Application

Using ACH

Standards Library Version 5.1

Sterling Commerce
An IBM Company

Contents

Using ACH with Application

ACH Overview

The Automated Clearing House (ACH) is an electronic banking network operating system used by participating financial institutions in the United States. ACH processes large volumes of both credit and debit batch-oriented transactions. Rules and regulations governing the ACH network are established by the National Automated Clearing House Association (NACHA) and the Federal Reserve.

Note: This version of Application supports NACHA ACH Rules 2007.

NACHA requires the use of Standard Entry Class Code (SEC) codes for each transaction processed through the ACH.

Application supports the use of all ACH SEC codes for all ACH inbound and outbound envelopes, including the Back Office Conversions (BOC) code and all NACHA ACH 2007 codes.

To support all SEC codes, you must define inbound envelopes at two different levels, ACH File Level and ACH Batch/Entry Detail Level. In addition to supporting all SEC codes (including CTX), these two levels provide more functionality than ACH – CTX envelopes provide. Envelopes defined with these options also have additional configuration parameters which are not available for ACH-CTX envelopes.

All new envelopes should be created using the two-level process (ACH File Level and ACH Batch/Entry Detail Level), rather than the one-level envelope process (ACH-CTX). Although the existing one level process is still supported for files containing only ACH-CTX transactions, it is recommended that existing ACH-CTX envelopes be replaced with the ACH File Level and ACH Batch/Entry Detail Level envelopes.

This table describes how Application supports ACH:

Functionality	Details	Action You Need to Take to Implement ACH
Services	◆ ACH Envelope service envelopes ACH messages, including any associated addenda records. ◆ ACH Deenvelope service deenvelopes entry detail records for any ACH SEC code while extracting the associated addenda records. ◆ ACH Return Generation service generates ACH Return entry detail records and forwards them to the ACH Envelope service. **Note:** The ACH Envelope and ACH Deenvelope services automatically validate messages. If the data violates these rules, an entry is added to the report. **Note:** ACH defines three "Field Inclusion Requirement" values: Mandatory, Required, and Optional. By default, the Envelope and ACH Deenvelope services will treat Required fields as Mandatory (that is, they will throw an error if a Required field is not present). If you want to treat Required fields as Optional, you must perform the following: 1. In the **customer_overrides.properties** file, define the property **ach.treatRequiredFieldsAsOptional=YES**. Adding this property notifies the Envelope and ACH Deenvelope services to treat Required fields as Optional during their internal validation. 2. When you create ACH translation maps in the Map Editor, the New Map Wizard will create maps in which fields defined as Required by ACH are Mandatory fields in the map. You will need to manually change these fields to Conditional in the map.	None

Functionality	Details	Action You Need to Take to Implement ACH
Envelopes	◆ Inbound ACH envelope wizards to implement inbound ACH. ◆ Outbound ACH envelope wizards to implement outbound ACH.	◆ Create the appropriate ACH envelopes for each message you are sending and receiving.
Predefined business processes	◆ ACH Deenvelope ◆ ACH Envelope ◆ ACH Return Generation	None
Map Editor	◆ Map Editor wizard enables you to generate a file layout for you using the ACH message that you select. Included in the ACH map are groups, records, and fields that are defined by ACH. ◆ Properties dialog boxes that enable you to define and modify ACH map components. ◆ Autolink function automatically creates links between input and output fields that have the same name or business name. This function can be used with any data format. ◆ Additional mapping operations as needed.	◆ Download Map Editor. ◆ Create a map or maps to translate your ACH messages.
Correlation Search	Search by ACH information.	Utilize the EDI Correlation search functionality to search for ACH correlation information.
Reports	Report by ACH standard	Utilize the EDI Translation Detail report to search for details of inbound and outbound ACH messages and easily create useful reports on your inbound and outbound ACH messaging.

Prerequisite Knowledge

The audience using this software should be familiar with Application and the NACHA ACH standard.

Note: This documentation is not intended to explain the ACH standard.

Using ACH with Application

To use ACH with Application, you must complete the following tasks:

1. Create inbound and outbound ACH envelopes.

2. Use the predefined ACH business processes or create your own business processes.

3. Create any necessary code lists and maintain them as needed.

4. Create your ACH map or maps, linking your proprietary file format to the appropriate ACH message format.

5. To track ACH messages, use the EDI Correlation Search functionality.

6. To report on inbound and outbound ACH message flow, use the EDI Translation Detail report features.

ACH Business Processes

Overview

To help you accomplish your business goals, Application provides three predefined enveloping business processes that are used by Application to implement ACH processing: ACHEnvelope, ACHDeenvelope, and ACHReturnGeneration. These predefined business processes are initiated by services during ACH processing and do not require you to modify them.

Note: When you attempt to restart halted envelope ACH business processes, an error occurs when the resume option is selected. When this option is selected, the business process resumes at a business process exception service step, and causes another error even if the issue causing the halt was corrected. To avoid this issue, when restarting these business processes, use the **Simple** option to restart them from the first step.

The following table lists business goals for the predefined ACH business processes:

Business Process	Business Goals
ACHDeenvelope	Extracts ACH message types from a message and translates and processes them, according to the content of the envelopes.
ACHEnvelope	Applies an ACH envelope to one or more ACH messages and then uses the envelope data to translate and process them.
ACHReturnGeneration	Calls the ACH Return Generation service to generate ACH Return entry detail records and forward them to the ACH Enveloping service.

ACHDeenvelope Business Process

The ACHDeenvelope business process is used to deenvelope ACH data. A typical scenario is one in which ACH data must be received from a trading partner. The data must be deenveloped to extract identifying batch and interchange data, and the ACHDeenvelope business process helps to provide the deenveloping services.

The ACHDeenvelope business process is initiated as part of the following inbound process flow:

1. You create a business process that calls the EDI Deenveloping service.

2. The EDI Deenveloping service parses the whole document and extracts messages from it so it can be further processed by Application.

3. The EDI Deenveloping service passes the ACH messages to the ACHDeenvelope business process. The Generic Deenvelope service runs as a subprocess.

4. The ACHDeenvelope business process looks up the envelope, based on the data found in the header.

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

6. The envelope specifies what to do with the deenveloped messages.

7. The ACHDeenvelope business process starts the Invoke Business Process service or a subprocess service to initiate the appropriate business process to handle each deenveloped message.

If exceptions occur when running an EDI Deenveloping business process, Application generates an EDI Compliance Report.

This table lists the configuration parameters for the ACHDeenvelope business process:

Parameter	Default	Description
Document Tracking	False	When document tracking is enabled for a business process, tracking information is carried with the message throughout the process, and the tracking information is persisted about the message regardless of the persistence level you configured globally for Application.
Set onfault processing	False	Onfault processing allows the process to immediately execute the on-fault activity specified in the process, even if the process has not yet reached that step in the process. For example, if a process fails at step 3, but the on-fault activity is specified in step 7, if onfault processing is enabled, the process proceeds to the step 7 on-fault rather than halting at step 3.
Queue	4	Application enables you to set performance optimizations by queue, defining queue levels to allocate resources. This number indicates the previously allocated queue level that you want for this business process model for processing.
Persistence Level	System Default	The level of data to retain for generating a status report that describes each step that the business process completes. System default indicates that, for the data, configuration is already defined in Application to retain data.
Recovery Level	Manual	The level of recovery for this business process if the business process should halt during execution. Manual requires you to resume or restart the business process manually.
Document Storage Type	System Default	The level of document storage for messages that process when the business process runs. System Default specifies to store messages in the file system or database, according to how you configured archiving and purging in Application.
Life Span	Life Span Days — 2 Life Span Hours — 0 Life Span Type — System Level Removal Method — Archive	The length of time, in days and hours, to retain the data in Application, along with the life span type and removal method.

Parameter	Default	Description
Complete by Deadline	None Available **Note:** To set a deadline you must change it in the business process.	Complete by – The deadline time, in hours and minutes, by which the business process must complete process once it starts. ◆ First Notification: Hours and Minutes – Whether to receive notification before a business process deadline. ◆ Second Notification: Hours and Minutes – Whether to receive another notification before a business process deadline.
Event Reporting Level	Full	The level of event reporting that is retrieved for this business process when it runs. Full specifies to generate events for the business process, including the business process start and end time, start and end times for all services or services running as a result of this business processes, and any resulting errors and exceptions.

The following BPML code makes up the ACHDeenvelope business process:

```
<process name="ACHDeenvelope">
   <rule name="HaltBP">
   <condition>HaltBP/text()='YES'</condition>
   </rule>
   <sequence>
   <operation name="ACHDeEnvelope">
   <participant name="DeenvelopeACH"/>
   <output message="Xout" >
   <assign to="." from="*"></assign>
   </output>
   <input message="Xin" >
   <assign to="." from="*"></assign>
   </input>
   </operation>
   <onFault>
   <choice>
   <select>
   <case ref="HaltBP" activity="ThrowException"/>
   </select>
   <sequence name = "ThrowException">
   <operation name="Halt">
         <participant name="BPExceptionService"/>
          <output message="Xout">
            <assign to="." from="*"></assign>
          </output>
          <input message="inMessage">
            <assign to="." from="*"></assign>
          </input>
        </operation>

   </sequence>
   </choice>
   </onFault>
   </sequence>
</process>
```

ACHEnvelope Business Process

The ACHEnvelope business process is initiated when it is called by another business process. The ACHEnvelope business process envelopes the ACH messages contained in the business process context with outbound ACH envelopes that you have preconfigured. You must have created one outbound ACH envelope for each ACH message that you are sending.

