation service followed the start of the Translation service.

For example, purchase order number 12345 passes through the Correlation service, and passes this information to the service:

- Correlation Name: PONumber
- Value: 12345
- Type: Document

The service adds a correlation called PONumber with a value of 12345 for the primary document. Using the Correlation Search option, you can enter the name/value pair PONumber/12345, and view the contents of that purchase order.

You can dynamically assign NAME and VALUE from the process data in your business process to associate with a document or business process. The following figure shows an example of how the Correlation service could be used in a business process:

```
<process name="test">
  <sequence>
    <operation name="SaveId">
      <participant name="CorrelationService"/>
      <output message="Xout">
        <assign to="NAME">PO_Number</assign>
        <assign to="VALUE">P012345</assign>
        <assign to="TYPE">DOCUMENT</assign>
        <assign to="OBJECT_ID"
from="/ProcessData/PrimaryDocument/@SCIOBJECTID/text()"/>
        <assign to="." from="*"></assign>
      </output>
      <input message="xin">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>
```

Implementing the Correlation Service

To implement the Correlation service, complete the following tasks:

1. Create a Correlation service configuration. For information, see *Creating Correlation Service Configuration*
2. Configure the Correlation service.
3. Use the Correlation service in a business process.

Configuring the Correlation Service

To configure the Correlation service, you must specify settings for the following fields in the GPM:

Field Description

Config

Name of the service configuration. Required.

NAME

Name associated with this correlation. For example, PONUMBER.

Object_ID

ID of the document or business process that correlates with a specific name/value pair. Generally, this field is left blank.

Type

The information this correlation will track. Valid values are Document and Business Process.

Value

Value of the correlation. For example, a purchase order number such as 12345.

Chapter 11. Document Extraction Service

The Document Extraction service can be used to split individual documents out of a batch file to make each one a separate document. It can also be used to initiate EDI enveloping and outbound document processing. This service also enables you to batch multiple XML documents for processing.

The following table provides an overview of the Document Extraction service:

System name

DocumentExtractionService

Graphical Process Modeler (GPM) categories

All Services, Translation

Description

The Document Extraction service takes a file that contains one or more individual document, and attempts to find the map (from a specified list of maps) that produces output. The service extracts each individual document and puts it into the business process context with the name DOC-SPLIT-*N* where *N* is a 1-based number.

Additionally, you have the option of having the extracted documents batched, EDI encoded, and EDI enveloped.

The Document Extraction service can also extract XML sub-documents out of an XML compound document.

Additionally, for the CHIPS and Fedwire standards, the Document Extraction service can be used to obtain values for the Application Sender ID and Application Receiver ID. These values can be passed to the EDI Encoder service to find an envelope for a document that needs to be extracted, encoded, and enveloped.

Also, the Document Extraction service contains XML document extraction parameters that are supported when extracting XML documents. The values for these service parameters are XPath statements used by this service to locate the Application Sender ID and Application Receiver ID values within the XML document.

Business usage

The Document Extraction service allows you to concatenate many files into one, making tracking of the data more manageable.

Usage example

Your application generates purchase orders in a batch file, once a day. The IBM Sterling B2B Integrator is scheduled to retrieve this file each day. When it is received, the first step in the business process has the Document Extraction service parse the file and produce an order document for each trading partner. Each document is passed on to the translator for conversion, and sent to the appropriate trading partner.

Preconfigured?

An instance of this service is created upon installation but is not configured, nor is any configuration required other than specifying values for the parameters when used within a business process.

Requires third party files?

No

Platform availability

All supported application platforms

Related services

EDI Encoder, EDI Envelope, For Each

Application requirements

None

Initiates business processes?

No

Invocation

By a business process

Business process context considerations

No

Returned status values

- Success – Extraction (and optional encoding and enveloping) were successful.
- Error – Errors were encountered during extraction, encoding, enveloping. Consult the status report in the business process context.

Restrictions

No

Requirements

To use the Document Extraction service, you should have advanced knowledge about translation maps and extended rules.

The Document Extraction service can only be used to extract documents from a batch file if the documents in that file are all in the same format. For example, they must all be in IBM Sterling B2B Integrator (positional) format, or they must all be in EDI format.

Note: An attempt to use this service to handle multiple data formats will produce unpredictable results and a potential loss of data.

How the Document Extraction Service Works

The Document Extraction service uses one or more translation maps to perform extraction using:

- Extended rules to find the start and end of a single document
- The Update standard rule to set sender ID, application sender ID, receiver ID, application receiver ID, and AcceptorLookupAlias values from the document

The Document Extraction service provides the option to batch together similar documents during this extraction. If this option is specified, all documents extracted that have the same sender ID, receiver ID, and AcceptorLookupAlias will be batched into a single document.

Additionally, the Document Extraction service contains XML document extraction parameters that are supported when extracting XML documents. The values for these service parameters (XMLAppSenderIDPath and XMLAppReceiverIDPath) are

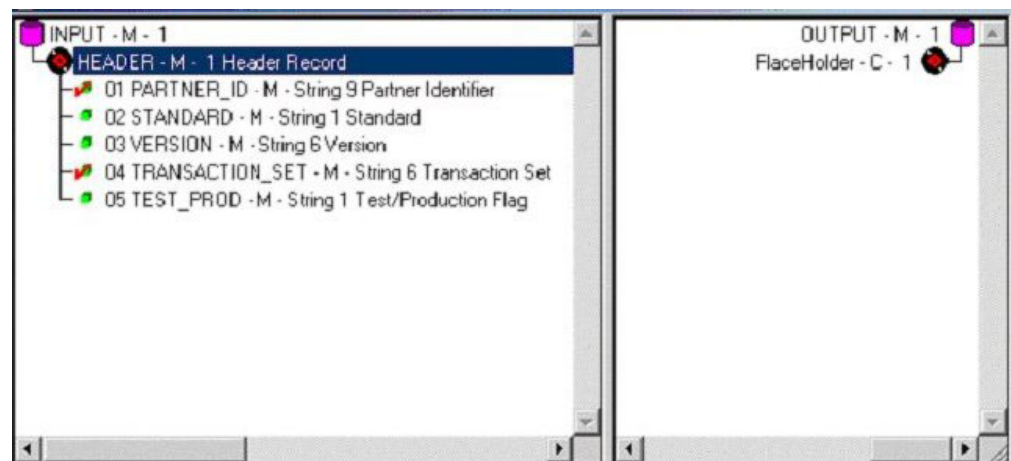
XPath statements used by the Document Extraction service to locate the Application Sender ID and Application Receiver ID values within the XML document.

Note: You must write all XPath expressions (for example, Sender ID, Receiver ID, ALA, and so forth) in accordance with the extracted subdocument. See “Example of XML Code” on page 57 for an example of a correct XPath expression.

How the Document Extraction Service Uses Translation Maps

Translation maps define how a single document looks and where to find the sender ID, receiver ID, and acceptor lookup alias values. Defining how a document looks is really the same as defining where a document starts and ends.

The following sample map is used to find a document that starts with a HDR record and ends with a SUM record:



This particular map defines only the first record of the file it is attempting to match, and it does not link any field from the input side of the map to the output side. The data is extracted using an extended rule on the first field of this header record. The function of the extended rule is to read and write records until it finds the end of the document. For this example, all records up to and including the SUM record are read and written.

The following example shows the extended rule that is defined on the PARTNER_ID field:

```
//***** HEADER -> PARTNER_ID *****//

string[250] buffer;
string[3] match;
integer match_len;

// set these next two variables as desired
match = "SUM"; // the tag of the last record in the document
match_len = 3; // the length of the tag

// read the block we're on and write it
readblock(buffer);
writeblock(buffer);

// keep reading and writing records until the end of the document
while readblock(buffer) do
```

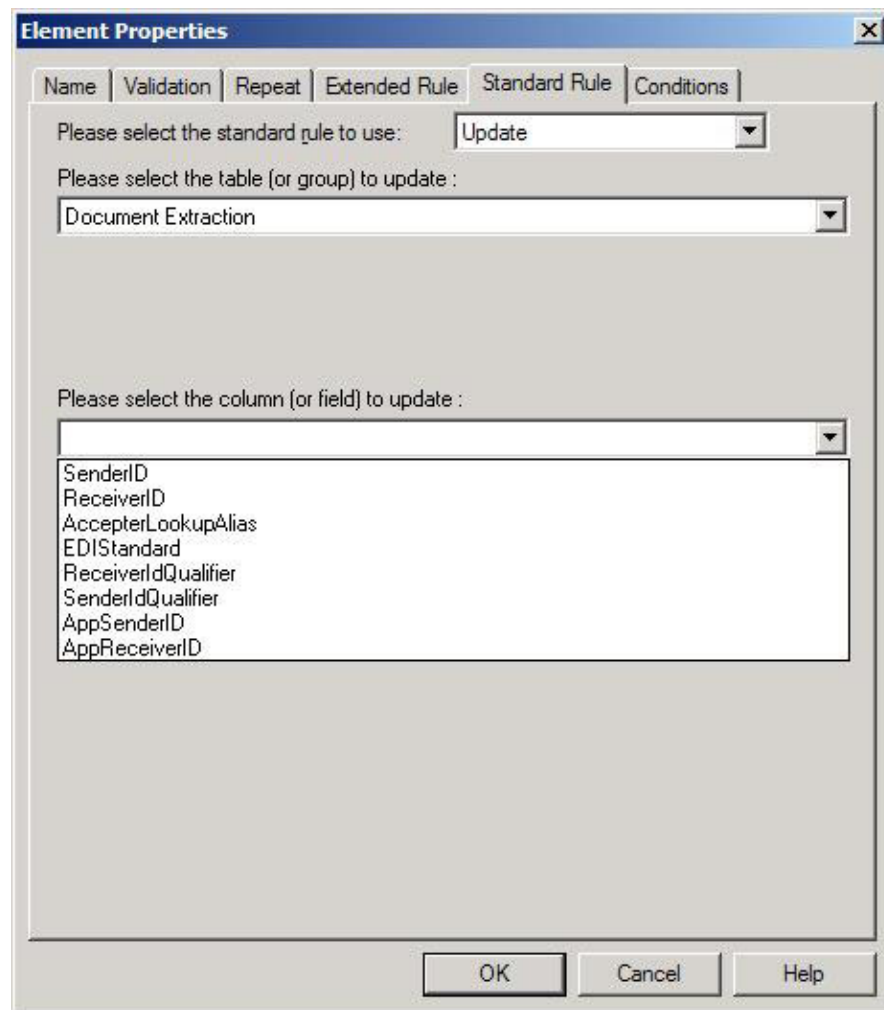
```

begin
  writeblock(buffer);
  if left(buffer, match_len) = match then
    begin
      break;
    end
  end

```

After specifying the start and end of the document, you can specify the sender ID, application sender ID, receiver ID, application receiver ID, and acceptor lookup alias. The Document Extraction service relies on the translator to set these values using the Update standard rule. In the previous example, the receiver ID and acceptor lookup alias are defined in the HDR record, and the sender ID is not used.

The following figure shows the standard rule that should be set up on the PARTNER_ID field:



It sets the receiver ID value to the value in that field in the data. The Document Extraction service accesses this value and puts it into process data. This will be explained in further detail later.

Similarly, the field that is to be used as the acceptor lookup alias should have an Update standard rule defined with the Document Extraction table and

AcceptorLookupAlias column. In this example, the AcceptorLookupAlias value is populated by the data in the TRANSACTION_SET field. Similar logic also applies for the sender ID.

This example is fairly straightforward, where the metadata to be extracted (receiver ID, and acceptor lookup alias) is in the first record. If this information is not in the first record of a document, you must include more than one record in the map. In this case, the extended rule on a field in the first record reads and writes records until it locates the record that contains the metadata. Then this record should contain a field with an extended rule that reads and writes blocks until the end of the document is reached.

What Happens When the Service Runs

When a document is processed by the Document Extraction service, zero or more extracted documents are produced. The documents are named with the convention DOC-SPLIT-1, DOC-SPLIT-2, ... DOC-SPLIT-*n*. Values for sender ID, application sender ID, receiver ID, application receiver ID, and acceptor lookup alias are placed into process data as child elements of the document.

In the following example of process data after the Document Extraction service runs, two documents are extracted from the primary document:

```
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <PrimaryDocument SCIObjectID="server1:328145:f197c7bb55:-7250"/>
  <DOC-SPLIT-1 SCIObjectID="server1:328145:f197c7bb55:-7247">
    <ReceiverID>PETTEST1</ReceiverID>
    <AcceptorLookupAlias>810</AcceptorLookupAlias>
  </DOC-SPLIT-1>
  <DOC-SPLIT-2 SCIObjectID="server1:328145:f197c7bb55:-7246">
    <ReceiverID>PETTEST5</ReceiverID>
    <AcceptorLookupAlias>850</AcceptorLookupAlias>
  </DOC-SPLIT-2>
</ProcessData>
```

Any data found in the primary document that cannot be matched against any of the specified maps is placed in a document called *unrecognized*. The service status report describes what was processed by the Document Extraction service. The report includes the number of documents extracted and the number of each type if batch mode is set to Yes.

Note: When the Document Extraction parameter PDToProcessData is set to No, the DOC-SPLIT information will be placed in an array named SplitDocs. Use the For Each Document service to process the SplitDocs array. Each iteration through the For Each Document service will update process data with the current DOC_SPLIT and remove the previous split.

Implementing the Document Extraction Service

To implement the Document Extraction service, complete the following tasks:

1. Create the translation maps necessary to define how a single document looks and where to send the sender ID, application sender ID, receiver ID, application receiver ID, and acceptor lookup alias values.
2. Create a Document Extraction service configuration.
3. Configure the service. See “Configuring the Document Extraction Service” on page 54.

4. Create a business process that includes the Document Extraction service and enable it.
5. Test and run the business process and the adapter.
6. To batch XML documents, set the **XMLRootTagForBatches** property to a non-null value. See “Batching Multiple XML Documents” on page 58 for more information.

Note: If the XMLRootTagForBatches property is null, the Document Extraction service generates malformed XML (a document without a root tag) if the batch contains more than one sub-document.

Configuring the Document Extraction Service

To configure the Document Extraction service, you must specify field settings in the Graphical Process Modeler (GPM).

The following table describes the fields used to configure the Document Extraction service in the GPM:

Field	Description
-------	-------------

Config	Name of the service configuration.
BatchLikeDocuments	Whether to combine documents extracted by the service into a single document, or split each document out individually. Valid values are Yes and No. <ul style="list-style-type: none"> • If Yes is specified, documents that are extracted by the service are combined into a single document if they have the same sender ID, receiver ID, and acceptor lookup alias. This parameter also allows you to batch XML documents. • If No is specified, each document is split out individually, regardless of sender ID, receiver ID, and acceptor lookup alias values.
DocExtractMapList	List of map names defined in the IBM Sterling B2B Integrator Map Editor that should be used to extract documents from a single batch file. Valid values are the names of the maps created. Make sure that all maps in this list are active in IBM Sterling B2B Integrator. Map names in the list are separated by a space. <p>Note: This parameter is mutually exclusive with the XMLInput parameter. If XMLInput is set to Yes, this parameter will be ignored.</p>
DOCUMENT_NAME_PREFIX	Allows the user to specify a name prefix other than DOC-SPLIT . When specified, the document extraction service will label the document with the DOCUMENT_NAME_PREFIX specified by the user.
EDIEncodeDocument	Whether each document extracted should be immediately EDI-encoded. Valid values are Yes and No. Must be set to Yes if EDIEnvelopeDocument is set to Yes. Otherwise, the service will generate an error and halt the business process.

Note: If this parameter and the XMLInput parameter are set to Yes, the XMLSenderIDPath, XMLReceiverIDPath, and XMLAcceptorLookupAliasPath parameters must be set.

EDIEnvelopeDocument

Whether each document extracted and encoded should be immediately EDI-enveloped. Valid values are Yes and No. If this parameter is set to Yes, the EDIEncodeDocument parameter must also be set to Yes. Otherwise, the service will generate an error and halt the business process.

ErrorBP

Business process to execute when unrecognized data is received.

ErrorOnUnrecognizedData

Whether to generate an error when unrecognized data is received. Valid values are Yes and No.

HALT_ON_TRANS_ERROR

Whether to stop processing transactions when a translation error occurs. Valid values are:

- Yes – Stop processing transactions when a translation error occurs. This is the default in Immediate Enveloping mode.
- No – Continue processing transactions if a translation error occurs. This is the default in Deferred Enveloping mode.

PDToProcessData

Specifies whether split documents will be stored in process data or in the business process context. Valid values are:

- Yes – Include each split document in process data (default).
- No – Do not include each split document on process data; instead, store the information for each document in an array named SplitDocs. Retrieve documents from SplitDocs one at a time using the For Each Document service.

The PDToProcessData parameter can be used to improve performance by reducing the overhead associated with persisting large process data information.

The major performance improvement is realized at the current step (Document Extraction) and each subsequent step by persisting a much smaller process data which does not contain multiple split documents. By using the For Each Document service in conjunction with PDToProcessData = No, only the current document is on process data. This avoids repetitive writing of non-current documents. Once documents are in the SplitDocs array, they can be retrieved only by using the For Each Document service.

Setting this parameter to No, combined with setting EDIEncodeDocument and EdiEnvelopeDocument to Yes, may yield an improvement by reducing the amount of persisted process data information. The benefit will depend on the complexity of the business process. In this situation, you would not use the For Each Document service, because the documents are passed to invoked business processes.

UseInputEdiDelimiters

Whether the delimiters read from the syntax record for an EDI map are used when generating the extracted documents.

Valid values:

- Yes – Extract the document using the same delimiters that were used to read the input.

- No – Do not use the delimiters.

Note: When using the Document Extraction service to split documents in a delimited EDI file, only one set of delimiters is supported. The input file cannot contain multiple documents that each use a different set of delimiters. Therefore, if you have multiple documents using different delimiters, you must first send the data through the EDI Deenvelope service (in Document mode) to split out the individual documents that use differing delimiters. When you invoke the EDI Deenvelope service, the Mode service parameter must be set to Document. This instructs the EDI Deenvelope service not to bootstrap a business process after it finishes splitting the input file. You must also update the customer_overrides.properties file to include the START and END tag of the documents to be extracted, as well as the delimiters (or the location of delimiters) to use.

XMLAcceptorLookupAliasPath

XPath-like string indicating the location of the XMLAcceptorLookupAliasPath element tag. Required if XMLInput and EDIEncoding are set to Yes.

Valid value: SubDocument/AcceptorLookupAlias

XMLEDIEnvelopeStandard

Standard to be used by this instance of the Document Extraction service. For example: X12, EDIFACT, TRADACOMS, or CII. Optional.

XMLInput

Specifies whether XML input will be received. Required if extracting XML documents.

Valid values:

- Yes – XML documents can be extracted.
- No – XML documents will not be used as input.

Note: If this parameter is set to Yes, at least the XMLRootTag parameter must be set. This parameter is mutually exclusive with the DocExtractMapList parameter. If this parameter is set to Yes, the DocExtractMapList parameter will be ignored.

XMLReceiverIDPath

XPath-like string indicating the location of the XMLReceiverIDPath element tag. Required if XMLInput and EDIEncoding are set to Yes.

Valid value: SubDocument/Receiver

XMLReceiverIDQualifierPath

XPath-like string indicating the location of the XMLReceiverIDQualifierPath element tag. Optional.

Valid value: SubDocument/ReceiverQual

XMLRootTagForBatches

Root tag for the XML document. Required if the **BatchLikeDocuments** and **XMLInput** parameters are set to **Yes**. Valid value is the DocumentRootTag.

If this parameter is null, the batched XML documents are generated. However, the end document will be malformed if it contains more than one sub-document.

If you define the XMLRootTagForBatches parameter, the Document Extraction service generates a valid XML document with this defined value as the root tag of the document.

XMLRootTag

Root tag for the subdocument. Required if XMLInput is set to Yes.

Valid value: SubDocument

XMLSenderIDPath

XPath-like string indicating the location of the XMLSenderIDPath element tag. Required if XMLInput and EDIEncoding are set to Yes.

Valid value: SubDocument/Sender

XMLAppReceiverIDPath

XPath-like string indicating the location of the XMLAppReceiverIDPath element tag. Optional.

Valid value: /SubDocument/AppReceiverID

XMLAppSenderIDPath

XPath-like string indicating the location of the XMLAppSenderIDPath element tag. Optional.

Valid value: SubDocument/AppSenderID

XMLSenderIDQualifierPath

XPath-like string indicating the location of the XMLSenderIDQualifierPath element tag. Optional.

Valid value: SubDocument/SenderQual

Example of XML Code

An example of XML code that could be used with the Document Extraction service when extracting XML sub-documents from an XML compound document is shown below:

Note: You must write all XPath expressions (for example, Sender ID, Receiver ID, ALA, and so forth) in accordance with the extracted subdocument. For the code example provided below, the following XPath for Sender ID is: /SubDocument/Sender.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<CompoundDocument>
  <SubDocument>
    <!-- subdocument # 1 -->
    <Sender>DOCEXTRACTTEST</Sender>
    <SenderQual>ZZ</SenderQual>
    <Receiver>PETTEST1</Receiver>
    <ReceiverQual>AA</ReceiverQual>
    <AcceptorLookupAlias>810</AcceptorLookupAlias>
    <Manifest>
      ...
    </Manifest>
  </SubDocument>
  <SubDocument>
    <!-- subdocument # 2 -->
    ...
  </SubDocument>
  ...
</CompoundDocument>
```

Batching Multiple XML Documents

The IBM Sterling B2B Integrator enables you to specify a root tag if you are batching multiple XML documents, which allows you to generate valid XML output. There are two ways to perform XML batching, depending on whether or not the Document Extraction service instance is configured to do EDI Enveloping as part of the extraction. If the service instance is configured to do EDI enveloping, you do not have to use a root tag even if you are batching XML documents, because the service puts all of the documents that would go into a batch in the same call to the EDI Envelope service (which produces the same effect as batching without putting all of the documents in the same file with a common root tag). If the service instance is not configured to do EDI enveloping, the only way to batch and create valid XML output is to provide a root tag to use. Therefore, if you are doing EDI enveloping, the root tag can be NULL. If you are not doing EDI enveloping, the root tag can also be NULL, but will not generate a valid XML output document.

Please see the following table for a further explanation of when you should specify a root tag:

Value Specified for the BatchLikeDocuments Parameter (flag)	Value Specified for the EDIEnvelopeDocument Parameter (flag)	Value Specified for the XMLRootTagForBatches Parameter (string)	Document Extract Service Result
Yes	No	Present (non-null)	Valid XML output
Yes	No	NULL	Invalid XML output
Yes	Yes	Present (non-null)	Documents are EDI processed as usual
Yes	Yes	NULL	Documents are EDI processed as usual

Chapter 12. EDI Deenveloping Service

The following table provides an overview of the EDI Deenveloping service:

System name

EDIDeenvelopeType

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

Identifies the EDI interchanges (including VDA, SWIFTNet, and RND) contained within a message, extracts them to separate messages, and starts the appropriate business process to handle each one.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Implementing the EDI Deenveloping Service

To implement the EDI Deenveloping service, complete the following tasks:

1. Create an EDI Deenveloping service configuration.
2. Configure the EDI Deenveloping service. For information, see “Configuring the EDI Deenveloping Service.”
3. Use the EDI Deenveloping service in a business process.

Configuring the EDI Deenveloping Service

To configure the EDI Deenveloping service, you must define following fields in the GPM:

Field	Description
-------	-------------

Config	Name of the service configuration.
---------------	------------------------------------

InterchangeTypes	Enables you to specify what interchange type is used when the service runs. Used only for ACH, CIL, VDA, SWIFT, and RND. Optional. Valid values are ACH, CIL, VDA, SWIFT, and RND.
-------------------------	--

Correlation Data

The EDI Enveloping service and EDI Deenveloping service automatically collect the following correlation information from EDI documents:

Category

Data Collected

Sender ID

- InterchangeSenderID

- GroupSenderID
- TransactionSenderID

Receiver ID

- InterchangeReceiverID
- GroupReceiverID
- TransactionReceiverID

Control Numbers

- InterchangeControlNumber
- GroupControlNumber
- TransactionControlNumber

Acknowledgement Requested

- InterchangeAckRequested
- GroupAckRequested

Acknowledgement Status

- InterchangeAckStatus
- GroupAckStatus

Standard

Standard – values are CII, EDIFACT, VDA, RND, SWIFT, and X12

ID

- FunctionalID
- TransactionSetID

Versions

- InterchangeVersion
- GroupVersion
- TransactionVersion

Date and Time

- InterchangeDateTime
- GroupDateTime

Overdue Time

- InterchangeOverdueTime
- GroupOverdueTime

Level Level – values are Interchange, Group, and Transaction

Direction

Direction – values are Inbound and Outbound

Envelope Type

- InterchangeEnvelopeType
- GroupEnvelopeType
- TransactionEnvelopeType

Envelope Name

- InterchangeEnvelopeName
- GroupEnvelopeName
- TransactionEnvelopeName

Envelope Version

- InterchangeEnvelopeVersion
- GroupEnvelopeVersion
- TransactionEnvelopeVersion

Compliance Status

- InterchangeComplianceStatus
- GroupComplianceStatus
- TransactionComplianceStatus

Values are OK and NOT OK

Test Mode

TestMode – values are Production, Test Data and Information

Counts

- TransactionCount
- GroupCount

Container Doc ID

ContainerDocID

The information for these correlations is automatically collected at each envelope and develope stage for a document, which facilitates the tracking of individual documents as they move through the IBM Sterling B2B Integrator.

There is no setup required for using the correlation information collected by the EDI Enveloping and EDI Deenveloping services. After you use one of these services in a business process, the information is available through the Correlation Search option.

Using Wildcards in Enveloping and Deenveloping Services

As a way to help reduce the number of envelopes you need to create and use, the EDI Envelope and EDI Deenveloping services support use of an asterisk (*) as a wildcard character in mandatory envelope fields for X12 and EDIFACT only. By using wildcards, you can set up one set of envelopes that can be used for multiple trading partners. If certain trading partners have specific requirements, you can still have envelopes that pertain just to them, and the EDI Envelope service chooses the envelope that is the best match. In other words, the envelope that has the most matches to specific fields in the data (for example Receiver ID, Receiver ID Qualifier), is the one selected.

Configuring EDI Deenveloping to Indicate an Error When Processing Data With No Valid Interchanges

To configure EDI Develope to indicate an error when you process data that does not contain valid interchanges, add the following lines to the EDI Develope business process:

```
<assign to="ErrorOnUnrecognizedData">yes</assign>  
<assign to="ProcessInterchangesDespiteError">yes</assign>
```

These parameters function as follows:

Parameter	Function
------------------	-----------------

acknowledgment and the corresponding original message together in a single document for processing, you must set the workflow parameter **SWIFT_FIN_EXTRACT_MESSAGE_WITH_ACK** to **Yes** or **True** when you invoke the service. For example:

```
<assign to="SWIFT_FIN_EXTRACT_MESSAGE_WITH_ACK">true</assign>
```

This parameter functions as follows:

Parameter

Function

SWIFT_FIN_EXTRACT_MESSAGE_WITH_ACK

Set to True or Yes to process a SWIFT FIN acknowledgment and the corresponding original message as one document. The default for this parameter is False.

Chapter 13. EDI Encoder Service

Note: If the input document character encoding is specified, it overrides the encoding specified in the map. The output document content type and character encoding are set based on the information contained in the map.

The following table provides an overview of the EDI Encoder service:

System name

EDIEncoderType

Graphical Process Modeler (GPM) categories

- All Services
- EDI > X12
- EDI > EDIFACT
- EDI > CII
- EDI > SWIFT

Description

Determines which transaction-level envelope will be used on the document. If translations are specified in an envelope, the service determines which map to use. Additionally, for the CHIPS standard, allows you to specify the Sender ID and/or Application Sender ID along with the Acceptor Lookup Alias, to allow for an envelope lookup for a document that is to be enveloped. For the Fedwire standard, allows you to specify the Sender ID and/or Application Sender ID, Receiver ID and/or Application Receiver ID, along with the Acceptor Lookup Alias, which allows for an envelope lookup for a document that is to be enveloped (outbound).

Note: In previous releases, the document lifespan default was zero so that when the workflow expired, all associated documents were purged/archived with the workflow. Now the lifespan is configurable for documents (the default is 30 days) and standards that use the EDI Encoder service.

Preconfigured?

A configuration of this service is installed with the product, but is not configured. The only configuration required for the service is to specify parameter values to be used within a business process, but you must also define the envelopes within the IBM Sterling B2B Integrator.

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

EDI Envelope Service

Application requirements

No

Initiates business processes?

None

Invocation

Runs by a predefined business process.

Returned status values

- Success – The envelope for the document was found and if the envelope specified a map, this information is passed to the EDI Envelope service.
- Error – The envelope for the document could not be located.

Restrictions

This service is used in outbound business processes only.

Implementing the EDI Encoder Service

To implement the EDI Encoder service, complete the following tasks:

1. Create an EDI Encoder service configuration.
2. Configure the EDI Encoder service. For information, see “Configuring the EDI Encoder.”
3. Use the EDI Encoder service in a business process.

Configuring the EDI Encoder

To configure the EDI Encoder service, you must specify settings for the following fields in the GPM:

Field Description**Config**

Name of the service configuration.

AcceptorLookupAlias

Identifying string used with the sender ID (and/or Application Sender ID for CHIPS) and receiver ID (and/or Application Receiver ID for CHIPS) to look up this envelope. This alias associates a document with the service it requires. This same field is specified in the transaction-level outbound envelope. Also, this identifying string is used with the Sender ID and Receiver ID to look up this envelope for the Fedwire Outbound Envelope. Required.

Note: To specify this parameter in the CHIPS Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the CHIPS Outbound Envelope **Acceptor Lookup Alias** parameter.

EDI Standard

Enter the EDI standard to be used (including CHIPS or Fedwire).

Mode Determines whether documents are enveloped immediately or deferred to be enveloped at a later time. Optional. The mode used here must correspond to the mode in which the EDI Envelope service will be called.

Valid values are:

- Immediate – The envelopes are determined and associated with the document to be used during enveloping. Assumes the EDI Envelope service will be used to envelope the document later in the process.
- Deferred – The service marks the document to be enveloped at a later time, usually according to a schedule. The document is stored in the database until enveloping takes place. (Default)

Note: If the mode is not specified, the default will write an entry to the CORRELATION_SET table that the document needs to be enveloped. This makes it eligible for deferred enveloping.

Note: The EDI Encoder service notifies you if there is an incorrect value or mismatch in the Mode parameter by writing information on how to correct the problem in the status report of the Business Process step. However, this can cause a performance degradation in some very heavy usage scenarios by adding additional load on the database. We recommend that you review all Business Processes that use the EDI Encoder service to verify that they are using the correct Mode parameter, and that the values match in the Business Process. The EDI Encoder service should be set as "Mode," as follows:

