



BEA WebLogic Integration – Business Connect

**Using WebLogic
Integration – Business
Connect**

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A. ISO Country Codes

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About This Document

This book describes WebLogic Integration – Business Connect and provides step-by-step procedures to configure, test, implement, and maintain your WebLogic Integration – Business Connect system. For information about installation see *Installing WebLogic Integration – Business Connect*.

What You Need to Know

This document is intended for use by people who oversee installation, configuration, maintenance and use of WebLogic Integration – Business Connect. This book was written under the assumption that WebLogic Integration – Business Connect administrators have a working knowledge of:

- Your organization’s business hardware, software and practices
- Electronic data interchange (EDI) and electronic commerce
- A graphical user interface
- The Internet, including use of a browser

In addition, your network, systems or mail administrator might find parts of this book useful. This book can also serve as a reference for EDI department supervisors and technical personnel.

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- Your company name and company address
- Your machine type and authorization codes
- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

Documentation Conventions

The following documentation conventions are used throughout this document.

Convention	Item
boldface text	Indicates terms defined in the glossary.
Ctrl+Tab	Indicates that you must press two or more keys simultaneously.
<i>italics</i>	Indicates emphasis or book titles.
monospace text	Indicates code samples, commands and their options, data structures and their members, data types, directories, and file names and their extensions. Monospace text also indicates text that you must enter from the keyboard. <i>Examples:</i> <pre>#include <iostream.h> void main () the pointer psz chmod u+w * \tux\data\ap .doc tux.doc BITMAP float</pre>
monospace boldface text	Identifies significant words in code. <i>Example:</i> <pre>void commit ()</pre>

About This Document

Convention	Item
<i>monospace</i> <i>italic</i> <i>text</i>	Identifies variables in code. <i>Example:</i> String <i>expr</i>
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. <i>Examples:</i> LPT1 SIGNON OR
{ }	Indicates a set of choices in a syntax line. The braces themselves should never be typed.
[]	Indicates optional items in a syntax line. The brackets themselves should never be typed. <i>Example:</i> buildobjclient [-v] [-o name] [-f <i>file-list</i>]... [-l <i>file-list</i>]...
	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.
...	Indicates one of the following in a command line: <ul style="list-style-type: none">• That an argument can be repeated several times in a command line• That the statement omits additional optional arguments• That you can enter additional parameters, values, or other information The ellipsis itself should never be typed. <i>Example:</i> buildobjclient [-v] [-o name] [-f <i>file-list</i>]... [-l <i>file-list</i>]...
.	Indicates the omission of items from a code example or from a syntax line. The vertical ellipsis itself should never be typed.

Introduction

The following topics are provided to summarize the WebLogic Integration – Business Connect system.

Concepts

- [“System Overview” on page 1-1](#)
- [“How the System Works” on page 1-2](#)
- [“System Administrator Duties” on page 1-6](#)

System Overview

WebLogic Integration – Business Connect can enable you to securely exchange large volumes of documents with your trading partners. WebLogic Integration – Business Connect packages documents in secure envelopes that are transmitted among trading partners according to schedules.

The following table describes the system’s major components.

Table 1-1 System Components

Icon	Component Description
	<i>Administrator</i> enables you to configure and maintain your WebLogic Integration – Business Connect system for document exchanges. The parameters you set using the Administrator application are stored in the WebLogic Integration – Business Connect database.
	<i>Server</i> performs the document transfers. Server reads the parameters from the WebLogic Integration – Business Connect database and uses them to process, send and receive documents over the Internet. Server is designed for continuous operation, 24 hours a day, seven days a week.
	<i>Tracker</i> enables you to monitor your system by viewing the alerts, traffic, transactions, and archive logs. You can use this application to search for documents, retransmit documents to partners or resubmit documents for processing.

How the System Works

[Figure 1-1](#) and [Figure 1-2](#) present high-level views of how WebLogic Integration – Business Connect processes outbound and inbound documents. These graphics show typical document flows, although your organization’s configuration might differ. Regardless of the transport method, all documents are processed the same way.

Figure 1-1 Outbound Document Processing

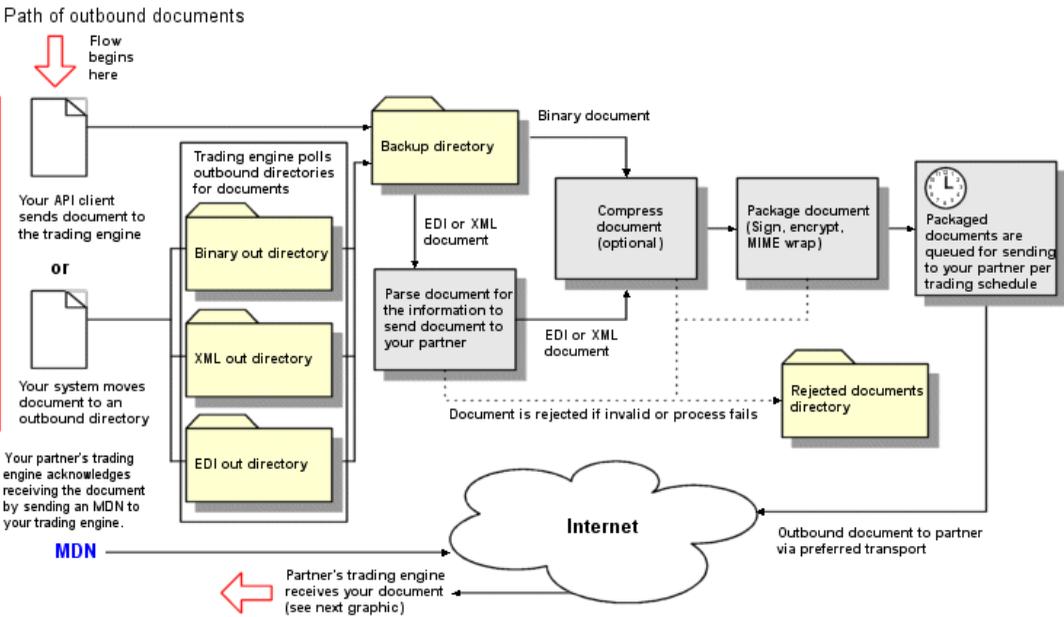
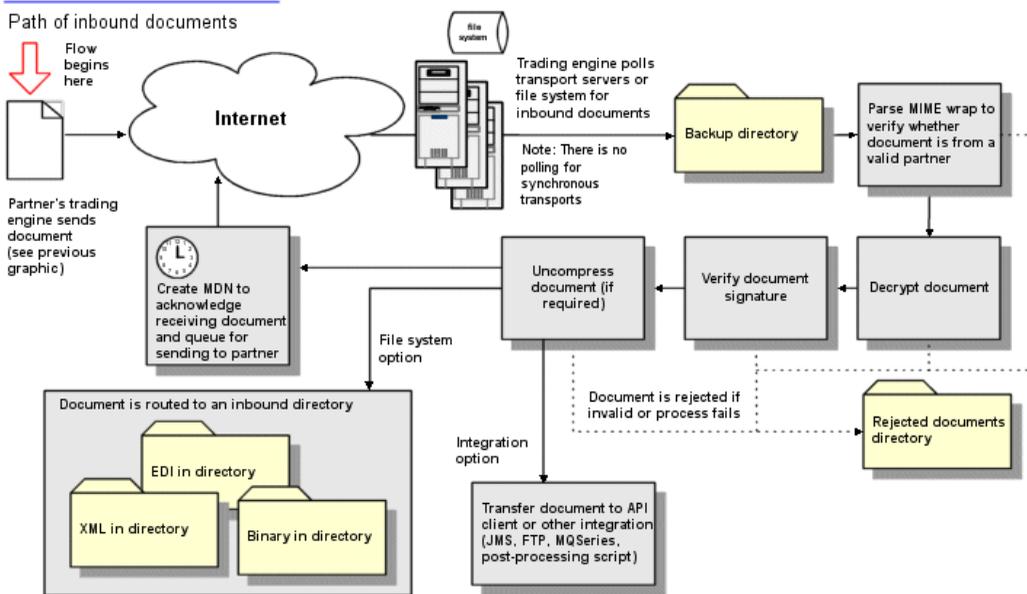


Figure 1-2 Inbound Document Processing



Outbound Processing

Outbound document processing consists of the following steps.

1. WebLogic Integration – Business Connect polls the EDI-out and XML-out directories and, if you choose, the binary-out directory at polling rate intervals you specify in your company profile.
2. WebLogic Integration – Business Connect checks the partner and schedule for each document to ensure that each is valid and active. It then performs actions such as encryption, signing and compression, according to the parameters you set in the partner profile of each of the trading partners option you have set up on your system.

If WebLogic Integration – Business Connect cannot package the document, it places the document in the rejected directory and a notification e-mail is sent to the WebLogic Integration – Business Connect contact person.

3. WebLogic Integration – Business Connect uses the backup options you specify on the Company Profile window Preferences tab. A version of the document before it has been signed and encrypted is placed in the backup directory. WebLogic Integration – Business Connect gives each document a unique file name when it writes it to this directory.
4. WebLogic Integration – Business Connect sends the packaged document to your trading partner by the transport method you choose and according to the send schedule.
5. If you specified this option in the partner profile, WebLogic Integration – Business Connect expects your partner to send back an acknowledgment called a message disposition notification (MDN). If it does not receive one in the time you specified, WebLogic Integration – Business Connect resends the document. This process is repeated up to the number of retries you specify. If no acknowledgment is received after the last retry, the document is placed in the rejected directory and an alert is sent to your company's WebLogic Integration – Business Connect contact person.

Inbound MDNs for your outbound documents are stored in the backup directory.

Inbound Processing

Inbound document processing consists of the following steps.

1. After receiving an inbound document, WebLogic Integration – Business Connect processes it according to the parameters you specify. This can include decrypting the document, verifying the digital signature and uncompressing the document.

If WebLogic Integration – Business Connect cannot decrypt, verify or uncompress a document, it is placed in the rejected directory and a notification e-mail is sent to your contact person.

2. WebLogic Integration – Business Connect uses the backup options you specify on the Company Profile window Preferences tab. For any option except *None*, WebLogic Integration – Business Connect stores the MIME message (the document and its signature, if it has one) in the backup directory. WebLogic Integration – Business Connect gives each document a unique file name when it writes it to this directory.

3. WebLogic Integration – Business Connect validates the partner and treats each of the following types of documents as follows:
 - XML documents are placed in the XML-in directory, where they can be picked up by your company’s XML application.
 - Binary documents from a partner with whom you have established a binary trading relationship are placed in the binary-in directory for that partner. Binary documents from sources who do not have a binary trading relationship with you are placed in the rejected directory, if the document is encrypted, or in the other directory, if the document is in clear text.
4. WebLogic Integration – Business Connect sends an MDN acknowledging receipt of the document to the sender, if your partner has specified this option in your partner profile on his computer. The MDN is sent using the same transport method you use for exchanging documents.

Document Sizes

WebLogic Integration – Business Connect has no limitations on maximum sizes of documents, whether inbound or outbound. Limitations on document sizes rest solely on your and your partners’ hardware resources and software configurations for various transport methods. A document that one organization considers to be large might be small by another organization’s standards. Your organization might have to conduct its own capacity tests to determine the optimal transport for your trading situation.

System Administrator Duties

Your organization’s WebLogic Integration – Business Connect system administrator is the focal point for setting up and managing the WebLogic Integration – Business Connect system. Some responsibilities include:

- Installing WebLogic Integration – Business Connect.
- Configuring WebLogic Integration – Business Connect and testing the interfaces between WebLogic Integration – Business Connect and your automated systems and between WebLogic Integration – Business Connect and the Internet.
- Controlling user access to the WebLogic Integration – Business Connect server and its processes.
- Exchanging partner profiles or certificates with your trading partners.

- Monitoring the WebLogic Integration – Business Connect system status.
- Receiving and responding to system alerts and notifications.
- Upgrading WebLogic Integration – Business Connect software to implement new releases.
- Overseeing system security to include managing certificates for you and your partners.
- Contacting technical support, if you have purchased support, to resolve WebLogic Integration – Business Connect issues. When working with technical support, it is recommended that your organization assign a single point of contact. This helps to identify and resolve issues.

Introduction

Configuration

The following topics are provided for configuring WebLogic Integration – Business Connect.

Concepts

- “Security Considerations” on page 2-2
- “Frequently Asked Questions” on page 2-3
- “Maintenance Considerations” on page 2-4

Procedures

- “Configuration Quick Reference Outline” on page 2-1

Note: If you have not already done so, review the *WebLogic Integration – Business Connect Release Notes* at:

<http://edocs.bea.com/wlibc/docs81/relnotes/index.html>

Configuration Quick Reference Outline

This section provides a quick reference outline of the steps for configuring WebLogic Integration – Business Connect. It is assumed that you have already installed it as described in *Installing WebLogic Integration – Business Connect*.

Table 2-1 lists the steps required to set up WebLogic Integration – Business Connect to exchange documents with your trading partners. For a typical installation, it is strongly recommended you perform each of the steps in order.

Table 2-1 Configuration Steps

Step	Description
1	Start the Administrator application. See “Starting Administrator or Tracker” on page 3-1.
2	Set up your company profile. See Chapter 6, “Company Profiles.”
3	Generate or obtain a certificate for your company profile. See Chapter 7, “Keys and Certificates.”
4	Export your company profile to your trading partners. See “Exporting a Company Profile to a File” on page 6-13.
5	Import or create profiles for your trading partners. See “Partner Profiles” on page 8-1.
6	Start the Server application to begin sending and receiving documents. See “Starting the Server Application” on page 3-2.
7	Use the Tracker application or a monitoring tool to view records of trading activity. See “Monitoring the Server Application” on page 3-8, “Monitoring the Server with a Browser” on page 3-10, and Chapter 18, “Tracker.”

Security Considerations

To ensure the integrity of data processed by WebLogic Integration – Business Connect, we recommend that you adhere to the following security measures in addition to your company's own security policies. Although the risks are possibly remote, failure to institute minimum security measures may result in compromised data.

1. Install WebLogic Integration – Business Connect in the data layer behind a firewall and not in an area unprotected from exposure to the Internet.
2. Do not install or run WebLogic Integration – Business Connect under a privileged account. This includes root in UNIX and administrator or system accounts in Windows NT.

3. Do not view a binary document in Tracker that has been received by WebLogic Integration – Business Connect without first scanning the document for viruses.
4. Institute a policy for periodically changing the passwords for accessing Administrator, Tracker and the Server Monitor web page that is viewed in a browser by selecting Tools→Launch Server Monitor in Administrator.
5. Control access to the computer running WebLogic Integration – Business Connect to authorized users.
6. If you manually distribute your certificate to partners, do so via a secure means. Encourage your partners to do likewise.
7. Restrict access via the firewall to the WebLogic Integration – Business Connect SOAP port only to authorized clients or networks.

Frequently Asked Questions

The following are answers to some questions asked by new users.

1. There is a lot of user documentation. Do I have to read it all?

No. You can review only the topics pertaining to how you want to use WebLogic Integration – Business Connect. You do not have to read a great deal or all of the documentation to use the application. We provide much information about WebLogic Integration – Business Connect because the application is versatile and provides solutions for many business needs.

2. How do I find the information I want in the user documentation?

Key word searches are an effective and quick way to find information in the online help as well as the PDF user guides when you use them as online e-books. The online help and PDFs also have extensive indexes and tables of contents.

The following table provides guidance about where to look.

For information about	See
Administrator, Server, Document Generator, Server Monitor web page, server log	<i>Using WebLogic Integration – Business Connect</i> or Administrator online help
APIs	<i>Using WebLogic Integration – Business Connect</i> or Administrator online help

For information about	See
Company profiles, partner profiles, certificates	<i>Using WebLogic Integration – Business Connect</i> or Administrator online help
System requirements, installation	<i>Installing WebLogic Integration – Business Connect</i>
Tracker, system messages	<i>Using WebLogic Integration – Business Connect</i> or Tracker online help
Upgrading, data back-ups	<i>Using WebLogic Integration – Business Connect</i> or Administrator online help

3. How do I configure my company profile?

See [Chapter 6, “Company Profiles.”](#)

Maintenance Considerations

The following actions should be taken to maintain the WebLogic Integration – Business Connect system and its data:

- Back up all system directories and files as part of your normal backup schedule.
- Review the system logs at frequent intervals to detect potential problems.
- Check the specified e-mail accounts for alerts and notifications.
- Make sure there is enough disk space available for the system and the documents you exchange.
- Use the web browser server monitor to determine the status of the Server application. Select Tools→Launch Server Monitor in Administrator or Tracker.
- Use your available system tools to check memory usage.

Getting Started

The following topics are provided about using WebLogic Integration – Business Connect applications.

Procedures

- [“Starting Administrator or Tracker” on page 3-1](#)
- [“Starting the Server Application” on page 3-2](#)
- [“Monitoring the Server Application” on page 3-8](#)
- [“Paused Server Processing” on page 3-16](#)
- [“Closing Applications” on page 3-17](#)
- [“Printing Administrator or Tracker Records” on page 3-19](#)

Starting Administrator or Tracker

Use this procedure to start the Administrator or Tracker application.

In a client-server configuration, start the Server application before you log on to Administrator or Tracker.

On some UNIX operating systems, occasional X windows scroll bar exceptions might occur in the normal use of the Administrator and Tracker X windows clients. These exceptions display in the terminal window where the clients were launched and are of no consequence.

For example:

Warning:

Name: HorScrollBar

Class: XmScrollBar

The specified scrollbar value is greater than the maximum scrollbar value minus the scrollbar slider size.

Steps

1. Open the login dialog box with the default user, Administrator, in the user ID field.

On the Windows Start menu, select Programs→BEA WebLogic Integration – Business Connect 8.1→Administrator or Tracker.

On UNIX, ensure you have X Windows connectivity to the system where WebLogic Integration – Business Connect is installed. Log in to the account you created during the installation process. Run the following command:

```
installation_directory/bin/admin
```

2. If you are starting the application for the first time, click OK. Do not type a user ID or a password. The default user ID is Administrator and the default password is blank.

Starting the Server Application

The Server application must be running before you can exchange documents with your partners. Although you can start and stop Server at any time, we recommend you run the application continuously.

We strongly recommended that you have only one instance of WebLogic Integration – Business Connect on a computer. You should not have two or more instances installed at the same time on the same computer. The only exception is when you temporarily have two instances installed while upgrading the application. But even in that case, you should not run two applications at the same time on the same computer.

The Server application synchronizes with your system's time for time-stamping transactions. If you change the system time on the system where the Server application is running, you must re-start the Server application for the Server to recognize the change.

If you are already running WebLogic Integration – Business Connect Server as a Windows service, you should not start it from your desktop.

On UNIX computers you can set up the Server application as a system service. See *Installing WebLogic Integration – Business Connect*.

The following topics are provided:

- [“Starting the Server on Windows” on page 3-3](#)
- [“Starting the Server on UNIX” on page 3-7](#)

Starting the Server on Windows

To start the Server application on Windows, select Start→Programs→BEA WebLogic Integration – Business Connect 8.1→Start Server. In addition to starting the server, the Server Display window opens. The window has two tabs, Transactions and Agents. You can use a mouse to adjust the widths of the columns on the tabs.

After starting the Server application you can:

- Click the [“Transactions Tab Fields”](#) to observe document processing milestones.
- Click the [“Agents Tab Fields”](#) to observe which agents are running.
- Use the View Server Log utility to observe output to the console log. See [“Monitoring the Server Application” on page 3-8](#).
- In Administrator or Tracker, select Tools→Launch Server Monitor to view server activity in a browser.

Figure 3-1 Server Display Window Transactions Tab

The screenshot shows a window titled "Server Display" with two tabs: "Transactions" (selected) and "Agents". The Transactions tab displays a table with the following columns: COMPANY, ACTION, DOCUMENT, and TIME. The data rows are as follows:

COMPANY	ACTION	DOCUMENT	TIME
125551234	Acknowledged	000001686	11:31:27 MST 08/1...
125551234	Acknowledged	000001687	11:31:27 MST 08/1...
125551234	Acknowledged	000001688	11:31:27 MST 08/1...
125551234	Acknowledged	000001689	11:31:27 MST 08/1...
125551234	Acknowledged	000001690	11:31:27 MST 08/1...
125551234	Acknowledged	000001691	11:31:58 MST 08/1...
125551234	Acknowledged	000001692	11:31:58 MST 08/1...
125551234	Acknowledged	000001693	11:31:58 MST 08/1...
125551234	Acknowledged	000001694	11:31:58 MST 08/1...
125551234	Acknowledged	000001696	11:31:58 MST 08/1...
125551234	Acknowledged	000001695	11:31:58 MST 08/1...
125551234	Acknowledged	000001697	11:31:59 MST 08/1...
125551234	Acknowledged	000001698	11:31:59 MST 08/1...
125551234	Acknowledged	000001699	11:31:59 MST 08/1...
125551234	Acknowledged	000001700	11:31:59 MST 08/1...

Transactions Tab Fields

The following describes the fields on the Server Display window Transactions tab.

Company

The ID of the company associated with the transaction.

Action

The action describing the transaction. Possible actions are:

Action	Description
Ack Sent	The system has sent your partner an acknowledgment of receiving a document.
Acknowledged	The system has received from your partner an acknowledgment of a document you sent.
Acquired	The system has acquired a document through the outbound integration set up in your company profile.
API - Notify - Local	The system has notified a local API client of an event.

Action	Description
API - Notify - Remote	The system has notified a remote API client of an event.
API - Receiving - Remote	An API client has gotten a document from an HTTP or HTTPS server.
API - Sending - Local	The system has sent a document for a local API client.
API - Sending - Remote	The system has sent a document for a remote API client.
New	The system has retrieved a new document for outbound processing.
Packaged	The system has packaged an outbound document.
Received	The system has received a document from a partner.
Rejected	The system has rejected a document and placed it in the rejected directory.
Sent	The system has sent a document to a partner.
Transferred	The system has moved an unpackaged document received from your partner to the inbound integration set up in your company profile.

Document

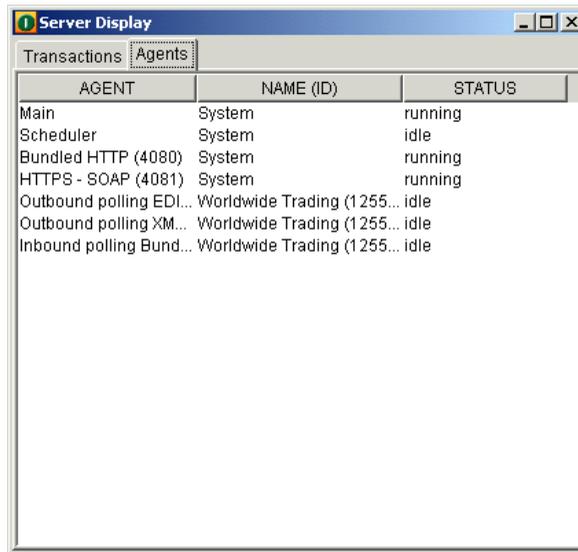
The document type. Possible types are:

Document type	Description
Binary	A binary document.
<i>nnnnnnnn</i>	A nine-digit control number indicates an EDI document.
XML	An XML document.
NA	The document type is not applicable. This usually is associated with a rejected document.

Time

The time and date of the transaction.

Figure 3-2 Server Display Window Agents Tab



AGENT	NAME (ID)	STATUS
Main	System	running
Scheduler	System	idle
Bundled HTTP (4080)	System	running
HTTPS - SOAP (4081)	System	running
Outbound polling EDI...	Worldwide Trading (1255...	idle
Outbound polling XM...	Worldwide Trading (1255...	idle
Inbound polling Bund...	Worldwide Trading (1255...	idle

Agents Tab Fields

The following describes the fields on the Server Display window Agents tab. An agent is a process that operates continuously or performs work when a specific event occurs.

Agent

The name of the agent. There are agents for the Server application itself and agents for transports, inbound polling, outbound polling, document packaging and unpackaging, document sending and receiving.

The agents for outbound and inbound polling show three numbers following each active transport or document type. These are, in order, the document polling rate in seconds, the documents per cycle and the maximum threads. The polling rate is the interval when WebLogic Integration – Business Connect polls for inbound or outbound documents. The documents per cycle is the maximum number of documents the application can retrieve at each polling interval. The maximum threads are packaging threads for outbound documents and unpackaging threads for inbound documents.

Name (ID)

Identifies that the system or a company is associated with the agent.

Status

The status of the agent. The following are the possible status types.

Status	Description
Idle	The agent is available, but not running.
Packaging	The agent is packaging a document for sending to a partner. Depending on options you select, packaging can include encrypting, signing, MIME wrapping and compressing.
Paused	The agent is running, but in a paused state. Paused indicates the Server application is waiting for memory to free up before continuing processing. Paused is a normal state for brief intervals. If this state persists, processing is exceeding available real memory. See “Paused Server Processing” on page 3-16 .
Receiving	The agent is receiving data from a partner.
Running	The agent is running.
Sending	The agent is sending data to a partner.
Unpackaging	The agent is unpackaging a document received from a partner. Depending on selected options, unpackaging can include decrypting, decompressing and MIME unwrapping.
Wait/connect	The agent is attempting to connect to a transport server. Wait/connect is a normal state for brief intervals. If this state persists, it might indicate a transport failure.

Starting the Server on UNIX

To start the Server application on UNIX, ensure you have X Windows connectivity to the system where WebLogic Integration – Business Connect is installed. Log in to the account you created during the installation process. Run the following command:

```
installation_directory/bin/start_server
```

In Administrator or Tracker, select Tools→Launch Server Monitor to view server activity in a browser. Also, see [“Monitoring the Server Application” on page 3-8](#) for information about using the `tail -f` command to view the console output. (A Server Display window is not available on UNIX as it is on Windows.)

Monitoring the Server Application

The following topics are provided for monitoring activity on the Server application.

- [Viewing the server.log File in Windows and UNIX](#)
- [Viewing Processes on UNIX](#)
- [Monitoring the Server with a Browser](#)
- “Description of the Server Monitor Web Page” on page 3-11

Viewing the server.log File in Windows and UNIX

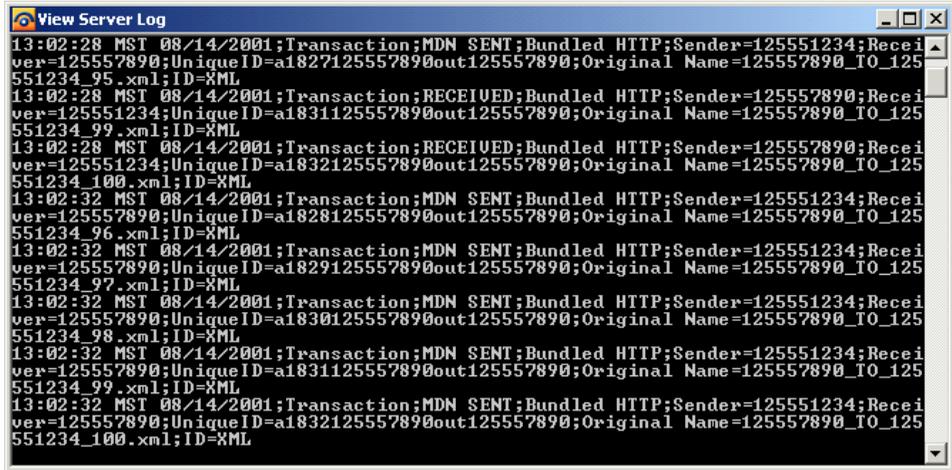
You can use the View Server Log utility to view real-time activity on the Server application. The activity you view is recorded in the `server.log` file in the `logs` subdirectory under the directory where WebLogic Integration – Business Connect is installed. You can use the View Server Log utility only on the computer where you have installed the Server application. All Server actions display as they occur.

Note: If the View Server Log window is open when archiving occurs, the file you are viewing is archived and no further Server activity displays. When this occurs, the following line appears at the bottom of the window: Archiving console logs [date and time]. Open a new View Server Log window to continue monitoring activity.

Windows

On the Windows Start menu select Programs→BEA WebLogic Integration – Business Connect 8.1→View Server Log to open a console window displaying server messages that are written to the `server.log` file. The `server.log` file is located in `installation_directory\logs`.

