

Sterling Standards Library



Using CIDX

Version 8.0.3, for Sterling B2B Integrator 5.2.3

Sterling Standards Library



Using CIDX

Version 8.0.3, for Sterling B2B Integrator 5.2.3

Note

Before using this information and the product it supports, read the information in "Notices" on page 35.

Copyright

This edition applies to the 8.0.3 Version of the IBM Sterling Standards Library and to all subsequent releases and modifications until otherwise indicated in new editions.

© **Copyright IBM Corporation 2000, 2011.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Chapter 1. Using CIDX with Sterling B2B Integrator	1
Inbound and Outbound Document Flow	4
Use CIDX with Sterling B2B Integrator	5
Chapter 2. Working with CIDX Trading Partners.	7
Set Up CIDX Trading Profiles.	8
Create an Identity Record for Your Organization	8
Create an Identity Record for Your Trading Partner	10
Create a Transport Record	11
Create a Document Exchange Record.	14
Create a Delivery Channel Record.	15
Create a Packaging Record	16
Create a Profile Record	17
Create CIDX Contracts	19
Chapter 3. Creating CIDX Maps	23

CIDX Components in the Sterling B2B Integrator	
Map Editor	23
Create a CIDX Map.	25
Validating CIDX Service Content Against a DTD or Schema.	25

Chapter 4. Search for CIDX Correlations	27
--	-----------

Chapter 5. RosettaNet PIP Search	29
Access the RosettaNet PIP Search	29
Step Information for the PIP Instance.	31

Chapter 6. Generate Reports	33
--	-----------

Notices	35
--------------------------	-----------

Chapter 1. Using CIDX with Sterling B2B Integrator

CIDX (Chemical Industry Data Exchange) is a standards organization that supports and maintains the Chem eStandards for standardized message exchange. Companies in the chemical industry use these standards for their industry-specific messaging needs.

CIDX has adopted the RosettaNet Implementation Framework (RNIF 1.1) at the messaging layer to enable the exchange of XML documents. CIDX has not adopted the public-process layer of the RNIF standards.

Chem eStandards define XML document type definitions (DTDs) that describe the service content of a message that systems exchange. The difference between CIDX 3.0 and CIDX 4.0 is in the service content, which is driven by DTD (3.0) and XSD (4.0) respectively. When there is a match between CIDX standards and RosettaNet messages, the CIDX standard adopts RosettaNet element names and data structures.

CIDX has traditionally used electronic document interchange (EDI) for message exchange, but has formed a new set of documents based on XML technologies. Chem eStandards provide XML replicas of EDI messages.

Note: Prior to using CIDX in Sterling B2B Integrator, you must activate your license. Contact IBM Customer Support if you have any questions about license activation.

This table describes how Sterling B2B Integrator supports CIDX:

Functionality	Details	Action You Need to Take to Implement CIDX
Services	<ul style="list-style-type: none"> • RosettaNet Message Builder service creates message headers and bundles them with the payload (service content) • RosettaNet Message Parser service parses and validates the CIDX message • RosettaNet Message Sending service is required to send CIDX messages to a trading partner • RosettaNet PIP Tracking service manages RosettaNet PIP tracking data and is used by CIDX business processes to ensure that the PIPs execute in the proper order and to add correlation data for CIDX messages • RosettaNet Profile service loads the standard trading profile data as well as CIDX Profile data from the configured trading partner contracts (the data is retrieved from the database and serialized as XML, and the XML is returned and can be mapped into process data) • HTTP Client adapter sends Action and Signal messages • HTTP Server adapter sends documents to and receives documents from a trading partner using HTTP <p>Note: All header schemas for RNIF 1.1 are part of a RosettaNet service.</p>	<ul style="list-style-type: none"> • None

Functionality	Details	Action You Need to Take to Implement CIDX
Predefined business processes	<ul style="list-style-type: none"> • Initiator business processes for each of the 62 CIDX transactions (60 transactions for 4.0 and 2 transactions for 3.0) • Responder business processes for each of the 62 CIDX transactions (60 transactions for 4.0 and 2 transactions for 3.0) • The following action templates for business processes (if you want to customize your own business processes) are located at: <installdir>/data/cidx/templates - OneActionTxn_Initiator_Private_Template.bpml - OneActionTxn_Responder_Private_Template.bpml - TwoActionTxn_Initiator_Private_Template.bpml - TwoActionTxn_Responder_Private_Template.bpml <p>Note: The two action PIP templates are provided to support linked documents.</p> <ul style="list-style-type: none"> • RNIF Envelope business process uses the RosettaNet Message Builder service to build the final CIDX message • RNIF Develope business process uses the RosettaNet Message Parser service to handle incoming CIDX messages 	None

Functionality	Details	Action You Need to Take to Implement CIDX
IBM Sterling B2B Integrator Map Editor	<ul style="list-style-type: none"> • IBM Sterling B2B Integrator Map Editor wizard enables you to generate a file layout using the CIDX message that you select. Included in the CIDX map are the map components that are defined by CIDX. • Two DTD schema files are preloaded for Version 3.0 Invoice and Invoice Response messages. • Sixty transactions are preloaded for version 4.0, including 60 schema files (XSDs) and 48 common library (XSDs) • Properties dialog boxes that enable you to define and modify CIDX 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. 	<ul style="list-style-type: none"> • Download IBM Sterling B2B Integrator Map Editor. • Create a map or maps to translate your CIDX messages.
Correlation Search	Search by CIDX information.	Utilize the Correlation search functionality to search for CIDX correlation information.
Trading Partner	<ul style="list-style-type: none"> • The Trading Partner Contract Wizard includes a CIDX extension type. • The Trading Partner Contract Wizard utilizes CIDX terminology for parameters. 	Create CIDX trading partner records, including Identities, Transports, Document Exchange, Packaging, Profiles, and Contracts.
Transaction Codes	Codes for the 62 CIDX transactions are available in the PIP definition file that is preloaded with Sterling B2B Integrator	None

Prerequisite

This manual assumes that you are familiar with CIDX.