```
<assign to="Mode">IMMEDIATE</assign>
```

ReceiverID

Receiver identification, 2 characters minimum, 15 maximum. Required. Must match the receiver ID in the transaction-level document envelope.

Note: To specify this parameter in the CHIPS Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the CHIPS Outbound Envelope **Receive Participant Number** parameter. To specify this parameter in the Fedwire Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the Fedwire Outbound Envelope **Receiver ID** parameter.

SenderID

Sender identification, 2 characters minimum, 15 maximum. Required. Must match the sender ID in the transaction-level document envelope.

Note: To specify this parameter in the CHIPS Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the CHIPS Outbound Envelope **Send Participant Number** parameter. To specify this parameter in the Fedwire Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the Fedwire Outbound Envelope **Sender ID** parameter.

ReceiverIDQual

Receiver ID qualifier. Optional. Must match the receiver ID qualifier in the transaction-level document envelope.

SenderIDQual

Sender ID qualifier. Optional. Must match the sender ID qualifier in the transaction-level document envelope.

AppSenderID

Coded identifier of the application data sender. Optional.

Note: To specify this parameter in the CHIPS Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the CHIPS Outbound Envelope **Application Sender ID** parameter. To specify this parameter in the Fedwire Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the Fedwire Outbound Envelope **Application Sender ID** parameter.

AppReceiverID

Coded identifier of the customer number or data source number. Optional.

Note: To specify this parameter in the CHIPS Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the CHIPS Outbound Envelope **Application Receiver ID** parameter. To specify this parameter in the Fedwire Outbound Envelope wizard to perform an envelope lookup for a document to be enveloped, type this value in the Fedwire Outbound Envelope **Application Receiver ID** parameter.

Using Wildcards in Enveloping and Deenveloping Services

As a way to help reduce the number of envelopes you need to create and use, the EDI Envelope and EDI Deenvelope services support use of an asterisk (*) as a wildcard character in mandatory envelope fields for X12, EDIFACT, CHIPS and Fedwire only. The exception to this rule is when the field is Sender ID, Receiver ID, or a qualifier for one of those fields. For example, in EDIFACT the following fields are conditional, but are considered to be part of the Sender / Receiver ID and therefore must have a "*" placed in the field if you want to override those values:

- (0008) Interchange Sender Internal Identification
- (0042) Interchange Sender Internal Sub-identification
- (0014) Interchange Recipient Internal Identification
- (0046) Interchange Recipient Internal Sub-identification

By using wildcards, you can set up one set of envelopes that can be used for multiple trading partners. If certain trading partners have specific requirements, you can still have envelopes that pertain just to them, and the EDI Envelope service chooses the envelope that is the best match. In other words, the envelope that has the most matches to specific fields in the data (for example, Receiver ID, Receiver ID Qualifier), is the one selected.

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service

- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM: it must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Setting Description

- none** Provides the best EDI performance with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional.
- basic** Provides a good EDI performance while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional.

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Chapter 14. EDI Enveloping Service

The EDI Enveloping service translates messages, determines which business processes need to run to apply EDI envelopes, and starts those business processes. The EDI Enveloping service has two methods of translating and enveloping messages:

- In Deferred mode, the EDI Enveloping service runs at a scheduled time and it translates and envelopes messages into interchanges in batches.
- In Immediate mode, the EDI Enveloping service translates and envelopes messages immediately after the EDI Encoder service processes the messages.

Before the IBM Sterling B2B Integrator runs the EDI Enveloping service, you must have the EDI Encoder service process EDI messages that need to be translated and enveloped. The EDI Encoder service tags messages so that the EDI Enveloping service can properly translate and envelope them.

Note: If the input message character encoding is specified, it overrides the encoding specified in the map. The output message content type and character encoding are set based on the information contained in the map.

The following table provides an overview of the EDI Enveloping service:

System name

EDIEnvelopeType

Graphical Process Modeler (GPM) categories

- All Services
- EDI > X12
- EDI > EDIFACT
- EDI > CII
- EDI > VDA
- EDI > SWIFT
- EDI > RND

Description

Responsible for translating and enveloping a message. It can be configured to run in either of two modes: Deferred or Immediate.

- In Deferred mode, the service queries the IBM Sterling B2B Integrator to identify messages that require translation and enveloping. The query can incorporate an optional filter that allows the business process developer to restrict messages by any or all of Sender ID, Receiver ID, and Envelope ID. The service then divides the messages according to the envelopes they require and initiates the appropriate enveloping business processes. In deferred mode, the IBM Sterling B2B Integrator translates and envelopes messages in batches at specified intervals.

Note: The EDI Enveloping service should be excluded from the business process when the EDI Encoding service is used; instead, the deferred EDI Enveloping service must be used in a different business process and should be triggered periodically.

- In Immediate mode, the service translates and envelopes the current message as soon as the EDI Encoder service is finished with the

message. It operates on the primary message it receives and initiates the appropriate enveloping business process.

Preconfigured?

A configuration of this service is created when the product is installed. However, before using a service configuration in a business process, you must specify values for the following parameters:

- MODE (required)
- SENDER_ID (optional)
- RECEIVER_ID (optional)
- ENVELOPE_ID (optional)

Requires third party files?

No

Platform availability

All supported application platforms

Related services

EDI Encoder service

Application requirements

No

Initiates business processes?

None

Invocation

Runs as part of a predefined business process.

Returned status values

- Success – The messages were successfully submitted for enveloping.
- Error – Errors were encountered and the messages were not submitted for enveloping.

Restrictions

No

Implementing the EDI Enveloping Service

To implement the EDI Enveloping service, complete the following tasks:

1. Call the EDI Encoder service.
2. Create an EDI Enveloping service configuration.
3. Configure the EDI Enveloping service. For information, see “Configuring the EDI Enveloping Service.”
4. Use the EDI Enveloping service in a business process.

Configuring the EDI Enveloping Service


To create a EDI Enveloping service configuration, you must specify field settings in the IBM Sterling B2B Integrator and in the Graphical Process Modeler (GPM).

IBM Sterling B2B Integrator Configuration

The following table describes the fields used to configure the EDI Enveloping service in the IBM Sterling B2B Integrator:

Note: The field names in parentheses represent the corresponding field names in the GPM. This information is provided for your reference.

Field	Description
Name	Unique and meaningful name for the service configuration. Required.
Description	Meaningful description for the service configuration, for reference purposes. Required.
Select a Group	<p>Select one of the options:</p> <ul style="list-style-type: none"> • None – You do not want to include this configuration in a group at this time. • Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration. • Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list. <p>Note: See <i>Using Service Groups</i>.</p>
Enveloping Mode (MODE)	<p>Instructs the IBM Sterling B2B Integrator when to translate and envelope messages:</p> <ul style="list-style-type: none"> • Deferred – Translate and envelope messages in batches at specified intervals. <p>Note: When using deferred mode, the EDI Enveloping service should be excluded from the business process when the EDI Encoding service is used; instead, the deferred EDI Enveloping service must be used in a different business process and should be triggered periodically.</p> <ul style="list-style-type: none"> • Immediate – Translate and envelope the current message as soon as the EDI Encoder service is finished with the message. <p>Note: The EDI Enveloping service notifies you if there is an incorrect value or mismatch in the MODE parameter by writing information on how to correct the problem in the status report of the Business Process step. However, this can cause a performance degradation in some very heavy usage scenarios by adding additional load on the database. We recommend that you review all Business Processes that use the EDI Enveloping service to verify that they are using the correct MODE parameter, and that the values match in the Business Process. The EDI Encoder service should be set as "MODE," as follows:</p> <pre><assign to="MODE">IMMEDIATE</assign></pre>
Halt on Translation Error	<p>Whether to stop processing transactions when a translation error occurs. Valid values are:</p> <ul style="list-style-type: none"> • Yes – Stop processing transactions when a translation error occurs. This is the default in Immediate mode. • No – Continue processing transactions if a translation error occurs. This is the default in Deferred mode.
Output Report to Process Data	<p>Whether to output the Translation report to process data. Valid values are Yes (Send report to process data) and No.</p>
Note: The following fields are displayed only if Deferred mode was selected.	
Sender ID	Enter a Sender ID to be used as a filter for selecting messages from the database for enveloping. Optional.

Field	Description
Receiver ID	Enter a Receiver ID to be used as a filter for selecting messages from the database for enveloping. Optional.
Envelope	Enter an envelope definition to be used as a filter for selecting messages from the database for enveloping. Optional.
Run as User	<p>The Run As User field only displays as an option if Deferred mode was selected.</p> <p>Type the user ID to associate with the schedule, or click the  icon and select a user ID from the list.</p> <p>Valid value is any valid application user ID.</p> <p>Note: This parameter allows someone who does not have rights to a specific business process to run it. If you select <i>Admin</i> as the user ID, you will inherit Administrative rights (for this run of the business process only), and enable the scheduled run.</p>
Use 24 Hour Clock Display	If selected, the adapter will use the 24-hour clock instead of the default 12-hour clock.
Schedule	<p>Information about scheduling the service configuration to run in deferred mode.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • Do not use schedule If this field is selected, this service does not start a business process and does not run on a schedule. • Run based on timer Valid values are the hour and minutes at which to run the service. Indicate whether you want the service to run at startup. • Run daily Valid values are the hour and minutes at which to run the service, daily. You can also specify a time interval. Indicate whether you want the service to run at startup. • Run based on day(s) of the week Valid values are the day of the week, the hour, and the minutes at which to run the service. You can also specify a time interval. Indicate whether you want the service to run at startup. • Run based on day(s) of the month Valid values are the day of the month (including the last day of the month (LDM)), hour, and the minutes at which to run the service. You can also specify a time interval. Indicate whether you want the service to run at startup.

GPM Configuration

The following table describes the fields used to configure the EDI Enveloping service in the GPM. You set the default global settings for these parameters in the enveloping.properties file. However, these global settings can be overridden in the

EDI Enveloping service by using the following parameters in the GPM. Use these parameters when it is necessary to adjust the lock times and lock wait times for specific business processes.

Field Description

Config

Name of the service configuration. Required.

EDIENVELOPE_MAX_LOCK_TIME

Maximum amount of time that the EDI Enveloping service will hold a lock on an enveloping process. This parameter enables you to fine tune your EDI processing. You can set this parameter in `envelope.properties.in`, and then use the same parameter here to override the properties file setting where necessary. The default value is 86400 seconds.

This parameter is used in Deferred mode to avoid situations where enveloping service releases the lock before it is done processing a message—possibly due to slow response from the database. If there are concurrent EDI enveloping business processes running, an EDI Enveloping service in another business process could possibly retrieve the same message from the database and process it, which would result in duplicate outbound messages.

EDIENVELOPE_LOCK_WAIT_TIME

Maximum amount of time that the EDI Enveloping service will wait for a lock before returning an error and reporting failure to obtain the lock. The service would use this parameter value when another EDI Enveloping business process has the lock, which causes this EDI Enveloping service instance to have to wait for the lock. The default value is 86400 seconds. This parameter is used in Deferred mode only.

Correlation Data

The EDI Enveloping service and EDI Deenveloping service automatically collect the following correlation information from EDI messages:

Category

Data Collected

Sender ID

- InterchangeSenderID
- GroupSenderID
- TransactionSenderID

Receiver ID

- InterchangeReceiverID
- GroupReceiverID
- TransactionReceiverID

Control Numbers

- InterchangeControlNumber
- GroupControlNumber
- TransactionControlNumber

Acknowledgement Requested

- InterchangeAckRequested
- GroupAckRequested

Acknowledgement Status

- InterchangeAckStatus
- GroupAckStatus

Standard

Standard – values are CII, EDIFACT, VDA, RND, SWIFT, and X12

ID

- FunctionalID
- TransactionSetID

Versions

- InterchangeVersion
- GroupVersion
- TransactionVersion

Date and Time

- InterchangeDateTime
- GroupDateTime

Overdue Time

- InterchangeOverdueTime
- GroupOverdueTime

Level Level – values are Interchange, Group, and Transaction

Direction

Direction – values are Inbound and Outbound

Envelope Type

- InterchangeEnvelopeType
- GroupEnvelopeType
- TransactionEnvelopeType

Envelope Name

- InterchangeEnvelopeName
- GroupEnvelopeName
- TransactionEnvelopeName

Envelope Version

- InterchangeEnvelopeVersion
- GroupEnvelopeVersion
- TransactionEnvelopeVersion

Compliance Status

- InterchangeComplianceStatus
- GroupComplianceStatus
- TransactionComplianceStatus

Values are OK and NOT OK

Test Mode

TestMode – values are Production, Test Data and Information

Counts

- TransactionCount
- GroupCount

Container Doc ID

ContainerDocID

The information for these correlations is automatically collected at each enveloping and deenveloping stage for a message, which facilitates tracking individual messages as they move through the IBM Sterling B2B Integrator.

There is no setup required for using the correlation information collected by the EDI Enveloping and EDI Deenveloping services. After you use one of these services in a business process, the information is available through the Correlation Search option.

Using Wildcards in Enveloping and Deenveloping Services

As a way to help reduce the number of envelopes you need to create and use, the EDI Enveloping and EDI Deenvelope services support use of an asterisk (*) as a wildcard character in mandatory envelope fields for X12 and EDIFACT only. By using wildcards, you can set up one set of envelopes that can be used for multiple trading partners. If certain trading partners have specific requirements, you can still have envelopes that pertain just to them, and the EDI Enveloping service chooses the envelope that is the best match. In other words, the envelope that has the most matches to specific fields in the data (for example Receiver ID, Receiver ID Qualifier), is the one selected.

Updated Envelope Translation Error Messages

When you are translating a batch of documents and need to differentiate between translation errors that occur because of empty sets and translation errors that occur when all sets are bad, you can add a property to the `customer_overrides.properties` file to enhance your error reporting by using the following procedure:

1. In the `install_dir/install/properties` directory, locate the `customer_overrides.properties` file.
2. Open the `customer_overrides.properties` file in a text editor.
3. Add this value:
`enveloping.enveloping.X12.useUpdatedEnvelopeTranslationErrorMsgs=true`
4. Save the `customer_overrides.properties` file.

Chapter 15. EDI Overdue Acknowledgment Check Service

The following table provides an overview of the EDI Overdue Acknowledgment Check service:

System name

OverdueAckType

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

The EDI Overdue Acknowledgment Check service finds outbound EDI groups and interchanges whose inbound functional acknowledgments are overdue, and creates a status report listing them.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

No

Application requirements

No

Initiates business processes?

None

Invocation

Runs as part of the OverdueAckCheck business process.

Business process context considerations

No

Returned status values

- Success – The service has run successfully. Anything found to be overdue is listed in the status report.
- Error – The service encountered a database error.

Restrictions

No

How the EDI Overdue Acknowledgment Check Service Works

The EDI Overdue Acknowledgment Check service works with the predefined Overdue Acknowledge Check business process.

Note: If the input document character encoding is specified, it overrides the encoding specified in the map. The output document content type and character encoding are set based on the information contained in the map.

Implementing the EDI Overdue Acknowledgment Check Service

To implement the EDI Overdue Acknowledgment Check service, complete the following tasks:

1. Activate your license for the EDI Overdue Acknowledgment Check service.
2. Create an EDI Overdue Acknowledgment Check service configuration.
3. Configure the EDI Overdue Acknowledgment. For information, see “Configuring the EDI Overdue Acknowledgment Check Service.”
4. Use the EDI Overdue Acknowledgment Check service in a business process.

Configuring the EDI Overdue Acknowledgment Check Service

To configure the EDI Overdue Acknowledgment Check service, you must specify settings for the following fields in the IBM Sterling B2B Integrator:

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – You do not want to include this configuration in a group at this time.
- Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration.
- Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.

Run as User

Enter (or select from the list) the user ID to be associated with business process instances of this service.

Use 24 Hour Clock Display

If selected, the adapter will use the 24-hour clock instead of the default 12-hour clock.

Schedule

Information about scheduling the service configuration to run.

Valid values:

- Do not use schedule

If this field is selected, this service does not start a business process and does not run on a schedule.

- Run based on timer

Valid values are the hour and minutes at which to run the service. Indicate whether you want the service to run at startup.

- Run daily

Valid values are the hour and minutes at which to run the service, daily. You can also specify a time interval. Indicate whether you want the service to run at startup.

- Run based on day(s) of the week

Valid values are the day of the week, the hour, and the minutes at which to run the service. You can also specify a time interval. Indicate whether you want the service to run at startup.

- Run based on day(s) of the month

Valid values are the day of the month (including the last day of the month (LDOM)), hour, and the minutes at which to run the service. You can also specify a time interval. Indicate whether you want the service to run at startup.

Chapter 16. EDI Post Processor Service

The following table provides an overview of the EDI Post Processor service:

System name

EDIPostProcessorType

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

Handles deferred sequence checking and acknowledgement processing of X12 interchanges, as well as duplicate control number checking. It is called if the inbound envelopes require sequence checking. If sequence checking is not required, acknowledgement processing is done by the X12 Deenvelope service.

Business usage

Its processing is done in parallel with EDI translation, thereby improving system performance.

Usage example

The X12 Deenvelope service determines that an inbound purchase order matches envelope definitions which specify that sequence checking should be performed. The service continues to process the inbound purchase order, performing all required compliance checks except for the sequence check, and puts the inbound interchange in a sequence check queue. The EDI Post Processor service runs after the X12 Deenvelope service completes and picks up all interchanges from the sequence check queue. It performs the sequence check, generates any acknowledgements that are necessary, and invokes the specified business processes to handle the purchase order.

Preconfigured?

No

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

This service is intended to be used in conjunction with the X12 Deenvelope service.

Application requirements

No

Initiates business processes?

Yes

Invocation

Runs only by the X12DeenvelopeUnified business process.

Returned status values

- Success – The service will return success if it processes all queued interchanges without finding compliance errors.
- Error – The service will return error when it encounters non-compliant data and envelope definitions are set to not allow non-compliance.

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the `TRACKING_LEVEL` parameter to adjust the tracking level for business processes.

You set the default global settings for the `TRACKING_LEVEL` parameter in the `enveloping.properties` file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only `TRACKING_LEVEL` parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The `TRACKING_LEVEL` parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM. It must be added manually to the BPML. Use the `TRACKING_LEVEL` parameter with one of the following settings:

Setting Description

- | | |
|--------------|--|
| none | Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional. |
| basic | Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional. |
| full | Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional. |

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the `TRACKING_LEVEL` settings in both the `enveloping.properties` file and the EDI service parameter.

Chapter 17. EDIFACT Develope Service

The following table provides an overview of the EDIFACT Develope service:

System Name

DevelopeEDIFACT

Graphical Process Modeler (GPM) categories

All Services, EDI > EDIFACT

Description

Handles deenvolving of inbound EDIFACT interchanges. This service performs the following tasks:

- Compliance checking, except for sequence checking.
- Generates acknowledgements if no sequence checking is required.

Business Usage

Using this service can:

- Improve performance by deferring sequence checking, as required.
- Enable the EDI Processing service to update your database with applicable control numbers.

Usage Example

An inbound purchase order is received inside an EDIFACT interchange. The EDI envelopes are parsed and the document envelopes that match the envelope data are retrieved. With the document envelopes, this service perform the appropriate action for purchase order, such as starting a business process.

Preconfigured?

No pre-configuration necessary

Third Party Files?

No

Platform Availability

All supported application platforms.

Related Services

If sequence checking required, this service works with the EDI Post Processor service.

Application Requirements

None

Bootstrapping

This service may bootstrap business processes specified in envelope definitions for handling incoming documents, and may also invoke business processes to handle outbound acknowledgements associated with an incoming interchange.

Invocation

This service is invoked inside the EDIFACTDevelopeUnified business process. Normally, customers would use the business process, and should not need to directly work with this service.

WFC Considerations

None

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the `TRACKING_LEVEL` parameter to adjust the tracking level for business processes.

You set the default global settings for the `TRACKING_LEVEL` parameter in the `enveloping.properties` file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only `TRACKING_LEVEL` parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The `TRACKING_LEVEL` parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM. It must be added manually to the BPML. Use the `TRACKING_LEVEL` parameter with one of the following settings:

Setting Description

- | | |
|--------------|--|
| none | Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional. |
| basic | Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional. |
| full | Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional. |

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the `TRACKING_LEVEL` settings in both the `enveloping.properties` file and the EDI service parameter.

Note: All EDI services assign a Unique ID to each log message.

Adding Translation Map Name to Process Data

The EDIFACT Deenvelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The EDIFACT Deenvelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 18. EDIFACT Envelope Service

The following table provides an overview of the EDIFACT Envelope service:

System name

EnvelopeEDIFACTType

Graphical Process Modeler (GPM) categories

All Services, EDI > EDIFACT

Description

Envelopes outbound EDIFACT interchanges.

Business usage

This service improves performance of EDI EDIFACT by consolidating EnvelopeUNH, EnvelopeUNG, and EnvelopeUNB into a single service.

Usage example

An outbound purchase order is to be sent inside an EDIFACT interchange. The document envelopes that match the SenderID, ReceiverID, and AcceptorLookupAlias specified in upstream EDIEncoder are retrieved. If required by the UNH envelope, translation is performed using the map specified by the envelope. The UNH, UNG, and UNB envelopes are applied to the output of this step. The service will then start a business process if specified in the UNB envelope definition.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

EDI Encoder, EDI Envelope

Application requirements

No

Initiates business processes?

This service may invoke a business process specified in the interchange envelope definition.

Invocation

Runs as part of the EDIFACTEnvelopeUnified business process.

Business process context considerations

No

Returned status values

- Translation Error – Translation produced errors
- No_Documents_To_Envelope – EDIEncoder has not run prior to EDIFACT Envelope service
- No_Envelope_Defined – The UNH envelope defined has a SenderID, ReceiverID, or AcceptorLookupAlias different from that in the EDIEncoder step of the business process
- Error – A database or other exception takes place

- Success – Service returns success if none of the above takes place

Restrictions

No

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM. It must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Setting Description

- none** Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional.
- basic** Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional.

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Using Wildcards in Enveloping and Deenveloping Services

To help reduce the number of envelopes that need to be created and maintained in the system, EDIFACT enveloping allows users to create wildcard envelope definitions. There are two aspects to this feature in outbound processing. The first is the use of an asterisk (*) in any mandatory field in an outbound envelope. The exception to this rule is when the field is Sender ID, Receiver ID, or a qualifier for one of those fields. For example, in EDIFACT the following fields are conditional, but are considered to be part of the Sender / Receiver ID and therefore must have a “*” placed in the field if you want to override those values:

- (0008) Interchange Sender Internal Identification
- (0042) Interchange Sender Internal Sub-identification
- (0014) Interchange Recipient Internal Identification
- (0046) Interchange Recipient Internal Sub-identification

The second use is the ability to override values set in an envelope definition through the use of correlations. By using an asterisk in the Sender ID, Receiver ID, and Acceptor Lookup Alias fields, it allows the EDI Encoder Service to match and use that envelope for every document it prepares for enveloping. You may use wildcards for one, two, or all three fields when you define an envelope, and the EDI Encoder will find and use the most specific match when it processes a document.

If an envelope field is set to an asterisk, the EDIFACT Envelope service must obtain the actual value to use from a different source—the correlations. You must provide a correlation for an envelope value that is set to asterisk, but you can also set others. Correlations set on the document for other fields in an envelope override what is in the envelope itself. This enables you to create an envelope with default values that you can override only when desired. The exception to this rule is when the field is Sender ID, Receiver ID, or a qualifier for one of these fields. In these fields, you must define the value as an asterisk in the envelope definition if you want to override it with a correlation, otherwise the value from the envelope is always used.

The following list contains the correlation values that can be set inside of process data prior to calling the Correlation service to override outbound envelope values:

- EDIFACTEnvelopeParms/Out_InterchangeAcknowledgementOverdueTime
- EDIFACTEnvelopeParms/
Out_InterchangeAcknowledgementOverdueTimeMinutes
- EDIFACTEnvelopeParms/Out_MessageDecimalMark
- EDIFACTEnvelopeParms/Out_MessageType
- EDIFACTEnvelopeParms/Out_MessageVersionNumber
- EDIFACTEnvelopeParms/Out_MessageReleaseNumber
- EDIFACTEnvelopeParms/Out_MessageControllingAgency
- EDIFACTEnvelopeParms/Out_MessageAssociationAssignedCode
- EDIFACTEnvelopeParms/Out_MessageCodeListDirectoryVersionNumber
- EDIFACTEnvelopeParms/Out_MessageTypeSubFunctionID

- EDIFACTEnvelopeParms/Out_MessageCommonAccessReference
- EDIFACTEnvelopeParms/Out_MessageSequenceOfTransfers
- EDIFACTEnvelopeParms/Out_MessageFirstAndLastTransfer
- EDIFACTEnvelopeParms/Out_MessageSubsetID
- EDIFACTEnvelopeParms/Out_MessageSubsetVersionNumber
- EDIFACTEnvelopeParms/Out_MessageSubsetReleaseNumber
- EDIFACTEnvelopeParms/Out_MessageSubsetControllingAgency
- EDIFACTEnvelopeParms/Out_MessageImplementationGuidelineID
- EDIFACTEnvelopeParms/Out_MessageImplementationGuidelineVersionNumber
- EDIFACTEnvelopeParms/Out_MessageImplementationGuidelineReleaseNumber
- EDIFACTEnvelopeParms/Out_MessageImplementationControllingAgency
- EDIFACTEnvelopeParms/Out_MessageScenarioID
- EDIFACTEnvelopeParms/Out_MessageScenarioVersionNumber
- EDIFACTEnvelopeParms/Out_MessageScenarioReleaseNumber
- EDIFACTEnvelopeParms/Out_MessageScenarioControllingAgency
- EDIFACTEnvelopeParms/Out_UseGroups
- EDIFACTEnvelopeParms/Out_GroupDecimalMark
- EDIFACTEnvelopeParms/Out_GroupSyntaxVersionNumber
- EDIFACTEnvelopeParms/Out_GroupApplicationSenderID
- EDIFACTEnvelopeParms/Out_GroupSenderIDCodeQualifier
- EDIFACTEnvelopeParms/Out_GroupApplicationRecipientID
- EDIFACTEnvelopeParms/Out_GroupRecipientIDCodeQualifier
- EDIFACTEnvelopeParms/Out_GroupControllingAgency
- EDIFACTEnvelopeParms/Out_GroupApplicationPassword
- EDIFACTEnvelopeParms/Out_InterchangeSyntaxIdentifier
- EDIFACTEnvelopeParms/Out_InterchangeSyntaxVersionNumber
- EDIFACTEnvelopeParms/
Out_InterchangeServiceCodeListDirectoryVersionNumber
- EDIFACTEnvelopeParms/Out_InterchangeCharacterEncoding
- EDIFACTEnvelopeParms/Out_InterchangeSenderID
- EDIFACTEnvelopeParms/Out_InterchangeSenderIDCodeQualifier
- EDIFACTEnvelopeParms/Out_InterchangeSenderInternalID
- EDIFACTEnvelopeParms/Out_InterchangeSenderInternalSubID
- EDIFACTEnvelopeParms/Out_InterchangeRecipientID
- EDIFACTEnvelopeParms/Out_InterchangeRecipientIDCodeQualifier
- EDIFACTEnvelopeParms/Out_InterchangeRecipientInternalID
- EDIFACTEnvelopeParms/Out_InterchangeRecipientInternalSubID
- EDIFACTEnvelopeParms/Out_InterchangeControlReference
- EDIFACTEnvelopeParms/Out_InterchangeRecipientReferencePassword
- EDIFACTEnvelopeParms/Out_InterchangeRecipientReferencePasswordQualifier
- EDIFACTEnvelopeParms/Out_InterchangeApplicationReference
- EDIFACTEnvelopeParms/Out_InterchangeProcessingPriorityCode
- EDIFACTEnvelopeParms/Out_InterchangeAcknowledgementRequest
- EDIFACTEnvelopeParms/Out_InterchangeAgreementID
- EDIFACTEnvelopeParms/Out_InterchangeTestIndicator

- EDIFACTEnvelopeParms/Out_Una

The following example shows how you might set correlation values in a business process:

```
<operation name="SetTheCorrelations">
  <participant name="CorrelationService"/>
  <output message="Xout">
    <assign to="TYPE">DOCUMENT</assign>
    <assign to="CORRELATION_PATH">/ProcessData/EDIFACTEnvelopeParms/*</assign>
    <assign to="SCOPE" from="'EDI'"/>
    <assign to="." from="*"></assign>
  </output>
  <input message="xin">
    <assign to="." from="*"></assign>
  </input>
</operation>
<operation name="EDI Encoder">
  <participant name="EDI Encoder"/>
  <output message="EDI EncoderTypeInputMessage">
    <assign to="AcceptorLookupAlias">837</assign>
    <assign to="EDIStandard">EDIFACT</assign>
    <assign to="ReceiverID">TestA-GS-R</assign>
    <assign to="SenderID">TestA-GS-S</assign>
    <assign to="." from="*"></assign>
  </output>
  <input message="inmsg">
    <assign to="." from="*"></assign>
  </input>
</operation>

<operation name="EDI Envelope">
  <participant name="EDIEnvelope"/>
  <output message="EDIEnvelopeTypeInputMessage">
    <assign to="MODE">DEFERRED</assign>
    <assign to="RECEIVER_ID">TestA-GS-R</assign>
    <assign to="SENDER_ID">TestA-GS-S</assign>
    <assign to="." from="*"></assign>
  </output>
  <input message="inmsg">
    <assign to="." from="*"></assign>
  </input>
</operation>
```

After the steps shown in the previous example, you would include the Correlation service to set the values as correlations against your documents, then follow that with the EDI Encoder service.

Note: All EDI services assign a Unique ID to each log message.

Adding Translation Map Name to Process Data

The EDIFACT Envelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The EDIFACT Envelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 19. EDIINT Acknowledge Check Service

The following table provides an overview of the EDIINT Acknowledge Check service:

System name

None

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > EDIINT

Description

Determines whether an MDN acknowledgement has been received for an EDIINT message within a business process in the IBM Sterling B2B Integrator. If the MDN acknowledgement is not received within a specific period of time or if a negative MDN is received, the service can cause the business process to fail (or it can continue successfully, depending on the service configuration).

This service is designed to be used in a business process after a message has been sent

You must always include an EDIINT Message service or EDIINT Pipeline service configuration in a business process whenever you include an EDIINT Acknowledge Check service configuration.

Preconfigured?

No

Requires third party files?

No

Platform availability

All supported application platforms

Related services

- EDIINT Message service
- EDIINT Pipeline service

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a business process.

Restrictions

No

How the EDIINT Acknowledge Check Service Works

The following steps summarize how the EDIINT Acknowledge Check service works within a business process:

1. The EDIINT Acknowledge Check service is used to verify that an acknowledgement was received for a message you sent.

2. The EDIINT Acknowledge Check service processes the information in the database about the EDIINT message sent and determines whether an acknowledgement was received for the EDIINT message.

You can configure the EDIINT Acknowledge Check service to check information in the database in either once, or on a recurring basis, at a specified time interval. The time interval can be configured in one of the following ways:

- Globally
- Using the MDN timeout interval configured in the trading profile (default)

3. The EDIINT Acknowledge Check service responds in one of the following ways:

- The service fails the step in the business process where the service runs, if an MDN acknowledgement is not received during the time interval it checks (default).

If you configured the service to function this way, it allows business processes that send EDIINT messages to complete successfully only when an MDN acknowledgement is received for the message sent in the business process.

- The business process continues normally when the EDIINT Acknowledge Check service runs, whether or not an MDN acknowledgement was received during the specified time interval.

If you configured the service to function this way, it allows you to determine whether an acknowledgement was received without interrupting the business process.

Implementing the EDIINT Acknowledge Check Service

To implement the EDIINT Acknowledge Check service, complete the following tasks:

1. Activate your license for the EDIINT Acknowledge Check service.
2. Create an EDIINT Acknowledge Check service configuration.
3. Configure the EDIINT Acknowledge Check service.
4. Use the EDIINT Acknowledge Check service in a business process.

When creating business processes, determine whether you want to stop the business process or execute retry logic if an acknowledgement is not received within a defined time interval. If you want to stop the business process, insert the EDIINT Acknowledge Check service *last* in a business process for sending messages.

Configuring the EDIINT Acknowledge Check Service

To configure the EDIINT Acknowledge Check service, you must specify settings for the following fields in the IBM Sterling B2B Integrator and in the GPM.

Note: The field names in parentheses represent the corresponding field names in the GPM. This information is provided for your reference.

Field	Description
Name	Unique and meaningful name for the service configuration. Required.
Description	Meaningful description for the service configuration, for reference purposes. Required.

Field	Description
Select a Group	Select one of the options: <ul style="list-style-type: none"> • None – You do not want to include this configuration in a group at this time. • Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration. • Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.
Poll (ACSPoll)	EDIINT Acknowledge Check service polls at specific intervals for an acknowledgement. Valid values are Yes (default) and No. Required.
Poll Interval (Seconds) (ACSPollInterval)	Interval at which to poll. Valid value is the number of seconds. Default is 180. Optional.
MDN Timeout (Seconds) (ACSPollTimeout)	Timeout interval during which to expect an acknowledgement. Valid value is the number of seconds. Optional. Note: If you specify the interval when you configure the service, the service configuration will always use this timeout value, regardless of any value specified in the trading profile. Valid value is the number of seconds.
Fail on expired message (ACSFailWFOExpiredMessage)	Whether to fail the EDIINT Acknowledge Check service when a message is not acknowledged within the required time. Valid values are Yes (default) and No. Required.
Expire messages in database (ACSExpireMessagesInDB)	Whether the EDIINT Acknowledge Check service updates the status of a transaction to Expired in the database when a message is not acknowledged within the required interval (if polling) or simply not acknowledged if checking only once. Valid values are Yes (default) and No. Required.

Chapter 20. EDIINT Header Scanning Service

The following table provides an overview of the EDIINT Header Scanning service:

System name

None

Graphical Process Modeler (GPM) categories

All Services

Description

This service parses the header area of EDIINT messages and other MIME-based messages without loading or examining the entire message and outputs the header information to process data.

This service is currently used by the EDIINTParse business process to scan message headers prior to parsing the message, to determine whether the sender of the message is an AS2 trading partner for which deferred extraction has been configured.

The EDIINTParse business process currently uses this service to help determine whether the sender of the message is an AS2 trading partner for which deferred extraction has been configured. The value from the AS2-To header is needed to determine whether the sender is a trading partner in the AS2 Trading Partner Information database table, and, if so, whether the deferred extraction behavior has been enabled for the sender. This service can be used to scan the headers of MIME-based messages for any purpose.

Business usage

A user has implemented deferred extraction behavior for a trading partner that sends AS2 messages.

Usage example

An example of the usage of this service when you are using the IBM Sterling B2B Integrator AS2 Edition is as follows:

1. Sterling B2B Integrator receives an AS2 message.
2. A business process is invoked to process the message.
3. The business process invokes the EDIINT Header Scanning service to determine whether deferred extraction of the payload should occur.
4. The EDIINT Header Scanning parses the header information and outputs it to process data.
5. Any situation in which you need to parse the header area of MIME-based messages and load that information to process data.

Preconfigured?

Yes.

Requires third party files?

No.

Platform availability

All supported application platforms.

Related services

This service is used in conjunction with the EDIINT Pipeline service and the EDIINT MDN Building service.

Application requirements

No.

Initiates business processes?

No.

Invocation

Used in the EDIINTParse business process. Can be used in any business process for which this functionality is desired.

Restrictions

No.

How the EDIINT Header Scanning Service Works

The following steps summarize how the EDIINT Header Scanning service works within a business process:

1. The EDIINT Header Scanning service parses the header area of each EDIINT message (without loading or examining the message).
2. The EDIINT Header Scanning service outputs the header information to process data.

Implementing the EDIINT Header Scanning Service

To implement the EDIINT Header Scanning service, complete the following tasks:

1. Activate your license for the EDIINT Header Scanning service.
2. Create an EDIINT Header Scanning service configuration. You can also modify the `EDIINTHeaderScan` predefined service instance.
3. Configure the EDIINT Header Scanning service only once in the user interface and the GPM.
4. Use the EDIINT Header Scanning service in a business process.

Configuring the EDIINT Header Scanning Service

To configure the EDIINT Header Scanning service, you must specify settings for the following fields in the IBM Sterling B2B Integrator one time only.

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – You do not want to include this configuration in a group at this time.
- Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration.
- Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.

Show transcripts

Whether to enable extended logging to the advanced status shown in the process monitor. Valid values are Yes (default) and No. Required.

Protocol

The communications protocol through which the message was received. The HTTP Server adapter supplies the value for this parameter when it receives a message.

Note: For AS2, this parameter should always be set to **http**.

Process Data Example

This example shows the EDIINT Header Scanning service used to output header information to process data:

```
<MIMEEntity name="test2:00.000.00.00:1135fdf492d:72484">
  <EDIINT-Message-Sender>test1_as2</EDIINT-Message-Sender>
  <EDIINT-Message-Recipient>test2_as2</EDIINT-Message-Recipient>
  <content-type>application</content-type>
  <content-subtype>pkcs7-mime</content-subtype>
  <content-type-parameters>
    <content-type-parameter
name="smime-type">enveloped-data</content-type-parameter>
    <content-type-parameter name="name">smime.p7m</content-type-parameter>
  </content-type-parameters>
  <content-transfer-encoding>7bit</content-transfer-encoding>
  <content-location/>
  <content-id/>
  <OtherMIMEEntityHeaders>
    <OtherEntityHeader name="host"><![CDATA[test2:16033]]></OtherEntityHeader>
    <OtherEntityHeader name="user-agent">
      <![CDATA[SI/PSHttpClientAdapter]]></OtherEntityHeader>
    <OtherEntityHeader name="as2-version"><![CDATA[1.1]]></OtherEntityHeader>
    <OtherEntityHeader name="as2-to"><![CDATA[test2_as2]]></OtherEntityHeader>
    <OtherEntityHeader
name="as2-from"><![CDATA[test1_as2]]></OtherEntityHeader>
    <OtherEntityHeader name="message-id">
      <![CDATA[<MOKOyama-1477dadd-11363544df4--6514test10as2@test1>]]></OtherEntityHeader>
    <OtherEntityHeader name="date">
      <![CDATA[Mon, 25 Jun 2007 03:57:11 GMT]]></OtherEntityHeader>
    <OtherEntityHeader name="subject">
      <![CDATA[Integrator Message]]></OtherEntityHeader>
    <OtherEntityHeader name="disposition-notification-to">
      <![CDATA[test1_as2]]></OtherEntityHeader>
    <OtherEntityHeader name="disposition-notification-options">
      <![CDATA[signed-receipt-protocol=optional,pkcs7-signature;signed-receipt-
micalg=optional,sha1]]></OtherEntityHeader>
    <OtherEntityHeader
name="content-length"><![CDATA[2305]]></OtherEntityHeader>
    <OtherEntityHeader
name="uri"><![CDATA[/b2bhttp/inbound/as2]]></OtherEntityHeader>
  </OtherMIMEEntityHeaders>
  <EntityBody name="unknown">
    <Data/>
    <DocumentID/>
  </EntityBody>
</MIMEEntity>
```

Chapter 21. EDIINT MDN Building Service

The following table provides an overview of the EDIINT MDN Building service:

System name

None

Graphical Process Modeler (GPM) categories

All Services

Description

This service builds a Message Disposition Notification (MDN) based on information in process data and a specified contract ID. This enables you to perform additional custom operations between message parsing and MDN generation so that you can consider the outcome of those operations before generating the MDN.

When the EDIINT Pipeline service is configured to not build MDNs (the **Build MDNs** parameter is set to **No**), the EDIINT Pipeline service propagates MDN building information to business processes launched to extract data.

The EDIINT MDN Building service is used in the implementation of deferred extraction. The AS2Extract and MailboxAS2Add services use this service to generate an MDN if deferred extraction is enabled.

Business usage

A user wants exact control over the status reported in an MDN and when the MDN is sent.

Usage example

An example of the usage of this service is as follows:

1. IBM Sterling B2B Integrator receives an AS2 message.
2. A business process is invoked to process the message.
3. An attempt is made to archive the message and payload data to remote secure storage.
4. The archival attempt fails.
5. The MDN Generation service is instructed to generate an MDN with a disposition of Error: unexpected-processing-error because the archive attempt failed.
6. The MDN is returned to the trading partner.

Preconfigured?

Yes.

Requires third party files?

- TrustpointAll.jar and TrustpointProviders.jar files from SecurityBuilder PKI-J 3.1
- EccpressoAll.jar file from SecurityBuilder Crypto-J 2.3

Platform availability

All supported application platforms

Related services

EDIINT Pipeline service and EDIINT Message service

Application requirements

No.

Initiates business processes?

No.

Invocation

Runs as part of a user-created (custom) business process.

Restrictions

No.

How the EDIINT MDN Building Service Works

The following steps summarize how the EDIINT MDN Building service works within a business process:

1. The EDIINT MDN Building service is used to build an MDN based on information in process data and a specified contract ID.
2. The EDIINT MDN Building service uses the production profile in the specified contract ID as the originator information and the consumption profile in the specified contract ID as the recipient information.

Note: Contract usage can be reversed to allow you to reuse a contract that was identified for parsing, as long as the specified contract contains all required data.

Implementing the EDIINT MDN Building Service

To implement the EDIINT MDN Building service, complete the following tasks:

1. Activate your license for the EDIINT MDN Building service.
2. Create an EDIINT MDN Building service configuration.
3. Configure the EDIINT MDN Building service only once in the User Interface and the GPM. You can also modify the **EDIINTMDNBuild** predefined service instance.
4. Use the EDIINT MDN Building service in a business process.

Configuring the EDIINT MDN Building Service

To configure the EDIINT MDN Building service, you must specify settings for the following fields in the IBM Sterling B2B Integrator one time only.

Note: The field name in parentheses represent the corresponding field name in the GPM. This information is provided for your reference.

Field	Description
Name	Unique and meaningful name for the service configuration. Required.
Description	Meaningful description for the service configuration, for reference purposes. Required.

Field	Description
Select a Group	Select one of the options: <ul style="list-style-type: none"> • None – You do not want to include this configuration in a group at this time. • Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration. • Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.
Contract ID (b2b-contract-ID)	The ID of a contract containing information for building messages. Must be the ID of an existing contract. Optional, but must either be specified in the GPM or in the service configuration user interface. Note: See “Use of Contract ID” on page 108 for more information.

Parameters Passed from the Business Process to the Service

Use the field definitions in the following table to set up the business process correctly:

Note: When you parse a message with the EDIINT Message service or EDIINT Pipeline service and instruct that service not to build an MDN, the values for many fields will be placed in process data after the message is parsed. You can alter these values prior to calling the EDIINT MDN Building service, but any values you input must be acceptable within the EDIINT protocol and supported by the IBM Sterling B2B Integrator.

Parameter Description

b2b-contract-id

The ID of a contract containing information for building messages. Must be the ID of an existing contract.

Note: This parameter must either be specified in the GPM or in the service configuration user interface. Please see *Use of Contract ID* for more information.

EDIINT-MDN-Protocol

The signature format requested for the MDN from the Disposition-Notification-Options header of the message from the EDIINT Message service (or EDIINT Pipeline service). The only acceptable value for this field is **pkcs7-signature**.

EDIINT-Receipt-Delivery-Protocol

The actual transport protocol that the EDIINT Message service (or EDIINT Pipeline service) determined that the MDN must use. The standard value for this field is **http**.

EDIINT-MIC-Alg

The MIC algorithm requested for the MDN from the Disposition-Notification-Options header of the message from the EDIINT Message service (or EDIINT Pipeline service).

Note: You should not alter this value unless you plan to supply a received-content-MIC with the supplied algorithm.

EDIINT-Received-Content-MIC

The received-content-MIC that is computed by the EDIINT Message service (or the EDIINT Pipeline service) when processing the message.

Note: You can alter or add this value if you have a received-content-MIC from another source than the EDIINT Message service or EDIINT Pipeline service or if one of those services has been customized by services so that it does not produce a received-content-MIC.

EDIINT-MDN-Recipient

The receiver of the MDN message from the EDIINT Message service (or EDIINT Pipeline service).

Note: The EDIINT MDN Building service uses the consumption profile in the specified contract ID as the recipient information.

EDIINT-MDN-Sender

The sender of the MDN message from the EDIINT Message service (or EDIINT Pipeline service).

Note: The EDIINT MDN Building service uses the production profile in the specified contract ID as the originator (sender) information.

EDIINT-MDN-Disposition

The disposition of the MDN from the EDIINT Message service (or EDIINT Pipeline service).

Note: Generally this should be the string **processed**, although there are some situations noted in the AS2 specification in which you could set this parameter to **failure**. It is recommended that you do not change this parameter without careful thought.

EDIINT-MDN-Disposition-Modifier

The disposition modifier of the MDN from the EDIINT Message service (or EDIINT Pipeline service). This is only present if message parsing failed.

Valid values are:

- Error: authentication-failed
- Error: decryption-failed
- Error: decompression-failed
- Error:unexpected-processing-error

Note: There are other modifiers permitted by the AS2 specification, but the valid values are the only ones supported by the IBM Sterling B2B Integrator. If a message is processed without errors by the EDIINT Message service, the EDIINT-MDN-Disposition is **processed** and there is no EDIINT-MDN-Disposition-Modifier. In this situation, you can add the disposition modifier **Error: unexpected-processing-error** in the event that the safe-store operation fails by using an assign like the following:

```
<assign to="EDIINT-MDN-Disposition-Modifier">Error:
unexpected-processing-error</assign>
```

EDIINT-MDN-Original-Message-Document-ID

The document identifier of the message the EDIINT Message service (or EDIINT Pipeline service) processed.

EDIINT-MDN-Transaction-Type

The transaction type as determined by the EDIINT Message service (or EDIINT Pipeline service). Valid values are AS1 or AS2.

EDIINT-Receipt-Delivery-

Port The port on which that the EDIINT Message service (or EDIINT Pipeline service) determined the MDN would be sent.

Use-Contract-In-Reverse

This parameter must be set to True if you need to use the same contract the EDIINT Message service or EDIINT Pipeline service uses to parse a message.

Business Process Example

This example uses an instance of the EDIINT MDN Building Service named **EDIINTMDNBuild**. The default EDIINT parsing business process (**EDIINTParse**) was altered to replace the single step that calls the EDIINT Message Service for parsing the message with the following BPML containing three steps to build and then synchronously send the MDN later. If you are sending the MDN asynchronously or are unsure whether you would send the MDN synchronously and asynchronously, you will have to invoke a different sending process (for example, HTTPAsyncSend) or add logic for making the synchronous or asynchronous decision and invoking the appropriate process.

```
<operation name="One">
  <participant name="EDIINTPipelineParse"/>
  <output message="noopout">
    <assign to="." from="*"></assign>
    <assign to="ShowTranscripts">true</assign>
    <assign to="DontBuildMDN">true</assign>
  </output>
  <input message="noopin">
    <assign to="." from="*"></assign>
  </input>
</operation>

<operation name="Two">
  <participant name="EDIINTMDNBuild"/>
  <output message="noopout">
    <assign to="." from="*"></assign>
    <assign to="ShowTranscripts">true</assign>
  </output>
  <input message="noopin">
    <assign to="." from="*"></assign>
  </input>
</operation>