Figure 3-3 View Server Log Window



UNIX

On UNIX, log in to the account you created during the installation process. Run the following command:

```
tail -f installation_directory/logs/server.log
```

Viewing Processes on UNIX

To view a snapshot of all WebLogic Integration – Business Connect components, you can use the `processes` command. The output of this command identifies each WebLogic Integration – Business Connect process that is running. This can be helpful in troubleshooting the application. Run the following command:

```
installation_directory/bin/processes
```

For definitions of the column headings displayed with the `processes` command, use the `man ps` command.

Monitoring the Server with a Browser

Use this procedure to view Server application activity on a web page. You access the page with a browser such as Internet Explorer or Netscape Navigator that is on the same computer as WebLogic Integration – Business Connect Server or on a client computer with access to the Server. The Server application must be running for activity to display on the web page. The web page by default refreshes once a minute, but you can change the refresh rate.

The web page provides summary-level information not available in Tracker, such as totals for documents packaged, sent and received. It also shows whether server agents are active or idle and reports recent activity for transactions and alerts.

The information on the web page is for the current session of the Server application. If you stop and restart Server, the page display resets. You also can use the reset button to restart the counters in the summary section without restarting the application.

Steps

1. Select Tools→Launch Server Monitor in Administrator or Tracker to display the web page on your browser.

Alternately, to access the web page outside of Administrator or Tracker, open a browser and type a URL in the following format:

```
http://server_name:port_number/status/summary.html
```

Substitute the name of the computer running the Server application for *server_name*. The default *port_number* is 4080. If the computer name or port number has been changed, select Tools→Preferences in Administrator and check the host name and HTTP port fields on the General and Port tabs, respectively, of the Preferences window.

Press Enter to display the web page.

Figure 3-4 Partial View of the Server Monitor Web Page

Acme Industries Server Monitor
Summary
08/14/2001 16:47:21

[Summary](#) [Agents](#) [Transactions](#) [Alerts](#) [All](#) [Server Log](#)

Server running for 0 Days, 7 Hours, 0 Minutes, 8 Seconds.

Documents Packaged	301	Acks Sent	301
Documents Sent	301	Acks Received	301
Documents Resent	0	Documents Rejected	0
Documents Received	301	Alerts	0

Refresh rate (seconds)

2. Click the links at the top of the page to display different views of the page.
3. To reset the fields above the Reset button on the summary section of the page, click Reset.
4. To change the page refresh rate, scroll to the Refresh rate field, type the refresh rate you want in seconds and click Change.

Description of the Server Monitor Web Page

The following describes the information on the Server Monitor web page. To access the page, see [“Monitoring the Server with a Browser” on page 3-10](#).

At the top of the page in the format [name] Server Monitor is the name under which the application is licensed. The name identifies whose trading activity the server monitor page is tracking. This is the name as it appears in the registered to field in Hel→Product Information in Administrator or Tracker.

You can view categories of information by clicking the links at the top of the page. The links are:

- [“Summary” on page 3-12](#)
- [“Agents” on page 3-13](#)
- [“Transactions” on page 3-14](#)
- [“Alerts” on page 3-15](#)

- [“All” on page 3-16](#)
- [“Server log” on page 3-16](#)

Summary

This area displays summary statistics about trading activity. The following information is in the Summary section.

Server running for [n] days, [n] hours, [n] minutes, [n] seconds

The elapsed time that Server has been running. The web page displays activity for the current session only. If you restart Server, the counters reset to zero. For historical trading information use Tracker.

Documents packaged

The number of documents that have been packaged (encrypted and signed, as applicable) in the current session of Server. Packaging occurs before documents are sent to partners.

Documents sent

The number of documents sent to all trading partners in the current session of Server.

Documents resent

The number of documents resent in the current session of Server following unsuccessful attempts.

Documents received

The number of documents received from all trading partners in the current session of Server.

Acks sent

The number of acknowledgments or message disposition notices (MDNs) sent to trading partners to acknowledge receiving documents from them in the current session of Server.

Acks received

The number of acknowledgments or MDNs received from trading partners in the current session of Server. Your partners sent the acknowledgments to acknowledge receiving documents from you.

Documents rejected

The number of inbound or outbound documents that you or your trading partners have rejected in the current session of Server.

Alerts

The number of alert notices that Server has sent to you in the current session.

Agents

This area lists the status of Server agents. An agent is a process that operates continuously or performs work when a specific event occurs. This area displays data in three columns. The following describes the data in each column.

Column 1 (Agent)

The first column is the name of the agent. There are agents for the Server application itself and agents for transports, inbound polling, outbound polling, document packaging and unpackaging, document sending and receiving.

The agents for outbound and inbound polling show three numbers following each active transport or document type. These are, in order, the document polling rate in seconds, the documents per cycle and the maximum threads. The polling rate is the interval when WebLogic Integration – Business Connect polls for inbound or outbound documents. The documents per cycle is the maximum number of documents the application can retrieve at each polling interval. The maximum threads are packaging threads for outbound documents and unpackaging threads for inbound documents.

Column 2 (Name (ID))

The second column identifies that the system or a company is associated with the agent.

Column 3 (Status)

The third column displays the status of the agent. The following are the possible status types.

Status	Description
Idle	The agent is available, but not running.
Packaging	The agent is packaging a document for sending to a partner. Depending on options you select, packaging can include encrypting, signing, MIME wrapping and compressing.
Paused	The agent is running, but in a paused state. Paused indicates the Server application is waiting for memory to free up before continuing processing. Paused is a normal state for brief intervals. If this state persists, processing is exceeding available real memory. See “Paused Server Processing” on page 3-16 .
Receiving	The agent is receiving data from a partner.
Running	The agent is running.

Status	Description
Sending	The agent is sending data to a partner.
Unpackaging	The agent is unpackaging a document received from a partner. Depending on selected options, unpackaging can include decrypting, decompressing and MIME unwrapping.
Wait/connect	The agent is attempting to connect to a transport server. Wait/connect is a normal state for brief intervals. If this state persists, it might indicate a transport failure.

Transactions

This area lists recent transactions in the current session of Server. For historical transaction information use Tracker. Transactions are displayed in the following format:

[company ID] [action] [document type or EDI control ID] [time and date]

The following describes each part of a transaction message.

Company

The ID of the company associated with the transaction.

Action

The action describing the transaction. Possible actions are:

Action	Description
Ack Sent	The system has sent your partner an acknowledgment of receiving a document.
Acknowledged	The system has received from your partner an acknowledgment of a document you sent.
Acquired	The system has acquired a document through the outbound integration set up in your company profile.
API - Notify - Local	The system has notified a local API client of an event.
API - Notify - Remote	The system has notified a remote API client of an event.
API - Receiving - Remote	An API client has gotten a document from an HTTP or HTTPS server.

Action	Description
API - Sending - Local	The system has sent a document for a local API client.
API - Sending - Remote	The system has sent a document for a remote API client.
New	The system has retrieved a new document for outbound processing.
Packaged	The system has packaged an outbound document.
Received	The system has received a document from a partner.
Rejected	The system has rejected a document and placed it in the rejected directory.
Sent	The system has sent a document to a partner.
Transferred	The system has moved an unpackaged document received from your partner to the inbound integration set up in your company profile.

Document

The document type. Possible types are:

Document type	Description
Binary	A binary document.
<i>nnnnnnnnnn</i>	A nine-digit control number indicates an EDI document.
XML	An XML document.
NA	The document type is not applicable. This usually is associated with a rejected document.

Time

The time and date of the transaction.

Alerts

This area lists recent alert messages that have been generated in the current session of the Server application.

All

This area displays the summary, agents, transactions and alerts information on the same page. The page also displays the following two fields at the bottom.

RMI port

The remote method invocation port that WebLogic Integration – Business Connect is using.

Version

The version and build numbers of the installed WebLogic Integration – Business Connect.

Server log

This area lists the latest number of lines specified in the server.log file. To change the number of displayed lines, type the number in the number of lines to retrieve field and click Change.

Figure 3-5 Server Log Area of Server Monitor Web Page

Acme Industries Server Monitor
Server Log
08/14/2001 16:53:52

[Summary](#) [Agents](#) [Transactions](#) [Alerts](#) [All](#) [Server Log](#)

```
Tue Aug 14 16:00:05 MST 2001
* End Archiving
* End Archiving
Tue Aug 14 16:00:05 MST 2001
Tue Aug 14 16:00:05 MST 2001
* End Archiving
* End Archiving
Tue Aug 14 16:00:05 MST 2001
Tue Aug 14 16:00:05 MST 2001
* End Archiving
```

Number of lines to retrieve

Paused Server Processing

Paused is a normal processing status for the Server application. The status can be reported in the agents table on the Server Monitor web page and on the Server Display window Agents tab on computers running Windows operating systems.

Paused indicates the Server application is waiting for memory to free up before continuing processing. Paused is a normal state for brief intervals. If this state persists, processing is exceeding available real memory. You have three options:

1. Upgrade the amount of real memory on the computer running the Server application.
2. Decrease the Server processing load.
3. Stop the Server application and change the parameter for available real memory. The parameter is `-mx[nnn]m`, where `[nnn]` is half the real memory in megabytes on the computer running the Server application. You entered the computer's total amount of real memory when installing the application, and the system used half the amount as the `[nnn]` value. Only increase the `-mx[nnn]m` parameter value if your computer has enough memory and is not running other memory-intensive applications at the same time.

On Windows the parameter is in the `Server.bat` and `Server.ini` files in the WebLogic Integration – Business Connect bin directory, and you must change the parameter in both files. On UNIX the parameter is in the WebLogic Integration – Business Connect bin/environment directory. Using a text editor, open the file, change the `[nnn]` value in the `-mx[nnn]m` parameter, save and close the file, and restart the Server application.

Closing Applications

You can close and restart Administrator, Tracker and the Server application independently of each other.

You can close the Server application only on the computer where you have installed it and not from a client computer.

The following topics are provided.

- [Closing the Server on Windows](#)
- [Closing the Server on UNIX](#)
- [Stopping All Processes on UNIX](#)
- [Closing Administrator or Tracker](#)

Closing the Server on Windows

To close the Server application on Windows, do one of the following:

- On the Start menu select Programs→BEA WebLogic Integration – Business Connect 8.1→Stop Server.
- If the Server Display window is displayed, click the Close button in the upper-right of the window.
- If you are running WebLogic Integration – Business Connect as a Windows service, use the Stop button in the Services dialog box.

Closing the Server on UNIX

To close the Server application on UNIX, log in to the account you created during the installation process. Run the following command:

```
installation_directory/bin/stop_server
```

If shutdown is successful, the following messages are displayed:

```
$ bin/stop_server
starting shutdown process ...
found local registry
found server
shutting server down ...
Server successfully shutdown.
```

Stopping All Processes on UNIX

Unlike the `stop_server` command, which only closes the Server application, the `kill_app` command on UNIX shuts down all WebLogic Integration – Business Connect processes. These include the Server, Administrator and Tracker applications. You might want to use this command only after trying other steps to resolve issues such as not being able to close or open Administrator or Tracker or having multiple Java processes running.

To use the `kill_app` command, log in to the account you created during the installation process and run the following command:

```
installation_directory/bin/kill_app
```

Closing Administrator or Tracker

Select File→Exit to close Administrator or Tracker.

Printing Administrator or Tracker Records

You can print a list of the records in the currently active information viewer by selecting File→Print or pressing Ctrl-P. Administrator or Tracker prints to your system's default printer.

The application prints the data as displayed on the current information viewer, so maximizing the window size before you print yields longer horizontal printed records. Although the records print in landscape format, you might have to adjust the column widths or hide columns of data in the information viewers to print the columns you want. This is necessary to account for differences in fonts and printers.

You can adjust column widths by placing the cursor over the lines between the columns headings to make a double-arrow appear. Click and hold the left button to adjust the widths. You also can click and drag columns headings to change their locations. You can hide or show columns of data by selecting View→Columns or right-clicking on a column heading and selecting the columns option.

The application prints the data as displayed on the current information viewer, so maximizing the window size before you print yields longer horizontal printed records. Although the records print in landscape format, you might have to adjust the column widths in the information viewers to print the columns of data you want. This is necessary to account for differences in fonts and printers.

You can adjust column widths by placing the cursor over the lines between the columns to make a double-arrow appear. Click and hold the left button to adjust the column widths. You also can click and drag columns to change their locations.

Getting Started

User Interface and Online Help

The following topics are provided for using the WebLogic Integration – Business Connect graphical user interface (GUI) and online help.

Concepts

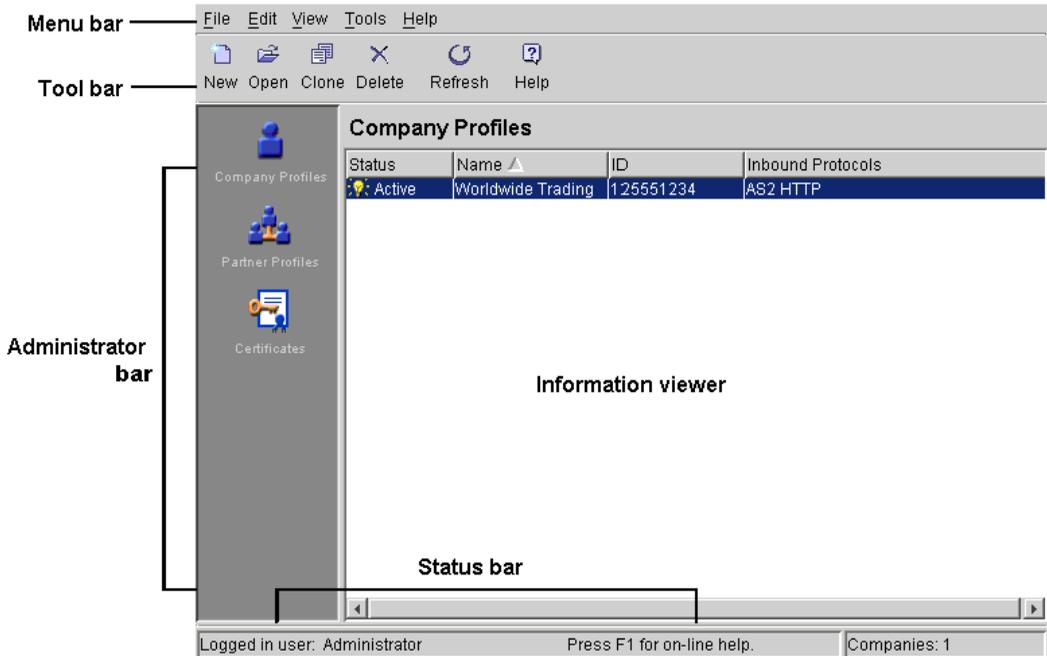
- [“User Interface Components and Icons” on page 4-1](#)
- [“Window Descriptions” on page 4-3](#)
- [“Status Symbols” on page 4-5](#)
- [“Navigating the Application” on page 4-5](#)
- [“Sorting, Arranging, and Hiding Columns of Data” on page 4-6](#)
- [“Using Online Help” on page 4-7](#)

User Interface Components and Icons

The application has a conventional windows user interface. Many tools and features are accessible on the top tool bar. In Administrator and Tracker, clicking the icons on the bar on the left side displays the primary windows you use for managing profiles and certificates and for viewing records of trading activity.

[Figure 4-1](#) identifies the components of a user interface window in Administrator. The components are similar in Tracker.

Figure 4-1 User Interface



Administrator Icons

The following are the icons and related windows and functions in the Administrator application.

Icon	Window	Function
	Company Profiles	This window enables you to manage company profiles. Company profiles contain information about your organization and specify the TCP/IP protocols for receiving secure documents from your trading partners.
	Partner Profiles	This window enables you to manage partner profiles. Partner profiles contain information about your trading partners and specify the TCP/IP protocols you can use to send secure documents to them.
	Certificates	This window enables you to manage digital certificates that ensure the security of the documents you and your partners exchange over the Internet.

Tracker Icons

The following are the icons and related windows and functions in the Tracker application.

Icon	Window	Function
	Alerts	This window enables you to view application events that might require user intervention to resolve.
	Inbound Traffic	This window enables you to view details about inbound documents.
	Outbound Traffic	This window enables you to view details about outbound documents.
	Rejected Traffic	This window enables you to view details about rejected documents.
	Transactions	This window enables you to view a reverse chronological listing of each milestone event in the processing of inbound and outbound documents.

Window Descriptions

The following topics describes the various windows you encounter in the user interface.

Information Viewers

Information viewers contain lists of records. You must first select a record before you can view, edit, copy or delete it. To select the record, click on it and then press the button for the function you want to perform. Each record in the system appears on a separate line in the list. If there are more records than available space on window, a scroll bar appears on the right side.

The user interface allows you to view or work with records on information viewers for each of the configurable parts of the application. You select an icon from the bar along the left side of the main Administrator and Tracker windows. You can use information viewers to add, clone, edit or delete a record.

The commands you can use in the information viewer are available from the menu bar, the tool bar or right-clicking the mouse. Commands or buttons that cannot be used in particular instances appear dimmed.

Right-clicking the mouse displays different pop-up menus on the various information viewer windows (Company Profiles, Partner Profiles and so on). For example, you can quickly change the status of a company profile by right-clicking the record in the Company Profiles information viewer and then left-clicking Change Status in the pop-up menu.

Tab Windows

The user interface is further organized into tab windows to make maintenance logical and easy. From the information viewer, you can select and open a user, company profile or partner record to display an array of tab windows that contain the detailed information about that record.

You can complete or maintain these tabs in any order. If you click OK before you complete all required fields on all tabs, a message appears listing the fields you must complete.

Tab windows contain the detail behind each record. When you create or open a record, the tab windows appear.

Dialog Boxes

Dialog boxes provide a working area where you can complete an action. They require you to make choices or enter data. Examples include the export and import profile dialog boxes.

Wizards

Wizards are a series of related windows that take you through a specific setup procedure from start to finish. Examples include the New Certificate and the Import Certificate wizards.

Message Boxes

Message boxes provide feedback about actions. Each box contains a message and an OK button for closing the box.

Status Symbols

The following symbols are used on windows in Administrator to denote the status of objects.

This symbol	Represents this status in the information viewer
	A lit, yellow light bulb represents an active record.
	A dim, blue light bulb represents an inactive record. In the Certificates information viewer, this light bulb represents a valid certificate.
	A colorless light bulb represents a retired record (certificates only).
	A red light bulb represents a pending record (certificates only).

Navigating the Application

You can use a mouse to navigate the user interface or you can use keyboard commands for mouse-free navigation.

Tool Bar Text

You can view the names of the tool bar icons by selecting View→Toolbar Text. This control toggles the names on and off. The default is to display toolbar text.

Required Fields

An asterisk next to a field name on a window means it is a system-required field. The system prompts you to complete such fields if you leave them blank.

Tab and Ctrl-Tab

In a window or dialog box, you can use the Tab key to move the focus from one field, button, option, or check box to the next. You can then use the spacebar to select an option or check box or to click a button. In some cases, such as tables, you must use Ctrl-Tab to move into or out of a table and use Tab to move from cell to cell.

Ctrl Keys

The following keyboard commands, using the Ctrl key to execute functions, are available.

Command	Description
Ctrl-A	Select all
Ctrl-C	Clone
Ctrl-F	Find
Ctrl-N	New
Ctrl-O	Open
Ctrl-P	Print

Alt Keys

WebLogic Integration – Business Connect follows the Windows convention of using Alt key commands to display toolbar menus. For example, Alt-F displays the File menu, Alt-E displays the Edit menu, Alt-V displays the View menu, and so on.

Sorting, Arranging, and Hiding Columns of Data

You can sort, arrange and hide columns of data on information viewers in the Administrator and Tracker applications. The settings you select persist until you change them.

Sorting Information Viewers by Columns

Data on information viewers can be sorted by column in ascending or descending order. You can sort by column on any of the information viewers that have columns in Administrator and Tracker. An up arrow in a column heading indicates ascending order and a down arrow indicates descending order.

Click a column heading to toggle between ascending and descending order. You also can place the cursor over a column heading, right-click and select sorting by ascending or descending order on the pop-up menu.

A sorting arrow that points up or down appears in only one column at time, indicating which column is being used to sort the data on the information viewer. You can move the arrow to any column and resort the data by clicking a different column heading.

Arranging Columns

You can move columns on the information viewers to arrange them in any order you want. Place the cursor over the column heading you want to move, click and hold the left mouse button and drag the column heading to the new position.

You also can adjust column widths by placing the cursor over the lines between the columns headings to make a double-arrow appear. Click and hold the left button to adjust the widths.

Hiding and Showing Columns

You can hide and show columns of data on the information viewers that have columns. Select View→Columns to display the View Columns window for the active information viewer. Or, place the cursor over any column heading and right-click to open the window. Check or clear the check boxes for the columns you want to hide or show and click OK.

Using Online Help

WebLogic Integration – Business Connect includes online help that is displayed in your Internet browser.

The online help is available from within Administrator and Tracker. Administrator contains help topics for all aspects of the application, with the exception of those for Tracker. Tracker has its own help system. Help topics for the Server application are included in the help for Administrator.

Accessing Help

You can access online help in Administrator or Tracker by:

- Selecting Help→Help
- Pressing the F1 key
- Clicking Help on the toolbar

In Windows you also can access help by selecting Start→Programs→BEA WebLogic Integration – Business Connect 8.1→Administrator Help or Tracker Help.

Navigating Help

Using the online help is similar to navigating any web site. You can scroll through the table of contents in the left side of the help frameset and click on the topic you want. Help topics appear in the right frame. Icons on each help topic page let you jump to the previous topic, the next topic and the index.

Searching for Help Topics

The online help has a key word search feature. On the search tab, type a word or phrase and click Go. The help system displays a list of topics that contain the word or phrase, if any matches are found. If you do not find the topic you want, try searching using other key words or look in the Contents or Index.

Overview of Profiles

The following topics are provided about company and partner profiles and how they work together in WebLogic Integration – Business Connect.

Concepts

- [“How Profiles Work” on page 5-1](#)
- [“Company and Partner Profile Relationship” on page 5-4](#)

How Profiles Work

WebLogic Integration – Business Connect organizes the information you need to exchange documents with your trading partners into company and partner profiles. This makes it easy to set up and maintain trading relationships. Company profiles define how you receive documents from your partners. Partner profiles define how you send documents to your partners.

Figure 5-1 Purpose of a Company and Partner Profile

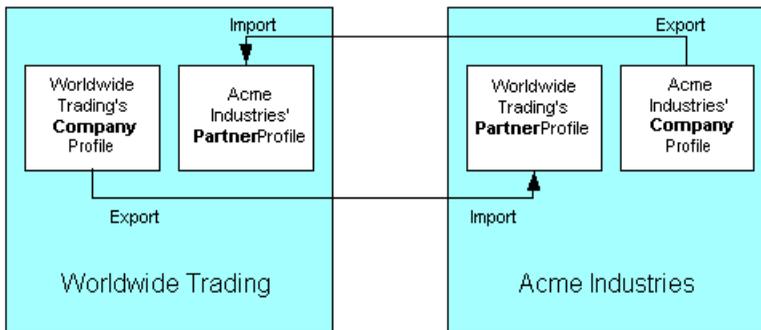


To establish a trading relationship, you create and export your company profile to your trading partner, who imports it to WebLogic Integration – Business Connect as your partner profile.

Conversely, your partner creates and exports a company profile that you import as a partner profile on your system.

The following illustration shows the company-partner profile exchange within WebLogic Integration – Business Connect. This example uses Worldwide Trading as the local trading partner and Acme Industries as the remote trading partner.

Figure 5-2 Example of Company-Partner Profile Exchange



To understand how a company and a partner profile work together, let's examine half of the relationship at Worldwide Trading. Once we've reviewed this half, you will understand that the half at Acme Industries is the reverse, or the complement, of Worldwide Trading's.

Company Profiles

At a high level, the company profile is a combination of local information to be used by your WebLogic Integration – Business Connect system and exportable information to be used by your trading partners. The local information is used by your WebLogic Integration – Business Connect system to set your document back-up options, tune the performance of your system, handle the files you receive from your translator, integrate with certain translators and manage your file system. While these settings are significant to you, they are not relevant for your trading partner. The local information includes most of the settings in the Preferences tab and all the information in the System Directories tab of the Company Profile window.

By contrast, the exportable information in the company profile is important to your trading partners and consists of what transports you want your partners to use when they send documents to you. The exportable information is contained in the Identity and Inbound Protocols tabs and the notification e-mail address field of the Preferences tab.

The Company Profile window organizes information into the following tabs:

- *Identity*
In the Identity tab you specify the address of the company and provide information about your WebLogic Integration – Business Connect point of contact. You can also view the company profile name and ID.
- *Preferences*
In the Preferences tab you indicate whether the profile is active or inactive. You also provide the e-mail addresses for alerts and notifications as well as the name or IP address of your SMTP server for receiving such messages. You can choose your inbound and outbound backup or archive options for documents.
- *Inbound Protocols*
In the Inbound Protocols tab you enter the information about how you receive documents. You must supply all the information for at least one TCP/IP transport method.
- *XML*
In the XML tab you enter XPath strings that locate sender and recipient information in your XML documents.
- *System Directories*
In the System Directories tab you can specify where your WebLogic Integration – Business Connect-related files are to be stored. The file directories can be local or shared.
- *Integration*
In the Integration tab you can integrate WebLogic Integration – Business Connect with an FTP server or IBM MQSeries or JMS systems. You also can set up post-processing for inbound documents.
- *Tuning*
In the Tuning tab you can adjust polling rates and documents per cycle for outbound and inbound documents.

Partner Profiles

Just as you send a company profile to your partner, your partner exports a company profile to a file and sends it to you. You import this file as the partner's profile on your system. When you open this partner profile, you again see a combination of imported and local information. The imported information consists of identifying information about your partner's company, such as the partner's contact information, and the transport methods your partner supports. This information is in the Identity and Outbound Protocol tabs of the Partner Profile window.

Company and Partner Profile Relationship

To describe how company and partner profiles work together, let's review the information in the transport tabs of the company and partner profiles.

When you or your partner sets up a company profile, you each decide what transport method or methods to make available to all of your trading partners. At a minimum, you must select one transport method by which your partners can send documents to you and complete all the fields for that method. If you choose to support additional transport methods, you fill in the appropriate information for them, too.

When you import your partner's profile and open the Partner Profile window Outbound Protocol tab, you see your partner's transport choices. You know that your partner is prepared to receive documents from you by way of any of the transport methods that your partner has indicated. Although your partner might have indicated two or more transports, you pick only the one you want to use to send documents to that partner. The one you pick to send documents to your partner does not have to match the one your partner picks to send documents to you. Obviously, you would not pick a transport method that your partner has not made available to you.

Your choice of transports also applies to the security you want to apply to the documents you exchange with this partner, except for one important advisory. When you change settings on the Partner Profile window Security tab, you must coordinate the changes with your trading partner.

You and your trading partners might want to change security settings based on what your systems can support. If you and your partner use WebLogic Integration – Business Connect, you need to ensure that each of your security settings are identical.

Company Profiles

The following topics are provided about managing company profiles in WebLogic Integration – Business Connect.

Concepts

- [“Company Profile Overview”](#) on page 6-2
- [“The Difference Between POP and SMTP”](#) on page 6-3
- [“Inbound Fall-Off Algorithm”](#) on page 6-4
- [“Distributing Profiles to Partners”](#) on page 6-4
- [“Supported Formats for Profile IDs”](#) on page 6-5
- [“Editing URLs to compensate for firewalls”](#) on page 6-8
- [“Supported Protocols and Transports”](#) on page 6-26
- [“Transport Selection Considerations”](#) on page 6-30

Procedures

- [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9
- [“Exporting a Company Profile to a File”](#) on page 6-13
- [“Importing a Backed Up Company Profile”](#) on page 6-16
- [“Changing All System Directories at Once”](#) on page 6-17
- [“Deleting a Company Profile”](#) on page 6-18

- “Adding an Inbound Protocol” on page 6-27
- “Editing an Inbound Protocol” on page 6-29
- “Removing an Inbound Protocol” on page 6-29

Windows and Fields

- “Company Profile Identity Tab” on page 6-19
- “Company Profile Preferences Tab” on page 6-21
- “Company Profile Inbound Protocols Tab” on page 6-25
- “Company Profile XML Tab” on page 6-36
- “Company Profile System Directories Tab” on page 6-38
- “Company Profile Integration Tab” on page 6-42
- “Company Profile Tuning Tab” on page 6-62

Company Profile Overview

You can use the Company Profile information viewer to set up and maintain company profiles.