A typical scenario is one in which ACH data must be sent to a trading partner. To prepare for this, the data must be enveloped to provide identifying batch and interchange data. The ACHEnvelope business process helps to provide these enveloping services.

The ACHEnvelope business process is initiated as part of the following outbound process flow:

1. You create a business process that calls the EDI Encoder service or Document Extraction service.

2. The EDI Encoder service or Document Extraction service looks up the envelope to apply and prepares the document to be enveloped.

3. Either the business process calls the EDI Enveloping service or the Document Extraction service is configured to perform enveloping.

4. The EDI Enveloping service or Document Extraction service starts the ACHEnvelope business process (which runs the Generic Envelope service as a subprocess to extract the name of the business process).

5. The ACHEnvelope business process searches the envelope definition to retrieve information to envelope each message.

This table lists the configuration parameters for the ACHEnvelope business process:

Parameter	Default	Description
Document Tracking	False	When document tracking is enabled for a business process, tracking information is carried with the message throughout the process, and the tracking information is persisted about the message regardless of the persistence level you configured globally for Application.
Set onfault processing	False	Onfault processing allows the process to immediately execute the on-fault activity specified in the process, even if the process has not yet reached that step in the process.
		For example, if a process fails at step 3, but the on-fault activity is specified in step 7, if onfault processing is enabled, the process proceeds to the step 7 on-fault rather than halting at step 3.
Queue	4	Application enables you to set performance optimizations by queue, defining queue levels to allocate resources. This number indicates that previously allocated queue level that you want for this business process model for processing.

Parameter	Default	Description
Persistence Level	System Default	The level of data to retain for generating a status report that describes each step that the business process completes. System default indicates that, for the data, configuration is already defined in Application to retain data.
Recovery Level	Manual	The level of recovery for this business process if the business process should halt during execution. Manual requires you to resume or restart the business process manually.
Document Storage Type	System Default	The level of document storage for messages that process when the business process runs. System Default specifies to store messages in the file system or database, according to how you configured archiving and purging in Application.
Life Span	Life Span Days — 2 Life Span Hours — 0 Life Span Type — System Level Removal Method — Archive	The length of time, in days and hours, to retain the data in Application, along with the life span type and removal method.
Complete by Deadline	None Available **Note:** To set a deadline you must change it in the business process.	Complete by – The deadline time, in hours and minutes, by which the business process must complete process once it starts. ◆ First Notification: Hours and Minutes – Whether to receive notification before a business process deadline. ◆ Second Notification: Hours and Minutes – Whether to receive another notification before a business process deadline.
Event Reporting Level	Full	The level of event reporting that is retrieved for this business process when it runs. Full specifies to generate events for the business process, including the business process start and end time, start and end times for all services or services running as a result of this business processes, and any resulting errors and exceptions.

The following BPML code makes up the ACHEnvelope business process:

```
<process name="ACHEnvelope">

   <rule name="contract">
      <condition>CONTRACT_FOUND = "YES"</condition>
   </rule>

   <sequence>
      <sequence>
         <assign to="CONTRACT_FOUND" from="''" />
         <assign to="WFD_NAME" from="''" />
         <operation>
            <participant name="EnvelopeACH" />
            <output message="Xout" >
               <assign to="." from="*"></assign>
```

```
                </output>
                <input message="Xin" >
                    <assign to="." from="*"></assign>
                </input>
            </operation>
            <onFault code="Translation-Error-Some-Docs">
                <assign to="BREAK">YES</assign>
            </onFault>
            <onFault code="Deferred ACH enveloping incomplete">
                <assign to="ACHEnvelopeError" from="'Deferred ACH enveloping incomplete'"
/>
            </onFault>
            <onFault>
                <operation>
                    <participant name="BPExceptionService"/>
                    <output message="Xout" >
                        <assign to="exceptionCode" from="'Translation Error'"/>
                    </output>
                    <input message="Xin"/>
                </operation>
            </onFault>
        </sequence>

        <choice>
            <select>
                <case ref="contract" activity="invoke_contract_workflow" />
            </select>
            <sequence name="invoke_contract_workflow">
                <operation>
                    <participant name="InvokeBusinessProcessService" />
                    <output message="Xout">
                        <assign to="INVOKE_MODE">ASYNC</assign>
                        <assign to="." from="*"></assign>
                    </output>
                    <input message="Xin" >
                        <assign to="." from="*"></assign>
                    </input>
                </operation>
            </sequence>
        </choice>

    </sequence>
</process>
```

ACHReturnGeneration Business Process

The ACHReturnGeneration business process calls the ACH Return Generation service to generate ACH Return entry detail records and forward them to the ACH Enveloping service.

The ACHReturnGeneration business process is initiated as part of the following outbound process flow:

1. A business process calls the EDI Enveloping service configured to perform enveloping.

2. The EDI Enveloping service starts the ACHReturnGeneration service.

3. The ACHReturnGeneration service is called with an XML document as the primary document. This XML document should conform to a schema published by Sterling Commerce 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.

4. The ACHReturnGeneration service generates ACH Return entry detail records and forwards them to ACH Enveloping service. In particular, it encodes the return documents for later processing by the ACH Enveloping services in deferred mode.

This table lists the configuration parameters for the ACHReturnGeneration business process:

Parameter	Default	Description
Document Tracking	False	When document tracking is enabled for a business process, tracking information is carried with the message throughout the process, and the tracking information is persisted about the message regardless of the persistence level you configured globally for Application.
Set onfault processing	False	Onfault processing allows the process to immediately execute the on-fault activity specified in the process, even if the process has not yet reached that step in the process. For example, if a process fails at step 3, but the on-fault activity is specified in step 7, if onfault processing is enabled, the process proceeds to the step 7 on-fault rather than halting at step 3.
Start mode	async	Asynchronous initiation is selected by default. Starting business processes asynchronously is recommended. Asynchronous mode is standard Application processing, wherein the business process is placed in queue and processed.
Transaction	False	This option instructs Application to treat the entire process as a single transaction so that either all of the steps complete, or, in the event of an error, none of them do. When an error occurs, no data is committed; data returns to its pre-process state. By default, this transaction mode is not enabled.
Queue	4	Application enables you to set performance optimizations by queue, defining queue levels to allocate resources. This number indicates the previously allocated queue level that you want for this business process model for processing.
Persistence Level	System Default	The level of data to retain for generating a status report that describes each step that the business process completes. System default indicates that, for the data, configuration is already defined in Application to retain data.
Recovery Level	Manual	The level of recovery for this business process if the business process should halt during execution. Manual requires you to resume or restart the business process manually.

Parameter	Default	Description
Document Storage Type	System Default	The level of document storage for messages that process when the business process runs. System Default specifies to store messages in the file system or database, according to how you configured archiving and purging in Application.
Life Span	Life Span Days — 2 Life Span Hours — 0 Life Span Type — System Level Removal Method — Archive	The length of time, in days and hours, to retain the data in Application, along with the life span type and removal method.
Complete by Deadline	None Available **Note:** To set a deadline you must change it in the business process.	Complete by – The deadline time, in hours and minutes, by which the business process must complete process once it starts. ◆ First Notification: Hours and Minutes – Whether to receive notification before a business process deadline. ◆ Second Notification: Hours and Minutes – Whether to receive another notification before a business process deadline.
Event Reporting Level	Full	The level of event reporting that is retrieved for this business process when it runs. Full specifies to generate events for the business process, including the business process start and end time, start and end times for all services or services running as a result of this business processes, and any resulting errors and exceptions.

The following BPML code makes up the ACHReturnGeneration business process:

```
<process name="ACHReturnGeneration">
   <rule name="HaltBP">
      <condition>HaltBP/text()='YES'</condition>
   </rule>
   <sequence>
      <operation name="ReturnGenerationACH">
         <participant name="ReturnGenerationACH"/>
         <output message="Xout" >
         <assign to="." from="*"></assign>
         </output>
         <input message="Xin" >
         <assign to="." from="*"></assign>
         </input>
      </operation>
      <onFault>
         <choice>
            <select>
               <case ref="HaltBP" activity="ThrowException"/>
            </select>
            <sequence name="ThrowException">
               <operation name="Halt">
```

```
                    <participant name="BPExceptionService"/>
                    <output message="Xout">
                        <assign to="." from="*"></assign>
                    </output>
                    <input message="inMessage">
                        <assign to="." from="*"></assign>
                    </input>
                </operation>
            </sequence>
        </choice>
    </onFault>
  </sequence>
</process>
```

ACH Enveloping

ACH Enveloping Overview

A *document envelope* consists of control information that enables organizations to effectively exchange messages. This information is added in headers and trailers to messages. Document envelopes are specific to the message protocol used. Creating document envelopes is necessary to use ACH with your trading partners.

