

Sterling Integrator[®]

Connect:Enterprise for UNIX Interoperability

Version 5.0

Sterling Commerce
An IBM Company

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Overview of Connect:Enterprise UNIX Interoperability

The interface between Sterling Integrator and Connect:Enterprise UNIX enables efficient movement of business data and correlation of process activities for both products. You can use Sterling Integrator to extend internal and external processes with the vast array of EAI and B2B adapters available with Sterling Integrator business process flows.

About Sterling Integrator and Interoperability with Connect:Enterprise UNIX

Sterling Integrator is a business process-centric transaction engine for modeling and managing business processes. Sterling Integrator supports high volume electronic message exchange, complex routing, translation and flexible integration, and real-time interaction with multiple internal systems and external business partners.

Sterling Integrator processing is based on industry standards:

- ◆ Business processes are created and run based on the Business Process Modeling Language (BPML), a metalanguage for the modeling of business processes.
- ◆ Internet communications protocols (HTTP, FTP, E-mail) meet industry standards.
- ◆ B2B management, packaging, and communications protocol standards are supported (ebXML, AS1, AS2, EDIFACT, ANSI X12).
- ◆ Security standards are supported (X.509 certificates, SSL, digital signatures, data encryption).

Using the Sterling Integrator business process-centric transaction engine for modeling and managing business processes, you can automate system-to-system business document exchanges such as purchase orders, invoices, shipment notifications, and many other document types depending on yours or your trading partners' business needs and required protocol standards.

About Connect:Enterprise UNIX and Interoperability with Sterling Integrator

Connect:Enterprise UNIX is an online data communications system for use with large networks within a UNIX environment. Connect:Enterprise enables the exchange of information between and within companies, including unattended, automatic data collection and distribution.

Connect:Enterprise supports Bisync, Async, FTP, Secure FTP, HTTP, AS2, and SSH SFTP. It provides open connections throughout the internet to any host, client/server, or remote workstation.

Capabilities with Connect:Enterprise UNIX Interoperability

Sterling Integrator and Connect:Enterprise work together to enable your company to easily communicate internally between applications and externally with trading partners.

You can use Sterling Integrator and Connect:Enterprise to securely exchange business documents and data between the two applications in a near seamless environment, and create automated business processes to interact with your back-end systems, eliminating the need for manually creating customized scripts to handle back-end processing.

In addition to having a more managed document exchange and business process environment, Sterling Integrator and Connect:Enterprise provide the following key features:

- ◆ Tight integration with end-to-end file processing management and visibility
- ◆ A graphical process definition environment where process models include Connect:Enterprise interactions with Sterling Integrator business processes
- ◆ Fault handling for error recovery
- ◆ Access to a broader set of business level protocols like ebXML, SOAP (Web Services), and RosettaNet

Before you can understand how Sterling Integrator and Connect:Enterprise work together, you must first understand the concepts and components involved.

Concepts and Components of Connect:Enterprise UNIX Interoperability

The following concepts and components are necessary in understanding and establishing communication between Sterling Integrator and Connect:Enterprise:

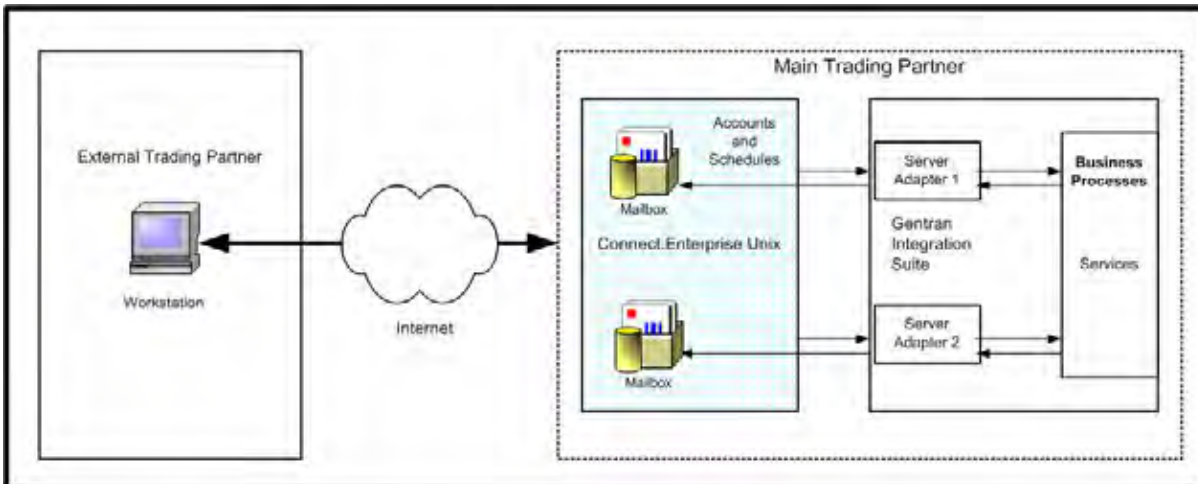
Note: These concepts are described briefly in this section but more detail is provided about them throughout this guide.

Concepts and Components	Description
Connect:Enterprise UNIX Server Adapter	At the heart of Sterling Integrator and Connect:Enterprise UNIX is a special adapter that acts as the conduit to enable the two applications to exchange business documents. This is the Connect:Enterprise UNIX Server Adapter. All mention of Server Adapter in this guide refer to the Connect:Enterprise UNIX Server Adapter.
Schedules	In Connect:Enterprise, notification schedules are created in order to establish automatic connections with Sterling Integrator at predefined times. Additionally, Sterling Integrator can receive notification from Connect:Enterprise when a batch meeting the criteria defined in the schedule is placed in a Connect:Enterprise mailbox.
Accounts	In Connect:Enterprise, a remote account identifies remote sites that are authorized access and provide access to remote sites by specifying remote ID and password. Maximum number of characters for the password is 55. In Sterling Integrator, account identifies users that are authorized access.
Batches	Data files stored in Connect:Enterprise mailboxes are called batches. Batches are identified by three attributes: batch number/creation date, batch ID, and mailbox ID. Batches represent the business documents that are handled during a Sterling Integrator business process.
Flags	Flags are attribute labels assigned to each batch. The query and update commands use flags to identify processing rules, protocols, and data formats that apply to the batch data.
Correlation Records	In Sterling Integrator, specific correlation identifiers are stored to enable tracking of business processes and business documents based on related identifiers such as: session ID, mailbox ID, batch ID, and batch number, and schedule name.
Business Process Protocol	Business process protocol specifies the mutually visible business document exchange behavior between Sterling Integrator and Connect:Enterprise. The Sterling Integrator Server Adapter is registered in Connect:Enterprise as a business process protocol daemon.
ProcessData	When a Connect:Enterprise schedule invokes a business process and batch summary data is retrieved in Sterling Integrator, ProcessData stores all relevant batch summary data for the runtime of a business process.
Mailboxes	Individual entities where Connect:Enterprise batches are stored within the Connect:Enterprise repository. Specific Connect:Enterprise mailbox names can be configured in the CEU schedule as optional business process parameters that display in ProcessData. Business documents can be added to and extracted from those specified mailbox names during an Sterling Integrator business process.
Services	Sterling Integrator has a suite of services to work specifically with the Server Adapter in order to perform specific activities such as add, extract, update, and query on batch data in the Connect:Enterprise mailbox repository. When a business process is defined, specific services are called.

How Connect:Enterprise UNIX Interoperability Works

Interoperability between Sterling Integrator and Connect:Enterprise works in both directions. Both systems can initiate information exchange and respond to information requests with the ability to invoke business processes and track activity on both ends.

The following figure shows a high-level view of how Sterling Integrator and Connect:Enterprise work together to exchange information:



Connect:Enterprise UNIX Server Adapter

As shown in the preceding figure, connectivity between Sterling Integrator and Connect:Enterprise UNIX is handled through a special adapter, the Connect:Enterprise UNIX Server Adapter.

When an external trading partner sends business documents electronically to a mailbox on Connect:Enterprise, the Server Adapter can receive notification and then use the account and schedule information from Connect:Enterprise to invoke business processes. These business processes use services to interact with the Connect:Enterprise mailbox. These services are described fully in the next section.

When data in a Connect:Enterprise mailbox matches the criteria of a notification schedule Connect:Enterprise notifies the Server Adapter. The Server Adapter can also call Connect:Enterprise unsolicited.

When the Server Adapter retrieves the batch summary data, it sets this information in ProcessData and invokes the business process. The business process can extract data from or add data to Connect:Enterprise and perform other back-end activities.

Caution: Because of our continuing efforts to improve services and adapters to align with new technology and capabilities, the Connect:Enterprise adapter has entered the retirement process in Sterling Integrator and is replaced with the Connect:Enterprise UNIX Server adapter with related services.