Inbound and Outbound Document Flow

The inbound document flow for a CIDX document through Sterling B2B Integrator is as follows:

Inbound Sequence Description

- 1 A CIDX message is received using HTTP.

- 2 The RN HTTP Server adapter is configured to invoke the Bootstrap business process when a message arrives.
- 3 The RNIF Deenvelope business process invokes the RN Parsing service to construct the header elements into process data and extract the service content.
- 4 The RNIF Parsing service parses and validates the entire message.
- 5 Based on the result of the parsing, the RNIF Parsing service decides either to send an acknowledgement or exception. Additionally, the RNIF Parsing Service sends a HTTP Response status code to the initiator of the message (via HTTP).
- 6 The Transaction Responder Private business process is invoked to determine if the message is a two-action PIP.
- 7 If the transaction is a two-action PIP, the responder sends the response Action Message to the initiator.

The outbound document flow for a CIDX document through Sterling B2B Integrator is as follows:

Outbound Sequence
Description

- 1 Using a compiled map, the translator creates the CIDX document and this document is used as primary document.
- 2 The Transaction-specific Initiator Private business process is invoked by setting the PIP/Transaction code and any other Contract information.
- 3 The RNIF Envelope business process is invoked to construct the Message Header elements.

Note: Message building refers to creating message headers and bundling them with the actual payload (the service content of the message).
- 4 The RNIF Message Builder service is invoked to create the actual message using the header elements that were created, the primary document.
- 5 The RNIF HTTP Send business process is invoked to send the message to the responder using the RN HTTP Server adapter.

Use CIDX with Sterling B2B Integrator

About this task

To use CIDX with Sterling B2B Integrator, you must complete the following tasks:

Procedure

1. Create trading partner records, including Identities, Transports, Document Exchange, Packaging, Profiles, and Contracts.
2. Create the necessary maps.
3. To track CIDX messages, use the Correlation Search functionality.

Chapter 2. Working with CIDX Trading Partners

To effectively set up trading partners that implement CIDX, you must configure Sterling B2B Integrator with specific CIDX message data settings. This section provides an overview of the steps to set up trading partner information, including the different types of contracts necessary, along with the specific configuration settings that enable you to meet your CIDX data exchange requirements. After setting up your trading partner information, you can then create and implement business processes that comply with CIDX standards.

To configure trading partner information to implement CIDX, you must:

1. Create a trading profile for your organization and each of your trading partners. The trading profile enables you to define how you want to:
 - Build and parse CIDX message data.
 - Define message security and transport protocols.
2. Depending on contractual requirements agreed upon by you and your trading partner, you then create the following types of contracts:
 - A Partner Interface Process (PIP) is a CIDX-defined business process designed to be a framework for business flows between CIDX trading partners. For each PIP you plan to exchange, you must create a contract. For example, if the company is initiating and responding to E41, you must create a contract to initiate E41 and one to respond to E41.
 - You must create a RosettaNet contract for a PIP Code for Notification of Failure (PIP 0A1), as CIDX uses PIP0A1 as defined by RosettaNet as a standard means of Notification of Failure.
 - Message contracts—for CIDX-specific services to build and parse message, promote security, and send outbound CIDX messages to the appropriate URLs.

For more information about:

- CIDX solution for Sterling B2B Integrator, see the IBM Customer Support Web site at http://www.sterlingcommerce.com/customer/tech_support.html. The Web site provides access to Support on Demand.
- CIDX concepts and development, see the CIDX Web site at <http://www.cidx.org>.

Before You Begin

Before you set up a CIDX trading profile and to simplify the tasks you must perform, collect and prepare the following information about your organization and trading partners:

- Trading partner name and address information, including:
 - DUNS numbers
 - Contact information, such as addresses, telephone numbers, e-mail addresses
- Transaction information, including:
 - PIP code and PIP version to exchange
 - Roles of trading partners using each PIP (that is, the trading partners who is initiating and the trading partner who is responding).

- RNIF (RosettaNet Implementation Framework) version information (only RNIF v1.1 is supported).
- Transport information, including:
 - HTTP URLs
 - CA certificates for trading partner if using SSL
- Security information, digital signatures, and encryption and certificates (for example, certificates used to encrypt and decrypt).
- If you are using digital certificates, check in the appropriate certificate.

Set Up CIDX Trading Profiles

About this task

When setting up trading profiles in Sterling B2B Integrator, you must perform the following tasks:

Procedure

1. Create an identity record for your organization, indicating your organization as the base identity.
2. Create an identity record for each of your trading partners.
3. Create the following records in order to complete the trading profiles for your organization and each of your trading partners:
 - Transport
 - Document exchange
 - Delivery channel
 - Packaging (only one necessary for each trading relationship, not for each, individual trading partner)
 - Profiles
 - Contracts

Create an Identity Record for Your Organization

About this task

When setting up your trading profile, consider that your organization is the base identity. Every trading partner is represented by at least one record, called an identity. An identity record describes the trading partner and contains information referenced when a business process involving the trading partner is run. A trading partner can have more than one identity to represent the different ways it does business. For example, a company's central office procurement organization might be radically different from its manufacturing supplies procurement organization. In such cases, you need a separate identity record for each organization.

A base identity is a regular identity that you can use as a starting point to create a new identity. The base identity maintains a link to the identity that inherited its properties. If you modify the base identity, all related identities (that is, ones that inherited the base identity properties) change, as well. When you create an identity record using a base identity, everything in the new identity is the same as in the base identity, except the identity name, description, and other unique parameters, such as unique identification numbers.

You must create an identity before you can create a transport, document exchange, delivery channel, packaging, profile, and a contract when necessary. Each of these components references an identity.

Note: If you link one or more identities to a base identity and then add or modify anything related to the base identity, that change is propagated to all identities linked to the base.