NACHA requires the use of Standard Entry Class Code (SEC) codes for each transaction processed through the ACH.

Application supports the use of all ACH SEC codes for all ACH inbound and outbound envelopes.

To support all SEC codes, you must define inbound envelopes at two different levels, ACH File Level and ACH Batch/Entry Detail Level. In addition to supporting all SEC codes (including CTX), these two levels provide more functionality than ACH – CTX envelopes provide. Envelopes defined with these options also have additional configuration parameters which are not available for ACH-CTX envelopes.

All new envelopes should be created using the two-level process (ACH File Level and ACH Batch/Entry Detail Level), rather than the one-level envelope process (ACH-CTX). Although the existing one level process is still supported for files containing only ACH-CTX transactions, we recommend you replace existing ACH-CTX envelopes with the ACH File Level and ACH Batch/Entry Detail Level envelopes.

Matching Existing CTX Envelopes

ACH-CTX envelopes can be used to process only CTX data, and are used in Application for backward-compatibility only.

If an incoming ACH file contains data pertaining to any application other than CTX, Application will only attempt to find envelopes conforming to the two-level process (ACH File Level and ACH Batch/Entry Detail Level), even if a data file contains CTX data in addition to non-CTX data.

If an incoming ACH file contains only CTX data, Application will first attempt to find envelopes conforming to the ACH-CTX single-level process. For a file containing only CTX data, Application will attempt to match envelopes belonging to the new two-level process, ACH File Level and ACH Batch/Entry Detail Level, only if no envelope belonging to the ACH-CTX file matches the data in this file.

Note: ACH-CTX envelopes with wildcards configured in your system are used for incoming data even though you may have ACH File Level envelopes and ACH Batch/Entry Detail Level envelopes that have a more specific match for the incoming data.

If there are no active ACH-CTX envelopes in the system or if you do not want ACH-CTX envelopes to be included in lookup, you can skip the ACH-CTX envelope lookup by setting the property ach.disableInboundLegacyCTXEnvelopes to Yes in the **customer_overrides.properties** file—this will improve the performance of the system.

Note: The default value of the **disableInboundLegacyCTXEnvelopes** property is No. This means that for files containing only ACH-CTX data, [Application] will attempt to match ACH-CTX envelopes before attempting a match on ACH File Level and ACH Batch/Entry Detail Level envelopes.

How ACH Deenveloping Works

There are two processing paths for an inbound ACH envelope:

✦ Delimited EDI based ACH application (for CTX and TRX SEC codes only)

✦ Non-EDI based ACH application (all SEC codes)

Delimited EDI based ACH applications

EDI based processing for ACH documents works as follows:

1. The compressed EDI data (for example, X12 820) is extracted from the addenda records.

2. The relevant fields are extracted from this EDI data into an XML document using a validation map. These fields are then validated against the contents of the ACH Entry Detail and Batch Header records.

3. The extracted EDI document is then passed into the selected business process for processing. The file header records, batch header records, and entry detail record fields are placed into process data for this business process

Non-EDI based ACH Applications

Non-EDI processing for ACH documents works as follows:

1. The file header record, batch header record, entry detail record, and corresponding addenda records are extracted into an XML document. The addenda record conversion is applied in one of two ways:

    a. If Payment Related Information to DOM map is selected, the 80-character payment-related information portion of the data will be applied in the map and the XML generated by that map will be inserted under ACHFile/EntryDetailRecord/AddendaRecord/TranslatedPaymentRelatedInfo.

    b. If the Payment Related Information to DOM map is not selected, then the 80-character payment related information portion of the data will be placed as is under ACHFile/EntryDetailRecord/AddendaRecord/PaymentRelatedInfo.

2. The generated XML document is translated by the post-processing map.

3. The translated data is passed into the selected business process for processing.

Deenveloping Output

The Deenvelope service will extract all of the positional fields into an XML DOM (regardless of the map you selected). The following is a deenveloping output sample with no addenda records:

```
<ACHFile>
   <FileHeader>
    [header fields]
   </FileHeader>
   <CompanyBatchHeader>
    [header fields]
   </CompanyBatchHeader>
   <EntryDetailRecord>
    <Amount>1000</Amount>
    <DFIAccountNumber>12345</DFIAccountNumber>
    [other entry detail 1 fields]
   </EntryDetailRecord>
   <EntryDetailRecord>
```

```
   [entry detail 2 fields]
   </EntryDetailRecord>
   ...(1 for each entry detail that is combined by the envelope)
</ACHFile>
```

The post-processing map is applied to this DOM to convert the data to application-specific format.

When there are addenda records, the PRI to DOM map is applied to the payment related information portion of the addenda to get XML for each addenda record. Deenveloping sample with addenda records:

For Acct1234*20.00*Joe User, XML output from the PRI map.

```
<OUTPUT>
   <AcctNum>Acct1234</AcctNum>
   <CreditAmt>20.00</CreditAmt>
   <Name>Joe User</Name>
</OUTPUT>
```

This XML entry detail is inserted with the other extracted data:

```
<ACHFile>
   <FileHeader>
    [header fields]
   <FileHeader>
   <CompanyBatchHeader>
    [header fields]
   </CompanyBatchHeader>
   <EntryDetailRecord>
    <Amount>1000</Amount>
    <DFIAccountNumber>12345</DFIAccountNumber>
    [other entry detail 1 fields]
    <AddendaRecord>
            [base addenda record fields]
            <TranslatedPaymentRelatedInfo> Contains fields from the PRI DOM
                  <AcctNum>Acct1234</AcctNum>
                  <CreditAmt>20.00</CreditAmt>
                  <Name>Joe User</Name>
            </TranslatedPaymentRelatedInfo>
    </AddendaRecord>
   </EntryDetailRecord>
   <EntryDetailRecord>
    [entry detail 2 fields]
   </EntryDetailRecord>
   ...(1 for each entry detail that is combined by the envelope)
</ACHFile>
```

The post-processing map is applied to the full XML document, which contains information from all the entries, including associated addenda records.

How ACH Enveloping Works

To use the ACH Envelope service, you should use the supplied Data Definition Format (DDF) on the output map to ensure that the document used for the ACH Enveloping service is formatted correctly. The ACH Envelope service locates a file that has all the fields in the entry detail record, with the exception of: the Record Type Code, Addenda Record Indicator, and Trace Number fields. DDFs for both entry detail records and addenda are installed as part of the Map Editor install and can be found in the **Samples** directory.

Note: The specified map is invoked multiple times on the input file until the input file is completely processed. Users can generate multiple entry detail records from the same input file.

Addenda records are also generated in a similar manner. For applications where the structure of entire Addenda Record has been fully defined by the ACH standard, Application provides corresponding DDFs. Customers should use the appropriate addenda DDF on the output side of the map. For applications where addenda records contain payment related information, you should define the structure for the output side of an addenda map. The output of the addenda map will be used to generate the **Payment Related Information** field.

Note: The same input document is used to generate both entry detail records and addenda records.

ACH Enveloping Overview

Delimited EDI Based Message Category (CCD, CTX, and PPD)

The Delimited EDI Based Message Category is used in an outbound ACH Batch/Entry Detail envelope when the outbound ACH data is generated based on an input interchange (typically X12 or EDIFACT). The EDI Message category is available only for the CCD and CTX SEC codes, and generates a single batch and entry detail record for each input file. The basic process for enveloping using the EDI Message Category is as follows:

1. An EDI interchange (for example, an X12 820) is used as input.

2. The input interchange is translated into an XML document using the map specified in the envelope.

3. The contents of the XML document are used to determine the values for various fields in the batch and entry detail records of the outbound ACH document. See below for the full list of XML elements and their corresponding values in the ACH batch and entry detail records.

4. For CTX, the EDI interchange is put into the addenda records.

When you configure the outbound ACH Batch/Entry Detail envelope, you can select **Default** for the **Map Name Mode** parameter if you are using an X12 820 as the input document. Otherwise, you must create a map for translating the input document into XML and configure the envelope to use that map.

The following table shows the mapping from the XML document to the ACH batch or entry detail record field. Every user-created map must generate XML containing the elements in the first column of this table.