<operation name="InvokeSendBP">
  <participant name="InvokeBusinessProcessService" />
  <output message="Xout">
    <assign to="INVOKE_MODE">INLINE</assign>
    <assign to="NOTIFY_PARENT_ON_ERROR">ALL</assign>
    <assign to="WFD_NAME">HTTPSyncSend</assign>
    <assign to="." from="*"></assign>
  </output>
  <input message="Xin" >
    <assign to="." from="*"></assign>
  </input>
</operation>
```

External System Interaction

An external system is responsible for originating the AS2 message that the MDN is acknowledging. Many external systems employ an MDN timeout feature to determine whether an AS2 message was successfully sent. If the MDN is not received within a certain amount of time, the send is assumed to have failed. The length of this timeout is not standard; it is set by the external system. The external system also decides the actions that are taken if the MDN is not received in the specified length of time. For example, the external system might resend the message or perform some sort of manual intervention. The IBM Sterling B2B Integrator has no control over any actions taken by the external system.

Note: MDNs are intended to express the results of message handling within the context of the AS2 protocol. Therefore, including the result of operations outside of the AS2 protocol is not intended in the MDN functionality. You should use great care in determining which other operations, if any, are considered in the generation of MDNs.

Use of Contract ID

You can specify a contract ID when you create an EDIINT MDN Building service instance, but it is not necessary. When the EDIINT Message Service parses a message, it typically looks up a contract and the contract ID is assigned to the BPML parameter **b2b-contract-id**. The EDIINT MDN Building service configuration can use the same contract ID (you set this in the **b2b-contract-id** parameter). However, you do need to set the Use-Contract-In-Reverse parameter to reuse the same contract.

Note: The Use-Contract-In-Reverse parameter is mandatory if no specific contract is configured in the service configuration

You only need to explicitly assign one contract ID unless you need to use a different contract ID from the contract ID previously defined or you are using the EDIINT Message Service or EDIINT Pipeline service in a manner in which the contract ID is not specified.

Chapter 22. EDIINT Message Service

The following table provides an overview of the EDIINT Message service:

System name

None

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > EDIINT

Description

Electronic Data Interchange-Internet Integration (EDIINT) is a protocol developed by the Internet Engineering Task Force (IETF) for securely transporting messages containing business data over the Internet, using MIME packaging types.

There are two types of EDIINT:

- AS1, which uses SMTP, POP, and IMAP as a transport
- AS2, which uses HTTP as a transport

Within a business process in the IBM Sterling B2B Integrator, the EDIINT Message service builds and parses EDIINT AS1 and AS2 messages, including plain text, signed, and encrypted data.

Communications services, such as the B2B SMTP Client adapter or the B2B HTTP Client adapter, then send or receive the messages within the business process.

Note: Because of our continuing efforts to improve services and adapters to align with new technology and capabilities, the B2B HTTP Client adapter has entered the retirement process in the IBM Sterling B2B Integrator and will be replaced with the HTTP Client adapter and its related services.

The EDIINT Message service can also generate and process a signed or unsigned Message Disposition Notification (MDN). Signed MDNs provide non-repudiation of receipt, which occurs when the original sender of a message verifies the signed receipt coming back from the receiver.

Note: The EDIINT Message service has limitations on message size. In general, the maximum size is less than the available memory. The exception is when parsing messages that are signed after compression using file system buffering. To handle messages of unlimited size or to handle several large messages concurrently, use the EDIINT Pipeline service.

Preconfigured?

No

Requires third party files?

No

Platform availability

All supported application platforms

Related services

- EDIINT Acknowledge Check service

- EDIINT Pipeline service
- EDIINT MDN Building service

Application requirements

You must create appropriate profiles, communications adapter instances, and business processes for sending MDNs (parsing only).

Initiates business processes?

This service is not an adapter, but it does invoke business processes either after looking up an appropriate contract or being configured to expressly launch a specific process when contracts are not required.

Restrictions

This service requires that you have correctly set up profiles for communications. It also requires that the mail and HTTP server adapters that pass inbound messages to it are configured to retrieve raw messages.

If you use the EDIINT Message service in a business process associated with a URL in the HTTP Server adapter, you must set the URL to use raw messages. Otherwise, the HTTP Server adapter will remove the message headers and the EDIINT Message service will not be able to process the message.

How the EDIINT Message Service Works

The EDIINT Message service parses an EDIINT message in the following sequence of events. The EDIINT Message service:

1. Receives a business document.
2. Looks up profiles based on the contract assigned.
3. Uses the consumption profile in the contract to determine how to encapsulate the payload and what type of MDN (if any) to request.
4. Outputs the message to the primary document.

The EDIINT Message service builds an EDIINT message in the following sequence of events. The EDIINT Message service:

1. Receives the data payload (business document)
2. Builds the business document
3. Verifies any signatures
4. Evaluates the message components
5. Encrypts information
6. Tries to look up a contract to get profile information and keys in the database so it can build the message
7. Builds header information about the type of notification requested (if any)
8. Determines the sender of the message
9. Determines the recipient of the message
10. Sends a message

Note: The constructed message is the output primary document.

11. Outputs information to process data for any communications adapters that use profiles (outputs a Profile ID)
12. Outputs information for the EDIINT Acknowledge Check service to process data

Implementing the EDIINT Message Service

To implement the EDIINT Message service for use in a business process, first determine whether you want to build or parse EDIINT messages (or both), and then complete the following processes, as appropriate.

Implementing the EDIINT Message Service to Build Messages

To implement the EDIINT Message service to build EDIINT messages, complete the following tasks:

1. Activate your license for the EDIINT Message service. For information, see *Obtaining a License File*.
2. Create two trading profiles. That is, one to represent a consumption profile and one to represent a production profile:
 - One trading profile should include your IDs and keys.
 - The second trading profile should include the ID for the trading partner and certificates.
3. Create a contract for sending EDIINT messages to a trading partner. Assign the information for trading partner to the consumption profile, and assign your information to the production profile.

Note: You must supply a contract ID. The production profile in the contract is used for the originator information. The identifier in the identity of the production profile is used as the value of AS2-From. The consumption profile in the contract is used for the recipient information. The identifier from the identity in the consumption profile is used as the value of AS2-To.

4. Create an EDIINT Message service configuration (selecting the Build action), and assign it the appropriate contract.

Note: For every contract you create for sending EDIINT messages, you must create a configuration of the EDIINT Message service and assign the appropriate contract to it.

5. Activate your license for one of the following communications services:
 - B2B SMTP Client adapter
 - HTTP Client adapter

Note: AS2 business processes that used the retired B2B HTTP Client adapter (specifically the business processes used to send MDNs back to requester) have been updated to use the HTTP Client adapter. Previously the EDIINT Message Service was configured to use the HTTPAsyncSend process to send back the asynchronous MDN, but now the EDIINT Pipeline Service uses the HTTPClientSend process, which has been updated to have a default response timeout for this purpose, and which uses the HTTP Client adapters.

6. Create a configuration of the communications service and assign it the appropriate contract name.

Note: It is not necessary to configure the communications services for outbound transport. The EDIINT Message service communicates the information about where to send the message to the appropriate communications service by providing the appropriate transport information from the trading profile.

7. Create a business process that:

- Invokes the EDIINT Message service configuration that you created to build EDIINT messages.
 - Invokes the communications service you configured to send the messages.
 - Uses the EDIINT Acknowledge Check service to wait for any acknowledgement.
8. To indicate whether an MDN acknowledgement has been received for an EDIINT message within a specified time period, include the EDIINT Acknowledge Check service in your business process.

Note: If you are using AS2 with synchronous MDNs, this business process must also include a step that uses a configuration of the EDIINT Message service for parsing after the send action.

Implementing the EDIINT Message Service to Parse

The following behavior is standard for message parsing with the EDIINT Message service:

- The service can check for duplicate messages based on message ID. When a duplicate message is found, the service sends back the existing MDN, if available, and does not send the data further.
- The service can either build and send an MDN or output information to process data for the MDN building service to use later. The default is to build the MDN.
- The service can either send an MDN (if it builds an MDN) or put the MDN into the current context as a document. The default is to send the MDN. There are 3 business processes that you must configure for each service instance for sending MDNs: one for asynchronous HTTP MDNs, one for synchronous HTTP MDNs, and one for SMTP MDNs (while this is not often used, it is permitted by the AS2 specification).

To implement the EDIINT Message service to parse EDIINT messages, complete the following tasks:

1. Activate your license for the EDIINT Message service.
2. Create business processes for sending SMTP MDNs, or synchronous or asynchronous HTTP MDNs. These simple business processes invoke configurations of the HTTP Server adapter, HTTP Client adapter, or SMTP Client adapter.
3. Create a business process for parsing that invokes the EDIINT Message service configuration that you create in step 5
4. Create a contract for receiving and parsing messages.
 - The consumption profile represents your organization.
 - The production profile represents your trading partner.

Note: Contract ID can either be looked up using AS2 identifiers in message or provided directly as a BPML parameter. Default is to look up the contract ID. This is done using AS2-To and AS2-From values to find a contract by extensions in the database. Production profile in contract ID is used as the originator information. The Consumption profile in contract ID is used as recipient information

5. Create a configuration of the EDIINT Message service for parsing.
6. Configure the EDIINT Message service.
7. Activate your license for one of the following communications services:
 - HTTP Server adapter

- Mail Server adapter
8. Create a URL and set it up to retrieve raw messages.
 9. Assign the business process you created in step 6 to the URL. The business process invokes the EDIINT Message (Parsing) service configuration that you created in step 5 on page 112
 10. Create configurations for the communications services you want to use. Set them up to retrieve raw messages. Add them to the business process you created in step 6.
 11. To determine whether an MDN acknowledgement has been received for an EDIINT message within a specified time period, include the EDIINT Acknowledge Check service in your business process.

Configuring the EDIINT Message Service

To configure the EDIINT Message service, you must specify settings for the following fields in the IBM Sterling B2B Integrator.

Note: Names in parentheses represent the corresponding field names in the GPM. This information is provided for your reference.

Field	Description
Name	Unique and meaningful name for the service configuration. Required.
Description	Meaningful description for the service configuration, for reference purposes. Required.
Select a Group	Select one of the options: <ul style="list-style-type: none"> • None – You do not want to include this configuration in a group at this time. • Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration. • Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.
Action (Action)	Valid value is Parse or Build. Required.
Parse Parameters:	
Don't Build MDN (DontBuildMDN)	Whether to build an MDN. If you set this value to True, the service outputs information that is needed by the EDIINT MDN Building service to process data, but does not actually build the MDN. This gives you the opportunity to change the information, if necessary, before actually calling the EDIINT MDN Building service. Valid values are True and False (default). Required. Note: If you set this value to True, it will take precedence over Put MDNs In Business Document Context . Do not set both Don't Build MDN and Put MDNs In WFC to True.
Require Addresses (RequireAddresses)	Valid value is Yes or No. Required. <ul style="list-style-type: none"> • Yes – Service fails if a contract for an inbound message cannot be looked up. • No – Service attempts to parse a message, and if successful, tries to run the default business process.
Default Data business process (if not requiring addresses) (DefaultDataWorkflow)	Name of a business process to run if No is selected for Require Addresses and no contract has been found for an inbound message. Required if not requiring addresses.
SMTP MDN business process (SMTPMDNWorkflow)	Name of the business process for sending SMTP MDNs. If you are using AS1, you must select a business process from the list. Required.

Field	Description
HTTP Synchronous MDN business process (HTTPSYNCDNWorkflow)	Name of the business process for sending synchronous HTTP MDNs. If you are doing AS2 with synchronous MDNs, you must select a business process from the list. Required.
HTTP Asynchronous MDN business process (HTTPASYNMDNWorkflow)	Name of a business process for sending asynchronous HTTP MDNs. If you are using AS2 with asynchronous MDNs, you must select a business process from the list. Required.
Put documents in business process context (PutDocsInWFC)	Put business documents extracted from messages after parsing into the current business process context. Valid values are Y and N (default). Optional.
Put MDNs in business process context (PutMDNsInWFC)	Put MDNs created after parsing messages into the current business process context. Valid values are Y and N (default). Optional.
Put MDNs in Business Process Context (PutMDNsInBusinessProcessContext)	Put MDNs created after parsing messages into the current business process context. Valid values are True and False. Default is False. Required.
Use supplied contract (UseSuppliedContract)	Use if you do not want the service to look up a contract for parsing, but to expect one to be supplied in process data when the service runs. Valid values are Yes and No (default). Optional. Note: If you must use duplicate contracts, you need to force the EDIINT Message service to not look up the contract information by choosing No for this parameter.
Process duplicate messages (ProcessDuplicateMessages)	Send business data from messages with duplicate message IDs into the IBM Sterling B2B Integrator. Valid values are Yes and No (default). Optional. Note: If you select Yes, you may receive duplicate data.
Update expired messages (UpdateExpiredTransactions)	Whether to update the status of EDIINT transactions that currently have a status of Expired when an acknowledgement is received. Valid values are Yes and No (default). Optional. Note: If you select No, and an MDN arrives for an expired transaction, status information is placed in the additional data field of the transaction record.
Build Parameter:	
Contract ID (b2b-contract-id)	Identification of a contract containing information for building messages. This field is required to build EDIINT messages. It is not available if you select Parse.

Chapter 23. EDIINT Pipeline Service

The following table provides an overview of the EDIINT Pipeline service:

System name

EDIINTPipelineService

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > EDIINT

Description

Electronic Data Interchange-Internet Integration (EDIINT) includes a family of protocols developed by the Internet Engineering Task Force (IETF) for securely transporting messages containing business data over the Internet, using MIME packaging types.

The EDIINT Pipeline service builds and parses EDIINT AS2 messages, including plain text, signed, compressed, and encrypted data. It also generates Message Disposition Notifications (MDNs) and launches a business process to send them. The EDIINT Pipeline service can build and parse large documents greater than 2 GB. The EDIINT Pipeline service also builds and parses messages that conform to the AS2 multiple attachment draft specification.

Note: IBM Sterling B2B Integrator also includes the EDIINT Message service, which builds and parses both EDIINT AS1 and EDIINT AS2 messages, but does not have the large file building and parsing capabilities of the EDIINT Pipeline service. EDIINT Pipeline service is the replacement for the EDI Message service if you need to handle unlimited file sizes or many large messages.

Additionally, when this service is configured to not build MDNs (the **Build MDNs** parameter is set to **No**), this service propagates MDN building information to business processes launched to extract data.

The following information is also propagated by this service: information needed by the EDIINT MDN Building service to build an MDN and the name of the business process configured for sending the MDN on the requested protocol.

Business usage

You can use this service in two ways by embedding it in a business process:

1. To parse EDIINT AS2 messages.
2. To build EDIINT AS2 messages, which can then be sent to a trading partner.

Usage examples

See "Business Process Examples" on page 123.

Preconfigured?

Configurations of the EDIINT Pipeline service for building and parsing messages are installed with the IBM Sterling B2B Integrator.

Requires third party files?

- TrustpointAll.jar and TrustpointProviders.jar files from SecurityBuilder PKI-J 3.1 provided by Certicom.

- EccpressoAll.jar file from SecurityBuilder Crypto-J 2.3 provided by Certicom.

Platform availability

All supported application platforms

Related services

- EDIINT Acknowledge Check service. Use this service when MDNs are expected for messages built with the EDIINT Pipeline service.
- EDIINT Message service
- EDIINT MDN Building service
- EDIINT Header Scanning service

Application requirements

You must create appropriate profiles, communications adapter configurations, and business processes for returning MDNs (parsing only).

Initiates business processes?

This service invokes business processes for building and sending messages and either after looking up an appropriate contract or being configured to launch a specific process when contracts are not required. When this service is used to build an EDIINT message, typically new business processes are not launched.

Invocation

This service is typically invoked within a business process which has been started by the HTTP Server adapter when configured to parse EDIINT messages. Typically, you would invoke the service directly from a business process when using it to build an EDIINT message.

Returned status values

Success, Failure

Restrictions

- You must have profiles and contracts configured for the trading partner.
- You must have the HTTP Server adapter configurations that pass inbound messages to this service configured to send raw messages.

Persistence level

None

Testing considerations

To test and verify that the EDIINT Pipeline service can parse an AS2 message:

1. Capture a copy of the EDIINT messages being received from the trading partner. Do this by inserting a configuration of the File System adapter immediately before the EDIINT Pipeline service in the business process used to process AS2 messages received from a trading partner. Configure the File System adapter to save the captured EDIINT message to a file on disk, where you can examine it later.
2. To replay this captured message, create a separate test business process and configure a File System adapter to retrieve the saved message from the previous step. As the next step in the business process, use the EDIINT Pipeline service to parse the replayed message. This mimics the process of receiving and processing an AS2 message.

By default the EDIINT Pipeline service ignores duplicate messages (as identified by the embedded Message-ID header.) To change this behavior

for testing, edit the Message-ID header in the message (using a binary editor) and change it to a unique value each time this message is replayed in step (2) above.

When to Use the EDIINT Pipeline Service

The EDIINT Pipeline service and EDIINT Message service perform similar functions, but there are some situations where one or the other should be used.

- Use the EDIINT Pipeline service if:
 - You need to build or parse large (greater than 2 GB) AS2 messages.
 - You need to build or parse messages with multiple AS2 attachments.
 - You need to build or parse many large messages concurrently.
- Use the *EDIINT Message service* if you are building or parsing AS1 messages. The EDIINT Pipeline service does not support AS1 messages.

How the EDIINT Pipeline Service Works

Use the EDIINT Pipeline service to build or parse an EDIINT message. The EDIINT Pipeline service constructs a “pipeline” that consists of a set of nested data transformers, one for each MIME entity in the stack of messages. To build AS2 messages with multiple attachments, the EDIINT Pipeline service accepts an XML structure that describes the set of attachment documents and document properties. The EDIINT Pipeline service then uses the XML structure to build a multipart related MIME entity that contains the attachment documents.

When parsing messages, the EDIINT Pipeline service handles the payload documents in two ways, depending on how it is configured: it can launch the business process specified in the contract used to parse the message with the payload document as the primary document or it can add the payload document to the current business process context. The default behavior is to launch the business process that is specified in the contract used to parse the message with the payload document as the primary document. When parsing a message with multiple attachments that conforms to the AS2 specification for multiple attachments, the EDIINT Pipeline service outputs enough information to ProcessData so the services or processes occurring after this service is run can determine whether the attachments are related and came from the same AS2 message.

Several predefined AS2 business processes use the EDIINT Pipeline service, as opposed to the older EDIINT Message service. The EDIINT Pipeline service has the same functional behavior as the older service, but it implements streaming to allow for the handling of larger documents. The following packaged business processes were updated:

- AS2SendASyncMDN
- AS2SendNoMDN
- AS2SendSyncMDN
- MailboxAS2SendAsyncMDN
- MailboxAS2SendNoMDN
- MailboxAS2SendSyncMDN
- EDIINTParse

Note: If you have customized any of the attached business processes, then you will need to add your modifications to the updated business processes after installing the build. Your customized business process is not lost, but the updated business processes are set to the default.

How the EDIINT Pipeline Service Works In Parse Mode

The EDIINT Pipeline service parses an EDIINT message in the following sequence of events. The EDIINT Pipeline service:

1. Receives a message
2. Determines the origin of the message
3. Determines the intended receiver of the message
4. Extracts header information about the type of notification requested (if any)
5. Tries to look up a contract to get profile information and keys in the database so it can process the message
6. Evaluates the message components
7. Decrypts encrypted information
8. Verifies any signatures
9. Breaks the message down to the level of the data payload (business document)
10. Sends the data payload (business document) to the business process specified in the contract
11. Returns an MDN back to the sender of the EDIINT message, either synchronously or asynchronously as requested by the sender.

How the EDIINT Pipeline Service Works In Build Mode

The EDIINT Pipeline service builds an EDIINT message in the following sequence of events.

Note: The EDIINT Message Service has limitations on message size. The maximum size is less than the available memory in most cases. The exception is when parsing messages that are signed after compression when using file system buffering. To handle messages of unlimited size or to handle several large messages concurrently, use the EDIINT Pipeline service.

The EDIINT Pipeline service does the following:

Note: The EDIINT Pipeline Service uses the HTTPClientSend process to send back the asynchronous MDN, which has been updated to have a default response timeout for this purpose, and which uses the HTTP Client adapters.

1. Invoke the EDIINT Pipeline service with the EDI purchase order document.
2. EDIINT Pipeline service looks up the contract established with the trading partner to determine the security attributes to use when creating the EDIINT message.
3. EDIINT Pipeline service returns the newly created EDIINT message to the business process.
4. Business process invokes an HTTP client adapter to deliver the EDIINT message.
5. If a synchronous MDN is expected for this request, the HTTP response is parsed with the EDIINT Pipeline service.

6. Business process invokes the EDIINT Acknowledge Check service to confirm that the expected MDN has been received.

Implementing the EDIINT Pipeline Service

To implement the EDIINT Pipeline service for use in a business process, first determine whether you want to build or parse EDIINT AS2 messages (or both), and then complete the following processes, as appropriate.

Implementing the EDIINT Pipeline Service to Build Messages

To implement the EDIINT Pipeline service to build EDIINT messages, complete the following tasks:

1. Activate your license for the EDIINT Pipeline service. For information, see *Obtaining a License File*.
2. Create two trading profiles: one to represent a consumption profile and one to represent a production profile:
 - One trading profile should include your IDs and keys.
 - The second trading profile should include the ID for the trading partner and certificates.
3. Create a contract for sending EDIINT messages to a trading partner. Assign the information for trading partner to the consumption profile, and assign your information to the production profile.
4. Create an EDIINT Pipeline service configuration (selecting the Build action), and assign it the appropriate contract. You can also modify the **EDIINTPipelineBuild** predefined service instance.

Note: For every contract you create for sending EDIINT messages, you can assign the contract in BPML. The Sterling B2B Integrator AS2 Edition reuses the same service instances for many contracts. However, you can assign the contract as a service instance parameter if you want to use a dedicated service instance for a specific contract.

5. Activate your license for the HTTP Client adapter.
6. Create a configuration of the HTTP Client adapter and assign it the appropriate contract name.

Note: It is not necessary to configure the communications services for outbound transport. The EDIINT Pipeline service communicates the information about where to send the message to the appropriate communications service by providing the appropriate transport information from the trading profile.

7. Create a business process that:
 - Invokes the EDIINT Pipeline service configuration that you created to build EDIINT messages.
 - Invokes the communications service you configured to send the messages.
 - Uses the EDIINT Acknowledge Check service to wait for any acknowledgement.
8. To indicate whether an MDN acknowledgement has been received for an EDIINT message within a specified time period, include the EDIINT Acknowledge Check service in your business process.

Note: If you are using AS2 with synchronous MDNs, this business process must also include a step that uses a configuration of the EDIINT Pipeline service for parsing after the send action.

Implementing the EDIINT Pipeline Service to Parse Messages

To implement the EDIINT Pipeline service to parse EDIINT messages, complete the following tasks:

1. Activate your license for the EDIINT Pipeline service. For information, see *Obtaining a License File*.
2. Create business processes for sending synchronous or asynchronous HTTP MDNs. These simple business processes invoke configurations of the HTTP Server adapter or HTTP Client adapter.
3. Create a contract for receiving and parsing messages.
 - The consumption profile represents your organization.
 - The production profile represents your trading partner.
4. Create a configuration of the EDIINT Pipeline service for parsing.
5. Configure the EDIINT Pipeline service. You can also modify the **EDIINTPipelineParse** predefined service instance.
6. Activate your license for the HTTP Server adapter.
7. Create a business process for parsing that invokes the EDIINT Pipeline service configuration that you created in step 4
8. Create a URL and set it up to retrieve raw messages.
9. Assign the business process you created in step 7 to the URL. The business process invokes the EDIINT Pipeline (Parsing) service configuration that you created in step 4
10. Create configurations for the HTTP Server adapter. Set them up to retrieve raw messages. Add them to the business process you created in step 7.
11. To determine whether an MDN acknowledgement has been received for an EDIINT Pipeline within a specified time period, include the EDIINT Acknowledge Check service in your business process.

Configuring the EDIINT Pipeline Service

To configure the EDIINT Pipeline service, you must complete the following steps:

1. Select **Deployment > Services > Configuration**.
2. Search for the EDIINT Pipeline service or select it from the list and click **Go!**
3. Click **Edit**.
4. Specify field settings in the Admin Console (Creating or Setting up a Service Configuration in the Admin Console).
5. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected and click **Finish**.

Creating or Setting Up a Service Configuration in the Admin Console

To configure the EDIINT Pipeline service, you must specify settings for the following fields in the IBM Sterling B2B Integrator user interface one time only.

Field	Description
-------	-------------

Name	Unique and meaningful name for the service configuration. Required.
-------------	---

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – You do not want to include this configuration in a group at this time.
- Create New Group – You can enter a name for a new group in this field, which will then be created along with this configuration.
- Select Group – If you have already created one or more groups for this service type, they are displayed in the list. Select a group from the list.

Optional.

Action

Valid values are Parse or Build. Required.

Parameters for Parse action:**Require Addresses**

Required. Valid values are:

- Yes – Service fails if a contract for an inbound message cannot be looked up (default)
- No – Service attempts to parse a message, and if successful, tries to run the default business process.

Default Data Business Process (If not requiring addresses)

Name of a business process to run if No is selected for **Require Addresses** and no contract has been found for an inbound message. Must be the name of a business process. Required if **Require Addresses** is set to No.

SMTP MDN Business Process

The name of the business process for sending SMTP MDNs. If you are using AS1, you must select a business process from the list. Required.

HTTP Synchronous MDN Business Process

Name of the business process for sending synchronous HTTP MDNs. If you are using AS2 with synchronous MDNs, you must select a business process from the list. Required.

HTTP Asynchronous MDN Business Process

Name of a business process for sending asynchronous HTTP MDNs. If you are using AS2 with asynchronous MDNs, you must select a business process from the list. Required.

Build MDNs

Whether to build an MDN. If you set this value to **Yes**, the service outputs information that is needed by the EDIINT MDN Building service to process data, but does not actually build the MDN. This gives you the opportunity to change the information, if necessary, before actually calling the EDIINT MDN Building service. Valid values are Yes and No (default). Required.

Note: If you set **Build MDNs** to No, it will take precedence over **Put MDNs in business process context**. Do not set both Build MDNs and Put MDNs In business process context to No.

Put documents in business process context

Put business documents extracted from messages after parsing into the current business process context. Valid values are Yes and No. Default is No. Required.

Put MDNs in business process context

Put MDNs created after parsing messages into the current business process context. Valid values are Yes and No. Default is No. Required.

Note: If you set **Build MDNs** to No, it will take precedence over **Put MDNs in business process context**. Do not set both Build MDNs and Put MDNs In business process context to No.

Use supplied contract

Use if you do not want the service to look up a contract for parsing, but to expect one to be supplied in process data when the service is invoked. Valid values are Yes and No. Default is No. Required.

Process duplicate messages

Send business data from messages with duplicate message IDs into the IBM Sterling B2B Integrator. Valid values are Yes and No. Default is No. Required.

Note: If you select Yes, you may receive duplicate data.

Note: Deferred extraction must not be enabled if duplicate suppression (Process Duplicate Messages) is enabled. Conversely, if deferred extraction is enabled, duplicate suppression (Process Duplicate Messages) must not be enabled. These two features are mutually exclusive.

If you want to enable duplication suppression, locate the appropriate entry in the **ediint.properties** file. Copy the entry and paste it into the **customer_overrides.properties** file, and set the property to YES. After you change the rule and save the customer_overrides.properties file, you must restart the IBM Sterling B2B Integrator for the changes to take effect.

Update expired messages

Whether to update the status of EDIINT transactions that currently have a status of Expired when an acknowledgement is received. Valid values are Yes and No. Default is No. Required.

Note: If you select No, and an MDN arrives for an expired transaction, status information is placed in the additional data field of the transaction record.

Pipeline timeout (Seconds)

Maximum processing time for a request before it is timed out. Default is 1800 (seconds). Required.

Parameter for Build action:**Contract ID**

The ID of a contract containing information for building messages. Must be the ID of an existing contract. Optional.

Output Messages

The parameters that can be assigned by the service in the business process context (when building messages or MDNs) are listed below:

- B2B-message-mode: (always send for now)

- B2B-raw-message: (always to true)
- B2B-contract-id: (ID of the contract used to build the message)
- B2B-want-response: (always true)
- B2B-raw-response: (true for HTTP synchronous MDNs only)
- xport-B2B-mode: on

Business Process Examples

The following example business processes illustrate using the EDIINT Pipeline service:

Example 1: Using the EDIINT Pipeline service to build messages:

```
<operation>
  <participant name="EDIINTBuild"/>
  <output message="noopout">
    <assign to="." from="*" />
    <assign to="Action">build</assign>
  </output>
  <input message="noopin">
    <assign to="." from="*" />
  </input>
</operation>
```

Example 2: Using the EDIINT Pipeline service to parse messages. This example enables the processing of duplicate messages and assumes that the service instance has been configured for parsing when created:

```
<process name="EDIINTParsePipelineAS2">
  <sequence>
    <operation name="Parse">
      <participant name="EDIINTPipelineService"/>
      <output message="noopout">
        <assign to="." from="*"></assign>
        <assign to="ProcessDuplicateMessages">true</assign>
      </output>
      <input message="noopin">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>
```

Chapter 24. Generic Deenvelope Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the Generic Deenvelope service:

System name

GenericDeenvelope

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

Parses a SWIFT, CHIPS, Fedwire, TRADACOMS, VDA, or RND envelope; checks it for compliance; and extracts the transaction sets that it contains so they can be further processed by the IBM Sterling B2B Integrator.

Note: In previous releases, the document lifespan default was zero so that when the workflow expired, all associated documents were purged/archived with the workflow. Now the lifespan is configurable for documents awaiting acknowledgement (the default is 30 days) and standards that use the Generic Deenvelope and Generic Envelope services. You can change the default lifespan by editing the **document.lifespan** property in the **enveloping.properties** file. The document lifespan of the outbound document is automatically reset to zero after the acknowledgement for the document is received or if the user manually accepts the acknowledgement.

Business usage

Used within the SWIFT Deenvelope, CHIPS Deenvelope, Fedwire Deenvelope, TRADACOMS Deenvelope, VDADeenvelope, and RNDDeenvelope business processes to deenvelope the data.

Note: The Generic Deenvelope service assumes that SWIFT expects a starting CRLF (carriage return/line feed) but not an ending CRLF.

Usage example

A typical scenario is one where SWIFT, CHIPS, Fedwire, TRADACOMS, VDA, or RND data must be received from a trading partner. The data must be deenveloped in order to extract identifying batch and interchange data. The SWIFT Deenvelope, CHIPS Deenvelope, Fedwire Deenvelope, TRADACOMS Deenvelope, RNDDeenvelope, or VDADeenvelope business process calls GenericDeenvelope to provide these enveloping services.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Invocation

Currently run only by the SWIFT Deenvelope, CHIPS Deenvelope, Fedwire Deenvelope, TRADACOMS Deenvelope, RNDDeenvelope, and VDADeenvelope business processes.

Business process context considerations

Translation occurs using the SWIFT_Deenvelope, CHIPS_Deenvelope, Fedwire_Deenvelope, TRADACOMS_Deenvelope, RNDDeenvelope, or VDA_Deenvelope map. That map updates ProcessData with the SenderId, ReceiverId, MessageType, EnvelopeType, and ControlNumber. The service extracts this information from ProcessData using the business process context and finds the associated envelope definition. The envelope definition provides the name of another map used for compliance checking and translation.

Document Tracking Levels and Performance

You can improve EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance improvement is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM; it must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document

Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Setting Description

- none** Provides the best EDI performance with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking, and EDI Reporting are nonfunctional.
- basic** Provides a good EDI performance while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking, and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking, and EDI Reporting are fully functional.

Adding Translation Map Name to Process Data

The Generic Deenvelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The Generic Deenvelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Splitting Documents in a Delimited EDI File

When you use the Document Extraction service to split documents in a delimited EDI file, only one set of delimiters is supported. The input file cannot contain multiple documents that each use a different set of delimiters. Therefore, if you have multiple documents using different delimiters, you must first send the data through the EDI Deenvelope service (in Document mode) to split out the individual documents that use differing delimiters. When you invoke the EDI Deenvelope service, the Mode service parameter must be set to Document. This instructs the EDI Deenvelope service not to bootstrap a business process after it finishes splitting the input file. You must also update the customer_overrides.properties file to include the START and END tag of the documents to be extracted, as well as the delimiters (or the location of delimiters) to use.

Chapter 25. Generic Envelope Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the Generic Envelope service:

System name

GenericEnvelope

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

Applies a SWIFT, CHIPS, Fedwire, TRADACOMS, RND, or VDA envelope to the set of transaction set messages that it receives as input, according to the envelope definition contained in the EDI State extension of the messages that were originally placed on the enveloping business process.

Note: In previous releases, the document lifespan default was zero so that when the workflow expired, all associated documents were purged/archived with the workflow. Now the lifespan is configurable for documents awaiting acknowledgement (the default is 30 days) and standards that use the Generic Deenvelope and Generic Envelope services. You can change the default lifespan by editing the **document.lifespan** property in the **enveloping.properties** file. The document lifespan of the outbound document is automatically reset to zero after the acknowledgement for the document is received or if the user manually accepts the acknowledgement.

Business usage

Used within the SWIFT Envelope, CHIPS Envelope, Fedwire Envelope, TRADACOMS Envelope, RNDEnvelope, and VDAEnvelope business processes to envelope the EDI transactions contained in the business process context with SWIFT/CHIPS/Fedwire/TRADACOMS/VDA/RND envelopes that have been preconfigured and saved as translation maps in the IBM Sterling B2B Integrator.

Note: The Generic envelope service assumes that SWIFT expects a starting CRLF (carriage return/line feed) but not an ending CRLF.

Usage example

A typical scenario is one where SWIFT, CHIPS, Fedwire, TRADACOMS, RND, or VDA data must be sent to a trading partner. In preparation of this, the data must be enveloped in order to provide identifying batch and interchange data. The SWIFT Envelope, CHIPS Envelope, Fedwire Envelope, TRADACOMS Envelope, RNDEnvelope, or VDAEnvelope business process calls GenericEnvelope to provide these enveloping services.

Preconfigured?

Yes

Platform availability

All supported application platforms

Related services

No

Application requirements

No

Invocation

Currently run only by the SWIFT Envelope, CHIPS Envelope, Fedwire Envelope, TRADACOMS Envelope, RNDEnvelope, and VDAEnvelope business processes.

Notes Output messages:

- No_Documents_To_Envelope – If EDIEncoder is not run prior to running EnvelopeGeneric service
- EnvelopeMapName cannot be null – If EnvelopeMapName parameter is not defined in the envelope definition
- No_Envelope_Defined – If the envelope defined has a Sender ID, Receiver ID, or AcceptorLookupAlias different from that in the EDIEncoder step of the business process
- Document Translation Error – If the document translation step produced errors
- Envelope Translation Error – If the envelope translation step produced errors

Document Tracking Levels and Performance

You can improve EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance improvement is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search

- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM; it must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Setting Description

- none** Provides the best EDI performance with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking, and EDI Reporting are nonfunctional.
- basic** Provides a good EDI performance while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking, and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking, and EDI Reporting are fully functional.

Adding Translation Map Name to Process Data

The Generic Envelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The Generic Envelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 26. Image Cash Letter Join Service

The Image Cash Letter Join service inserts variable length binary images (Type52 records) into Image Cash Letter documents. This service is typically used after translation to join the binary images previously split out by the Image Cash Letter Split service.

Note: This service does not enforce or validate the standard.

The following table provides an overview of the Image Cash Letter Join service:

System name

ImageCashLetterJoin

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

The default behavior is to read through the PrimaryDocument looking for binary image data placeholder records (inserted by the Image Cash Letter Split service) and, if found, join the corresponding binary image back into the Image Cash Letter document. Alternatively, this service can be used to insert binary images based on truncated Type52 records (only contains fields 1-17).

Preconfigured?

A configuration of this service is created when the product is installed.

Platform availability

All supported Sterling B2B Integrator platforms

Related services

Image Cash Letter Split service

Application requirements

No

Initiates business processes?

None

Invocation

Runs as part of a business process.

Returned status values

- Success (this status value is returned if the service successfully joined the binary images into the document)
- Error (see below for list of errors)
 1. Not licensed for use
 2. No Primary Document or zero bytes
 3. No Placeholder records found
 4. No Type52 records found
 5. Missing Type52 record for image
 6. Missing Type52 record after Type50
 7. Invalid record length
 8. Image document not found

Restrictions

No

Implementing the Image Cash Letter Join Service

To implement the Image Cash Letter Join service, you just need to use the Image Cash Letter Join service in a business process.

Parameters Passed From Business Process to Service

The following table contains the parameters passed from the business process to the Image Cash Letter Join service:

join_bufferSize

This is the size of the buffer for reading data. If not specified, the default is 2048.

join_encoding

This specifies the encoding of the input PrimaryDocument. If not specified, the PrimaryDocument encoding is used (if set) or the system default is used.

join_inputRecLen

This indicates whether the input PrimaryDocument contains a record length for each record. If not specified, it defaults to true (indicating that the input contains the record length).

Note: The record length is always written to the output PrimaryDocument.

join_inputRecSepNum

This indicates whether the input PrimaryDocument contains record separators. If not specified, the default is zero (no separators). This behavior can be overridden by changing the value of this parameter (for example, if the file uses CR/LF record separator, set this parameter to join_inputRecSepNum=2).

join_outputRecSeps

This indicates whether each record written to the output PrimaryDocument will be followed by a record separator. If not specified, the default is none (no record separators). If you want each record written with a record separator, you must do so using two-byte hex characters (for example, join_outputRecSep='0D0A' indicates the separator used is the carriage return/line feed).

join52 This indicates whether the service looks for placeholder records or Type52 records for image replacement. If not specified, it defaults to false, which instructs the service to look for placeholder records previously inserted by the Image Cash Letter Split service. If you want the service to use Type52 records, you must set this parameter to true. Furthermore, the Type52 records must contain fields 1-17 only and this service will fill in field18 (length of image data) and field19 (the image data). The images to be joined using the "join52=true" option must be in the ProcessData tree as follows:

```
<ProcessData>
<Images>
<Image1/>
<ImageN/>
</Images>
</ProcessData>
```

errorIfNothingToJoin

This determines whether an error is returned if no placeholder or Type52 records are found in the PrimaryDocument. The default is true (return an error if no placeholder or Type52 records are found), unless otherwise specified.

Chapter 27. Image Cash Letter Split Service

The Image Cash Letter Split service removes variable length binary images (Type52 records) from Image Cash Letter documents. This service is typically used before translation.

Note: This service does not enforce or validate the standard.

The following table provides an overview of the Image Cash Letter Split service:

System name

ImageCashLetterSplit

Graphical Process Modeler (GPM) categories

All Services, EDI

Description

Removes variable length binary images (Type52 records) from Image Cash Letter documents. This service is typically used before translation and it replaces the Type52 record with a fixed length placeholder record that begins with |CheckImage followed by a number of the image file created in ProcessData (for example, |CheckImage1, |CheckImage2, and so forth). This default behavior can be changed to strip Type52 records and the image data separately by setting the workflow parameter split52=true. In this case, the textual portion of the record is added as an attribute of the image document.

Preconfigured?

A configuration of this service is created when the product is installed.

Platform availability

All supported Sterling B2B Integrator platforms

Related services

Image Cash Letter Join service

Application requirements

No

Initiates business processes?

None

Invocation

Runs as part of a business process.

Returned status values

- Success (this status value is returned if the service successfully joined the binary images into the document)
- Error (see below for list of errors)
 1. Not licensed for use
 2. No Primary Document or zero bytes
 3. Unexpected record type
 4. Invalid record length
 5. Image document not found

Restrictions

No

Implementing the Image Cash Letter Split Service

To implement the Image Cash Letter Split service, you just need to use the Image Cash Letter Split service in a business process.

Parameters Passed From Business Process to Service

The following table contains the parameters passed from the business process to the Image Cash Letter Split service:

split_bufferSize

This is the size of the buffer for reading data. If not specified, the default is 2048.

split_encoding

This specifies the encoding of the input PrimaryDocument. If not specified, the PrimaryDocument encoding is used (if set) or the system default is used.

split_inputRecSepNum

This indicates whether the input PrimaryDocument contains record separators. If not specified, the default is zero (no separators). This behavior can be overridden by changing the value of this parameter (for example, if the file uses CR/LF record separator, set this parameter to `split_inputRecSepNum=2`).

split_outputRecSeps

This indicates whether each record written to the output PrimaryDocument will be followed by a record separator. The default record separator used is hex 0x0A(line feed). If you want to specify a different record separator, you must do so using two-byte hex characters (for example, `split_outputRecSeps="0D0A"` indicates the separator used is carriage return/line feed).

split_outputRecLen

This indicates whether the record lengths will be written to the output PrimaryDocument for each record. If not specified, it defaults to true (the record lengths are written to the output PrimaryDocument for each record).

split52

This specifies whether the Type52 record is removed from the PrimaryDocument as one entity. If not specified, it defaults to false. If you want the Type 52 record and image data removed separately, you must set this parameter to true (which will add the textual portion of the record as an attribute of the image document).

errorIfNothingToSplit

This determines whether an error is returned if no Type52 records are found in the PrimaryDocument. The default is true (return an error if no Type52 records are found), unless otherwise specified.

Chapter 28. Map Test Service

The Map Test service runs only in concert with the Sterling B2B Integrator Map Editor to enable you to remotely test a compiled map (.txo file) from a client machine prior to checking the map in to the IBM Sterling B2B Integrator server.

The following table provides an overview of the Map Test service:

System Name

MapTestService

Graphical Process Modeler (GPM) categories

All Services

Description

This service accepts a message containing a compiled map and associated data, runs the data through translation, and returns a translation report and output data to the user.

Business usage

This service is used by the Map Test feature of the Sterling B2B Integrator Map Editor to allow testing of a map from the client machine without having to check the map into the IBM Sterling B2B Integrator.

Note: Although you can run this service from the client, the actual map is executed on the IBM Sterling B2B Integrator Server. We recommend testing maps only against Test of Development systems, not against the IBM Sterling B2B Integrator production system.

Usage example

A User runs the Map Test feature to remotely test a compiled map (.txo) from a client machine prior to checking the map in to the IBM Sterling B2B Integrator server, to ensure that the map translates data correctly and efficiently, prior to executing the map in a Production environment.

Preconfigured?

Yes

Requires third party files?

None

Platform availability

All supported application platforms.

Related services

SOAP service, HTTP Server adapter, Translation service

Application requirements

None

Initiates business processes?

No

Invocation

Used internally by the IBM Sterling B2B Integrator; invoked by the Sterling B2B Integrator Map Editor Map Test feature on the client.

Business process context considerations

None

Returned status values

Success

Error

Restrictions

If you have not configured your operating system to specify default programs to open .txt and .xml files, the test result files may not be automatically displayed. If this is the case, however, you can locate and open the files using the file/path location.

Persistence level

System default

Testing considerations

None

How the Map Test Service Works

When you use the Map Test service, the Sterling B2B Integrator Map Editor takes a compiled map (translation object) and a data file to run with the map, and loads both the translation object and the data file into an XML SOAP message. When the Map Test service runs, it is visible in the IBM Sterling B2B Integrator current processes interface.

Using HTTP, the Map Test client posts the XML SOAP message to the Map Test service. The Map Test service submits the SOAP message to the SOAP service (inbound or outbound), and the SOAP service disassembles the message and returns the translation object and associated data back to the Map Test service.

Note: You need to enable or start the Map Test service; by default it is disabled.

The Map Test service then submits the translation object and the data to the Translation service, which runs translation using the supplied translation object and data, and returns the output data and a translation report to the Map Test service.

The Map Test service loads the translation report and output data into another XML SOAP message and sends it to the client using the HTTP Server adapter. Then the Sterling B2B Integrator Map Editor disassembles the SOAP message and presents the user with the translation report (in XML format) and the output translation data. If there is no translation report, the Sterling B2B Integrator Map Editor returns a file stating that no translation report is available.

Implementing the Map Test Service

Note: You do not need to create a configuration of the Map Test service. However, since the default is for the service to be disabled, you do need to enable it to use the Map Test feature. That is, in the **translator.properties** file the **maptest.MaptestServiceEnabled** property is set to False by default. If you do not set the value to True using the Customer Override feature (explained below), the service will not accept any map test requests.

You can turn off the Map Test service to prevent users who have access to a trading partner's application system from attempting to use the Map Test feature to run translation on that trading partner's system. Turning off the Map Test service prevents the possible execution of JDBC maps which could access production data. IBM Sterling B2B Integrator supports the use of a customer override property file

to override property settings in the property files. The customer override property file is not changed during installation of the IBM Sterling B2B Integrator upgrades or patches. To prevent having your customized settings overwritten, you should use the customer override property file whenever possible rather than editing the IBM Sterling B2B Integrator property files directly.

To enable the Map Test service, complete the following tasks:

Note: If the Map Test service is disabled by the **translator.properties** entry, an error message returned to the client and is presented to the user in a format like the translator report.

1. In the *install_dir*/properties directory, locate (or create, if necessary) the **customer_overrides.properties** file.
2. Open the **customer_overrides.properties** file in a text editor.
3. Add the property you want to override, using the following format:
translator.maptest.MaptestServiceEnabled=true
4. Save and close the **customer_overrides.properties** file.
5. Stop and restart the IBM Sterling B2B Integrator to use the new values.
6. Test your changes to ensure that the overrides give the desired results. If you have problems, contact IBM Customer Support for assistance.

Chapter 29. RosettaNet Message Builder Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the RosettaNet Message Builder service:

System name

RNIF20MessageBuilder

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > RosettaNet

Description

Constructs RNIF 1.1 and 2.0 message from documents and data stored in the business process context. Uses standard trading profile objects to encrypt or sign message if necessary.

Business usage

Required to build properly formatted RosettaNet RNIF 1.1 or 2.0 messages.

Usage example

Runs by RosettaNet PIP business processes.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

No

Initiates business processes?

No

Invocation

Runs by RosettaNet PIP business processes.

Business process context considerations

No

Returned status values

- Success – RosettaNet RNIF message built without error
- Error – RosettaNet RNIF message build error. Status report will contain error details.

Restrictions

No

Testing considerations

Turn on the RosettaNet logger to see debug messages.

Chapter 30. RosettaNet Message Parser Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the RosettaNet Message Parser service:

System name

RNIF20MessageParser

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > RosettaNet

Description

Parses an RNIF 1.1 or 2.0 message, storing the extracted headers in process data, and places service content and attachments as the body of the IBM Sterling B2B Integrator documents. This service uses standard trading profile objects to decrypt or verify the message if necessary.

Business usage

Required to parse incoming RosettaNet RNIF 1.1 or 2.0 messages.

Usage example

Runs as part of a RosettaNet PIP business process.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a RosettaNet PIP business process.

Business process context considerations

No

Returned status values

- Success – RosettaNet message parsing was successful
- Error – RosettaNet message parsing failed. The status report and the process data will contain the error details.

Restrictions

No

Testing considerations

Turn on the RosettaNet logger to see debug messages.

How the RosettaNet Message Parser Service Works

The RosettaNet Message Parser service parses an RNIF 1.1 or 2.0 message, storing the extracted headers in process data, and places service content and attachments as the body of the IBM Sterling B2B Integrator documents. Uses standard trading profile objects to decrypt or verify signatures, if necessary. Operates on the primary document.

Implementing the RosettaNet Message Parser Service

There is no implementation required for this service.

Parameters Passed from Service to Business Process

The following table contains the parameters passed from the RosettaNet Message Parser service to a business process:

Field	Description
-------	-------------

ResponseType	
---------------------	--

	Response type contained in message. Valid values are sync and async.
--	--

Preamble	
-----------------	--

	XML containing the Preamble
--	-----------------------------

DeliveryHeader	
-----------------------	--

	XML containing the Delivery Header (RNIF 2.0 only)
--	--

ServiceHeader	
----------------------	--

	XML containing the Service Header
--	-----------------------------------

RNIFReceivedMIMEHeaders	
--------------------------------	--

	XML containing the RNIF 1.1 or 2.0 MIME message headers
--	---

RNIFReceivedMessageInfo	
--------------------------------	--

	Information about the received message (was it encrypted and/or signed?)
--	--

ParseResultCode	
------------------------	--

	Was the parsing successful? Valid values are SUCCESS and ERROR.
--	---

ParseResultDescription	
-------------------------------	--

	Description of the parsing result.
--	------------------------------------

Chapter 31. RosettaNet Message Sending Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the RosettaNet Message Sending service:

System name

RNIF20Send

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > RosettaNet

Description

Sends RosettaNet RNIF 1.1 or 2.0 messages.

Business usage

Required to send RosettaNet RNIF 1.1 or 2.0 messages to a trading partner.

Usage example

Runs as part of a RosettaNet PIP business process.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Related services

RNHTTPAsyncSend business process used to perform an asynchronous HTTP send.

Note: Because of our continuing efforts to improve services and adapters to align with new technology and capabilities, the HTTP Send adapter used in this business process has entered the retirement process in the IBM Sterling B2B Integrator and will be replaced with the HTTP Client Adapter with related services.

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a RosettaNet PIP business process.

Business process context considerations

No

Returned status values

- Success – RosettaNet message successfully sent
- Error – RosettaNet message delivery failed

Restrictions

No

Testing considerations

Turn on the RosettaNet logger to see debug messages.

Chapter 32. RosettaNet Profile Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and its use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the RosettaNet Profile service:

System name

RNProfile

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > RosettaNet

Description

Loads the standard trading profile data as well as RosettaNet Profile data from the configured IBM Sterling B2B Integrator contracts. The data is retrieved from the database and serialized as XML. The XML is returned and can be mapped into process data.

The RosettaNet Message Sending service locates the business process definition name of the HTTP Async transport business process, based on the production trading profile.

Business usage

Used by a RosettaNet PIP process to load the RosettaNet PIP contract profile information.

Usage example

Runs as part of a RosettaNet PIP business process.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a RosettaNet PIP business process.

Business process context considerations

No

Returned status values

- Success – RosettaNet PIP contract lookup succeeded
- Error – RosettaNet PIP contract lookup failed, the contract could not be found

Restrictions

No

Testing considerations

Turn on the RosettaNet logger to see debug messages.

Chapter 33. RosettaNet PIP Tracking Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and its use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the RosettaNet PIP Tracking service:

System name

RNPIPTracking

Graphical Process Modeler (GPM) categories

All Services, Internet B2B > RosettaNet

Description

Manages RosettaNet PIP tracking data

Business usage

Used by other RosettaNet business process to ensure that RosettaNet PIPs execute in the proper order and to add correlation data for RosettaNet messages.

Usage example

Runs as part of a RosettaNet PIP business process.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

No

Initiates business processes?

No

Invocation

Runs as part of a RosettaNet PIP business process.

Business process context considerations

No

Returned status values

N/A

Restrictions

No

Testing considerations

N/A

Chapter 34. Standards Translation Service

The following table provides an overview of the Standards Translation service:

System name

Standards Translation Type

Graphical Process Modeler (GPM) categories

All Services, Translation

Description

Performs translation of the primary document using a specified map, and replaces the primary document with the result of the translation. This service sets correlations to enable EDI tracking and document repair for the standards used with the IBM Sterling B2B Integrator.

Business usage

Performs translation of the primary document within business processes.

Usage example

You want to take positional data from your order system and translate it to variable-length-delimited data so that it can be read by your billing system.

Use the Sterling B2B Integrator Map Editor to create a map that will translate the incoming data from positional data to variable-length-delimited data. Write a business process that will put the data into the primary document, then start the Standards Translation service. Using the map you created, the service translates the data from positional data to variable-length-delimited, and replaces the old data with newly translated data in the primary document.

Preconfigured?

There is a configuration of the service delivered with the IBM Sterling B2B Integrator, but you must configure parameters for it in the GPM.

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

The map specified in the map_name parameter must be registered with the IBM Sterling B2B Integrator and activated. If either of these conditions is not met then the translation will not be performed.

Initiates business processes?

No

Invocation

Runs as part of a business process.

Business process context considerations

The Standards Translation service looks for the following parameters in the business process context. If the service finds them, it uses them during translations where either the input or output is EDI:

- edi_output_tag_delimiter

- edi_output_segment_delimiter
- edi_output_element_delimiter
- edi_output_sub_element_delimiter
- edi_output_repeating_element_delimiter
- edi_output_release_character
- edi_output_decimal_separator
- edi_input_tag_delimiter
- edi_input_segment_delimiter
- edi_input_element_delimiter
- edi_input_sub_element_delimiter
- edi_input_repeating_element_delimiter
- edi_input_release_character
- edi_input_decimal_separator

Returned status values

- Success – Translation was successful.
- Error – Errors were encountered during translation or translation could not be performed. See the Translator report contained in the Business Process Context Status report for further detail.

Restrictions

No

Persistence level

None

Testing considerations

The best way to test is within a simple business process where the Standards Translation service is the only operation. After the business process runs, verify the output in the IBM Sterling B2B Integrator, and review the translator report for detail on what occurred during the translation.

How the Standards Translation Service Works

The Standards Translation service translates data in the following file formats and sets correlations to enable EDI tracking and document repair:

- Electronic data interchange (EDI)
- Positional
- Variable-length-delimited
- Extensible Markup Language (XML)
- Structured Query Language (SQL)
- Japanese Center for Informatization of Industry (CII)

Note: If the input document character encoding is specified in the IBM Sterling B2B Integrator, it overrides the encoding specified in the map. The output document content type and character encoding are set based on the information contained in the map.

The Standards Translation service creates a translation report.

Implementing the Standards Translation Service

To implement the Standards Translation service, complete the following tasks:

1. Activate your license for the Standards Translation service.
2. If you are using a map that has a database on the output side, you must set up a connection to the database that contains the tables you want to access.
3. Create a Standards Translation service configuration.
4. Configure the Standards Translation service. See “Configuring the Standards Translation Service.”
5. Use the Standards Translation service in a business process.

Configuring the Standards Translation Service

To configure the Standards Translation service, you must specify settings for the following fields in the GPM:

Field	Description
-------	-------------

Config	Name of the service configuration.
---------------	------------------------------------

edi_input_decimal_separator	Character used to indicate the decimal point on the input side.
------------------------------------	---

edi_input_element_delimiter	Character used to delimit elements (fields) on the input side.
------------------------------------	--

edi_input_release_character	Character used to quote elements (fields) that contain the delimiter on the input side.
------------------------------------	---

edi_input_repeating_element_delimiter	Character used to delimit repeating elements on the input side.
--	---

edi_input_segment_delimiter	Character used to delimit segments on the input side.
------------------------------------	---

edi_input_sub_element_delimiter	Character used to delimit sub-elements on the input side.
--	---

edi_input_tag_delimiter	Character used to delimit tags on the input side.
--------------------------------	---

edi_output_decimal_separator	Character used to indicate the decimal point on the output side.
-------------------------------------	--

edi_output_element_delimiter	Character used to delimit elements (fields) on the output side.
-------------------------------------	---

edi_output_release_character	Character used to quote elements (fields) that contain the delimiter on the output side.
-------------------------------------	--

edi_output_repeating_element_delimiter	Character used to delimit repeating elements on the output side.
---	--

edi_output_segment_delimiter	Character used to delimit segments on the output side.
-------------------------------------	--

edi_output_sub_element_delimiter	Character used to delimit sub-elements on the output side.
---	--

edi_output_tag_delimiter

Character used to delimit tags on the output side.

exhaust_input

Whether to execute the map until the Standards Translation service has translated all of the input. Valid values are Yes and No.

Note: If your map design is faulty (that is, if the data structure does not match the layout of the map), the data in the input file cannot be properly processed. If a segment is present in the input file it must be defined and active in the map and in the proper sequence. When the translator reads a segment, it tries to match it to the records in the map based on their tag values.

If `exhaust_input` is set to "Yes" the translator attempts to match each segment in the input file to a segment in the map, until it reaches the end of the input file. Conversely, if `exhaust_input` is set to "No," the translator does not re-invoke the map to continue processing the remaining data in the input file.

map_name

Name of the map used for translation. The map must already be checked in to the IBM Sterling B2B Integrator and enabled.

Note: The Standards Translation service must be configured so the `map_name` parameter does not override what is specified in process data when performing document repair. See "Business Process Example for Resending a Document" on page 158 for more information.

Additionally, you must specify an existing map that is already checked in to the IBM Sterling B2B Integrator, or the Standards Translation service generates a null pointer exception when the map it attempts to load doesn't exist.

output_report_to_process_data

Whether to output the report to process data. Valid values are:

- Yes: Output the report to process data.
- No: Do not output the report to process data.

output_to_process_data

Whether the output of the translation should be placed in the process data tree. The output must be XML. Valid values are Yes and No.

useStreams

Whether to support large files (streaming mode). Valid values are Yes (default), No, and blank (which uses default).

The default was changed with release 4.1.1, patch 1973. In versions previous to that, the service did not use document streaming by default.

validate_input

Validates the input to the input side of the map. Valid values are Yes and No.

validate_input_against_dtd

Validates the input to the DTD specified in the input document. Valid values are No validation, Validate using a DTD, and Validate using an XML schema.

validate_output

Validates the output to the output side of the map. Valid values are Yes and No.

Parameters Passed Through the Business Process Only

The following parameters can be passed through the business process using an Assign statement. Note that these parameters are not available through the GPM.

Parameter

Description

FromSchema

Used to enable manipulation of a database schema prefix within the SQL Table/View or SQL Statement of a map. This parameter is required when overriding schema names within one or more SQL Statement fields.

If the FromSchema and ToSchema parameters are not supplied, then no schema name substitution is performed.

Note: The schema search/replace is case-sensitive.

ToSchema

Used to enable manipulation of a database schema prefix within the SQL Table/View or SQL Statement of a map.

Note: The schema search/replace is case-sensitive.

If the FromSchema and ToSchema parameters are not supplied, then no schema name substitution is performed.

If the ToSchema parameter is supplied and contains a non-empty value, then any matching schema names are changed at translation time to use the supplied ToSchema schema value as follows:

- For a SQL Statement, only schema names that match the FromSchema value will be substituted. The FromSchema parameter is required—otherwise, no schema values are substituted. To match and substitute more than one value pair, the FromSchema and ToSchema parameter strings can be delimited with an @ sign. For example:

```
FromSchema="from1@from2"  
ToSchema="to1@to2"
```

In this example, any schema names matching “from1” are changed to “to1,” and any schema names matching “from2” are changed to “to2.”

For convenience, you can supply fewer ToSchema fragments than FromSchema fragments, and when there is no corresponding ToSchema fragment, the last fragment in the ToSchema string is used. For example:

```
FromSchema="from1@from2@from3"  
ToSchema="to"
```

In this example, any schema names matching “from1,” “from2,” or “from3” will be changed to “to.”

- For a SQL Table/View, the FromSchema parameter is optional. If it is not supplied, all schema names are changed to the supplied ToSchema value. If it is supplied, the substitution occurs in the same way as it does for a SQL Statement. If the translator property **sql.driver.useIdentifierQuoteString** is set to True within **customer_overrides.properties**, then matching and substitution occurs with quoted schema names.

- If the ToSchema parameter is supplied but is empty (equal to "" (two double quotation marks) or ' (two single quotation marks)), then any matching schema names contained in the map are removed at translation time.

Business Process Example for Resending a Document

When you will be repairing/resending a document, you must configure the Standards Translation service so the **map_name** parameter does not override what is specified in process data when performing document repair. Therefore, you should configure your Standards Translation service business process to look like the following for this scenario:

```
...
<output message="Xout">
  <assign to="map_name">PosToTransactionReportRequest</assign>
  <assign to="." from="*"></assign>
</output>
...
```

The resend functionality will then add a **map_name** parameter to process data, which will reference the pass-through map. This map name must be picked up by the Standards Translation service so it is important to amend your BPML so process data can override the parameter that is defined for the service.

Chapter 35. SWIFTNet7 Adapter

The SWIFTNet7 adapter communicates to the SWIFTNet Network through the SWIFTNet MEFN Servers for SWIFTNet version 7. It responds to and accepts InterAct and FileAct messages that are sent by remote SWIFTNet correspondents.

Important Upgrade Notice for SWIFTNet7 on the Oracle Solaris Platform

If you are using the SWIFTNet7 Adapter on the Oracle Solaris platform, to receive the adapter updates for 5.2.2 you must patch your SUN operating system with Oracle Solaris 10 HW 10/09. If you are using SSL, you must also upgrade to the new 0.9.8 OpenSSL library.

- For Oracle SUN OS, the download is available from SunSolve (<http://sunsolve.sun.com>).
- For OpenSSL, the download is available from OpenSSL (<http://www.openssl.org>).

Important Upgrade Notice for SWIFTNet7 on the IBM AIX® Platform

If you are using the SWIFTNet7 Adapter on the IBM AIX platform, to receive the adapter updates for 5.2.2 you must patch your IBM XL C/C++ runtime library to July 2009 Runtime for IBM XL C++ for AIX. Additionally, you must upgrade your AIX operating system to Version 10.1 (or higher).

Additionally, if you are using SSL, you must also upgrade to the 0.9.8 OpenSSL library.

- For OpenSSL, the download is available from OpenSSL (<http://www.openssl.org>).
- For IBM AIX, the download is available from IBM (<http://www-306.ibm.com/software/support/>).

Important Upgrade Notice for SWIFTNet7 on the Windows Platform

If you are using the SWIFTNet7 Adapter on the Windows platform, to receive the adapter updates for 5.2.2 you must upgrade your Windows operating system to Windows Server 2008 R2 (with all security patches).

Additionally, if you are using SSL, you must also upgrade to the 1.0 OpenSSL library.

- For OpenSSL, the download is available from OpenSSL (<http://www.openssl.org>).
- For Windows, the download is available from Microsoft (<http://www.microsoft.com/windowsserver2008/>).

The following table provides an overview of the SWIFTNet7 adapter:

System Name

SWIFTNet7 Adapter

Graphical Process Modeler (GPM) categories

All services

Description

This adapter is responsible for receiving and responding to SWIFTNet InterAct and FileAct messages using the SWIFTNet MEFG Servers for SWIFTNet version 7. Additionally, it allows you to configure the MEFG Servers and start and stop the MEFG Server. Additionally, it enables you to use multiple queues and configure your output channel.

Business usage

A business would use this adapter in order to exchange SWIFTNet InterAct and FileAct messages with its trading partners over the SWIFTNet system. This adapter also enables you to configure your input channel.

Note: You will also need to configure this adapter if you are transporting CHIPS messages using the SWIFTNet7 transport mode. This adapter also sends acknowledgements to CHIPS. CHIPS uses the SWIFTNet Server adapter for SWIFTNet version 6.x by default.

Usage example

From the Service Configuration page, you can start and stop the MEFG Servers by enabling or disabling this adapter.

Preconfigured?

No, you must configure it.

Requires third party files?

No third party files are required.

Platform availability

All supported Sterling B2B Integration platforms.

Note: Please see *Important Upgrade Notices* above for additional information.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Servers and the Command Line Adapter 2. This service works with the SWIFTNet7 HTTP Server adapter to provide SSL support, and works with the SWIFTNet7 HTTP Client adapter, SWIFTNet7 HTTP File System adapter, SWIFTNet7 Adapter Scheduler, SWIFTNet7 Client Service, SWIFTNet7 Server Service, SwiftNet Import ASP Service, and SwiftNet Import RMA Service.

Application requirements

SSL can be implemented between IBM Sterling B2B Integrator and the MEFG Server if the SWIFTNet HTTP Server adapter is configured for that setup.

Initiates business processes?

Initiates business processes.

Invocation

By the Multi-Enterprise Financial Gateway for SWIFTNet application.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error

- Success—Success
- Warning—Success with warning

Restrictions

Only one SWIFTNet MEFG Server can be configured to talk to one SWIFTNet7 Adapter instance in the IBM Sterling B2B Integrator.

Persistence level

N/A

Testing considerations

N/A

How the SWIFTNet7 Adapter Works

The SWIFTNet7 adapter is comprised of two parts: the service part (SWIFTNet7 Server Service and SWIFTNet7 Client Service) and the adapter part. The service part is used in a business process that does not require configuration except for enabling it for document tracking. The adapter part is configured through the Admin Console or the GPM, and this adapter is responsible for starting and stopping the SWIFTNet MEFG Servers from the IBM Sterling B2B Integrator using the Command Line Adapter 2 (CLA2), which is built into the SWIFTNet7 adapter. Starting and stopping the operation of the SWIFTNet MEFG Servers will only work correctly if the CLA2Client.jar is deployed in the same machine where the SWIFTNet MEFG Server is installed. The CLA2Client.jar file must also be started by a user who has permission to access the SWIFTNet MEFG Servers home directory.

The SWIFTNet7 adapter (in conjunction with the SWIFTNet7 HTTP Server adapter) enables you to use Secure Sockets Layer (SSL) to provide secure authentication, using the SWIFTNet7 HTTP Server adapter to accept the forwarded request from the SWIFTNet MEFG Servers. When you use SSL with the IBM Sterling B2B Integrator, two channels are secured: an Outbound channel (IBM Sterling B2B Integrator acting as the Requestor) and an Inbound channel (IBM Sterling B2B Integrator acting as the Responder).

You will need 2 pairs of certificates. The first pair belongs to the SWIFTNet MEFG Server and is used to secure the outbound channel. The second pair of certificates belongs to IBM Sterling B2B Integrator and is used to secure the inbound channel. In all, you need:

- A public key certificate file belongs to the SWIFTNet MEFG Server that is configured on the SWIFTNet Client service (the certificate is specified for the CA Certificate parameter).
- A private key certificate file that is stored on the SWIFTNet MEFG Server as a key file (which you configure through the SSL Configuration utility named sslUtil.jar in the SWIFTNet MEFG Server installation bin subdirectory). The sslUtil.jar file is located in the bin subdirectory of the SWIFTNet MEFG Server installation directory.
- A private key certificate file that is configured on the SWIFTNet HTTP Server adapter (the certificate is specified for the System Cert parameter).
- A public key file that belongs to the IBM Sterling B2B Integrator and is stored for the SWIFTNet MEFG Server as a CA Cert file or trusted list (that you configure through the SSL Configuration utility named sslUtil.jar in the SWIFTNet MEFG Server installation directory).

Note: To configure SSL on the SWIFTNet MEFG Server, run the following command in the bin directory of the MEFG SWIFTNet Server installation bin sub-directory:

```
java -jar sslUtil.jar
```

The IBM Sterling B2B Integrator enables you easily renew certificates.

Implementing the SWIFTNet7 Adapter

To implement the SWIFTNet7 adapter, complete the following tasks:

1. Create a configuration of the Command Line Adapter 2.
 - a. Locate the client jar (CLA2Client.jar) that contains the necessary classes.
 - b. Move the client jar to the machine where you will be running the remote adapter.
 - c. Start the remote adapter using the following command:

```
java -jar CLA2Client.jar <port> [debug]
```

Note: The [debug] option is not required, but is provided for your convenience. If you upgrade the IBM Sterling B2B Integrator, you may need to obtain a new CLA2Client.jar file to avoid a Class Conflict error.

2. Create a configuration of the SWIFTNet7 adapter.
3. Specify field settings for the adapter configuration in the IBM Sterling B2B Integrator Admin Console and in the GPM as necessary.
4. Configure the business process you are using for the SWIFTNet7 adapter.

The business processes that work with SWIFTNet7 adapter include the following:

 - handleSWIFTNet7ContextReport
 - handleSWIFTNet7Events
 - handleSWIFTNet7FileActDelNotif
 - handleSWIFTNet7FileActEvent
 - handleSWIFTNet7FileActRequest
 - handleSWIFTNet7FileActSnFRequest
 - handleSWIFTNet7InterActRequest
 - handleSWIFTNet7InterActSnFRequest
 - handleSWIFTNet7OpenChannels
 - handleSWIFTNet7ResponseInfo
 - handleSWIFTNet7SnFDelNotif
5. Define the **SI HTTP Sever Adapter Port** in the SWIFTNet7 Adapter configuration that should have the same value as the **HTTP Listen Port** defined in the SWIFTNet HTTP Server adapter instance.
6. Specify field settings in the business process.

Configuring the SWIFTNet7 Adapter

1. Select **Deployment > Services > Configuration**.
2. Search for SWIFTNet7 adapter or select it from the list and click **Go!**
3. Click **Edit**.
4. Specify field settings in the Admin Console, but you will need to access the adapter instance through the Admin console to enable the instance (as described in step 5).

Note: Specify failover processing to ensure that failover is supported if a SAG connection fails by configuring the **Configure for failover SAG** parameter.

Note: For specific instructions on configuring an input channel, see *SWIFT Input Channel*.

5. Once the SWIFTNet7 Adapter is configured and saved, click the **Enabled** check box on the Services Configuration page. This starts the SWIFTNet7 MEFG Server.
6. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected to enable the adapter instance.

You must specify field settings in IBM Sterling B2B Integrator.

Creating or Setting Up a Adapter Configuration in the Admin Console

Use the field definitions in the following table to create a new configuration of the SWIFTNet7 Adapter.

Note: The business entities (accessible through the Business Entities wizard as part of the SWIFTNet7 adapter configuration) are shared by both RA1 and RA2. The Business Entities wizard enables you to add multiple entities.

Field Description

Name Unique and meaningful name for the adapter configuration. Required.

Description

Meaningful description for the adapter configuration, for reference purposes. Required.

Environment

Select the environment in which the adapter will run. Required.

Note: The adapter is not eligible to run in the adapter container.

Select a Group

Select one of the options:

- None – Do not include the configuration in a service group at this time.
- Create New Group – Enter a unique name for a new group, which will be created with this configuration. (You can then add other services to the group as well.)
- Select Group – If service groups already exist for this service type, they are displayed in the list. Select a group from the list.

Note: Only select group if this adapter is clustered in a group. See *Managing Services and Services*.

SI Server Address

The callback IP of Sterling B2B Integrator for the SWIFTNet MEFG Servers. Required.

Note: The default value is the IP address of the machine where the Sterling B2B Integrator is installed.

SI HTTP Server Adapter Port

This is the listening port for the SWIFTNet7 HTTP Server Adapter. Required. The default populated value is the instance port number of the

Sterling B2B Integrator instance plus 53. For example, if the Sterling B2B Integrator instance port is 34600, the listening port populated by default is 34653.

Note: The HTTP Server adapter functions between the SWIFTNet7 adapter and the SWIFTNet MEFG Servers. For an SSL connection, this value should be server name because the certificate is made with the server name.

Note: If you are using the SWIFTNet7 adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

MEFG SWIFTNet Address

The IP address of the SWIFTNet MEFG Servers. Required.

MEFG SWIFTNet Port

The port of the SWIFTNet MEFG Servers. Required.

CLA2Client Listening Port

The listening port used by the client command adapter (CLA2Client) running along the SWIFTNet MEFG Servers. Required.

Note: This port listens for requests to start and stop the SWIFTNet MEFG Servers.

MEFG SWIFTNet Home

The home directory of the SWIFTNet MEFG Servers. Required.

Start MEFG SWIFTNet despite errors

Whether to start the MEFG Servers if errors occur. The default is unchecked (do not start the MEFG Servers if errors occur). Optional.

Use SSL

Whether to enable Secure Socket Layer (SSL) over HTTP communication between the Sterling B2B Integrator and the SWIFTNet MEFG Servers. Valid values are False (default) and True. Select **True** to use SSL with an Input Channel.

Event Status Tracking

The event status tracking for the adapter. Required. Valid selections are Minimal (Only Completed, Rejected, Duplicated status) - this is the default, and Full.

Cipher Strength

Specifies the strength of the algorithms (cipher suites) used to encrypt data. Valid values are:

- STRONG - Required if Use SSL is Must
- ALL - All cipher strengths are supported
- WEAK - Often required for international trade, because government regulations prohibit STRONG encryption from being exported

Default is ALL. Required if **Use SSL** is checked.

CA Certificate

Move one or more CA Certificates to the use column. These are the digital security certificates that the SSL server will use to authenticate the client. Required if SSL is selected.

Message Partner Client Name

The client message partner name that the SNL server application recognizes for the SWIFTNet MEFG Servers client application.

Note: The Message Partner Client Name must correspond to the Application Interface Message Partner that is defined on the SAG as the client interface for the SWIFTNet MEFG Servers.

Message Partner Server Name

The server message partner name that the SNL server application recognizes for the SWIFTNet MEFG Servers server application.

Note: The Message Partner Server Name must correspond to the Application Interface Message Partner that is defined on the SAG as the client interface for the SWIFTNet MEFG Servers.

Delivery Notification

Determines whether the server requests a delivery notification when a business partner is downloading. Possible values are True and False (default). Required.

Delivery Notification Request Type

The request type of the delivery notification is the value SI SWIFTNet Server uses in the response after getting a request from a remote client. Required.

Configure for failover SAG?

Enables you to set up Failover SAG Configuration using two separate instances of the Remote API (RA), RA1 and RA2. Each RA should be configured to point to a different SAG to support failover processing. Possible values are True and False (default). Required.

Note: This parameter specifies whether to support failover if one SAG fails. When this parameter is set to True, you are presented with parameters for both an RA1 Profile and an RA2 Profile. When you are operating in an environment with multiple SAGs configured in failover SAG mode, setting this parameter enables you to define an alternate RA connection to a secondary SAG for failover support.

Delivery Notification

Determines whether the RA1 server is handling a delivery notification. Possible values are True and False (default). Optional. This is used for a FileAct Get.

Delivery Notification DN

Distinguished name of the responder of the delivery notification. This is used for a FileAct Get. Optional.

Request Type of Del. Notifn

Request type of the delivery notification. This is used for a FileAct Get. Optional.

Return Signature List

Whether you want to receive your own signature to safe store it in case of any dispute in the future. Valid values are False or True. Applicable only if Signature List is used. Optional for T-Copy and Y-Copy implementation.

SWIFTNet RA

The absolute path of the RA1 installation directory for RA1 SWIFTNet. Required. For example, /SWIFTAlliance/RA.

Note: This parameter specifies where to pick up the remote API and execute to SAG.

Config

The relative path of the RA1 instance configuration directory (relative to the RA installation directory). Required. For example, **RA1/cfg**.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Bin This is added to the PATH environment variable to contain the SWIFTNet MEFG Server binaries. Possible value is bin. Required.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Lib This is added to the library path environment variable. Possible value is lib. Required.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Category

This is the category of RA. Possible values are:

- RA (SNL facade library to access an SAG)
- SNL (a native SNL interface)
- DEFAULT (default set for the RA1 instance)

Required.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Delivery Responder DN

The distinguished name of the responder to which delivery notifications requested by the sender are sent. Optional.

Note: If left blank, Delivery Notifications requested by the server are sent to the responder indicated in the message; otherwise, it is sent to this responder

SWIFTNet RA

The absolute path of the RA2 installation directory for RA2 SWIFTNet. Required (based on Failover SAG Configuration). For example, `/SWIFTAlliance/RA`.

Note: This parameter is only displayed if **Failover SAG Configuration** is set to True.

Config

The relative path of the RA2 instance configuration directory (relative to the RA2 installation directory). Required (based on Failover SAG Configuration). For example, `/RA2/cfg`.

Note: This parameter is only displayed if **Failover SAG Configuration** is set to True.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Bin This is added to the PATH environment variable to contain the SWIFTNet MEFG Server binaries. Required (based on Failover SAG Configuration).

Note: This parameter is only displayed if **Failover SAG Configuration** is set to True.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Lib This is added to the library path environment variable. Required (based on Failover SAG Configuration).

Note: This parameter is only displayed if **Failover SAG Configuration** is set to True.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Category

This is the category of RA2. Possible values are:

- RA (SNL facade library to access an SAG)
- SNL (a native SNL interface)
- DEFAULT (default set for the RA1 instance)

Required (based on Failover SAG Configuration).

Note: This parameter is only displayed if **Failover SAG Configuration** is set to True.

Note: If you are using the SWIFTNet7 Adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Delivery Responder DN

The responder to which delivery notifications requested by the sender are sent. Required (based on the failover SAG configuration).

Note: If left blank, Delivery Notifications requested by the server are sent to the responder indicated in the message; otherwise, it is sent to this responder. This parameter is only displayed if failover SAG Configuration is set to True.

New Security Context

Click **add** to create a new security context for the Output Channel Configuration or click **edit** to modify an existing entry.

Note: You must have at least one security context created to proceed. This is the authorization context to open the output channel.

UserId

The user identifier for this business entity (to log in to SWIFTNet). Required for each configured entity.

Password (RA1)

The user password for this security context for RA1. Required for each configured entity.

Note: This password is automatically encrypted. This parameter is only displayed if you edit an existing Security Context or add a new Security Context.

Password (RA2)

The user password for this security context for RA2. If not specified, the RA2 password is considered to be equal to the RA1 password. Optional.

Note: This password is automatically encrypted. This parameter is only displayed if you edit an existing Security Context or add a new Security Context.

New Business Entity

Click **add** to create a new business entity or click **edit** to modify an existing entity.

Note: You must have at least one business entity created to proceed.

Entity Identifies the security context to be used. For the client, the business entity is the requester. For the server, the business entity is the responder.

The SWIFTNet7 Adapter enhances business entities. You are not required to define an exact match for every distinguished name used for requestor or responder. The SWIFTNet Client Adapter uses the best matching algorithm to find the business entity and associated context. Therefore, if all the distinguished names used belong to the same organization (for

example: o=abcdefgh,o=swift), it is sufficient for you to define one and only one business entity: o=abcdefgh,o=swift. However, if necessary, (for example if you want to ensure that cn=xyz,o=abcdefgh,o=swift will use different context), you may define another business entity for this particular distinguished name.

Note: This is the distinguished name created by SWIFT. This parameter is only displayed if you edit an existing Business Entity or add a new Business Entity. The business entities are shared by both the RA1 and RA2 profiles.

UserId

The user identifier for this business entity (to log in to SWIFTNet). Required for each configured entity.

Note: The UserName is created in SAG (in the Users Module) and must also have a certificate created for it in the SAG. This parameter is only displayed if you edit an existing Business Entity or add a new Business Entity. The SWIFTNet Client Adapter allows you to use a different security context for RA1 and RA2.

UserId for RA2 (if different)

The user identifier for the RA2 business entity (to log in to SWIFTNet). Required for each configured entity.

Note: The UserName is created in SAG (in the Users Module) and must also have a certificate created for it in the SAG. This parameter is only displayed if you edit an existing Business Entity or add a new Business Entity and only displayed if Failover SAG Configuration is enabled.

Use Default Delivery Notification

Indicates whether to use the default delivery notification configuration. Required.

Delivery Notification (Del. Notifn)

Indicates whether the sender asked the receiver to send a delivery notification. Optional. Valid values are True (default) or False.

Note: This parameter is only available when Use Default Delivery Notification is not selected.

Request Type of Del. Notifn

If Delivery Notification (Del. Notifn) is set to True, the value of this parameter is used to request a specific delivery notification message from the remote receiving server application when it returns the delivery notification. Optional.

Note: This parameter is only available when Use Default Delivery Notification is not selected.

Use Input Channel (for InterAct Store and Forward only)

Whether to use the input channel with this adapter. Valid values are False (default) and True. You must select True if you are using an input channel. Required.

Note: Used for InterAct store-and-forward only. If you configure this parameter, the SWIFTNet MEFG Server opens the Input Channel automatically during the startup (when the SWIFTNet7 Adapter is enabled). This Input Channel remains open until the SWIFTNet MEFG

Server is shut down (or the SWIFTNet7 Adapter is disabled). During this time, you still have an option to send message using the input channel or without the input channel. All you need to do is to indicate this by using this parameter in SWIFTNet Client profile.

Use Output Channel (for Store and Forward only)

Whether to use the output channel with this adapter. Valid values are False (default) and True. You must select True if you are using an output channel. Required.

Note: Used for store-and-forward only.

Input Channel Name

The name of the input channel. Required only if you specified **True** for **Use Input Channel**.

Authoriser DN

The authorized distinguished name that will be used to open the input channel. Required only if you specified **True** for **Use Input Channel**.

Force Open the Input Channel

Whether to force open the input channel or use normal mode. Valid values are False (use normal mode, which is the default) and True (force the input channel). Required only if you specified True for Use Input Channel.

Max. Resend Attempts

The maximum number of retries that should be attempted before sending the Resolve Gap request. Required. The default is three.

New Queue

Click **add** to create a new queue or click **edit** to modify an existing entry.

Note: If you are using an Output Channel, you must have at least one queue created to proceed.

Queue Name

The name of the queue you are creating. Optional.

Output Channel Name

The name of the output channel. Required if you are using an Output Channel.

Note: This name must be unique and can only be associated with one SWIFTNet7 Adapter instance. By default there is an output channel with the same name as the queue name. Alternatively, you may create the output channel first using the utility provided.

Operating DN

The distinguished name of the operator. Optional.

SNL Endpoint

The endpoint for SNL. Optional.

Traffic Filter #1

Traffic filter to be applied first. Optional. Valid values are System, InterAct, FileAct, Urgent, Normal, System_Urgent, System_Normal, InterAct_Urgent, InterAct_Normal, FileAct_Normal, FileAct_Urgent, Not Applicable.

Traffic Filter #2

Traffic filter to be applied second. Optional. Valid values are System,

InterAct, FileAct, Urgent, Normal, System_Urgent, System_Normal, InterAct_Urgent, InterAct_Normal, FileAct_Normal, FileAct_Urgent, Not Applicable.

Traffic Filter #3

Traffic filter to be applied third. Optional. Valid values are System, InterAct, FileAct, Urgent, Normal, System_Urgent, System_Normal, InterAct_Urgent, InterAct_Normal, FileAct_Normal, FileAct_Urgent, Not Applicable.

Traffic Filter #4

Traffic filter to be applied fourth. Optional. Valid values are System, InterAct, FileAct, Urgent, Normal, System_Urgent, System_Normal, InterAct_Urgent, InterAct_Normal, FileAct_Normal, FileAct_Urgent, Not Applicable.

Traffic Filter #5

Traffic filter to be applied fifth. Optional. Valid values are System, InterAct, FileAct, Urgent, Normal, System_Urgent, System_Normal, InterAct_Urgent, InterAct_Normal, FileAct_Normal, FileAct_Urgent, Not Applicable.

Traffic Filter #6

Traffic filter to be applied sixth. Optional. Valid values are System, InterAct, FileAct, Urgent, Normal, System_Urgent, System_Normal, InterAct_Urgent, InterAct_Normal, FileAct_Normal, FileAct_Urgent, Not Applicable.

Reception Directory

The full directory path where the file is received and stored during FileAct Put mode. Required for FileAct. Optional.

Download Directory

The full directory path where the file is picked up and sent to the requestor during FileAct Get mode. Required for FileAct. Optional.

Enable Service for Business Process

Whether the adapter is enabled to be used with business processes. Optional.

Business Process Example

The service part of the SWIFTNet7 Adapter that is used in the business process is bootstrapped when the SWIFTNet MEFG Servers post the request through the URI defined in the HTTP Server adapter.

Renewing a Certificate

You can create a business process and schedule it to be executed at an interval of three months. You only need to pass in the distinguished name that is specified in the SWIFTNet7 Adapter Business Entities. When the request is passed to the SWIFTNet MEFG Servers, it looks up the user identifier and the encrypted password in the configuration file. The SWIFTNet MEFG Servers then performs an `initRequest` and `CreateSecurityContext` to open the certificate

```
<process name="SWIFTNet7RenewSecContext">
  <sequence name="Renewing Security Context">
    <operation name="Setting UserToken">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output message>
    </operation>
  </sequence>
</process>
```

```

        </output>
        <input message="inmsg">
          <assign to="." from="*" />
        </input>
      </operation>
      <operation name="Send Renew Security Context Request">
        <participant name="SWIFTNet7ClientService"/>
        <output message="renewSecurityContext">
          <assign to="username">certest1</assign>
          <assign to="." from="*" />
        </output>
        <input message="testing">
          <assign to="." from="*" />
        </input>
      </operation>
      <operation name="Receive Renew Security Context Response">
        <participant name="SWIFTNet7ClientService"/>
        <output message="handleRenewContextResponse">
          <assign to="." from="*" />
        </output>
        <input message="renewContextOut">
          <assign to="." from="*" />
        </input>
      </operation>
    </sequence>
  </process>

```

InterAct Business Process Without Store-and-Forward Processing

The following business process example (in which the service part of the SWIFTNet7 adapter as part of InterAct processing) is used if you are not using store-and-forward processing:

Note: This business process is from the handleSWIFTNet7InterActRequest business process.

```

<process name="handleSWIFTNet7InterActRequest">
  <rule name="ActionInvokeWorkflow">
    <condition>RuleAction/text() = 'BP'</condition>
  </rule>
  <rule name="ActionStoreInMailbox">
    <condition>RuleAction/text() = 'MB'</condition>
  </rule>
  <rule name="ActionStoreInFSsystem">
    <condition>RuleAction/text() = 'FS'</condition>
  </rule>
  <rule name="NeedToRetrieveTemplate">
    <condition>NeedTemplate/text() = 'TRUE'</condition>
  </rule>
  <sequence name="HandleRequest">
    <operation name="Setting UserToken">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SOAP-Deenveloping">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
      </output>
    </operation>
  </sequence>
</process>

```

```

        <assign to="SOAP_INTERMEDIATE_NODE">false</assign>
    </output>
    <input message="input">
        <assign to="." from="*" />
    </input>
</operation>
<operation name="Receive the request">
    <participant name="SWIFTNet7ServerService"/>
    <output message="handleServerRequest">
        <assign to="." from="*" />
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
<!-- Do backend processing -->
<choice>
    <select>
        <case ref="ActionInvokeWorkflow" activity="DoInvokeWorkflow"/>
        <case ref="ActionStoreInMailbox" activity="DoStoreInMailbox"/>
        <case ref="ActionStoreInFSystem" activity="DoStoreInFSystem"/>
    </select>
    <!-- Invoke Workflow: 'WFD_NAME' and 'INVOKE_MODE' already in ProcessData -->
    <operation name="DoInvokeWorkflow">
        <participant name="InvokeSubProcessService"/>
        <output message="Xout">
            <assign to="." from="*" />
        </output>
        <input message="Xin">
            <assign to="." from="*" />
        </input>
    </operation>
    <!-- Store in Mailbox: 'MailboxPath' already in ProcessData -->
    <operation name="DoStoreInMailbox">
        <participant name="MailboxAdd"/>
        <output message="AddRequest">
            <assign to="." from="*" />
            <assign to="MessageName" from="concat('IA_',
translate(SwiftServerRequest/SwiftRef/text(),':','.'))"/>
            <assign to="ExtractableCount">1</assign>
            <assign to="ContentType">ascii</assign>
        </output>
        <input message="inmsg">
            <assign to="AddResults" from="*" />
        </input>
    </operation>
    <!-- Store in File System: 'extractionFolder' already
in ProcessData -->
    <operation name="DoStoreInFSystem">
        <participant name="SWIFTNet7FileSystem"/>
        <output message="FS_In">
            <assign to="Action">FS_EXTRACT</assign>
            <assign to="assignFilename">true</assign>
            <assign to="assignedFilename" from="concat('IA_',
translate(SwiftServerRequest/SwiftRef/text(),':','.'))"/>
            <assign to="." from="*" />
        </output>
        <input message="FS_Out">
            <assign to="." from="*" />
        </input>
    </operation>
</choice>
<!-- Collect Response Template if required -->
<choice>
    <select>
        <case ref="NeedToRetrieveTemplate" activity="DoCollectTemplate"/>
    </select>

```

```

    <!-- Collect Response Template: 'collectionFolder' and
'filter' already in ProcessData -->
    <operation name="DoCollectTemplate">
      <participant name="SWIFTNet7FileSystem"/>
      <output message="FileSystemInputMessage">
        <assign to="Action">FS_COLLECT</assign>
        <assign to="deleteAfterCollect">>false</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
  </choice>
  <!-- this is to construct the server response message
back to SI Server application -->
  <operation name="Send the response">
    <participant name="SWIFTNet7ServerService"/>
    <output message="handleServerResponse">
      <assign to="." from="*" />
      <assign to="Status" from="SwiftServerRequest/Status/text()" />
    </output>
    <input message="testing">
      <assign to="." from="*" />
    </input>
  </operation>
  <operation name="SOAP-Enveloping">
    <participant name="SOAPOutbound"/>
    <output message="output">
      <assign to="." from="*" />
      <assign to="SOAP_MODE">respond</assign>
    </output>
    <input message="input">
      <assign to="." from="*" />
    </input>
  </operation>
  <assign to="doc-has-headers">>true</assign>
  <operation name="HttpResponse">
    <participant name="HttpRespond"/>
    <output message="Xout">
      <assign to="." from="*" />
    </output>
    <input message="Xin">
      <assign to="." from="*" />
    </input>
  </operation>
  <onFault>
    <!-- On Fault, reconstruct PrimDoc with failed/rejected
response -->
    <sequence>
      <operation name="ReleasePrimDoc">
        <participant name="ReleaseService"/>
        <output message="outmsg">
          <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
          <assign to="." from="*" />
        </output>
        <input message="inmsg" />
      </operation>
      <operation>
        <participant name="SWIFTNet7ServerService"/>
        <output message="handleServerError">
          <assign to="." from="*" />
        </output>
        <input message="inmsg">
          <assign to="." from="*" />
        </input>
      </operation>
    </sequence>
  </onFault>

```

```

        <operation name="SoapOut">
          <participant name="SOAPOutbound"/>
          <output message="output">
            <assign to="." from="*" />
            <assign to="SOAP_MODE">respond</assign>
          </output>
          <input message="input">
            <assign to="." from="*" />
          </input>
        </operation>
        <assign to="doc-has-headers">true</assign>
        <operation name="HttpResponse">
          <participant name="HttpRespond"/>
          <output message="Xout">
            <assign to="." from="*" />
          </output>
          <input message="Xin">
            <assign to="." from="*" />
          </input>
        </operation>
      </sequence>
    </onFault>
  </sequence>
</process>

```

InterAct Business Process With Store-and-Forward Processing

The following business process example demonstrates the service part of the SWIFTNet7 adapter being used as part of InterAct processing if you are using store-and-forward processing:

Note: This business process is from the handleSWIFTNet7InterActSnFRequest business process.