Server Adapter Communication with Connect:Enterprise

The following information describes how the Server Adapter creates the ProcessData for Connect:Enterprise batches:

The CEUServerAdapterInstanceName and SessionId are at the top level of the batch data for visibility by the related Connect:Enterprise services as in the following example:

```
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <CEUServerAdapterInstanceName>BP</CEUServerAdapterInstanceName>
  <SessionId>2057</SessionId>
  <ACD_INFO>
```

The CEUServerAdapterInstanceName and SessionId indicate which Server Adapter instance and session is invoked by the business process. You can have multiple instances of the Server Adapter. Each service used in the business process needs to know which Server Adapter instance to communicate with so that business process activity is funneled back to the requesting Server Adapter.

The CEUBatchNumber and CEUBatchDateTime are used when data is extracted. In the following example, the data in bold shows the batch summary data for two batches that met the naming pattern *.po and were located in the *bporders* mailbox. This information is batch summary data only and does not include the business document payload at this point of the business process.

```
<Batches>
  <Batch>
    <CEUBatchNumber>5262</CEUBatchNumber>
    <CEUMailbox>bporders</CEUMailbox>
    <CEUBatchId>CarOrder.po</CEUBatchId>
    <CEUBatchSize>208</CEUBatchSize>
    <CEUBatchDateTime>12/17/03 3:38 PM</CEUBatchDateTime>
  </Batch> <Batch>
    <CEUBatchNumber>5263</CEUBatchNumber>
    <CEUMailbox>bporders</CEUMailbox>
    <CEUBatchId>CarOrder.po</CEUBatchId>
    <CEUBatchSize>208</CEUBatchSize>
    <CEUBatchDateTime>12/17/03 3:40 PM</CEUBatchDateTime>
  </Batch>
</Batches>
</ACD_INFO>
</ProcessData>
```

Services

When the Sterling Integrator business process is invoked, it uses specially created services to perform activities on batches in the Connect:Enterprise repository.

The following services are Sterling Integrator components that work with the Server Adapter:

Service	Description
CEU Server Add Service	Adds batches to a Connect:Enterprise mailbox

Service	Description
CEU Server Extract Service	Extracts batches from a Connect:Enterprise mailbox
CEU Server Begin Session Service	Begins a session with an instance of Connect:Enterprise
CEU Server End Session Service	Ends a session with an instance of Connect:Enterprise
CEU Server Batch Status Service	Queries batch summary data and optionally can change the process flags that identify the batch status, such as transmit (T), delete (D), and extract (E) flags. Can change the data format flags for the batch contents (such as ASCII, EBCDIC, or BINARY), and can modify mailbox IDs and user batch IDs.
CEU Server Log Service	Writes log messages for business process success or error conditions to make them visible in the Connect:Enterprise reporting facility

Tracking Activity

The Server Adapter writes Sterling Integrator correlation records to enable searches for business processes containing a particular CEU_ACDName or a CEU_SessionId. You can also search on batch ID, mailbox ID, and batch number.

Note: For more information on correlation search, see *Tracking Activity in Connect:Enterprise UNIX Interoperability* on page 33.

The Server Adapter logs the notification event in Connect:Enterprise and identifies the business process that was invoked. This information is visible in the Connect:Enterprise Detail Schedule reports.

Note: For more information on viewing Sterling Integrator business ProcessData in Connect:Enterprise, see *Tracking Activity in Connect:Enterprise UNIX Interoperability* on page 33 and the *Connect:Enterprise UNIX Interface Help System*.

System Requirements for Connect:Enterprise UNIX Interoperability

Sterling Integrator interoperability with Connect:Enterprise requires installation of the following:

- ◆ Connect:Enterprise UNIX 2.2 or later
- ◆ Sterling Integrator 3.1 or later
- ◆ Third party jar files (included with Connect:Enterprise and with Sterling Integrator)
 - ◆ ceuSips.jar
 - ◆ ceubp.jar
 - ◆ jdkcompat.jar

Note: For Connect:Enterprise system requirements, see the *Connect:Enterprise UNIX Release Notes*.

Install the Third Party Jar Files

To prepare and install the third party files for interoperability:

1. Stop Sterling Integrator.
2. Make a backup of the {GIS_home}/jar/ceu/1_0_1 directory. The original files will be overwritten in the next step.
3. Transfer the third party jars in binary format using FTP from Connect:Enterprise UNIX into Sterling Integrator. On Connect:Enterprise UNIX the jar files reside in {ceu_home}/javalib. The Sterling Integrator jar files are replaced with the jar files from Connect:Enterprise UNIX.
4. Restart Sterling Integrator.

Note: There is no need to run Install3rdParty.sh to install the jar files when placed in this directory.

Licensing Requirements for Connect:Enterprise UNIX Interoperability

You need appropriate licensing in order to use one or more instances of the Connect:Enterprise UNIX Server Adapter.

Activate your Sterling Integrator license file, if required, from the Sterling Commerce Self-Service Licensing Web site at www.productupdates.stercomm.com.

The Sterling Integrator Mailbox option enables you to copy and store files in personal mailboxes in Sterling Integrator for later retrieval or to initiate Sterling Integrator business processes. To use the Sterling Integrator Mailbox option, you must meet appropriate Mailbox licensing requirements.

Business Processes and Services in Connect:Enterprise UNIX Interoperability

Business Processes and Connect:Enterprise UNIX Interoperability

The Server Adapter and a suite of B2B services enables interoperability between Sterling Integrator and Connect:Enterprise UNIX and provides the Graphical Process Modeler (GPM) to create automated business processes.

These automated business processes enable you to connect your business documents to back-end processing activities without having to create customized processing scripts. They also enable you to connect the business documents to trading partners, exchanges, and customers.

In this graphical process definition environment, you can build process models that include the Connect:Enterprise interactions add, extract, query, and update batch status. These interactions are carried out by a suite of B2B services that use the Server Adapter. Using these capabilities combined with the process components in Sterling Integrator for control flow, content based routing, and a comprehensive adapter library, you can define broader and more sophisticated Connect:Enterprise processes.

Connect:Enterprise Services and Connect:Enterprise UNIX Interoperability

A suite of services in Sterling Integrator enables you to write business processes to add batches, extract batches, update batches, and perform queries on the Connect:Enterprise mailbox repository. Services are also available to support session management and tracking in Connect:Enterprise.

Each Service is described in the following sections, along with a case scenario of how it is used in a business process:

Note: For detailed information about each service, see the *Services and Adapters Guide* included in the Sterling Integrator Documentation Set.

CEU Server Add Service

The CEU Server Add Service adds batches to a Connect:Enterprise mailbox.

Why and How Would I Use this Service?

Use this service to add a batch to a Connect:Enterprise mailbox. If used in a business process initiated by a scheduled notification, it adds the batch and logs the activity into Connect:Enterprise as part of the schedule notification session. If the Add Service is used in an unsolicited business process invocation, the activity is represented in Connect:Enterprise as remote connect session activity.

The following steps describe what happens when this service is used in a business process:

1. A Sterling Integrator business process initiates an unsolicited request to transfer data to Connect:Enterprise (remote connect).
2. Sterling Integrator begins a session with Connect:Enterprise
3. Sterling Integrator adds a batch to a specific mailbox using the CEU Server Add Service. This service works through the Server Adapter to accomplish the add. Included in the transfer are: mailbox ID, batch ID, and the primary document.
4. Connect:Enterprise stores the data in the mailbox and returns a notification to the Server Adapter indicating the data transferred successfully. The notification includes the batch number Connect:Enterprise assigned to the file and the creation date.
5. A flag is set to J on the batch in Connect:Enterprise to indicate that Sterling Integrator added the batch.
6. Sterling Integrator adds a log entry into Connect:Enterprise that includes the business process ID to indicate the event.
7. Sterling Integrator sets the correlations between the business process that initiated the request and batch summary data from Connect:Enterprise, which includes: batch ID, mailbox ID, batch number, schedule definition name, and session ID. These correlations enable subsequent searches for this information using the Sterling Integrator Advanced Search function.
8. The Sterling Integrator business process requests to end the session with Connect:Enterprise.
9. The Server Adapter ends the session and notifies Connect:Enterprise that the session is closed. The session is logged in Connect:Enterprise with hyperlinks to Sterling Integrator.

CEU Server Extract Service

The CEU Server Extract Service extracts a batch from a Connect:Enterprise mailbox.

Why and How Would I Use this Service?

This service is triggered by a notification from Connect:Enterprise that a batch is in a particular mailbox. When Connect:Enterprise notifies Sterling Integrator, this is known as a scheduled notification. Sterling Integrator can also perform unsolicited requests to extract batches from Connect:Enterprise using this service. Unsolicited requests are represented in Connect:Enterprise as remote connect sessions.