To create an identity record:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Identities**.
2. Next to Create New Identity, click **Go!**
3. In the Base Identity page, for Select Base Identity, you may select the name of the identity record that you created for your organization if available, and click **Next**.
4. In the Information page, complete the following fields and click **Next**:

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

Name	Name of your organization. Required.
-------------	--------------------------------------

Reference URL	Internet address of your organization. Optional.
----------------------	--

DUNS	Unique 9-13 character identification number of your organization, as issued by Dun & Bradstreet Corporation. Required.
-------------	--

Identifier	Primary ID of your organization. Use DUNS number. Required.
-------------------	---

Address Line 1	Conventional mailing address of your organization. Required.
-----------------------	--

Address Line 2	Additional mailing address information of your organization. Optional.
-----------------------	--

City	City where your organization is located. Required.
-------------	--

State or Province	State or province where your organization is located. Required.
--------------------------	---

Zip or Postal Code	ZIP Code or postal code where your organization is located. Required.
---------------------------	---

E-mail Address	E-mail address of your organization. Required.
-----------------------	--

Telephone Number	Telephone number of your organization. Required.
-------------------------	--

Time Zone	Time zone where your organization is located. Optional.
------------------	---

Country or Region	Country or region where your organization is located. Optional.
--------------------------	---

VAT ID	The VAT transaction tax identifier. Optional.
---------------	---

Note: When you add VAT IDs to an identity, an associated permission ID is created, and the user is assigned that permission ID.

Internet Notification E-mail

The internal e-mail address to which you want error notifications to be sent. Optional.

Lookup ID

The identifier used to look up the agreement. Optional.

Lookup ID Comments

Any comments regarding the identifier used to look up the agreement. Optional.

Include ISO20022 Extensions

Whether to include ISO20022 Extensions. Default is unchecked (do not include the extensions). Optional - currently used for SWIFTNet only. If you select this parameter, the ISO20022 page is displayed.

5. Click **Finish** to add the identity.

Create an Identity Record for Your Trading Partner

About this task

For each CIDX trading partner, you must create an identity record.

To set up an identity record for your trading partner:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Identities**.
2. Next to Create New Identity, click **Go!**
3. In the Base Identity page, for Select Base Identity, you may select the name of an existing identity record that you created for your partner if available, and click **Next**.
4. In the Information page, complete the following fields and click **Next**:

Field Description

Name Name of your CIDX trading partner. Required.

Reference URL

Internet address of your CIDX trading partner. Optional.

DUNS

Unique 9-13 character identification your CIDX trading partner number, as issued by Dun & Bradstreet Corporation. Required.

Identifier

Primary ID of your CIDX trading partner. Use DUNS number. Required.

Address Line 1

Conventional mailing address of your CIDX trading partner. Required.

Address Line 2

Additional mailing address information of your CIDX trading partner. Optional.

City

City where your CIDX trading partner is located. Required.

State or Province

State or province where your CIDX trading partner is located.
Required.

Zip or Postal Code

ZIP Code or postal code where your CIDX trading partner is located.
Required.

E-mail Address

E-mail address of your CIDX trading partner. Required.

Telephone Number

Telephone number of your CIDX trading partner. Required.

Time Zone

Time zone where your CIDX trading partner is located. Optional.

Country or Region

Country or region where your CIDX trading partner is located.
Optional.

VAT ID

The VAT transaction tax identifier. Optional.

Note: When you add VAT IDs to an identity, an associated permission ID is created, and the user is assigned that permission ID.

Internet Notification E-mail

The internal e-mail address to which you want error notifications to be sent. Optional.

Lookup ID

The identifier used to look up the agreement. Optional.

Lookup ID Comments

Any comments regarding the identifier used to look up the agreement.
Optional.

5. Click **Finish** to add the identity of this trading partner.

Results

You are now ready to create a transport record for this CIDX trading partner.

Create a Transport Record

About this task

To define how to send a CIDX message using HTTP, you must create a transport record.

To create a transport record:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Transports**.
2. Next to Create New Transport, click **Go!**
3. In the Information page, complete the following fields and click **Next**:

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

Name Name for the transport record to create for this CIDX trading partner. Required.

Note: You may use part of a company name or DUNS in this field and an indicator that references CIDX.

Identity

Unique ID used when you created an identity record for this CIDX trading partner. Required.

4. In the Communications page, complete the following fields and click **Next**:

Field Description

Receiving Protocol

Communications protocol supported by this transport record when receiving data. Select HTTP. Required.

Sending Protocol

Communications protocol supported by this transport when sending data. Select HTTP. Required.

End Point IP

Leave this field blank.

End Point Port

Leave this field blank.

5. In the End Point Settings page, complete the following fields and click **Next**:

Field Description

End Point

Destination URL for this trading partner. Required.

End Point Type

Purpose of this end point. Select **All Purpose**. Required.

6. In the Protocol Settings page, complete the following fields and click **Next**:

Field Description

Response Timeout (seconds)

Number of seconds to wait for remote response to an outbound queue. Type the value 600 in this field. Required for CIDX.

Firewall Proxy

IP address, port number, login ID, and password of the remote firewall represented in URL format where commas separate values (for example, <host>, <port>). If used, you may need to specify both a login ID and a password. Used for outbound sessions. Optional.

Firewall Connect Count (seconds)

Number of seconds that Sterling B2B Integrator attempts to contact port address of the transport before timing out. Optional.

Socket Timeout (seconds)

Number of seconds to wait for remote response to a command. Type the value 600 in this field. Required.

7. In the Security page, complete the following fields and click **Next**:

Field Description

SMIME Encryption User Certificate

Certificate used to encrypt CIDX messages that are sent outbound through this transport record. This certificate has no impact in CIDX

messages being received through this transport. Therefore, if this transport is for the company running Sterling B2B Integrator, **leave this field blank**. If this transport is for your CIDX trading partner, choose the **Trusted** encryption certificate from the trading partner that you previously checked in. Required for CIDX.

SMIME Decryption Certificate (System Store)

Certificate used to decrypt CIDX messages that are received (inbound) through this transport record. This certificate has no impact in CIDX messages being received through this transport. Therefore, if this transport is for the company running Sterling B2B Integrator, leave this field blank. If this transport is for your CIDX trading partner, choose the encryption certificate from the trading partner that you previously checked in. Required for CIDX.