With a company profile, you can trade with different trading partners using:

- Any transport; you can use different transports with different partners. You do not have to use the same transport method as your trading partner.
- Any document type, including X12, EDIFACT, XML or binary documents such as those generated by legacy business applications, SAP, PeopleSoft or Oracle Financial.

You might find it necessary to set up more than one company profile. Each company profile you set up must have its own ID. Moreover, creating additional company profiles affects the performance of WebLogic Integration – Business Connect by adding to its processing overhead. You should not create multiple company profiles unless you need them.

One reason for creating more than one company profile is you might have more than one business unit, each of which uses a different EDI ID.

The Difference Between POP and SMTP

WebLogic Integration – Business Connect has two e-mail transport methods: POP and SMTP. They are distinctly different transports.

The POP transport sends documents via the Simple Mail Transfer Protocol; your partner receives the documents via Post Office Protocol (POP). POP can be done between WebLogic Integration – Business Connect and any EDIINT-compliant software that your partners might be using. POP is a store-and-forward transport. WebLogic Integration – Business Connect sends packaged documents to your SMTP server, and your SMTP server sends them to your partner's POP3 server. If your trading partner's POP3 server is off line, your WebLogic Integration – Business Connect can still send the document, but will not get back an MDN acknowledging the document until the partner's POP3 server comes back on line.

The SMTP transport can be used under either of the following two situations:

- When WebLogic Integration – Business Connect is running on both ends of the trading relationship. WebLogic Integration – Business Connect is its own (internal) SMTP server on both ends.
- When you are using WebLogic Integration – Business Connect and your partner is using some other EDIINT-compliant trading engine.

SMTP is not a store-and-forward transport; it is more like bundled HTTP and HTTPS, in that it requires a direct connection with your trading partner's WebLogic Integration – Business Connect or SMTP server. If your partner's WebLogic Integration – Business Connect server or SMTP server is not running, you cannot send a document to the partner.

Because SMTP is not a store-and-forward transport, it can assure first-in, first-out (FIFO) outbound processing.

For details about configuring these transports, see [“SMTP Inbound Transport” on page 6-30](#) and [“POP Inbound Transport” on page 6-34](#).

Inbound Fall-Off Algorithm

WebLogic Integration – Business Connect uses a fall-off algorithm for document polling retries in the event of a transport connection failure. The algorithm is based on the inbound polling rate plus a wait state of 10 seconds that doubles at each successive failure. For example, if the inbound polling rate is 30 seconds and a connection failure occurs, the wait state becomes active and the next polling interval is 40 seconds (polling rate of 30 seconds plus one wait state of 10 seconds). The wait state doubles for each successive failure, so the polling interval increases as follows: 50 seconds (30 seconds plus two wait states), 70 seconds (30 seconds plus four wait states), and so on until a plateau of 12 hours is reached and repeated at that interval.

Wait states are maintained by company profile for each transport type. The original polling rate returns when the transport connection is restored or when any part of the company profile is updated, on the presumption that the update resolves the connection problem. However, the fall-off algorithm restarts if the transport connection failure persists.

WebLogic Integration – Business Connect also uses a fall-off algorithm in attempting to resend outbound documents in the event of transport failures. For details see [“Partner Profile Preferences Tab” on page 8-12](#).

Distributing Profiles to Partners

Once you have created a company profile and have associated a certificate with it, you must distribute the profile to your trading partners.

The first step in distributing a company profile is to save the profile information in a file.

WebLogic Integration – Business Connect has an export feature that enables you to export a company profile as a partner profile saved in an XML or PFL file. See [“Exporting a Company Profile to a File” on page 6-13](#).

After you export your company profile to a file, you distribute it to your partners on diskette, by e-mail or some other secure means. Although you can negotiate the exact details, distributing your company profile for the first time should be done with some care. It is recommended that you accomplish this first exchange by some means that ensures secure delivery. Examples of appropriate means include in-person, by way of the U.S. Postal Service or another delivery service such as Federal Express. After your partner has imported your profile and set up a trading profile for you, you can use e-mail or the Update Partner feature to send subsequent profiles and certificates.

When your partner receives your company profile file, the partner imports the data in the file to create a partner profile for you on their system.

Supported Formats for Profile IDs

You can use alphanumeric and non-alphanumeric characters as well as spaces in profile IDs. All alphanumeric characters are supported. Use of specific non-alphanumeric characters is supported, but results in the system creating names of data directories and processed files that use hex codes in place of the characters. Spaces in IDs are allowed within limitations. You also can create an ID in an electronic data interchange (EDI) format. The following topics are provided for supported profile ID formats:

- [Alphanumeric Characters in Profile IDs](#)
- [Non-Alphanumeric Characters in Profile IDs](#)
- [EDI Format for Profile IDs](#)
- [Spaces in Profile IDs](#)

Alphanumeric Characters in Profile IDs

You can use any alphanumeric characters in profile IDs. These are the alphabetic characters a through z (upper and lower case) and the numerals 0 through 9.

Non-Alphanumeric Characters in Profile IDs

WebLogic Integration – Business Connect supports specific non-alphanumeric characters in profile IDs. WebLogic Integration – Business Connect converts most of these characters to ASCII hex codes when it creates the names of document directories in the file system. The system creates directories for inbound and outbound documents for each company profile under the WebLogic Integration – Business Connect data directory. Profile IDs are used for the directory names. You can see examples of these directory names on the Company Profile window System Directories tab. The non-alphanumeric characters display as literals in the information viewers in Administrator, but as hex codes on the System Directories tab.

Not only data directory names, but the names that WebLogic Integration – Business Connect gives to processed documents are based on profile IDs. The non-alphanumeric characters in names of processed documents convert to hex codes in the WebLogic Integration – Business Connect data directories in the file system. In Tracker, if IDs contain non-alphanumeric characters, files names for processed documents also display with the hex codes.

The following table shows the non-alphanumeric characters that can be used in profile IDs. It also shows the hex code for the character that is used in document directory names and names of processed documents. Note that the underscore is the only character that is not converted to a hex code in names of data directories and processed files.

Table 6-1 Non-Alphanumeric Character Usage

Character	Description	Hex code
‘	accent	%60
’	apostrophe	%27
@	at symbol	%40
/	back slash	%2f
)	close parenthesis	%29
:	colon	%3a
,	comma	%2c
\$	dollar sign	%24
=	equals sign	%3d
!	exclamation point	%21
\	forward slash	%5c
-	hyphen	%2d
{	left brace	%7b
[left bracket	%5b
(open parenthesis	%28
%	percent sign	%25
+	plus sign	%2b
?	question mark	%3f
}	right brace	%7d

Table 6-1 Non-Alphanumeric Character Usage (Continued)

Character	Description	Hex code
]	right bracket	%5d
~	tilde	%7e
_	underscore	n/a
	vertical line	%7c

EDI Format for Profile IDs

You can set up a profile ID in a qualifier-EDI ID format. Under this format, a 2-character qualifier precedes the EDI ID as follows:

Table 6-2 EDI ID Format

Qualifier	Description
01	Indicates that a Dun & Bradstreet Data Universal Numbering System (D-U-N-S®) number is used as the ID.
08	Indicates that the ID is user defined.
12	Indicates that a phone number is used as the ID.

If you use a 2-character qualifier-EDI ID format, type the EDI ID immediately after the qualifier as one string with no spaces, hyphens or other separating characters. For a complete list of EDI qualifiers, see the ASC X12 standards for EDI. For additional information visit the ASC X12 Web site at the following URL:

<http://www.x12.org>

Spaces in Profile IDs

Spaces mostly are useful as placeholders for a 2-character qualifier for a profile ID in EDI format, but you can use them in any ID. The following table describes the allowable formats for using spaces in IDs. The character * represents a space and *n* represents an alphanumeric character.

Table 6-3 Using Spaces in IDs

Proper ID format	Why you can use it
<i>**nnnnnnnnnn</i>	Two spaces can be used in lieu of a 2-character qualifier.
<i>nnnnn*nnnnn</i>	A space can be used within the ID itself. The space cannot be in the third position or the last position of the ID.
<i>**nnnnn*nnnnn</i>	Two spaces can be used in lieu of a 2-character qualifier and a space is used within the ID itself.
<i>*nnnnnnnnnn</i>	One space can precede the first character of an ID.
<i>n*nnnnnnnnn</i>	A space can be used in the second position of an ID.

The system displays an error message if you try to create an ID with an unsupported format.

Editing URLs to compensate for firewalls

If you use the bundled HTTP or HTTPS inbound transport in your company profile, you might have to make sure your partners have the right URL. This is because the URL WebLogic Integration – Business Connect uses might not be the one your partners need to send documents to you through your company’s firewall.

When you configure the bundled HTTP or HTTPS inbound transport, the default URL is in the following format:

HTTP:

```
http://hostname_or_IPaddress:4080/exchange/companyID
```

HTTPS:

```
https://hostname_or_IPaddress:1443/exchange/companyID
```

The default URL contains the internal host name or IP address for the computer running the Server application. However, if you installed WebLogic Integration – Business Connect behind a firewall as recommended, you must make sure your partners have the external IP address to send you documents. Depending on your transport, your partner needs a URL in the following format:

HTTP:

```
http://external_IPaddress:4080/exchange/companyID
```

HTTPS:

`https://external_IPaddress:1443/exchange/companyID`

You might have to contact your company's firewall administrator to obtain this external IP address or Network Address Translation (NAT) address. This is the global IP address alias of the computer running WebLogic Integration – Business Connect that is exposed to the public side of the Internet.

You cannot edit the URL for the bundled HTTP or HTTPS inbound transport in your company profile. The system does not allow it. However, there are two ways to make sure your partners have the correct URL:

- Communicate the correct URL containing the external IP address to your partners when you send your company profile to them. Your partners can edit the URL after they import your profile as a partner profile.
- Before you create your company profile, change the host name on the General tab in Tools→Preferences to your external IP address. Then create your company profile. When you configure the HTTP or HTTPS inbound transport, the system takes the host name or IP address from that field. Export your profile to a file and keep it on hand for distribution to partners. Lastly, go back to the General tab in Tools→Preferences and change the host name back to your internal host name or IP address.

Adding, Cloning, or Changing a Company Profile

Use this procedure to add a new profile, clone a profile or change a profile. Cloning creates a profile that is substantially the same as an existing profile.

Figure 6-1 Company Profiles Information Viewer



Steps

1. Click Company Profiles on the Administrator bar to open the Company Profiles information viewer. The window displays any company profiles added earlier.
2. To change a company profile, double-click the profile’s record line in the information viewer. Or, select the profile and click Open. The Company Profile window Identity tab opens. Go to step 4.

To add a company profile, click New to open the New Company Profile dialog box.

To clone a company profile, select the profile you want to copy and click **Clone** to open the New Company Profile dialog box. Cloning lets you create a new company profile that is substantially the same as an existing one. Cloning does not replicate certificates. You must load or generate a new certificate for a cloned profile.

Figure 6-2 New Company Profile Dialog Box

3. Complete the following fields for a new company profile.

- *Name*

Type the profile name in this required field. You can edit this name after you have added and saved a profile. You can use any alphanumeric characters and the following characters: back slash (\), hyphen (-), forward slash (/), colon (:), underscore (_), comma (,), period (.). You can use spaces in your name; WebLogic Integration – Business Connect translates them to underscores. WebLogic Integration – Business Connect removes any other characters.

- *ID*

Type an identification for the profile. You cannot change the ID after you have created a profile.

You can use alphanumeric and non-alphanumeric characters as well as spaces in profile IDs. All alphanumeric characters are supported. Use of specific non-alphanumeric characters is supported, but results in the system creating names of data directories and processed files that use hex codes in place of the characters. Spaces in IDs are allowed within limitations. You also can create an ID in an electronic data interchange (EDI) format. For details see [“Supported Formats for Profile IDs” on page 6-5](#).

The system displays an error message if you try to create an ID with an unsupported format.

Click OK to open the Company Profile window Identity tab.

4. Add or change information on the Company Profile window tabs. You can complete a new profile or make changes to an existing one by choosing the tabs in any order you want.

See the following topics for information about adding or changing information on the tabs:

Table 6-4 Adding or Changing Profile Information

If you want to . . .	See . . .
Specify the address of the company and provide information about your WebLogic Integration – Business Connect point of contact. You can also view the company profile name and ID.	“Company Profile Identity Tab” on page 6-19
Set up or change preferences information for a company profile, including: trading status, alert and notify e-mail addresses and SMTP server, and document backup options.	“Company Profile Preferences Tab” on page 6-21
Set up or change information about the transport methods you allow trading partners to use to send documents to you.	“Company Profile Inbound Protocols Tab” on page 6-25
Identify senders and receivers in Extensible Markup Language (XML) documents that you send to trading partners.	“Company Profile XML Tab” on page 6-36
Change the directories where your document-related information is physically stored. Use this tab only if you want to use other than the default locations.	“Company Profile System Directories Tab” on page 6-38
Send inbound or outbound documents to an FTP server, JMS or IBM MQSeries application. You also can set up post-processing commands for inbound documents.	“Company Profile Integration Tab” on page 6-42
Adjust the polling rate and documents per cycle of inbound transports and outbound documents types.	“Company Profile Tuning Tab” on page 6-62

5. Click OK to save and close the new or changed profile or Cancel to exit without saving.

Note: Click OK only after you have made all the changes or additions you want on all tabs.

If you changed a company profile and want to update your partners, see [“Distributing Profiles to Partners” on page 6-4](#).

If this is a new company profile, the system displays a message asking whether you want to set up a certificate for the profile. Go to the next step.

6. Decide whether you want to set up a digital certificate for the new profile. You can set up a certificate now or later. Review the certificate options and ways to procure them in [Chapter 7, “Keys and Certificates”](#). Click Yes to set up a certificate now or No if you do not want to.

7. Provide your new company profile to your trading partners by exporting it to a file and sending it to your partners on diskette or by some other secure means. See [“Exporting a Company Profile to a File”](#) on page 6-13.

Exporting a Company Profile to a File

Use this procedure to export a company profile to a file. You can export your company profile as a partner profile that you can distribute to your partners, or you can export your company profile as a backup that you do not share with your partners. The following are some reasons for exporting a profile to a file:

- Distribute your company profile to trading partners who also use WebLogic Integration – Business Connect or can receive profile data in XML format. For details about distributing your profile to partners, see [“Distributing Profiles to Partners”](#) on page 6-4.
- Back up your company profile as an XML file. We recommend that you keep this file in a secure place and that you do not share it with anyone. This file contains your private key.

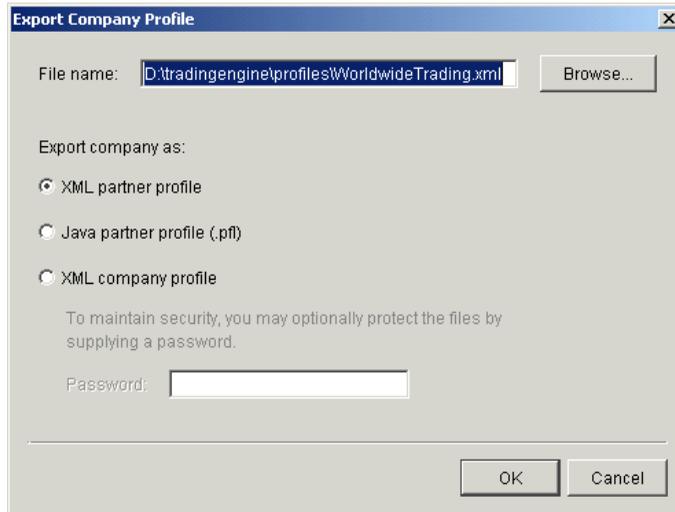
You can save an exported partner profile in an XML or PFL file. WebLogic Integration – Business Connect 8.1 can use partner profiles of either file type.

If you export your company profile as an XML file for backup purposes, you can later import the file as a company profile on any WebLogic Integration – Business Connect system version 7.0 or later. The exported company profile includes the associated certificate and public-private key pair. A company profile exported as a backup file cannot be imported as a partner profile; the system will not allow it.

Steps

1. At the Company Profiles information viewer, select the company profile you want to export and select File→Export to open the Export Company Profile window.

Figure 6-3 Export Company Profile Window



2. Select the appropriate export option. Each option is described in the following table.

Table 6-5 Export Options

Option	Description
XML partner profile	<p>Select this option to export your company profile and associated certificate and public key to a file for manual distribution as a partner profile to partners who use WebLogic Integration – Business Connect 7.0 or later.</p> <p>This option exports the profile in an XML file. Any transport server passwords in the profile are encrypted for security.</p>
Java partner profile (.pfl)	<p>Select this option to export your company profile and associated certificate and public key to a file for manual distribution as a partner profile to partners.</p> <p>This option exports the profile in a PFL file.</p>
XML company profile	<p>Select this option to export your company profile and associated certificate and public-private key pair to an XML file for backup purposes.</p> <p>You can type a password that you must remember and use if you later import the profile. See “Importing a Backed Up Company Profile” on page 6-16. The password protects the private key in the certificate associated with the company profile. Although using a password is optional, we recommend that you do so. We also recommend that you store the XML file in a secure place. Do not share this file with a partner.</p>

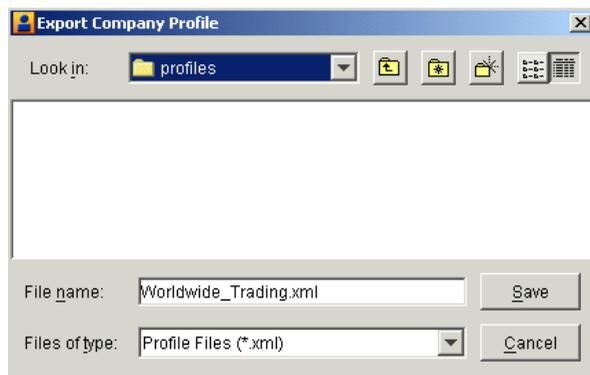
The default name of the file you are exporting depends on your selection, as the following table shows:

Table 6-6 Export File Name Defaults

If you are exporting this profile:	The default file name is:
XML partner profile	<i>ProfileName.xml</i>
Java partner profile (.pfl)	<i>ProfileName.pfl</i>
XML company profile	<i>ProfileName_company.xml</i>

You can click Browse to open the Export Company Profile dialog box and change the default path and file name. Click Save to close the dialog box and return to the Export Company Profile window. Clicking Save on the dialog box only sets the name of the file to be saved, but does not save the file.

Figure 6-4 Export Company Profile Dialog Box



3. Click OK to save the profile to a file. Exported profile files are relatively small in size.
4. If you exported the profile as a partner profile, distribute it by some secure means to your partners.

If you plan to send the profile file to a partner as an e-mail attachment, we recommend that you use a utility such as WinZip to package the file and then send the compressed file to your partner. This method is recommended to protect the profile file from possible corruption during transmission. Some SMTP servers append verbiage to e-mail attachments, which can harm the profile file.

Importing a Backed Up Company Profile

Use this procedure to import a company profile and associated certificate and public-private key pair that was earlier exported for backup purposes to an XML file. See [“Exporting a Company Profile to a File”](#) on page 6-13.

Steps

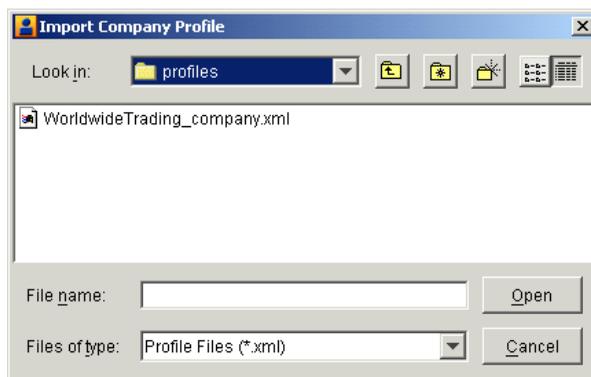
1. At the Company Profiles information viewer, select File→Import to open the Import Company Profile window.

Figure 6-5 Import Company Profile Window



2. Click Browse to open the Import Company Profile dialog box. Find and select the company profile you want to import and click Open. The default names of company profile files are in the format *ProfileName_company.xml*.

Figure 6-6 Import Company Profile Dialog Box



3. If the company profile was exported with a password, type the password and click OK. Otherwise, leave the password field blank and click OK.
4. Click OK to import the company profile file. A message displays when the company profile imports successfully.

If the company profile you are importing already is in WebLogic Integration – Business Connect, a message displays asking whether you want the imported profile to overwrite the existing profile. Click Yes to overwrite the existing profile.

Changing All System Directories at Once

Use this procedure to change the locations of all system directories at the same time to conform to a desired root path. This procedure uses the Company Profile window System Directories tab. For descriptions of the fields on this tab, see [“Company Profile System Directories Tab” on page 6-38](#).

Changing the directory structure after WebLogic Integration – Business Connect has been operational must be done with care. This is because documents received previous to the change are not transferred to the new directory structure. WebLogic Integration – Business Connect also does not delete the old directory structure.

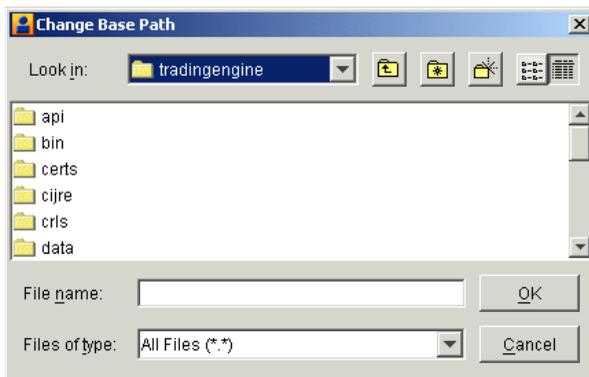
Steps

1. Open the Company Profile window System Directories tab for the company profile you want to change all system directories.
2. To change the location of all system directories at the same time, click Change Base Path. A message appears asking you to confirm whether you want to perform this action. Note that this change will not affect existing binary directories.

The Change Base Path button is not available for client Administrator applications that are not installed on the same machine as the Server application.

3. Click Yes to confirm that you want to change the directory locations. The Change Base Path dialog box opens.

Figure 6-7 Change Base Path Dialog Box



4. Select the new directory for the base path of all system directories and click OK.
5. Click OK to save your changes and close the profile or Cancel to exit without saving your changes. If the Server application is running, the system immediately creates the new directories in the specified location. If the Server application is not running, the system creates the directories the next time the Server starts up.

Deleting a Company Profile

Use this procedure to delete a company profile that is no longer needed.

When you delete a company profile, it is no longer displayed in the Company Profiles or Certificates information viewers.

A certificate associated with the deleted profile is not also deleted, but retained in the system with a status of retired.

If, after you have deleted a company profile, you create another with the same ID, all the old profile's certificates are re-associated with this new profile.

Note: You cannot undo a company profile deletion.

Steps

1. At the Company Profiles information viewer, select the company profile you want to delete and click Delete.
2. Confirm the deletion in the dialog box that appears.

Company Profile Identity Tab

Use the Company Profile window Identity tab to specify the address of the company and provide information about your WebLogic Integration – Business Connect point of contact. You can also view the company profile name and ID.

Figure 6-8 Company Profile Identity Tab

The screenshot shows a dialog box titled "Company - Worldwide Trading" with a close button (X) in the top right corner. The dialog has several tabs: "Identity", "Preferences", "Inbound Protocols", "XML", "System Directories", "Integration", and "Tuning". The "Identity" tab is selected. The form contains the following fields:

- Name:* (text box containing "Worldwide Trading")
- Address:* (text box)
- City:* (text box)
- State / province: (text box)
- Zip / postal code: (text box)
- Country code:* (text box)
- ID:* (text box containing "125551234")
- Contact:* (text box)
- Title: (text box)
- Department: (text box)
- Phone: (text box)
- Fax: (text box)

At the bottom right of the dialog are "OK" and "Cancel" buttons.

Field Descriptions

The following describes the fields on the Company Profile window Identity tab. For procedure see [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9.

Name

Type the company profile name. This field is required. You can use any alphanumeric characters and the following characters: back slash, forward slash, colon, underscore, comma and period. The application removes any other characters.

You can use spaces in your company name; the application translates them to underscores.

Address

Type the mailing address for this company profile. The first line of this field is required; the second is optional.

City

Type the city where this company or business unit is located. This field is required.

State/province

Type the state or province where your company or business unit is located.

Zip/postal code

Type the ZIP or postal code for your company or business unit's address.

Country code

Type the two-letter ISO country code of the country where your company or business unit is located. The following are the ISO codes for selected countries. See [Appendix A, "ISO Country Codes,"](#) for a complete list of the codes.

Table 6-7 Selected Country Codes

Code	Country
ca	Canada
cn	China
fr	France
de	Germany
gb	Great Britain
it	Italy
jp	Japan
mx	Mexico
tw	Taiwan

ID

The ID or combined qualifier-EDI ID you entered when you created this company profile. This is a view-only field; you cannot change it.

Contact

Type the name of the person who is to receive WebLogic Integration – Business Connect alert messages. This field is required.

Title

Type the contact person's job title. This field is optional.

Department

Type the contact person's department. This field is optional.

Phone

Type the contact person's phone number. This field is optional.

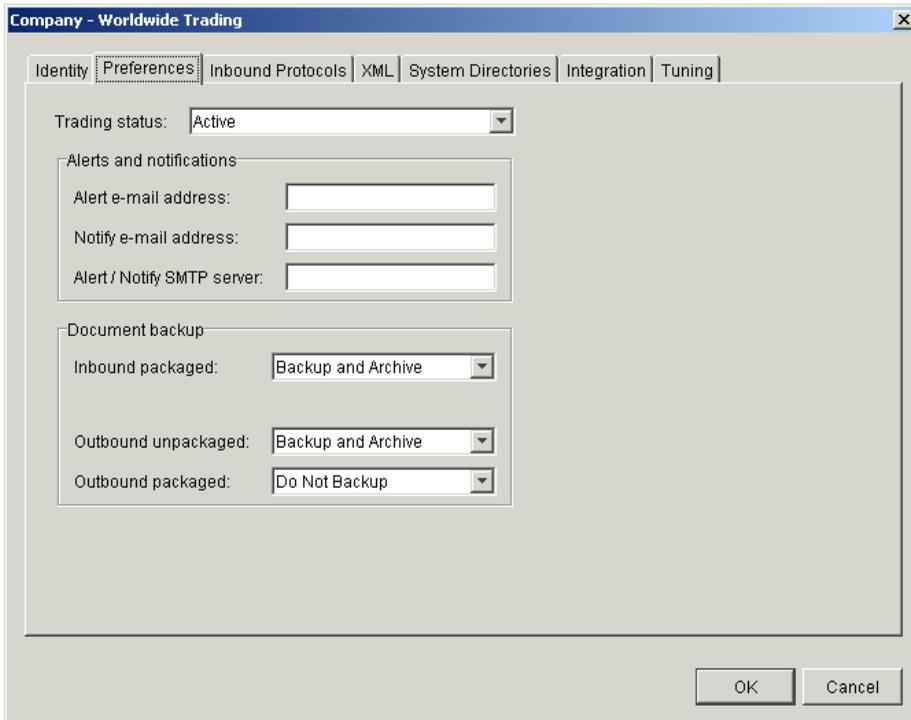
Fax

Type the contact person's fax number. This field is optional.

Company Profile Preferences Tab

Use the Company Profile window Preferences tab to set up or change preferences information for a company profile, including: trading status, alert and notify e-mail addresses and SMTP server, and document backup options.

Figure 6-9 Company Profile Preferences Tab



Field Descriptions

The following describes the fields on the Company Profile window Identity tab. For procedure see [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9.

Trading status

Select Active if the company profile is active and is used to process documents. This is the default. Select Inactive if the company profile is not to be used to process documents.

You can quickly change the trading status by right-clicking the company profile in the Company Profiles information viewer and then left-clicking Change Status in the pop-up menu that appears.

Alerts and notifications

Use the following three fields to specify where the application sends alert and notification e-mail messages.