```

<process name="handleSWIFTNet7InterActSnFRequest">
  <rule name="NeedAuthorisation">
    <condition>AuthorizeRequest = 'YCopyFull'</condition>
  </rule>
  <rule name="ActionInvokeWorkflow">
    <condition>AuthorizeRequest = 'NA' and RuleAction/text() =
'BP'</condition>
  </rule>
  <rule name="ActionStoreInMailbox">
    <condition>AuthorizeRequest = 'NA' and RuleAction/text() =
'MB'</condition>
  </rule>
  <rule name="ActionStoreInFSsystem">
    <condition>AuthorizeRequest = 'NA' and RuleAction/text() =
'FS'</condition>
  </rule>
  <sequence name="HandleRequest">
    <operation name="Setting UserToken">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SOAP-Deenveloping">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
      </output>
    </operation>
  </sequence>

```

```

        <assign to="SOAP_INTERMEDIATE_NODE">false</assign>
    </output>
    <input message="input">
        <assign to="." from="*" />
    </input>
</operation>
<operation name="Receive the request">
    <participant name="SWIFTNet7ServerService" />
    <output message="handleServerRequest">
        <assign to="." from="*" />
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
<!-- Do backend processing -->
<!-- For report system message request, it's possible to do backend processing -->
<!-- For delivery notification or authorisation system message, no backend processing -->
<choice>
    <select>
        <case ref="NeedAuthorisation" activity="InsertToMailbox" />
        <case ref="ActionInvokeWorkflow" activity="DoInvokeWorkflow" />
        <case ref="ActionStoreInMailbox" activity="DoStoreInMailbox" />
        <case ref="ActionStoreInFSystem" activity="DoStoreInFSystem" />
    </select>
    <!-- Insert to recipient mailbox for Y-Copy authorisation -->
    <operation name="InsertToMailbox">
        <participant name="MailboxAdd" />
        <output message="AddRequest">
            <assign to="." from="*" />
            <assign to="MessageName" from="concat('ThirdParty_',
translate(SwiftServerRequest/copySnFReference/text(), ':', '.'))" />
            <assign to="MailboxPath" from="concat('/', SwiftServerRequest/
recipientDN/text(), '/', SwiftServerRequest/requestorDN/text())" />
            <assign to="ExtractableCount">1</assign>
            <assign to="ContentType">ascii</assign>
        </output>
        <input message="inmsg">
            <assign to="AddResults" from="*" />
        </input>
    </operation>
    <!-- Invoke Workflow: 'WFD_NAME' and 'INVOKE_MODE' already in ProcessData -->
    <operation name="DoInvokeWorkflow">
        <participant name="InvokeSubProcessService" />
        <output message="Xout">
            <assign to="." from="*" />
        </output>
        <input message="Xin">
            <assign to="." from="*" />
        </input>
    </operation>
    <!-- Store in Mailbox: 'MailboxPath' already in ProcessData -->
    <operation name="DoStoreInMailbox">
        <participant name="MailboxAdd" />
        <output message="AddRequest">
            <assign to="." from="*" />
            <assign to="MessageName" from="concat('IA_', translate(SwiftServerRequest/
SwiftRef/text(), ':', '.'))" />
            <assign to="ExtractableCount">1</assign>
            <assign to="ContentType">ascii</assign>
        </output>
        <input message="inmsg">
            <assign to="AddResults" from="*" />
        </input>
    </operation>
    <!-- Store in File System: 'extractionFolder' already in ProcessData -->
    <operation name="DoStoreInFSystem">

```

```

        <participant name="SWIFTNet7FileSystem"/>
        <output message="FS_In">
            <assign to="Action">FS_EXTRACT</assign>
            <assign to="assignFilename">true</assign>
            <assign to="assignedFilename" from="concat('IA_', translate(SwiftServerRequest/
SwiftRef/text(),':','.'))"/>
            <assign to="." from="*" />
        </output>
        <input message="FS_Out">
            <assign to="." from="*" />
        </input>
    </operation>
</choice>
<!-- this is to construct the server response message back to SI Server application -->
<operation name="Send the response">
    <participant name="SWIFTNet7ServerService"/>
    <output message="handleServerResponse">
        <assign to="." from="*" />
        <assign to="Status" from="SwiftServerRequest/Status/text()"/>
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
<operation name="SOAP-Enveloping">
    <participant name="SOAPOutbound"/>
    <output message="output">
        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
    </output>
    <input message="input">
        <assign to="." from="*" />
    </input>
</operation>
<assign to="doc-has-headers">true</assign>
<operation name="HttpResponse">
    <participant name="HttpRespond"/>
    <output message="Xout">
        <assign to="." from="*" />
    </output>
    <input message="Xin">
        <assign to="." from="*" />
    </input>
</operation>
<onFault>
    <!-- On Fault, reconstruct PrimDoc with failed/rejected response -->
    <sequence>
        <operation name="ReleasePrimDoc">
            <participant name="ReleaseService"/>
            <output message="outmsg">
                <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
                <assign to="." from="*" />
            </output>
            <input message="inmsg"/>
        </operation>
        <operation>
            <participant name="SWIFTNet7ServerService"/>
            <output message="handleServerError">
                <assign to="." from="*" />
            </output>
            <input message="inmsg">
                <assign to="." from="*" />
            </input>
        </operation>
        <operation name="SoapOut">
            <participant name="SOAPOutbound"/>
            <output message="output">

```

```

        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
    </output>
    <input message="input">
        <assign to="." from="*" />
    </input>
</operation>
<assign to="doc-has-headers">>true</assign>
<operation name="HttpResponse">
    <participant name="HttpRespond"/>
    <output message="Xout">
        <assign to="." from="*" />
    </output>
    <input message="Xin">
        <assign to="." from="*" />
    </input>
</operation>
</sequence>
</onFault>
</sequence>
</process>

```

FileAct Business Process Without Store-and-Forward Processing

The following business process example shows the service part of the SWIFTNet7 adapter as part of FileAct processing without using store-and-forward processing:

Note: This business process is from the handleSWIFTNet7FileActRequest business process.

```

<process name="handleSWIFTNet7FileActRequest">
  <sequence name="HandleFileRequest">
    <operation name="Setting UserToken">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SOAP-Deenveloping">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
        <assign to="SOAP_INTERMEDIATE_NODE">>false</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="Receive the request">
      <participant name="SWIFTNet7ServerService"/>
      <output message="handleServerRequest">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- this is to construct the server response message back to SI Server application
    Sterling B2B Integrator -->
    <operation name="Send the response">
      <participant name="SWIFTNet7ServerService"/>

```



```

<output message="handleServerResponse">
  <assign to="." from="*" />
  <assign to="Status" from="SwiftServerRequest/Status/text()" />
</output>
<input message="testing">
  <assign to="." from="*" />
</input>
</operation>
<operation name="SOAP-Enveloping">
  <participant name="SOAPOutbound" />
  <output message="output">
    <assign to="." from="*" />
    <assign to="SOAP_MODE">respond</assign>
  </output>
  <input message="input">
    <assign to="." from="*" />
  </input>
</operation>
<assign to="doc-has-headers">true</assign>
<operation name="HttpResponse">
  <participant name="HttpRespond" />
  <output message="Xout">
    <assign to="." from="*" />
  </output>
  <input message="Xin">
    <assign to="." from="*" />
  </input>
</operation>
<onFault>
  <!-- On Fault, reconstruct PrimDoc with failed/rejected response -->
  <sequence>
    <operation name="ReleasePrimDoc">
      <participant name="ReleaseService" />
      <output message="outmsg">
        <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg" />
    </operation>
    <operation>
      <participant name="SWIFTNet7ServerService" />
      <output message="handleServerError">
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapOut">
      <participant name="SOAPOutbound" />
      <output message="output">
        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
  <assign to="doc-has-headers">true</assign>
  <operation name="HttpResponse">
    <participant name="HttpRespond" />
    <output message="Xout">
      <assign to="." from="*" />
    </output>
    <input message="Xin">
      <assign to="." from="*" />
    </input>
  </operation>

```

```

        </operation>
    </sequence>
</onFault>
</sequence>
</process>

```

FileAct Business Process With Store-and-Forward Processing

The following business process example shows the service part of the SWIFTNet7 adapter used as part of FileAct processing with store-and-forward processing:

Note: This business process is from the handleSWIFTNet7FileActSnFRequest business process.

```

<process name="handleSWIFTNet7FileActSnFRequest">
  <rule name="IsYCopyHeaderType">
    <condition>AuthorizeRequest = 'YCopyHeader' and SwiftServerRequest/
FileInfoForceMode != 'Refused'</condition>
  </rule>
  <rule name="IsYCopyFullType">
    <condition>AuthorizeRequest = 'YCopyFull' and SwiftServerRequest/
FileInfoForceMode != 'Refused'</condition>
  </rule>
  <rule name="ForceRefusal">
    <condition>SwiftServerRequest/FileInfoForceMode = 'Refused'</condition>
  </rule>
  <rule name="IsFetchRequired">
    <condition>SendFetchRequest = 'TRUE'</condition>
  </rule>
  <sequence name="HandleFileRequest">
    <operation name="Setting UserToken">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SOAP-Deenveloping">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
        <assign to="SOAP_INTERMEDIATE_NODE">>false</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="Receive the request">
      <participant name="SWIFTNet7ServerService"/>
      <output message="handleServerRequest">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
    <choice name="NeedFetch">
      <select>
        <case ref="IsFetchRequired" activity="SendFetchFileRequest"/>
      </select>
      <operation name="SendFetchFileRequest">
        <participant name="InvokeBusinessProcessService"/>

```

```

        <output message="Invoke_In">
            <assign to="." from="*" />
            <assign to="INVOKE_MODE">ASYNC</assign>
            <assign to="WFD_NAME">SWIFTNet7FileActFetch</assign>
        </output>
        <input message="Invoke_Out">
            <assign to="." from="*" />
        </input>
    </operation>
</choice>
<choice name="NeedAuthorization">
    <select>
        <case ref="IsYCopyHeaderType" activity="ExtractableInsert" />
        <case ref="IsYCopyFullType" activity="NonExtractableInsert" />
    </select>
    <!-- Put into a Mailbox so that it can bootstrap internal authorization
business process later -->
    <!-- Mailbox path is based on SwiftServerRequest/recipientDN/requestorDN/ -->
    <operation name="ExtractableInsert">
        <participant name="MailboxAdd" />
        <output message="AddRequest">
            <assign to="." from="*" />
            <assign to="PrimaryDocument" from="HeaderInfo/@SCIOBJECTID" />
            <assign to="MessageName" from="concat('ThirdParty_', SwiftServerRequest/
copySnFReference/text())" />
            <assign to="MailboxPath" from="concat('/', SwiftServerRequest/recipientDN/
text(), '/', SwiftServerRequest/requestorDN/text())" />
            <assign to="ExtractableCount">1</assign>
            <assign to="ContentType">ascii</assign>
        </output>
        <input message="inmsg">
            <assign to="AddResults" from="*" />
        </input>
    </operation>
    <operation name="NonExtractableInsert">
        <participant name="MailboxAdd" />
        <output message="AddRequest">
            <assign to="." from="*" />
            <assign to="MessageName" from="concat('ThirdParty_', SwiftServerRequest/
copySnFReference/text())" />
            <assign to="MailboxPath" from="concat('/', SwiftServerRequest/recipientDN/
text(), '/', SwiftServerRequest/requestorDN/text())" />
            <assign to="ExtractableCount">0</assign>
            <assign to="ContentType">ascii</assign>
        </output>
        <input message="inmsg">
            <assign to="AddResults" from="*" />
        </input>
    </operation>
</choice>
<operation name="Send the response">
    <participant name="SWIFTNet7ServerService" />
    <output message="handleServerResponse">
        <assign to="." from="*" />
        <assign to="Status" from="SwiftServerRequest/Status/text()" />
        <assign to="Description" from="SwiftServerRequest/Description/text()" />
        <assign to="Info" from="SwiftServerRequest/Info/text()" />
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
<operation name="SOAP-Enveloping">
    <participant name="SOAPOutbound" />
    <output message="output">
        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
    </output>

```

```

</output>
<input message="input">
  <assign to="." from="*" />
</input>
</operation>
<assign to="doc-has-headers">true</assign>
<operation name="HttpResponse">
  <participant name="HttpRespond" />
  <output message="Xout">
    <assign to="." from="*" />
  </output>
  <input message="Xin">
    <assign to="." from="*" />
  </input>
</operation>
<choice name="IsThirdPartyForceRefusal">
  <select>
    <case ref="ForceRefusal" activity="InvokeForceRefusalProcess" />
  </select>
  <operation name="InvokeForceRefusalProcess">
    <participant name="InvokeBusinessProcessService" />
    <output message="Invoke_In">
      <assign to="." from="*" />
      <assign to="INVOKE_MODE">ASYNC</assign>
      <assign to="WFD_NAME">SWIFTNet7ThirdPartyForceRefusal</assign>
    </output>
    <input message="Invoke_Out">
      <assign to="." from="*" />
    </input>
  </operation>
</choice>
<onFault>
  <!-- On Fault, reconstruct PrimDoc with failed/rejected response -->
  <sequence>
    <operation name="ReleasePrimDoc">
      <participant name="ReleaseService" />
      <output message="outmsg">
        <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg" />
    </operation>
    <operation>
      <participant name="SWIFTNet7ServerService" />
      <output message="handleServerError">
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapOut">
      <participant name="SOAPOutbound" />
      <output message="output">
        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <assign to="doc-has-headers">true</assign>
    <operation name="HttpResponse">
      <participant name="HttpRespond" />
      <output message="Xout">
        <assign to="." from="*" />
      </output>

```

```

        <input message="Xin">
            <assign to="." from="*" />
        </input>
    </operation>
</sequence>
</onFault>
</sequence>
</process>

```

Parameters Passed From Business Process to Adapter

The following table contains the parameters passed from the business process to the SWIFTNet7 adapter:

Parameter	Description
messageID	Message identifier for the incoming message. Required.
interfaceMode	This is the SWIFTNet interface. Possible values are InterAct (default) or FileAct. Required.
deliveryNotification	Determines whether the server is handling a delivery notification. Valid values are True and False. Required.
SnF	Indicates whether you are using the store-and-forward method. Valid values are True (use store-and-forward) and False (do not use store-and-forward—this is the default). Required.
Status	The status of the message. Possible values are: <ul style="list-style-type: none"> • Success • Failed Required.
Description	Description of the message. Optional. Note: Only necessary when there is an error message.
Information	Information about the message. Optional. Note: Only necessary when there is an error message.
AdapterName	The name of the SWIFTNet7 Adapter.
PhysicalLocation	For FileAct, the actual physical location in MEFG to download or receive the file transfer
HeaderInfo	For a FileAct Get, if HeaderInfo is associated with the request.

Enabling SWIFTNet Document Tracking

You need to enable document tracking in the system business process you are using for the SWIFTNet7 adapter—handleSWIFTNet7InterActRequest or handleSWIFTNet7FileActRequest (if you are not using store-and-forward

processing) or `handleSWIFTNet7InterActSnFRequest` or `handleSWIFTNet7FileActSnFRequest` (if you are using store-and-forward processing)—so the system can track the document during the process. In the business process text editor, you can easily enable SWIFTNet document tracking in the IBM Sterling B2B Integrator by selecting the **Document Tracking** check box on the Process Levels page. Set the following options as needed and leave the rest of the business process parameters as the defaults:

- On the **Deadline Settings** page, set the deadline and notification options, if necessary.
- On the **Life Span** page, set the life span, if necessary.

SWIFTNet Header Info Support

With SWIFTNet version 6.1, SWIFT introduced a new FileAct header field (HeaderInfo) to contain key summary information related to the file. The presence of `Sw:HeaderInfo` within the request is an indication to invoke the feature to validate the `Sw:HeaderInfo`. With SWIFTNet version 6.3, SWIFT performs stronger central validation on the HeaderInfo fields for FileAct. With SWIFTNet 7.0, SWIFT allows files with a HeaderInfo maximum size of 50KB.

Once a service is activated for the validation, SWIFT checks the HeaderInfo contents (that is, presence, syntax, and semantic). SWIFT rejects files with HeaderInfo contents that either do not pass this validation, or that do not use the HeaderInfo field according to the rules defined for the service.

Header Info Support on the Client (IBM Sterling B2B Integrator as Requestor)

As a requestor, the HeaderInfo is only allowed on the FileAct Put Request message. To specify the Header Info information, you must set the HeaderInfo parameter in the SWIFTNet Client Service accordingly.

Note: We recommend that you use ASP so the information regarding HeaderInfo can be retrieved from the service profile.

Header Info Support on the Server (IBM Sterling B2B Integrator as Responder)

As a responder, the HeaderInfo is only allowed on the FileAct Get Response message. When the FileAct Get request is received, the responder checks to see if there is a HeaderInfo file located in the same directory as the download file. The HeaderInfo file must have the same name as the logical filename specified in the request except with an additional filename extension (`.hdr`). For example, if the logical filename is `payload.txt`, the HeaderInfo filename should be `payload.txt.hdr`. Prior to the Get request, the responder is responsible to provide both the download file and the HeaderInfo file in the correct directory.

Chapter 36. SWIFTNet7 Adapter Scheduler

The SWIFTNet7 Adapter Scheduler is the default scheduler for the SWIFTNet7 Adapter (for SWIFTNet7). This service handles automatic tasks such as resending messages, resolving input channel gaps, and reopening closed output channels and queues. The following table provides an overview of the SWIFTNet7 Adapter Scheduler service:

System Name

SWIFTNetAdapterScheduler

Graphical Process Modeler (GPM) categories

All services

Description

This service is the default scheduler for the SWIFTNet7 Adapter (for SWIFTNet7). This service handles automatic tasks such as resending messages, resolving input channel gaps, and reopening closed output channels and queues.

Business usage

The SWIFTNet7 Adapter uses this service to exchange SWIFTNet InterAct and FileAct messages with its trading partners over the SWIFTNet system. This service will run in a scheduled interval to handle resending of messages, resolving input channel gaps, and reopening of output channels/queues.

There is only one scheduler for all SWIFTNet7 Adapter(s) in the system.

Usage example

When an InterAct or FileAct message is received, a business process is executed to process the message and, when required, to generate the SWIFTNet response.

When a SWIFTNet7 Adapter is started, this scheduler is activated if it is not activated yet. This scheduler will only be stopped if there is no active SWIFTNet7 Adapter in the system.

Preconfigured?

Yes, preconfigured as part of the Sterling B2B Integration installation.

Requires third party files?

No third party files are required.

Platform availability

All supported Sterling B2B Integration platforms.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Server and the Command Line Adapter 2. This service works with the SWIFTNet HTTP7 Server adapter to provide SSL support, and works with the SWIFTNet7 HTTP Client adapter, SWIFTNet7 HTTP File System adapter, SWIFTNet7 Adapter, SWIFTNet7 Adapter Scheduler, SWIFTNet7 Client Service, SWIFTNet7 Server Service, SwiftNet Import ASP Service, and SwiftNet Import RMA Service.

Application requirements

None.

Initiates business processes?

Initiates system business processes.

Invocation

By the SWIFTNet7 Adapter.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

None.

Persistence level

N/A

Testing considerations

N/A

Implementing the SWIFTNet7 Adapter Scheduler

You do not need to do anything to implement the SWIFTNet7 Adapter Scheduler.

When the SWIFTNet7 Adapter is enabled or started, the system also starts a single instance of the SWIFTNet7 Adapter Scheduler. By default, the SWIFTNet7 Adapter Scheduler runs every one (1) minute to perform the following:

1. Preparing to shut down the SWIFTNet7 Adapter(s), which includes closing the output channel(s) and the input channel gracefully (after performing input channel synchronization, if necessary)
2. Monitoring the output channel
3. Resending InterAct/FileAct messages.

Since the SWIFTNet7 Adapter Scheduler is designed to run every one minute, any “non-fatal error” failed messages are also sent every minute. However, if there is a real connection problem, the same messages are then re-sent every minute, which is not useful if (for example) a connection issue is causing a five or ten minute delay. In this scenario, if the retry is performed every three (3) minutes, there is a much higher probability that the message will be sent successfully.

Additionally, the default timeout for communication with SWIFT is 60 seconds. So, if the resend is performed every one minute, there is a possibility that any communication timeout would not be captured.

Therefore, the Retry Delay (in minutes) parameter can be used to mitigate the above-mentioned scenario. The Retry Delay parameter is configurable in the SWIFTNet7Adapter Scheduler service or you may specify `retryDelayInMinutes` in the `Schedule_SWIFTNet7AdapterScheduler` business process. By default, the value of the Retry Delay is one minute, which means that the delay between the first send and the first retry (if any) is a minimum of two minutes (the one minute default communication timeout with SWIFT plus the one minute retry delay).

Depending on your network conditions, you may wish to set the value of the Retry Delay parameter higher.

Note: Please note that the retry delay will be ignored during the synchronization of the input channel when the adapter is shutting down (to make the synchronization process faster because the adapter will be shut down).

Configuring the SWIFTNet7 Adapter Scheduler

1. Select **Deployment > Services > Configuration**.
2. Search for SWIFTNet7 Adapter Scheduler or select it from the list and click **Go!**.
3. Click **Edit**.
4. Specify field settings in the Admin Console.

Note: The business entities (accessible through the Business Entities wizard as part of the SWIFTNet Client adapter configuration) are shared by both RA1 and RA2. The Business Entities wizard enables you to add multiple entities.

5. After configuring the SWIFTNet7 Adapter Scheduler in the Admin Console, click the **Enable Service for Business Process** check box on the Confirm page to enable the instance.
6. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected to enable the service instance.

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – Do not include the configuration in a service group at this time.
- Create New Group – Enter a unique name for a new group, which will be created with this configuration. (You can then add other services to the group as well.)
- Select Group – If service groups already exist for this service type, they are displayed in the list. Select a group from the list.

Note: Only select group if this adapter is clustered in a group. See *Managing Services and Services*.

Retry Delay (in minutes)

Select the delay between the first send and the first retry (if any). The default is one minute. Depending on your network conditions, you can set the value of the Retry Delay parameter higher. The retry delay will be ignored during the synchronization of the input channel when the adapter is shutting down (to make the synchronization process faster because the adapter will be shut down). See *Using the Retry Delay Parameter* for more information.

Run As User

Identify a user who has permission to run the scheduled activity. You can type the user ID, click the button to select the user ID from the list, and click **Save**.

Note: You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Use 24 Hour Clock Display

By default, the scheduling wizard displays times using a 12-hour clock (which designates the time in hours as a.m. or p.m.). Use this option to display times using a 24-hour clock.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Do not use schedule

Removes all references to a schedule from the service. If you select this option, you cannot enable the schedule in the future. You must recreate the schedule instead. Use this option only when you do not need a schedule for the service. This is the default option.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run based on timer

Run the service at a certain time or time interval, such as every 2 hours.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Select Time

Type the time at which you want the Resend Scheduler to run.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

At startup

Select this checkbox if you want the SWIFTNet7 Adapter to run at system startup.

Run daily

Run the service one or more times every day.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run based on days of the week

Run the service on certain days of the week, such as every Monday.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every

one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run based on days of the month

Run the service on certain days of the month, such as the 1st or 15th of every month.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every one minute). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Schedule Exclusions

Allows you to add any schedule anomalies (when the Resend Scheduler should not run).

Note: We recommend you leave this parameter blank (that is, do not create any schedule exclusions).

Date Exclusions

Allows you to add any date anomalies (any date on which the Resend Scheduler should not run).

Note: We recommend you leave this parameter blank (that is, do not create any date exclusions).

Schedule Settings

Allows you to select a time interval in which the scheduled activity is run every day.

Chapter 37. SWIFTNet7 Client Service

The SWIFTNet7 Client service handles any outbound request (for SWIFTNet7). The following table provides an overview of the SWIFTNet7 Client service:

System Name

SWIFTNet7ClientService

Graphical Process Modeler (GPM) categories

All services

Description

This service handles any outbound request for SWIFTNet7. Using this service you are able to accept parameters from business processes or the SWIFTNet Client Profile (profileID), and parameters can be passed from business processes or when using SWIFTNet Client Profile (you need to specify the profileName). Additionally, this service uses the HTTP Client Group, so it does not have to be linked to a specific HTTP Client Adapter instance.

Business usage

The SWIFTNet7 Adapter uses this service to exchange SWIFTNet InterAct and FileAct messages with its trading partners over the SWIFTNet system.

Usage example

You want to send an InterAct or FileAct request using SWIFTNet. You pass the parameters to the SWIFTNet7 Client service using a business process. The SWIFTNet7 Client service crafts the SWIFT request and passes it to the MEFG Server to be sent to the SWIFT network, and waits for the response. When the response is received, this service parses it and updates necessary information based on the response (for example, status or reference number).

Preconfigured?

Yes, preconfigured as part of the Sterling B2B Integration installation.

Requires third party files?

No third party files are required.

Platform availability

All supported Sterling B2B Integration platforms.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Server and the Command Line Adapter 2. This service works with the SWIFTNet HTTP7 Server adapter to provide SSL support, and works with the SWIFTNet7 HTTP Client adapter, SWIFTNet7 HTTP File System adapter, SWIFTNet7 Adapter, SWIFTNet7 Adapter Scheduler, SWIFTNet7 Client Service, SWIFTNet7 Server Service, SwiftNet Import ASP Service, and SwiftNet Import RMA Service.

Application requirements

None.

Initiates business processes?

No.

Invocation

You call this service from a business process.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

None.

Persistence level

N/A

Testing considerations

N/A

Implementing the SWIFTNet7 Client Service

You do not need to do anything to implement the SWIFTNet7 Client service.

Configuring the SWIFTNet7 Client Service

You can pass parameters to the SWIFTNet7 Client service from a business process. The following table contains the parameters passed from the business process to the SWIFTNet7 Client service:

Parameter**Description****profileName**

The name of the SWIFTNet Client Profile, if specified. If you specify this parameter, the service looks for the associated SWIFTNet Client Profile and uses all the parameters defined there. However, you may override some parameters from the business process. Those parameters that can be overridden should not be related to Application Service Profile (ASP). If there is no profileName parameter is specified, all the parameters are taken only from the business process. These parameters cannot be overridden:

- "Message Type
- "Service Name
- "Request Type
- "SnF Mode
- "Operation Type
- "Non Repudiation
- "End-to-End Signing
- "Copy Indicator
- "Auth. Notification Indicator

These parameters can be overridden:

- "SWIFTNet Server Adapter - the BPML parameter is "serverAdapterName"
- "Requestor DN - the BPML parameter is "requestorDN"

- "Responder DN - the BPML parameter is "responderDN" "Authoriser DN - the BPML parameter is "authoriserDN"
- "Request Reference - the BPML parameter is "requestReference"
- "Message Priority - the BPML parameter is "messagePriority"
- "Possible Duplicate flag - the BPML parameter is "possibleDuplicate"
- "Message ID - the BPML parameter is "messageID"
- "Header Info - the BPML parameter is "HeaderInfo"
- "Business Application Header - the BPML parameter is "AppHeader"
- "Return Signature List (when SignatureList is used) - the BPML parameter is "returnSignatureList"
- "Use RND (when SignatureList is used) - the BPML parameter is "useRND"
- "Request for Del. Notification flag - the BPML parameter is "deliveryNotification"
- "Notification Queue - the BPML parameter is "notificationQueue"
- "Del. Notification as System Message - the BPML parameter is "notificationAsSystemMsg"
- "Overdue Delay - the BPML parameter is "overdueDelay"
- "Del. Notification DN - the BPML parameter is "deliveryNotificationDN"
- "Del. Notification Request Type - the BPML parameter is "deliveryNotificationRT"
- "Use Input Channel flag - the BPML parameter is "useInputChannel"
- "Recipient DN's - the BPML parameter is "recipientDN[1..N]"
- "Recipient List is public - the BPML parameter is "isRecipientListPublic"
- "Third Party DN's - the BPML parameter is "thirdPartyDN[1..N]"
- "Physical File Name - the BPML parameter is "physicalFilename"
- "Logical File Name - the BPML parameter is "logicalFilename"
- "Transfer Description - the BPML parameter is "transferDesc"
- "Transfer Info - the BPML parameter is "transferInfo"
- "File Description - the BPML parameter is "fileDesc"
- "File Info - the BPML parameter is "fileInfo"
- "Authorization Status - the BPML parameter is "AuthDecision"
- "Third Party to Receiver Info - the BPML parameter is "ToRcvrInfo"
- "Third Party to Sender Info - the BPML parameter is "ToSndrInfo"
- "Third Party Refusal Info - the BPML parameter is "RefuseReason"
- "Copy SnF Reference - the BPML parameter is "MessageName"
- "Queue Name - the BPML parameter is "queueName"
- "Queue Sharing Mode - the BPML parameter is "queueSharingMode"
- "Report Option/Report Time - the BPML parameter is "reportOption"
- "Requestor Pattern - the BPML parameter is "requestorPatternCriteria"
- "Input Channel Name - the BPML parameter is "inputChannelCriteria"
- "Messaging Service - the BPML parameter is "messagingServiceCriteria"
- "Country or Region Location - the BPML parameter is "locationCriteria1"
- "Report Service Name - the BPML parameter is "serviceNameCriteria"
- "Report Priority - the BPML parameter is "messagePriorityCriteria"

- "(Input/Output) Channel Pattern - the BPML parameter is "channelPatternCriteria"
- "Queue Name Pattern - the BPML parameter is "queuePatternCriteria"
- "Queue First - the BPML parameter is "queueFirstCriteria"
- "Report Version - the BPML parameter is "reportVersion"
- "Report Start Time - the BPML parameter is "reportStartTime"
- "Report End Time - the BPML parameter is "reportEndTime"

serverAdapterName

The name of SWIFTNet7 Adapter instance or group. The service uses this instance/group name to look up its configuration for the MEFG host and port, security context and also input channel, and so forth. If this parameter is not specified, the service will look for the default instance (SWIFTNet7Adapter).

numOfRetries

The total number of times to resend this message in case of any transient failure. If not specified, the default is three times.

switchToSnF

Whether to switch to store-and-forward mode when real-time transmission fails. Select True if you want to switch to Store and Forward mode when the real-time transmission (InterAct and FileAct Put) has failed. Valid values are True and False.

SnFServiceName

The name of the store-and-forward service. Required when Switch to SnF mode when real-time transmission failed is set to True.

SnF

Indicates if the file transfer is done using the store-and-forward method. Valid values are True (use Store-and-Forward) and False (default—do not use Store-and-Forward). Required.

swiftOp

The SWIFTNet operation to send an InterAct or FileAct message Possible values are:

- sync (default)—InterAct
- async—InterAct
- put—FileAct
- get—FileAct

Required.

nonRepudiation

Indicates whether non-repudiation is required. Possible values are TRUE (when enabled, trading partners cannot deny that they sent a request) or FALSE (default, indicating that non-repudiation is not required). Optional.

requestType

SWIFT request type, For example, pain.001.02.01 or xsys.018.001.01.

serviceName

Name of the service to which both SWIFT correspondents have subscribed. Required.

This must be SWIFTNet service to which you are subscribed. For example: swift.devsup.fa!x1. This service name may be overwritten when sending a system message.

requestReference

User reference of the request. This parameter is alphanumeric. Optional.

requestorDN

Distinguished name of the requestor. Required.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

responderDN

Distinguished name of the responder. Required.

This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation. This DN may be overwritten in the case of sending system message or file/message distribution.

authoriserDN

Distinguished name for the authoriser. This is used for a non-input channel to look for context.

messagePriority

Indicates priority handling in the queue for store-and-forward only. Optional.

This value is used as a selection criterion when delivering messages from a queue, and in SWIFTNet FileAct to influence the pace of the FileAct flow. Valid values are Normal or Urgent. Leave this parameter blank if you want to use the default.

messageID

Message identifier for resending a message if Possible Duplicate is set to TRUE. Optional.

Note: Normally, you only need to specify this if possibleDuplicate = TRUE.

possibleDuplicate

Indicates whether to include a trailer specifying that this message may be a duplicate.

This is an optional component of the envelope that indicates that this message may already have been sent. For example, if the system crashes during the delivery of a message, another copy of the message could be sent, with this trailer included to indicate that it may be a duplicate.

Possible values are TRUE and FALSE (default). Optional.

HeaderInfo

The Enhanced Header information. Since Enhanced Header Info is usually an XML structure, you should specify it as CDATA.

AppHeader

An XML structure that is only used in InterAct case (either real-time or SnF). If this parameter is not specified, the default AppHeader structure is used (as in version 6.x).

sign Whether an end-to-end signature is required. Valid values are Crypto, SignatureList, or do not specify this tag if you do not want to use signing.

returnSignatureList

Whether to return a signature list.

useRND

Whether to use RND (digest reference values that terminate on “and RND”). Valid values are False (default) and True.

deliveryNotification

Indicates that the sender asked the receiver to send a delivery notification. Possible values are TRUE or FALSE. Optional.

Note: This parameter is only displayed when you select True for SnF or are performing a FileAct Put. If you are performing a Put operation, you can request the responder to send you a delivery notification and specify a different Delivery Notification DN and Request Type of Delivery Notification, if desired. If you are performing a Get operation, the responder can request Delivery Notification from the requestor after receiving the file. That setting for delivery notification is configured through the SWIFTNet Server adapter. For System Message or InterAct Real-Time, this parameter will be overwritten to FALSE. Otherwise, you can choose whether you want to receive delivery notification.

notificationQueue

Whether a notification queue will be used. If you selected SnF = TRUE, this parameter is required.

overdueDelay

Specify the overdue delay. For SnF = TRUE, you must specify an integer value between 5 - 20160 (minutes). If the value between 5 - 1440, the tag <Sw:OverdueWarningDelay> will be output. Otherwise the tag <Sw:OverdueTime> will be output.

notificationAsSystemMsg

For SnF = TRUE, deliver the notification as system message TRUE/FALSE. If using overdueDelay, this will be set to TRUE.

deliveryNotificationDN

For FileAct Real-Time, this is the delivery notification distinguished name (valid DN).

deliveryNotificationRT

For FileAct Real-Time, this is the delivery notification Request Type.

useInputChannel

For InterAct SnF, whether to use the input channel.

copyIndicator

When using Copy Service this is an indicator that you want the Copy to occur. When ASP is used, this parameter is validated against ASP. Otherwise, when this parameter is specified, the system assumes you are using CopyService.

authNotifIndicator

When using Copy Service this is an indicator that you want to receive authorisation notification from third party (for Y-Copy). If ASP is used, this parameter is validated. Otherwise, it is assumed that if this parameter is specified by the user, that this service is a Y-Copy service.

thirdPartyDN[1..N]

Copy destination(s). For T-Copy service, you can specify up to ten. For Y-Copy, you can only specify one. This is only validated if ASP is used.

recipientDN[1..N]

Allows you to specify multiple destination if it is not a copy service.

isRecipientListPublic

Whether the recipient list is public. Used only if recipient List is used.

physicalFilename

Optional. Only for FileAct. For a FileAct Put, this is the full path and the physical name of the file to send. For a FileAct Get, this is the full path and the physical name of the file to save after the Get is completed.

logicalFilename

This name is communicated to the server application. By default, this name is the physical name without the file path. Optional. Only for FileAct.

For a FileAct Put, this is the logical name of the file to be saved based on the <reception_dir>/<responder_dn>/<requestor_dn>

For a FileAct Put, this is the logical name of the file to be saved based on the <download_dir>/<responder_dn>/<requestor_dn>

transferDesc

The transfer description. Only for FileAct. Optional.

transferInfo

User information about the transfer. Only for FileAct. Optional.

Note: This must follow the BNF format (see *Appendix C of SNL Interface Specifications*).

fileDesc

User information about the file transfer. Only for FileAct. Optional.

fileInfo

User description about the file transfer. Only for FileAct. Optional.

Note: This must follow the BNF format (see *Appendix C of SNL Interface Specifications*).

AuthDecision

The third party decision. Valid values are Authorised or Refused. Use this parameter with the thirdPartyAuth parameter.

ToRcvrInfo

If you are the third party and decide to authorize a request or file notification, this parameter enables you to specify Third Party to Receiver Information. The information can be any format (plain text or XML). If you use XML format, this parameter should be CDATA.

ToSndrInfo

If you are the third party and decide to authorize a request or file notification, this parameter enables you to specify Third Party to Sender Information. The information can be in any format (plain text or XML). If you use XML format, this parameter should be CDATA.

RefuseReason

If you are the third party and you refuse a request or file notification, you can specify a Refusal Reason in this parameter. The information can be any format (plain text or XML). If you use XML format, this parameter should be CDATA.

MessageName

The name of the HeaderInfo message, as inserted into the mailbox. The

format is ThirdParty_[CopySnFRef]. When you use Mailbox Extract service to extract the HeaderInfo message from mailbox, by default the name is available in Process Data.

queueName

The queue name.

queueSharingMode

The queue sharing mode. Valid values are Shared or Exclusive.

reportOption

The report option. Depending on the system message sent, there may be different validations. For example, the xsys.004.001.01 format is RT or HHHMM. For xsys.008.001.*, the format is Full. For the xsys.018.001.01, the format is Input or Output.

requestorPatternCriteria

This is a request for pattern criteria. You can only use a wildcard at the last level distinguished name; the organization DN cannot use a wildcard.

inputChannelCriteria

This is the input channel criteria. Valid values are BIC_a or BIC_* (wild card behind, BIC must match requestorDN).

messagingServiceCriteria

This is the messaging service criteria. Valid values are InterAct or FileAct.

locationCriteria

This is the location criteria.

serviceNameCriteria

This is the service name criteria (specify any valid service).

messagePriorityCriteria

This is the message priority criteria. The valid values are Urgent or Normal.

channelPatternCriteria

This is the channel pattern criteria. Valid values are BIC_a or BIC_* (wild card behind, BIC must match requestorDN).

queuePatternCriteria

This is the queue pattern criteria. Valid values are BIC_a or BIC_* (wild card behind, BIC must match requestorDN).

queueFirstCriteria

This is the queue first criteria. Valid values are TRUE or FALSE.

reportVersion

This is the report version. Valid values are 1 or 2.

reportStartTime

This is the start time of the report in zulu time format (for example, 2010-05-30T15:34:21Z).

reportEndTime

This is the end time of the report in zulu time format (for example, 2010-05-30T15:34:21Z).

Chapter 38. SWIFTNet Import ASP Service

The SWIFTNet Import ASP service provides an interface to store the service configurations in the database that is received from SWIFT. These service configurations are used to validate the SWIFTNet Client Profile if the useASP property is set to TRUE. The following table provides an overview of the SWIFTNet Import ASP service:

System Name

SWIFTNetImportASPService

Graphical Process Modeler (GPM) categories

All services

Description

This service provides an interface to validate the message parameters based on the client profile when import an ASP file from SWIFT (for SWIFTNet7).

Business usage

The SWIFTNet7 Adapter uses this service to import Application Service Profiles to the system.

Usage example

You would like to import the ASP profiles given to you by SWIFT into your system. You execute the SWIFTNet7ImportASP business process with the ASP.zip file as the input document.

Preconfigured?

Yes, preconfigured as part of the Sterling B2B Integration installation.

Requires third party files?

No third party files are required.

Platform availability

All supported Sterling B2B Integration platforms.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Server and the Command Line Adapter 2. This service works with the SWIFTNet HTTP Server adapter to provide SSL support, and works with the SWIFTNet7 HTTP Client adapter, SWIFTNet7 HTTP File System adapter, SWIFTNet7 Adapter Scheduler, SWIFTNet7 Client Service, SWIFTNet7 Server Service, SwiftNet Import ASP Service, and SwiftNet Import RMA Service.

Application requirements

None.

Initiates business processes?

Initiates system business processes.

Invocation

You use this service in the business process. There is a preconfigured business process, SWIFTNet7ImportASP.bpml that you can execute with the ASP.zip file as the input document.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

None.

Persistence level

N/A

Testing considerations

N/A

Implementing the SWIFTNet Import ASP Service

You do not need to do anything to implement the SWIFTNet Import ASP adapter

Configuring the SWIFTNet Import ASP Adapter

You do not need to do anything to configure the SWIFTNet Import ASP adapter. You use this service in the business process. There is a preconfigured business process, SWIFTNet7ImportASP.bpml that you can execute with the ASP.zip file as the input document.

SWIFTNet7ImportASP Business Process

The following is the SWIFTNet7ImportASP BPML:

```
<process name="SWIFTNet7ImportASP">
  <sequence name="Importing ASP">
    <operation name="Setting UserToken">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="Import ASP">
      <participant name="SWIFTNetImportASPService"/>
      <output message="handleImportASP">
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

Chapter 39. SWIFTNet Import RMA Service

The SWIFTNet Import RMA service provides an interface to import RMA distribution files (authorization records) from SWIFT RMA (Relationship Management Application) and to handle traffic authorization based on the RMA records (for SWIFTNet7).

In SWIFTNet 7.0, the RMA feature is used to control

- Who can send the user messages
- What they can send
- When they can send the messages

RMA consists of two parts:

1. RMA management software: software that each user operates in his or her local environment, to perform exchanges and securely store the resulting authorization records in the user's local RMA data store. The first part can be performed using existing SwiftAlliance RMA software.
2. RMA traffic filtering: applications that make decisions to authorize traffic, based on the authorizations that the RMA management has stored. This second part is the component that is implemented in the SWIFTNet Import RMA service.

The RMA management software exports the authorization records to a file. The traffic filtering then imports the records and uses them to filter the traffic.

The export can be run automatically at a certain interval from SwiftAlliance RMA. The import can be run using SWIFTNet7ImportRMA business process to import the RMA records into the system.

RMA uses InterAct messages to send authorizations. Authorizations are exchanged for live services over swift.rma, and over swift.rma!p for the pilot service and FIN Test and Training.

RMA sends an Authorization PDU (Protocol Data Unit) of the active authorization to the InterAct store-and-forward queue. The message is transmitted over SWIFTNet to your correspondent's InterAct store-and-forward queue. At a subsequent time, your correspondent's RMA pulls the notification from the store-and-forward queue and creates an Authorization to Send, which it stores with the status "Pending Accept." The Transmission Status of the Authorization to Receive reflects the status of the underlying InterAct Authorization PDU that is sent to the correspondent.

The following table provides an overview of the SWIFTNet Import RMA service:

System Name

SWIFTNetImportRMAService

Graphical Process Modeler (GPM) categories

All services

Description

The SWIFTNet Import RMA service provides an interface to import RMA

distribution files (authorization records) from SWIFT RMA (Relationship Management Application) and to handle traffic authorization based on the RMA records (for SWIFTNet7).

Business usage

It is used to import RMA records into the system.

Usage example

RMA software generates and exports the RMA records into an XML file, and then this service imports the XML file containing the RMA records into the system.

Preconfigured?

Yes, preconfigured as part of the Sterling B2B Integration installation.

Requires third party files?

No third party files are required.

Platform availability

All supported Sterling B2B Integration platforms.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Server and the Command Line Adapter 2. This service works with the SWIFTNet HTTP7 Server adapter to provide SSL support, and works with the SWIFTNet7 HTTP Client adapter, SWIFTNet7 HTTP File System adapter, SWIFTNet7 Adapter, SWIFTNet7 Adapter Scheduler, SWIFTNet7 Client Service, SWIFTNet7 Server Service, SwiftNet Import ASP Service, and SwiftNet Import RMA Service.

Application requirements

None.

Initiates business processes?

No.

Invocation

You execute this service from a business process.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

None.

Persistence level

N/A

Testing considerations

N/A

Implementing the SWIFTNet Import RMA Service

You do not need to do anything to implement the SWIFTNet Import RMA service. However, you need to define Message Partner and Endpoint rules for RMA on the

Alliance Gateway or the Alliance Starter Set system.