SSL Whether Secure Sockets Layer (SSL) must be active. Select **Must** to enable this transport to use this protocol with a key certificate. This field is used in conjunction with the key certificate field. If not using a key certificate, select **None**. Required for CIDX.

Key Certificate Passphrase

Password that protects the Web server key certificate. Required if SSL option is set to Must.

Cipher Strength

Strength of the algorithms used to encrypt messages. Select **Strong** (default) to indicate strength of algorithms with a key certificate. This field is used in conjunction with the key certificate field. If not using a key certificate, select **All** or **Weak**. Required.

Key Certificate (System Store)

Leave this field blank—it is not applicable to CIDX because RosettaNet 1.1 does not support encryption.

CA Certificates

Certificate used to verify the Web server certificate of a trading partner. These certificates must come from your CIDX trading partners and you must have previously checked them in. Required if the SSL option is Must or Optional.

8. In the Protocol Mode page, complete the following fields and click **Next**:

Field Description

Protocol Mode

Use the default value **PUT**. Required.

Document

Leave this field blank.

9. In the Transport Account page, complete the following fields and click **Next**:

Field Description

User ID

Unique ID that associates this transport with the remote system of your CIDX trading partner. Optional.

Password

Password that authenticates the user ID to the remote system of your CIDX trading partner. Optional.

Confirm Password

Password typed in the Password field. Optional.

10. Click **Finish** to update the transport record.

Results

You are now ready to create a document exchange record.

Create a Document Exchange Record

About this task

To describe properties of the documents and messages passed between you and your CIDX trading partner, you must create a document exchange record.

To create a document exchange record:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Document Exchange**.
2. Next to Create New Document Exchange, click **Go!**
3. In the New Document Exchange: Information page, complete the following fields and click **Next**:

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

Name	Name for the document exchange to create for this CIDX trading partner. Required.
-------------	---

Note: You may use part of the company name or DUNS number in this field.

Identity	Unique ID used when you created an identity record for this CIDX trading partner. Required.
-----------------	---

4. In the Retry Settings page, complete the following fields and click **Next**:

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

Number of Retries	Number of times that Sterling B2B Integrator tries to contact this CIDX trading partner before timing out. Type the value 3 . Required.
--------------------------	--

Retry Interval (sec)	Number of seconds that Sterling B2B Integrator waits before trying again to contact this CIDX trading partner after the previous attempt timed out. Type the value 3000 . Required.
-----------------------------	--

Persist Duration (sec)	Number of seconds that a message received is kept before being passed to the integration engine. Type the value 10000 . Required.
-------------------------------	--

5. In the Enveloping Properties page, complete the following field and click **Next**:

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

Protocol	The security protocol to be used. If using digital signatures to exchange CIDX messages, select SMIME from this field (if not, you would select None). Required for CIDX.
-----------------	--

6. Skip this step if you are not using digital signatures to exchange CIDX messages. Otherwise, in the Security page, complete the following fields and click **Next**:

Field Description

Encryption Algorithm

Not used for CIDX because RNIF 1.1 does not support encryption.

Signing Algorithm

Algorithm used to sign outgoing CIDX messages. Required if this document exchange is for the trading partner running Sterling B2B Integrator. Otherwise, use the default value. Optional.

Valid values are:

- MD5 – Message digest algorithm that verifies the integrity of data through a 128-bit message digest.
- SHA1 – Secure hash algorithm that verifies the integrity of data through a 160-bit (20 byte) message digest. Transmission is a bit slower than MD5; however, the larger message digest size offers a more secure data transference.

Signing Key Certificate

Key certificate used to sign outgoing CIDX messages. This certificate is a system certificate created for the trading partner running Sterling B2B Integrator and it contains a private key. Select the appropriate key certificate from this field. If this document exchange is used for a trading partner other than the one running Sterling B2B Integrator, use the default value. Required.

Signing User Certificate

Trusted certificate that contains the public key used to verify incoming digital signatures from a trading partner. If using this document exchange for a trading partner other than the one running Sterling B2B Integrator, verify that None Available is selected from this field. Otherwise, select the appropriate trusted certificate from this field. Required.

7. Click **Finish** to add the document exchange record.

Results

You are now ready to create a delivery channel.

Create a Delivery Channel Record

About this task

You can define several delivery channels in one trading profile.

To create a delivery channel record:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Delivery Channels**.
2. Next to Create New Delivery Channel, click **Go!**
3. In the Information page, complete the following fields and click **Next**:

Field Description

Name Name for the delivery channel record to create for this CIDX trading partner. Required.

Note: You may use part of a company name or DUNS in this field or use an indicator that references CIDX.

Identity

Unique ID used when you created an identity record for this CIDX trading partner. Required.

4. In the Channel Definition page, complete the following fields and click **Next**:

Field Description

Transport

Name of the transport record you created for this CIDX trading partner. This name must match the Name field of the transport record. Required.

Document Exchange

Name of the document exchange you created for this CIDX trading partner. This name must match the Name field of the document exchange record. Required.

5. The fields in the Security page are not used to implement CIDX. Therefore, click **Next** to skip this page.
6. In the Delivery Settings page, complete the following fields and click **Next**:

Field Description

Receipt Type

Not used to implement CIDX. Use the default value **NONE**. Required.

Receipt Signature Type

Not used to implement CIDX. Use the default value **NONE**. Required.

Receipt Timeout

Time-out value for receipt of expected MDNs, in seconds. Type the value **86400** in this field. Required.

Delivery Mode

Select **Asynchronous HTTP**. Required.

Receipt to Address

Not used to implement CIDX. **Leave this field blank.**

7. Click **Finish** to add the document channel record.

Results

You are now ready to create a packaging record.

Create a Packaging Record

About this task

To define how to build and package outbound messages to your CIDX trading partner, you must create a packaging record.

To create a packaging record:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Packaging**.
2. Next to Create New Packaging, click **Go!**
3. In the Information page, complete the following fields and click **Next**:

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

Name	Name for the packaging record to create for this CIDX trading partner. Required.
-------------	--

Note: You may use part of a company name or DUNS in this field or use an indicator that references CIDX.