Alert e-mail address

Type the e-mail address of the person to receive alert messages generated by your WebLogic Integration – Business Connect system. This field is optional, but you do not receive alerts via e-mail if you leave it blank. Alerts are reported in Tracker, regardless whether you use this field.

Type only one e-mail address. If you want more than one person to receive messages, use a group address.

If you complete this field, you must complete the Alert/Notify SMTP server field. Identified by the word *alert* in the subject line, alert e-mail messages are sent when WebLogic Integration – Business Connect detects a condition that might halt document exchange and require you to take action. An example of this situation is when WebLogic Integration – Business Connect cannot connect to the network or when there is a problem with the WebLogic Integration – Business Connect software.

Notify e-mail address

Type the e-mail address of the person to receive notification messages from your WebLogic Integration – Business Connect system. This field is optional, but you do not receive notification messages via e-mail if you leave this field blank. Notifications are reported in Tracker, regardless whether you use this field.

Type only one e-mail address. If you want more than one person to receive messages, use a group address.

If you complete this field, you must complete the Alert/Notify SMTP server field. Identified by the word *notification* in the subject line, notification e-mail messages are informational and do not require you to take action. Document exchange continues. WebLogic Integration – Business Connect sends a notification, for example, when it rejects a document or when it receives a binary (non-EDI) document from a partner for which it does not have a partner profile.

Alert/Notify SMTP server

Type the fully qualified domain name or IP address of the Simple Mail Transfer Protocol (SMTP) mail server WebLogic Integration – Business Connect uses to send alerts and notifications. If you want to send alert or notification e-mail messages, you must complete this field, regardless of the transport method you use for trading documents.

Document backup

Use the following three fields for specifying backup options for inbound and outbound documents. For information about document archiving, see [“Changing the Archive Schedule” on page 9-6](#).

Inbound packaged

Select from the drop-down list one of the following backup options for inbound packaged documents. Inbound documents are backed up in the state they were received (that is, MIME-wrapped and, if applicable, encrypted and signed).

Table 6-8 Backup Options

Option	Description
Backup and Archive	Select this option to have WebLogic Integration – Business Connect save copies of inbound packaged documents and MDNs (acknowledgments) of inbound documents in the backup directory. When the archive process runs, the documents and MDNs are moved to the archive directory. This is the default.
Do Not Backup	If you select this option, WebLogic Integration – Business Connect does not place copies of inbound packaged documents or acknowledgments in the backup directory.
Backup and Delete	Select this option to have WebLogic Integration – Business Connect save copies of inbound documents and MDNs (acknowledgments) of inbound documents in the backup directory. When the archive process runs, the documents are deleted from the backup directory.

Outbound unpackaged

Select from the drop-down list one of the following options for backing up outbound documents in unpackaged or clear-text form:

Table 6-9 Backup Options

Option	Description
Backup and Archive	Select this option to have WebLogic Integration – Business Connect save copies of unpackaged outbound documents in the backup directory. When the archive process runs, the documents are moved to the archive directory. This is the default.
Backup and Delete	Select this option to have WebLogic Integration – Business Connect save copies of unpackaged outbound documents in the backup directory. When the archive process runs, the documents are deleted from the backup directory.

Outbound packaged

Select from the drop-down list one of the following options for backing up outbound packaged documents. Depending on your security settings, these are copies of the encrypted, signed and MIME-wrapped documents that WebLogic Integration – Business Connect has packaged for sending to your partners.

Table 6-10 Backup Options

Option	Description
Do Not Backup	If you select this option, WebLogic Integration – Business Connect does not place copies of outbound packaged documents in the backup directory. This is the default.
Backup and Delete	Select this option to have WebLogic Integration – Business Connect save copies of outbound packaged documents in the backup directory. Copies of acknowledgments you send partners also are placed in the backup directory. When the archive process runs, the documents and acknowledgments are deleted from the backup directory.
Backup and Archive	Select this option to have WebLogic Integration – Business Connect save copies of outbound packaged documents in the backup directory. Copies of acknowledgments you send partners also are placed in the backup directory. When the archive process runs, the documents and acknowledgments are moved to the archive directory. If you send ebXML documents, select this option. If you receive a duplicate document, WebLogic Integration – Business Connect must be able to re-send a previously sent acknowledgment, in compliance with ebXML standards. A new acknowledgement should not be sent for a duplicate document. Checking this option ensures the original acknowledgment is available to re-send if necessary.

Company Profile Inbound Protocols Tab

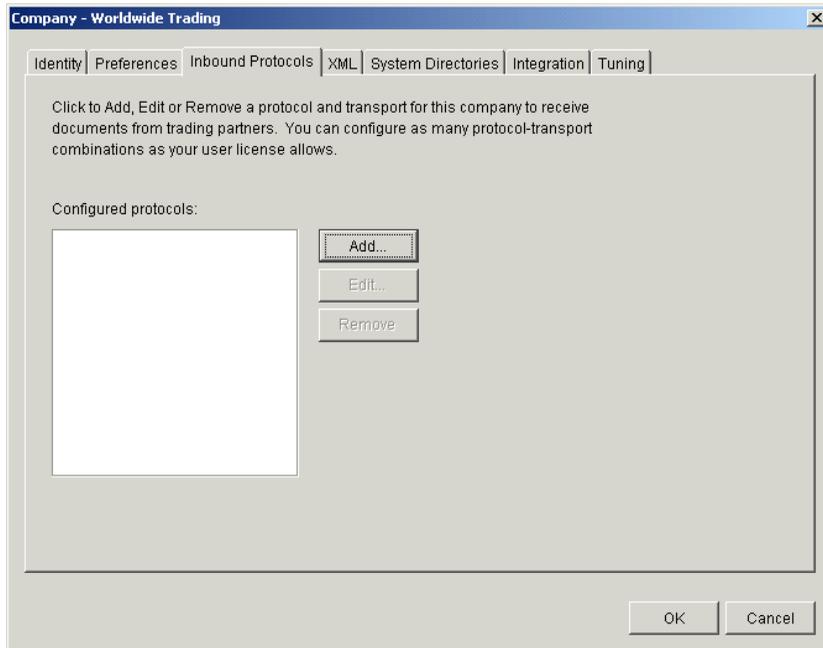
Use the Company Profile window Inbound Protocols tab to set up or change information about the protocols and transports you allow trading partners to use to send documents to you. It is recommended that you consult with your partners on your preferred protocols and transports for receiving documents.

A profile must have at least one fully configured protocol and transport. Each protocol has one or more transport methods. The protocols you can use depend on your WebLogic Integration – Business Connect license.

The follow topics are discussed:

- “Supported Protocols and Transports” on page 6-26
- “Adding, Editing, and Removing Inbound Protocols” on page 6-27

Figure 6-10 Company Profile Inbound Protocols Tab



Supported Protocols and Transports

WebLogic Integration – Business Connect supports the ebXML protocol and the following transports:

- POP
- SMTP
- HTTP
- HTTPS

Note: WebLogic Integration – Business Connect supports bundled transports for the HTTP and HTTPS servers that are built into the application. To make it clear that this does not

constitute support for external HTTP and HTTPS web servers, the user documentation references these transports as bundled HTTP and bundled HTTPS.

Adding, Editing, and Removing Inbound Protocols

The Inbound Protocols tab allows you to change your company profile in the following ways:

- Add a protocol that partners can use to send documents to you. Your user license specifies the available protocols.
- Edit the settings for a protocol's inbound transport.
- Remove a protocol and transport combination from the configured protocol list for the profile.

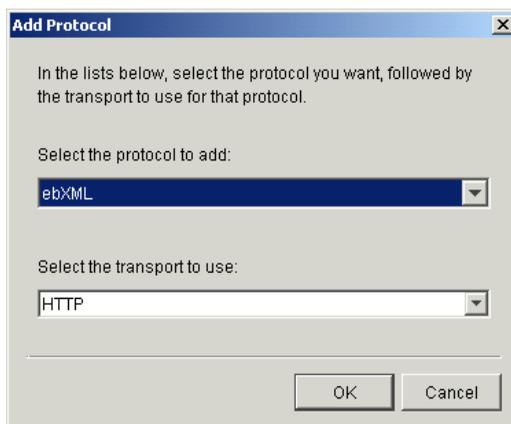
The following topics explain each of these functions in detail:

- [“Adding an Inbound Protocol”](#) (below)
- [“Editing an Inbound Protocol”](#) on page 6-29
- [“Removing an Inbound Protocol”](#) on page 6-29

See [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9 for procedure about company profiles.

Adding an Inbound Protocol

To add an inbound protocol to a company profile, click Add on the Company Profile window Inbound Protocols tab. This opens the Add Protocol window.

Figure 6-11 Add Protocol Window

Select the protocol from the drop-down list. The default protocol for WebLogic Integration – Business Connect already is selected. Then select a transport from the transports drop-down list. A protocol has at least one transport from which to choose. If more than one transport is available, you must configure at least one, but you can later select another transport and configure it, too. See [“Transport Selection Considerations” on page 6-30](#) for guidelines about selecting transports.

After you select a protocol and transport, click OK. A configuration window opens for the transport method you selected. See one of the following topics for information about configuring the transport:

- [“SMTP Inbound Transport” on page 6-30](#)
- [“Bundled HTTP Inbound Transport” on page 6-31](#)
- [“Bundled HTTPS Inbound Transport” on page 6-32](#)
- [“POP Inbound Transport” on page 6-34](#)

On the configuration window for the selected transport, complete the applicable fields and then click OK to save the transport information and close the window. Or, click Cancel to close the configuration window without saving your changes.

After you click OK, the transport method you added appears on the configured protocol list on the Inbound Protocols tab. The information appears in the following format: protocol transport.

If more than one transport is available for the protocol, you can click Add and repeat the process to configure another transport. If you are done, click OK on the Inbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

Editing an Inbound Protocol

To edit an inbound transport for a protocol that was configured earlier for a company profile, select the protocol and transport combination you want from the configured protocol list on the Company Profile window Inbound Protocols tab and then click Edit. This opens the configuration window for the transport. See one of the following topics for information about configuring the transport:

- [“SMTP Inbound Transport” on page 6-30](#)
- [“Bundled HTTP Inbound Transport” on page 6-31](#)
- [“Bundled HTTPS Inbound Transport” on page 6-32](#)
- [“POP Inbound Transport” on page 6-34](#)

On the configuration window for the selected transport, edit the applicable fields and then click OK to save the transport information and close the window. Or, click Cancel to close the configuration window without saving your changes. Then click OK on the Inbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

Removing an Inbound Protocol

To remove an inbound transport that was configured earlier for a company profile’s protocol, select the protocol and transport combination you want from the configured protocol list on the Company Profile window Inbound Protocols tab and then click Remove. This removes the protocol and transport combination from the configured protocol list. Then click OK on the Inbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

When you remove a transport and give your updated profile to your partners, the removed transport no longer is available for partners to send documents to you. However, on your system, removing a transport only removes the protocol and transport combination from the configured protocol list. It does not delete the configuration information for the transport. That information persists in your system. If you add a transport, later remove it and still later add it back, the earlier configuration information is saved and you do not have to re-enter it.

Transport Selection Considerations

Keep the following points in mind while selecting transports for company or partner profiles. For more information, see [“Company Profile Inbound Protocols Tab” on page 6-25](#) or [“Partner Profile Outbound Protocols Tab” on page 8-16](#).

You must select at least one transport and complete all the fields for that method. You do not have to select or complete more than one transport method. Because WebLogic Integration – Business Connect polls each new server or directory that you add, we recommend that you add a transport only when you need to use that method to communicate with a trading partner. Moreover, we recommend that you consult with your trading partner before selecting or changing a transport method. If you change transports, you should leave the old transport open until all your trading partners have switched over to the new transport.

The following points apply to bundled HTTP and HTTPS:

- WebLogic Integration – Business Connect uses one HTTP thread for as many company profiles as you create. For bundled HTTPS, however, you must configure a separate HTTPS port for each company profile that uses this transport method. Each HTTPS server thread needs its own certificate to authenticate connections.
- For documents sent via bundled HTTPS, double encrypting adds only marginally to data security at the cost of inhibiting performance. If you send documents by bundled HTTPS, you can turn off document encryption by clearing the encrypt documents check box on the Partner Profile window Security tab.

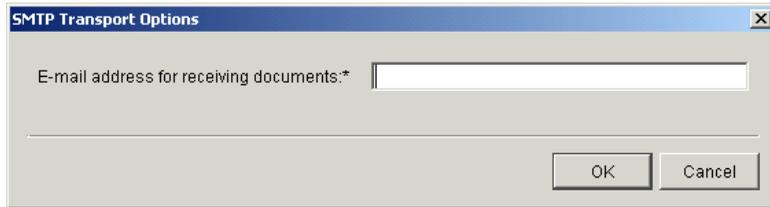
Note: Some operating systems throw socket exceptions when HTTPS server sockets are closed. These exceptions are written to the application console, but are of no consequence.

SMTP Inbound Transport

The SMTP transport enables partners to send you documents via the SMTP server in WebLogic Integration – Business Connect. You configure this transport on the SMTP Transport Options window accessed from the Company Profile window Inbound Protocols tab.

For a comparison of the POP and SMTP inbound transports, see [“The Difference Between POP and SMTP” on page 6-3](#).

Figure 6-12 SMTP Transport Options Window



Field Description

E-mail address for receiving documents is the single field on the SMTP Transport Options window. Type the e-mail address your trading partners are to use to send documents to you. The e-mail address must be in the standard format of *mailbox@server.domain* (for example, *john@worldwide.com*). This can be any address, as long as it is identical on your and your partner's system.

The system uses the same e-mail address on the SMTP Transport Options window and the POP Transport Options window. The address you enter on one window also is used on the other, regardless of whether you use the transport.

If your partner uses some other EDIINT-compliant application, tell your partner to use the IP address or fully qualified domain name of the computer running your WebLogic Integration – Business Connect Server as the receiving SMTP server. Also tell your partner the port that the SMTP server built into WebLogic Integration – Business Connect listens for documents. This is port 4025 by default, but you can change it on the Ports tab in Tools→Preferences.

For procedure see the following topics:

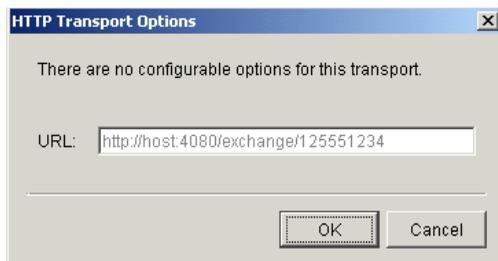
- [“Adding an Inbound Protocol” on page 6-27](#)
- [“Editing an Inbound Protocol” on page 6-29](#)
- [“Removing an Inbound Protocol” on page 6-29](#)

Bundled HTTP Inbound Transport

The bundled HTTP transport enables partners to send you documents via the HTTP server in WebLogic Integration – Business Connect. You configure this transport on the HTTP Transport Options window accessed from the Company Profile window Inbound Protocols tab.

Note: This bundled transport is named simply HTTP on the user interface.

Figure 6-13 HTTP Transport Options Window



Field Description

URL is the single field on the HTTP Transport Options window. The field is system defined; you cannot change it. This field provides a URL alias for the HTTP server in WebLogic Integration – Business Connect. The alias is used for security for your system.

If WebLogic Integration – Business Connect is installed behind a firewall, see [“Editing URLs to compensate for firewalls” on page 6-8](#).

WebLogic Integration – Business Connect obtains the computer name in the URL from the host name field on the General tab in Tools→Preferences. The host name is the computer that is running the Server application.

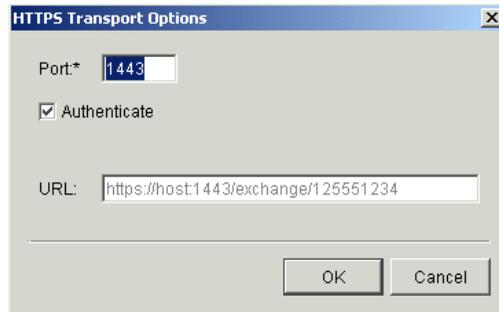
For procedures see the following topics:

- [“Adding an Inbound Protocol” on page 6-27](#)
- [“Editing an Inbound Protocol” on page 6-29](#)
- [“Removing an Inbound Protocol” on page 6-29](#)

Bundled HTTPS Inbound Transport

The bundled HTTPS transport enables partners to send you documents via the HTTPS server in WebLogic Integration – Business Connect. You configure this transport on the HTTPS Transport Options window accessed from the Company Profile window Inbound Protocols tab.

Note: This bundled transport is named simply HTTPS on the user interface.

Figure 6-14 HTTPS Transport Options Window

Field Descriptions

The following describes the fields on the HTTPS Transport Options window. For procedure see the following topics: [“Adding an Inbound Protocol” on page 6-27](#), [“Editing an Inbound Protocol” on page 6-29](#), and [“Removing an Inbound Protocol” on page 6-29](#).

Port

If necessary, type the port where the WebLogic Integration – Business Connect HTTPS server is listening for inbound HTTPS documents. You must have a separate HTTPS port for each company profile that uses bundled HTTPS. The default port is 1443.

Authenticate

Select this check box to indicate you require your partners’ HTTPS clients to authenticate the SSL connection with you using their certificates. This is the default.

Clear this check box to indicate that you allow your partners’ HTTPS clients to make anonymous SSL connections with you.

SSL authentication results in somewhat longer processing per connection for large-key certificates.

URL

A system-defined alias for the bundled HTTPS server in WebLogic Integration – Business Connect. You cannot change the value in the field. The alias is used for security for your system.

If WebLogic Integration – Business Connect is installed behind a firewall, see [“Editing URLs to compensate for firewalls” on page 6-8](#).

WebLogic Integration – Business Connect obtains the computer name in the URL from the host name field on the General tab in Tools→Preferences. The host name is the computer that is running the Server application.

POP Inbound Transport

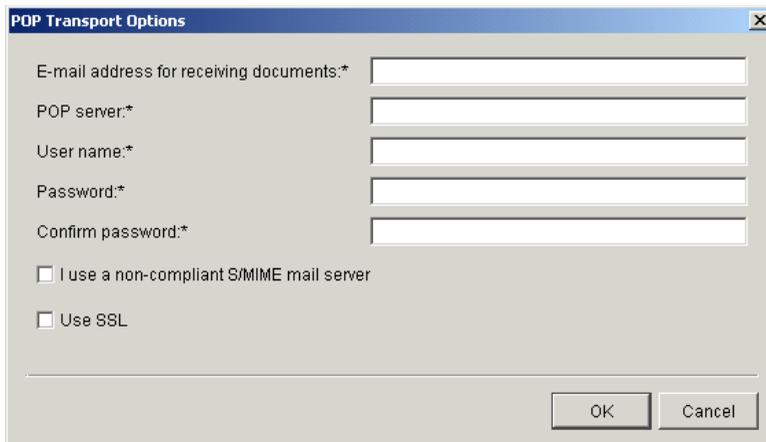
The POP transport enables you to retrieve documents from partners on a POP server. You configure this transport on the POP Transport Options window accessed from the Company Profile window Inbound Protocols tab.

In addition to completing the POP Transport Options window, you must complete the Outbound SMTP tab in Tools→Preferences in Administrator for the SMTP server your organization uses for outbound mail. Complete the server name, user name and password fields; there also is a check box if you use SSL. You must complete the tab before you give your partner your profile. Your SMTP server information is incorporated in your company profile. A partner who uses WebLogic Integration – Business Connect can view the SMTP information after importing your profile. See [“Preferences Outbound SMTP Tab” on page 10-11](#).

If you intend to make POP available as a way for your trading partners to send documents to you, you first must have set up an account, user ID and password for your POP3 server where WebLogic Integration – Business Connect polls to retrieve inbound files.

For a comparison of the POP and SMTP inbound transports, see [“The Difference Between POP and SMTP” on page 6-3](#).

Figure 6-15 POP Transport Options Window



The screenshot shows a dialog box titled "POP Transport Options" with a close button (X) in the top right corner. The dialog contains the following fields and options:

- E-mail address for receiving documents:* (text input)
- POP server:* (text input)
- User name:* (text input)
- Password:* (text input)
- Confirm password:* (text input)
- I use a non-compliant S/MIME mail server
- Use SSL

At the bottom right of the dialog are two buttons: "OK" and "Cancel".

Field Descriptions

The following describes the fields on the POP Transport Options window. For procedure see the following topics: [“Adding an Inbound Protocol” on page 6-27](#), [“Editing an Inbound Protocol” on page 6-29](#), and [“Removing an Inbound Protocol” on page 6-29](#).

E-mail address for receiving documents

Type the e-mail address your trading partners are to use to send documents to you. The e-mail address must be in the standard format of *mailbox@server.domain* (for example, *john@worldwide.com*).

The system uses the same e-mail address on the SMTP Transport Options window and the POP Transport Options window. The address you enter on one window also is used on the other, regardless whether you use the transport.

POP server

Type the fully qualified domain name or IP address of the Post Office Protocol (POP) server where WebLogic Integration – Business Connect checks for inbound e-mail documents.

User name

Type the fully qualified domain name of the e-mail account where documents are received from the POP server. The user name you enter must match that of the e-mail account on the POP server. Depending on the POP server, the name might also be case sensitive.

Password

Type a password using any combination of letters and numbers. WebLogic Integration – Business Connect can support passwords of up to 50 characters. The field is masked to hide the password, so it is important to enter this information carefully. The password is case sensitive and must match the password of the POP server account. WebLogic Integration – Business Connect uses this password with the user name to retrieve inbound documents from the POP server.

Confirm password

Type the POP password again.

Use SSL

Check this box only if you want to use the Secure Sockets Layer protocol for inbound documents. If you select this check box, your server must support SSL. If you do not select this option your partners can make anonymous connections.

Company Profile XML Tab

Use the Company Profile window XML tab to configure WebLogic Integration – Business Connect to identify senders and receivers in Extensible Markup Language (XML) documents that you send to trading partners.

WebLogic Integration – Business Connect uses a specification called XPath to identify discrete elements within XML documents. Specifically, it uses XPath to find the sender and receiver addresses in XML documents polled from your XML-out directory.

Selecting one or more XML document types on the XML tab affects inbound and outbound documents. WebLogic Integration – Business Connect rejects malformed outbound XML documents and can reject malformed inbound XML documents. (Inbound XML documents are not parsed in some trading scenarios.)

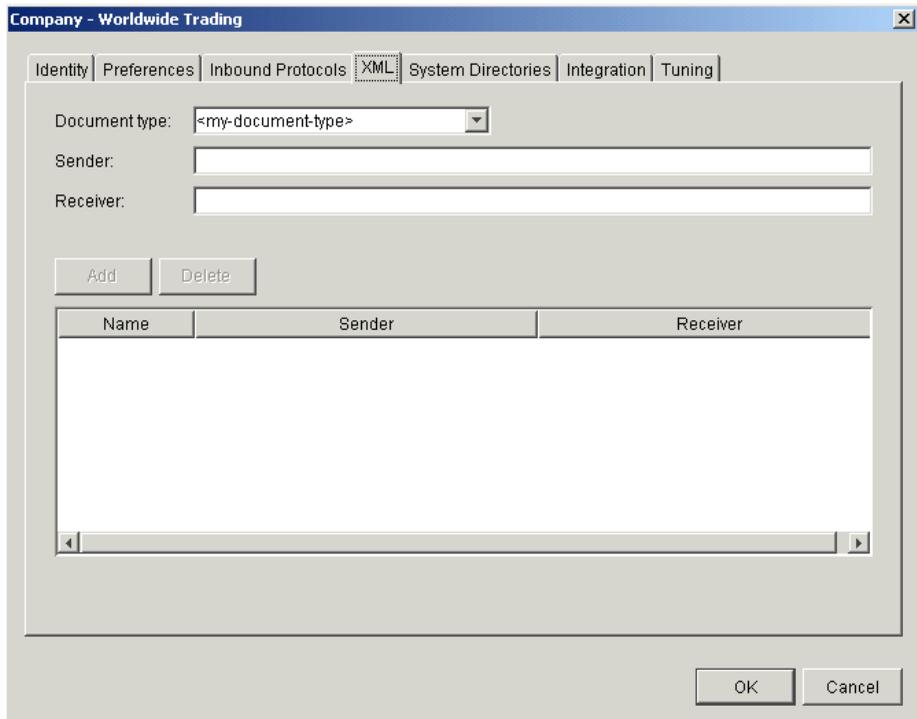
Note: You must specify at least one XML type if you want to send XML documents. Otherwise, the system will not poll your XML-out directory for outbound documents.

Trading XML documents requires knowledge of XML and XML document types. WebLogic Integration – Business Connect supports any XML document type. The Document Generator tool lets you generate BizTalk XML documents for test trading. Before engaging in production trading, you and your partner should decide which XML type to use.

When parsing an XML document, WebLogic Integration – Business Connect must determine the sender and receiver. You specify this on the XML tab by selecting the sender and receiver XPaths for one or more XML types. If you and your partner use an unlisted XML type, you can provide the sender and receiver XPaths for parsing that XML type.

When you and your partner have set up the XPaths in your respective company profiles, place your outbound XML document into the XML-out directory, which is defined on your company profile's System Directories tab. WebLogic Integration – Business Connect will poll that directory, determine whether the document is a parseable XML type, package it and send it to your partner. Your partner will receive the document in his XML-in directory.

Figure 6-16 Company Profile XML Tab



Field Descriptions

The following describes the fields on the Company Profile window XML tab. For procedure see [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9.

Document type

Select from the drop-down list the XML document type you want. Click Add to add the document type and display it on the window. Repeat this step if you want to add another document type.

If you select RosettaNet/ebXML Interface (MCD) and plan to use the ebXML or RosettaNet protocol, see [Chapter 11, “Using ebXML.”](#)

If you select `<my document type>`, type a name for the document type you are adding and then see the information for the Sender and Receiver fields.

To delete a document type, select one from the list of types added earlier and click Delete.

Sender and Receiver

If you select <my document type>, type the XPath strings in these two fields. Click Add to add the document type and display it on the window.

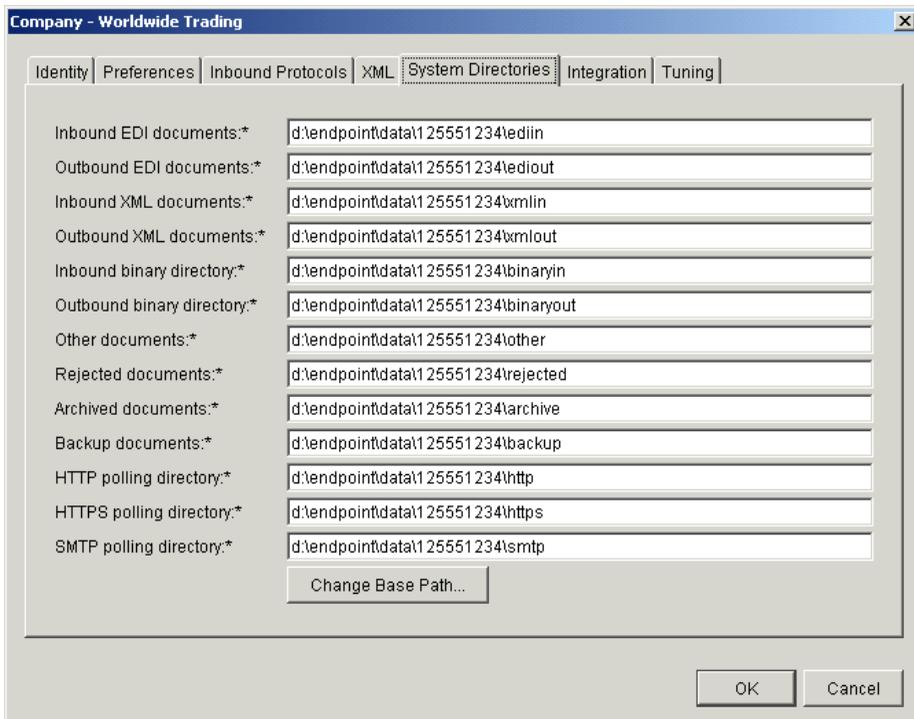
Company Profile System Directories Tab

Use the Company Profile window System Directories tab to change the directories where your document-related information is physically stored. Use this tab only if you want to use other than the default locations. If you want to use the default locations, you can bypass this tab.

Each path can point anywhere on your system. If the path is to a network drive, you must have it available whenever the Server application is running.