Chapter 40. SWIFTNet7 Server Service

The SWIFTNet7 Server service handles any inbound request (for SWIFTNet7). The following table provides an overview of the SWIFTNet7 Server service:

System Name

SWIFTNet7ServerService

Graphical Process Modeler (GPM) categories

All services

Description

This service handles any inbound request for SWIFTNet7. Using this service, you are able to parse incoming XML request, build the XML response, evaluate the routing rule and perform the action. Additionally, this service obviates the need to replicate your BPML in cluster mode because there is no affinity to a specific instance of the SWIFTNet7 Adapter.

Business usage

The SWIFTNet7 Adapter uses this service to exchange SWIFTNet InterAct and FileAct messages with its trading partners over the SWIFTNet system.

Usage example

When an InterAct or FileAct message is received, a business process is executed to process the message and, when required, to generate the SWIFTNet response.

Preconfigured?

Yes, preconfigured as part of the Sterling B2B Integration installation.

Requires third party files?

No third party files are required.

Platform availability

All supported Sterling B2B Integration platforms.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Server and the Command Line Adapter 2. This service works with the SWIFTNet7 HTTP Server adapter to provide SSL support, and works with the SWIFTNet7 File System adapter, SWIFTNet7 Adapter, SWIFTNet7 Adapter Scheduler, SWIFTNet7 Client Service, SwiftNet Import ASP Service, and SwiftNet Import RMA Service.

Application requirements

None.

Initiates business processes?

Initiates system business processes.

Invocation

By the SWIFTNet7 HTTP Server Adapter.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error

- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

None.

Persistence level

N/A

Testing considerations

N/A

Implementing the SWIFTNet7 Server Service

You do not need to do anything to implement the SWIFTNet7 Server service.

Configuring the SWIFTNet7 Server Service

You do not need to do anything to configure the SWIFTNet7 Server service.

Chapter 41. SWIFTNet Client Service

The SWIFTNet Client service is responsible for sending SWIFT InterAct or FileAct messages (both requests and responses) to SWIFTNet, which are initiated by the IBM Sterling B2B Integrator. The SWIFTNet Client service enables you to use InterAct or FileAct messaging with a Store and Forward option. Additionally, the SWIFTNet Client service enables you to use either synchronous or asynchronous messaging for InterAct and either put or get messaging for FileAct.

Note: Each instance of the SWIFTNet Client service is configured for a pair of requestor/responder DNs and the SWIFTNet Client service name. This service may also be used by a third party to send authorization and refusal messages.

The following table provides an overview of the SWIFTNet Client service:

System Name

SWIFTNetClientService

Graphical Process Modeler (GPM) categories

All Services.

Description

This service is responsible for sending SWIFT InterAct and FileAct messages (both requests and responses) to SWIFTNet, which are initiated by the IBM Sterling B2B Integrator.

The SWIFTNet Client service is also executed during system processing to create the SWIFTNet message header based on the configuration set in the CHIPS adapter. The request type is either chips.payment (if the transaction code is 10) or chips.message (for all transaction codes except 10). You do not need to specifically configure the SWIFTNet Client service for use with CHIPS.

Business usage

Use this service to send financial information based on SWIFT InterAct and FileAct messages to another participant in the SWIFTNet Central network. The business value of this service is inherent in utilizing the benefits of the SWIFTNet Central network to exchange financial messages.

Usage example

You wish to cancel a Customer Credit Transfer (MT192). The user uses the service to send out the Cancel Request, and wait for confirmation (MT 196). In this case, the request is sent out synchronously, with the service remaining open until the response is received.

Preconfigured?

Yes.

Requires third party files?

No third party files are required.

Platform availability

All supported application platforms.

Related services

This service works with the SWIFTNet Server adapter, the SWIFTNet HTTP Server adapter, the SWIFTNet MEFG Server, and the Command Line Adapter 2.

Application requirements

The SWIFTNet MEFG Server must be installed and configured in order to use this service. SSL can be implemented between the IBM Sterling B2B Integrator and the SWIFTNet MEFG Server. You must also configure the SWIFTNet HTTP Server adapter.

Initiates business processes?

No.

Invocation

A user who has permission to perform this activity must execute the business process that invokes this service.

Business process context considerations

None

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

Only one SWIFTNet MEFG Server can be configured to talk to one SWIFTNet Server Adapter instance in the IBM Sterling B2B Integrator.

Persistence level

N/A

Testing considerations

To test this adapter, run the SWIFTNet Client business process and verify that it completes successfully. Debug information for this service is located at:

Operations > System > Logs > SWIFTNet

How the SWIFTNet Client Service Works

The SWIFTNet Client service prepares the request and sends it to the SWIFTNet MEFG Server. The client application on the SWIFTNet MEFG Server processes this request, performs the necessary communication exchange with the SWIFTNet SAG/SNL instance, and sends the request to the SWIFTNet Central network. The SWIFTNet Client service can operate in either synchronous or asynchronous mode for InterAct. In synchronous mode, the request is sent to the SWIFTNet Central network using the SwInt:Exchange primitive. In asynchronous mode, the request is sent to the SWIFTNet Central network using the SwInt:Send primitive.

In synchronous mode, the SWIFTNet MEFG Server client application is blocked until a response is received from the responder through the SAG/SNL instance. Once a response is received, it is sent back to the IBM Sterling B2B Integrator by the client application on the SWIFTNet MEFG Server, and the response payload is placed in the primary document.

In asynchronous mode, the SWIFTNet MEFG Server client application receives a response handle from the SAG/SNL instance. Using this response handle, the SWIFTNet MEFG Server client application periodically checks with SWIFTNet (using SwInt:Wait primitive) to determine if a response is available. Once a response is received, the response payload is placed in the primary document.

With release SWIFT 6.1, the use of a messaging interface that uses input channels is optional but is recommended. SWIFT plans to make it mandatory in a future release. Currently, the use of input channels is available for SWIFTNet InterAct Store and Forward (SnF) only.

If you configure the Input Channel in the SWIFTNet Server adapter, the SWIFTNet MEFG Server opens the Input Channel automatically during startup (when the SWIFTNet Server adapter is enabled). This Input Channel remains open until the SWIFTNet MEFG Server is shut down (when the SWIFTNet Server adapter is disabled). During this time, you have the option to send message using the input channel or without the input channel if you indicate this using the Input Channel parameter in the SWIFTNet Client service.

When SWIFTNet Copy is used, the Copied Request is sent to a third party in one of two modes: T-Copy (third party copy is for information only) or Y-Copy (third party needs to do authorization). When SWIFTNet Copy is used, the message/file copy is queued for delivery to the configured third party as soon as the third party is ready to receive. The third party has to acknowledge the receipt of the copy like any other message or file delivered from a queue. When the mode is Y-copy, then the third party must authorize or refuse the message or file, which requires a system message to be sent to SWIFT. When authorizing the message or file, the authorization may contain information destined to the sender and information destined to the receiver of the message or file.

When using SWIFT 6.1, the IBM Sterling B2B Integrator may act as a third party. If the Copy Mode is Y-Copy, the IBM Sterling B2B Integrator sends an authorization message, which is like sending an Interact store-and-forward request. The SWIFTNet Client service is used, but you must set the you must set the **thirdPartyAuth** parameter to TRUE, and provide the authorization decision (either Authorised or Refused) for the **AuthDecision** parameter. Additionally, the third party may provides information destined to the sender or receiver of the message or file.

Implementing the SWIFTNet Client Service

To implement the SWIFTNet Client service, complete the following tasks:

1. Create a configuration of the SWIFTNet Client service. For information about the fields specific to this service, see “Configuring the SWIFTNet Client Service” on page 210.

Note: If you create a new configuration of the SWIFTNet Client service, you must also create a new business process or edit a copy of the appropriate predefined business process, SWIFTNetClient.bp or SWIFTNetClientFA.bp, to update it to use your service configuration. You do not need to create an instance of the SWIFTNet Client service for every Requestor or Responder DN; you can simply reuse the SWIFTNet Client service instance and pass the parameters that differ from the sample service through the business process.

2. Specify field settings for the service configuration in the IBM Sterling B2B Integrator Admin Console and in the GPM as necessary. See “Configuring the SWIFTNet Client Service” on page 210.

Note: When you create the configuration, you will configure it differently depending on whether you are using InterAct or FileAct messaging. Either can be used with or without the store-and-forward option.

Configuring the SWIFTNet Client Service

1. Select **Deployment > Services > Configuration**.
2. Search for SWIFTNet Client service or select it from the list and click **Go!**.
3. Click **Edit**.
4. Specify field settings in the Admin Console or Business Process (“Creating or Setting Up a Service Configuration in the Admin Console or Business Process”), or the GPM (“Setting Up the Service in the GPM” on page 215).

Note: Each instance of the SWIFTNet Client service is configured for a pair of requestor/responder DNs and the SWIFTNet Client service name.

5. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected.

Creating or Setting Up a Service Configuration in the Admin Console or Business Process

Use the field definitions in the following table to create a new configuration of the SWIFTNet Client service, or to set up the configuration provided with the IBM Sterling B2B Integrator. Some fields are available in both the Admin Console and in the GPM.

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – Do not include the configuration in a service group at this time.
- Create New Group – Enter a unique name for a new group, which will be created with this configuration. (You can then add other services to the group as well.)
- Select Group – If service groups already exist for this service type, they are displayed in the list. Select a group from the list.

SWIFTNet Interface

SWIFTNet message type. Valid values are **InterAct** or **FileAct**. Required.

Store and Forward

Indicates if the file transfer is done using the store-and-forward method. Valid values are True (use Store-and-Forward) and False (default—do not use Store-and-Forward). Required. BPML element value is **SnF**.

SWIFTNet Operation

The SWIFTNet operation to send an InterAct or FileAct message. Possible values are:

- Synchronous (default)—InterAct
- Asynchronous—InterAct
- Put—FileAct
- Get—FileAct

Required. When SWIFTNet Operation is FileAct, you must select either Put or Get. If you do not select an operation, the service uses Synchronous as the default value.

BPML element value is **sync** (default) or **async for InterAct, or Put or Get for FileAct**.

Requestor DN

Distinguished name of the requestor. Required. BPML element value is **requestorDN**.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

Responder DN

Distinguished name of the responder. Required. BPML element value is **responderDN**.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

Service Name

Name of the service to which both SWIFT correspondents have subscribed. Required. BPML element value is **serviceName**.

Note: This must be a SWIFTNet service to which you are subscribed.

Authoriser DN

The distinguished name of the authorizing party. Optional.

This service allows Third Party Copy

Whether this service uses T-Copy or Y-Copy (check your service agreement with SWIFT). BPML element value is **thirdPartyCopy**. Valid values are TRUE or FALSE.

This parameter is displayed only if you selected **File Act** and **True** for **Store and Forward** on SWIFTNet Client Service Interface page.

Note: If the Copy Mode is Y-Copy, the IBM Sterling B2B Integrator sends an authorization message, which is like sending an Interact store-and-forward request. The SWIFTNet Client service is used, but you must set the **This service allows Third Party Copy** parameter to TRUE, and provide the authorization decision (either Authorised or Refused) for the AuthDecision parameter.

Request for Third Party Copy

Whether you are requesting third party copy. When the Copy feature is defined as Optional in the service agreement, you can choose whether you want the Third Party Copy to occur. BPML element value is **copyIndicator**. Valid values are TRUE or FALSE. Displayed only if you select True for **This service allows Third Party Copy**.

Note: This parameter is displayed only if you selected **True** for **This service allows Third Party Copy**.

Request for Notification from Third Party

In T-Copy mode, this setting is not applicable, the value should always be set to FALSE.

In Y-Copy mode, when the **Authorisation Notification Indicator** feature is available and defined as Optional in the service agreement, you can choose whether you want to receive the Authorisation Notification messages.

BPML element value is **authNotifIndicator**. Valid values are TRUE or FALSE. Displayed only if you selected **True** for **This service allows Third Party Copy**.

Note: This parameter is displayed only if you selected **True** for **This service allows Third Party Copy**.

Request Type

Request type supported by the message exchange. Optional for InterAct and required for FileAct in SWIFTNet 6.0. BPML element value is **requestType**.

Note: In SWIFTNet 6.0 FileAct the format convention is as follows:
<business_area>.<type_of_syntax>.<detailed_syntax_and_format>

This format starts with a four-character business area code, followed by a period (dot), followed by a three-character code that designates the type of syntax (which can be <nnn>, FIN, or xxx), followed by another period (dot), and then followed by a more detailed indication of syntax and format.

Request Reference

User reference of the request. Optional. BPML element value is **requestReference**.

Non Repudiation Required

Indicates whether non-repudiation is required. Possible values are True (when enabled this means that trading partners cannot deny that they sent a request) or False (default—when enabled this indicates that non-repudiation is not required). Optional. BPML element value is **nonRepudiation**.

Switch to SnF mode when real-time transmission failed

Indicates whether you want to switch to store-and-forward mode if a real-time transmission (InterAct or a FileAct Put) has failed. Possible values are True or False (default). Required. BPML element value is **switchToSnF**.

Store and Forward Service Name

The name of the store-and-forward service. Required when Switch to SnF mode when real-time transmission failed is set to True. BPML element value is **SnFServiceName**.

End-to-End Signature Required

Whether an end-to-end signature is required. Valid values are False (default) and True. Optional.

Note: You can use an end-to-end signature regardless of whether you are using non-repudiation (for example, for SWIFT SCORE messages).

Number of Retries

Number of retries to connect to SAG. Default value is 3. Optional. BPML element value is **numOfRetries**.

Retry Delay (in seconds)

Time that will elapse before the next retry. Default value is 60 (seconds). Optional. BPML element value is **secInRetryDelay**.

Trace Trace for logging purposes in the SWIFTNet MEFG Server. Valid values are True and False (default). Required. BPML element value is **trace**.

Use Signature List

Whether to use a signature list. This enables you to select your own signatures. If you do not use a signature list then normal Crypto is used. Valid values are False and True. Required.

Note: This parameter is displayed only if you selected **True** for **End-to-End Signature Required**.

Return Signature List

Whether to return a signature list. Valid values are False and True. Required.

If you want a signature list returned, the SWIFTNet MEFG Server receives the requestor's own signature in the response message. This returned signature will be extracted and saved as a separate message. This message is stored in the database and is made available for Correlation search.

Note: This parameter is displayed only if you selected **True** for **End-to-End Signature Required**.

Use RND

Whether to use RND (digest reference values that terminate on "and RND"). Valid values are False (default) and True. Required.

Note: This parameter is displayed only if you selected **True** for **End-to-End Signature Required**.

Delivery Notification (Del. Notifn)

Indicates that the sender asked the receiver to send a delivery notification. Possible values are True or False (default). Optional. BPML element value is **deliveryNotification**.

Note: This parameter is only displayed when you select **True** for Store and Forward or are performing a FileAct Put. If you are performing a Put operation, you can request the responder to send you a delivery notification and specify a different Delivery Notification DN and Request Type of Delivery Notification, if desired. If you are performing a Get operation, the responder can request Delivery Notification from the requestor after receiving the file. That setting for delivery notification is configured through the SWIFTNet Server adapter.

Request Type of Delivery Notification

Used to request a specific delivery notification message from the remote receiving server IBM Sterling B2B Integrator when it returns the delivery notification (when Delivery Notification is set to True). Optional. BPML element value is **requestTypeDelNotifn**.

Note: This parameter is only displayed when you select **True** for Store and Forward or a FileAct Put.

Message Priority

Indicates priority handling in the queue for store-and-forward only. Valid values are Normal (default) and Urgent. Optional. BPML element value is **messagePriority**.

Note: This value is used as a selection criterion when delivering messages from a queue, and in SWIFTNet FileAct to influence the pace of the FileAct flow.

Use Input Channel

Whether to use the input channel. Valid values are False (default) and True. Required. This parameter is displayed only if you selected **True** for **Store and Forward** and **InterAct** for **SWIFTNet interface**.

Note: Used for InterAct store-and-forward only. Select **True** if you are using an input channel. If you configure this parameter, the SWIFTNet MEFG Server opens the Input Channel automatically during the startup (when the SWIFTNet Server Adapter is enabled). This Input Channel remains open until the SWIFTNet MEFG Server is shut down (or the SWIFTNet Server Adapter is disabled). During this time, you still have an option to send message using the input channel or without the input channel. All you need to do is to indicate this by using this parameter in SWIFTNet Client service.

MEFG SWIFTNet IP

The IP address for the SWIFTNet MEFG Server. Required.

MEFG SWIFTNet Port

The port for the SWIFTNet MEFG Server. Default is NULL. Optional.

Response Timeout

The timeout interval (in seconds) in which a response must be received or the message operation fails. Optional. Default is 60 seconds.

Use SSL

Whether to enable Secure Socket Layer (SSL) over HTTP communication between the IBM Sterling B2B Integrator and the SWIFTNet MEFG Server. Valid values are None and Must.

Note: Regardless of the value you select for **Use SSL**, you must also update the business processes associated with the SWIFTNet Client service. See "Upgrading the SWIFTNetClient Business Process to Use the Integrated SWIFTNet Client Service" on page 229 for more information.

Cipher Strength

Indicates the strength of the cipher. Possible values are ALL (default), WEAK, and STRONG. Optional.

CA Certificate

The CA certificate of the SWIFTNet MEFG Server.

Note: This is the public key certificate that must be configured to set up the outbound SSL channel. This page is only displayed if you set **Use SSL** to **Must**.

Note: The SWIFTNet Client service Configuration page allows you to select the same CA Certificate for SSL processing a second time, and continues to allow additional selections of the same certificate in subsequent edits. If you have already selected a CA Certificate once for a configuration of the SWIFTNet Client service, do not select the same CA Certificate again, as this will result in an error when you execute the relevant business process.

Switch to SnF mode when real-time transmission failed

Whether to switch to store-and-forward mode when real-time transmission fails. Select True if you want to switch to Store and Forward mode when the real-time transmission (InterAct and FileAct Put) has failed. Valid values are True and False.

Physical Filename

Physical name of the file to send. Required if put or get is selected for the SWIFTNet Operation. BPML element value is **physicalFilename**.

Logical Filename

Logical name of the file to send. This name is communicated to the IBM Sterling B2B Integrator SWIFTNet Server. By default, this name is the Physical Filename without the path. Optional. BPML element value is **logicalFilename**.

File Information

User information about the file transfer. Optional. BPML element value is **fileInfo**.

File Description

User description about the file transfer. Optional. BPML element value is **fileDesc**.

Setting Up the Service in the GPM

Use the field definitions in the following table to set up the service configuration in the GPM:

Parameter**Description****deliveryNotification**

Indicates that the sender asked the receiver to send a delivery notification. Possible values are TRUE or FALSE. Optional.

Note: This parameter is only displayed when you select **True** for SnF or are performing a FileAct Put. If you are performing a Put operation, you can request the responder to send you a delivery notification and specify a different Delivery Notification DN and Request Type of Delivery Notification, if desired. If you are performing a Get operation, the responder can request Delivery Notification from the requestor after receiving the file. That setting for delivery notification is configured through the SWIFTNet Server adapter.

deliverynotification DN

Distinguished name of the Responder of the delivery notification. Optional.

deliverynotificationRT

Request type of the delivery notification. This is used for a FileAct Get. Required.

fileDesc

User description about the file transfer. Only for FileAct Put. Optional.

fileInfo

Specify whether the file will be compressed or not. Only for FileAct Put. Optional. In SWIFTNet 6.0 FileAct, the format convention is as follows:

SwCompression=<value>

Valid values are SwCompression=None (default) or SwCompression=ZIP.

Note: If you specify to use compression, you must have compressed the file before sending it to the SWIFTNet Server adapter.

interfaceMode

SWIFTNet message type. Valid values are InterAct or FileAct. The default value is InterAct. Required.

logicalFilename

This name is communicated to the server application. By default, this name is the physical name without the file path. Optional. Only for FileAct.

For a FileAct Put, this is the logical name of the file to be retrieved based on the <reception_dir>/<responder_dn>/<requestor_dn>.

For a FileAct Get, this is the logical name of the file to send based on the <download_dir>/<responder_dn>/<requestor_dn>.

messagePriority

Indicates priority handling in the queue for store-and-forward only. Optional.

Note: This value is used as a selection criterion when delivering messages from a queue, and in SWIFTNet FileAct to influence the pace of the FileAct flow.

nonRepudiation

Indicates whether non-repudiation is required. Possible values are TRUE (when enabled, trading partners cannot deny that they sent a request) or FALSE (default, indicating that non-repudiation is not required). Optional.

numOfRetries

Number of retries to connect to SAG. Default value is 3. Optional.

physicalFilename

Optional. Only for FileAct.

For a FileAct Put, this is the full path and the physical name of the file to send.

For a FileAct Get, this is the full path and the physical name of the file to save after the Get is completed.

possibleDuplicate

Indicates whether to include a trailer specifying that this message may be a duplicate.

This is an optional component of the envelope that indicates that this message may already have been sent. For example, if the system crashes during the delivery of a message, another copy of the message could be sent, with this trailer included to indicate that it may be a duplicate.

Possible values are TRUE and FALSE (default).

Optional.

requestorDN

Distinguished name of the requestor. Required.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

requestReference

User reference of the request. Optional.

requestType

Request type supported by the message exchange. Optional for InterAct and required for FileAct in SWIFTNet 6.0.

Note: In SWIFTNet 6.0 FileAct the format convention is as follows:
<business_area>.<type_of_syntax>.<detailed_syntax_and_format>

This format starts with a four-character business area code, followed by a period (dot), followed by a three-character code that designates the type of syntax (which can be <nnn>, FIN, or xxx), followed by another period (dot), and then followed by a more detailed indication of syntax and format

requestTypeDelNotifn

Used to request a specific delivery notification message from the remote receiving server application when it returns the delivery notification (when Non Repudiation required and/or Delivery Notification are set to TRUE).
Optional

responderDN

Distinguished name of the responder. Required.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

secInRetryDelay

Number of delays before the next retry. Default value is 60 (seconds).
Optional.

serviceName

Name of the service to which both SWIFT correspondents have subscribed. Required. This must be a SWIFTNet service to which you have already subscribed.

SnF

Indicates if the file transfer is done using the store-and-forward method. Valid values are True (use Store-and-Forward) and False (default—do not use Store-and-Forward). Required.

swiftOp

The SWIFTNet operation to send an InterAct or FileAct message Possible values are:

- sync (default)—InterAct
- async—InterAct
- put—FileAct
- get—FileAct

Required.

trace

Trace for logging purposes in the SWIFTNet MEFG Server. Possible values are 0 (no logging; this is the default) or 4 (logging is enabled). Optional.

transferDesc

User description about the transfer. Only for FileAct. Optional.

transferInfo

User information about the transfer. Only for FileAct. Optional.

switchToSnF

Indicates whether you want to switch to store-and-forward mode if a real-time transmission (InterAct or a FileAct Put) has failed. Possible values are True or False (default). Required.

SnFServiceName

The name of the store-and-forward service. Required when Switch to SnF mode when real-time transmission failed is set to True.

HTTPClientAdapter

HTTP Client Adapter instance that is used to communicate with the SWIFTNet MEFG Server. Optional. Default value is SWIFTNetHTTPClientAdapter.

MEFGServerHost

The IP address of the SWIFTNet MEFG Server. Required.

MEFGServerPort

The port of the SWIFTNet MEFG Server. Optional. Default value is 80.

MEFGServerResponse**Timeout**

Timeout period (in seconds) for the SWIFTNet MEFG Server to respond. Optional. Default value is 60.

UseSSL

Flag to indicate whether to secure communication between the IBM Sterling B2B Integrator and the SWIFTNet MEFG Server with SSL. Possible values are TRUE or FALSE (default). Optional.

CipherStrength

The level of encryption to be applied on the data channel. Possible values are All (default), Weak, or Strong. Optional.

CACertId

The public key certificates for the SWIFTNet MEFG Server. Required if SSL is set to TRUE.

sign Whether an end-to-end signature is required.

useSignatureList

Whether to use a signature list. This enables you to select your own signatures. If you do not use a signature list then normal Crypto is used.

returnSignatureList

Whether to return a signature list.

useRND

Whether to use RND (digest reference values that terminate on "and RND"). Valid values are False (default) and True.

useInputChannel

Whether to use the input channel.

messageID

The message identifier of the payload. This is used only when **Possible Duplicate** is set to **True**.

renewDN

The distinguished name of the user. This is used for the renewal of Security Context.

authoriserDN

The distinguished name of the authorizing party.

thirdPartyCopy

Flag to indicate whether this service should use T-Copy or Y-Copy. Only available for FileAct SnF. Valid values are TRUE or FALSE.

copyIndicator

When the Third Party Copy feature is defined as Optional in the service agreement, you can choose whether you want Third Party Copy to occur. Valid values are TRUE or FALSE.

authNotifIndicator

In T-Copy mode this setting is not applicable and the value should always be set to FALSE.

In Y-Copy mode, when the **Authorisation Notification Indicator** feature is available and defined as Optional in the service agreement, you can choose whether you want to receive back the Authorisation Notification messages. Valid values are TRUE or FALSE.

HeaderInfo

Your Enhanced Header Info. Since Enhanced Header Info is usually an XML structure, you should specify it as CDATA.

thirdPartyAuth

Flag to indicate that the IBM Sterling B2B Integrator is acting as Third Party who are going to send notification message (in Y-Copy mode). Valid values are TRUE or FALSE. This parameter should be used together with the required **AuthDecision** and **MessageName** parameters, and optional **ToSndrInfo**, **ToRcvrInfo** and **RefuseReason** parameters.

AuthDecision

Specify the third party decision here. Valid values are Authorised or Refused. Use this parameter with **thirdPartyAuth** parameter.

MessageName

Specify the name of the HeaderInfo message as inserted into the mailbox. The format is ThirdParty_[CopySnFRef]. When you use Mailbox Extract service to extract the HeaderInfo message from mailbox, by default the name is available in Process Data.

ToSndrInfo

If you are the third party and decide to Authorised a request or file notifications, this parameter enables you to specify "Third Party to Sender Information." The information can be any structure (plain text or XML). If you use XML structure, this parameter should be CDATA.

ToRcvrInfo

If you are the third party and decide to Authorised a request or file notifications, this parameter enables you to specify Third Party to Receiver Information. The information can be any structure (plain text or XML). If you use XML structure, this parameter should be CDATA.

RefuseReason

If you are the third party and you refuse a request or file notifications, you can specify Refusal Reason in this parameter. The information can be any structure (plain text or XML). If you use XML structure, this parameter should be CDATA.

Business Process Example

To construct a message you need to perform the following tasks:

- Create a configuration of the SWIFTNet Client service.
- Edit the SWIFTNetClient business process (or create a new business process) in the following manner:
 - Match the name of the business process that you create or modify.
 - If necessary, modify the SWIFTNet MEFG Server IP and port to point to your installation of the SWIFTNet MEFG Server.
 - Configure the business process for the Requestor DN/Responder DN pair and the SWIFTNet service name.

- Specify the request type and request reference for use in SWIFTNet.
- If required, select non-repudiation and possible duplicate (which enables the resending of the file in case of an error in transmission) parameters.
- Specify the number of retries to the SAG connection and the retry interval.
- Enable Document Tracking for AFT Tracking.

Note: You do not need to create an instance of the SWIFTNet Client service for every requestor or responder DN; you can reuse the SWIFTNet Client service instance and pass in the requestorDN, responderDN, and any other parameters that differ from the configuration of the sample service through the SWIFTNetClient business process.

This is the BPML for the example business process:

```
<operation>
<participant name="SWIFTNetClientService"/>
<output message="handleClientRequest">
<assign to="." from="*" />
<assign to="swiftOp">async</assign>
</output>
<input message="testing">
    <assign to="." from="*" />
</input>
</operation>
```

This is the complete BPML to execute the SWIFTNet Client service:

Note: The **bold** lines indicate information that you need to modify to match the business process you are using.

```
<process name="SWIFTNetClient">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

    <operation>
      <participant name="SWIFTNetClientService" />
      <output message="handleClientRequest">
        <assign to="." from="*"></assign>
        <assign to="interfaceMode">interact</assign>
        <assign to="swiftOp">sync</assign>
        <assign to="requestorDN">o=swiftbic,o=swift</assign>
        <assign to="responderDN">o=swiftbic,o=swift</assign>
        <assign to="serviceName">swift.generic.ia!x</assign>
        <assign to="SnF">FALSE</assign>
        <assign to="nonRepudiation">FALSE</assign>
        <assign to="possibleDuplicate">FALSE</assign>
        <assign to="deliveryNotification">FALSE</assign>
      </output>
      <input message="testing">
        <assign to="." from="*"></assign>
      </input>
    </operation>

  </sequence>
</process>
```

This is the complete BPML to execute the SWIFTNet Client service for FileAct for a Put:

```
<process name="SWIFTNet-FA-Put-NonSnF-DN">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

    <operation>
      <participant name="SWIFTNetClientService"/>
      <output message="handleClientRequest">
        <assign to="." from="*"></assign>
        <assign
to="physicalFilename">/local/share/measle/swiftdata/payload.txt</assign>
        <assign to="logicalFilename">payload.txt</assign>
        <assign to="transferInfo">payload</assign>
        <assign to="transferDesc">payload</assign>
        <assign to="fileDesc">payload</assign>
        <assign to="interfaceMode">fileact</assign>
        <assign to="swiftOp">put</assign>
        <assign to="requestorDN">o=swiftbic,o=swift</assign>
        <assign to="responderDN">o=swiftbic,o=swift</assign>
        <assign to="serviceName">swift.generic.falx</assign>
        <assign to="requestType">Type.SI.Server1</assign>
        <assign to="SnF">FALSE</assign>
        <assign to="nonRepudiation">FALSE</assign>
        <assign to="possibleDuplicate">FALSE</assign>
        <assign to="deliveryNotification">TRUE</assign>
      </output>
      <input message="testing">
        <assign to="." from="*"></assign>
      </input>
    </operation>

  </sequence>
</process>
```

This is the complete BPML to execute the SWIFTNet Client service for FileAct for a Get:

```
<process name="SWIFTNet-FA-Get-NonSnF-DN">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

    <operation>
      <participant name="SWIFTNetClientService"/>
      <output message="handleClientRequest">
        <assign to="." from="*"></assign>
        <assign
to="physicalFilename">/local/share/measle/swiftdata/payload-receive.txt</assign>
```

```

    <assign to="logicalFilename">payload.txt</assign>
    <assign to="interfaceMode">fileact</assign>
    <assign to="swiftOp">get</assign>
    <assign to="requestorDN">o=swiftbic,o=swift</assign>
    <assign to="responderDN">o=swiftbic,o=swift</assign>
    <assign to="serviceName">swift.generic.falx</assign>
    <assign to="SnF">FALSE</assign>
    <assign to="nonRepudiation">FALSE</assign>
    <assign to="possibleDuplicate">FALSE</assign>
    <assign to="deliveryNotification">TRUE</assign>
  </output>
  <input message="testing">
    <assign to="." from="*"></assign>
  </input>
</operation>

</sequence>
</process>

```

This is a sample business process for a third party to send an authorised notification message:

```

<process name="SWIFTNetClient">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>
    <operation>
      <participant name="SWIFTNetClientService"/>
      <output message="handleClientRequest">
        <assign to="." from="*"></assign>
        <assign to="thirdPartyAuth">TRUE</assign>
        <assign to="AuthDecision">Authorised</assign>
        <assign to="MessageName">ThirdParty_snp892349710118</assign>
        <assign to="ToSndrInfo">Plain text example</assign>
        <assign to="ToRcvrInfo"><![CDATA[<info><abc>XML
example</abc></info>]]></assign>
      </output>
      <input message="testing">
        <assign to="." from="*"></assign>
      </input>
    </operation>
  </sequence>
</process>

```

This is a sample business process for a third party Third Party to send a refused notification message.

```

<process name="SWIFTNetClient">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

```

```

<operation>
  <participant name="SWIFTNetClientService"/>
  <output message="handleClientRequest">
    <assign to="." from="*" />
    <assign to="thirdPartyAuth">TRUE</assign>
    <assign to="AuthDecision">Refused</assign>
    <assign to="MessageName">ThirdParty_snp892349710118</assign>
    <assign to="RefuseReason">Plain text example</assign>
  </output>
  <input message="testing">
    <assign to="." from="*" />
  </input>
</operation>
</sequence>
</process>

```

This is a sample business process to send a FileAct store-and-forward with Header Info:

```

<process name="SWIFTNetClient">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation>
      <participant name="SWIFTNetClientService"/>
      <output message="handleClientRequest">
        <assign to="." from="*" />
        <assign to="interfaceMode">fileact</assign>
        <assign to="swiftOp">put</assign>
        <assign to="SnF">TRUE</assign>
        <assign to="requestorDN">o=swiftbic,o=swift</assign>
        <assign to="responderDN">o=swiftbic,o=swift</assign>
        <assign to="serviceName">swift.generic.fail</assign>
        <assign to="requestType">pain.001.001.01</assign>
        <assign
to="physicalFilename">/local/share/measle/swiftdata/payload.txt</assign>
        <assign to="logicalFilename">payload.txt</assign>
        <assign to="transferInfo">Date=29082008</assign>
        <assign to="transferDesc">transfer desc</assign>
        <assign to="fileInfo">SwCompression=None</assign>
        <assign to="fileDesc">file desc</assign>
        <assign to="HeaderInfo"><![CDATA[<App1Spcfc
xmlns="urn:swift:xsd:App1Spcfc.TxsCtr.01"><TxsCtr><Tt1NbOfTxs>5</Tt1NbOfTxs></T
xsCtr></App1Spcfc>]]></assign>
        <assign to="nonRepudiation">FALSE</assign>
        <assign to="possibleDuplicate">FALSE</assign>
        <assign to="deliveryNotification">FALSE</assign>
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>

```

This is the complete business process to open the input channel:

```

<process name="SWIFTNetOpenInputChannel">
  <sequence name="SWIFTNetOpenInputChannel">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- build Open request -->
    <operation name="Service">
      <participant name="SWIFTNetClientService"/>
      <output message="openInputChannelRequest">
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>

```

This is the complete business process to close the input channel:

```

<process name="SWIFTNetCloseInputChannel">
  <sequence name="SWIFTNetCloseInputChannel">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- build Close request -->
    <operation name="Service">
      <participant name="SWIFTNetClientService"/>
      <output message="closeInputChannelRequest">
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>

```

This is the complete business process to create the input channel:

```

<process name="SWIFTNetCreateInputChannel">
  <sequence name="SWIFTNetCreateInputChannel">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*"></assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>
    <!-- build Create request -->
    <operation>

```

```

        <participant name="SWIFTNetClientService"/>
        <output message="createInputChannelRequest">
            <assign to="." from="*"></assign>
            <assign to="authoriserDN">Put a value here</assign>
            <assign to="inputChannelName">Put a value here</assign>
        </output>
        <input message="inmsg">
            <assign to="." from="*"></assign>
        </input>
    </operation>
</sequence>
</process>

```

This is the complete business process to delete the input channel:

```

<process name="SWIFTNetDeleteInputChannel">
    <sequence name="SWIFTNetDeleteInputChannel">
        <operation name="set user token">
            <participant name="SetUserToken"/>
            <output message="SetUserTokenMessage">
                <assign to="USER_TOKEN">admin</assign>
                <assign to="." from="*"></assign>
            </output>
            <input message="inmsg">
                <assign to="." from="*"></assign>
            </input>
        </operation>
        <!-- build Delete request -->
        <!-- W A R N I N G   N O T E   -->
        <!-- Once deleted, the input channel cannot be re-created or used anymore
-->
        <operation>
            <participant name="SWIFTNetClientService"/>
            <output message="deleteInputChannelRequest">
                <assign to="." from="*"></assign>
                <assign to="authoriserDN">Put a value here</assign>
                <assign to="inputChannelName">Put a value here</assign>
            </output>
            <input message="inmsg">
                <assign to="." from="*"></assign>
            </input>
        </operation>
    </sequence>
</process>

```

This is the complete business process to renew the Security Context:

```

<process name="SWIFTNetClientRenewSecContext">
    <sequence name="SWIFTNetClientService">
        <operation name="set user token">
            <participant name="SetUserToken"/>
            <output message="SetUserTokenMessage">
                <assign to="USER_TOKEN">admin</assign>
                <assign to="." from="*" />
            </output>
            <input message="inmsg">
                <assign to="." from="*" />
            </input>
        </operation>
        <!-- build SWIFTNET request -->
        <operation>
            <participant name="SWIFTNetClientService"/>
            <output message="renewSecurityContext">
                <assign to="renewDN">o=swiftbic,o=swift
</assign>
                <assign to="." from="*" />
            </output>
            <input message="testing">

```

```

        <assign to="." from="*" />
    </input>
</operation>
</sequence>
</process>

```

Parameters Passed From Business Process to Service

The following table contains the parameters passed from the business process to the SWIFTNet Client service:

Parameter

Description

swiftOp

The SWIFTNet operation to send an InterAct or FileAct message Possible values are:

- sync (default)—InterAct
- async—InterAct
- put—FileAct
- get—FileAct

Required.

trace Trace for logging purposes in the SWIFTNet MEFG Server. Possible values are 0 (no logging; this is the default) or 4 (logging is enabled). Optional.

numOfRetries

Number of retries to connect to SAG. Default value is 3. Optional.

secInRetryDelay

Time that will elapse before the next retry. Default value is 60 (seconds). Optional.

requestorDN

Distinguished name of the requestor. Required.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

responderDN

Distinguished name of the responder. Required.

Note: This DN must be registered with the SAG instance using SWIFTNet Alliance Webstation.

serviceName

Name of the service to which both SWIFT correspondents have subscribed. Required.

Note: This must be SWIFTNet service to which you are subscribed.

requestType

Request type supported by the message exchange. Optional.

requestReference

User reference of the request. Optional.

SnF

Indicates if the file transfer is done using the store-and-forward method. Valid values are True (use Store-and-Forward) and False (default—do not use Store-and-Forward). Required.

physicalFilename

Optional. Only for FileAct.

For a FileAct Put, this is the full path and the physical name of the file to send.

For a FileAct Get, this is the full path and the physical name of the file to save after the Get is completed.

logicalFilename

This name is communicated to the server application. By default, this name is the physical name without the file path. Optional. Only for FileAct.

For a FileAct Put, this is the logical name of the file to be saved based on the <reception_dir>/<responder_dn>/<requestor_dn>.

For a FileAct Get, this is the logical name of the file to send based on the <download_dir>/<responser_dn>/<requestor_dn>.

fileInfo

User information about the file transfer. Only for FileAct. Optional.

fileDesc

User description about the file transfer. Only for FileAct. Optional.

transferInfo

User information about the transfer. Only for FileAct. Optional.

transferDesc

User description about the transfer. Only for FileAct. Optional.

possibleDuplicate

Indicates whether to include a trailer specifying that this message may be a duplicate.

This is an optional component of the envelope that indicates that this message may already have been sent. For example, if the system crashes during the delivery of a message, another copy of the message could be sent, with this trailer included to indicate that it may be a duplicate.

Possible values are TRUE and FALSE (default).

Optional.

messageID

Message identifier for resending a message if Possible Duplicate is set to TRUE. Optional.

deliveryNotification

Indicates that the sender asked the receiver to send a delivery notification. Possible values are TRUE or FALSE. Optional.

Note: This parameter is only displayed when you select **True** for SnF or are performing a FileAct Put. If you are performing a Put operation, you can request the responder to send you a delivery notification and specify a different Delivery Notification DN and Request Type of Delivery Notification, if desired. If you are performing a Get operation, the responder can request Delivery Notification from the requestor after receiving the file. That setting for delivery notification is configured through the SWIFTNet Server adapter.

requestTypeDelNotifn

Used to request a specific delivery notification message from the remote

receiving server application when it returns the delivery notification (when Non Repudiation required and/or Delivery Notification are set to TRUE).
Optional

messagePriority

Indicates priority handling in the queue for store-and-forward only.
Optional.

Note: This value is used as a selection criterion when delivering messages from a queue, and in SWIFTNet FileAct to influence the pace of the FileAct flow.

nonRepudiation

Indicates whether non-repudiation is required. Possible values are TRUE (when enabled, trading partners cannot deny that they sent a request) or FALSE (default, indicating that non-repudiation is not required). Optional.

HeaderInfo

The Enhanced Header information. Since Enhanced Header Info is usually an XML structure, you should specify it as CDATA.

thirdPartyAuth

Flag to indicate that the IBM Sterling B2B Integrator is acting as a Third Party that will send a notification message (in Y-Copy mode). Valid values are TRUE or FALSE. This parameter should be used together with the required AuthDecision and MessageName parameters, and optional ToSndrInfo, ToRcvrInfo and RefuseReason parameters.

AuthDecision

The third party decision. Valid values are Authorised or Refused. Use this parameter with the thirdPartyAuth parameter.

MessageName

The name of the HeaderInfo message, as inserted into the mailbox. The format is ThirdParty_[CopySnFRef]. When you use Mailbox Extract service to extract the HeaderInfo message from mailbox, by default the name is available in Process Data.

ToSndrInfo

If you are the third party and decide to authorize a request or file notification, this parameter enables you to specify Third Party to Sender Information. The information can be in any format (plain text or XML). If you use XML format, this parameter should be CDATA.

ToRcvrInfo

If you are the third party and decide to authorize a request or file notification, this parameter enables you to specify Third Party to Receiver Information. The information can be any format (plain text or XML). If you use XML format, this parameter should be CDATA.

RefuseReason

If you are the third party and you refuse a request or file notification, you can specify a Refusal Reason in this parameter. The information can be any format (plain text or XML). If you use XML format, this parameter should be CDATA.

sign Whether an end-to-end signature is required.

useSignatureList

Whether to use a signature list. This enables you to select your own signatures. If you do not use a signature list then normal Crypto is used.

returnSignatureList

Whether to return a signature list.

useRND

Whether to use RND (digest reference values that terminate on “and RND”). Valid values are False (default) and True.

renewDN

The distinguished name of the user. This is used for the renewal of Security Context.

MEFGServerHost

The IP address of the SWIFTNet MEFG Server. Required.

MEFGServerPort

The port of the SWIFTNet MEFG Server. Optional. Default value is NULL.

MEFGServerResponse**Timeout**

Timeout period (in seconds) for the SWIFTNet MEFG Server to respond. Optional. Default value is 60.

UseSSL

Flag to indicate whether to secure communication between the IBM Sterling B2B Integrator and the SWIFTNet MEFG Server with SSL. Possible values are TRUE or FALSE (default). Optional.

CACertId

The public key certificates for the SWIFTNet MEFG Server. Required if SSL is set to TRUE.