The following steps describe what happens when this service is used in a business process:

1. The Server Adapter initiates a business process in response to a notification (autoconnect) from Connect:Enterprise.
2. The business process specifies to extract data from a Connect:Enterprise mailbox using the CEU Server Extract Service. This service works through the Server Adapter to accomplish the extraction.
3. Using information in the notification, the Server Adapter extracts the batch matching the batch number and batch date/time in ProcessData as provided by this service.
4. Connect:Enterprise sets the Transmitted (T) flag on the batch indicating that Sterling Integrator extracted the batch.
5. Sterling Integrator adds a log entry into Connect:Enterprise that includes the business process ID for the event.
6. The Server Adapter adds the batch into the business process as a primary document.
7. The Message From Service displays the following batch details: Batch ID, Batch Number, Mailbox ID, Create Date and Time, Batch Size, Session ID, Batch Status Flags, and Sterling Integrator Document ID.
8. Sterling Integrator sets the correlations between the business process that initiated the request and batch summary data from Connect:Enterprise, which includes: batch ID, mailbox ID, batch number, schedule definition name, and session ID. These correlations enable subsequent searches for this information using the Sterling Integrator Advanced Search function.
9. The system performs additional activities as indicated within the business process.
10. The Sterling Integrator business process requests to end the session with Connect:Enterprise.
11. The Server Adapter ends the session and notifies Connect:Enterprise that the session is closed.

CEU Server Begin Session Service

The CEU Server Begin Session Service begins a session with an instance of Connect:Enterprise.

Why and How Would I Use this Service?

Use this service to initiate a session with Connect Enterprise UNIX.

The following steps describe what happens when this service is used in a business process:

1. When a Sterling Integrator business process initiates a session with Connect:Enterprise (known as a remote connect), the Begin Session Service is optional. Remote connect activity can be bracketed between a Begin Session Service and End Session Service under the same session ID.
2. The Begin Session Service populates ProcessData with a session ID.
3. Subsequent Adds (CEU Server Add Service) or Extracts (CEU Server Extract Service) are captured under that session ID, until the End Session Service is used.

Note: If a business process is invoked using a Connect:Enterprise schedule notification, the session initiation is automatic, and therefore the Begin Session service is not necessary.

When Sterling Integrator attempts a remote connection with Connect:Enterprise, the user ID and

Password defined in the Server Adapter configuration are used to verify and authorize access. Maximum number of characters for the password is 55.

CEU Server End Session Service

The CEU Server End Session Service ends a session with an instance of Connect:Enterprise.

Why and How Would I Use this Service?

Use this service to close or end a session with Connect Enterprise UNIX.

The following information describes how this service is used in a business process:

- ◆ The End Session Service is required in sessions initiated by Connect:Enterprise (autoconnect) to end the session.
- ◆ In sessions initiated by Sterling Integrator (remote connect), the End Session Service is optionally used with the Start Session service to bracket activity in the business process.
- ◆ If Begin Session Service and End Session Service are not used, any activity such as Add or Extract happens in its own session ID and is represented in Connect:Enterprise reports as separate, unrelated entries (Connect, Activity (Add or Extract), Disconnect).
- ◆ If the CEU End Session Service is not explicitly included in the business process, the connection times out.

Note: If a business process is not active, and the CEU Server End Session Service was not used, the autoconnect session (seen in cmusession as an ACD slave) times out after 30 seconds and ends the session.

CEU Server Batch Status Service

The CEU Batch Status Service queries batch summary data and optionally can change the process flags that identify the batch status, such as transmit (T), delete (D), and extract (E) flags. It can change the data format flags for the batch contents (such as ASCII, EBCDIC, or BINARY), and can modify mailbox IDs and user batch IDs.

Why and How Would I Use this Service?

A batch may exist in a Connect:Enterprise mailbox but may not be extractable by Sterling Integrator because of process flag settings (for example, the batch was enabled for only one extract and has already been extracted). This service enables updating the process flag on the batch so that it can be extracted again.

The following steps describe what happens when this service is used in a business process:

1. A Sterling Integrator business process requests to update the status of a specific batch in a designated Connect:Enterprise mailbox (remote connect).
2. Sterling Integrator begins a session with Connect:Enterprise using the CEU Server Begin Session Service.
3. Sterling Integrator requests to update a flag on a specific batch in the designated mailbox. Process flags, protocol flags, and data flags may be updated.

4. Connect:Enterprise updates the batch.
5. Sterling Integrator sets the correlations between the business process that initiated the request and batch summary data from Connect:Enterprise, which includes: batch ID, mailbox ID, batch number, and session ID. These correlations enable subsequent searches for this information using the Sterling Integrator Advanced Search function.
6. Sterling Integrator writes a log entry to Connect:Enterprise that includes the business process ID of the originating request.
7. The Sterling Integrator business process requests to end the session using the CEU Server End Session Service.
8. The Server Adapter ends the session and notifies Connect:Enterprise that the session is closed.

CEU Server Log Service

The CEU Server Log Service writes log messages for success or error conditions in the business process to make them visible in the Connect:Enterprise interface.

Why and How Would I Use this Service?

Use this service in a business process to provide success or error information to Connect:Enterprise.

The following steps describe what happens when this service is used in a business process:

1. A Sterling Integrator business process extracts a batch from Connect:Enterprise and passes it along for EDI-to-XML translation.
2. An error occurs during translation and the batch is not translated properly.
3. As a result of the error, the CEU Server Log Service is used to return a log message about the translation failure to Connect:Enterprise.
4. When the Connect:Enterprise administrator views information about the activity in a report view, the message provided by the CEU Server Log Service displays with a hyperlink to Sterling Integrator.

Sample Business Process Scenario in Connect:Enterprise UNIX Interoperability

This business process scenario consists of two fictitious companies, MaxxMart and GameRAZ, who have entered into an agreement for MaxxMart, a large retailer, to purchase video game accessories exclusively from GameRAZ, a video game manufacturer.

GameRAZ, who has the role of Main trading partner, has Connect:Enterprise UNIX and Sterling Integrator installed. GameRAZ defined a remote account: *BP account* and a notification schedule in Connect:Enterprise and configured an instance of Server Adapter in Sterling Integrator.

MaxxMart has the role of the External trading partner and uses the Connect:Enterprise HTTP Option Interface to send business documents, or more specifically in this example, a purchase order to GameRAZ.

When GameRAZ receives the purchase order, they provide MaxxMart with an order acknowledgement and automatically sends the purchase order document to their back-end system for order fulfillment processing.

The the Server Adapter, CEUInterop_DemoPOProcess business process, and the following services are used in this scenario:

- ◆ CEU Server Extract Service
- ◆ XML Validation Service
- ◆ CEU Server Batch Status Service
- ◆ CEU Server End Session Service

The following steps outline the business process scenario being performed by Sterling Integrator and Connect:Enterprise:

1. MaxxMart sends a purchase order to their specified mailbox within the GameRAZ Connect:Enterprise application.
2. When the purchase order is placed in the mailbox, it meets the criteria for schedule notification. Connect:Enterprise notifies the GameRAZ Server Adapter, which acts as a conduit between Connect:Enterprise and Sterling Integrator.
3. The Server Adapter retrieves the batch summary data and sets an acknowledgement flag within Connect:Enterprise. The batch summary data provides correlation parameters, such as schedule name, session ID, batch ID and batch number/date. The purchase order itself has not been handled at this point.
4. The Server Adapter invokes the CEUInterop_DemoPOProcess business process, which was included in the schedule notification.
5. The CEUInterop_DemoPOProcess business process extracts the batch and validates that it is well-formed XML.
6. Connect:Enterprise sets the Transmitted (T) flag on the batch indicating that Sterling Integrator extracted the batch.
7. Sterling Integrator adds a log entry into Connect:Enterprise that includes the business process ID to indicate the event.
8. The Server Adapter adds the batch into the business process as a primary document. At this point, the payload is handled.
9. The Message From Service displays the following batch details: Batch ID, Batch Number, Mailbox ID, Create Date and Time, Batch Size, Session ID, Batch Status Flags, and Sterling Integrator Document ID.
10. Sterling Integrator sets the correlations between the business process that initiated the request and batch summary data from Connect:Enterprise, which includes: batch ID, mailbox ID, batch number, schedule definition name, and session ID. These correlations enable subsequent searches for this information using the Sterling Integrator Correlation Search function.
11. The purchase order, which is now the business process primary document, is sent to the GameRAZ back-end system for further order fulfillment processing.
12. The GameRAZ back-end system verifies that the requested items are available in inventory.

13. The back-end system fulfills the order and generates an acknowledgement saying the order was filled. The Sterling Integrator business process adds the acknowledgement to the external trading partner's Connect:Enterprise mailbox.
14. The Sterling Integrator business process requests to end the session with Connect:Enterprise.
15. The Server Adapter ends the session and notifies Connect:Enterprise that the session is closed.