XML Element	ACH Field Name	Batch Header or Entry Detail Record
CompanyName	Company Name	Batch Header
CompanyIdentification	Company Identification	Batch Header
StandardEntryClassCode	Standard Entry Class Code	Batch Header **Note:** The StandardEntryClassCode value is checked against the value entered in the envelope definition.
CompanyEntryDescription	Company Entry Description	Batch Header
CompanyDescriptiveDate	Company Descriptive Date	Batch Header

XML Element	ACH Field Name	Batch Header or Entry Detail Record
EffectiveEntryDate	Effective Entry Date	Batch Header
OriginatingDFIIdentification	Originating DFI Identification	Batch Header
TransactionCode	Transaction Code	Entry Detail
ReceivingDFIIdentification	Receiving DFI Identification	Entry Detail
CheckDigit	Check Digit	Entry Detail
DFIAccountNumber	DFI Account Number	Entry Detail
TotalAmount	Total Amount	Entry Detail
SendingCompanyAuditNumber	Identification Number	Entry Detail
ReceivingCoNameIDNumber	Receiving Company Name/ID Number	Entry Detail
TraceNumber	Trace Number	Entry Detail

Non-EDI Based Message Category (All SEC Codes except CTX, CCD, ENR, PPD, and TRX)

The non-EDI based message category uses two maps, one for generating the entry detail record, and an optional map for generating the addenda record. The values in the batch header record are specified in the envelope. The process of generating the entry detail and addenda records is as follows:

1. The entry detail map is run on the input file to obtain the 77 characters defining the ACH Entry Detail record. This process is repeated until the data in the input file is exhausted, resulting in a list of entry detail records.

2. The addenda map, if present, is run on the input file (starting from the beginning of the input data) to obtain the 76 characters defining the addenda record. This process is repeated until the data in the input file is exhausted, resulting in a list of addenda records.

Note: The same file is used for generating both the entry detail and addenda records.

3. The entry detail records are paired with their corresponding addenda records and output in the ACH file.

The Map Editor ships with predefined map structures for the various addenda and entry detail types. See *Creating an ACH Map* for more information.

Non-EDI Based Message Category (ENR)

ENR differs from other non-EDI based messages because it does not use an entry detail map (the entry detail records are generated based on the envelope settings). The process for generating an ENR from an input file is as follows:

1. The entry detail record is generated based on values defined in the envelope.

2. The addenda map is run on the input file to generate a 76 character addenda record. This process is repeated until the data in the input file is exhausted.

3. All of the addenda records generated in step 2 are associated with the entry detail record from step 1, and output in the ACH file.

Non-EDI Based Message Category (TRX)

TRX does not use an entry detail map. The process for generating a TRX from an input file is as follows:

1. The addenda map is run on the input file to generate the output data. The output of the addenda map is expected to be formatted in the National Association for Check Safekeeping syntax.

2. The output of step 1 is split into addenda records of the appropriate length, and a corresponding entry detail record is generated based on the envelope settings. The total amount for the entry detail record is determined by the enveloping service based on the data generated in step 1.

3. Steps 1 and 2 are repeated on the input file until the data is exhausted.

How Acknowledgements are Generated

The process for acknowledging ACH entries received by Application is as follows:

1. The ACH Deenvelope Service receives a CCD or CTX entry with AK in its discretionary data.

Note: The envelope settings can override the behavior so that acknowledgements (ACKs) are never generated, or are always generated, regardless of the discretionary data.

2. The Deenvelope service will automatically generate the ACK data, and encode it for enveloping with the acceptor lookup alias ACH_ACK (specific to CCD) or ACH_ATX (specific to CTX) depending on the type of acknowledgement being generated.

   Set up your outbound envelopes. The File Level envelope is set up as normal; however, for the Batch-Entry Detail Level envelope you must select **Acknowledgement Entries** as the ACH Message Category. For this envelope, the ODFI is the originator of the acknowledgement (the DFI that received the original data). The RDFI is the DFI where the acknowledgement is being sent.

3. Execute the EDIEnvelope service in deferred mode. This will pick up the ACK data and generate the outbound file.

About Addenda Records

An addenda record is an ACH record type that carries the supplemental data needed to completely identify an account holder or provide information concerning a payment to the Receiving Depository Financial Institution and the Receiver.

Additional information about addenda records used in Application:

✦ The 80-character payment related information portion of the addenda record is generated by the user map as specified.

✦ For the non_EDI message category, the ACK map will receive the XML document for that entry (including the file header fields, batch header fields, entry fields, and addenda record information). That is, you will receive the same type of output as described by ACH_Output.ddf, but with only one entry detail tag.

ACH Currency Conversion

You can configure currency conversion rates in one of three ways for Outbound Batch Entry Detail Level envelopes:

◆ Hardcode it in the Batch Envelope.

◆ Use a codelist

◆ Use an application interface that you provide for one of two cross border entries, either CBR or PBR. There is no need to convert currencies unless the payment is crossing an international border.

When you select a method for ACH currency conversion, keep the following in mind:

◆ Exchange rates are constantly changing

◆ When using a batch or a codelist, you may be required to frequently change the envelope.

◆ If you use the interface extension, you can supply the current exchange rate by modifying the file from Application at runtime. The same process that supplies the data to the CBR or PBR file could also supply this file with the current exchange rate in it.

Defining the ACH_Currencies Code List

You can define a code list. Complete these steps to define a code list:

1. Add the following to the **ach.properties.in** file:

   ```
   currencyCodeListName=ACH_Currencies
   ```

2. On the **Code List** screen, click **Go!** to create a New Codelist.

3. Type, ACH_Currencies in the **Code List** name and click **Next**.

4. In the **Sender Code** field, type the currency from which you are converting. For example, if you are converting from USD to EUR, type USD.

5. In the **Receiver Code** field, type the currency to which you are converting. For example, if you are converting from USD to EUR, type, EUR.

6. In the **Text1** field, type the conversion rate.

7. Finish the code list configuration and run setupfiles.sh in the ApplicationServerDirectory/bin/ directory, without supplying any arguments.

Note: ApplicationServerDirectory is an example name for the directory the Application Server would use.

8. Restart your Application server to use the new changes.

For example, to create a codelist called ACH_Currencies, add the line currencyCodeListName=ACH Currencies to the ach.properties.in file.

If you want to provide a conversion rate from US Dollar to Euro, then create a new entry in this codelist with **SenderID=USD**, **ReceiverID=EUR**, and **Text1 =0.795**.

How To Use an Interface for Currency Conversion

This Application interface allows users to supply their custom log to be used to retrieve the current currency conversion rates.

1. To use this interface for currency conversion, extend the interface as follows:

    ```
    com.sterlingcommerce.woodstock.services.edi.ach.utils.ICurrencyConversion
    RateGenerator
    ```

    This interface defines a single function:

    ```
    **
    * Supply the current conversion rate with respect to the two currency codes.
    * @param currencyCodeFrom
    * @param currencyCodeTo
    * @return
    */
    public double getCurrentConversionRate(String currencyCodeFrom,String
    currencyCodeTo);
    ```

2. Make this code available using the install3rdParty.sh(.cmd) script.

3. Define a property named **ach.currencyConversionRateProvider** in the **customer_overrides.properties** file

Using the Sample Conversion Rate Generator

To use an interface extension solution to create the appropriate currency conversion code list:

1. In the file called ApplicationServerDirectory/properties/ach.properties.in, (located in the properties directory under the main Application Server directory), add a line in the ACH section that reads: currencyConversionRateProvider=com.sterlingcommerce.woodstock.services.edi.ach.utils.SampleCurrencyConversionRateGenerator

2. Initialize a new file in the same properties directory called ACHCurrencyConversion.properties and add a single line that reads:
    USD.to.CAD=1.33333

3. You can add other lines for other currency conversions, and Application will find the correct one to use—the batch envelope definition tells Application the 'from' and 'to' currencies to look for. The 1.33333 is the exchange rate.

4. Add the following lines to the customer_overrides.properties file:

    ```
    customer_overrides.properties:vendor.ACHCurrencyConversion=
    ApplicationServerDirectory/properties/ACHCurrencyConversion.properties

    server.ACHCurrencyConversion=ApplicationServerDirectory/properties/
    ACHCurrencyConversion.properties
    ```

5. Run setupfiles.sh in ApplicationServerDirectory/bin/ directory supplying no arguments. This rolls the .in files contents mentioned above into their corresponding ach.properties, vendor.properties and servers.properties files.

6. You must then reload Application server for it to locate the changes.

In production, you can dynamically update the ACHCurrencyConversion.properties file and Application will immediately locate the changes without having to restart Application Server. This allows you to supply the correct current exchange rate to the process in an automated way.

If you want to view a sample on how to set up and use the class you can view a sample implementation of the interface at:

com.sterlingcommerce.woodstock.services.edi.ach.utils.ICurrencyConversionRateGenerator through class com.sterlingcommerce.woodstock.services.edi.ach.utils.SampleCurrencyConversionRateGenerator

This class reads the conversion rates from the file ACHCurrencyConversion.properties in the properties directory. Application will first determine if an extension class is defined and is accessible. If it is unable to find the extension point, it will try to use the codelist.

Sending Dishonored Returns, Contested Dishonored Returns, Refused Notifications of Change, and Refused Acknowledgements

When you are sending dishonored returns, contested dishonored returns, refused notifications of change or refused acknowledgements in Application you need to configure the envelope and input data for these messages.

Sending Dishonored Returns and Contested Returns

To send dishonored returns and contested returns, you must complete the following:

✦ Envelope Setup: In the outbound ACH batch envelope, select Returned Entry Detail Records in the ACH Message Category.

✦ Data Format: The data must consist of 3 lines:

   ◆ Line 1: The unmodified original 94-character batch header for the entry that is dishonored or contested.