Message Parsable	Whether the message can be parsed. Ensure that No is selected from this field. Required for CIDX.
-------------------------	--

4. In the Packaging Settings page, complete the following fields and click **Next**:

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

Payload Type	Payload type that describes the message format for transporting documents. Required for CIDX.
---------------------	---

Valid values are:

- Plain Text – Payload is not signed and it is not encrypted.
- Signed Detached – Payload is signed with a detached signature for RNIF v1.1 messages.
- Encrypted – Payload is encrypted according to the EDIINT specifications.
- Signed Detached Encrypted – Not applicable for CIDX.

MIME Type	Select Application from this field. Required for CIDX.
------------------	---

MIME Sub Type	Select XML from this field. Required for CIDX.
----------------------	---

Compress Data	Not applicable for CIDX.
----------------------	--------------------------

5. Click **Finish** to add the packaging record.

Results

You are now ready to create a profile record.

Create a Profile Record

About this task

To define the roles (that is, initiator or responder of data exchange) of each trading partner exchanging CIDX data and create business processes that comply with CIDX standards, you must create a profile.

To create a profile record:

Procedure

1. From the **Trading Partner** menu, select **Setup > Advanced > Profiles**.
2. Next to Create New Profile, click **Go!**
3. On the Information page, complete the following fields and click **Next**:

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

Name	Name for the profile record to create for this CIDX trading partner. Required.
-------------	--

Note: You may use part of a company name or DUNS in this field or use an indicator that references CIDX.

Identity	Unique ID used when you created an identity record for this CIDX trading partner. Required.
-----------------	---

4. On the Profile Definition page, complete the following fields and click **Next**:

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

Profile Type	Type of profile that must be used for data exchanged for this CIDX trading profile. Ensure that RN is selected. Required for CIDX.
---------------------	---

GLN	Not used to implement CIDX. Leave this field blank.
------------	---

Delivery Channel	Name of the delivery channel you created for this CIDX trading partner. This name must match the Name field of the delivery channel record. Required.
-------------------------	---

Packaging	Name of the packaging you created for this CIDX trading partner. This name must match the Name field of the packaging record. Required.
------------------	---

Provider	Third-party service provider name. Type cidx (using lowercase letters). Required.
-----------------	--

5. On the CIDX Data page, complete the following fields and click **Next**:

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

Role	Role of this CIDX trading partner. Optional.
-------------	--

Valid values are:

- Responder – Receiving CIDX data
- Initiator – Sending CIDX data

CIDX Version	Version of RosettaNet Implementation Framework being used by this CIDX trading partner. Select 1.1 from this field. Required.
---------------------	--

Location Code	Not used for CIDX.
----------------------	--------------------

Partner Location Code	Not used for CIDX.
------------------------------	--------------------

Classification Code	CIDX classification code. Required.
----------------------------	-------------------------------------

Supply Chain Code	CIDX supply chain code. Required.
--------------------------	-----------------------------------

Contact

CIDX trading partner contact information. Required.

6. The fields in the Business Processes page are not used to implement CIDX. Therefore, click **Next** to skip this page.
7. Click **Finish** to add the profile record.

Results

You have now finished creating trading profiles and can create the appropriate contracts.

Create CIDX Contracts

About this task

Contracts enable you to tie CIDX trading partners together to create an effective trading relationship. To enable Sterling B2B Integrator to comply with PIP specifications when running business processes, and to enable services to build and parse message, promote security, and send and receive outbound CIDX messages to the appropriate URLs, you must create a contract that distinguishes *each* PIP interaction involved in a business process. You can create the contracts in any order.

Your system administrator creates and maintains the contracts that are needed to configure the trading relationships with your trading partners. There are three types of contracts that the system needs when configuring for CIDX; the PIP contracts, which define the transaction settings used by CIDX business processes, and the Messaging contracts, which define the profiles to be used when building and parsing CIDX messages, and you must also create a CIDX contract for a PIP Code for Notification of Failure (PIP 0A1) because CIDX uses PIP0A1 as defined by RosettaNet as a standard means of Notification of Failure.

The Contract Wizard enables you specify information about your enterprise and your partners' enterprises, to ensure that the system can accurately process CIDX signal and 0A1 Notification of Failure messages.

You must create a RosettaNet contract for the PIP0A1 Notification of Failure with the appropriate initiator and responder profiles, for any other PIPs, and for the messages you will be sending to and receiving from your trading partners.

To create a contract:

Procedure

1. From the Administration menu, select **Trading Partner > Contracts**.
2. Under Create, next to New Contract, click **Go!**
3. On the Information page, complete the following fields and click **Next**:

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

Name	Descriptive name for the contract. Required.
-------------	--

You may use part of a company name, an indicator that references whether this trading partner is the initiator or responder, or the type of PIP being used. For example:

- If this contract is for your organization and considered the initiator sending data, type **FromCompanyToTradingPartner_TXNE41**.

- If this contract is for your CIDX trading partner and considered responding to data sent, type **ToTradingPartnerFromCompany_TXNE41**.

Start Date

Start date and time of the contract. Valid value is any valid date in the format *yyyy-mm-dd*. Must be less than or equal to End Date. Default value is the current date. Required.

End Date

Expiration date and time of the contract. Valid value is any valid date in the format *yyyy-mm-dd*. Must be greater than or equal to Start Date. Default value is the current date. Required.

Status State of the composition/negotiation process that creates the contract. Default value is SIGNED. Required.

Valid values are:

- PROPOSED – Contract being negotiated by the parties. The first stage of negotiation.
- AGREED – Contract agreed upon by the parties. The next stage of negotiation.
- SIGNED – Contract signed by the parties. The final stage of negotiation. The contract is usable.

4. On the Contract Definition page, complete the following fields and click **Next**:

Field Description

Production Profile

Unique ID of the profile for the CIDX trading partner producing (or sending) the data. This name must match the Name field used when creating the identity record. Required.

Consumption Profile

Unique ID of the profile for the CIDX trading partner consuming (or receiving) the data. This name must match the Name field used when creating the identity record. Required.