For a new profile, the tab shows the default locations of the directories. The directories are created after you save the profile. If the Server application is running, the directories are created immediately. If not, the directories are created the next time the Server is started.

Figure 6-17 Company Profile System Directories Tab



Changing the directory structure after WebLogic Integration – Business Connect has been operational must be done with care. This is because documents received previous to the change are not transferred to the new directory structure. WebLogic Integration – Business Connect also does not delete the old directory structure.

Field Descriptions

The following describes the fields on the Company Profile window System Directories tab. For the procedure for using the Change Base Path button, see [“Changing All System Directories at Once”](#) on page 6-17. For the procedure for setting up company profiles, see [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9.

Inbound XML documents

The directory where WebLogic Integration – Business Connect places successfully processed documents from your trading partners for pick up by your XML application. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\xmlin
```

UNIX:

```
account/data/company_profile_id/xmlin
```

Outbound XML documents

The directory where your XML application places XML documents for processing by WebLogic Integration – Business Connect and transmission across the Internet. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\xmlout
```

UNIX:

```
account/data/company_profile_id/xmlout
```

Inbound binary directory

The directory where WebLogic Integration – Business Connect places successfully processed documents from your trading partners for pick up by your binary application. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\binaryin
```

UNIX:

```
account/data/company_profile_id/binaryin
```

Outbound binary directory

The directory where your binary application places binary documents for processing by WebLogic Integration – Business Connect and transmission across the Internet. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\binaryout
```

UNIX:

```
account/data/company_profile_id/binaryout
```

Other documents

The directory where WebLogic Integration – Business Connect stores inbound binary (non-EDI) documents when you receive a binary document from a partner for whom you have not enabled binary trading on the Partner Profile window Binary Directories tab. When this occurs, WebLogic Integration – Business Connect sends your contact person a notification message. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\other
```

UNIX:

```
account/data/company_profile_id/other
```

Rejected documents

The directory where all rejected inbound or outbound documents are stored. Documents are rejected when, for example, WebLogic Integration – Business Connect:

- Cannot compress, encrypt, or sign outbound documents
- Cannot uncompress, decrypt, or verify inbound documents
- Cannot find a valid partner profile for an inbound or outbound document
- Receives a clear-text MIME document from a sender for whom you do not have a partner profile

When a file is placed in this directory, a notification message is sent to your company's WebLogic Integration – Business Connect point of contact. The notification is also sent to your partner's point of contact if you choose this option. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\rejected
```

UNIX:

```
account/data/company_profile_id/rejected
```

Archived documents

If you choose the Backup and Archive option in the Company Profile window Preferences tab, WebLogic Integration – Business Connect moves completed documents from the inbound and outbound backup directories to the archive directory when the archive process runs.

This action deletes those archived files from the inbound and outbound backup directories. See [“Changing the Archive Schedule” on page 9-6](#) for information on how to set the interval for running the archive process. The default directory is:

Windows

```
..\installation_directory\data\company_profile_id\archive
```

UNIX:

```
account/data/company_profile_id/archive
```

Backup documents

The backup directory is where all backed-up files are stored. WebLogic Integration – Business Connect makes a backup copy before encrypting and signing outbound documents and (optionally) immediately after receiving inbound signed and encrypted documents. If you request them, the MDNs your partners send you in response to your outbound documents are also stored in this directory. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\backup
```

UNIX:

```
account/data/company_profile_id/backup
```

HTTP polling directory

The directory WebLogic Integration – Business Connect polls to retrieve and process inbound documents sent via HTTP. The default directory is:

Windows

```
..\installation_directory\data\company_profile_id\http
```

UNIX:

```
account/data/company_profile_id/http
```

HTTPS polling directory

The directory WebLogic Integration – Business Connect polls to retrieve and process inbound documents sent via HTTPS. The default directory is:

Windows:

```
..\installation_directory\data\company_profile_id\https
```

UNIX:

account/data/company_profile_id/https

SMTP polling directory

If you configured the SMTP transport (“[SMTP Inbound Transport](#)” on page 6-30), the name of the directory WebLogic Integration – Business Connect polls for inbound documents. The default directory is:

Windows:

..\installation_directory\data\company_profile_id\smtp

UNIX:

account/data/company_profile_id/smtp

Company Profile Integration Tab

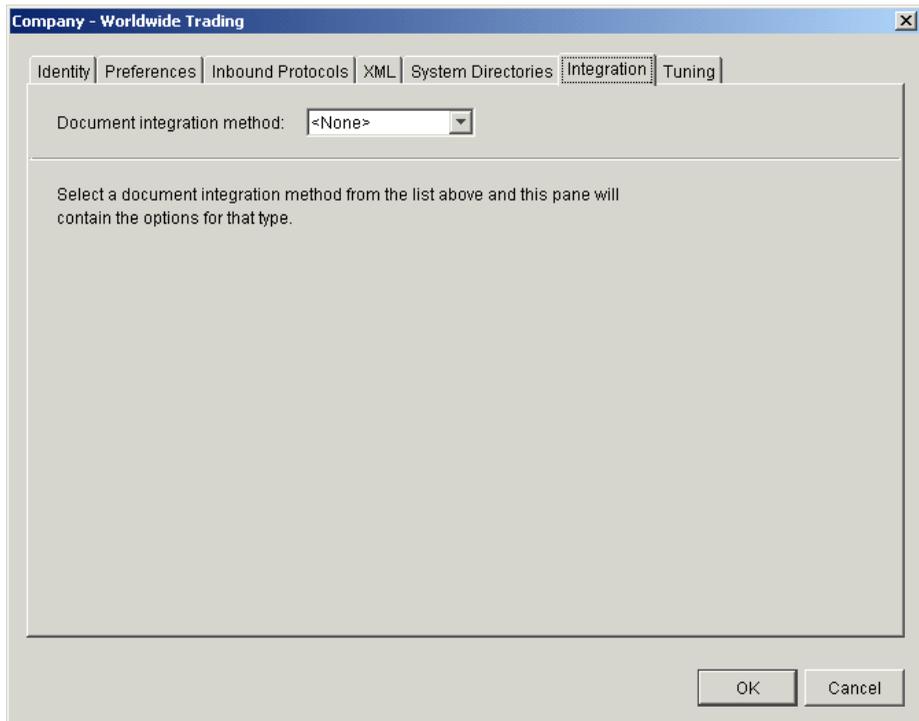
Use the Company Profile window Integration tab to have WebLogic Integration – Business Connect send inbound or outbound documents to an FTP server, JMS interface or IBM MQSeries application. You also can set up post-processing commands for inbound documents.

WebLogic Integration – Business Connect does not package any documents that are transferred by way of integration options.

The Integration tab enables you to set up integration for a single company profile. You can select any combination of document-type integration options for a single company profile. For example, for EDI documents you can integrate with MQSeries; for XML documents you can integrate with an FTP server; for binary documents you can set up post-processing for documents received from a specific partner.

When you select integration options on the Integration tab, other windows open for you to enter configuration information.

Note: MQSeries and JMS can support documents of up to approximately 8 megabytes.

Figure 6-18 Integration Tab as Seen in Default View with <None> Selected

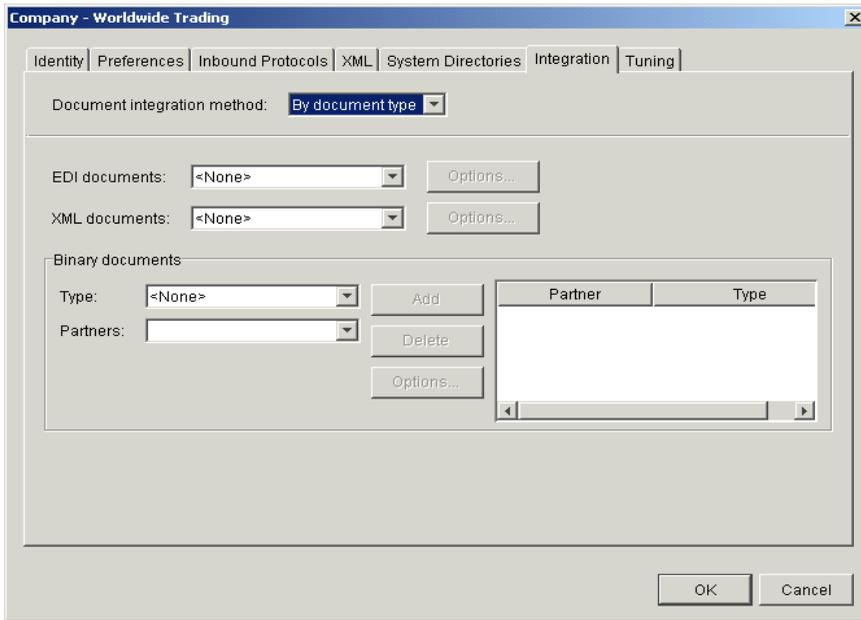
Integration Tab Field Descriptions

The following describes the fields on the Company Profile window Integration tab. For procedure see [“Adding, Cloning, or Changing a Company Profile”](#) on page 6-9.

Document integration method

If you want document integration, select By document type from the drop-down list to display the integration options on the tab.

Figure 6-19 Integration Tab as Seen with *By document type* Selected



The steps are identical for setting up EDI and XML documents for integration. The steps for binary documents are somewhat different.

EDI and XML documents

In the fields for EDI documents or XML documents, select from the drop-down list one of the following options and click Options to open a configuration window:

IBM MQSeries

FTP

JMS

Inbound post-processing

Binary documents

Complete the following two fields for binary document integration.

Type

Select from the drop-down list one of the following options: IBM MQSeries, FTP, JMS, Inbound post-processing.

Partners

Select a partner from the drop-down list. Click Add and then click Options to open a configuration window.

You must import or create the partner profile before the partner's name appears on the drop-down list. Also, you must save your company profile and then set up your company for binary trading in the Partner Profile window Binary Directories tab for the partner you want. Otherwise, there are no partners to select.

You can add more than one partner. If you select inbound post-processing as the type, you can select All for all partners, rather than adding each partner individually.

See the topic for the integration option you selected:

- [“IBM MQSeries Options Window”](#) (below)
- [“FTP Options Window”](#) on page 6-47
- [“JMS Options Window”](#) on page 6-49
- [“Inbound Post-Processing Options Windows”](#) on page 6-54

IBM MQSeries Options Window

Use the IBM MQSeries Options window for configuring document integration with MQSeries. To access the window, select By document type as the integration method on the Company Profile window Integration tab, select an integration option for EDI, XML or binary documents and click Options. See [“Company Profile Integration Tab”](#) on page 6-42.

Figure 6-20 IBM MQSeries Options Window

Inbound Documents		Outbound Documents	
MQSeries host:	<input type="text"/>	MQSeries host:	<input type="text"/>
Port:	<input type="text" value="1414"/>	Port:	<input type="text" value="1414"/>
Queue manager:	<input type="text"/>	Queue manager:	<input type="text"/>
Queue:	<input type="text"/>	Queue:	<input type="text"/>
Channel:	<input type="text"/>	Channel:	<input type="text"/>
User name:	<input type="text"/>	User name:	<input type="text"/>
Password:	<input type="text"/>	Password:	<input type="text"/>
Confirm password:	<input type="text"/>	Confirm password:	<input type="text"/>

OK Cancel

Field Descriptions

The following describes the fields on the IBM MQSeries Options window.

You might want to contact your organization's MQSeries administrator for help in establishing criteria for inbound and outbound documents. For inbound documents, the information you enter is used to hand off documents to your legacy system. For outbound documents, the information you enter is used to retrieve documents from your legacy system.

After retrieving documents from the MQSeries host, WebLogic Integration – Business Connect deletes the acquired files from the host. Inbound files passed to the MQSeries host are not deleted from the WebLogic Integration – Business Connect file system.

You can complete the fields for inbound documents or outbound documents or both, depending on your needs.

MQSeries Host

Type the name or IP address of the MQ host for inbound or outbound documents.

Port

Type the port number if other than the default of 1414.

Queue manager

Type the name of the MQSeries queue manager for inbound or outbound documents.

Queue

Type the name of the MQSeries queue for inbound or outbound documents.

Channel

Type the name of the communications channel for inbound or outbound documents.

User name

Type the name of the MQSeries user.

Password

Type the password of the MQSeries user.

Confirm password

Type the password again.

FTP Options Window

Use the FTP Options window for configuring document integration with an FTP server. To access the window, select By document type as the integration method on the Company Profile window Integration tab, select an integration option for EDI, XML or binary documents and click Options. See [“Company Profile Integration Tab” on page 6-42](#).

Figure 6-21 FTP Options Window

Inbound Documents		Outbound Documents	
FTP server:	<input type="text"/>	FTP server:	<input type="text"/>
User name:	<input type="text"/>	User name:	<input type="text"/>
Password:	<input type="text"/>	Password:	<input type="text"/>
Confirm password:	<input type="text"/>	Confirm password:	<input type="text"/>
Directory:	<input type="text"/>	Directory:	<input type="text"/>
Control port:	<input type="text" value="21"/>	Control port:	<input type="text" value="21"/>
Mode:	<input type="text" value="Passive"/>	Mode:	<input type="text" value="Passive"/>
Transfer type:	<input type="text" value="Binary"/>	Transfer type:	<input type="text" value="Binary"/>

Field Descriptions

The following describes the fields on the FTP Options window.

The fields are described once for inbound and outbound documents. You can complete the inbound or the outbound side of the window or both. You do not have to complete both sides.

The fields on the inbound side of the window are for routing to the FTP server documents that WebLogic Integration – Business Connect receives from partners. The fields on the outbound side of the window are for retrieving from the FTP server documents that WebLogic Integration – Business Connect sends to partners.

After acquiring documents from the FTP server, WebLogic Integration – Business Connect deletes the acquired files from the server. WebLogic Integration – Business Connect preserves the names of the files it acquires from the FTP server. Inbound files passed to the FTP server are not deleted from the WebLogic Integration – Business Connect file system.

FTP server

Type the fully qualified domain name or IP address of the FTP server.

You must set up your FTP account information outside WebLogic Integration – Business Connect. This set up must include establishing the FTP account, user ID, and password, and creating the directory where WebLogic Integration – Business Connect retrieves or sends documents.

User name

Type the user name for the FTP server.

Password

Type the password to be used with this FTP user name on the FTP server.

Confirm password

Type the password again.

Directory

Type the path of the directory on the FTP server where documents are retrieved or sent.

Control port

Type the port over which FTP sends commands. The default control port is 21.

Mode

Select one of the following from the drop-down list.

Passive means the FTP server selects the data port for the FTP data transfer. Passive is the default.

Port means the FTP client selects the data port for the FTP data transfer.

Transfer type

Select one of the following from the drop-down list.

Binary means documents are transported as-is with no conversions. Binary is the default.

ASCII means documents are converted when appropriate from ASCII to extended binary coded decimal interchange code (EBCDIC) or from DOS text to UNIX text. Use the ASCII setting with caution because it might change the data being transported.

JMS Options Window

Use the JMS Options window for configuring document integration with a JMS queue. To access the window, select By document type as the integration method on the Company Profile window Integration tab, select an integration option for EDI, XML or binary documents and click Options. See [“Company Profile Integration Tab” on page 6-42](#).

To use this tab your organization must have JMS experience and a working JMS messaging system.

In addition to completing this tab, you must add the names of the JAR or class files or both in the `server.ini` or `server.bat` file in Windows or your environment file in UNIX so the Server application can locate the JMS and JNDI provider. The `server.ini` and `server.bat` files are located in the installation directory bin subdirectory. In some cases, you need to add the name of only one JAR file (for example, `weblogic.jar`), but you might have to include a series of jars or paths.

This window is for configuring JMS document integration for a single company.

Figure 6-22 JMS Options Window

The screenshot shows a window titled "JMS Options" with a close button in the top right corner. The window is divided into two main sections: "Inbound Documents" on the left and "Outbound Documents" on the right. Each section contains two sub-sections: "JNDI" and "JMS".

Inbound Documents - JNDI:

- URL:
- Factory:
- User name:
- Password:
- Confirm password:

Inbound Documents - JMS:

- Queue connection factory:
- Queue:
- User name:
- Password:
- Confirm password:

Outbound Documents - JNDI:

- URL:
- Factory:
- User name:
- Password:
- Confirm password:

Outbound Documents - JMS:

- Queue connection factory:
- Queue:
- User name:
- Password:
- Confirm password:

At the bottom right of the window, there are two buttons: "OK" and "Cancel".

Field Descriptions

The following describes the fields on the JMS Options window.

The fields are described once for inbound and outbound documents.

The Inbound Documents area is for configuring WebLogic Integration – Business Connect to place documents that have been received from partners and unpackaged on a back-end JMS queue.

The Outbound Documents area is for configuring WebLogic Integration – Business Connect to retrieve documents from a back-end JMS queue and then package and send the documents to partners.

Except for the user name and password, you can obtain the information needed to complete the tab from the JMS or JNDI provider's documentation. The information will vary depending on the provider. If you have questions, contact your JMS or JNDI provider.

JNDI

Complete the following fields for the Java naming and directory interface (JNDI).

URL

Type the network URL that will be used to obtain access to the JNDI service provider for your JMS service. Example: `t3://localhost:7001`

Factory

Type the name for the JNDI service provider class. Example:
`weblogic.jndi.WLInitialContextFactory`

User name

Type a user name for the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Password

Type a password for the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Confirm password

Type the password again.

JMS

Complete the following fields for the Java messaging service (JMS).

Queue connection factory

Type the connection factory as defined within the JMS provider. This value can be either in the form `factoryname@routername` or the JNDI public symbol for the `QueueConnectionFactory`. The form is dependent on your JMS provider and how it is configured. Example: `com.bea.wlpi.QueueConnectionFactory`

Queue

Type the name of the queue. Example: `com.bea.wlibc.InboundQueue`

User name

Type a user name for the JMS provider. This can be the same as your JNDI user name. However, this will depend on how your JMS provider and how it is configured.

Password

Type a password for the JMS provider. This can be the same as your JNDI password. However, this will depend on how your JMS provider and how it is configured.

Confirm password

Type the password again.

Semantics

This API is an input and output source for documents. This is how it works: WebLogic Integration – Business Connect registers as a listener with the JMS server for the designated inbound queue. This means that any JMSMessage placed in the queue by another process is passed to WebLogic Integration – Business Connect, which verifies that it is a BytesMessage (a type of JMSMessage). If verified, WebLogic Integration – Business Connect packages and sends it to the partner. Likewise, every document WebLogic Integration – Business Connect receives from a partner is unpackaged, converted to a BytesMessage and placed on the designated outbound queue.

The API requires that the JMS messages be in the format BytesMessage. WebLogic Integration – Business Connect does not process any other type of JMSMessage (such as ObjectMessage). WebLogic Integration – Business Connect performs routing decisions based on JMS message string parameters that must be appended to each BytesMessage sent to it. If the required parameters are omitted, WebLogic Integration – Business Connect does not process the message. WebLogic Integration – Business Connect also places the same parameters on each message that it sends to the outbound queue. The parameters WebLogic Integration – Business Connect uses are in the following table.

Parameter	Description
SenderRoutingId	The ID of the document sender. This parameter is required.
TrueSenderId	The ID of the document sender. This is for document re-routing. This parameter is optional.
ReceiverRoutingId	The ID of the document receiver. This parameter is required.
TrueReceiverId	The ID of ultimate receiver of the document. This is for document re-routing. This parameter is optional.
DocumentType	Indicates whether the document is XML, binary, X12 or EDIFACT. This parameter is required.

Parameter	Description
DocumentSubType	The sub type of the message. This is used for EDI documents. This parameter is optional.
Path	The current path of the document. WebLogic Integration – Business Connect sets this value.
OriginalFileName	The original name of the file. This parameter is required.
CorrelationId	The assigned correlation ID of the document. This ID relates documents that are parts of conversations between partners in ebXML exchanges. This parameter is optional.
RefToMessageId	The assigned reference message ID of the document. This ID relates the current document to another document. This parameter is optional.
SequenceId	Indicates duplicate document names by appending file names with _1, _2, _3 and so on. You only want to use this parameter when you have selected sequence duplicate file names on the Partner Profile window Preferences tab. WebLogic Integration – Business Connect sets this value.
DocumentId	The unique alphanumeric string WebLogic Integration – Business Connect assigns to the document. Appended to the value is the receiver's ID. WebLogic Integration – Business Connect sets this value.
ControlId	The control ID of an EDI document. Otherwise, the ID is XML or BINARY. WebLogic Integration – Business Connect sets this value.
Transport	The transport method used to receive the document. WebLogic Integration – Business Connect sets this value. The possible transports are: Bundled HTTP Bundled HTTPS EMAIL SMTP
ebXmlAction	Identifies an ebXML process within a service that processes the message. For example, NewOrder. If you are using the file system ebXML protocol method, the user sets this for outbound documents. WebLogic Integration – Business Connect sets this value for inbound documents.

Parameter	Description
ebXmlService	<p>Identifies an ebXML business process. For example, a purchase order.</p> <p>If you are using the file system ebXML protocol method, the user sets this for outbound documents. WebLogic Integration – Business Connect sets this value for inbound documents.</p> <p>For outbound documents destined for a WebLogic Integration trading partner, this value must match the name of the conversation definition defined in WebLogic Integration.</p>
PackagingType	<p>If you are using the file system ebXML protocol method, set to ebXML for outbound documents. WebLogic Integration – Business Connect sets this value for inbound documents.</p>
PackagingVersion	<p>If you are using the file system ebXML protocol method, set to 1.0 or 2.0 for outbound documents, depending on whether your partner is compliant with 1.0 or 2.0. WebLogic Integration – Business Connect sets this value for inbound documents.</p>

It would be helpful for you to understand the JMS event integration API to use this API.

The following are the requirements for sending a document:

1. Build a JMS BytesMessage. The contents of the BytesMessage should contain the raw document data and string parameters.
2. Send the BytesMessage to the outbound queue.
3. WebLogic Integration – Business Connect receives the BytesMessage from the queue. It then packages and send the document with the string parameters.

The following are the requirements for receiving a document:

1. WebLogic Integration – Business Connect receives and unpackages a document
2. WebLogic Integration – Business Connect creates a BytesMessage that contains the raw document content. The BytesMessage also includes the string properties.

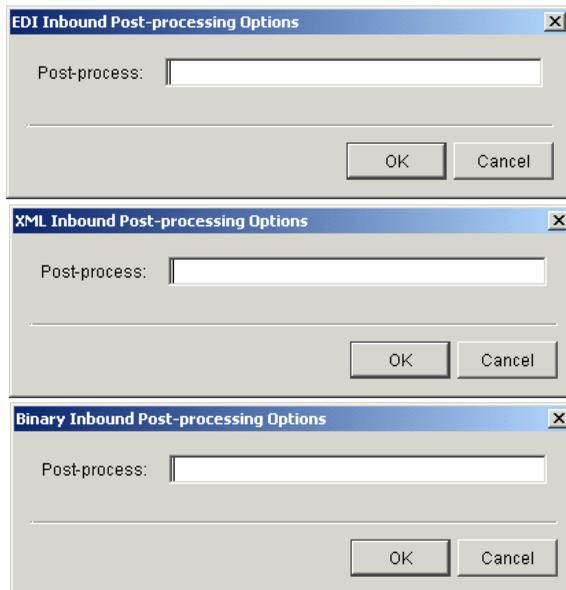
Inbound Post-Processing Options Windows

Use the Inbound Post-processing Options windows for configuring post-processing for inbound documents. To access the windows, select By document type as the integration method on the Company Profile window Integration tab, select an integration option for EDI, XML or binary

documents and click Options. For more information see [“Company Profile Integration Tab”](#) on page 6-42.

Note: Under HP-UX, inbound post-processing fails when you use spaces in an EDI qualifier in a profile ID.

Figure 6-23 Inbound Post-Processing Options Windows



Field Description

The following describes the field on the Inbound Post-processing Options windows. There are three variations of the window: one each for XML and binary inbound document types.

Post-process

Type the fully qualified path and file name of the batch file, script or executable file for the post process for inbound XML or binary documents. See the following section, [“Post-Processing Configuration Details.”](#)

Post-Processing Configuration Details

You can perform post-processing commands on each inbound document immediately after WebLogic Integration – Business Connect has received, processed and written it to the EDI-in, XML-in, or binary-in directory. WebLogic Integration – Business Connect can initiate any

executable or batch file or script you specify. You can specify the same executable for each document type or a different one for each type.

The post-processing script must be on a drive that WebLogic Integration – Business Connect can access and has permission to execute.

WebLogic Integration – Business Connect passes 12 command-line parameters to the post process. Your script can use any or all of the parameters. The following table provides an example of the syntax of a command that is executed against an inbound document.

Table 6-11 Example

Windows	c:\directoryname\myfile.bat
UNIX	/directoryname/myscript.sh

The parameters are described in the following table. The parameter numbers are shown for Windows and UNIX.

Table 6-12 Post-Processing Parameters

Windows	UNIX	Post-processing parameter	Description
%1	\$1	Windows: c:\directoryname\inboundfile UNIX: /directoryname/inboundfile	The fully qualified file name of the document for post processing.
%2	\$2	SenderID	The partner ID of the sender of the document.
%3	\$3	Transport	The transport method used to receive the document. The possible transports are: Bundled HTTP Bundled HTTPS EMAIL SMTP
%4	\$4	TrueSenderID	This is the same as the sender ID. In the future this parameter might have other values.

Table 6-12 Post-Processing Parameters (Continued)

Windows	UNIX	Post-processing parameter	Description
%5	\$5	ReceiverID	This is the partner ID of the receiver of the document. In a service provider configuration, this is the ID of the hub.
%6	\$6	TrueReceiverID	This is the same as the receiver ID, except in a service provider configuration, where this is the partner ID of the partner who actually receives the document and not the partner ID of the intermediary hub.
%7	\$7	ControlID	The control ID of an EDI document. Otherwise, the ID is XML or BINARY
%8	\$8	UniqueID	The unique alphanumeric string WebLogic Integration – Business Connect assigns to the document. Appended to the value is the receiver's ID.
%9	\$9	OriginalName	The original name of the document if different from the document name specified in the document path.
shift command %9	shift command \$9	DocumentType	Indicates whether the document is XML, binary, X12 or EDIFACT.

Table 6-12 Post-Processing Parameters (Continued)

Windows	UNIX	Post-processing parameter	Description
shift command %9	shift command \$9	SequenceID	Indicates duplicate document names by appending file names with <code>_1</code> , <code>_2</code> , <code>_3</code> and so on. You only want to use this parameter when you have selected sequence duplicate file names on the Partner Profile window Preferences tab.
shift command %9	shift command \$9	CorrelationID	The assigned correlation ID of the document. This ID relates documents that are parts of conversations between partners in an ebXML exchange.

Notes About Parameters

- You can type the name of only one executable per document type.
- The executable runs against each document that is written to the directory you specify. Documents do not accumulate for batch processing.
- Use the 10th, 11th and 12th parameters, `DocumentType`, `SequenceID` and `CorrelationID`, as shown in the table by using a shift command (not the keyboard shift key) following on the next line by `%9` (Windows) or `$9` (UNIX). Windows and UNIX only use single-digit parameters. The script will fail using `%10` or `$10` for the 10th parameter, `%11` or `$11` for the 11th parameter or `%12` or `$12` for the 12th parameter. See the script examples in the next section.
- If you do not use the 10th parameter, `DocumentType`, but do use the 11th parameter, `SequenceID`, you must use a shift command in place of the `DocumentType` parameter as a placeholder in the script. See the script examples in the next section.
- WebLogic Integration – Business Connect writes a message to the `server.log` file to indicate when a post-processing script is invoked. However, it does not display or log any messages from the post-process itself. WebLogic Integration – Business Connect writes details about receiving a document from a partner and another message that a document has been transferred and that post-processing has been invoked for it.

Languages for Writing Scripts

You can use the following languages for writing post-processing scripts:

Table 6-13 Script Languages

Operating system	Languages
Windows	Only compiled languages for security reasons. For example, Java, Visual BASIC, C++ or Delphi.
UNIX	Any language. For example, shell script, Java, C or Perl.

We recommend using a compiled program for post-processing. Although a batch file often is adequate for this purpose, we recommend changing to a compiled program if problems occur.

Script Examples for Windows

The following are examples of post-processing scripts for Windows. These scripts re-direct an inbound file to a local directory and write activity to an external log file. These examples are shown solely to illustrate the correct format for such scripts.

The first example includes the `DocumentType` parameter. The second example does not.

Listing 6-1 Example 1 Windows Script

```
@echo off
rem WindowsPostprocess.bat to test post-processing.
rem This batch file does two things. It moves the ediin, xmlin,
rem or binary-in file to another directory. Then it appends into
rem a log file all the information that CI makes available about
rem that file.