   ◆ Line 2: Characters 2 through 78 of the entry detail record you want to send.

   ◆ Line 3: Characters 4 through 79 of the addenda record you want to send.

For example, if you receive the following return entry:

```
5225UVW CLUB        DUES                1047727779PPDMONTH-DUES06259090062017811239187100000001
62605999990719650-54326      000000000003918        Joe User              071123918711300000
799R04059999990000301     12391871                              123928711300000
```

If you want to dishonor it, encode the following data for processing by the EDI Envelope service (the actual data would vary based on the return reason):

```
5225UVW CLUB        DUES                1047777779PPDMONTH-DUES06259090062617811239487100000001
212391871019650-52326      0000020000000000000003918Joe User                      07
R68059999990000301     12391871   12391871130000017901
```

Sending Refused Notifications of Change

The envelope setup and data format for this message is a similar configuration to a regular notification of change. The only difference is that the entry detail and addenda maps should be configured to generate fields appropriate for a refused notification of change.

Sending Refused Acknowledgements

To send refused acknowledgements, you must complete the following:

✦ Envelope Setup: In the outbound ACH batch envelope, select Acknowledgement Entries for the ACH Message Category.

✦ Data Format: The data must consist of 2 lines:

   ◆ Line 1: The 94-character batch header that you wish to send.

Note: This format is different from returns. On returns the first line is the original batch header.

   ◆ Line 2: Characters 2 through 78 of the entry detail record you want to send.

For example, if you receive the following acknowledgement:

```
5200USER JOE          CDD                    1000234567ATXGENERAL PU040709040000   1544530410000001
6245555554139876543210         00000033305555404100000010028USER JOE              AK0554440411200000
```

Encode the following data for processing by the EDI envelope service (the actual data would vary based on the reason for refusal:

```
5200USER JOE          CDD               33334567ATXGENERAL PU040709040304   1555540410000001
2455558979969876543210         00000000000555756410006610028USER JOE              B3
```

Using Wildcards in ACH Envelopes

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

To use wildcards in ACH envelopes, you must set correlations using the Correlation service or a map (if you are translating a document prior to passing it to the ACH Envelope service). You need to set the correlation that corresponds to the field for which you are using a wildcard (for example, Out_CompanyDiscretionaryData for the company discretionary data field).

The following list contains the correlation values that need to be set to support wildcards to override file-level envelope values (the names correspond directly to the names the ACH standard uses):

✦ Out_DestinationIdentification

✦ Out_OriginIdentification

✦ Out_DestinationName

✦ Out_OriginName

✦ Out_ReferenceCode

The following list contains the correlation values that need to be set to support wildcards to override batch-entry detail level envelope values (the names correspond directly to the names the ACH standard uses):

- Out_RDFI
- Out_ODFI
- Out_CompanyID
- Out_DFIAccountNumber
- Out_CompanyEntryDescription
- Out_CompanyName
- Out_CompanyDescriptiveDate
- Out_CompanyDiscretionaryData
- Out_DiscretionaryData
- Out_TransactionCode
- Out_IdentificationNumber
- Out_ReceivingCompanyIDNumber
- Out_ForeignExchangeReference
- Out_ISODestinationCountryCode
- Out_ISOOriginatingCurrencyCode
- Out_ISODestinationCurrencyCode
- Out_ACHOperatorData
- Out_RoutingNumberOfACHOperator
- Out_ServiceClassCode
- Out_EffectiveEntryDate
- Out_OriginatorStatusCode
- Out_MessageAuthenticationCode
- Out_ForeignExchangeIndicator
- Out_ForeignExchangeReferenceIndicator

ACH Inbound Batch-Entry Detail Level Envelope Properties, Document Level

Note: An (*) asterisk indicates that a wildcard value can be used with that parameter (for mandatory fields, the wildcard value is an (*) asterisk). For Inbound envelopes, a wildcard value in the envelope matches any value in the input document, while an empty value in the envelope matches only an empty value in the input document. For Outbound envelopes, a wildcard value is equivalent to an empty value in the envelope. See *Using Wildcards in ACH Envelopes* on page 27 for more information about using wildcards in ACH envelopes.

The following table describes ACH inbound batch-entry detail level envelope properties at the document level:

Field	Description
* Originating DFI Identification	Originating Depository Financial Institution identification number. Required.
* Company Identification	Type the company identification. Required.
* Receiving DFI Identification	Receiving Depository Financial Institution identification number. Required.
* DFI Account Number	The Depository Financial Institution account number. This is the receiver identifier qualifier for envelope lookup. Required.
Is this envelope for processing returns	Specify whether the envelope will be used to process returns. Valid values are Yes and No. Required.
Retain Enclosing Envelope	Specify whether to retain the enclosing envelope. Valid values are Yes and No. Required.
ACH SEC code	Select the Standard Entry Class Code (SEC Code). This code identifies the specific computer record format that will be used to carry the payment and payment-related information relevant to Application. Valid value is three characters.
ACH Message Category	Select the ACH message category. Valid values are: ◆ Delimited EDI Based ACH Application. Use this option for supporting for CTX and TRX SEC codes only. Addenda Related Information: The addenda record is translated by the addenda map specified in the envelope. ◆ Non EDI Based ACH Application
Validate TRX Data	Specify whether to validate the TRX data. Required. Valid values are Yes and No.
Handling of TRX data with discrepancies	Specify how to handle TRX data that contains discrepancies. Required. Valid values are Accept and Reject.
Invoke a business process if translation or extraction errors occur	Indicates whether or not to invoke a business process on the extracted data if an error occurs. If Yes is selected, additional screens appears that allow you to specify a business process. Valid values are Yes and No. Required.

Field	Description
Error Business Process Name Mode	Valid values are: ♦ Specify ♦ Generate from data Required.
Business Process for Non-Compliant Documents	Select the business process for the non-compliant documents from the list. Required.
Determine the Business Process by	Valid values are: ♦ Looking up contract dynamically ♦ Specifying a contract ♦ Specifying a business process (default) ♦ Generating the business process name from the data ♦ Default Deenvelope BP for Contained Standard Required.
Business Process List	Select a previously created business process to associate with this envelope. Required.
Combine all entries that match this envelope into a single output document	If Yes is selected, any entry in a batch that matches this envelope will be put into a single XML document for processing. If No is selected, every entry is put into its own XML document. Valid values are Yes or No. Required.
Contract List	Select a previously created contract to associate with this envelope. Optional.

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the map. Optional.
	Select from:
	◆ SEC Code
	◆ Receiving DFI Identification
	◆ Originating DFI Identification
	◆ Standard contained in addenda
	◆ X12 Transaction Set/EDIFACT Message Type
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated map name (**Generating the business process name from the data** is set to Generate from data), Application tries to generate and match the following maps:
	◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
First Backup Name Format	The first backup name format to use when generating a map name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ SEC Code
	◆ Receiving DFI Identification
	◆ Originating DFI Identification
	◆ Standard contained in addenda
	◆ X12 Transaction Set/EDIFACT Message Type
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated map name (**Generating the business process name from the data** is set to Generate from data), Application tries to generate and match the following maps:
	◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a map name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ SEC Code
	◆ Receiving DFI Identification
	◆ Originating DFI Identification
	◆ Standard contained in addenda
	◆ X12 Transaction Set/EDIFACT Message Type
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated map name (**Generating the business process name from the data** is set to Generate from data), Application tries to generate and match the following maps:
	◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system	Specifies whether to generate an error if the Business Process selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Generating the business process name from the data** is set to Generate from data.
Extraction Options	Business process data extraction. Valid values:
	◆ Determined by business process (default)
	◆ Extract to a file system directory
	◆ Extract to a mailbox
	Required.
Data Extraction Directory	Directory for data extraction. Required.
Data Extraction Filename	Filename for data extraction. Required.
Data Extraction Mailbox	Mailbox for data extraction. Required.
Data Extraction Mailbox Message Name	Mailbox message name for data extraction. Required.

ACH Inbound CTX Envelope Properties, Document Level

Note: An (*) asterisk indicates that a wildcard value can be used with that parameter (for mandatory fields, the wildcard value is an (*) asterisk). For Inbound envelopes, a wildcard value in the envelope matches any value in the input document, while an empty value in the envelope matches only an empty value in the input document. For Outbound envelopes, a wildcard value is equivalent to an empty value in the envelope. See *Using Wildcards in ACH Envelopes* on page 27 for more information about using wildcards in ACH envelopes.

The following table describes ACH inbound Batch-Level envelope properties at the document level:

Field	Description
* Destination Identification	Routing number of the ACH Operator or receiving point to which the message is being sent. Required.
* Origin Identification	Routing number of the ACH Operator or sending point that is sending the message. Required.
* Destination Name	Name of the ACH or receiving point for which the message is destined. Optional.
* Origin Name	Name of the ACH Operator or sending point that is sending the message. Optional.
Perform duplicate File ID Modifier check	Whether duplicate File ID checking be performed when receiving an ACH File Level envelope. Valid values are Yes and No. Required.
Map Name Mode	Mode in which to specify the map to use to perform a compliance check. Required. Valid values: ◆ Specify ◆ Generate from data ◆ Default
Map Name	Select the map to be used to perform a compliance check. The map must already be checked in. Optional.