Configuring Sterling Integrator and Connect:Enterprise UNIX for Interoperability

Configuration Overview for Connect:Enterprise UNIX Interoperability

The following table provides the high-level tasks and where to find instructions to configure Connect:Enterprise UNIX and Sterling Integrator for interoperability:

Configuration Task	Application	Where to Find Instructions
Define a remote BP Account to connect to Sterling Integrator	Connect:Enterprise UNIX	<i>Defining a Remote Business Process (BP) Account</i> on page 20
Define a Schedule to indicate when to notify Sterling Integrator	Connect:Enterprise UNIX	<i>Defining a Schedule</i> on page 22
Configure the Server Adapter	Sterling Integrator	<i>Configuring the Server Adapter</i> on page 28
Test connectivity between Sterling Integrator and Connect:Enterprise (perform cmusession quick test)	Sterling Integrator and Connect:Enterprise UNIX	<i>Quick Test</i> on page 31
Run the Interoperability Verification Demo	Sterling Integrator and Connect:Enterprise UNIX	<i>Demo of Connect:Enterprise UNIX Interoperability</i> on page 37

Configuring Connect:Enterprise UNIX for Interoperability

Defining a Remote Business Process (BP) Account

You typically define one Remote BP Account and point all your notification schedules to the single account. To define a remote BP account, you:

- ◆ Define basic account information.
- ◆ Specify the BP protocol.
- ◆ Provide a valid Sterling Integrator user ID and password.
- ◆ Optionally, specify BP protocol PUT options.

To define a remote BP account:

1. Access the web administration server from your browser.
2. From the left navigation panel, click **Define Accounts**.
3. From the Manage Accounts page, click **New**. The Create Account page displays.
4. Type or select the required and optional values using the table as a guide:

Field	Description	Valid Value
Account name	Required. Specifies name of the account.	Remote acct. = Logon of remote acct., 1–8 alphanumeric characters, underscore (_), and period (.)
Password	Required. Specifies password required to access the account.	Any valid string, except the user's system password.
Confirm password	Required. Confirms password required to access the account.	Any valid string, except the user's system password.
First name	Specifies first name of the user who owns the account.	User first name.
Last name	Specifies last name of the user who owns the account.	User last name.
E-mail address	Specifies E-mail address of the user who owns the account.	User E-mail address.
Company name	Specifies name of the company the user represents.	User company name.
Telephone	Specifies telephone number of the user who owns the account.	User phone number.
Type of account	Specifies the type of account.	Remote = Site authorized to access Connect:Enterprise UNIX using remote connection.

Field	Description	Valid Value
Save account as template	Specifies to save the account as a local or remote account and as a template for use in defining other accounts.	Disable = Default Enable
Template Name	Specifies the name of the account template.	Any name, 1–8 alphanumeric characters.
Protocol	Required. Specify BP for a Sterling Integrator remote account.	BP
Use alternate routes	Enables Connect:Enterprise UNIX to use an alternate route if the primary connection on an automatic transfer fails.	Disable = Default Enable
Number of alternate routes	Specifies the number of alternate routes to configure for the primary account.	Default = Blank

5. Type a comment for the account, if necessary, and click **Next**.

A maximum of 978 characters are saved in the comment field.

6. From the Configure BP Connection page, define the values for the connection for an outbound automatic transfer (schedule) using the table as a guide.

Field	Description	Valid Value
Remote user ID	Specifies the user name on the Sterling Integrator remote system. The remote user ID and remote password configured here must match a user account defined in Sterling Integrator	Account name = Default
Remote password	Specifies the password required to connect to the remote Sterling Integrator account.	Password key = Default Stored in clear text or encrypted format. Encrypted passwords require a global key and activating the password encryption option.
Confirm remote password	Specifies the password required to connect to the remote Sterling Integrator account.	Retype the password.
User mailbox access	Identifies which mailboxes the remote user can access.	Default = No mailbox selected which enables access to all mailboxes.

7. Click **Next** to display the Specify PUT Options page.

8. From the Specify PUT Options page, type or select account information using the following table as a guide. These options are applied to all batches added by this account, but can be overridden in the schedule or the business process using the CEU Server Add Service

Field	Description	Valid Value
Mailbox ID	Specifies the mailbox ID for the batch being added.	Any valid Mailbox ID

Field	Description	Valid Value
Batch ID	Specifies the batch ID for the batch being added.	Any valid batch ID.
Data format	Specifies the format of the data being added.	ASCII = Default EBCDIC Binary or unknown
Reroute files automatically to other remote sites.	Enables files to be rerouted immediately to other remote sites (accounts).	Disable = Default Enable

9. Enable the extract and transmit options as necessary by selecting the appropriate check boxes using the following table as a guide:

Field	Description	Valid Values
Extract once, transmit never	After the batch is extracted locally, it cannot be extracted again. The batch cannot be transmitted.	Disable = Default Enable
Extract never, transmit once	The batch cannot be extracted. The batch can be transmitted once.	Disable = Default Enable
Extract repeatedly, transmit never	No limit is placed on the number of times a batch can be extracted. The batch cannot be transmitted.	Disable = Default Enable
Extract repeatedly, transmit once	The batch can be extracted repeatedly, but can only be transmitted once by batch ID or batch number, at which time it is flagged as transmitted. After it is flagged as transmitted, it can only be transmitted by batch number.	Disable = Default Enable
Extract repeatedly, transmit repeatedly	No limit is placed on the number of times a batch can be extracted. No limit is placed on the number of times a batch can be transmitted.	Disable = Default Enable

10. Click **Next** to display the BP Account Summary page.
11. Review and click **Save**.
12. The Manage Accounts page displays with the new BP remote account listed in the account name list. If you saved the BP account as a template, the BP template is listed in the Template list.

Defining a Schedule

Creating schedules for accounts enables you to initiate unattended, automatic interactions using Sterling Integrator business processes. The Server Adapter receives a notification from Connect:Enterprise when

data meeting the criteria of an automatic transfer is placed in a Connect:Enterprise mailbox or on a scheduled basis. The Server Adapter retrieves batch summary data, sets the BP Verified (V) flag within Connect:Enterprise, and then invokes a business process accordingly.

Use this procedure to schedule automatic notifications between Sterling Integrator and one or more remote accounts.

To define or edit a schedule:

1. Access web administration through your browser.
2. From the left navigation panel, click **Define Schedules**.
3. From the Manage Schedules page:
 - ◆ To define a schedule, click **New**.
 - ◆ To edit a schedule, select the schedule from the list and click **Edit**.
4. For a new schedule, type a name for the schedule (required) in the Schedule name text box, up to 15 characters, which includes the *.acd* extension.

If you do not specify the *.acd* extension in the schedule name but set the **When** and **Except** parameters in the schedule, the system adds the *.acd* extension automatically. If *Contact Remote Site* is set to *Data Available Meets Criteria*, the system adds the *.acd* extension automatically. If no **When** or **Except** settings are defined, the *.acd* extension is optional.

5. In the **Run at these times** column, set the time that you want the schedule to run or edit the current settings for a schedule. Setting a value for one field means that all remaining fields default to All.
6. If needed, define or edit the exceptions to the schedule in the **Except for these times** column. Setting a value for one field means that the remaining fields default to All.
7. Define or edit the schedule connection options using the following table as a guide:

Field	Description	Valid Values
Contact remote site	Identifies when to contact the remote site.	Always = Default; contact the remote site whether or not there is data to send. Data = Contact the remote site if there is data to send. Data available meets criteria = Start transfer when data or batch matching the selection criteria specified in the schedule definition is available. The batch must be added with the trigger parameter through the <i>cmuadd</i> , <i>\$\$ADD</i> , or <i>put</i> command.
Priority level in queue	Specifies the order in which a connection request is queued waiting for connection resources to become available.	07 = Default 1–15 1 = highest
Wait to re-queue failed remote connection	Specifies number of minutes to wait before re-queuing a remote site that it was unable to contact.	5 minutes = Default 0–120 minutes

Field	Description	Valid Values
Seconds between sessions	Specifies number of seconds the program waits after one session is complete before initiating another session.	0 = Default (immediate) 0–180 seconds This parameter is valid only when Maximum number of concurrent sessions = 1.
Times to re-queue remote resource	Sets the number of times the specified resources are re-queued for any remote name in the list that is not connected after the number of retries have been attempted. The total number of attempts is: (# of Resources) x (RETRIES+1) x (REQUEUEES+1).	5 = Default 0–99
Retry connection attempts	Specifies the number of times the system tries to contact a remote account after the first attempt fails. If more than one resource is defined, the schedule process attempts the connection the number of times specified by connection retry attempts+1 (RETRIES+1) for each resource before re-queuing the connection.	1 = Default (1 retry) 0–99
Maximum number of concurrent sessions	Specifies the maximum number of communications sessions permitted concurrently for a single schedule.	2 = Default 0–128 0 indicates the maximum allowable sessions = 128.
Specify seconds of inactivity (bisync only)	Specifies the number of seconds of session inactivity before the session is terminated.	Default = No; disconnect processing is not performed. 0–3600 seconds If the disconnect interval is not specified here, then the value set in the account definition is used.