Business Process

Not used to implement CIDX. **Not Applicable** should be selected.

5. On the Extensions page, select **CIDX** and click **Next**.
6. You must specify CIDX extensions if you are creating two contracts. For example, if the company is initiating and responding to TXNE41, you must create a contract to initiate TXNE41 and one to respond to TXNE41.

On the CIDX Extensions page, complete the following fields and click **Next**:

Field Description

Transaction Code

Transaction settings used by the CIDX business processes. Select the appropriate code from the list. Required.

Transaction Version

Version of transaction to trade. Valid values are listed, based on the PIP code selected. Required.

CIDX Version

CIDX version number to trade with your CIDX trading partner. Required.

Valid values are 3.0 and 4.0.

Transaction Role

Transaction role for company that uses Sterling B2B Integrator and is trading this transaction. Required.

Global Usage Code

Whether to use this contract in test or production mode. Required.

7. On the Transaction Definition page, complete the following fields and click **Next**:

Caution: You should select a Sender Business Process and Responder Business Process only on this page and accept all other default values, which are based on PIP standards. No additional changes need to be made to these fields unless you require customization.

Field Description**Sender Business Process**

PIP private initiating process for the sender business process. Select the appropriate business process from the list. Required.

Responder Business Process

PIP private responding process for the responder business process. Select the appropriate business process from the list. Required.

Response Mode

Mode in which to respond to a PIP. Required.

Valid values are:

- Synch – Synchronously
- Asynch – Asynchronously (default)

Non-Repudiation Required?

Receiving trading partner cannot deny having received a message. To disable this feature, clear the check box. Optional.

Time to Acknowledge

Amount of time, in minutes, within which you must receive an acknowledgement. Valid value is four numeric characters. Optional.

Time to Acknowledge Acceptance

Amount of time, in minutes, within which you must accept an acknowledgement. Optional.

Time to Perform

Time in which the PIP private responding process should respond to the business process. Optional.

Retry Count

Sterling B2B Integrator continues to retry contacting the trading partner for the specified number of times. Optional.

Is Authorization Required?

Instructs Sterling B2B Integrator to verify the presence of appropriate contracts for this transaction, to ensure that your trading partner is authorized to send the message to you. This feature is automatically enabled and cannot be disabled.

Non-Repudiation of Origin and Content

Originating trading partner can not deny having originated and sent a message. To disable this feature, clear the check box. Optional.

8. On the Transaction Steps page, review the steps you have selected to run using the transaction and click **Next**.

9. Click **Finish** to add the contract. Repeat steps 1 - 10 to create a contract for the trading partner who is either initiating and responding to a PIP, if necessary.

Chapter 3. Creating CIDX Maps

The Sterling B2B Integrator Map Editor enables you to map CIDX documents. The Sterling B2B Integrator Map Editor generates a file layout for you using the components and message types that you select. The Sterling B2B Integrator Map Editor-generated CIDX map consists of groups, records, composites, and fields that are comparable to parameters that are defined by CIDX.

Note: You need to download the Sterling B2B Integrator Map Editor component to use it.

Sterling B2B Integrator's CIDX implementation conforms to the rules of the XML language 1.0 specification, as published by the World Wide Web Consortium (W3C). However, to be more flexible, Sterling B2B Integrator diverges slightly from the W3C base 1.0 XML specification. Sterling B2B Integrator implementation enables you to do the following with XML:

- Specify the number of times that a group can repeat.
- Specify the number of times an element in a mixed group can repeat.
- Repeat an element (with a structure different from the structure of the original element) in a different part of the document.


Sterling B2B Integrator 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 62 CIDX Standards Release messages that are preloaded when you download the Sterling B2B Integrator Map Editor. This includes the following:

- Two DTD schema files are preloaded for the version 3.0 Invoice and Invoice Response transactions.
- Sixty transactions are preloaded for version 4.0, including 60 schema files (XSDs) and 48 common library (XSDs)

CIDX Components in the Sterling B2B Integrator Map Editor

The following table lists the components that make up the CIDX layout in the Sterling B2B Integrator Map Editor, the icons that represent the components, and descriptions of the components.

Component	Icon	Description
CIDX root element		The <i>CIDX root element</i> represents the CIDX document that Sterling B2B Integrator is mapping. The CIDX root element is a looping structure that contains elements and content particles 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. The root element cannot be referenced by standard rules or links.

Component	Icon	Description
Element		An <i>element</i> contains related elements and content particles. In addition, an element can contain one pcdData and one attribute container. These objects repeat in sequence until either the element data ends or the maximum number of times that the loop is permitted to repeat is exhausted. A repeating element that contains another repeating element corresponds to a nested looping structure. The CIDX Element object cannot be referenced by standard rules or links.
Abstract element		An <i>abstract element</i> is an inconcrete element from an XML schema (for example, the term “appliance” may be considered an abstract element while “dishwasher” is a concrete one). An abstract element must be substituted with a non-abstract element for a map to be successfully compiled.
Content particle		A <i>content particle</i> contains related subordinate objects that define either a choice, a sequence, or an all. A content particle can contain only one pcdData. If specified, these objects can repeat in sequence until either the content particle data ends or the maximum number of times that the loop is permitted to repeat is exhausted. If you create a content particle that is subordinate to another content particle, the content particle corresponds to a nested looping structure (a loop within a loop). A content particle cannot be referenced by standard rules or links.
PcdData		A <i>pcdData</i> contains character data in a CIDX document. Only one pcdData can be defined per element or content particle. Sterling B2B Integrator automatically names the pcdData with the name of the parent element or content particle. When a pcdData has a link performed against it, a red check mark appears over the pcdData icon. When a pcdData contains an extended rule or a standard rule, an asterisk appears to the right of the pcdData icon.
Attribute container		An <i>attribute container</i> does not correspond to an XML function. Sterling B2B Integrator uses attribute containers to contain the attributes of an element. The attribute container has no properties. When you create the first attribute of an element, the Sterling B2B Integrator Map Editor automatically creates an attribute container object. An element can have only one attribute container, but the attribute container object can enclose many attribute objects.
Attribute		An <i>attribute</i> specifies information associated with an element that further defines the element. The attribute is located within an attribute container. Attributes do not have to occur in sequence in the input data. When an attribute has a link performed against it, a red check mark appears over the attribute icon. When an attribute contains an extended rule or a standard rule, an asterisk appears to the right of the attribute icon.