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the map. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps: ◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no matching map is found** is set to Yes.
First Backup Name Format	The first backup name format to use when generating a map name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps: ◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no matching map is found** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a map name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Origin Identification
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps:
	◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no matching map is found** is set to Yes.
Generate an error if no matching map is found	Specifies whether to generate an error if the Map Name selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Map Name Mode** is set to Generate from data.
Handling of batches with discrepancies	Specify how to handle batches with discrepancies. Required. Valid values are:
	◆ Accept
	◆ Reject
Specify the extracted 820 business process selection method	Determines how to select a business process to which to send the 820. Required. Valid values are:
	◆ Use the default X12 ISA interchange business process
	◆ Look up contract dynamically
	◆ Specifying a contract
	◆ Specifying a business process
	◆ Generating the business process name from data
Generate an error if the business process name does not exist in the system	Specify whether to generate an error if the business process name specified does not exist in the system. Required. Valid values are Yes and No.
Contract List	Select a previously created contract to associate with this envelope. Optional.
Business Process List	Select a previously created business process to associate with this envelope. Required.

Field	Description
Invoke a business process if translation or extraction errors occur	Specify whether to invoke a business process if translation or extraction errors occur. Required. Valid values are Yes and No.
Error Business Process Name Mode	Valid values are: ◆ Specify ◆ Generate from data Required.
Business Process for Non-Compliant Documents	Select the business process for the non-compliant documents from the list. Required.
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the business process. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Specify the extracted 820 business process selection method** is set to Generating the business process name from the data), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
First Backup Name Format	The first backup name format to use when generating a business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Origin Identification
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated business process name (**Specify the extracted 820 business process selection method** is set to Generating the business process name from the data), Application tries to generate and match the following business processes:
	◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Origin Identification
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated business process name (**Specify the extracted 820 business process selection method** is set to Generating the business process name from the data), Application tries to generate and match the following business processes:
	◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system	Specifies whether to generate an error if the Business Process selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Error Business Process Name Mode** is set to Generate from data.

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the business process. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Specify the extracted 820 business process selection method** is set to Use the default X12 ISA interchange business process), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
First Backup Name Format	The first backup name format to use when generating a business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Specify the extracted 820 business process selection method** is set to Use the default X12 ISA interchange business process), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a business process. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Origin Identification
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated business process name (**Specify the extracted 820 business process selection method** is set to Use the default X12 ISA interchange business process), Application tries to generate and match the following business processes:
	◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system	Specifies whether to generate an error if the Business Process selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Error Business Process Name Mode** is set to Generate from data.
Error Business Process Name Mode	Valid values are:
	◆ Specify
	◆ Generate from data

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the business process. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Error Business Process Name Mode** is set to Generate from data), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
First Backup Name Format	The first backup name format to use when generating a business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Error Business Process Name Mode** is set to Generate from data), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a business process. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Origin Identification
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated business process name (**Error Business Process Name Mode** is set to Generate from data), Application tries to generate and match the following business processes:
	◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system	Specifies whether to generate an error if the Business Process selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Error Business Process Name Mode** is set to Generate from data.
Extraction Options	Business process data extraction. Valid values:
	◆ Determined by business process (default)
	◆ Extract to a file system directory
	◆ Extract to a mailbox
Data Extraction Directory	Directory for data extraction. Required.
Data Extraction Filename	Filename for data extraction. Required.
Data Extraction Mailbox	Mailbox for data extraction. Required.
Data Extraction Mailbox Message Name	Mailbox message name for data extraction. Required.

ACH Inbound File-Level Envelope Properties, Document Level

Note: An (*) asterisk indicates that a wildcard value can be used with that parameter (for mandatory fields, the wildcard value is an (*) asterisk). For Inbound envelopes, a wildcard value in the envelope matches any value in the input document, while an empty value in the envelope matches only an empty value in the input document. For Outbound envelopes, a wildcard value is equivalent to an empty value in the envelope. See *Using Wildcards in ACH Envelopes* on page 27 for more information about using wildcards in ACH envelopes.

The following table describes ACH inbound File-Level envelope properties at the document level:

Field	Description
* Destination Identification	Routing number of the ACH Operator or receiving point to which the message is being sent. Required.
* Origin Identification	Routing number of the ACH Operator or sending point that is sending the message. Required.
* Destination Name	Name of the ACH or receiving point for which the message is destined. Optional.
* Origin Name	Name of the ACH Operator or sending point that is sending the message. Optional.
Perform duplicate File ID Modifier check	When receiving an ACH File Level envelope, will duplicate File ID checking be performed. Valid values are Yes and No. Required.
Maximum age of File ID Modifier History Record in days	Maximum days to retain a history of File ID Modifier to use for duplication determinations. Valid value is nine standard characters. Optional.
Stop processing of a file on a translation or EDI validation error	Provides an option to process the entire transaction within the file when a component of the file errors out. Valid values are Yes and No. Required.
Invoke a business process for file-level compliance errors	Required. Valid values are Yes and No.
Invoke a business process for batch-level compliance errors	Required. Valid values are Yes and No.
Error Business Process Name Mode	How to determine the business process name to use if there were errors in the compliance check. Required. Valid values are: ◆ Specify (specifying a Business Process name—this is the default) ◆ Generate from data (generating a Business Process name from the data—this is useful if you want to share across envelopes) **Note:** If you select this option, you must select at least one parameter for Primary Name Format.
Business Process for Non-Compliant Documents	Select the business process for the non-compliant documents from the list. Optional.

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the error business process name. Optional. Select from: ♦ Destination Identification ♦ Destination Name ♦ Origin Identification ♦ Origin Name **Note:** If you are using a generated error business process name (**Determine Error Business Process Name By** is set to Generating a Business Process name from the data), Application tries to generate and match the following business process: ♦ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ♦ Second, it tries to generate and match the First Backup Name. ♦ Third, it tries to generate and match the Second Backup Name. ♦ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
First Backup Name Format	The first backup name format to use when generating an error business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ♦ Destination Identification ♦ Destination Name ♦ Origin Identification ♦ Origin Name **Note:** If you are using a generated error business process name (**Determine Error Business Process Name By** is set to Generating a Business Process name from the data), Application tries to generate and match the following business process: ♦ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ♦ Second, it tries to generate and match the First Backup Name. ♦ Third, it tries to generate and match the Second Backup Name. ♦ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating an error business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ Destination Identification ◆ Destination Name ◆ Origin Identification ◆ Origin Name **Note:** If you are using a generated error business process name (**Determine Error Business Process Name By** is set to Generating a Business Process name from the data), Application tries to generate and match the following business process: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system	Specify whether to generate an error if there is no match to the generated business process name in the system. Valid values are Yes (default) and No. **Note:** Only displayed if **Determine the Error Business Process By** is set to Generating the business process name from the data.

ACH Outbound Batch - Entry Detail Level Envelope Properties, Document Level

Note: An (*) asterisk indicates that a wildcard value can be used with that parameter (for mandatory fields, the wildcard value is an (*) asterisk). For Inbound envelopes, a wildcard value in the envelope matches any value in the input document, while an empty value in the envelope matches only an empty value in the input document. For Outbound envelopes, a wildcard value is equivalent to an empty value in the envelope. See *Using Wildcards in ACH Envelopes* on page 27 for more information about using wildcards in ACH envelopes.

The following table describes ACH outbound batch - detail level envelope properties at the document level:

Field	Description
Next Envelope	The next group level envelope to use. Optional.
Edit	Edit selected group level envelope. Optional.
Create Next Envelope - Add	Adds group level envelope to use as the next envelope. Optional.
Originating DFI Identification	Originating Depository Financial Institution identification number. Required.
Originator Status Code	Select a status code type. Required.
Receiving DFI Identification	Receiving Depository Financial Institution identification number. **Note:** For lookup only, except ENR and TRX.
Accepter Lookup Alias	Identifying string used with the sender ID and the receiver ID to look up this envelope with the EDI Encoder service. This alias associates a document with the service it requires. Valid value must be at least one limited standard character. Required.
ACH Message Category	The category of ACH message. Required. Valid values are: ◆ Delimited EDI Based ACH Application ◆ Non EDI Based ACH Application ◆ Returned Entry Detail Records ◆ Acknowledgement Entries
Company Identification	Type the company identification. Required.
DFI Account Number	The Depository Financial Institution account number. **Note:** For lookup only, except ENR and TRX.
ACH SEC Code	Standard Entry Class Code (SEC Code). This code identifies the specific computer record format that will be used to carry the payment and payment-related information relevant to Application. Required.
Company Entry Description	Type the company entry description. Required.