8. Type a comment to describe the schedule (optional), and click **Next**. The Update Schedule List page displays.

Adding a Remote BP Account to a Schedule

When you create a notification schedule, you must assign a remote block to a remote BP account.

To add a remote BP account to the schedule:

1. From the left navigation bar, click **Define Schedules**.
2. From the Manage Schedules page, select the schedule that you want to add the remote account to and click **Edit**.
3. From the Create a Schedule page, click **Remotes** to display the Update Schedule List.

4. Click **Add**. The Add Remote Account to Schedule page displays.
5. Select or type the remote BP account and click **Next** to display the Configure BP Communications for Schedule page.
6. Define the outbound connection parameters using the following table as a guide:

Field	Description	Valid Values
Remote block description	Specifies a text description for the remote account.	Up to 255 characters.
Resource	Specifies an Server Adapter to notify.	Any available Server Adapter. Listed resources include all instances of the Server Adapter currently registered with Connect:Enterprise
Business process name	Specifies the business process to notify.	Any available business process. Use the Search pattern field to search for a business process if the Server Adapter is registered and you have access. Note: The list of business processes displayed using the list button is limited to 100. Using the search button enables filtering on the entire list of available processes.
Mailbox list	Mailbox IDs of data sent to the remote account and the sequence for sending the data.	A list can be up to 256 characters. If no value is set, user is restricted to their own mailbox ID.
Batch ID	Specifies the batch ID of the batch being sent.	Any valid batch ID, 1–64 characters; enclose in single or double quotes if it contains spaces. Wildcard characters are supported to specify a search pattern.

7. In the Specify Optional Business Process Parameters text box, type any additional business process parameters in XML format. Parameters entered here are available in ProcessData for special processing by the business process invoked.
8. Click **Next** to display the Define PUT Options for BP Remote Account page.
9. Define the BP account information using the following table as a guide. These options are applied to all batches added by this account, but can be overridden in the schedule or the business process using the CEU Server Add Service:

Field	Description	Valid Values
Mailbox ID	Specifies the mailbox ID for batches being added.	Default is the 1–8 character mailbox ID defined in the account.
Batch ID	Specifies the batch ID for the batch being added.	Any valid 1–64 character batch ID.
Data format	Specifies the format of the data being added.	ASCII = Default EBCDIC Binary or unknown

Field	Description	Valid Values
Reroute files automatically to other remote sites	Enables files to be rerouted immediately to other remote accounts.	No = Default Yes Blank = Use value set in account definition.

10. Define the extract and transmit options using the following table as a guide. Options defined in schedule override those defined in account. Both account and schedule values can be overridden by a business process using the CEU Server Add Service.

Field	Description	Valid Values
Extract once, transmit never	After the batch is extracted locally, it cannot be extracted again. The batch cannot be transmitted.	Disable = Default Enable
Extract never, transmit once	The batch cannot be extracted. The batch can be transmitted once.	Disable = Default Enable
Extract repeatedly, transmit never	No limit is placed on the number of times a batch can be extracted. The batch cannot be transmitted.	Disable Enable = Default
Extract repeatedly, transmit once	The batch can be extracted repeatedly, but can only be transmitted once by batch ID or batch number, at which time it is flagged as transmitted. After it is flagged as transmitted, it can only be transmitted by batch number.	Disable = Default Enable
Extract repeatedly, transmit repeatedly	No limit is placed on the number of times a batch can be extracted. No limit is placed on the number of times a batch can be transmitted.	Disable = Default Enable

11. Click **Next**.

12. View the parameters from the summary page and click **Done** to add the remote BP account to the schedule and display it on the Update Schedule List page.

13. From the Update Schedule List page, click **Save** to save the schedule with the account.

You can add multiple remote blocks to a single schedule.

Setting Up Encryption

By default, Sterling Integrator connects to Connect:Enterprise with SIPS encryption turned off.

For Sterling Integrator to communicate to a Connect:Enterprise instance that has SIPS encryption turned on:

1. Obtain the sipskeys encryption file from the Connect:Enterprise instance you are establishing communication with.

2. Edit the following Sterling Integrator appserver property file, depending on the appserver type:

Appserver Type	Property File
jboss	jboss.properties
weblogic	weblogic.properties
websphere	websphere.properties
no-app	noapp.properties

3. Look for the following section toward the end of the file and provide the full path to the sipskeys file that you obtained from the Connect:Enterprise instance:

Read in CEUImplFactory.java to set ceu.sipskeys system parm to the path of the sipskeys encryption file.

```
ceu.sipskeys=???/sipskeys
```

For example, if you place the sipskeys file on the Sterling Integrator server in the /tmp directory, then you would edit your Sterling Integrator property file as follows:

Read in CEUImplFactory.java to set ceu.sipskeys system parm to the path of the sipskeys encryption file.

```
ceu.sipskeys=/tmp/sipskeys
```

4. Start Sterling Integrator. The Server Adapter should now be able to connect to Connect:Enterprise with SIPS encryption.

For Windows Operating System, the path is in the format: *C:\\SterlingCommerce\\SI\\sipskeys*.

Configuring Sterling Integrator for Interoperability

The Server Adapter and six Connect:Enterprise UNIX services are included in Sterling Integrator to establish connectivity to Connect:Enterprise.

The Server Adapter receives notifications from Connect:Enterprise when data meeting the criteria of a scheduled notification is placed in a Connect:Enterprise mailbox. This information invokes a business process.

You can have one or multiple instances of the Server Adapter configured to work with Connect:Enterprise.

This section explains how to complete the configuration of the Server Adapter for the verification demo and how to configure a new instance of the Server Adapter.

Note: For more information about how the Server Adapter works, see *Business Processes and Services in Connect:Enterprise UNIX Interoperability* on page 12.

Configuring the Server Adapter

A sample instance of the Server Adapter is included in Sterling Integrator in order to run the interoperability verification demo. This Server Adapter can also be used in a production environment. In either case, the Server Adapter must have certain information defined before configuration is complete.

To configure the Server Adapter:

1. From the Sterling Integrator **Deployment** menu, select **Services > Configuration**.

The Services Configuration page displays.

2. Under List, select the **Connect:Enterprise UNIX Server Adapter** from the **by Service Type** drop-down list and click **Go!**

The Services Configuration page displays with a list of service configurations.

3. Click **Edit** next to the Connect:Enterprise UNIX Server Adapter.

The Server Adapter Name page displays with a default name of BP and a default description.

When enabled, the Server Adapter name BP registers in Connect:Enterprise as a Business Process Protocol Daemon when you perform a cmusession command in Connect:Enterprise to view a list of registered daemons.

4. Click **Next**. The CEU Server Adapter BP:CEU-Side Configuration page displays.
5. Complete the fields using the following table as a guide:

Field	Description
CEU Host	The host name or IP address of the Connect:Enterprise instance for the Server Adapter to connect to.
CEU Port	The port number the Server Adapter uses to connect to the Connect:Enterprise application. This is the port of the Connect:Enterprise UNIX control daemon.
CEU User ID	A valid remote account user ID (RSD) required to access the Connect:Enterprise application.
CEU Password	The password required to access the Connect:Enterprise application. Maximum number of characters is 55.
Maximum active CEU sessions	The maximum number of sessions that can be active at any given time. Default value is 10. The minimum value is 1.

6. Click **Next**.
7. The **Listen Port** field displays the port number on which Sterling Integrator monitors for a Connect:Enterprise Schedule notification. The port number is automatically generated based on the initial port number provided during Sterling Integrator installation. Click **Next**.

Both the listed port number and the next higher number are occupied for the Listen Port. Do not assign either of these ports for another purpose.

- The Server Adapter BP:Confirm page displays with a summary of parameters chosen for the Server Adapter. Select **Enable Service for Business Processes** to activate the Server Adapter.

If you do not enable the Server Adapter, Sterling Integrator cannot communicate with Connect:Enterprise.

- Click **Finish** to save settings and complete the configuration process.

Configuring Additional Instances of Server Adapter

Although a sample instance of the Server Adapter is included in Sterling Integrator, you can create a new instance of the Server Adapter as needed.

Before configuring a new instance of the Server Adapter, review the following tips:

- ◆ You can use the sample Server Adapter named BP for your production environment. However, if you plan to use more than one instance of the Server Adapter with a single instance of Connect:Enterprise, you must create additional instances of the Server Adapter, with different names.
- ◆ The Connect:Enterprise Schedule that starts a connection to Sterling Integrator points to a specific resource. This resource is the registered instance of the Server Adapter. Therefore, it may be useful to create and name instances of the Server Adapter based on how they are used in Sterling Integrator (such as SAP, or Rosseta).