Create a CIDX Map

About this task

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

To create an CIDX map:

Procedure

1. From the Sterling B2B Integrator 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 **IBM Sterling B2B Integrator** is selected in the **What kind of map are you creating** list.

3. If you are translating from CIDX, in the Input Format window (**Create a New Data Format Using this Standard** option) select **CIDX** 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 (choices are 3.0 and 4.0) and the message you want to use and click **Next**.
5. If you selected version 4.0, clear the checkboxes next to any sub-elements that you do not want included in the map and click **Next**.

Note: If you clear any checkboxes your map will not conform to the CIDX standard. Ensure that the **Build codelists for enumerated attributes** option is selected.

6. Click **Finish** to load the message.
7. Click **Next** to select the Output Format.
8. If you are translating to CIDX, in the Output Format window (**Create a New Data Format Using this Standard** option) select **CIDX** and click **Messages**. If you are translating to another format, select that format and continue to the next screen.
9. Select the version of the standard and the message you want to use and click **Next**.
10. If you selected version 4.0, clear the checkboxes next to any sub-elements that you do not want included in the map and click **Next**.

Note: If you clear any checkboxes your map will not conform to the CIDX standard.

11. Click **Finish** to load the message.
12. Click **Finish**. The Sterling B2B Integrator Map Editor displays the new map.

Validating CIDX Service Content Against a DTD or Schema

Sterling B2B Integrator supports validating CIDX service content against either a DTD or an XML schema, since many new PIPs are XML schema-based.

Note: You must check the schemas that you will use for validation into Sterling B2B Integrator schema repository.

Chapter 4. Search for CIDX Correlations

About this task

Correlation searches rely on name-value pairs that define the specific data items you are trying to locate. These defined name-value pairs are tracking points for business processes and documents. The Correlation search feature offers the following additional benefits:

- You can receive the results of search queries more quickly.
- You can further refine correlation searches by specifying a start and end date/time range.
- You can further refine CIDX correlation searches by specifying CIDX-specific criteria.

To search for CIDX correlations:

Procedure

1. From the **Administration** menu, select **Business Processes > Monitor > Advanced Search > Correlation**.
2. Select the start and end dates and times within which the correlated data you are searching for can be located. Using the following formats, type the date and time range and select **A.M.** or **P.M.**:
 - Date – MM/DD/YYYY
 - Time – HR:MN:SCThese fields default to a range of the last 24 hours.
3. In the **Type** field, select **ANY**, **Document**, or **Business process**.
ANY is the default value. Selecting Document or Business process further targets your returned results.
4. In the **Location** field, select one of the following options:
 - **Live Tables** – Display correlations for live (active) instances.
 - **Restored Tables** – Display correlations for instances restored from an offline location.
5. To refine your search to correlations you specify (rather than all generated correlations), select **Standard** from the Name list.
6. In the Value fields, type **CIDX** as the value that corresponds with the Standard name, and click **Go!** **This will enable you to search for CIDX documents and business processes.**

Note: Alternatively, you can search by standard correlation keys such as the following:

- IdentityID
- PartnerID
- PIPName
- PIPCode
- PIPVersion
- RNIFVersion
- PIPInstanceID

- IsInitiator
 - PIPStepNumber
 - PIPStepName
 - PIPStepDateTime
 - PIPStepDocumentID
 - PIPStatus
7. To access your search results, select the number link that indicates the number of document and/or business process matches found. The document page opens to display the documents that matched the search criteria you selected.

Chapter 5. RosettaNet PIP Search

The RosettaNet PIP Search enables you to view the details of the transaction business processes that have been executed and the status of each transaction. Using the RosettaNet PIP Search, you can perform the following actions:

- View the status of a PIP transaction.
- View the PIP transaction details.
- View the PIP Step details for each transaction.
- View the documents sent and received in each PIP step.
- View the business process ID that executed the PIP step.
- Search for PIP transactions using various correlation keys like PIP Code, PIP Version, RNIF Version, Identity ID, Partner ID, and Date range.
- For all Notification of Failure (0A1) PIPs, you can view the parent PIP information. The parent PIP is the original PIP that initiated this Notification of Failure (0A1).

Access the RosettaNet PIP Search

Procedure

1. To access the RosettaNet PIP Search window, from the **Administration Menu**, select **Business Processes > Monitor > Advanced Search > RosettaNet**.
2. The following table describes the different search parameters:

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

Saved Search

Shows all the search tags created by the user. On selecting a saved search, the stored search values are set as default values to the fields. You can modify these values and perform a search. To delete a saved search, click **Delete** next to the **Saved Search** parameter.

Note: The **Delete** option is available only for the Saved search tags other than **None**.

Standard

This is the standard for which you want to search for transaction records. Valid values are:

- ALL
- RosettaNet
- CIDX
- PIDX

Note: RosettaNet, CIDX, and PIDX are visible only if you have the appropriate license to view them.

RNIF Version

The RosettaNet Implementation Framework (RNIF) core specification defines the packaging, routing, and transport of all PIP messages and business signals. This is based on the standard selected. The valid values are:

- ALL

- 1.1
- V02.00

PIP Code

A unique code that represents each transaction. The PIP Code populates based on the standard and RNIF version selected.

PIP Version

This is the version of a PIP code. This populates based on the standard and PIP code selected.

Status The status of a transaction. The valid values are:

- ALL
- Completed (Success)
- In Progress
- Error

Role The role is either Initiator or Responder. Valid values are:

- ALL
- Initiator
- Responder

Identity

Type either the complete name of the identity to search for or choose from the list of available identities that is displayed as you type in the first few letters of the identity name.