@echo off
move %1 d:\tmp
echo. >> d:\tmp\postprocess.log
echo -----newfile info----- >> d:\tmp\postprocess.log
date/t >> d:\tmp\postprocess.log
time/t >> d:\tmp\postprocess.log
echo The filename is %1 >> d:\tmp\postprocess.log
echo The SenderID is %2 >> d:\tmp\postprocess.log
echo The Transport is %3 >> d:\tmp\postprocess.log
echo The TrueSenderID is %4 >> d:\tmp\postprocess.log
echo The ReceiverID is %5 >> d:\tmp\postprocess.log
echo The TrueReceiverID is %6 >> d:\tmp\postprocess.log
echo The ControlID is %7 >> d:\tmp\postprocess.log
echo The UniqueID is %8 >> d:\tmp\postprocess.log
echo The OriginalName is %9 >> d:\tmp\postprocess.log
shift
echo The DocumentType is %9 >> d:\tmp\postprocess.log
shift
echo The SequenceID is %9 >> d:\tmp\postprocess.log
shift
echo The CorrelationID is %9 >> d:\tmp\postprocess.log
```

Listing 6-2 Example 2 Windows Script

```
@echo off
move %1 d:\tmp
echo. >> d:\tmp\postprocess.log
echo -----newfile info----- >> d:\tmp\postprocess.log
```

```

date/t >> d:\tmp\postprocess.log
time/t >> d:\tmp\postprocess.log
echo The filename is %1 >> d:\tmp\postprocess.log
echo The SenderID is %2 >> d:\tmp\postprocess.log
echo The Transport is %3 >> d:\tmp\postprocess.log
echo The TrueSenderID is %4 >> d:\tmp\postprocess.log
echo The ReceiverID is %5 >> d:\tmp\postprocess.log
echo The TrueReceiverID is %6 >> d:\tmp\postprocess.log
echo The ControlID is %7 >> d:\tmp\postprocess.log
echo The UniqueID is %8 >> d:\tmp\postprocess.log
echo The OriginalName is %9 >> d:\tmp\postprocess.log
shift
rem Skipping DocumentType
shift
echo The SequenceID is %9 >> d:\tmp\postprocess.log
shift
echo The CorrelationID is %9 >> d:\tmp\postprocess.log

```

Script Example for UNIX

The following is an example of a post-processing script for UNIX. This script re-directs an inbound file to a local directory and writes activity to an external log file. This example is shown solely to illustrate the correct format for such scripts.

Listing 6-3 Example UNIX Script

```

#!/bin/sh
# $Id: UNIXpostprocess.sh to test post-processing.
# This shell script does two things. It moves the ediin, xmlin,
# or binary-in file to another directory. Then it appends into
# a log file all the information that CI makes available about
# that file.

mv "$1" /home/cyclone/tmp
echo ----newfile info---- >> /home/cyclone/tmp/postprocess.log
date >> /home/cyclone/tmp/postprocess.log
echo The filename is "$1" >> /home/cyclone/tmp/postprocess.log

```