To configure a new instance of the Server Adapter:

- From the Sterling Integrator **Business Process** menu, select **Deployment > Services > Configuration**. The Services Configuration page displays.
- Under **Create**, next to **New Service**, click **Go!**
- Using **List** view, select **Connect:Enterprise UNIX Server Adapter**
- Click **Save**.
- Click **Next**. The Server Adapter Name page displays.
- Complete the following fields:

Field	Description
Name	Type a unique name of 1-8 characters to identify the new instance of the Server Adapter. Note: The name entered in this field registers in Connect:Enterprise as a Business Process Protocol Daemon. Perform a cmusession command in Connect:Enterprise to view a list of registered daemons.
Description	Type a description of the new instance of the Server Adapter.

- Under **Select Group**, choose one of the following options:

Option	Description
No Group	Choose this option if you do not want to create an adapter group nor assign the current adapter to a group

Option	Description
Create New Group	Choose this option if you want to create a new adapter group. Type the name of the adapter group in the corresponding field.
Select Group	Choose this option if you want to assign the current adapter to an adapter group. Select the adapter group from the corresponding drop-down list.

8. Click **Next**. The CEU Server Adapter BP:CEU-Side Configuration page displays.

9. Complete the following fields:

Field	Description
CEU Host	The host name or IP address of the Connect:Enterprise instance for the Server Adapter to connect to.
CEU Port	The port number the Server Adapter uses to connect to the Connect:Enterprise application. This is the Connect:Enterprise Control Daemon monitoring port.
CEU User ID	A valid remote account user ID required to access the Connect:Enterprise application.
CEU Password	The password required to access the Connect:Enterprise application. Maximum number of characters is 55.
Maximum active CEU sessions	The maximum number of sessions that can be active at any given time. Default value is 10. The minimum value is 1.

10. Click **Next**. The **Listen Port** field displays the port number Sterling Integrator monitors for a Connect:Enterprise Schedule notification.

Both the listed port number and the next higher number are occupied for the Listen Port. Do not assign either of these ports for another purpose.

11. Type a valid and unique port number on the Sterling Integrator host that does not conflict with another process.

12. Click **Next**. The CEU Server Adapter Confirm page displays with a summary of parameters chosen for the adapter.

13. Select **Enable Service for Business Processes** to activate the new instance of the Server Adapter.

If the new instance of the Server Adapter is not enabled, Sterling Integrator cannot communicate with Connect:Enterprise.

14. Click **Finish** to save settings and complete the configuration process.

Testing Sterling Integrator and Connect:Enterprise UNIX Interoperability

You can test that Sterling Integrator and Connect:Enterprise were configured correctly and are now communicating by the following methods:

- ◆ Perform a quick test
- ◆ Run the interoperability verification demo

Quick Test

The Server Adapter must be configured with a valid Connect:Enterprise host, port, user id, and password so the Server Adapter can be registered in Connect:Enterprise as a business process protocol daemon. After the Server Adapter is configured and registered, Connect:Enterprise sees the Server Adapter as just another protocol.

Note: Maximum number of characters for the password in the Server Adapter is 55. If the Connect:Enterprise UNIX password is longer than 55 characters, it must be changed to 55 characters or less.

To test the configuration:

1. Start the Connect:Enterprise server.
2. Edit the CEUServerAdapter BP.
3. Click **Enable**.
4. Click **Finish**.

To quickly verify that the Server Adapter is configured correctly and that Sterling Integrator and Connect:Enterprise are communicating:

1. Type one the following cmusession commands to find a registered instance of the Server Adapter:

To list only registered business process protocols:

```
cmusession -u admin -p adminpass -g
```

To list all registered protocols:

```
cmusession -u admin -p adminpass
```

admin is the Connect:Enterprise product administrator login

adminpass is the password for that login id

2. Verify that the Server Adapter is listed as a BP protocol.

If the Server Adapter name is not in the list of registered protocols, the following are the most frequently encountered problems:

- ◆ Invalid host IP address or port number
- ◆ The adapter is not enabled

To identify the problem:

1. In the web administrator, navigate to **Operations > System > Log**.
2. Turn on special ceinterop.log

Demo Test

Sterling Integrator includes a demo that you can run to verify interoperability between Sterling Integrator and Connect:Enterprise.

For a demo overview and instructions on how to run the demo, see *Demo of Connect:Enterprise UNIX Interoperability* on page 37.

Tracking Activity in Connect:Enterprise UNIX Interoperability

Tracking Interoperating Activity in Connect:Enterprise UNIX

You can perform batch queries in Connect:Enterprise to view batch activity that has occurred as a result of a business process in Sterling Integrator. You can also view account and schedule reports to locate business process IDs and track specific business processes back to Sterling Integrator to view even more detailed information.

The following pages and reports are available in Connect:Enterprise to track batch and business process detail:

- ◆ Select Batches page
- ◆ Generate Account Reports
- ◆ Generate Schedule Reports

Note: The preceding pages and reports are briefly described in this section in regards to how they are used with Sterling Integrator and Connect:Enterprise interoperability. For more detailed instructions on performing queries and generating reports, refer to the *Connect:Enterprise Help System*.

To access the Batch page and Account and Schedule reports:

1. Start Connect:Enterprise.
2. From the left navigation panel, click one of the following, depending on which page or report you want to view:

Page	Description
Select Batches	<p>The Select Batches filtering option enables you to perform queries on batch activity that may have resulted from an Sterling Integrator business process. You can get batch activity detail based on batch ID, mailbox ID, account ID, and processing status.</p> <p>Use the following values in Select By:</p> <ul style="list-style-type: none">◆ V (BP verified)◆ J (added by a Business Process).

Page	Description
Generate Account Report	<p>The Summary Account Report and Detail Account Report enable you to perform queries on remote account activity based on the business process protocol, mailbox ID, batch number, batch ID, or session ID. You cannot query on business process ID, but it displays in the Detailed Account Report.</p> <p>Under the business process ID, hyperlinks to the Sterling Integrator Business Process Details page are available to easily track activity to the responsible business process.</p> <p>If a Connect:Enterprise service runs in a business process, a log entry is written and visible in the Detail Account report.</p>
Generate Schedule Report	<p>The Generate Schedule Report function enables you to report on the activity for a schedule. You can generate a Summary Schedule Report, Detail Schedule Report, or Queued Schedule Report. You can view information associated with the schedule such as remote account, mailbox ID, batch number and ID, protocol, status, and session ID.</p> <p>The Detail Schedule Report includes the business process ID with hyperlinks to the Sterling Integrator Business Process Details page to easily link activity to the responsible business process.</p>

Tracking Interoperating Activity in Sterling Integrator

You can perform queries in Sterling Integrator to view business-process activity that has occurred in Connect:Enterprise. The following tracking and search functions are available in Sterling Integrator to track business process and Server Adapter activity:

- ◆ Business Process Detail (Current Processes page)
- ◆ Server Adapter Monitoring (Current Activities page)
- ◆ Correlation Search

To access the search functions in Sterling Integrator:

1. From the Sterling Integrator Business Process menu, select **Monitor**.
2. Click one of the following, depending on which search function you want to perform:
 - ◆ **Current Processes**
 - ◆ **Current Activities**
 - ◆ **Advanced Search > Correlation**

Business Process Detail (Current Processes)

The Current Processes page displays a summary of the processes in Sterling Integrator. A Green status indicates no errors or warnings occurred during processing. A Red status indicates errors or warnings were encountered during processing. Use this page to:

- ◆ Review detailed processing information such as the document payload
- ◆ View the business process definition

- ◆ View the current state of a business process
- ◆ View the date and time a business process Started and Ended

Server Adapter Monitoring (Current Activities)

The Current Activities page enables you to monitor an instance of the Connect:Enterprise Server Adapter. When you select an Server Adapter to monitor, Sterling Integrator displays activity detail occurring on the Server Adapter.

Activities include Add and Extract. The percentage of data transfer completed displays.

Correlation Search

The Server Adapter and related services write Sterling Integrator correlation records to enable searches for business processes and documents that contain certain correlation identifiers.

The Correlation Search page enables you to search for business process activity based on the Server Adapter instance name, Connect:Enterprise session ID, mailbox ID, batch ID, and batch number.

For example, to search on a batch ID:

1. Select **Batch ID** from the **Name** field.
2. Type the batch ID name in the **Value** field.

The result of the search is all business processes and documents associated with that batch ID.

Business Document Tracking Scenario in Connect:Enterprise UNIX Interoperability

To help understand how reporting and search capabilities in Connect:Enterprise and Sterling Integrator can work together, read the following tracking scenario in which MaxxMart, the fictitious retailer discussed in *Sample Business Process Scenario in Connect:Enterprise UNIX Interoperability* on page 16, has not received their order for video game accessories from GameRAZ, another fictitious company.