Field	Description
Company Discretionary Data	Field in the Company/Batch Header Record. Allows Originators and ODFIs to include codes of significance only to them, to enable specialized handling of all subsequent entries in that batch. There is no standardized interpretation for the value. Optional.
Company Descriptive Date	Type the company descriptive date. Optional.
Effective Entry Date Offset	Type the effective entry date offset. The effective entry date is the date specified by the Originator on which it intends a batch of entries to be settled. For credit entries, the effective entry date shall be either one or two banking days following the banking day of processing as establish by the Originating ACH Operator (the processing date). For debit entries, the effective entry date shall be one banking day following the processing date. The offset is an offsetting transaction to either credit or debit for the total amount of the batch. Required.
Company Name	Type the name of the company. Required.
Entry Detail Map Name Mode	Mode in which to specify the map to use to perform generation of the Entry Detail record(s). Required. Valid values: ◆ Specify ◆ Generate from data
Name of map to be used for generation of Entry Detail record(s)	Select the map to be used to perform generation of the Entry Detail record(s). The map must already be checked in. Optional
Primary Name Format	Check boxes to instruct what information to include when generating the Entry Detail record(s). Optional. Select from: ◆ ACH SEC Code ◆ Receiving DFI Identification ◆ DFI Account Number (For lookup only, except ENR and TRX) ◆ Originating DFI Identification ◆ Company Identification **Note:** If you are using a generated map name (**Entry Detail Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps: ◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no matching map is found** is set to Yes.

Field	Description
First Backup Name Format	The first backup name format to use when generating an Entry Detail record. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ ACH SEC Code
	◆ Receiving DFI Identification
	◆ DFI Account Number (For lookup only, except ENR and TRX)
	◆ Originating DFI Identification
	◆ Company Identification
	Note: If you are using a generated map name (**Entry Detail Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps:
	◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no matching map is found** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating an Entry Detail record. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ ACH SEC Code ◆ Receiving DFI Identification ◆ DFI Account Number (For lookup only, except ENR and TRX) ◆ Originating DFI Identification ◆ Company Identification **Note:** If you are using a generated map name (**Entry Detail Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps: ◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no matching map is found** is set to Yes.
Generate an error if no matching map is found	Specifies whether to generate an error if the Map Name selected is not found. Valid values are Yes (default) and No. **Note:** Only displayed if **Map Name Mode** is set to Generate from data.
Map Name	Select the map to be used to perform a compliance check. The map must already be checked in. Optional
Map Name Mode	Mode in which to specify the map to use to perform a compliance check. Required. Valid values: ◆ Specify ◆ Generate from data ◆ Default
Map Name	Select the map to be used to perform a compliance check. The map must already be checked in. Optional

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the map. Optional. Select from: ♦ SEC Code ♦ Receiving DFI Identification ♦ Originating DFI Identification ♦ Standard contained in addenda ♦ X12 Transaction Set/EDIFACT Message Type ♦ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps: ♦ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message). ♦ Second, it tries to generate and match the First Backup Name. ♦ Third, it tries to generate and match the Second Backup Name. ♦ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no matching map is found** is set to Yes.

Field	Description
First Backup Name Format	The first backup name format to use when generating a map name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.

Select from:

- ◆ SEC Code

- ◆ Receiving DFI Identification

- ◆ Originating DFI Identification

- ◆ Standard contained in addenda

- ◆ X12 Transaction Set/EDIFACT Message Type

- ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number

Note: If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps:

- ◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).

- ◆ Second, it tries to generate and match the First Backup Name.

- ◆ Third, it tries to generate and match the Second Backup Name.

- ◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.

Note: Only occurs if **Generate an error if no matching map is found** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a map name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ SEC Code
	◆ Receiving DFI Identification
	◆ Originating DFI Identification
	◆ Standard contained in addenda
	◆ X12 Transaction Set/EDIFACT Message Type
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps:
	◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no matching map is found** is set to Yes.
Generate an error if no matching map is found	Specifies whether to generate an error if the Map Name selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Map Name Mode** is set to Generate from data.

ACH Outbound CTX Envelope Properties, Document Level

Note: An (*) asterisk indicates that a wildcard value can be used with that parameter (for mandatory fields, the wildcard value is an (*) asterisk). For Inbound envelopes, a wildcard value in the envelope matches any value in the input document, while an empty value in the envelope matches only an empty value in the input document. For Outbound envelopes, a wildcard value is equivalent to an empty value in the envelope. See *Using Wildcards in ACH Envelopes* on page 27 for more information about using wildcards in ACH envelopes.

The following table describes ACH outbound CTX envelope properties at the document level:

Field	Description
* Destination Identification	Routing number of the ACH Operator or receiving point to which the message is being sent. Required.
* Origin Identification	Routing number of the ACH Operator or sending point that is sending the message. Required.
* Destination Name	Name of the ACH or receiving point for which the message is destined. Optional.
* Origin Name	Name of the ACH Operator or sending point that is sending the message. Optional.
* Reference Code	Field in the ACH File Header Record. Reserved for information pertinent to the Originator. Optional.
* Company Discretionary Data	Field in the Company/Batch Header Record. Allows Originators and ODFIs to include codes of significance only to them, to enable specialized handling of all subsequent entries in that batch. There is no standardized interpretation for the value. Optional.
* Discretionary Data	Field in Entry Detail Record allows ODFIs to include codes of significance only to them, to enable specialized handling of the entry. There is no standardized interpretation for the value in this field. Optional.
Accepter Lookup Alias	Identifying string used with the sender ID and the receiver ID to look up this envelope with the EDI Encoder service. This alias associates a document with the service it requires. Valid value must be at least one limited standard character. Default is ACH-CTX. Required.
Map Name Mode	Mode in which to specify the map to use to perform a compliance check. Required. Valid values: ◆ Specify ◆ Generate from data ◆ Default
Map Name	Select the map to be used to perform a compliance check. The map must already be checked in. Optional.

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the map. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated map name (**Map Name Mode** is set to Generate from data), Application tries to generate and match the following maps: ◆ First, it tries to generate and match the map in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing map that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no matching map is found** is set to Yes.
Determine the Business Process By	Required. Valid values: ◆ Look up contract dynamically ◆ Specifying a contract ◆ Specifying a business process ◆ Generate the business process name from data
Generate an error if the business process name does not exist in the system	Specify whether to generate an error if the business process name specified does not exist in the system. Required. Valid values are Yes and No.
Contract List	Select a previously created contract to associate with this envelope. Optional.
Business Process List	Select a previously created business process to associate with this envelope. Required.

Field	Description
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the business process. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Determine the business process by** is set to Generating the business process name from the data), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
First Backup Name Format	The first backup name format to use when generating a business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ Destination Identification ◆ Origin Identification ◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number **Note:** If you are using a generated business process name (**Determine the business process by** is set to Generating the business process name from the data), Application tries to generate and match the following business processes: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating a business process. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Origin Identification
	◆ X12 Group Version ID Code/EDIFACT Message Version and Release Number
	Note: If you are using a generated business process name (**Determine the business process by** is set to Generating the business process name from the data), Application tries to generate and match the following business processes:
	◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system	Specifies whether to generate an error if the Business Process selected is not found. Valid values are Yes (default) and No.
	Note: Only displayed if **Error Business Process Name Mode** is set to Generate from data.
Extraction Options	Business process data extraction. Valid values:
	◆ Determined by business process (default)
	◆ Extract to a file system directory
	◆ Extract to a mailbox
Data Extraction Directory	Directory for data extraction. Required.
Data Extraction Filename	Filename for data extraction. Required.
Data Extraction Mailbox	Mailbox for data extraction. Required.
Data Extraction Mailbox Message Name	Mailbox message name for data extraction. Required.

ACH Outbound File Level Envelope Properties, Document Level

Note: An (*) asterisk indicates that a wildcard value can be used with that parameter (for mandatory fields, the wildcard value is an (*) asterisk). For Inbound envelopes, a wildcard value in the envelope matches any value in the input document, while an empty value in the envelope matches only an empty value in the input document. For Outbound envelopes, a wildcard value is equivalent to an empty value in the envelope. See *Using Wildcards in ACH Envelopes* on page 27 for more information about using wildcards in ACH envelopes.

The following table describes ACH outbound file level envelope properties at the document level:

Field	Description
* Destination Identification	Routing number of the ACH Operator or receiving point to which the message is being sent. Required.
* Origin Identification	Routing number of the ACH Operator or sending point that is sending the message. Required.
* Destination Name	Name of the ACH or receiving point for which the message is destined. Optional.
* Origin Name	Name of the ACH Operator or sending point that is sending the message. Optional.
* Reference Code	Field in the ACH File Header Record. Reserved for information pertinent to the Originator. Optional.
Determine the Business Process By	Required. Valid values: ◆ Looking up contract dynamically. The ACH Deenvelope service will find a contract based on the sender and receiver and execute the business process for that contract. ◆ Specifying a contract. The deenvelope service will execute the business process for the specified contract. ◆ Specifying a business process. ◆ Generate the business process name from data. The name of the executed business process is determined on values in the data. When selected, the next screen allows you to specify the specific pieces of data that you want to use to build up the business process name.
Extraction Options	Valid values are: ◆ Determined by business process ◆ Extract to a file system directory ◆ Extract to a mailbox
Data Extraction Directory	Directory for data extraction. Available when Extract to File a System directory is selected. Optional.
Data Extraction Filename	Filename for data extraction. Available when Extract to a File System directory is selected. Optional.