Partner

Type either the complete name of the partner to search for or choose from the list of available partners that is displayed as you type in the first few letters of the partner name.

InstanceID

This is a unique ID used to identify a PIP. You can search for a transaction using this ID. While tracking a PIP, Instance ID is prefixed with partner identifier to make it unique across trading partners, but the original RNIF message contains only the Instance ID (without partner identifier prefix). So while searching for PIP transactions using Instance ID, you should perform one of the following steps:

- Prefix the partner identifier with the Instance ID in the format <partner identifier>:<Instance ID in the RNIF message>.
- Provide just the Instance ID from the RNIF message and check the Include Partner field and provide the Partner Name in the Partner field.

Include Partner in Instance ID search

Used along with the Instance ID field. When selected, the partner identifier is prefixed with the instance ID value before searching. This parameter is selected by default.

Save this Search

You can also save the search parameters that you use frequently by typing a name in the **Save this Search** box and clicking **Go!**. Once saved, it is available in the **Saved Search** list. If you modify an existing Saved Search by changing any of the parameters, that Saved Search is updated.

Note: A message window is displayed to ask if you wish to overwrite the existing saved search name when you change the parameters of the existing Saved Search.

Search Location

Select where you want to search. Valid options are:

- Live Tables
- Restore Tables

Start Date and End Date

Select the start and end date and times for the transaction record you are searching.

Note: If the date is not provided, then all the records are displayed. This results in too much time to fetch the records and may slow down the process.

If Time is not provided, then by default it is accepted as 00:00:00 hours.

Note: The **Search Location, Start Date, End Date, and Time** parameters are not included in the Saved Search.

Based on the criteria selected in the search filters and date/time, the results are displayed. Sterling B2B Integrator can only display 10,000 records in one search. In each page, ten results are displayed. The Search Results page is displayed with the following parameters:

- Instance
- Standard
- RNIF Version
- PIP Code
- PIP Version
- Identity
- Partner
- Status

Note: The status will be green if the transaction is in progress or completed successfully and red if an error occurs.

- Role
- Initiated

Step Information for the PIP Instance

To view the details of a transaction, click a row in the Search Results grid in the Search Results page. The step information table consists of the following information:

- Step - This gives details of the PIP step number for a given transaction.
- Description - Information about the task completed in a particular step.
- Date Time - Date and time during which the step was performed or completed.
- Direction - If a message in a step was inbound or outbound.
- Document - The primary document or the raw document used in a transaction. This is a link and if you click it, a document view window is opened.
- MIME Doc - The MIME encoded document. This is a link and if you click it, a MIME document view window is opened.

- Attachments - The count for the number of attachments in a particular step. This is a link and if you click it, a window showing all the attachments is opened.
- Bus.Proc. ID - The business process ID that executed the step. Clicking the Business Process ID gives details of a business process.

Chapter 6. Generate Reports

About this task

Sterling B2B Integrator enables you to view the following reports:

- PIP transaction report that provides information on all outbound and inbound RosettaNet transactions.
- Notification of Failure (PIP 0A1) report that provides all PIP 0A1 transactions, along with its parent PIP information.
- XML reports.

To view the RosettaNet reports in Sterling B2B Integrator:

Procedure

1. From the **Administration Menu**, select **Operations > Reports**.
 2. In the **Create** section, next to Report Configuration, click **Go!**
 3. In the Reports page, select the type of report you want to view. You can select either RosettaNet PIP or RosettaNet Notification of Failure (0A1).
 4. Type a unique name and comment in the Report Configuration Name page.
 5. In the Reports By page, select the **Reports By** field you want to use and click **Next**. Valid options are:
 - Standard
 - PIP Code
 - PIP Version
 - RNIF Version
 - Identity
 - Partner
 - Status
 - Role
 6. In the Detail Filtering page, select the filtering options. Valid options are:
 - PIP Instance (for RosettaNet PIP report) or NOF Instance (for RosettaNet Notification of Failure (0A1) report)
 - Standard
 - PIP Code
 - PIP Version
 - RNIF Version
 - Identity
 - Partner
 - Role
- Note:** All of the Detail Filtering fields are optional. If you leave all the filtering options blank, this is equivalent to selecting all the options.
7. Select the **Status** options for which you want to generate the reports and click **Next**.

8. Select the timeframe for which you need to generate the reports. The timeframe could be selected as **During Previous** (Hours, Days, Weeks, and Months) or **Date range (From and To Date/Time)** and click **Next**.
9. In the Display Order page, select the sorting order as ascending or descending. Also, you can select the order that you need for sorting and click **Next**.
10. In the Confirm page, verify the settings selected.
11. In the **Report Preview Format** list, select the format in which you want to generate the reports. The valid options are:
 - PDF
 - HTML
 - XLS
 - XML
12. Click **Finish** to generate the reports. A message “The system update completed successfully” is displayed. Click **Return** to go to the main Reports page.

Notices

This information was developed for products and services offered in the U.S.A.

IBM® may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing

IBM Corporation

North Castle Drive

Armonk, NY 10504-1785

U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing

Legal and Intellectual Property Law

IBM Japan Ltd.

1623-14, Shimotsuruma, Yamato-shi

Kanagawa 242-8502 Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be

incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation

J46A/G4

555 Bailey Avenue

San Jose, CA 95141-1003

U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

All IBM prices shown are IBM's suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© IBM 2011. Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corp. 2011.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com)[®] are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at <http://www.ibm.com/legal/copytrade.shtml>.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Linear Tape-Open, LTO, the LTO Logo, Ultrium and the Ultrium Logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

Connect Control Center[®], Connect:Direct[®], Connect:Enterprise[™], Gentran[®], Gentran[®]:Basic[®], Gentran:Control[®], Gentran:Director[®], Gentran:Plus[®], Gentran:Realtime[®], Gentran:Server[®], Gentran:Viewpoint[®], Sterling Commerce[™], Sterling Information Broker[®], and Sterling Integrator[®] are trademarks or registered trademarks of Sterling Commerce[™], Inc., an IBM Company.

Other company, product, and service names may be trademarks or service marks of others.



Printed in USA