GameRAZ, who has the role of Main trading partner, has Connect:Enterprise UNIX and Sterling Integrator installed. GameRAZ defined their remote BP account and notification schedule in Connect:Enterprise and they configured an instance of the Server Adapter in Sterling Integrator in order to establish interoperability between the two applications.

MaxxMart contacts GameRAZ to find out why they did not receive their order. GameRAZ researches the order in their back-end order fulfillment system and realizes the order never went to the processing department.

The following steps show how GameRAZ can use interoperability between Connect:Enterprise and Sterling Integrator to figure out what happened to the MaxxMart order:

1. GameRAZ uses Connect:Enterprise to check the MaxxMart specified mailbox to see if the MaxxMart order was present. It was present, but it had not been extracted.

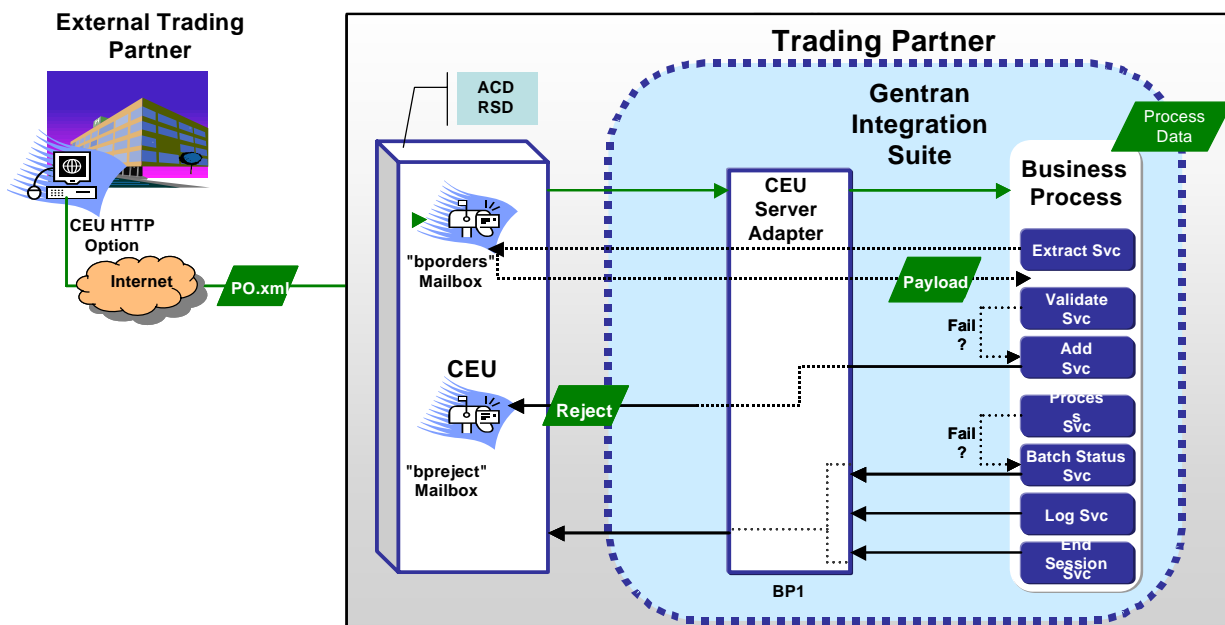
2. GameRAZ accesses the Connect:Enterprise interface and generates an account report to view activity on the MaxxMart mailbox. A detail account report is returned that displays activity information for the mailbox. There is a hyperlink in the report to Sterling Integrator and provides detailed business process information. GameRAZ clicks on the appropriate hyperlink in order to track the business processes related to this mailbox.
3. From the business process detail, GameRAZ sees that the back-end system was down the day the order was submitted, based on the error messages in the business process detail.

The business process logged the error in Connect:Enterprise and made the order re-eligible for processing using the CEU Server Batch Status Service to reset the V and T flags. The reason it had not been processed again was because no new orders had been added to the mailbox to trigger the automatic schedule notification.
4. GameRAZ realizes they need to add a timed schedule to the MaxxMart autoconnect schedule file. GameRAZ corrects the problem by updating the MaxxMart schedule file in Connect:Enterprise to run twice daily.
5. To ensure that problems are detected promptly, GameRAZ establishes a routine of running a Schedule Report for Processing Status = Failed. If all processes are executing properly, this report is empty.

Demo of Connect:Enterprise UNIX Interoperability

Demo Overview of Connect:Enterprise UNIX Interoperability

The following diagram illustrates the business process flow for the verification demo:



The verification demo involves two trading partners: an external trading partner sending a purchase order for model cars and the other trading partner receiving and validating the purchase order.

The demo runs the following sample business processes included in Sterling Integrator:

- ◆ CEUInterop_DemoPOAdd
- ◆ CEUInterop_DemoPOProcess

Note: The CEUInterop_DemoPONoTrigger is an optional business process you can run. It puts an order in a mailbox but does not trigger the autoconnect for the CEUInterop_DemoPOProcess business process. You can run this demo to add an order to a mailbox only. When you perform the CEUInterop_DemoPOAdd business process, it adds its own order to the mailbox and cause processing of all the orders in the mailbox.

CEUInterop_DemoPOAdd

Using the CEUInterop_DemoPOAdd business process, a batch is added to the *bporders* mailbox on Connect:Enterprise. A predefined schedule in Connect:Enterprise named *samp_bp.acd* is configured to look for data in this mailbox based on specific criteria. When an XML file is detected, the notification schedule invokes the CEUInterop_DemoPOAdd business process to add the purchase order batch to the Connect:Enterprise *bporders* mailbox. This notification is the result of the schedule defined in Connect:Enterprise.

The CEUInterop_DemoPOAdd business process simulates the external trading partner using the HTTP option, as shown on the left side in the preceding figure. By using the CEUInterop_DemoPOAdd business process to add an XML file to the *bporders* mailbox, the following is accomplished:

- ◆ The demo is started by adding a batch to *bporders*.
- ◆ It serves as an example of how to use the CEU Server Add Service.
- ◆ The CEUInterop_DemoPOAdd business process notifies the registered Server Adapter to invoke the CEUInterop_DemoPOProcess business process.
- ◆ The CEUInterop_DemoPOProcess business process performs the extract and validate on the batch summary data.
- ◆ The schedule notification also passes important batch summary data to the business process.

The following ProcessData is an example of what information is sent to the business process:

```
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <SessionId>3907</SessionId>
  <ACD_INFO>
    <AcName>brads.acd</AcName>
    <SessionId>3907</SessionId>
    <AdapterName>kup22800</AdapterName>
    <MailboxList>bporders</MailboxList>
    <BatchIdPattern>*.xml</BatchIdPattern>
    <PutOptions>$$CODE=A MULTXMIT=YES</PutOptions>
    <BusinessProcessParameters format="xml">
      <TP_INFO>
        <Mailboxes>
          <Rejected>bpreject</Rejected>
          <InProgress>bpinproc</InProgress>
          <Invoice>bpinvoic</Invoice>
          <Messages>bpmsg</Messages>
        </Mailboxes>
        <EmailAddress>user_one@stercomm.com</EmailAddress>
      </TP_INFO>
    </BusinessProcessParameters>
  </ProcessData>
</Batches>
  <Batch>
```

```

    <CEUBatchNumber>5262</CEUBatchNumber>
    <CEUMailbox>bporders</CEUMailbox>
    <CEUBatchId>CarOrder.po</CEUBatchId>
    <CEUBatchSize>208</CEUBatchSize>
    <CEUBatchDateTime>12/17/03 3:38 PM</CEUBatchDateTime>
  </Batch> <Batch>
    <CEUBatchNumber>5263</CEUBatchNumber>
    <CEUMailbox>bporders</CEUMailbox>
    <CEUBatchId>CarOrder.po</CEUBatchId>
    <CEUBatchSize>208</CEUBatchSize>
    <CEUBatchDateTime>12/17/03 3:40 PM</CEUBatchDateTime>
  </Batch>
</Batches>
</ACD_INFO>
</ProcessData>

```

The information within the *Batches* tag shows the batch summary data for two batches with an .xml file name extension found in the *bporders* mailbox. This information is batch summary data only and does not include the business document payload at this point of the business process.

The CEUServerAdapterInstanceName and SessionId indicate which Server Adapter instance and session invoked the business process. Because you can have multiple instances of the Server Adapter, each CEU Service used in the business process must know which Server Adapter instance to communicate with.

The Business Process Parameters tag in the preceding example includes mailbox information, and additional user-defined XML content such as an email address and other information that is pertinent to the business process. The parameters were entered in Connect:Enterprise as optional business process parameters when the schedule was defined. This information is available in ProcessData and is accessed using Xpath by the BPML writer.

The CEUBatchNumber and CEUBatchDateTime are used when a batch is extracted.

CEUInterop_DemoPOProcess

The Connect:Enterprise schedule notification is preconfigured to look for an *.xml file in the *bporders* mailbox. When an XML file is added, Connect:Enterprise communicates to the Server Adapter to invoke the CEUInterop_DemoPOProcess business process.