CipherStrength

The level of encryption to be applied on the data channel. Possible values are All (default), Weak, or Strong. Optional.

useInputChannel

Whether to use the input channel.

forceOpen

Whether to force the channel open.

switchToSnF

Whether to switch to store-and-forward mode when real-time transmission fails. Select True if you want to switch to Store and Forward mode when the real-time transmission (InterAct and FileAct Put) has failed. Valid values are True and False.

SnFServiceName

The name of the store-and-forward service. Required when Switch to SnF mode when real-time transmission failed is set to True.

HTTPClientAdapter

HTTP Client Adapter instance that is used to communicate with the SWIFTNet MEFG Server. Optional. Default value is SWIFTNetHTTPClientAdapter.

Upgrading the SWIFTNetClient Business Process to Use the Integrated SWIFTNet Client Service

Now that the SWIFTNet Client service has been enhanced to support SSL, the SWIFTNet Client service has also been improved by integrating all the outbound

services internally. To use the SWIFTNet Client service, you must upgrade the SWIFTNetClient business process. The upgraded BPML differs based on whether you are using InterAct or FileAct.

Note: If you previously installed an earlier version of the IBM Sterling B2B Integrator Standards Library, you do not need to upgrade the SWIFTNetClient business process again. However, you will need to reinstall the SWIFTNet MEFG Server (see *Using SWIFTNet* for more information).

Upgrading the SWIFTNetClient Business Process for InterAct

If you are using InterAct, this is the complete BPML to execute the SWIFTNet Client service for InterAct:

```
<process name="SWIFTNetClient">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- build SWIFTNET request -->
    <operation>
      <participant name="SWIFTNetClientService"/>
      <output message="handleClientRequest">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
  </sequence>
</process>
```

Upgrading the SWIFTNetClient Business Process for FileAct

If you are using FileAct, this is the complete BPML to execute the SWIFTNet Client service for FileAct:

```
<process name="SWIFTNetClientFA">
  <sequence name="SWIFTNetClientService">
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- build SWIFTNET request -->
    <operation>
      <participant name="SWIFTNetClientService"/>
      <output message="handleClientRequest">
        <assign to="." from="*" />
        <assign to="physicalFilename" from=""/>
        <assign to="logicalFilename" from=""/>
        <assign to="transferInfo" from=""/>
        <assign to="transferDesc" from=""/>
      </output>
    </operation>
  </sequence>
</process>
```

```
        <assign to="fileInfo" from="'SwCompression=None'"/>
        <assign to="fileDesc" from="''"/>
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
</sequence>
</process>
```

Enabling SWIFTNet Document Tracking

When you are creating or editing your SWIFTNet Client business process in the business process text editor, you can easily enable SWIFTNet document tracking in the IBM Sterling B2B Integrator by selecting the **Document Tracking** check box on the Process Levels page. Set the following options as needed and leave the rest of the business process parameters as the defaults:

- On the **Deadline Settings** page, set the deadline and notification options, if necessary.
- On the **Life Span** page, set the life span, if necessary.

Chapter 42. SWIFTNet Server Adapter

The SWIFTNet Server adapter communicates to the SWIFTNet Network (for SWIFTNet version 6.x) through the SWIFTNet MEFG server. It responds to and accepts InterAct and FileAct messages that are sent by remote SWIFTNet correspondents.

Important Upgrade Notice for SWIFTNet 6.x on the Oracle Solaris Platform

If you are using the SWIFTNet Server Adapter on the Oracle Solaris platform, to receive the adapter updates for 5.2.2 you must patch your SUN operating system to pick up the SUNWlibC 1.3.2 library and (if you are using SSL) also the new 0.9.8 OpenSSL library.

- For Oracle SUN OS, the download is available from SunSolve (<http://sunsolve.sun.com>).
- For OpenSSL, the download is available from OpenSSL (<http://www.openssl.org>).

Important Upgrade Notice for SWIFTNet 6.x on the IBM AIX Platform

If you are using the SWIFTNet Server Adapter on the IBM AIX platform, to receive the adapter updates for 5.2.2 you must patch your XL C/C++ runtime library to Version 8.0 (or higher).

Additionally, if you are using SSL, you must also upgrade to the 0.9.8 OpenSSL library.

- For OpenSSL, the download is available from OpenSSL (<http://www.openssl.org>).
- For IBM AIX, the download is available from IBM (<http://www-306.ibm.com/software/support/>).

The following table provides an overview of the SWIFTNet Server adapter:

System Name

SWIFTNet Server Adapter

Graphical Process Modeler (GPM) categories

All services

Description

This adapter is responsible for receiving and responding to SWIFTNet InterAct and FileAct messages using the SWIFTNet MEFG Server (for SWIFTNet version 6.x).

Business usage

A business would use this adapter in order to exchange SWIFTNet InterAct and FileAct messages with its trading partners over the SWIFTNet system.

Note: You will also need to configure this adapter if you are transporting CHIPS messages using the SWIFTNet transport mode. This adapter also sends acknowledgements to CHIPS.

Usage example

When an InterAct or FileAct message is received, a business process is executed to process the message and, when required, to generate the SWIFTNet response.

Preconfigured?

This adapter is preconfigured as part of the IBM Sterling B2B Integrator installation.

Requires third party files?

No third party files are required.

Platform availability

All supported application platforms.

Note: Please see *Important Upgrade Notices* above for additional information.

Related services

This is designed to work in conjunction with the SWIFTNet MEFG Server and the Command Line Adapter 2. This service also works with the SWIFTNet HTTP Server adapter to provide SSL support.

Application requirements

SSL can be implemented between the IBM Sterling B2B Integrator and the MEFG Server if the SWIFTNet HTTP Server adapter is configured for that setup.

Initiates business processes?

Initiates business processes.

Invocation

By the Multi-Enterprise Financial Gateway for SWIFTNet application.

Business process context considerations

None.

Returned status values

- Fatal—non-recoverable error
- Transient—recoverable error
- Logic—recoverable error
- Success—Success
- Warning—Success with warning

Restrictions

Only one SWIFTNet MEFG Server can be configured to talk to one SWIFTNet Server adapter instance in the IBM Sterling B2B Integrator.

Persistence level

N/A

Testing considerations

N/A

How the SWIFTNet Server Adapter Works

The SWIFTNet Server adapter is comprised of two parts: the service part and the adapter part. The service part is used in a business process that does not require configuration except for enabling it for document tracking. The adapter part is configured through the Admin Console or the GPM, and this adapter is responsible for starting and stopping the SWIFTNet MEFG Server from the IBM

Sterling B2B Integrator using the Command Line Adapter 2 (CLA2), which is built into the SWIFTNet Server adapter. Starting and stopping the operation of the SWIFTNet MEFG Server will only work correctly if the CLA2Client.jar is deployed in the same machine where the SWIFTNet MEFG Server is installed. The CLA2Client.jar file must also be started by a user who has permission to access the SWIFTNet MEFG Server home directory.

The SWIFTNet Server adapter (in conjunction with the SWIFTNet HTTP Server adapter) enables you to use Secure Sockets Layer (SSL) to provide secure authentication, using the SWIFTNet HTTP Server adapter to accept the forwarded request from the SWIFTNet MEFG Server. When you use SSL with the IBM Sterling B2B Integrator, two channels are secured: an Outbound channel (IBM Sterling B2B Integrator acting as the Requestor) and an Inbound channel (IBM Sterling B2B Integrator acting as the Responder).

You will need 2 pairs of certificates. The first pair belongs to the SWIFTNet MEFG Server and is used to secure the outbound channel. The second pair of certificates belongs to IBM Sterling B2B Integrator and is used to secure the inbound channel. In all, you need:

- A public key certificate file belongs to the SWIFTNet MEFG Server that is configured on the SWIFTNet Client service (the certificate is specified for the CA Certificate parameter).
- A private key certificate file that is stored on the SWIFTNet MEFG Server as a key file (which you configure through the SSL Configuration utility named sslUtil.jar in the SWIFTNet MEFG Server installation bin subdirectory). The sslUtil.jar file is located in the bin subdirectory of the SWIFTNet MEFG Server installation directory.
- A private key certificate file that is configured on the SWIFTNet HTTP Server adapter (the certificate is specified for the System Cert parameter).
- A public key file that belongs to the IBM Sterling B2B Integrator and is stored for the SWIFTNet MEFG Server as a CA Cert file or trusted list (that you configure through the SSL Configuration utility named sslUtil.jar in the SWIFTNet MEFG Server installation directory).

Note: To configure SSL on the SWIFTNet MEFG Server, run the following command in the bin directory of the MEFG SWIFTNet Server installation bin sub-directory:

```
java -jar sslUtil.jar
```

The IBM Sterling B2B Integrator enables you easily renew certificates. See “Renewing a Certificate” on page 250 for more information.

Implementing the SWIFTNet Server Adapter

To implement the SWIFTNet Server adapter, complete the following tasks:

1. Create a configuration of the Command Line Adapter 2.
 - a. Locate the client jar (CLA2Client.jar) that contains the necessary classes.
 - b. Move the client jar to the machine where you will be running the remote adapter.
 - c. Start the remote adapter using the following command: `java -jar CLA2Client.jar <port> [debug]`

Note: The [debug] option is not required, but is provided for your convenience. If you upgrade IBM Sterling B2B Integrator, you may need to obtain a new CLA2Client.jar file to avoid a Class Conflict error.

2. Create a configuration of the SWIFTNet Server adapter. For information about the fields specific to this adapter, see “Configuring the SWIFTNet Server Adapter.”
3. Specify field settings for the adapter configuration in the IBM Sterling B2B Integrator Admin Console and in the GPM as necessary. See “Creating or Setting Up a Adapter Configuration in the Admin Console” on page 237 or “Setting Up the Adapter in the GPM” on page 246.
4. Configure the business process you are using for the SWIFTNet Server adapter. The business processes that work with SWIFTNet Server adapter include the following:
 - handleSWIFTNetServerSnFRequest
 - handleSWIFTNetInboundCorrelation
 - handleSWIFTNetOutboundCorrelation
 - handleSWIFTNetServerFADelNotif
 - handleSWIFTNetServerFAEvent
 - handleSWIFTNetServerFARequest
 - handleSWIFTNetServerFASnFDelNotif
 - handleSWIFTNetServerFASnFRequest
 - handleSWIFTNetServerRequest
 - handleSWIFTNetServerSnFDelNotif
 - handleSWIFTNetServerFASnFEvent
 - handleSWIFTNetSnFinboundCorrelation
 - handleSWIFTNetSnFOutboundCorrelation
 - handleSWIFTNetStartupReport
 - handleSWIFTNetAcquireQueue
5. Define the **SI HTTP Sever Adapter Port** in the SWIFTNet Server adapter configuration that should have the same value as the **HTTP Listen Port** defined in the SWIFTNet HTTP Server adapter instance.
6. Specify field settings in the business process. See “Business Process Example” on page 250.

Configuring the SWIFTNet Server Adapter

1. Select **Deployment > Services > Configuration**.
2. Search for SWIFTNet Server adapter or select it from the list and click **Go!**
3. Click **Edit**.
4. Specify field settings in the Admin Console (“Creating or Setting Up a Adapter Configuration in the Admin Console” on page 237)—alternatively you can specify field settings in the GPM (“Setting Up the Adapter in the GPM” on page 246), but you will need to access the adapter instance through the Admin console to enable the instance (as described in step 5).

Note: Specify failover processing to ensure that failover is supported if a SAG connection fails by configuring **Active-Active Configuration**.

5. After configuring the SWIFTNet Server adapter in the Admin Console, click the **Enable Service for Business Process** check box on the Confirm page to enable the instance.

6. Once the SWIFTNet Server adapter is configured and saved, click the **Enabled** check box on the Services Configuration page. This starts the SWIFTNet MEFG Server.
7. On the Confirm page, verify that the **Enable Service for Business Processes** check box is selected to enable the adapter instance.

You must specify field settings in the IBM Sterling B2B Integrator, using the Admin Console and the GPM.

Creating or Setting Up a Adapter Configuration in the Admin Console

Use the field definitions in the following table to create a new configuration of the SWIFTNet Server adapter, or to set up the configuration provided with the IBM Sterling B2B Integrator. Some fields are available in both the Admin Console and in the GPM.

Note: The business entities (accessible through the Business Entities wizard as part of the SWIFTNet Server adapter configuration) are shared by both RA1 and RA2. The Business Entities wizard enables you to add multiple entities.

Field Description

Name Unique and meaningful name for the service configuration. Required.

Description

Meaningful description for the service configuration, for reference purposes. Required.

Select a Group

Select one of the options:

- None – Do not include the configuration in a service group at this time.
- Create New Group – Enter a unique name for a new group, which will be created with this configuration. (You can then add other services to the group as well.)
- Select Group – If service groups already exist for this service type, they are displayed in the list. Select a group from the list.

Note: Only select group if this adapter is clustered in a group.

SI Server IP

The callback IP of the IBM Sterling B2B Integrator for the SWIFTNet MEFG Server. Required.

Note: The default value is the IP address of the machine where the IBM Sterling B2B Integrator is installed.

SI HTTP Server Adapter Port

This is the listening port for the SWIFTNet HTTP Server Adapter. Required. The default populated value is the instance port number of the IBM Sterling B2B Integrator instance plus 53. For example, if the IBM Sterling B2B Integrator instance port is 34600, the listening port populated by default is 34653.

Note: The HTTP Server adapter functions between the SWIFTNet Server adapter and the SWIFTNet MEFG Server. For an SSL connection, this value should be server name because the certificate is made with the server name.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

MEFG SWIFTNet IP

The IP address of the SWIFTNet MEFG Server. Required.

MEFG SWIFTNet Port

The port of the SWIFTNet MEFG Server. Required.

CLA2Client Listening Port

The listening port used by the client command adapter (CLA2Client) running along the SWIFTNet MEFG Server. Required.

Note: This port listens for requests to start and stop the SWIFTNet MEFG Server.

MEFG SWIFTNet Home

The home directory of the SWIFTNet MEFG Server. Required.

Start MEFG SWIFTNet despite errors

Whether to start the MEFG Server if errors occur. The default is unchecked (do not start the MEFG Server if errors occur). Optional.

Use SSL

Whether to enable Secure Sockets Layer (SSL) over HTTP communication between the IBM Sterling B2B Integrator and the SWIFTNet MEFG Server. Valid values are False (default) and True.

Cipher Strength

Specifies the strength of the algorithms (cipher suites) used to encrypt data. Valid values are:

- STRONG - Required if Use SSL is Must
- ALL - All cipher strengths are supported
- WEAK - Often required for international trade, because government regulations prohibit STRONG encryption from being exported

Default is ALL. Required if **Use SSL** is checked.

CA Certificate

Move one or more CA Certificates to the use column. These are the digital security certificates that the SSL server will use to authenticate the client. Optional.

Message Partner Client Name

The client message partner name that the SNL server application recognizes for the SWIFTNet MEFG Server client application.

Note: The Message Partner Client Name must correspond to the Application Interface Message Partner that is defined on the SAG as the client interface for the SWIFTNet MEFG Server.

Message Partner Server Name

The server message partner name that the SNL server application recognizes for the SWIFTNet MEFG Server server application.

Note: The Message Partner Server Name must correspond to the Application Interface Message Partner that is defined on the SAG as the client interface for the SWIFTNet MEFG Server.

Delivery Notification

Determines whether the server requests a delivery notification when a business partner is downloading. Possible values are True and False (default). Required.

Delivery Notification Request Type

The request type of the delivery notification is the value SI SWIFTNet Server uses in the response after getting a request from a remote client. Required.

Configure for failover SAG?

Enables you to set up active-standby configuration using two separate instances of the Remote API (RA), RA1 and RA2. Each RA should be configured to point to a different SAG to support failover processing. Possible values are True and False (default). Required.

Note: This parameter specifies whether to support failover if one SAG fails. When this parameter is set to True, you are presented with parameters for both an RA1 Profile and an RA2 Profile. When you are operating in an environment with multiple SAGs configured in active-standby mode, setting this parameter enables you to define an alternate RA connection to a secondary SAG for failover support.

SNL Endpoint (for Store and Forward only)

The SNL endpoint used to receive data from SnF queues (for example, `snl_sft`). Optional—complete only if using store and forward processing.

Note: You must define endpoints on the SAG to route the InterAct messages to the correct application interface. If you are using store-and-forward, an extra endpoint is required to route messages coming from the store-and-forward queue (you can use the default endpoint for store-and-forward, `snl_sft`).

SnF Monitoring Interval (in seconds)

The store and forward monitoring interval (in seconds). Optional.

Note: This parameter enables you to indicate the interval that you want the SWIFTNet MEFG Server to check on the queue status. The SWIFTNet MEFG Server sets a timer to send the `GetSnFStatusRequest` message based on the value you enter.

Return Signature List

Whether you want your own signature returned. Valid values are False (default - normal Crypto is used) and True. Optional for T-Copy and Y-Copy implementation.

Use Input Channel (for InterAct Store and Forward only)

Whether to use the input channel with this adapter. Valid values are False (default) and True. You must select True if you are using an input channel. Required.

Note: Used for InterAct store-and-forward only. If you configure this parameter, the SWIFTNet MEFG Server opens the Input Channel automatically during the startup (when the SWIFTNet Server Adapter is enabled). This Input Channel remains open until the SWIFTNet MEFG

Server is shut down (or the SWIFTNet Server Adapter is disabled). During this time, you still have an option to send message using the input channel or without the input channel. All you need to do is to indicate this by using this parameter in SWIFTNet Client service.

SWIFTNet RA

The absolute path of the RA1 installation directory for RA1 SWIFTNet. Required. For example, `/SWIFTAlliance/RA`.

Note: This parameter specifies where to pick up the remote API and execute to SAG.

Config

The relative path of the RA1 instance configuration directory (relative to the RA installation directory). Required. For example, `RA1/cfg`.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Bin This is added to the PATH environment variable to contain the SWIFTNet MEFG Server binaries. Possible value is `bin`. Required.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Lib This is added to the library path environment variable. Possible value is `lib`. Required.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Category

This is the category of RA. Possible values are:

- RA (SNL facade library to access an SAG)
- SNL (a native SNL interface)
- DEFAULT (default set for the RA1 instance)

Required.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Delivery Responder DN

The distinguished name of the responder to which delivery notifications requested by the sender are sent. Optional.

Note: If left blank, Delivery Notifications requested by the server are sent to the responder indicated in the message; otherwise, it is sent to this responder

Delivery Notification

Determines whether the RA1 server is handling a delivery notification. Possible values are True and False (default). Optional. This is used for a FileAct get.

Delivery Notification DN

Distinguished name of the responder of the delivery notification. Optional.

Request Type of Del. Notifn

Request type of the delivery notification. This is used for a FileAct Get. Optional.

Send Del. Notifn before Backend Processing

Indicates if the server will send a delivery notification before the internal process is executed. Optional.

Event Status Tracking

Indicates if the server requires all the FileAct Event statuses to be returned. Valid values are:

- Minimal (default -- only Completed, Rejected, Duplicated statuses will be returned)
- Full (all statuses are returned)

Required.

SWIFTNet RA

The absolute path of the RA2 installation directory for RA2 SWIFTNet. Required (based on Active-Active configuration). For example, **/SWIFTAlliance/RA**.

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

Config

The relative path of the RA2 instance configuration directory (relative to the RA2 installation directory). Required (based on Active-Active configuration). For example, **/RA2/cfg**.

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Bin This is added to the PATH environment variable to contain the SWIFTNet MEFG Server binaries. Required (based on Active-Active configuration).

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Lib This is added to the library path environment variable. Required (based on Active-Active configuration).

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Category

This is the category of RA2. Possible values are:

- RA (SNL facade library to access an SAG)
- SNL (a native SNL interface)
- DEFAULT (default set for the RA1 instance)

Required (based on Active-Active configuration).

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

Note: If you are using the SWIFTNet Server adapter in your current installation, prior to installing a new version of the Standards Library, you need to note the value you have configured for this parameter. This parameter may be overwritten during the upgrade process (replaced with the default value). If this parameter is overwritten, you need to restore it to the original value after the upgrade process is complete.

Delivery Responder DN

The responder to which delivery notifications requested by the sender are sent. Required (based on activeActive configuration).

Note: If left blank, Delivery Notifications requested by the server are sent to the responder indicated in the message; otherwise, it is sent to this responder

Note: This parameter is only displayed if **activeActive Configuration** is set to True.

Delivery Notification

Determines whether the RA2 server is handling a delivery notification. Possible values are True and False (default). Optional. This is used for a FileAct get.

Delivery Notification DN

Distinguished name of the responder of the delivery notification. Optional.

Request Type of Del. Notifn

Request type of the delivery notification. This is used for a FileAct Get. Optional.

Send Del. Notifn before Backend Processing

Indicates if the server will send a delivery notification before the internal process is executed. Optional.

Event Status Tracking

Indicates if the server requires all the FileAct Event statuses to be returned. Valid values are:

- Minimal (default -- only Completed, Rejected, Duplicated statuses will be returned)
- Full (all statuses are returned)

Required.

Input Channel Name

The name of the input channel. Required only if you specified **True** for **Use Input Channel**.

Authoriser DN

The authorized distinguished name that will be used to open the input channel. Required only if you specified **True** for **Use Input Channel**.

Force Open the Input Channel

Whether to force open the input channel or use normal mode. Valid values are False (use normal mode, which is the default) and True (force the input channel). Required only if you specified **True** for **Use Input Channel**.

Max. Resend Attempts

The maximum number of resend attempts allowed before the IBM Sterling B2B Integrator automatically sends a Resolve Gap request to SWIFT. The default is 3. Required only if you specified **True** for **Use Input Channel**.

Run As User

Identify a user who has permission to run the scheduled activity. You can type the user ID, click the button to select the user ID from the list, and click **Save**. Optional.

Note: You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Use 24 Hour Clock Display

By default, the scheduling wizard displays times using a 12-hour clock (which designates the time in hours as a.m. or p.m.). Use this option to display times using a 24-hour clock. Optional.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Do not use schedule

Removes all references to a schedule from the service. If you select this option, you cannot enable the schedule in the future. You must recreate the schedule instead. Use this option only when you do not need a schedule for the service. This is the default option. Optional.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run based on timer

Run the service at a certain time or time interval, such as every 2 hours. Optional.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Select Time

Type the time at which you want the Resend Scheduler to run.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run daily

Run the service one or more times every day. Optional.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run based on days of the week

Run the service on certain days of the week, such as every Monday. Optional.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Run based on days of the month

Run the service on certain days of the month, such as the 1st or 15th of every month. Optional.

Note: We recommend that you set the Resend Scheduler to **Run based on timer** and set it for one minute under normal usage (that is, every 1 Mins(s)). You must configure the parameters on the Schedule Type page for the Resend Scheduler to work correctly.

Schedule Exclusions

Allows you to add any schedule anomalies (when the Resend Scheduler should not run).

Note: We recommend you leave this parameter blank (that is, do not create any schedule exclusions).

Date Exclusions

Allows you to add any date anomalies (any date on which the Resend Scheduler should not run).

Note: We recommend you leave this parameter blank (that is, do not create any date exclusions).

New Business Entity

Click **add** to create a new business entity or click **edit** to modify an existing entity.

Note: You must have at least one business entity created to proceed.

Entity Identifies the security context to be used. For the client, the business entity is the requester. For the server, the business entity is the responder. Required for each configured entity to access a proprietary SWIFTNet PK1 certificate to set up a valid security context.

Note: This is the distinguished name created by SWIFT. This parameter is only displayed if you edit an existing Business Entity or add a new Business Entity. The business entities are shared by both the RA1 and RA2 profiles.

UserId

The user identifier for this business entity (to log in to SWIFTNet). Required for each configured entity.

Note: The UserName is created in SAG (in the Users Module) and must also have a certificate created for it in the SAG. This parameter is only displayed if you edit an existing Business Entity or add a new Business Entity.

Password

The user password for this business entity (to log in to SWIFTNet). Required for each configured entity.

Note: This password is automatically encrypted. This parameter is only displayed if you edit an existing Business Entity or add a new Business Entity.

Delivery Notification

Overrides the global delivery notification parameter. Required for each configured RA (RA1 or RA2). This parameter is not necessary unless there are multiple security contexts. Valid values are True and False (default). Required.

Delivery Notification Request Type

Overrides the global delivery notification parameter. Required for each configured RA (RA1 or RA2). This parameter is not necessary unless there are multiple security contexts. Optional.

Message Queue

The name of the store and forward queue from which to receive messages. Required in Store and Forward mode.

Notification Queue

The Name of the store-and-forward queue to retrieve delivery notifications (optional; if empty, same as Message Queue). Required in Store and Forward mode.

Acquire queue by force

Whether to acquire the queue by force. Valid values are False (default) and True. Required.

Use Default Delivery Notification

Indicates whether to use the default delivery notification configuration on the RA1 page. Required.

Delivery Notification (Del. Notifn)

Indicates whether the sender asked the receiver to send a delivery notification. Optional. Valid values are True (default) or False.

Note: This parameter is only available when **Use Default Delivery Notification** is not selected.

Request Type of Del. Notifn

If **Delivery Notification (Del. Notifn)** is set to True, the value of this parameter is used to request a specific delivery notification message from the remote receiving server application when it returns the delivery notification. Optional.

Note: This parameter is only available when **Use Default Delivery Notification** is not selected.

Reception Directory

The full directory path where the file is received and stored during FileAct Put mode. Required for FileAct. Optional.

Download Directory

The full directory path where the file is picked up and sent to the requestor during FileAct Get mode. Required for FileAct. Optional.

Success Directory

The full directory path that must be specified when using the FileAct #OLDEST_FILE feature. Required for FileAct. Optional.

Setting Up the Adapter in the GPM

Use the field definitions in the following table to set up the adapter configuration in the GPM:

Field Description**Active-Active Configuration**

Enables you to set up active-active configuration using two separate instances of the Remote API (RA), RA1 and RA2. Each RA should be configured to point to a different SAG to support failover processing. Possible values are True and False (default). Required.

Note: This parameter specifies whether to support failover if one SAG fails. When this parameter is set to True, you are presented with parameters for both an RA1 Profile and an RA2 Profile. When you are operating in an environment with multiple SAGs configured in active-active mode, setting this parameter enables you to define an alternate RA connection to a secondary SAG for failover support.

commandLinePort

The listening port used by the client command adapter (CLA2Client) running along the SWIFTNet MEFG Server. Required.

Note: This port listens for requests to stop the SWIFTNet MEFG Server.

deliveryNotification

Determines whether the server is handling a delivery notification. Possible values are True and False (default). Optional.

Note: This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

deliveryNotification

Determines whether the server is requesting a delivery notification when downloading a business process. Possible values are True and False (default). Required.

deliveryNotification RequestType

The request type of the delivery notification. Required. Value is SWIFTNet InterAct Adapter.

Description

Error description for the rejected response. Optional.

Note: This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

downloadDir

The full directory path where the file is picked up and sent to the requestor during FileAct Get mode. Required for FileAct.

Info Error information for the rejected response. Optional.

Note: This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

interfaceMode

SWIFTNet message type. Valid values are InterAct or FileAct.

Note: This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

localServerAddress

The callback IP of the IBM Sterling B2B Integrator for the SWIFTNet MEFG Server. Required.

localServerPort

This is the listening port for the SWIFTNet HTTP Server adapter. Required.

Note: The HTTP Server adapter functions in between the SWIFTNet Server adapter and the SWIFTNet MEFG Server.

messageID

Message identifier for the incoming message. Required.

Note: This is a unique identifier. This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

messagePartnerClient Name

The client message partner name that the SNL server application recognizes for the SWIFTNet MEFG Server client application.

messagePartnerServer Name

The server message partner name that the SNL server application recognizes for the SWIFTNet MEFG Server server application.

Note: The Message Partner Server Name must correspond to the Application Interface Message Partner that is defined on the SAG as the client interface for the SWIFTNet MEFG Server.

RA1Bin

This is added to the PATH environment variable. Possible value is bin.
Required.

RA1Category

This is the category of RA. Possible values are:

- RA (SNL facade library to access an SAG)
- SNL (a native SNL interface)
- DEFAULT (default set for the RA1 instance)

Required.

RA1Config

The relative path of the RA1 instance configuration directory (relative to the RA installation directory). Required.

RA1DeliveryResponder

The distinguished name of the responder to which delivery notifications requested by the sender are sent. Required.

Note: If left blank, Delivery Notifications requested by the server are sent to the responder indicated in the message; otherwise, it is sent to this responder

RA1deliveryNotification

Determines whether the RA1 server is handling a delivery notification. Possible values are True and False (default). Optional.

RA1deliveryNotification DN

Distinguished name of the responder of the delivery notification. Optional.

RA1deliverynotification RT

Request type of the delivery notification. This is used for a FileAct Get. Required.

RA1eventstatusTracking

Indicates if the server requires all the FileAct Event statuses to be return. Valid values are:

- Minimal (only Completed, Rejected, Duplicated statuses will be returned)
- Full (all statuses are returned)

Required.

RA1Lib

This is added to the library path environment variable. Possible value is lib. Required.

RA1sendDNb4bkend Process

Indicates if the server will send a delivery notification before the internal process is executed. Required.

RA1Swiftnethome

The home directory of the SWIFTNet MEFG Server. Required.

Note: This is an absolute path location. This parameter specifies where to pick up the remote API and execute to SAG.

RA2Bin

This is added to the PATH environment variable. Possible value is bin. Required.

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

RA2Category

This is the category of RA. Possible values are:

- RA (SNL facade library to access an SAG)
- SNL (a native SNL interface)
- DEFAULT (default set for the RA1 instance)

Required.

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

RA2Config

The relative path of the RA2 instance configuration directory (relative to the RA installation directory). Required.

RA1DeliveryResponder

The distinguished name of the responder to which delivery notifications requested by the sender are sent. Required.

Note: If left blank, Delivery Notifications requested by the server are sent to the responder indicated in the message; otherwise, it is sent to this responder

RA2deliveryNotification

Determines whether the RA2 server is handling a delivery notification. Possible values are True and False (default). Optional.

RA2deliveryNotification DN

Distinguished name of the responder of the delivery notification. Optional.

RA2deliverynotification RT

Request type of the delivery notification. This is used for a FileAct Get. Required.

RA2eventstatusTracking

Indicates if the server requires all the FileAct Event statuses to be return. Valid values are:

- Minimal (only Completed, Rejected, Duplicated statuses will be returned)
- Full (all statuses are returned)

Required.

RA2Lib

This is added to the library path environment variable. Possible value is lib. Required.

RA2sendDNb4bkend Process

Indicates if the server will send a delivery notification before the internal process is executed. Required.

RA2Swiftnethome

The home directory of the RA2. Required.

Note: This parameter is only displayed if **Active-Active Configuration** is set to True.

Note: This is an absolute path location. This parameter specifies where to pick up the remote API and execute to SAG.

receptionDir

The full directory path where the file is received and stored during FileAct Put mode. Required for FileAct.

remoteServerAddress

The IP address of the SWIFTNet MEFG Server. Required.

remoteServerPort

The port of the SWIFTNet MEFG Server. Required.

SnF Indicates if you are using the store-and-forward method. Valid values are True (use Store-and-Forward) and False (default—do not use Store-and-Forward). Required.

Note: This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

snlEndPoint

The SNL endpoint used to receive data from SnF queues (for example, snl_sft). Optional—complete only if using store and forward processing.

Status The status of the message. Possible values are:

- Accepted
- Rejected
- Failed
- Duplicated

Required.

Note: This is a BPML parameter used by the SWIFTNet Server adapter to construct the response back to the SWIFTNet MEFG Server.

successDir

The full directory path that must be specified when using the FileAct #OLDEST_FILE feature. Required for FileAct.

swiftnetServerHome Directory

The home directory where the SWIFTNet MEFG Server is installed. Required.

Business Process Example

The service part of the SWIFTNet Server adapter that is used in the business process is bootstrapped when the SWIFTNet MEFG Server posts the request through the URI defined in the HTTP Server adapter. For more information about the HTTP Server adapter, see *HTTP Server Adapter*.

Renewing a Certificate

You can create a business process and schedule it to be executed at an interval of three months. You only need to pass in the distinguished name that is specified in the SWIFTNet Server Adapter Business Entities. When the request is passed to the SWIFTNet MEFG Server, it looks up the user identifier and the encrypted

password in the configuration file. The SWIFTNet MEFN Server then performs an `initRequest` and `CreateSecurityContext` to open the certificate.

```
<operation>
  <participant name="SWIFTNetClientService"/>
  <output message="renewSecurityContext">
    <assign to="renewDN">o=yourDN,o=swift</assign>
    <assign to="." from="*" />
  </output>
  <input message="testing">
    <assign to="." from="*" />
  </input></operation>
```

Interact Business Process Without Store-and-Forward Processing

The following business process example (in which the service part of the SWIFTNet Server adapter as part of InterAct processing) is used if you are not using store-and-forward processing:

Note: This business process is from the `handleSWIFTNetServerRequest` business process.

```
<process name="handleSWIFTNetServerRequest">
  <sequence>
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapIn">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
        <assign to="SOAP_INTERMEDIATE_NODE">>false</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation>
      <participant name="SWIFTNetServerAdapter"/>
      <output message="handleServerRequest">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- internal processing by invoking a subprocess -->
    <!-- business-specific processing that will return a response for InterAct
-->
```

```

<operation>
  <participant name="InvokeSubProcessService"/>
  <output message="Xout">
    <assign to="INVOKE_MODE">SYNC</assign>
    <assign to="." from="*" />
  </output>
  <input message="Xin">
    <assign to="." from="*" />
  </input>
</operation>
<!-- this is to construct the server response message back to SI Server
application -->
<operation>
  <participant name="SWIFTNetServerAdapter"/>
  <output message="handleServerResponse">
    <assign to="." from="*" />
    <assign to="interface" from="SwiftServerRequest/interface/text()" />
    <assign to="messageID" from="SwiftServerRequest/messageID/text()" />
    <assign to="Status">Accepted</assign>
    <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()" />
    <assign to="SnF" from="SwiftServerRequest/SnF/text()" />
  </output>
  <input message="testing">
    <assign to="." from="*" />
  </input>
</operation>
<operation name="SoapOut">
  <participant name="SOAPOutbound"/>
  <output message="output">
    <assign to="." from="*" />
    <assign to="SOAP_MODE">respond</assign>
  </output>
  <input message="input">
    <assign to="." from="*" />
  </input>
</operation>
<assign to="doc-has-headers">true</assign>
<operation name="HttpResponse">
  <participant name="HttpRespond"/>
  <output message="Xout">
    <assign to="." from="*" />
  </output>
  <input message="Xin">
    <assign to="." from="*" />
  </input>
</operation>
<onFault>
  <!-- On Fault, we will clear PrimDoc, construct Rejected response and
soap-envelope it -->
  <sequence>
    <operation name="ReleasePrimDoc">
      <participant name="ReleaseService"/>
      <output message="outmsg">
        <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg" />
    </operation>
    <operation>
      <participant name="SWIFTNetServerAdapter"/>
      <output message="handleServerResponse">
        <assign to="." from="*" />
        <assign to="interface"
from="SwiftServerRequest/interface/text()" />
        <assign to="messageID"
from="SwiftServerRequest/messageID/text()" />

```

```

                <assign to="Status">Rejected</assign>
                <assign to="Description">Unable to get the Server
Response</assign>
                <assign to="Info">Failure in getting the Server
Response</assign>
                <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()"/>
                <assign to="SnF" from="SwiftServerRequest/SnF/text()"/>
                </output>
                <input message="testing">
                <assign to="." from="*" />
                </input>
            </operation>
            <operation name="SoapOut">
                <participant name="SOAPOutbound"/>
                <output message="output">
                <assign to="." from="*" />
                <assign to="SOAP_MODE">respond</assign>
                </output>
                <input message="input">
                <assign to="." from="*" />
                </input>
            </operation>
            <assign to="doc-has-headers">>true</assign>
            <operation name="HttpResponse">
                <participant name="HttpRespond"/>
                <output message="Xout">
                <assign to="." from="*" />
                </output>
                <input message="Xin">
                <assign to="." from="*" />
                </input>
            </operation>
        </sequence>
    </onFault>
</sequence>
</process>

```

InterAct Business Process With Store-and-Forward Processing

The following business process example demonstrates the service part of the SWIFTNet Server adapter being used as part of InterAct processing if you are using store-and-forward processing:

Note: This business process is from the handleSWIFTNetServerSnFRequest business process.

```

<process name="handleSWIFTNetServerSnFRequest">
  <rule name="IsAuthNotification">
    <condition>SwiftServerRequest/AuthResponse = 'TRUE'</condition>
  </rule>
  <sequence>
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapIn">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
      </output>
    </operation>
  </sequence>
</process>

```

```

        <assign to="bootstrap">false</assign>
        <assign to="SOAP_INTERMEDIATE_NODE">false</assign>
    </output>
    <input message="input">
        <assign to="." from="*" />
    </input>
</operation>
<operation>
    <participant name="SWIFTNetServerAdapter" />
    <output message="handleServerRequest">
        <assign to="." from="*" />
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
<choice name="AddToMailbox">
    <select>
        <case ref="IsAuthNotification" negative="true" activity="Mailbox Add
Service" />
    </select>
    <!-- internal processing for SnF is to put into a Mailbox so that it can
bootstrap internal business process later-->
    <!-- Mailbox path is based on SwiftServerRequest/responderDN/requestorDN/for
InterAct -->
    <operation name="Mailbox Add Service">
        <participant name="MailboxAdd" />
        <output message="AddRequest">
            <assign to="." from="*" />
            <assign to="MailboxPath" from="concat('/',
SwiftServerRequest/responderDN/text(), '/', SwiftServerRequest/requestorDN/text())"
/>
            <assign to="ContentType">ascii</assign>
        </output>
        <input message="inmsg">
            <assign to="AddResults" from="*" />
        </input>
    </operation>
</choice>
<operation>
    <participant name="SWIFTNetServerAdapter" />
    <output message="handleServerResponse">
        <assign to="." from="*" />
        <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()" />
        <assign to="messageID" from="SwiftServerRequest/messageID/text()" />
        <assign to="Status">Accepted</assign>
        <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()" />
        <assign to="SnF" from="SwiftServerRequest/SnF/text()" />
    </output>
    <input message="testing">
        <assign to="." from="*" />
    </input>
</operation>
<operation name="SoapOut">
    <participant name="SOAPOutbound" />
    <output message="output">
        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
    </output>
    <input message="input">
        <assign to="." from="*" />
    </input>
</operation>
<assign to="doc-has-headers">true</assign>
<operation name="HttpResponse">

```

```

    <participant name="HttpRespond"/>
    <output message="Xout">
      <assign to="." from="*" />
    </output>
    <input message="Xin">
      <assign to="." from="*" />
    </input>
  </operation>
</onFault>
<sequence>
  <operation name="ReleasePrimDoc">
    <participant name="ReleaseService"/>
    <output message="outmsg">
      <assign to="TARGET"/>ProcessData/PrimaryDocument</assign>
      <assign to="." from="*" />
    </output>
    <input message="inmsg"/>
  </operation>
  <operation>
    <participant name="SWIFTNetServerAdapter"/>
    <output message="handleServerResponse">
      <assign to="." from="*" />
      <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()" />
      <assign to="messageID" from="SwiftServerRequest/messageID/text()" />
      <assign to="Status">Rejected</assign>
      <assign to="Description">Unable to get the Server Response</assign>
      <assign to="Info">Failure in getting the Server Response</assign>
      <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()" />
      <assign to="SnF" from="SwiftServerRequest/SnF/text()" />
    </output>
    <input message="testing">
      <assign to="." from="*" />
    </input>
  </operation>
  <operation name="SoapOut">
    <participant name="SOAPOutbound"/>
    <output message="output">
      <assign to="." from="*" />
      <assign to="SOAP_MODE">respond</assign>
    </output>
    <input message="input">
      <assign to="." from="*" />
    </input>
  </operation>
  <assign to="doc-has-headers">true</assign>
  <operation name="HttpResponse">
    <participant name="HttpRespond"/>
    <output message="Xout">
      <assign to="." from="*" />
    </output>
    <input message="Xin">
      <assign to="." from="*" />
    </input>
  </operation>
</sequence>
</onFault>
</sequence>
</process>

```

Fileact Business Process Without Store-and-Forward Processing

The following business process example shows the service part of the SWIFTNet Server adapter as part of FileAct processing without using store-and-forward processing:

Note: This business process is from the handleSWIFTNetServerRequest business process.

```

<process name="handleSWIFTNetServerFAResponse">
  <sequence>
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapIn">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
        <assign to="SOAP_INTERMEDIATE_NODE">>false</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation>
      <participant name="SWIFTNetServerAdapter"/>
      <output message="handleServerRequest">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
    <!-- this is to construct the server response message back to SI Server
application -->
    <operation>
      <participant name="SWIFTNetServerAdapter"/>
      <output message="handleServerResponse">
        <assign to="." from="*" />
        <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()" />
        <assign to="messageID" from="SwiftServerRequest/messageID/text()" />
        <assign to="Status">Accepted</assign>
        <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()" />
        <assign to="SnF" from="SwiftServerRequest/SnF/text()" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapOut">
      <participant name="SOAPOutbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="SOAP_MODE">respond</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <assign to="doc-has-headers">>true</assign>
    <operation name="HttpResponse">
      <participant name="HttpRespond"/>
      <output message="Xout">

```

```

        <assign to="." from="*" />
    </output>
    <input message="Xin">
        <assign to="." from="*" />
    </input>
</operation>
<onFault>
    <!-- On Fault, we will clear PrimDoc, construct Rejected response and
soap-envelope it -->
    <sequence>
        <operation name="ReleasePrimDoc">
            <participant name="ReleaseService" />
            <output message="outmsg">
                <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
                <assign to="." from="*" />
            </output>
            <input message="inmsg" />
        </operation>
        <operation>
            <participant name="SWIFTNetServerAdapter" />
            <output message="handleServerResponse">
                <assign to="." from="*" />
                <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()" />
                <assign to="messageID"
from="SwiftServerRequest/messageID/text()" />
                <assign to="Status">Rejected</assign>
                <assign to="Description">Unable to get the Server
Response</assign>
                <assign to="Info">Failure in getting the Server
Response</assign>
                <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()" />
                <assign to="SnF" from="SwiftServerRequest/SnF/text()" />
            </output>
            <input message="testing">
                <assign to="." from="*" />
            </input>
        </operation>
        <operation name="SoapOut">
            <participant name="SOAPOutbound" />
            <output message="output">
                <assign to="." from="*" />
                <assign to="SOAP_MODE">respond</assign>
            </output>
            <input message="input">
                <assign to="." from="*" />
            </input>
        </operation>
        <assign to="doc-has-headers">true</assign>
        <operation name="HttpResponse">
            <participant name="HttpRespond" />
            <output message="Xout">
                <assign to="." from="*" />
            </output>
            <input message="Xin">
                <assign to="." from="*" />
            </input>
        </operation>
    </sequence>
</onFault>
</sequence>
</process>