Field	Description
Data Extraction Mailbox	Mailbox for data extraction. Available when Extract to a Mailbox is selected. Required.
Data Extraction Mailbox Message Name	Mailbox message name for data extraction. Available when Extract to a Mailbox is selected. Optional.
Contract List	Select a previously created contract to associate with this envelope. Required.
Business Process List	Select a previously created business process to associate with this envelope. Optional. Displayed only if **Determine Error Business Process Name By** is set to Specifying the business process.
Primary Name Format	Check boxes to instruct what information to include when generating and matching a name for the error business process name. Optional. Select from: ◆ Destination Identification ◆ Destination Name ◆ Origin Identification ◆ Origin Name **Note:** If you are using a generated error business process name (**Determine Error Business Process Name By** is set to Generating a Business Process name from the data), Application tries to generate and match the following business process: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
First Backup Name Format	The first backup name format to use when generating an error business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional.
	Select from:
	◆ Destination Identification
	◆ Destination Name
	◆ Origin Identification
	◆ Origin Name
	Note: If you are using a generated error business process name (**Determine Error Business Process Name By** is set to Generating a Business Process name from the data), Application tries to generate and match the following business process:
	◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message).
	◆ Second, it tries to generate and match the First Backup Name.
	◆ Third, it tries to generate and match the Second Backup Name.
	◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated.
	Note: Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.

Field	Description
Second Backup Name Format	The second backup name format to use when generating an error business process name. The system allows for two alternatives if the Primary Name Format is not found—checking for the First Backup Name Format and then, if that is not found, checking for the Second Backup Name Format. Optional. Select from: ◆ Destination Identification ◆ Destination Name ◆ Origin Identification ◆ Origin Name **Note:** If you are using a generated error business process name (**Determine Error Business Process Name By** is set to Generating a Business Process name from the data), Application tries to generate and match the following business process: ◆ First, it tries to generate and match the business process in the primary name format (replacing the values that are selected for the corresponding value in the message). ◆ Second, it tries to generate and match the First Backup Name. ◆ Third, it tries to generate and match the Second Backup Name. ◆ Fourth, if there is not an existing business process that matches the names generated in steps 1-3, an error is generated. **Note:** Only occurs if **Generate an error if no generated business process name exists in the system** is set to Yes.
Generate an error if no generated business process name exists in the system.	Valid values are Yes or No. Available when Generating a business process name from the data is selected. Required.

Creating ACH Maps

Overview

The Map Editor enables you to map ACH documents, and generates a file layout for you using the components and message types that you select. The Map Editor-generated ACH map consists of groups, records, composites, and fields that are comparable to parameters that are defined by ACH.

Note: You need to download the Map Editor component to use it.

Map Editor allows you to modify the map components by using the Deactivate, Promote, Split, Copy, Cut, and Paste functions.

You can create a map for all ACH Standards Release messages loaded into the standards database through the Map Editor.

Note: The Map Editor allow you to specify a syntax token that does not exist for a map (including any ACH map), and in this scenario the map compiles without any errors even if the syntax token is never created. To avoid this issue, do not specify (for the Field Properties Validation tab, **Please choose the format of the data in this field** parameter) a syntax token that does not exist.

ACH Components in the Map Editor

The following table lists the components that make up the ACH layout in the Map Editor, the icons that represent the components, and descriptions of the components. For information about adding a map component to a layout, see *Map Editor Basics*.

Component	Icon	Description
ACH root element		The *ACH root element* represents the message that Application is mapping. At the ACH file root element, you define the message type and encoding. It is a group and can contain groups and records.
Group		A *group* is a looping structure that contains a sequence or an implicit group of repeating field tags (in Map Editor a group is related records and groups that repeat in sequence until either the group data ends, or the maximum number of times that the loop is permitted to repeat is exhausted).
		A group that is subordinate to another group is a subgroup (and corresponds to a nested looping structure, a loop within a loop).
		When a group contains an extended rule or a standard rule, an asterisk appears to the right of the group icon.

Component	Icon	Description
Record		An *ACH record* contains a field tag (in Map Editor, an ACH record is a group of related fields or composite data elements that combine to communicate useful data). An ACH record can occur once or can repeat multiple times. **Note:** If an ACH record occurs more than once in a map, it is identified by its name <ID>. The second and subsequent occurrences are identified by <ID>:*n*, where *n* is the number of the occurrence in the map.
Field		A *field* is a subfield or a group of ACH components (the smallest piece of information defined by the NACHA ACH standard) that define an ACH subfield. A field can have different meanings depending on the context. In other data formats in the Map Editor, a field is not considered to have useful meaning except in the larger context of the record that contains it. However, fields used in the Map Editor to represent ACH subfields and components contain useful and discrete information. **Note:** If a field occurs more than once in a map it is identified by its name <ID>. The second and subsequent occurrences are identified by <ID>:*n*, where *n* is the number of the occurrence in the map. A *repeating field* is a field with the ability to loop (occur more than once) within a particular ACH record. To enable a single field to repeat multiple times within an ACH record, each occurrence of the field must be separated by a start and end delimiter. The use of start and end delimiters help the translator determine where subfields and components are defined within a field tag. When a field has a link performed against it, a red check mark appears over the field icon. When a field contains an extended rule or a standard rule, an asterisk appears to the right of the field icon.

Using Transaction XREF with ACH

If you need the ability to cross-reference the application data to generated transaction, perform the following:

1. The Map Editor uses the **TransactionCrossReferenceTable**, with possible values SenderID, ReceiverID, MessageType, Identifier.

2. The translator populates these values during translation.

3. After each round of translation completes, the ACH Enveloping service can query for the values. When it performs the enveloping, it will locate the standard-specific values for the same four parameters.

4. Based on these two sets of values for identifiers (application specific and standard specific), the enveloping service populates a TransactionCrossReferenceTable

5. You can build a custom application that queries this table to uniquely link an application file and generate an ACH transaction.

Creating an ACH Map

When you create a new map, you can either manually create an EDI layout or you can use a wizard that creates a layout for you based on an EDI standard. The wizard saves you time and effort and minimizes the risk of having an invalid standard format.

To create an ACH map:

1. From the Map Editor **File** menu, select **New**.

2. In the **New Map Wizard**, complete the questions in the first window and click **Next**.

Note: Be sure that **Sterling Integrator** is selected in the **What kind of map are you creating** list.

3. If you are translating from ACH, in the Input Format window (**Create a New Data Format Using this Standard** option) select **NACHA ACH** and click **Messages**. If you are translating from another format, select that format and continue to the next screen.

4. Select the version of the standard and the message you want to use and click **Next**.

5. Click **Finish** to load the message.

6. Click **Next** to select the Output Format.

7. If you are translating to ACH, in the Output Format window (**Create a New Data Format Using this Standard** option) select **NACHA ACH** and click **Messages**. If you are translating from another format, select that format and continue to the next screen.

8. Select the version of the standard and the message you want to use and click **Next**.

9. Click **Finish** to load the message.

10. Click **Finish**. The Map Editor displays the new map in the Map Editor window.

Searching for ACH Correlations

Correlation data, often called correlations, is defined as specific pieces of data that you may need to review in the process of monitoring, tracking, and troubleshooting your activities. These data items are defined by type and value. These type-value pairs are known as name-value pairs, and are a powerful tool you can use to record and search for business process- and document-specific data. Application has some correlations predefined and enables you to define more so that you can easily and efficiently monitor and track your activities, such as ACH message flow.

To search for ACH correlations:

1. From the **Administration** menu, select **Business Process** > **Monitor** > **Advanced Search** > **EDI Correlation**.

2. In the Search Option area, specify any combination of the following search criteria, as appropriate. To search for ACH messages, in the **Interchange Level Options Standard** box, type **ACH**.

3. Click **Go!** to display the EDI correlation records that match your search criteria.

4. In the EDI Correlation Interchange Results page, click **info** in the Detail column for the AS2 interchange for which you want to view details.

5. In the EDI Correlation Interchange/Group/Transaction Detail Results page, click **info** to the right of Document Correlations for additional information about the ACH messages.

ACH Reporting

The EDI Translation Detail report enables you to access EDI data (for a particular standard like ACH) for a specified time period. It further allows you to organize the report by selecting criteria such as direction of the transmission, sender and receiver identifier, envelope name, unique identifier for the envelope level, EDI standard used, and translation success or failure, among other parameters. This report allows you to quickly and easily access information about EDI translation through the system.

To run a report containing details on inbound/outbound ACH messages:

1. From the **Operations** menu, select **Reports**.

2. Use the Report Configuration wizard to create a new **EDI Transaction Detail** report.

3. On the **Detail Filtering** page in the **Standard** parameter, clear the checkboxes for all standards *except* **ACH**.

4. Filter by any other desired criteria and click **Finish** at the end of the Report Configuration Wizard to generate the report.