```
echo The SenderID is "$2" >> /home/cyclone/tmp/postprocess.log
echo The Transport is "$3" >> /home/cyclone/tmp/postprocess.log
echo The TrueSenderID is "$4" >> /home/cyclone/tmp/postprocess.log
echo The ReceiverID is "$5" >> /home/cyclone/tmp/postprocess.log
echo The TrueReceiverID is "$6" >> /home/cyclone/tmp/postprocess.log
echo The ControlID is "$7" >> /home/cyclone/tmp/postprocess.log
echo The UniqueID is "$8" >> /home/cyclone/tmp/postprocess.log
echo The OriginalName is "$9" >> /home/cyclone/tmp/postprocess.log
shift
echo The DocumentType is "$9" >> /home/cyclone/tmp/postprocess.log
shift
echo The SequenceID is "$9" >> /home/cyclone/tmp/postprocess.log
shift
echo The CorrelationID is "$9" >> /home/cyclone/tmp/postprocess.log
```

Company Profile Tuning Tab

Use the Company Profile window Tuning tab to adjust the polling rate and documents per cycle of inbound transports and outbound documents by type. For some transports you can use synchronous unpackaging instead of inbound document polling.

The following topics are provided:

- [“Tuning Tab Description”](#)
- [“Document Polling Rates” on page 6-66](#)
- [“Inbound Protocols Tuning” on page 6-67](#)
- [“Outbound Documents Tuning” on page 6-68](#)
- [“Tuning Guidelines” on page 6-68](#)
- [“Asynchronous and Synchronous Unpackaging” on page 6-69](#)

Changing any values on this tab is optional and should be considered only if you need to improve system performance.

For procedure about company profiles see [“Adding, Cloning, or Changing a Company Profile” on page 6-9](#).

Tuning Tab Description

The Company Profile window Tuning tab is comprised of two sub-tabs: Inbound Protocols and Outbound Documents. You adjust settings for inbound and outbound documents on the sub-tabs.

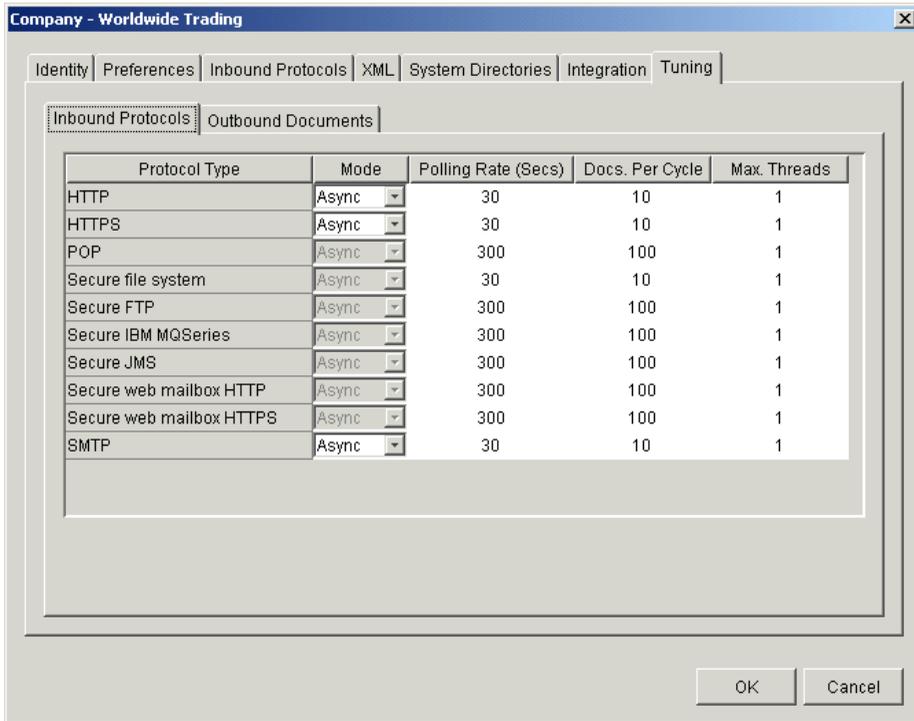
The Inbound Protocols sub-tab only displays the inbound transport types you have configured in your company profile. If no transports are configured, no transport types are displayed. The Outbound Documents tab, however, always displays all three possible outbound document types: EDI, XML and binary.

To change values on these sub-tabs, double-click a field to enter edit mode. You can highlight the value, delete it and type a new value, or you can use the Backspace key to delete the value and type a new one. Press Enter or click another field to apply the change. Click OK to save the change and close the profile.

For navigating the sub-tabs without a mouse, use Ctrl-Tab to move into the table and then use the Tab key to move from cell to cell. Use Ctrl-Tab again to leave the table.

[Figure 6-24](#) shows an example of the Tuning, Inbound Protocols tab with all transport types displayed. In practice, you will see only the transport types that have been configured for the company profile.

Figure 6-24 Company Profile Tuning, Inbound Protocols Tab



Inbound Protocols Column Descriptions

The following describes the columns on the Tuning, Inbound Protocols tab. For more information see [“Inbound Protocols Tuning”](#) on page 6-67.

Protocol Type

The inbound transport types that have been configured in the company profile. Only configured transports are displayed.

Mode

If you have configured one or more bundled inbound transports, you can select synchronous unpackaging. This selection turns off the inbound polling enabled with the default asynchronous unpackaging. For more informations see [“Asynchronous and Synchronous Unpackaging”](#) on page 6-69.

Polling Rate (Secs)

The interval in seconds WebLogic Integration – Business Connect waits before polling directories and servers for inbound documents from your partners.

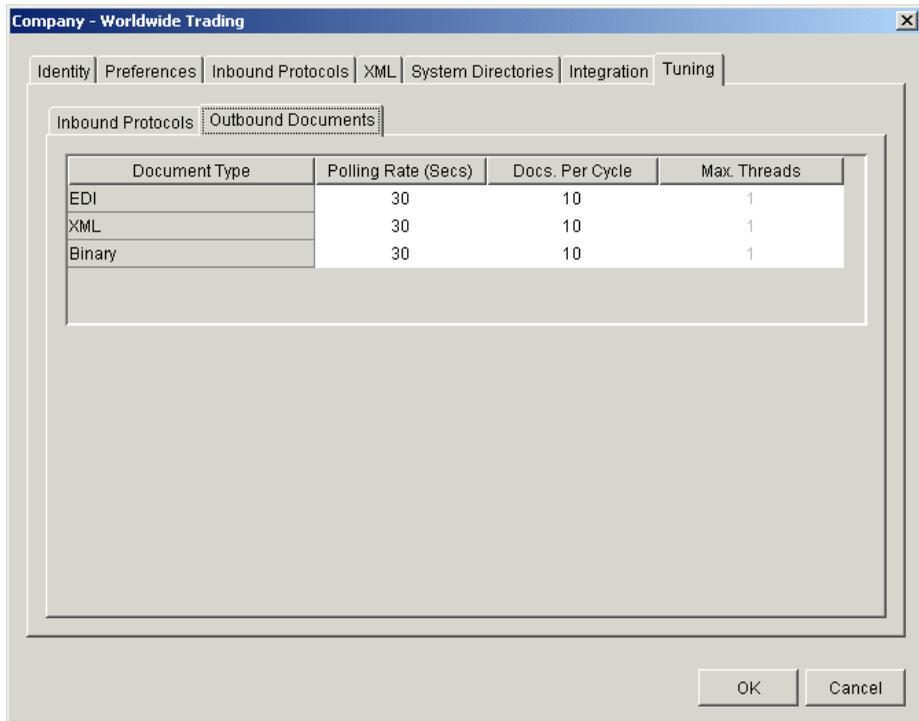
Docs. Per Cycle

The highest number of documents that WebLogic Integration – Business Connect can retrieve from a directory or server each time it polls for incoming documents. Your POP server might override this setting.

Max. Threads

The maximum number of threads the system can spawn to unpackage inbound documents. This value cannot be changed.

Figure 6-25 Company Profile Tuning, Outbound Documents Tab



Outbound Documents Column Descriptions

The following describes the columns on the Tuning, Outbound Documents tab. For more information see [“Outbound Documents Tuning” on page 6-68](#).

Document Type

The types of documents that the system can send to your partners: EDI, XML and binary.

Polling Rate (Secs)

The interval in seconds WebLogic Integration – Business Connect waits before polling the EDI-out, XML-out or binary-out directories for outbound documents to package and send to your partners.

Docs. Per Cycle

The highest number of documents that WebLogic Integration – Business Connect can retrieve from an outbound directory each time it polls for outbound documents.

Max. Threads

The maximum number of threads the system can spawn to package outbound documents. This value cannot be changed.

Document Polling Rates

WebLogic Integration – Business Connect processes inbound and outbound documents according to polling rates in seconds and number of documents per cycle. Polling rates control the intervals when the system polls for outbound or inbound documents to process. Documents per cycle control the maximum number of documents the system can retrieve at each polling interval.

These settings, which are built into the application, ensure first-in, first-out (FIFO) document traffic (except POP e-mail).

The following table provides the default settings for polling rates and documents per cycle. These are set by transport for inbound documents and by document type for outbound documents.

Table 6-14 Default Settings for Inbound Documents

Transport	Polling rate	Documents per cycle
Bundled HTTP	30	10
Bundled HTTPS	30	10

Table 6-14 Default Settings for Inbound Documents (Continued)

Transport	Polling rate	Documents per cycle
SMTP	30	10
POP	300	100

Table 6-15 Default Settings for Outbound Documents

Document type	Polling rate	Documents per cycle
Binary	30	10
EDI	30	10
XML	30	10

For inbound documents, a polling rate of 300 seconds and 100 documents per cycle for the POP transport means the system will poll the POP server for inbound documents every 300 seconds. Finding any, the system will retrieve them, up to a maximum of 100 documents, and then unpackage them. If there are more than 100 documents waiting, they will be retrieved at the next polling interval.

For outbound documents, a polling rate of 30 seconds and 10 documents per cycle for EDI documents means the system will poll the EDI-out directory for outbound documents every 30 seconds. Finding any, the system will retrieve them, up to a maximum of 10 documents, and then package and send them to the addressed partners. If there are more than 10 documents waiting, they will be retrieved at the next polling interval.

To calculate the maximum number of inbound or outbound documents that can be processed per hour, use the following formula: $(3600 / \text{polling rate}) * \text{documents per cycle}$. 3600 is the number of seconds in an hour.

Inbound Protocols Tuning

On the Tuning, Inbound Protocols tab, you can adjust polling rates and documents per cycle for inbound documents. Provided you choose to adjust any values at all, you can only change those for the transports you set up in your company profile.

Assume for a particular transport you have settings of 30 seconds for a polling rate, 10 documents per cycle and 1 thread. This means WebLogic Integration – Business Connect will poll the transport for inbound documents every 30 seconds. Finding any, it will retrieve them up to a maximum of 10 and then distribute the documents to the single unpackaging thread.

Outbound Documents Tuning

On the Tuning, Outbound Documents tab, you can adjust polling rates and documents per cycle for the document types EDI, XML and binary.

Assume for a particular document type you have settings of 30 seconds for a polling rate, 10 documents per cycle and 1 thread. This means WebLogic Integration – Business Connect will poll the EDI-out, XML-out or binary-out directory for documents every 30 seconds. Finding any, it will retrieve them up to a maximum of 10 and then pass them to a single packaging thread.

Tuning Guidelines

You can improve application performance by changing the settings on the Company Profile window Tuning tab. If are unsure whether to change some of the settings, you can safely bypass the tab and use the default values.

You might have to experiment to find the settings best for your trading environment. Factors to consider for your situation include:

- Average document size
- Documents processed per hour
- System resources
- The system's limit on the number of files that can be open at the same time

If your organization has a relatively low volume of document traffic or handles mostly small documents, you may not see an appreciable gain by adjusting polling rates or documents per cycle or a combination of these. On the other hand, a system with a high volume of traffic or that handles large-size documents may experience significant performance improvements.

With these tuning capabilities, it is possible to generate errors such as “out of memory” and “too many files open.” If such errors occur, adjust the polling rate or the number of inbound and outbound threads.

Asynchronous and Synchronous Unpackaging

Asynchronous unpackaging of inbound documents is the default for all transport types. This means the system polls and processes inbound documents according to the polling rates, documents per cycle and unpackaging threads on the Tuning, Inbound Protocols tab.

Synchronous unpackaging of inbound documents is available for the three transport servers within WebLogic Integration – Business Connect: SMTP, bundled HTTP and bundled HTTPS. Synchronous unpackaging can significantly speed up document unpackaging and processing of acknowledgements. The benefits can be especially advantageous for organizations that handle a large volume of inbound documents. If you configure one or more bundled inbound transports in your company profile, you can enable synchronous unpackaging.

When synchronous unpackaging is active, the system does not poll for inbound documents. Instead, the transport server hands off inbound documents to unpackaging threads immediately upon receipt. When synchronous unpackaging is active, polling becomes inactive, and you cannot edit the tuning values for that transport on the Tuning, Inbound Protocols tab.

With synchronous unpackaging, the system spawns unpackaging threads on demand. The number of threads that can be active at one time is limited only by your system resources. It is possible that a large number of inbound documents arriving at the same time could overwhelm your system. However, this could be a high threshold not likely to be reached. We recommend that you monitor your system, both to gauge unpackaging performance and for possible pitfalls, when using synchronous unpackaging.

If you select synchronous unpackaging for a bundled inbound transport, the inbound polling agent for the transport appears just as it does for asynchronous unpackaging in Server monitor displays. Those include the agents area of the server monitor page that you view in a browser by selecting Tools→Launch Server Monitor and on the Server Display window, which is available on Windows systems.

Company Profiles

Keys and Certificates

WebLogic Integration – Business Connect offers true security by providing authentication, confidentiality, integrity and non-repudiation of documents. WebLogic Integration – Business Connect uses state-of-the-art cryptography to ensure the security of the documents you exchange over the public Internet. The following topics are provided.

Concepts

- [“What Is PKI?” on page 7-2](#)
- [“Why Use Encryption and Digital Signatures?” on page 7-6](#)
- [“WebLogic Integration – Business Connect Encryption Method” on page 7-7](#)
- [“Encryption and Signing Summary” on page 7-9](#)
- [“Certificate Basics” on page 7-11](#)
- [“Where Certificates and Keys Are Stored” on page 7-12](#)
- [“Certificate Status” on page 7-12](#)
- [“Exchanging Profiles and Certificates” on page 7-14](#)
- [“Self-Signed or CA Certificates” on page 7-15](#)
- [“When to Get Certificates” on page 7-15](#)
- [“Trusted Roots” on page 7-53](#)

Windows and Fields

- [“Certificates Information Viewer” on page 7-18](#)
- [“Certificate Window” on page 7-19](#)
- [“Certificate Profile Window” on page 7-48](#)

Procedures

- [“Setting Up Certificates for a Company Profile” on page 7-22](#)
- [“Importing Certificates for Partners” on page 7-40](#)
- [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#)
- [“Deleting Certificates” on page 7-47](#)
- [“Viewing Certificate Information” on page 7-49](#)
- [“Viewing the Certificate Path” on page 7-50](#)
- [“Activating a Pending or Valid Certificate” on page 7-52](#)
- [“Retiring a Certificate” on page 7-52](#)
- [“Un-Retiring a Certificate” on page 7-53](#)
- [“Viewing, Editing or Importing Trusted Roots” on page 7-55](#)
- [“Using Certificate Revocation Lists” on page 7-56](#)

What Is PKI?

WebLogic Integration – Business Connect supports public key infrastructure (PKI) to securely trade business documents over the Internet. PKI is a system of components that use digital certificates and public key cryptography to secure transactions and communications.

PKI uses certificates issued by certificate authorities (CAs) to provide authentication, confidentiality, integrity and non-repudiation of data. The following defines these in more detail.

Authentication	Authentication is verification of the identity of a person or process. Authentication confirms that a message truly came from the source that sent it.
Confidentiality	Confidentiality is the assurance that a message has been disclosed only to the parties authorized to share the information.

Integrity	Integrity is the assurance that the information has not been altered in any way and is precisely true to the source.
Non-repudiation	Non-repudiation is proof that a recipient received a message. This protects a sender from a false denial that a recipient did not receive a message.

PKI options

There are two PKI options, and WebLogic Integration – Business Connect supports both. They are self-signed certificates and commercial PKIs. The option you choose can depend on a number of factors, such as cost, human and system resources and the degree or sophistication of security desired.

Self-signed certificates generated by WebLogic Integration – Business Connect and certificates generated by commercial PKIs all support the X.509 standard for public key certificates. You can use any X.509 certificate, regardless of the source, in document transactions with partners. For example, you can generate a self-signed certificate for your company profile and export a public encryption key in a certificate with the profile to a partner for use in encrypting and signing documents sent to you. Meanwhile, you can engage in trading with partners who have sent you public keys in Entrust or VeriSign certificates.

The following sections explain each security option in more detail.

Self-Signed Certificates

WebLogic Integration – Business Connect can generate root certificates in which you are, in effect, acting as your own certificate authority. WebLogic Integration – Business Connect supports single-key pair self-signed certificates for both encrypting and signing documents and dual-key pair self-signed certificates in which one certificate is used for encrypting and the other for signing.

Self-signed certificates are easy to make and use. They are best suited for use within relatively small trading groups. This is because you must implicitly trust a partner's self-signed certificate; there is no chain of trust to independently vouch for the certificate. Such a trust relationship can more suitably be managed among a small number of partners.

Although self-signed certificates can provide a high-degree of security, the degree is dependent on the vigilance and administrative skills of the persons managing them. Generally speaking, the use of self-signed certificates does not have the rigorous discipline and orderly structure inherent to a commercial PKI.

Commercial PKIs

A commercial PKI is an organization set up for the centralized creation, distribution, tracking and revocation of keys for a potentially large community of partners. A commercial PKI has a documented certificate policy (CP) that indicates the applicability of a public key certificate to a specific community or class of application with common security requirements. A commercial PKI also has a certification practice statement (CPS), which details the practices the CA follows for issuing public key certificates.

There are two types of commercial PKIs:

In-house	An in-house PKI enables you to achieve complete control of security policies and procedures, but also carries the burden of management and cost to set up and maintain the system.
Outsourced	You can leverage the services of PKI systems such as VeriSign, Baltimore and other third-party certificate authorities. You purchase keys and certificates for use in trading partner relationships and let the CA manage security policies and such details as certificate revocation. The level of outsourcing can range from purchasing an end-entity public key certificate of a certain validity period from a commercial PKI to outsourcing all of the PKI services that your organization requires.

The Role of Trust in PKI

PKI establishes digital identities that can be trusted. The CA is the party in a PKI responsible for certifying identities. More than generating a certificate, this entails verifying the identity of a subscriber according to established policies and procedures. This is the case for in-house and outsourced PKIs. In an organization that generates and uses its own self-signed certificates, the trading parties must verify the certificates and establish a direct trust. Once established that an identity or issuer of an identity can be trusted, the trust anchor's certificate is stored in a local trust list.

WebLogic Integration – Business Connect has a local trust list for storing and managing established trust relationships (select Tools→Certificates→Trusted Roots in Administrator). The application maintains a list of common public CA certificates similar to those kept in web browsers. Although convenient, this pre-determination of trust might not compliment your organization's security policy. The decision of who to trust rests with your organization.

For example, a trader might accept certificates issued by its own root CA and its trading partners' root CA, but not from company B, who the trader has not done business with in the past. If you choose not to accept company B's root CA certificate, your system will not accept any certificates issued by company B. The greater the number of root CA certificates you choose to accept, the more open your community is to others.

Scalability

The use of self-signed certificates relies on users to exchange certificates and establish trust in each other. This informal web of trust works for small groups, but can become unmanageable for large numbers of partners. In contrast, an in-house or outsourced PKI uses hierarchies, where a certificate authority serves as a trust anchor for many users. Once trust has been established for the certificate authority, it is unnecessary to re-establish the trust for other certificates the CA issues. Establishing hierarchies of users scales equally well for small and large groups.

Certificate revocation

A certificate is expected to be usable for its entire validity period. However, there are circumstances when a certificate should no longer be considered valid even though it has not expired. Possible circumstances range from a user name change to suspected compromise of the private key. In such circumstances an in-house or outsourced CA can revoke the certificate. WebLogic Integration – Business Connect can be configured to compare your partners' certificates against lists of revoked certificates issued by CAs. However, self-signed certificates cannot be revoked. You must notify all partners using the certificate that it should no longer be trusted.

Dual-Key Pairs

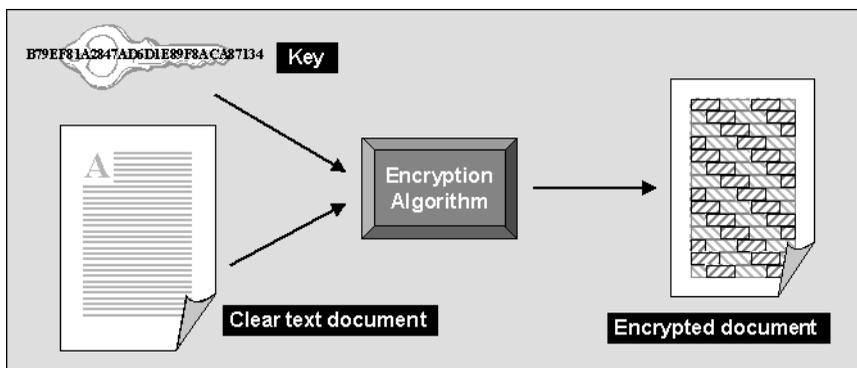
Support for two pairs of public-private keys is a fundamental requirement for some PKIs (for example, Entrust). One key pair is for data encryption and the other key pair is for digitally signing documents. Encryption key pairs and signing key pairs are a result of conflicting requirements. One such requirement is to support different algorithms for encryption and digital signature pairs and different validity periods. Another reason is to support data recovery, which requires the private keys for decrypting to be securely backed up, but non-repudiation, which requires the private keys for signing, not to be backed up. There also might be the requirement to support updating encryption key pairs and managing decryption key histories even though this conflicts with the requirement to securely destroy the private key used for signing when updating signing key pairs. Using two key pairs, an encryption key pair and signing key pair, solves these conflicting requirements.

Why Use Encryption and Digital Signatures?

Encrypting and digitally signing documents by using certificates provides WebLogic Integration – Business Connect users with the following assurances about each of their document transmissions:

- Only the addressee can read the message and not any unauthorized people. Encryption provides this assurance.
- The message cannot be tampered with. That is, data cannot be changed, added or deleted without you knowing it. A document’s digital signature provides this assurance.
- Partners who send you documents are genuinely who they claim to be. Likewise, when partners receive documents signed by you, they can be confident the documents came from you. A document’s digital signature provides this assurance.
- The partners who send you documents cannot claim they did not send them. This is referred to as non-repudiation of origin. A document’s digital signature provides this assurance.
- Partners to whom you send documents cannot claim they did not receive them. This is referred to as non-repudiation of receipt. A signed document acknowledgment provides this assurance.

Figure 7-1 Encrypting a Document Using a Key



WebLogic Integration – Business Connect Encryption Method

WebLogic Integration – Business Connect uses a combination of public-private key encryption, which is also known as asymmetric encryption, and symmetric key encryption. This hybrid system uses the best characteristics of each method and minimizes the shortcomings of each. It follows the widely adopted S/MIME standard for securing messages.

The advantage of symmetric key encryption is that it performs the encryption task more quickly than asymmetric encryption. The advantage of asymmetric encryption is that it allows you to send an encrypted message to a partner who does not hold your secret key.

To use the best of both, WebLogic Integration – Business Connect uses the faster symmetric key to encrypt the document, such as a lengthy EDI transaction set, and the asymmetric key for the smaller task of encrypting the one-time session key. The session key can then be securely included with the message for transmission and allows your partner to decrypt the contents without sharing your secret key.

Note: As noted in [“Transport Selection Considerations” on page 6-30](#), if you send documents using the HTTPS transport, double encrypting adds only marginally to data security. You can turn off document encryption by clearing the encrypt documents check box on the Partner Profile window Security tab.

Symmetric Key Encryption Algorithms

WebLogic Integration – Business Connect supports RC2, ARCFour, DES, and Triple DES encryption algorithms. The encryption algorithm is used in conjunction with a randomly generated session key to encrypt your document. When you set up a partner profile with WebLogic Integration – Business Connect, you must choose one of these encryption algorithms. WebLogic Integration – Business Connect provides you a full range of choices so that you are capable of trading with whatever algorithm your partner might require. However, when you choose an algorithm, you need to be careful to choose one your trading partner can support.

Symmetric Key Lengths

WebLogic Integration – Business Connect supports several key lengths for the symmetric key you choose. The choice you make depends on which encryption algorithm you choose. If you choose the RC2 or ARCFour algorithm, you can select 40-, 64-, or 128-bit key length. If you choose DES, the default key length is 56 bits. Triple DES, as the name implies, uses a 168-bit key length. As with algorithms, you need to be careful to choose a key length your trading partner can support.

Note: ARCFour is an independently developed algorithm that is interoperable with RSA RC4.

Public-Private (Asymmetric) Key Algorithms

WebLogic Integration – Business Connect uses the RSA cryptosystem for asymmetric encryption and the digital signatures provided by using certificates.

You can use two types of asymmetric RSA keys:

- Keys issued to you, typically by a certificate authority, and subsequently imported into WebLogic Integration – Business Connect. Such keys are sometimes called managed keys.
- Keys generated by you in WebLogic Integration – Business Connect. Such keys are called self-signed keys.

Public-Private (Asymmetric) Key Lengths

WebLogic Integration – Business Connect supports encryption key lengths of 512, 1024, and 2048 bits for the public-private key. You must choose one of these key lengths when you generate or obtain your certificate. You do not need to choose the same key length as your trading partner.

Summary of Algorithms and Key Lengths

To use strong encryption you must ensure that the partner’s software supports such strong encryption algorithms and key lengths. The following table summarizes algorithms and key lengths for symmetric and asymmetric keys.

Table 7-1 Algorithms and Key Lengths

Symmetric algorithm for document encryption	
RC2 ARCFour	The default is 40 bits. You can use this length for trading partners located in the U.S. and internationally. You can also choose stronger key lengths of 64 or 128 bits. Longer key lengths require more processing time to encrypt and decrypt, but provide more protection against cryptographic attacks.
DES	The key length is 56 bits.
Triple DES	The key length is 168.

Table 7-1 Algorithms and Key Lengths

Asymmetric algorithm for authentication	
RSA	The default key length is 512 bits when generating a self-signed certificate. You can also choose a key length of 1024 or 2048. The length of imported RSA keys is determined outside of WebLogic Integration – Business Connect.

Support for Dual Keys

WebLogic Integration – Business Connect supports single- and dual-key certificates. You do not need to do anything different to trade documents with a partner who uses dual keys.

When you import the certificates from a partner who uses two keys, both are displayed in the Certificates information viewer. How certificates are used is labeled in the Certificates information viewer as follows:

- *Encryption*
The key in the certificate is used for encryption.
- *Signature*
The key in the certificate is used for digital signature purposes.
- *Signature and Encryption*
The key in the certificate is used for encryption and digital signature purposes.

Encryption and Signing Summary

Described in the simplest terms, WebLogic Integration – Business Connect exchanges encrypted and signed documents in S/MIME format.

WebLogic Integration – Business Connect is certified S/MIME-compliant by RSA Data Security, Inc.

Outbound Documents

The document contains the data that needs to be protected. The encryption and signing processes take place for every document that WebLogic Integration – Business Connect sends over the Internet.

WebLogic Integration – Business Connect encrypts and signs each document by building three parts: the encrypted document, the encrypted session key and the digital signature. The following is the process for an outbound document:

1. A hashing routine (MD5 or SHA-1) creates a digital digest of the document. This digest is a number. If the data in the transaction are changed, added to or subtracted from, reapplying the hashing routine will produce an entirely different digest. This characteristic of hashing routines makes it easy for a partner to verify the integrity of an inbound document.
2. The digital digest is encrypted using your private key. This encrypted digest is the digital signature for this document. It ensures that the data in the document were not changed and that the document came from you and only you.
3. WebLogic Integration – Business Connect generates a one-time session key. This is the symmetric key part of WebLogic Integration – Business Connect’s hybrid encryption method.
4. The session key is used to encrypt the document.
5. Your partner’s public key is provided in the certificate inside the profile your partner gave you. It is used to encrypt the session key for transmission. Thus, the key to decrypting the document has itself been encrypted by your partner’s public key and can be decrypted only by your partner’s private key.
6. The document is then sent using whatever transport method you chose for this partner.

Inbound Documents

When a document is received by your trading partner, the process is reversed according to the following steps.

1. Upon receiving the document, your partner’s WebLogic Integration – Business Connect begins security processing.
2. Your partner uses his or her private key (the matching half to the asymmetric public key you used to encrypt it) to decrypt your symmetric key.
3. The one-time key that was just decrypted is used, in turn, to decrypt the document. Your partner now has your message in clear text.
4. With the public half of your public-private key pair that you sent your trading partner in your certificate (inside your company profile), your trading partner decrypts the digital signature.
5. Your partner uses the same hashing routine (MD5 or SHA-1) to create a digital digest of the document. This is called rehashing. Your trading partner then compares this to the digest in the digital signature you sent. If the two are identical, your partner has proof that the contents of the document were not altered and that it came from you and only you.

6. The document is now ready to be read into and used by your partner's business application.

Note: Any documents that cannot be successfully processed are placed in the Rejected directory, and a notification message is sent to your WebLogic Integration – Business Connect point of contact.

Certificate Basics

A certificate contains the public half of your public-private key pair along with other identifying information about your WebLogic Integration – Business Connect company profile and point of contact. WebLogic Integration – Business Connect uses certificates to distribute your public key and those of your partners. You use the public key in your partner's certificate to encrypt a document for transmission over the Internet. Your partner uses the public key in your certificate to verify the digital signature of a document received from you.

The following is some basic information about how WebLogic Integration – Business Connect uses certificates:

- Every company profile used to exchange secure documents must have a certificate. WebLogic Integration – Business Connect can generate the certificate or it can be generated externally.
- Every partner profile for partners with whom you exchange signed and encrypted documents must have a certificate.
- A company or partner profile can have only one active certificate at a time. Or, in the case of dual certificates, one active pair of certificates (one for signature, one for encryption).
- A company or partner profile must have an active certificate to successfully exchange signed and encrypted documents.
- A company or partner profile can have multiple valid or retired certificates.
- Certificates can be used to sign documents you transmit by all transport methods.
- You can delete a certificate from the Certificates information viewer, but it remains on the system in Retired status. WebLogic Integration – Business Connect does not use the keys in retired certificates to encrypt, decrypt, sign or verify documents.
- The key length for a certificate does not have to be the same as that for a partner's certificate.

Where Certificates and Keys Are Stored

WebLogic Integration – Business Connect stores certificates and keys in two files: `ConfigDB.db` and `keys.db`. The `ConfigDB.db` file is in the root application directory. The `keys.db` file is in the keys subdirectory. The contents of these files are encrypted to ensure security. Do not attempt to alter these files.

The following describes the roles of these two files.

ConfigDB.db

All certificates are stored in `ConfigDB.db`. Certificates that you choose to trust are copied to `keys.db`.

keys.db

The public and private keys for your certificates are stored in `keys.db`. The trusted public keys of your partners and trusted anchors of certificate authorities also are stored in `keys.db`.

Certificate Status

WebLogic Integration – Business Connect manages certificates by using the following status categories.

Active Certificate (Yellow Bulb)

A certificate identified with a yellow bulb is the active certificate for your company profile or for your trading partner's partner profile.

You distribute your public key to your trading partners in your certificate. Your trading partners use this key to verify the digital signature of documents they receive from you.

You receive your trading partner's public key in his or her certificate. You use your partner's public key to encrypt documents for transmission over the Internet.

There can be only one active certificate for signature and encryption or one active pair (one for signature, one for encryption) on your system. The active certificate on your system is also the active certificate on your partners' systems.

When you create or obtain a new certificate for your company profile, you can choose to activate it immediately or to save it in Pending status. If you choose to activate it immediately, WebLogic Integration – Business Connect places the active certificate for your profile in Valid status.

If you import your partner's certificate, WebLogic Integration – Business Connect activates it and places the active certificate for that profile in Valid status.

Valid or Inactive Certificate (Blue Bulb)

A certificate identified with a blue bulb is in the Valid or Inactive state.

A valid certificate is one that was formerly active on your computer. You can have multiple valid certificates on your system.

If WebLogic Integration – Business Connect fails to verify an inbound document using the public key in the active certificate, the application tries again with each of the valid keys. If one of these succeeds, processing proceeds normally and no alert is sent.

An inactive certificate is one that is valid but is not used to verify signatures or to encrypt messages to a partner.

Pending Certificate (Red Bulb)

A certificate identified with a red bulb is in the Pending state:

- A new certificate you created or imported for one of your company profiles. At the time of creation, you answered No to the question, “Do you want to activate this certificate?” which caused the certificate to be placed in Pending status rather than to replace an existing, active certificate.
- An untrusted certificate that WebLogic Integration – Business Connect receives electronically from one of your trading partners is automatically imported in Pending status. Before you activate this certificate, you should contact the partner from whom you received the unsigned certificate and verify the certificate's fingerprint.

In either of the preceding cases, you must use the Certificate Profile window to activate a pending certificate. See [“Activating a Pending or Valid Certificate” on page 7-52](#).

Retired Certificate (Clear Bulb)

A retired certificate is one that was formerly active or valid. You can have multiple retired certificates on your system.

WebLogic Integration – Business Connect does not use the keys associated with retired certificates to sign, verify, encrypt or decrypt documents.

Exchanging Profiles and Certificates