```

FileAct Business Process With Store-and-Forward Processing

The following business process example shows the service part of the SWIFTNet Server adapter used as part of FileAct processing with store-and-forward processing:

Note: This business process is from the handleSWIFTNetServerFASnFRequest business process.

```
<process name="handleSWIFTNetServerFASnFRequest">
  <rule name="UndefinedCopyOrForceReject">
    <condition>SwiftServerRequest/AuthRequest = 'N' or
SwiftServerRequest/FileInfoForceMode = 'Rejected'</condition>
  </rule>
  <rule name="AuthorizationNeeded">
    <condition>SwiftServerRequest/AuthRequest = 'Y' and
SwiftServerRequest/FileInfoForceMode != 'Refused'</condition>
  </rule>
  <rule name="ForceRefusal">
    <condition>SwiftServerRequest/FileInfoForceMode = 'Refused'</condition>
  </rule>
  <sequence>
    <operation name="set user token">
      <participant name="SetUserToken"/>
      <output message="SetUserTokenMessage">
        <assign to="USER_TOKEN">admin</assign>
        <assign to="." from="*" />
      </output>
      <input message="inmsg">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation name="SoapIn">
      <participant name="SOAPInbound"/>
      <output message="output">
        <assign to="." from="*" />
        <assign to="bootstrap">>false</assign>
        <assign to="SOAP_INTERMEDIATE_NODE">>false</assign>
      </output>
      <input message="input">
        <assign to="." from="*" />
      </input>
    </operation>
    <operation>
      <participant name="SWIFTNetServerAdapter"/>
      <output message="handleServerRequest">
        <assign to="." from="*" />
      </output>
      <input message="testing">
        <assign to="." from="*" />
      </input>
    </operation>
    <choice name="NeedAuthorization">
      <select>
        <case ref="AuthorizationNeeded" activity="Mailbox Add Service"/>
      </select>
      <!-- Put into a Mailbox so that it can bootstrap internal authorization
business process later -->
      <!-- Mailbox path is based on SwiftServerRequest/recipientDN/requestorDN/
-->
      <operation name="Mailbox Add Service">
        <participant name="MailboxAdd"/>
        <output message="AddRequest">
          <assign to="." from="*" />
          <assign to="PrimaryDocument" from="HeaderInfo/@SCIOObjectID"/>
          <assign to="MessageName" from="concat('ThirdParty_',
```



```

SwiftServerRequest/copySnFReference/text()"/>
    <assign to="MailboxPath" from="concat('/',
SwiftServerRequest/recipientDN/text(), '/', SwiftServerRequest/requestorDN/text())"
/>
    <assign to="ExtractableCount">1</assign>
    <assign to="ContentType">ascii</assign>
</output>
<input message="inmsg">
    <assign to="AddResults" from="*" />
</input>
</operation>
</choice>
<choice name="IsUndefinedCopyOrForceReject">
    <select>
        <case ref="UndefinedCopyOrForceReject" negative="true"
activity="AcceptRequest"/>
        <case ref="UndefinedCopyOrForceReject" activity="RejectRequest"/>
    </select>
    <operation name="AcceptRequest">
        <participant name="SWIFTNetServerAdapter"/>
        <output message="handleServerResponse">
            <assign to="." from="*" />
            <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()"/>
            <assign to="messageID" from="SwiftServerRequest/messageID/text()"/>
            <assign to="Status">Accepted</assign>
            <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()"/>
            <assign to="SnF" from="SwiftServerRequest/SnF/text()"/>
        </output>
        <input message="testing">
            <assign to="." from="*" />
        </input>
    </operation>
    <sequence name="RejectRequest">
        <operation name="ReleasePrimDoc">
            <participant name="ReleaseService"/>
            <output message="outmsg">
                <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
                <assign to="." from="*" />
            </output>
            <input message="inmsg"/>
        </operation>
        <operation name="Form Reject Response">
            <participant name="SWIFTNetServerAdapter"/>
            <output message="handleServerResponse">
                <assign to="." from="*" />
                <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()"/>
                <assign to="messageID" from="SwiftServerRequest/messageID/text()"/>
                <assign to="Status">Rejected</assign>
                <assign to="Description">Copy Profile is undefined or Responder forced
to reject</assign>
                <assign to="Info">Unable to determine copy mode or FileInfo force
responder's rejection</assign>
                <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()"/>
                <assign to="SnF" from="SwiftServerRequest/SnF/text()"/>
            </output>
            <input message="testing">
                <assign to="." from="*" />
            </input>
        </operation>
    </sequence>
</choice>
<operation name="SoapOut">
    <participant name="SOAPOutbound"/>

```

```

    <output message="output">
      <assign to="." from="*" />
      <assign to="SOAP_MODE">respond</assign>
    </output>
    <input message="input">
      <assign to="." from="*" />
    </input>
  </operation>
  <assign to="doc-has-headers">>true</assign>
  <operation name="HttpResponse">
    <participant name="HttpRespond" />
    <output message="Xout">
      <assign to="." from="*" />
    </output>
    <input message="Xin">
      <assign to="." from="*" />
    </input>
  </operation>
  <choice name="IsThirdPartyForceRefusal">
    <select>
      <case ref="ForceRefusal" activity="InvokeForceRefusalProcess" />
    </select>
    <operation name="InvokeForceRefusalProcess">
      <participant name="InvokeBusinessProcessService" />
      <output message="Invoke_In">
        <assign to="." from="*" />
        <assign to="INVOKE_MODE">ASYNC</assign>
        <assign to="WFD_NAME">SWIFTNet3rdPartyClientForceRefusal</assign>
      </output>
      <input message="Invoke_Out">
        <assign to="." from="*" />
      </input>
    </operation>
  </choice>
  <onFault>
    <sequence>
      <operation name="ReleasePrimDoc">
        <participant name="ReleaseService" />
        <output message="outmsg">
          <assign to="TARGET">/ProcessData/PrimaryDocument</assign>
          <assign to="." from="*" />
        </output>
        <input message="inmsg" />
      </operation>
      <operation>
        <participant name="SWIFTNetServerAdapter" />
        <output message="handleServerResponse">
          <assign to="." from="*" />
          <assign to="interfaceMode"
from="SwiftServerRequest/interfaceMode/text()" />
          <assign to="messageID" from="SwiftServerRequest/messageID/text()" />
          <assign to="Status">Rejected</assign>
          <assign to="Description">Unable to get the Server Response</assign>
          <assign to="Info">Failure in getting the Server Response</assign>
          <assign to="deliveryNotification"
from="SwiftServerRequest/deliveryNotification/text()" />
          <assign to="SnF" from="SwiftServerRequest/SnF/text()" />
        </output>
        <input message="testing">
          <assign to="." from="*" />
        </input>
      </operation>
      <operation name="SoapOut">
        <participant name="SOAPOutbound" />
        <output message="output">
          <assign to="." from="*" />
          <assign to="SOAP_MODE">respond</assign>

```

```

        </output>
        <input message="input">
          <assign to="." from="*" />
        </input>
      </operation>
      <assign to="doc-has-headers">true</assign>
      <operation name="HttpResponse">
        <participant name="HttpRespond" />
        <output message="Xout">
          <assign to="." from="*" />
        </output>
        <input message="Xin">
          <assign to="." from="*" />
        </input>
      </operation>
    </sequence>
  </onFault>
</sequence>
</process>

```

Parameters Passed From Business Process to Adapter

The following table contains the parameters passed from the business process to the SWIFTNet Server adapter:

Parameter

Description

messageID

Message identifier for the incoming message. Required.

interfaceMode

This is the SWIFTNet interface. Possible values are InterAct (default) or FileAct. Required.

deliveryNotification

Determines whether the server is handling a delivery notification. Valid values are True and False. Required.

SnF

Indicates whether you are using the store-and-forward method. Valid values are True (use store-and-forward) and False (do not use store-and-forward—this is the default). Required.

Status

The status of the message. Possible values are:

- Accepted
- Rejected
- Failed
- Duplicated

Required.

Description

Description of the message. Optional.

Note: Only necessary when there is an error message.

Information

Information about the message. Optional.

Note: Only necessary when there is an error message.

Enabling SWIFTNet Document Tracking

You need to enable document tracking in the system business process you are using for the SWIFTNet Server adapter—`handleSWIFTNetServerRequest` (if you are not using store-and-forward processing) or `handleSWIFTNetServerSnFRequest` (if you are using store-and-forward processing)—so the system can track the document during the process. In the business process text editor, you can easily enable SWIFTNet document tracking in the IBM Sterling B2B Integrator by selecting the **Document Tracking** check box on the Process Levels page. Set the following options as needed and leave the rest of the business process parameters as the defaults:

- On the **Deadline Settings** page, set the deadline and notification options, if necessary.
- On the **Life Span** page, set the life span, if necessary.

SWIFTNet Header Info Support

With SWIFTNet version 6.1, SWIFT introduced a new FileAct header field (HeaderInfo) to contain key summary information related to the file. The presence of `Sw:HeaderInfo` within the request is an indication to invoke the feature to validate the `Sw:HeaderInfo`. With SWIFTNet version 6.3, SWIFT will perform stronger central validation on the HeaderInfo fields for FileAct.

Once a service is activated for the validation, SWIFT checks the HeaderInfo contents (that is, presence, syntax, and semantic). SWIFT rejects files with HeaderInfo contents that either do not pass this validation, or that do not use the HeaderInfo field according to the rules defined for the service.

Header Info Support on the Client (IBM Sterling B2B Integrator as Requestor)

As a requestor, the HeaderInfo is only allowed on the FileAct Put Request message. To specify the Header Info information, you must set the HeaderInfo parameter in the SWIFTNet Client Service accordingly. Please refer to Chapter 41, “SWIFTNet Client Service,” on page 207 documentation for more details.

IBM Sterling B2B Integrator then validates the HeaderInfo if there is a matching **Request Type** profile in the SWIFTNet Service Profile before sending out the HeaderInfo. Therefore, when you specify HeaderInfo during sending, you must configure the **Request Type** profile in the SWIFTNet Service Profile. You can configure the HeaderInfo as a mandatory or an optional parameter; however, if there is no matching profile, this request is forbidden.

Note: Please do not include `<Sw:HeaderInfo>` tag when specifying the value of HeaderInfo parameter. This `<Sw:HeaderInfo>` tag is automatically included during the process.

Header Info Support on the Server (IBM Sterling B2B Integrator as Responder)

As a responder, the HeaderInfo is only allowed on the FileAct Get Response message. When the FileAct Get request is received, the responder checks to see if there is a HeaderInfo file located in the same directory as the download file. The HeaderInfo file must have the same name as the logical filename specified in the request except with an additional filename extension (`.hdr`). For example, if the

logical filename is **payload.txt**, the HeaderInfo filename should be **payload.txt.hdr**. Prior to the Get request, the responder is responsible to provide both the download file and the HeaderInfo file in the correct directory.

When the FileAct Get request is received, this HeaderInfo is validated by the IBM Sterling B2B Integrator using the SWIFTNet Service Profile. Depending on the Request Type profile in the SWIFTNet Service Profile, the HeaderInfo file can be mandatory, optional, or forbidden.

Note: Please do not include <Sw:HeaderInfo> tag when specifying the content of HeaderInfo file (*.hdr). This <Sw:HeaderInfo> tag is automatically included during the process.

SWIFTNet Service Profile

The HeaderInfo block is optional, except for those services that mandate it. If the HeaderInfo block is not used, it must not be present, and if it is used, it must be validated by the schema.

The SWIFTNet Service Profile enables you to easily port Service Profiles from one IBM Sterling B2B Integrator instance to another. This function allows you to associate SWIFTNet Request Type with a Schema for Header Validation. You need to create the SWIFTNet Service Profile and associate the request type with the selected schema. This allows the IBM Sterling B2B Integrator to validate the HeaderInfo when it is present in the request.

Note: The schema must be saved in IBM Sterling B2B Integrator.

The Request Type parameter can accept a wildcard (*) to be used only at the end of the string. To determine which Service Profile to be used for a particular Request Type, the IBM Sterling B2B Integrator uses a best-match policy. For example, if there are two Service Profile defined, for **pain.*** and **pain.001.***, and the actual request type is **pain.002.001**, then the first one will be selected.

Two SWIFTNet Service Profiles are preloaded into IBM Sterling B2B Integrator. The **pac.*** and **pains.*** service profiles are associated with the Transaction Count schema and set to **Required for validation**. The Transaction Count and Payment Summary schemas are also preloaded into the IBM Sterling B2B Integrator.

You can also import and export SWIFTNet Service Profiles from one IBM Sterling B2B Integrator instance to another.

Creating a SWIFTNet Service Profile

To create a SWIFTNet service profile:

1. From the IBM Sterling B2B Integrator **Deployment** menu, select **Adapter Utilities > SWIFTNet Service Profile**.
2. To the right of **Create new SWIFTNet service profile**, click **Go!**.
3. Complete the following parameters and click **Next**:

Parameter
Description

Request Type

Type the request type. A wildcard (*) is only allowed at the end of the string, for example for example, **pac.*** or **pac.001.***. Required.

Schema Name

Select the schema used to validate the header information for this request type. Required.

Validation Type

Select whether validation is mandatory or should only be used if header information is specified. Optional. Valid values are:

- Validates only if Header Information is specified (default)
- Validation of Header Information is required

4. Click **Finish** to save the service profile.

Searching for a SWIFTNet Request Type

To edit or delete a SWIFTNet request type, you must first locate the appropriate request type. You can locate a specific request type in two ways:

- Search for the request type by name.
- Select the request type from an alphabetical list.

Searching for the request type by name is more precise and provides fewer results. Searching from an alphabetical list will result in a list of all request type or all types beginning with a specified letter or digit.

Once you search for the request type, you can easily edit or delete it from the SWIFTNet Service Profile interface.

Searching for a Request Type by Name

To search for a request type by name:

1. From the IBM Sterling B2B Integrator **Deployment** menu, select **Adapter Utilities > SWIFTNet Service Profile**.
2. In the Search section, type the name of the request type. Case does not matter and you can type part of a name.
IBM Sterling B2B Integrator returns a list of matches unless no request type meet the criteria you specified.
3. When the list of matches is returned, click **edit** next to the request type you want to modify, or click **delete** next to the request type you want to remove.

Searching for a Request Type from a List

To select a request type from a list:

1. From the IBM Sterling B2B Integrator **Deployment** menu, select **Adapter Utilities > SWIFTNet Service Profile**.
2. In the List section, select one of the following:
 - Alphabetically – Select **All** and click **Go!**
 - Alphabetically – Select a specific letter or digit (0 - 9) and click **Go!**
IBM Sterling B2B Integrator returns a list of matches unless no request type meet your criteria.
3. When the list of matches is returned, click **edit** next to the request type you want to modify, or click **delete** next to the request type you want to remove.

Exporting and Importing a SWIFTNet Service Profile

IBM Sterling B2B Integrator Import/Export feature enables you to save time and increase the accuracy of duplicating supported resources on different environments that are set up for unique purposes. To import and export resources from one IBM Sterling B2B Integrator environment to another application environment, both environments must be the same version.

Chapter 43. SWIFT Reconciliation Service

The SWIFT Reconciliation service is responsible for accepting and routing error messages from SWIFT Alliance Access (SAA) to the IBM Sterling B2B Integrator. Additionally, it is used for tracking whether messages sent out were accepted or rejected by the SWIFT communication. The service operates on the primary document.

The following table provides an overview of the SWIFT Reconciliation service:

System Name

SWIFT Reconciliation Service

Graphical Process Modeler (GPM) categories

All Services and EDI/SWIFT

Description

This service is responsible for enabling the IBM Sterling B2B Integrator to accept and handle error notifications from SWIFT Alliance Access (SAA).

Business usage

Use this service to track when messages are rejected locally by SWIFT Alliance Access using MQSA (WebSphere® MQ Interface for SWIFT Alliance Access) or AFT (Automated File Transfer). The Reconciliation Service can also be used to track the UUMID (User Unique Message ID) by setting a correlation on the document when it is used in conjunction with MQSA.

Usage example

SAA rejects a message, so it needs to be routed to an error handling process and passed back to the IBM Sterling B2B Integrator (the originating IBM Sterling B2B Integrator).

Preconfigured?

Yes.

Requires third party files?

No third party files are required.

Platform availability

All supported application platforms.

Related services

None

Application requirements

The service does not require anything to run. It is receiving input from SAA.

Initiates business processes?

No

Invocation

A user must have permission to execute the business process that invokes this service to retrieve data through MQ, FTP, AFT, and so forth.

Business process context considerations

None

Returned status values

- Error—if no primary document was found, or if the primary document is not in the correct format, an error occurs
- Success—if the primary document was found and successfully parsed

Restrictions

None

Persistence level

Not applicable

Testing considerations

To test this service in MQSA mode, you must know the report format. Also, MQSA mode checks the NAN/PAN status flag in the workflow, so the tester must set either /ProcessData/PrimaryDocument/feedback or /ProcessData/MQ/msgFeedback to emulate the status flag (set to 276 to emulate a NAN; all other values are ignored).

To test in AFT mode, the file process is the original message that was sent.

How the SWIFT Reconciliation Service Works

The SWIFT Reconciliation service accepts and routes error messages from SWIFT Alliance Access (SAA) to the IBM Sterling B2B Integrator. Additionally, it is used for tracking whether messages sent out were accepted or rejected by the SWIFT communication. The service operates on the primary document.

Implementing the SWIFT Reconciliation Service

You do not need to do anything to implement the SWIFT Reconciliation service.

Configuring the SWIFT Reconciliation Service

You do not need to do anything to configure the SWIFT Reconciliation service.

MQ Business Process Example

The following assumptions and preconditions apply to using the SWIFT Reconciliation service with MQ:

- You must set up outbound envelopes to “Expect an acknowledgement.” It is highly recommended that you use a single global control number for all outbound envelopes that are using this feature.
- In the business process that puts the outbound message on the queue, you must:
 - Set the datagram to request a NAN (Negative Acknowledgement) report. You may also set it to request a PAN (Positive Acknowledgement) report, if you wish to reconcile the UUMID.
 - Specify the queue and queue manager that the return report should use.
 - Set the feedback field so that the original message, error code, and (optionally) the UUMID are included in the return report. You do this by setting the feedback to MQFB_APPL_FIRST (65536) + 128 (include the message) + 256 (include the error code), or to MQFB_APPL_FIRST + 128 + 256 + 64 (include the UUMID). These values correspond to 65920 and 65984, respectively.
- You have already configured an instance of the MQ adapter named **ToSAA**.

This is the BPML for the MQ example business process:

```

<process name="FromSAA">
  <sequence>

    <operation name="WebSphere MQ Adapter">
      <participant name="FromSAA"/>
      <output message="WebsphereMQInputMessage">
        <assign to="." from="*"></assign>
        <assign to="rcv_MQGMO_wait">Yes</assign>
        <assign to="rcv_MQGMO_waitInterval">10000</assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

    <assign to="PrimaryDocument"
from="MQ/document/@SCIObjectID" />

    <operation name="SWIFT Reconcile">
      <participant name="ReconcileSWIFT"/>
      <output message="ReconcileSWIFTInputMessage">
        <assign to="." from="*"></assign>
        <assign to="Mode">MQSA</assign>
      </output>
      <input message="inmsg">
        <assign to="." from="*"></assign>
      </input>
    </operation>

  </sequence>
</process>

```

AFT Business Process Example

To use the SWIFT Reconciliation service with AFT, you must:

Configure SAA so that rejected messages are output to a directory that is separate from the output directory for valid messages. Some of the steps below will vary depending on your system configuration; for full details, see the SWIFTAlliance documentation.

1. In the Application Interface application of SWIFTAlliance Workstation, configure an exit point.
 - a. Open the Application Interface application within SWIFTAlliance Workstation.
 - b. From the View menu, select **Exit Point**.
 - c. From the Exit Point menu, select **New**.
 - d. Type a name for the exit point.
 - e. Set the Queue threshold as desired.
 - f. Leave **Assigned to message partner** blank.
 - g. Save the exit point.
2. In the Application Interface application of SWIFTAlliance Workstation, configure a Message Partner for the rejected messages.
 - a. Open the Application Interface application within SWIFTAlliance Workstation.
 - b. From the View menu, select **Message Partner**.
 - c. From the Message Partner menu, select **New**.
 - d. Type a name for the message partner.
 - e. For Allowed direction, select **To Message Partner**.

- f. For Connection method, select **File Transfer**.
 - g. For Session initiation, select **Manual**.
 - h. For Data format, select **RJE**.
 - i. For Parameter file, select **Not Required**.
 - j. For Output path name, enter the desired path for storing the rejected messages.
 - k. Set the **Run output session** parameters as desired.
 - l. Select the **Emission** tab, and select the Exit Point you created above. Leave the other settings as the default.
 - m. Save and enable this message partner.
3. In the Routing application of SWIFTAlliance Workstation, configure the routing point or points for SWIFT messages so that rejected messages are routed to the exit point you're created.

Note: SAA must be running in Housekeeping mode to modify routing points.

- a. Open the Routing application within SWIFTAlliance Workstation.
- b. From the View Menu, select **routing point**.
- c. Select the routing point for messages being sent to SAA (this will vary depending on how your system has been configured).
- d. Select the routing rule for message failing validation if one exists. If it doesn't exist, create one. For the routing condition, use **Condition on of Function and Function Result of Validation Error** for this rule.
- e. Right-click the rule, select **Open**, then click the **Action** tab.
- f. For Action On, select **On Source**.
- g. For Action, select **Route To** in the upper box, and select the exit point you created above from the second box.
- h. For Append intervention, select **No Intervention**.
- i. Select the Unit as desired, and save the routing rule.

Once you have configured SAA, you will need to configure your system so that the IBM Sterling B2B Integrator can read the output (for example, FTP or direct file system access). This will vary depending on your system. Once that is configured, you can invoke the SWIFT Reconciliation service on the resulting documents similar to what is shown for MQSA above (note that the mode must be set to AFT).

This is the BPML for the AFT example business process:

```
<operation name="SWIFT Reconcile">
  <participant name="ReconcileSWIFT"/>
  <output message="ReconcileSWIFTInputMessage">
    <assign to="." from="*"></assign>
    <assign to="Mode">AFT</assign>
  </output>
  <input message="inmsg">
    <assign to="." from="*"></assign>
  </input>
</operation>
```

Chapter 44. Translation Service

The following table provides an overview of the Translation service:

System name

Translation Type

Graphical Process Modeler (GPM) categories

All Services, Translation

Description

Performs translation of the primary document using a specified map, and replaces the primary document with the result of the translation.

Business usage

Performs translation of the primary document within business processes.

Usage example

You want to take positional data from your order system and translate it to variable-length-delimited data so that it can be read by your billing system.

Use the Sterling B2B Integrator Map Editor to create a map that will translate the incoming data from positional data to variable-length-delimited data. Write a business process that will put the data into the primary document, then start the Translation service. Using the map you created, the service translates the data from positional data to variable-length-delimited, and replaces the old data with newly translated data in the primary document.

Preconfigured?

There is a configuration of the service delivered with the IBM Sterling B2B Integrator, but you must configure parameters for it in the GPM.

Requires third party files?

No

Platform availability

All supported application platforms

Related services

No

Application requirements

The map specified in the map_name parameter must be registered with the IBM Sterling B2B Integrator and activated. If either of these conditions is not met then the translation will not be performed.

Initiates business processes?

No

Invocation

Runs as part of a business process.

Business process context considerations

The Translation service looks for the following parameters in the business process context. If the service finds them, it uses them during translations where either the input or output is EDI:

- edi_output_tag_delimiter
- edi_output_segment_delimiter

- edi_output_element_delimiter
- edi_output_sub_element_delimiter
- edi_output_repeating_element_delimiter
- edi_output_release_character
- edi_output_decimal_separator
- edi_input_tag_delimiter
- edi_input_segment_delimiter
- edi_input_element_delimiter
- edi_input_sub_element_delimiter
- edi_input_repeating_element_delimiter
- edi_input_release_character
- edi_input_decimal_separator

Returned status values

- Success – Translation was successful.
- Error – Errors were encountered during translation or translation could not be performed. See the Translator report contained in the Business Process Context Status report for further detail.

Restrictions

No

Persistence level

None

Testing considerations

The best way to test is within a simple business process where the Translation service is the only operation. After the business process runs, verify the output in the IBM Sterling B2B Integrator, and review the translator report for detail on what occurred during the translation.

How the Translation Service Works

The Translation service translates data in the following file formats:

- Electronic data interchange (EDI)
- Positional
- Variable-length-delimited
- Extensible Markup Language (XML)
- Structured Query Language (SQL)
- Japanese Center for Informatization of Industry (CII)

Note: If the input document character encoding is specified in the IBM Sterling B2B Integrator, it overrides the encoding specified in the map. The output document content type and character encoding are set based on the information contained in the map.

The Translation service creates a translation report.

Implementing the Translation Service

To implement the Translation service, complete the following tasks:

1. Activate your license for the Translation service.

2. If you are using a map that has a database on the output side, you must set up a connection to the database that contains the tables you want to access.
3. Create a Translation service configuration.
4. Configure the Translation service. See “Configuring the Translation Service.”
5. Use the Translation service in a business process.

Configuring the Translation Service

To configure the Translation service, you must specify settings for the following fields in the GPM:

Field	Description
--------------	--------------------

Config

Name of the service configuration.

edi_input_decimal_separator

Character used to indicate the decimal point on the input side.

edi_input_element_delimiter

Character used to delimit elements (fields) on the input side.

edi_input_release_character

Character used to quote elements (fields) that contain the delimiter on the input side.

edi_input_repeating_element_delimiter

Character used to delimit repeating elements on the input side.

edi_input_segment_delimiter

Character used to delimit segments on the input side.

edi_input_sub_element_delimiter

Character used to delimit sub-elements on the input side.

edi_input_tag_delimiter

Character used to delimit tags on the input side.

edi_output_decimal_separator

Character used to indicate the decimal point on the output side.

edi_output_element_delimiter

Character used to delimit elements (fields) on the output side.

edi_output_release_character

Character used to quote elements (fields) that contain the delimiter on the output side.

edi_output_repeating_element_delimiter

Character used to delimit repeating elements on the output side.

edi_output_segment_delimiter

Character used to delimit segments on the output side.

edi_output_sub_element_delimiter

Character used to delimit sub-elements on the output side.

edi_output_tag_delimiter

Character used to delimit tags on the output side.

exhaust_input

Whether to execute the map until the Translation service has translated all of the input. Valid values are Yes and No.

Note: If your map design is faulty (that is, if the data structure does not match the layout of the map), the data in the input file cannot be properly processed. If a segment is present in the input file it must be defined and active in the map and in the proper sequence. When the translator reads a segment, it tries to match it to the records in the map based on their tag values.

If `exhaust_input` is set to "Yes" the translator attempts to match each segment in the input file to a segment in the map, until it reaches the end of the input file. Conversely, if `exhaust_input` is set to "No," the translator does not re-invoke the map to continue processing the remaining data in the input file.

map_name

Name of the map used for translation. The map must already be checked in to the IBM Sterling B2B Integrator and enabled.

output_report_to_process_data

Whether to output the report to process data. Valid values are:

- Yes: Output the report to process data.
- No: Do no output the report to process data.

output_to_process_data

Whether the output of the translation should be placed in the process data tree. The output must be XML. Valid values are Yes and No.

useStreams

Whether to support large files (streaming mode). Valid values are Yes (default), No, and blank (which uses default).

The default was changed with release 4.1.1, patch 1973. In versions previous to that, the service did not use document streaming by default.

validate_input

Validates the input to the input side of the map. Valid values are Yes and No.

validate_input_against_dtd

Validates the input to the DTD specified in the input document. Valid values are No validation, Validate using a DTD, and Validate using an XML schema.

validate_output

Validates the output to the output side of the map. Valid values are Yes and No.

ErrorIfAllDataNotConsumed

Whether to throw an error if all of the input data is not consumed during the translation (please note that this is valid only if `exhaust_input` is not set to true). The default is false (do not throw an error if all of the input data is not consumed).

ErrorIfNoOutput

Whether to throw an error if the output document generated by the translation is empty. The default is false (do not throw an error).

Parameters Passed Through BPML Only

The following parameters can be passed through BPML using an Assign statement. Note that these parameters are not available through the GPM.

Parameter
Description

FromSchema

Used to enable manipulation of a database schema prefix within the SQL Table/View or SQL Statement of a map. This parameter is required when overriding schema names within one or more SQL Statement fields.

If the FromSchema and ToSchema parameters are not supplied, then no schema name substitution is performed.

Note: The schema search/replace is case-sensitive.

ToSchema

Used to enable manipulation of a database schema prefix within the SQL Table/View or SQL Statement of a map.

Note: The schema search/replace is case-sensitive.

If the FromSchema and ToSchema parameters are not supplied, then no schema name substitution is performed.

If the ToSchema parameter is supplied and contains a non-empty value, then any matching schema names are changed at translation time to use the supplied ToSchema schema value as follows:

- For a SQL Statement, only schema names that match the FromSchema value will be substituted. The FromSchema parameter is required—otherwise, no schema values are substituted. To match and substitute more than one value pair, the FromSchema and ToSchema parameter strings can be delimited with an @ sign. For example:

```
FromSchema="from1@from2"  
ToSchema="to1@to2"
```

In this example, any schema names matching “from1” are changed to “to1,” and any schema names matching “from2” are changed to “to2.”

For convenience, you can supply fewer ToSchema fragments than FromSchema fragments, and when there is no corresponding ToSchema fragment, the last fragment in the ToSchema string is used. For example:

```
FromSchema="from1@from2@from3"  
ToSchema="to"
```

In this example, any schema names matching “from1,” “from2,” or “from3” will be changed to “to.”

- For a SQL Table/View, the FromSchema parameter is optional. If it is not supplied, all schema names are changed to the supplied ToSchema value. If it is supplied, the substitution occurs in the same way as it does for a SQL Statement. If the translator property **sql.driver.useIdentifierQuoteString** is set to True within `customer_overrides.properties`, then matching and substitution occurs with quoted schema names.
- If the ToSchema parameter is supplied but is empty (equal to "" (two double quotation marks) or " (two single quotation marks)), then any matching schema names contained in the map are removed at translation time.

sql_statement_use_batching

Whether to enable batching. Valid values are Yes and No (default).

sql_statement_maximum_batchsize

The maximum size of the SQL statement batch. Only valid if sql_statement_use_batching is set to Yes.

Turning on SQL Statement Batching

In your map, any record for which the **On failure, automatically switch selected operation and retry Inserts as Updates or Updates as Inserts** setting is turned on (enabled) is not be batched, because batching is not supported for records that have retry enabled. For these records, the SQL is executed with no batching, and records that do not have retry enabled are batched.

Additionally, in the map, the data source must have **Use Transaction** enabled. If **Use Transaction** is turned off, then batching is not performed

Finally, the database must support batching. If the database does not support batching, the batch service parameters will be ignored and the SQL statements will not be batched.

This example BPML demonstrates how you might enable SQL statement batching:

```
<operation name="Translation">
  <participant name="Translation"/>
  <output message="TranslationTypeInputMessage">
    <assign to="map_name">insert</assign>
    <assign to="sql_statement_use_batching" from="'yes'"/>
    <assign to="sql_statement_maximum_batchsize" from="'500'"/>
    <assign to="." from="*"></assign>
  </output>
  <input message="in">
    <assign to="." from="*"></assign>
  </input>
</operation>
```

Chapter 45. X12 Deenvelope Service

Note: This is an internal service that should not be used externally for steps in creating business processes because it is subject to change without notice, and use may cause unpredictable results and loss of data. This section is intended for information purposes only.

The following table provides an overview of the X12 Deenvelope service:

System name

DeenvelopeX12Type

Graphical Process Modeler (GPM) categories

All Services, EDI > X12

Description

Handles deenveloping of inbound X12 interchanges. It does compliance checking (except for sequence checking). It also generates 997, 999, and TA1 acknowledgements, and reconciles inbound 997 and 999 acknowledgements, if no sequence checking is required.

Business usage

The business value of the service is to improve performance by deferring sequence checking (if required) so that database updates of control numbers can be done by the EDI Post Processing service.

Usage example

An inbound purchase order is received inside an X12 interchange. The EDI envelopes are parsed and the document envelopes that match the envelope data are retrieved. With the document envelopes, this service knows what to do with the purchase order, such as initiating a business process to perform some business logic.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

If sequence checking is required, this service works in conjunction with the EDI Post Processor service.

Application requirements

None

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some

business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM. It must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Setting Description

- none** Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional.
- basic** Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional.

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Note: All EDI services assign a Unique ID to each log message.

Adding Translation Map Name to Process Data

The X12 Deenvelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The X12 Deenvelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map

name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

Chapter 46. X12 Envelope Service

The following table provides an overview of the X12 Envelope service:

System name

EnvelopeX12Type

Graphical Process Modeler (GPM) categories

All Services, EDI > X12

Description

Handles enveloping of outbound X12 interchanges.

Business usage

This service improves performance of EDI X12 by consolidating EnvelopeST, EnvelopeGS, and EnvelopeISA into a single service.

Usage example

An outbound purchase order is to be sent inside an X12 interchange. The document envelopes that match the SenderID, ReceiverID, and AcceptorLookupAlias specified in the EDI Encoder service are retrieved. If required by the ST envelope, translation is performed using the map specified by the envelope. The ST, GS, and ISA envelopes are applied to the output of this step. It checks if the document being enveloped is a 997 or a 999. The service will then initiate a business process if one is specified in the ISA envelope definition.

Preconfigured?

Yes

Requires third party files?

No

Platform availability

All supported application platforms.

Related services

EDI Encoder, EDI Envelope

Application requirements

None

Initiates business processes?

Runs a business process specified in the interchange envelope definition.

Invocation

Runs as part of a predefined EDI X12EnvelopeUnified business process.

Business process context considerations

None

Returned status values

- Translation Error–Translation produced errors.
- No_Documents_To_Envelope–EDIEncoder has not run prior to X12 Envelope service.
- No_Envelope_Defined–The ST envelope defined has a SenderID, ReceiverID, or AcceptorLookupAlias different from that in the EDIEncoder step of the business process.
- Error–A database or other exception takes place.

- Success–Service returns success if none of the above takes place.

Restrictions

None

Persistence level

System default

Testing considerations

None

How the X12 Envelope Service Works

The X12 Envelope service is used in the predefined X12EnvelopeUnified business process to envelope outbound EDI documents. No configuration of the service is required.

The following example illustrates one way that the X12 enveloping process could happen:

1. A purchase order is deposited into a folder on your IBM Sterling B2B Integrator system by your inventory management system.
2. The file is collected by a File System adapter, which then initiates a business process that takes care of translating the file into EDI X12 format.
3. That business process initiates the X12EnvelopeUnified business process, the document is translated into EDI X12 format, and then enveloped.
4. The document envelopes that match the SenderID, ReceiverID, and AcceptorLookupAlias specified in the EDI Encoder service are retrieved. If required by the ST envelope, translation is performed using the map specified by the envelope. The ST, GS, and ISA envelopes are applied to the output of this step. It checks if the document being enveloped is a 997 or a 999. The service will then initiate a business process if one is specified in the ISA envelope definition.

Note: All EDI services assign a Unique ID to each log message.

Document Tracking Levels and Performance

You can boost EDI performance in the IBM Sterling B2B Integrator by using the TRACKING_LEVEL parameter to adjust the tracking level for business processes.

You set the default global settings for the TRACKING_LEVEL parameter in the enveloping.properties file. However, these global settings can be overridden for certain EDI-related services by using the BPML-only TRACKING_LEVEL parameter. This enables you to obtain maximum EDI performance in some business processes and maximum search and tracking functionality in others. This parameter can be set for the following services:

Inbound Services

- CII Deenvelope service
- EDIFACT Deenvelope service
- EDI Post Processor service
- X12 Deenvelope service
- Generic Deenvelope service

Outbound Services

- EDI Encoder service
- CII Envelope service
- EDIFACT Envelope service
- Envelope Generic service
- X12 Envelope service

This performance boost is done at the expense of Tracking and Search functionality. The tracking level setting affects the following EDI functionality:

- EDI Correlation Search
- EDI Document Tracking
- EDI Reporting

The TRACKING_LEVEL parameter is not available in the IBM Sterling B2B Integrator service configuration or in the GPM. It must be added manually to the BPML. Use the TRACKING_LEVEL parameter with one of the following settings:

Setting Description

- none** Provides the largest EDI performance boost with the least tracking and search functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are nonfunctional.
- basic** Provides an EDI performance boost while also providing search functionality. EDI Correlation Search is functional. EDI Document Tracking and EDI Reporting are nonfunctional.
- full** Default setting. Provides the lowest EDI performance with the highest search and tracking functionality. EDI Correlation Search, EDI Document Tracking and EDI Reporting are fully functional.

Note: Document tracking is turned off by default in the system-defined EDI business processes. If you define an EDI business process and turn Document Tracking on, that will override the TRACKING_LEVEL settings in both the enveloping.properties file and the EDI service parameter.

Note: All EDI services assign a Unique ID to each log message.

Using Wildcards in Enveloping and Deenveloping Services

To help reduce the number of envelopes that need to be created and maintained in the system, X12 and EDIFACT enveloping allows users to create wildcard envelope definitions. There are two aspects to this feature in outbound processing. The first is the use of an asterisk (*) in any mandatory field in an outbound envelope. The second is the ability to override values set in an envelope definition through the use of correlations. By using an asterisk in the Sender ID, Receiver ID, and Acceptor Lookup Alias fields, it allows the EDI Encoder Service to match and use that envelope for every document it prepares for enveloping. You may use wildcards for one, two, or all three fields when you define an envelope, and the EDI Encoder will find and use the most specific match when it processes a document.

If an envelope field is set to an asterisk, the X12 Envelope service must obtain the actual value to use from a different source—the correlations. You must provide a correlation for an envelope value that is set to asterisk, but you can also set others. Correlations set on the document for other fields in an envelope override what is

in the envelope itself. This enables you to create an envelope with default values that you can override only when desired. The exception to this rule is when the field is Sender ID, Receiver ID, or a qualifier for one of these fields. In these fields, you must define the value as an asterisk in the envelope definition if you want to override it with a correlation, otherwise the value from the envelope is always used.

The following list contains the correlation values that can be set inside of process data prior to calling the Correlation service to override outbound envelope values:

- X12EnvelopeParms/Out_ExpectAcknowledgement
- X12EnvelopeParms/Out_AcknowledgementFormat
- X12EnvelopeParms/Out_GroupAcknowledgementOverdueTime
- X12EnvelopeParms/Out_InterchangeAcknowledgementOverdueTime
- X12EnvelopeParms/Out_GroupAcknowledgementOverdueTimeMinutes
- X12EnvelopeParms/Out_InterchangeAcknowledgementOverdueTimeMinutes
- X12EnvelopeParms/OutDocEncoding
- X12EnvelopeParms/Out_TransactionSetIDCode
- X12EnvelopeParms/Out_GroupFunctionalIDCode
- X12EnvelopeParms/Out_GroupResponsibleAgencyCode
- X12EnvelopeParms/Out_GroupVersionReleaseIDCode
- X12EnvelopeParms/Out_GroupSenderID
- X12EnvelopeParms/Out_GroupReceiverID
- X12EnvelopeParms/Out_InterchangeAuthorizationInformationQualifier
- X12EnvelopeParms/Out_InterchangeAuthorizationInformation
- X12EnvelopeParms/Out_InterchangeSecurityInformationQualifier
- X12EnvelopeParms/Out_InterchangeSecurityInformation
- X12EnvelopeParms/Out_InterchangeSenderIDQualifier
- X12EnvelopeParms/Out_InterchangeSenderID
- X12EnvelopeParms/Out_InterchangeReceiverIDQualifier
- X12EnvelopeParms/Out_InterchangeReceiverID
- X12EnvelopeParms/Out_InterchangeControlStandardsIdentifier
- X12EnvelopeParms/Out_InterchangeControlVersionNumber
- X12EnvelopeParms/Out_InterchangeAcknowledgmentRequested
- X12EnvelopeParms/Out_InterchangeTestIndicator

The following example shows how you might set correlation values in a business process:

```
<operation name="SetTheCorrelations">
  <participant name="CorrelationService"/>
  <output message="Xout">
    <assign to="TYPE">DOCUMENT</assign>
    <assign to="CORRELATION_PATH">/ProcessData/X12EnvelopeParms/*</assign>
    <assign to="SCOPE" from="'EDI'"/>
    <assign to="." from="*"></assign>
  </output>
  <input message="xin">
    <assign to="." from="*"></assign>
  </input>
</operation>

<operation name="EDI Encoder">
  <participant name="EDIEncoder"/>
```

```

<output message="EDIEncoderTypeInputMessage">
  <assign to="AcceptorLookupAlias">837</assign>
  <assign to="EDIStandard">X12</assign>
  <assign to="ReceiverID">TestA-GS-R</assign>
  <assign to="SenderID">TestA-GS-S</assign>
  <assign to="." from="*"></assign>
</output>
<input message="inmsg">
  <assign to="." from="*"></assign>
</input>
</operation>

<operation name="EDI Envelope">
  <participant name="EDIEnvelope"/>
  <output message="EDIEnvelopeTypeInputMessage">
    <assign to="MODE">DEFERRED</assign>
    <assign to="RECEIVER_ID">TestA-GS-R</assign>
    <assign to="SENDER_ID">TestA-GS-S</assign>
    <assign to="." from="*"></assign>
  </output>
  <input message="inmsg">
    <assign to="." from="*"></assign>
  </input>
</operation>

```

After the steps shown in the previous example, you would include the Correlation service to set the values as correlations against your documents, then follow that with the EDI Encoder service.

Adding Translation Map Name to Process Data

The X12 Envelope service automatically adds the name of the map used by the translator (as specified when building the envelope) in an inbound or outbound translation to process data. The X12 Envelope service writes the map name into the process data regardless of the reason the translator was invoked; that is, for a compliance check only, or for both compliance check and translation. The map name in process data enables enhanced configuration possibilities for your business process models. For example, you can configure business processes to use the map name for tracking or cross reference purposes, configure decisions in your process models to choose a subprocess according to the map that was run, or to create a report when there are translation errors.

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