The CEUInterop_DemoPOProcess business process uses the Connect:Enterprise Extract Service to retrieve the batch, extract the business document payload, and validate the XML.

Running the Connect:Enterprise UNIX Interoperability Verification Demo

To run the demo business process to verify successful configuration of Sterling Integrator and Connect:Enterprise interoperability:

1. From the Sterling Integrator Business Process menu, select **Manager**.

2. Type **ceu** to search for the Connect:Enterprise business processes and click **Go!**
3. There should be three sample business processes. Next to the CEUInterop_DemoPOAdd business process, click **Execution Manager**.
4. On the Execution Manager page, ensure that the business process is enabled and set as the default version, and click **Execute**.
5. Click **Browse** to locate the sample po.xml file on your local machine and click **Go!** The sample po.xml file is located in the Sterling Integrator install directory as: **<installdir >/installed_data/asset/ceuinterop/po.xml**
You can use any *.xml file. The sample is included for your convenience.
6. Close the window when the business process completes.
This process adds a batch to Connect:Enterprise using the CEU Server Add Service. The mailbox ID is *bporders*. The batch ID matches the name of the XML file you accessed.
7. From the Business Process menu, select **Monitor > Current Processes**.
Look for the entry for the business process you just executed: *CEUInterop_DemoPOAdd*
The schedule file *samp_bp.acd* in Connect:Enterprise is pre-configured to look for an XML file to be added into the *bporders* mailbox. When the CEUInterop_DemoPOAdd business process executes, Connect:Enterprise communicates to Sterling Integrator (more specifically, to the registered Server Adapter) to invoke the CEUInterop_DemoPOProcess business process.
8. To verify that this occurred successfully, in the Current Processes list, look for:
CEUInterop_DemoPOProcess
If this business process is listed, you know Sterling Integrator and Connect:Enterprise interoperability was successfully achieved. The business process should extract the batch, validate the XML and end.
9. Browse the Connect:Enterprise interface and locate batch and business process activity in both a Detailed Account Report and Detailed Schedule Report. In the **Business Process ID** column, Batch activity data relating to a business process in Sterling Integrator are hyperlinked to Sterling Integrator providing business process details responsible for that activity.
10. Browse the Sterling Integrator Admin User Interface to find Connect:Enterprise activity using the correlation search function.
Using this function, you can define search criteria. For example, to find all business processes invoked by *samp_bp.acd*, choose *CEU_ACDName* in the **Name** column, and *samp_bp.acd* in the **Value** column.

Note: For more information on viewing Connect:Enterprise and Sterling Integrator related activity, see *Tracking Activity in Connect:Enterprise UNIX Interoperability* on page 33.

Learning More About Sterling Integrator and Connect:Enterprise

After you have executed the demo, you can explore to learn about using the applications:

To explore Sterling Integrator:

1. Navigate to **Business Process > Monitor > Current Processes**.
2. View step-by-step business process details and observe the ProcessData created during the processing.

3. Click on **Status Report** of each of the CEU Server Services.
4. View the PrimaryDocument for a corresponding CEU Server Extract Service to see the actual batch (business document).
5. Navigate to **Business Process > Monitor > Advanced Search > Correlation**.
6. Search for business documents and processes by CEU_ACDName, CEU_SessionId, CEU_MailboxId, CEU_BatchNumber, and CEU_BatchId.

To explore Connect:Enterprise:

1. Sign on as samp_bp.
2. Click **Generate Account Report** (for remote connect activity) or **Generate Schedule Report** (for autoconnect activity).
3. Perform a **Detailed** search to view activity.
4. Click the **BP ID hyperlink** to view details in Sterling Integrator **Business Process Details**.

Troubleshooting Connect:Enterprise UNIX Interoperability

Checking the Logs for Connect:Enterprise UNIX Interoperability

If you encounter a problem, first check the logs. An error may have been logged that provides the information that is incorrect. By default, the log captures audit level messages indicating the following events, even when logging is not enabled:

- ◆ Adapter Startup/Shutdown
- ◆ Adapter Edit (Refresh)
- ◆ Batch Add
- ◆ Batch Extract
- ◆ Autoconnect trigger of BP
- ◆ Enter/Exit Adapter listening mode for Connect:Enterprise restart feature

If the error is not in the logs, turn on the Sterling Integrator `ceuinerop.log` to capture activity of the Server Adapter and the Services:

1. Browse to **Operation > System > Logs**
2. Click **Connect:Enterprise Server Adapter and Services**.
3. Attempt to recreate the problem.
4. View the log for more informative debug level entries.

Getting Information About Connect:Enterprise in Connect:Enterprise UNIX Interoperability

To determine which instance of Connect:Enterprise UNIX the web administrator is connected to:

1. Click **About** at the top of any page.
2. The server, install directory, and build number display.

Viewing Batches and Status in Connect:Enterprise UNIX Interoperability

To view batches and status in a mailbox:

1. In the web administrator, navigate to the **Select Batches** page.
2. In Connect:Enterprise, use select batches, update batches, cmulist or cmustatus to verify that batches are in a mailbox and the flags are set as expected. If you have access privileges, you can use the update commends to reset specific flags.

Validating the Connection in Connect:Enterprise UNIX Interoperability

To validate that the business process you are executing is connected:

1. In the web administrator, navigate to **Define Schedules**.
2. Select the schedule you have a problem with.
3. Select the appropriate block for the schedule.
4. Check the drop down list of registered Server Adapters. Your Server Adapter must be listed to confirm that it is registered.

Solving Possible Problems in Connect:Enterprise UNIX Interoperability

Check the following table for possible problems and solutions:

Problem/Symptom	Solution
The Server Adapter displays as Disabled .	<p>Perform the following steps to clear the problem:</p> <ol style="list-style-type: none"> 1 Verify that Enable for Business Processes is selected. 2 Verify Connect:Enterprise UNIX version 2.2 is running. 3 Verify the host, port, id, and password used to configure the Server Adapter are valid for the remote node. Maximum number of characters for the password is 55. 4 Change the name of your Server Adapter. Connect:Enterprise business process protocol daemons must register with a unique name. Another Server Adapter may already be registered with the name of your adapter. 5 Verify that you have a valid Sterling Integrator license key for Connect:Enterprise UNIX Server. To check, browse to Operations > System > Logs. View the ceinterop log.
A business process does not start as expected when a batch is added to a mailbox.	<p>Perform the following steps to clear the problem:</p> <ol style="list-style-type: none"> 1 In Connect:Enterprise, see cmucheckcfg to verify the acd and referenced remote block (rsd) are valid. 2 Verify the acd file includes the .acd file name extension. 3 In Connect:Enterprise, perform a cmurefresh to force Connect:Enterprise to read all acd fields again. 4 Verify that the rsd remote id and password are valid in a Sterling Integrator User Account. 5 Verify that the acd schedule includes the entry MODE=SENDONLY. 6 Verify the mailbox access is not set to restrict reads, writes, and directory listings. 7 In Sterling Integrator, verify that the rsd remote id (which maps to a Sterling Integrator User Account) has privileges to execute the business process. 8 Verify the acd schedule file includes the following entries defined for a triggered autoconnect: <p>CONTACT = DATA_IMMEDIATE</p> <p>SENDID =</p> <p>BATCHID =</p> <p>RESOURCE =</p> <p>BPNAME =</p> 9 From the ceinx install directory, perform cmusession -g and verify the BP adapter name displays and the host name is correct. 10 Verify the PUT options on the rsd. The trigger flag must be set to notify the autoconnect daemon.
Hyperlinks in Account Reports or Schedule Reports open the browser, but the page displays a message Login incorrect, please try again .	<p>Perform the following steps to clear the problem:</p> <ol style="list-style-type: none"> 1 In Connect:Enterprise, verify you are logged in with a remote account defined using the BP protocol. 2 Verify that the rsd remote id and password are valid in a Sterling Integrator User Account.

Problem/Symptom	Solution
CEU Server Add Service returned an error CEUInteropException with a message Mailbox error:EACCESS.	Perform the following steps to clear the problem: 1 In the web administrator Define Mailbox Access , verify that the permissions for the mailbox are set correctly.
Status Report contains <i>ERROR CEU Server-BatchStatusService - Caught exception of type CEUInteropException</i> (or similar)	Perform the following steps to clear the problem: 1 Verify that the user id and password used to configure the Server Adapter are valid for the Connect:Enterprise instance. Maximum number of characters for the password is 55. The user id must match an rsd file in the remote node. 2 Login to the web administrator using the user id and password specified to test the validity.
Receive error exception decrypting passphrase.	Password exceeds limit of 55 characters in the Server Adapter. If the Connect:Enterprise UNIX password is longer than 55 characters, it must be changed to 55 characters or less.

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