Before you can exchange encrypted and signed documents with a trading partner, each of you must obtain the other's public key. You do this after you have created your company profile. Each of you generates a self-signed certificate or obtains one from a certificate authority (CA). Either way, the process creates a public-private key pair for your company profile. The private half of this key pair always remains on your computer. The public half is exported to a file and distributed to your trading partners on diskette by a secure means.

The following describes how to exchange profiles and certificates with your WebLogic Integration trading partners. In all cases, it is recommended that you confirm the certificate fingerprint with your trading partner before exchanging documents.

Exchanging Certificate Information with WebLogic Integration Trading Partners

If you are using the Bundled HTTPS transport to exchange messages with a WebLogic Integration trading partner, the certificate information is exchanged as follows:

- Certificate information can be included in the partner profile your WebLogic Integration trading partner provides. In that case, certificate information will be imported into WebLogic Integration - Business Connect along with other partner profile information when you choose to import the partner profile, as described in [“Importing a Profile from a Partner Who Uses WebLogic Integration” on page 8-2](#). Please note, you must manually import the CA certificate (chain) separately if the CA certificate (chain) does not exist in the Trust Root store in WebLogic Integration - Business Connect, as described in [“Viewing, Editing or Importing Trusted Roots” on page 7-55](#).

As an alternative, if the certificate information of your WebLogic Integration trading partner is stored in a file, you can import it separately, as described in [“Importing Certificates for Partners” on page 7-40](#).

- When your WebLogic Integration trading partner imports your company profile, the certificate information will be imported. However, your WebLogic Integration trading partner must manually import the CA certificate (chain) separately if the CA certificate (chain) does not exist in the CA key store in WebLogic Integration.

When you update the certificate associated with your company profile, it is important to coordinate the update process with your trading partners. For guidelines, see [“When to Get Certificates” on page 7-15](#).

Self-Signed or CA Certificates

You and your trading partners should decide whether to use WebLogic Integration – Business Connect self-signed X.509 certificates or X.509 certificates from a third-party certificate authority (CA).

Consider the following in deciding whether to generate a self-signed certificate or obtain one from a CA:

- WebLogic Integration – Business Connect self-signed certificates are easily created. Their primary disadvantage is that they are not verified by a trusted third party. If you decide to use self-signed certificates, see [“Setting Up Certificates for a Company Profile” on page 7-22](#).
- The primary advantage of using certificates from a CA is that the identity of the certificate holder is verified by a trusted third party. Disadvantages include the extra cost and administrative effort.
- A CA provides a centralized source for posting and obtaining information about certificates, including information about revoked certificates.

When to Get Certificates

You can generate or obtain new certificates when:

- You know or suspect a certificate has been compromised.
- You need to replace a certificate that is about to expire.
- You want to change your encryption key at planned intervals just as you would change a password.
- You need to set up an additional company profile.

Also, by using the Certificates information viewer, you can make sure you and your trading partners keep your certificates current.

Note: WebLogic Integration – Business Connect notifies you when an active certificate associated with an active company profile is about to expire. See [“Preferences General Tab” on page 10-5](#).

The procedure used depends on whether you are generating or loading a certificate for your company profile, or importing certificate information for one of your partners. See [“Setting Up Certificates for a Company Profile” on page 7-22](#) or [“Importing Certificates for Partners” on page 7-40](#).

When you generate or load a new certificate for your company profile, you must export the certificate information (your public key) to a file for distribution to your partners. See [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#).

When you generate a new certificate for your company profile because it has expired, become defective or corrupted, or cannot be used for any other reason, we recommend that you distribute it to your trading partners on diskette by a secure means. Recommended secure means include in-person, U.S. mail or private delivery service.

When you generate or load a new certificate for your company profile, you can choose to have WebLogic Integration – Business Connect activate the certificate, or save the certificate in Pending status until a later date. To avoid rejection of documents it is important that you coordinate the process of distributing and activating a replacement certificate. The following topics provide guidelines:

- [Replacing a Certificate for Non HTTPS Encryption](#)
- [Replacing a Certificate for Bundled HTTPS with Authentication](#)

Replacing a Certificate for Non HTTPS Encryption

When you update a non-HTTPS certificate for your company profile (that is, one used to encrypt documents exchanged), you must carefully coordinate the timing of the update with your partners. If possible, you should perform such updates when your server is not processing outbound documents. By observing this precaution you can avoid documents being rejected by your trading partners.

If you create and activate a new certificate while WebLogic Integration – Business Connect is encrypting and signing outbound documents, documents that are signed by the private key associated with the new certificate will be rejected by your trading partners, if they have not yet received and activated the new certificate.

The update process for a non-HTTPS certificate does not affect inbound documents because your WebLogic Integration – Business Connect can decrypt and verify them with the last valid certificate.

Replacing a Certificate for Bundled HTTPS with Authentication

If you have enabled the bundled HTTPS inbound transport, with the authenticate check box selected, you should exercise care when you create and distribute a new certificate. We recommend that you:

- Save the new certificate in pending status.
- Export and distribute the certificate to your partners.
- Coordinate the activation of the certificate with the trading partners who use bundled HTTPS. Ideally, choose a time when no documents are being exchanged in either direction.

It is important to coordinate the update with each partner ahead of time so they avoid sending you any documents until the new certificate has been activated on their system. The reason you must exercise this care is that your bundled HTTPS server can use only the active certificate to authenticate the SSL connection. Likewise, each partner must also hold your current certificate to authenticate the connection with you.

To minimize the number of errors during the process of certificate update, you and your partners should activate the new certificate nearly simultaneously, at a pre-designated time when traffic is at a minimum.

If you implement a new certificate while you are trading documents, your trading partners will not be able to establish the SSL connection required to communicate with you. During this time, your trading partners receive alerts stating that their system cannot connect with you. This situation clears itself up after your partners receive and begin using your new certificate to authenticate the SSL connection.

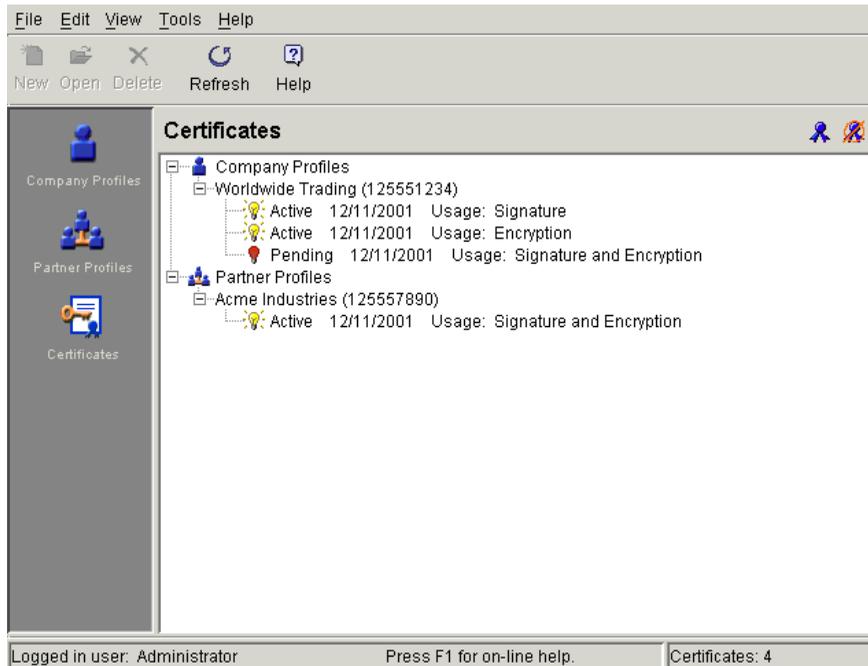
Certificates Information Viewer

The Certificates information viewer in Administrator enables you to manage certificates for your company and partner profiles. Open the viewer by selecting Certificates on the Administrator bar. To expand or collapse the certificate tree, click the plus or minus signs.

Using the viewer you can:

- View a list of all active, valid, pending and retired certificates for company and partner profiles on your system.
- Open and view the details about active, valid, pending and retired certificates.
- Access the New Certificate wizard to generate or import a key pair and certificate for a company profile.
- Export an active certificate to a file for transmittal to your trading partners.
- Import a trading partner's certificate.
- Retire a certificate.
- Open the Certificate Profile window, where you can view details about certificates and the chain of trust for certificates. Here you can activate a valid or pending certificate. You can also view your retired certificates and bring one of these out of retirement. See [“Certificate Profile Window” on page 7-48](#).

Figure 7-2 Certificates Information Viewer



Displaying retired certificates is optional on the Certificates information viewer. To list retired certificates on the viewer, select View→Retired Certificates. For more information about retired certificates, see [“Deleting Certificates” on page 7-47](#), [“Retiring a Certificate” on page 7-52](#) or [“Un-Retiring a Certificate” on page 7-53](#).

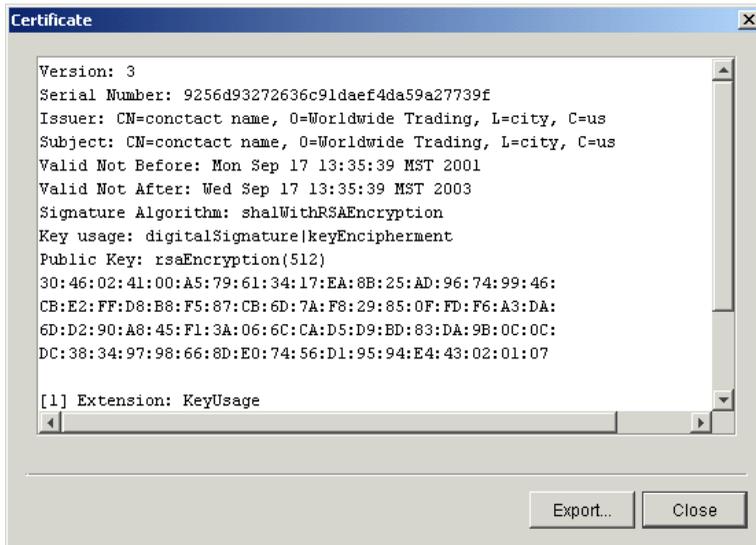
Certificate Window

Use the Certificate window to view information about a certificate for a company or partner profile. You also can export a certificate to a file.

To open the window, display the Certificates information viewer. Select the certificate you want and double-click it or click Open.

When you finish viewing the certificate information, click Close. To export the certificate, click Export to display the Export Certificate window. See [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#).

Figure 7-3 Certificate Window for a Self-Signed Certificate



Field Descriptions

The following describes the fields on the Certificate window. The information displayed on the window is defined by the X.509 standard.

Version

The version of the X.509 standard that applies to the certificate.

Serial Number

The serial number uniquely identifies the certificate. The CA or entity that issued the certificate assigned this number. If the issuer revokes a certificate, it can place the serial number on a certificate revocation (CRL) list.

Issuer and Subject

The issuer is the X.500 distinguished name of the CA or entity that signed the certificate. In cases of a self-signed certificate, the issuer and subject are the same. Using the certificate implies trusting the signer.

The subject is the X.500 distinguished name of the entity whose public key the certificate identifies.

A distinguished name has the following parts:

C	Two-letter ISO country code. See Appendix A, “ISO Country Codes.”
L	City or locality name
O	Organization name
OU	Organizational unit.
CN	Common name of a person

Valid Not Before

The date the certificate became valid.

Valid Not After

The date the certificate expires, provided it is not compromised or revoked before that date.

Signature Algorithm

The algorithm the CA used to sign the certificate.

Key Usage

Identifies the purpose of the key in the certificate, such as encipherment, digital signature or certificate signing.

Public Key

An algorithm identifier that specifies the public key crypto system this key belongs to and any associated key parameters, such as key length.

Extension

Optional information present in version 3 certificates. Extensions can be key and policy information, certificate subject and issuer attributes, certificate path constraints, distribution points for certificate revocation lists (CRLs) and private extensions.

For a CA-issued certificate, the CRL distribution point information is present in the form of a URL. This is one place you can find a CA’s distribution point for a CRL if you want to configure WebLogic Integration – Business Connect to use CRLs. See [“Using Certificate Revocation Lists” on page 7-56](#). A self-signed certificate does not have CRL distribution point information.

Fingerprint

The fingerprints are a way to verify the source of a certificate. After you import or export a certificate, you should contact your partner and ensure that the fingerprints at both ends are identical. You should do this before you attempt to exchange documents. If the fingerprints do not match, one of the certificates might be corrupted or out of date.

Setting Up Certificates for a Company Profile

Use this procedure to create new, self-signed certificates for your company profile or to load a new, third-party certificate for your company profile.

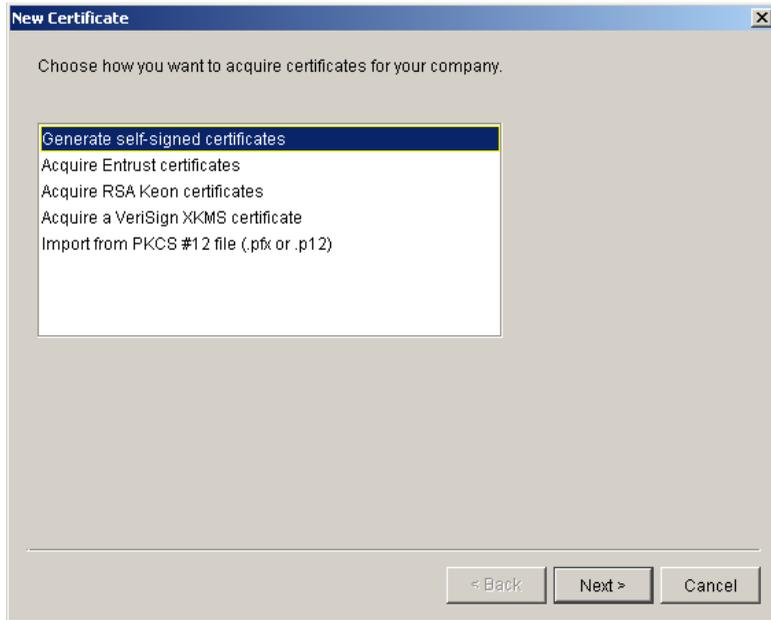
If you want to use a certificate from a third-party CA such as VeriSign, you must obtain that certificate using your Internet browser and export it to a file before you begin this procedure. You must export the certificate to a file that contains the private key and the entire chain of trust. You will need the password used to export the file from your browser to load the certificate into WebLogic Integration – Business Connect.

This is not the procedure to use for importing a partner’s certificate. See [“Importing Certificates for Partners”](#) on page 7-40.

Steps

1. When you save a new company profile, the system prompts you to associate a certificate with the profile. Click Yes on the dialog box prompt to start the New Certificate wizard.

If you want to associate a certificate with an existing company profile, click Certificates on the Administrator bar to display the Certificates information viewer. Select the company you want and click New to start the New Certificate wizard.

Figure 7-4 New Certificate Wizard, Select Certificate Type Window

2. Select the appropriate certificate option, as described in the following table.

Table 7-2 Certificate Options

Option	Description
Generate self-signed certificates	Click if you want WebLogic Integration – Business Connect to generate one self-signed certificate, for both signature and encryption, or two self-signed certificates, one for signature and one for encryption. Go to “Generating Self-Signed Certificates” on page 7-24.
Acquire Entrust certificates	Click if your organization has an Entrust Technologies server and administrator and plans to use Entrust certificates. Go to “Importing Entrust Certificates” on page 7-27.
Acquire RSA Keon certificates	Click if your organization has an RSA Keon server and plans to use RSA Keon certificates. Go to “Importing RSA Keon Certificates” on page 7-31.

Table 7-2 Certificate Options (Continued)

Option	Description
Acquire a VeriSign XKMS certificate	Click to import a new VeriSign XML Key Management Specification (XKMS) certificate. Go to “Importing VeriSign XKMS Certificates” on page 7-34
Import from PKCS #12 file (.pfx or .p12)	Click if you want to use a third-party certificate. Go to “Importing Third-Party CA Certificates” on page 7-37 .

Generating Self-Signed Certificates

Use this procedure if you selected generate self-signed certificates in step 2 of [“Setting Up Certificates for a Company Profile” on page 7-22](#).

The following are the steps for generating and associating with a company profile either a single self-signed certificate for both encrypting and signing documents or two self-signed certificates, one for encrypting and one for signing.

Steps

1. On the first New Certificate wizard window, click Next to display the New Certificate select key type window.

Figure 7-5 New Certificate Wizard, Select Key Type Window

The screenshot shows a window titled "New Certificate" with a close button in the top right corner. The window contains the following elements:

- Select the key type.**
 - Single key-pair
 - Dual key-pairs
- Select the key length.**
 - Key length: 512 (with a drop-down arrow)
- Select the validity period.**
 - Validity period: 2 (in a text box) and Years (in a drop-down menu)

At the bottom right of the window, there are three buttons: "< Back", "Next >", and "Cancel".

2. Click single key if you want one certificate for both signing and encrypting documents. Click dual key if you want two certificates, one for signing documents and another for encrypting documents.
3. Select one of the following encryption key lengths from the key length drop-down list.

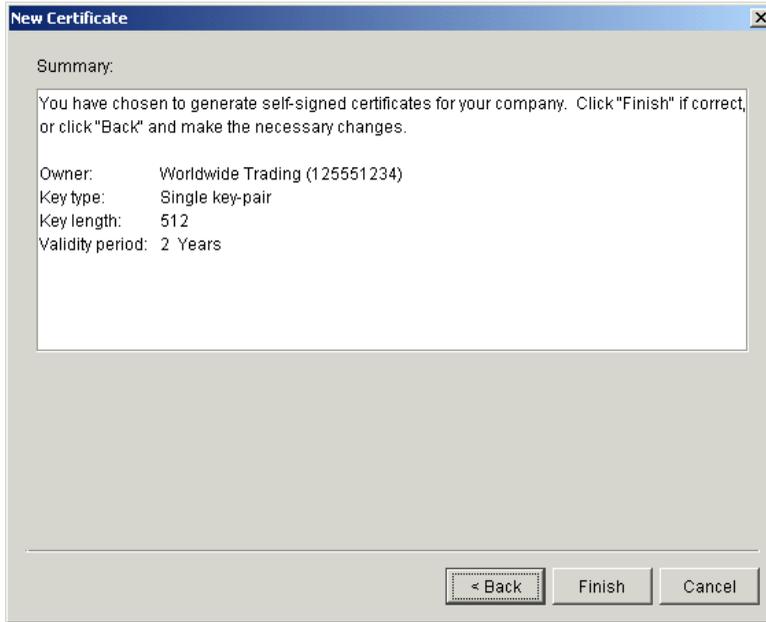
512	Standard encryption. For highly sensitive or valuable information, stronger encryption is recommended.
-----	--

1024	Strong encryption.
------	--------------------

2048	Very strong encryption.
------	-------------------------

4. For the validity period, if you want other than the default value of 2 years, type the length of time you want the certificate to be valid in the validity period field. Select days, months or years from the drop-down list.
5. Click Next to display the New Certificate summary window.

Figure 7-6 New Certificate Wizard, Summary Window



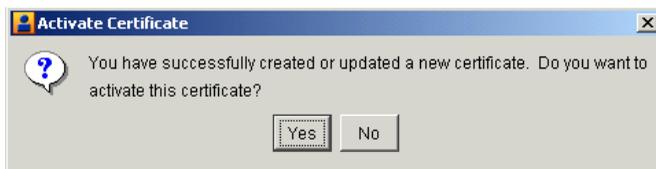
6. Review the information in the window. Click Back to change any information or click Finish to generate the certificate.

When you click Finish, a dialog box appears with a message that the certificates are being generated and might take a few minutes to complete.

If there are no other certificates for this company profile, the new certificate is placed in Active status.

If a certificate already exists for this company profile, a dialog box appears asking whether you want to activate the new certificate.

Figure 7-7 Activate Certificate Dialog Box



When this message appears, click Yes or No as follows:

Yes	Places the new certificate in Active status and any earlier certificate in Valid status.
No	Places the new certificate in Pending status.

After the certificate is generated, the Company Profile or Certificates information viewer reappears, depending on whether you imported a certificate for a new or existing company profile. The new certificate appears on the Certificates information viewer.

- Whether you are adding a certificate to new company profile, or replacing the certificate for an existing company profile, you must distribute the new certificate to partners on diskette or by some secure means. To export certificate information to a file for distribution, see [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#). For guidelines on coordinating the update of your certificate, see [“When to Get Certificates” on page 7-15](#).

Note: Before you attempt to exchange encrypted and signed documents, you should contact each partner with whom you exchanged certificates and confirm that the fingerprints in both your certificates are identical. For more information see [“Certificate Window” on page 7-19](#).

Importing Entrust Certificates

Use this procedure if you selected acquire Entrust certificates in step 2 of [“Setting Up Certificates for a Company Profile” on page 7-22](#).

The following are the steps for importing a new Entrust certificate into WebLogic Integration – Business Connect or for updating an Entrust certificate that is already associated with a company profile. Before you can use this procedure, you must consult with your organization’s Entrust administrator about the information required to connect with the Entrust/PKI server and import a new or updated certificate for your company profile.

WebLogic Integration – Business Connect fulfills a client role in supporting the certificate management tasks of an Entrust server. The prerequisites for this client-server relationship are your Entrust server and a person who is designated as your organization’s Entrust administrator. Lacking these two requirements, your organization cannot use Entrust certificates in exchanging documents with your trading partners through WebLogic Integration – Business Connect.

WebLogic Integration – Business Connect enables an organization with an Entrust/PKI server to:

- Create Entrust X.509 certificates
- Re-initialize Entrust certificates when replacements are needed
- Update Entrust certificates before they expire

WebLogic Integration – Business Connect does not support Entrust certificate revocation or recovery.

WebLogic Integration – Business Connect supports Entrust versions 4 and 5.

The following describes the certificate-generation process involving WebLogic Integration – Business Connect and the Entrust server.

After WebLogic Integration – Business Connect creates the key pair for signing documents, the application hands the public key to the Entrust server. The Entrust server creates the signing certificate and passes the certificate to WebLogic Integration – Business Connect. The public key is within the certificate. WebLogic Integration – Business Connect retains the private signing key. The private signing key is not disclosed to the Entrust server; the private key remains secure within WebLogic Integration – Business Connect. This guarantees security integrity.

Meanwhile, the Entrust server creates the encryption key pair and creates an encryption certificate, which includes the public key. The Entrust server passes to WebLogic Integration – Business Connect the encryption key pair and the encryption certificate.

Steps

1. On the first New Certificate wizard window, click Next to display the Entrust server information window.

Figure 7-8 New Certificate Wizard, Entrust Server Information Window

The screenshot shows a window titled "New Certificate" with a close button (X) in the top right corner. The window contains the following text and controls:

Enter the following certificate protocol information used in your company to communicate with the Entrust server.

CMP (available in Entrust/PKI 5.0 or later)

SEP (available in all Entrust/PKI versions)

Host:

Port:

Enter the following information for the desired Entrust certificate.

Update existing Entrust certificates

Acquire new Entrust certificates

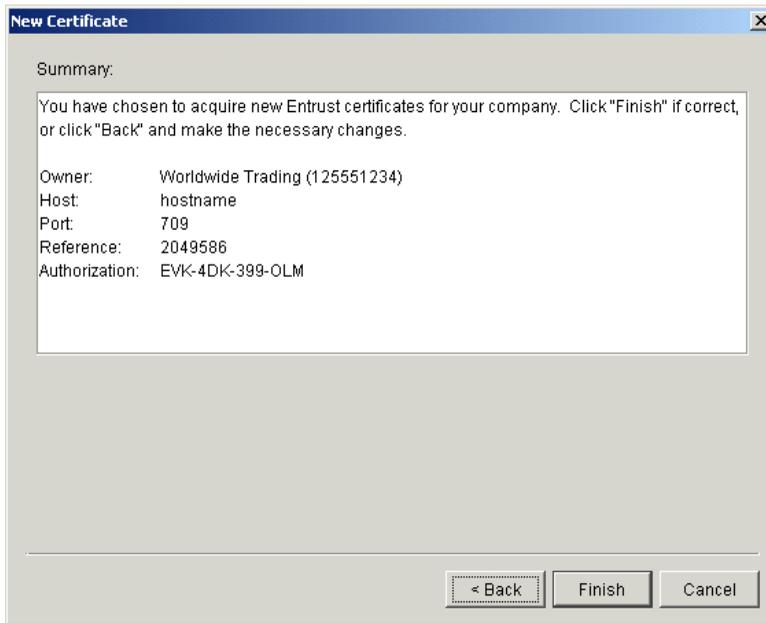
Reference:

Authorization:

At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

2. Consult with your Entrust administrator on whether to select CMP or SEP.
3. Have your Entrust administrator provide the information for completing the host and port fields.
4. Click whether you want to update or acquire certificates. For acquiring certificates, have your Entrust administrator provide the information for the reference and authorization fields.
5. Click Next to display the New Certificate summary window.

Figure 7-9 New Certificate Wizard, Summary Window



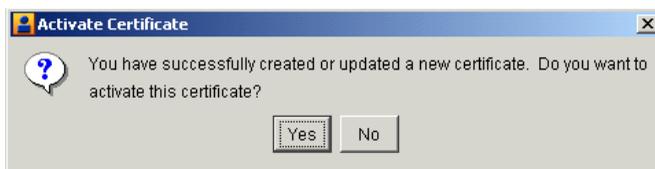
The window displays applicable summary information depending on the option you specified in step 4.

6. Review the information in the window. Click Back to change any information or click Finish to acquire or update a certificate.

If there are no other certificates for this company profile, the new certificate is placed in Active status.

If a certificate already exists for this company profile, a dialog box appears asking whether you want to activate the new certificate.

Figure 7-10 Activate Certificate Dialog Box



When this message appears, click Yes or No as follows:

Yes	Places the new certificate in Active status and any earlier certificate in Valid status.
No	Places the new certificate in Pending status.

After the certificate is generated, the Company Profile or Certificates information viewer reappears, depending on whether you imported a certificate for a new or existing company profile. The new certificate appears on the Certificates information viewer.

- Whether you are adding a certificate to new company profile, or replacing the certificate for an existing company profile, you must distribute the new certificate to partners on diskette or by some secure means. To export certificate information to a file for distribution, see [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#). For guidelines on coordinating the update of your certificate, see [“When to Get Certificates” on page 7-15](#).

Note: Before you attempt to exchange encrypted and signed documents, you should contact each partner with whom you exchanged certificates and confirm that the fingerprints in both your certificates are identical. For more information see [“Certificate Window” on page 7-19](#).

Importing RSA Keon Certificates

Use this procedure if you selected acquire an RSA Keon certificate in step 2. of [“Setting Up Certificates for a Company Profile” on page 7-22](#).

The following are the steps for importing an RSA Keon certificate into WebLogic Integration – Business Connect and associating it with a company profile. Before you can use this procedure, you must consult with your organization’s RSA Keon Certificate Authority administrator about the information required to connect with the Certificate Management Protocol (CMP) server and import a certificate for your company profile.

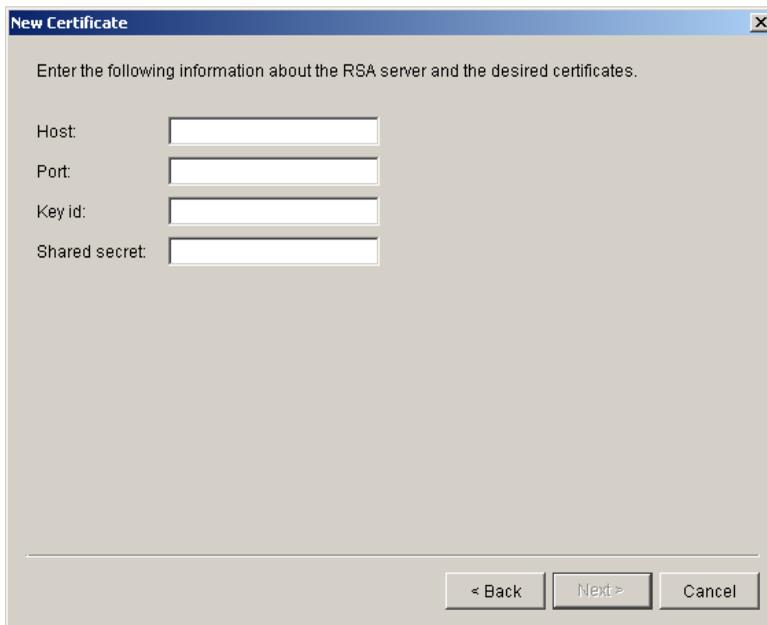
The CMP server must be running for WebLogic Integration – Business Connect to acquire a certificate. Further, the RSA Keon Certificate Authority system must be configured for automatic vetting of CMP requests. For details see the certificate enrollment protocols chapter in the RSA Keon Certificate Authority user documentation.

In this process WebLogic Integration – Business Connect generates the private-public key pair. The RSA Keon Certificate Authority system creates the certificate and certifies your organization as the owner of the public key.

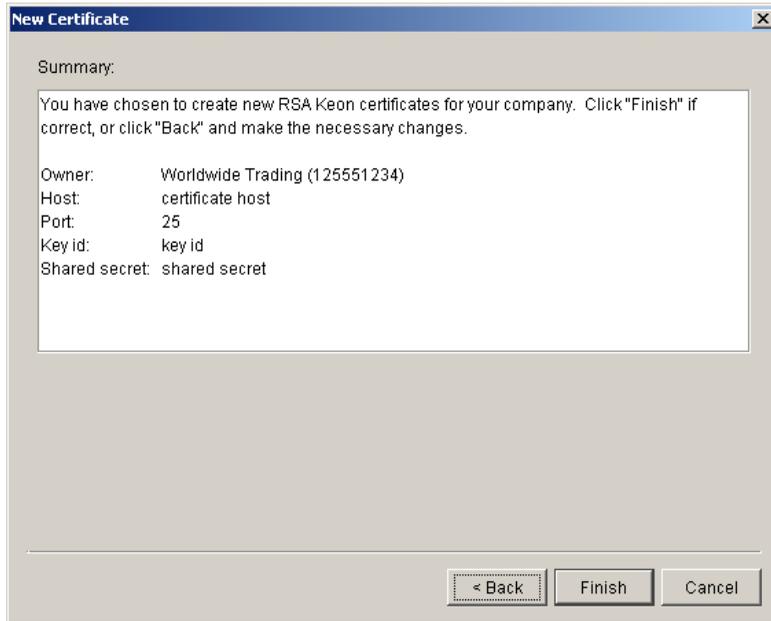
Steps

1. On the first New Certificate wizard window, click Next to display the RSA Keon certificate window.

Figure 7-11 New Certificate Wizard, RSA Keon Certificate Window



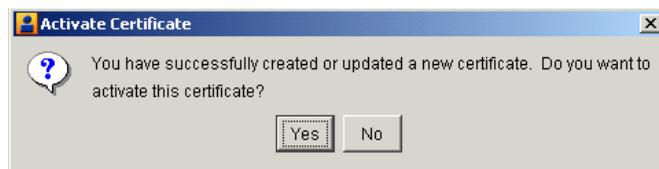
2. Using the information provided to you, complete the fields for importing the certificate. Type this information in the host, port, key ID and shared secret fields.
3. Click Next to display the New Certificate summary window.

Figure 7-12 New Certificate Wizard, Summary Window

4. Review the information in the window. Click Back to change any information or click Finish to import the certificate.

If there are no other certificates for this company profile, the new certificate is placed in *Active* status.

If a certificate already exists for this company profile, a dialog box appears asking whether you want to activate the new certificate.

Figure 7-13 Activate Certificate Dialog Box

When this message appears, click **Yes** or **No** as follows:

Yes	Places the new certificate in Active status and any earlier certificate in Valid status.
-----	--

No	Places the new certificate in Pending status.
----	---

After the certificate is generated, the Company Profile or Certificates information viewer reappears, depending on whether you imported a certificate for a new or existing company profile. The new certificate appears on the Certificates information viewer.

5. Whether you are adding a certificate to new company profile, or replacing the certificate for an existing company profile, you must distribute the new certificate to partners on diskette or by some secure means. To export certificate information to a file for distribution, see [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#). For guidelines on coordinating the update of your certificate, see [“When to Get Certificates” on page 7-15](#).

Note: Before you attempt to exchange encrypted and signed documents, you should contact each partner with whom you exchanged certificates and confirm that the fingerprints in both your certificates are identical. For more information see [“Certificate Window” on page 7-19](#).

Importing VeriSign XKMS Certificates

Use this procedure if you selected acquire a VeriSign XKMS certificate in step 2 of [“Setting Up Certificates for a Company Profile” on page 7-22](#).

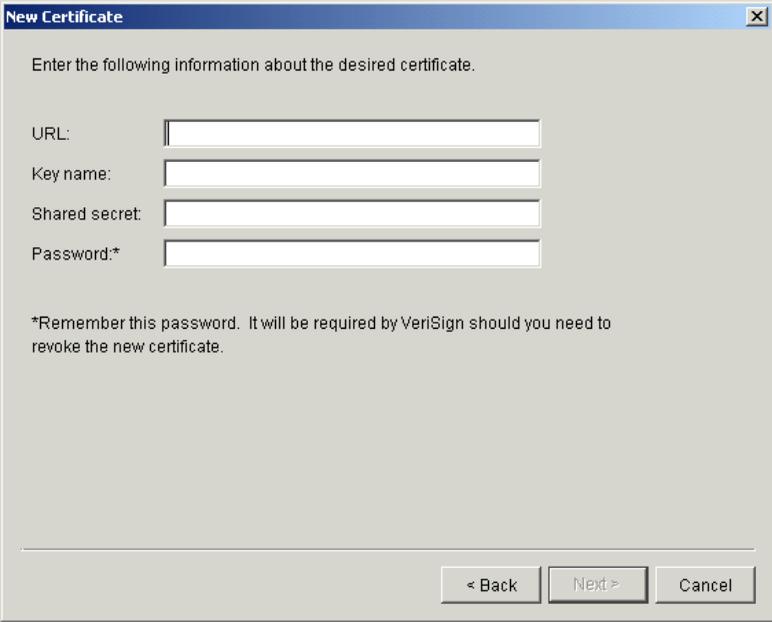
The following are the steps for importing a new XML Key Management Specification (XKMS) certificate into WebLogic Integration – Business Connect and associating it with a company profile. Before you can use this procedure, you must register for a new XKMS certificate from VeriSign. When the new certificate is ready, you will receive an e-mail containing the information needed to connect to a server and import the certificate for your company profile.

XKMS was designed in an effort to combine the interoperability afforded by Extensible Markup Language (XML) in business-to-business electronic commerce with secure and easy to use public key infrastructure (PKI). For information about XKMS see <http://www.xmltrustcenter.org>.

Steps

1. On the first New Certificate wizard window, click Next to display the VeriSign XKMS certificate window.

Figure 7-14 New Certificate Wizard, VeriSign XKMS Certificate Window



New Certificate

Enter the following information about the desired certificate.

URL:

Key name:

Shared secret:

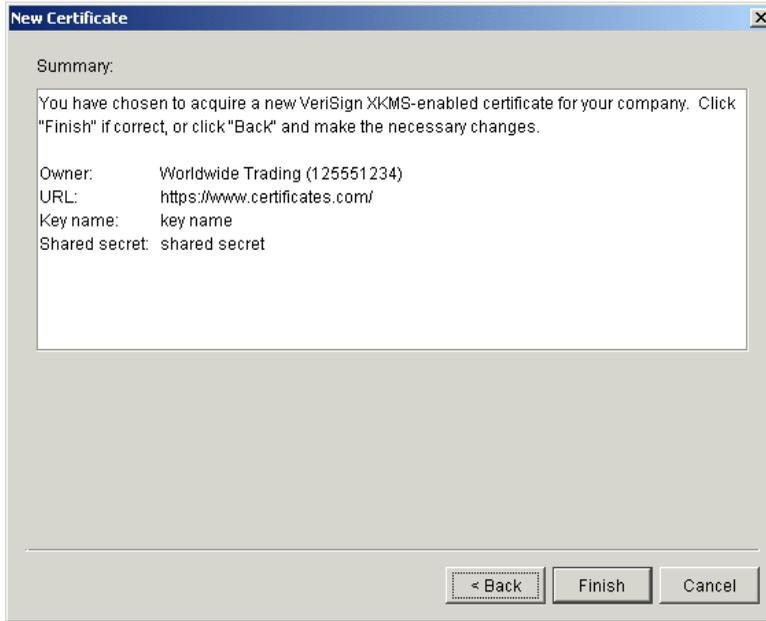
Password:*

*Remember this password. It will be required by VeriSign should you need to revoke the new certificate.

< Back Next > Cancel

2. Using the information provided to you, complete the fields for importing the certificate. Type this information in the URL, key name and shared secret fields. In the password field, type a password that you can remember. You will need this password if you later ask VeriSign to revoke the certificate.
3. Click Next to display the New Certificate summary window.

Figure 7-15 New Certificate Wizard, Summary Window

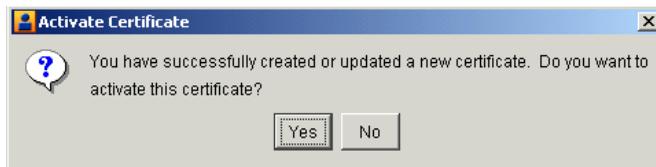


4. Review the information in the window. Click Back to change any information or click Finish to import the certificate.

If there are no other certificates for this company profile, the new certificate is placed in Active status.

If a certificate already exists for this company profile, a dialog box appears asking whether you want to activate the new certificate.

Figure 7-16 Activate Certificate Dialog Box



When this message appears, click Yes or No as follows:

Yes	Places the new certificate in Active status and any earlier certificate in Valid status.
No	Places the new certificate in Pending status.

After the certificate is generated, the Company Profile or Certificates information viewer reappears, depending on whether you imported a certificate for a new or existing company profile. The new certificate appears on the Certificates information viewer.

- Whether you are adding a certificate to new company profile, or replacing the certificate for an existing company profile, you must distribute the new certificate to partners on diskette or by some secure means. To export certificate information to a file for distribution, see [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#). For guidelines on coordinating the update of your certificate, see [“When to Get Certificates” on page 7-15](#).

Note: Before you attempt to exchange encrypted and signed documents, you should contact each partner with whom you exchanged certificates and confirm that the fingerprints in both your certificates are identical. For more information see [“Certificate Window” on page 7-19](#).

Importing Third-Party CA Certificates

Use this procedure if you selected to import from PKCS #12 file in step 2 of [“Setting Up Certificates for a Company Profile.”](#)

The following are the steps for importing a third-party CA certificate into WebLogic Integration – Business Connect and associating it with a company profile. Such a certificate file contains both the public and private keys. Before you can use this procedure, you must perform the following tasks:

- Obtain a certificate from a certificate authority such as VeriSign.
- Export the certificate from a browser or mail client to a file. Assign a password when exporting the file; you will need this same password upon importing the file.
- Export both the public and private keys with the certificate. A certificate file with both keys is a P12 or PFX file.

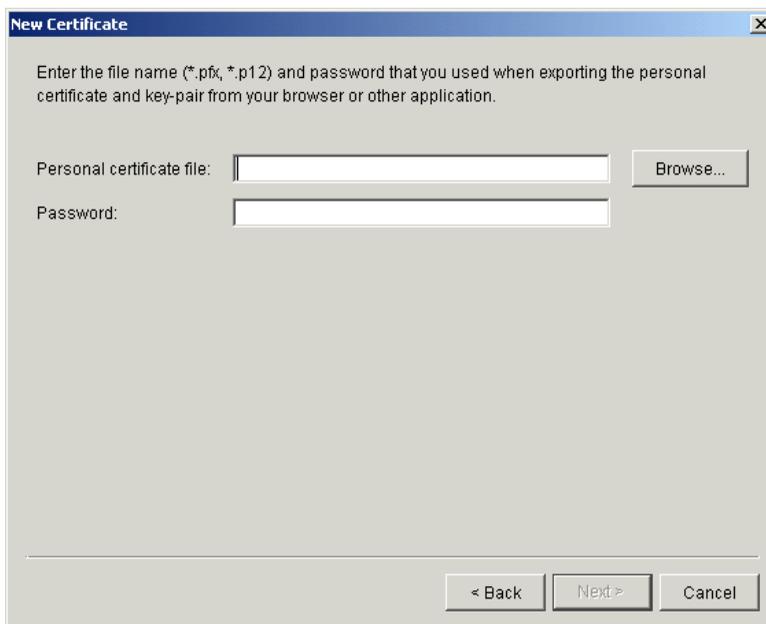
- If you export the certificate from Microsoft Outlook or Internet Explorer, select the check box for “include all certificates in the certification path if possible.” You want the exported file to include the entire chain of trust.

If WebLogic Integration – Business Connect cannot import a P12 certificate file, import the file in Internet Explorer, making sure to mark the private key as exportable when you do so. When you have imported the certificate, view the certification path to verify that the entire path is present. Export the certificate with the private key and include all certificates in the certification path. Then try again to import the P12 file in WebLogic Integration – Business Connect.

Steps

1. On the first New Certificate wizard window, click Next to display the New Certificate third-party certificate window.

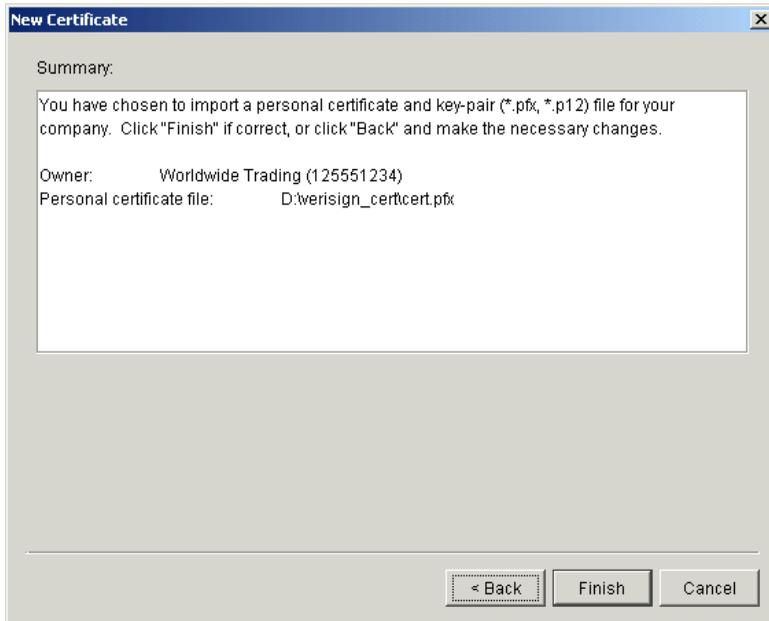
Figure 7-17 New Certificate Wizard, Third-Party Certificate Window



2. To locate the PKCS#12 file containing your certificate, click Browse to display the Browse dialog box.
3. Locate and select the certificate file. The file must have an extension of .pfx or .p12. Click Open and the New Certificate third-party certificate window reappears.

4. Type the same password you used when you exported the certificate file from a browser or mail client.
5. Click Next to display the New Certificate summary window.

Figure 7-18 New Certificate Wizard, Summary Window

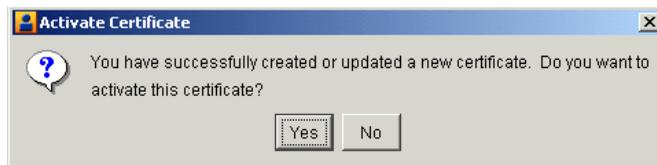


6. Review the certificate information in the window. Click Back to change any information or click Finish to import the certificate.

If there are no other certificates for this company profile, the new certificate is placed in Active status.

If a certificate already exists for this company profile, a dialog box appears asking whether you want to activate the new certificate.

Figure 7-19 Activate Certificate Dialog Box



When this message appears, click Yes or No as follows:

Yes	Places the new certificate in Active status and any earlier certificate in Valid status.
-----	--

No	Places the new certificate in Pending status.
----	---

After the certificate is generated, the Company Profile or Certificates information viewer reappears, depending on whether you imported a certificate for a new or existing company profile. The new certificate appears on the Certificates information viewer.

7. Whether you are adding a certificate to new company profile, or replacing the certificate for an existing company profile, you must distribute the new certificate to partners on diskette or by some secure means. To export certificate information to a file for distribution, see [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#). For guidelines on coordinating the update of your certificate, see [“When to Get Certificates” on page 7-15](#).

Note: Before you attempt to exchange encrypted and signed documents, you should contact each partner with whom you exchanged certificates and confirm that the fingerprints in both your certificates are identical. For more information see [“Certificate Window” on page 7-19](#).

Importing Certificates for Partners

Use this procedure to import a partner’s certificate and associate it with a partner profile.

A partner’s certificate is included in the partner profile you import from your WebLogic Integration partner. When you import the partner profile, the certificate appears in the Certificates information viewer.

However, you must manually import certificates for partners if the certificate information is not included in the partner profile. Moreover, partners sometime send you new certificates. Partners send replacement certificates as a matter of routine change of encryption keys or before certificates expire. They also might send replacement certificates because of suspected or actual compromise, corruption or loss of an encryption key.

If your partner wants to send you a certificate outside of their partner profile, advise the partner to export the certificate to a PKCS#7 file (.p7c) and include all certificates in the certification path, if possible.

Note: WebLogic Integration – Business Connect automatically places any existing partner certificate in Valid status when it imports a new one. The new certificate is automatically set to Active status.

Steps

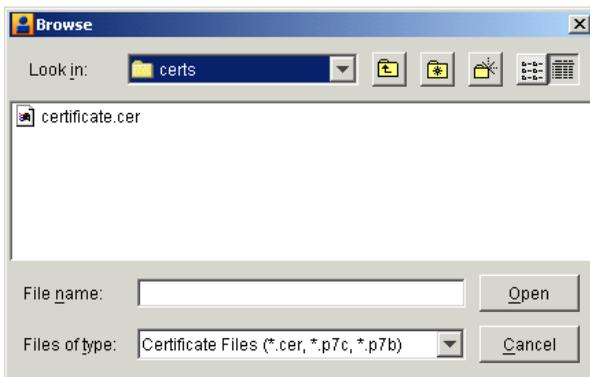
1. Make sure you can access on your system the replacement certificate file that your partner sent you.
2. From the Certificates information viewer, select the partner you want and select File→Import to open the Import Certificate window.

Figure 7-20 Import Certificate Window



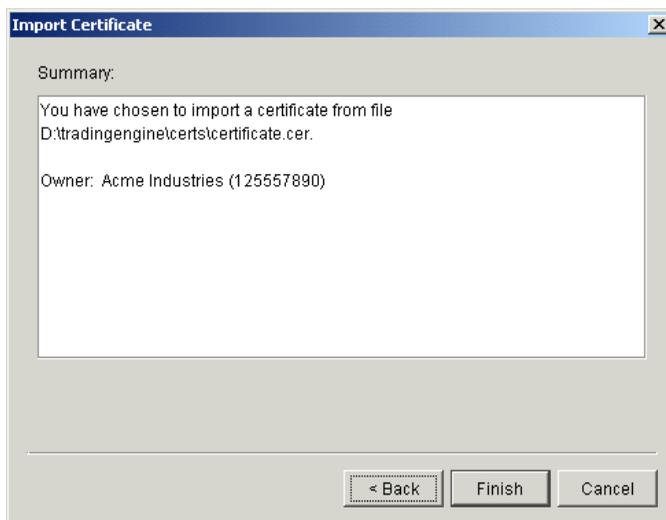
3. Click Browse to open the Browse dialog box.

Figure 7-21 Browse Dialog Box



4. Select the certificate file you want to import and click Open to redisplay the Import Certificate window.
5. Click Next to display the Import Certificate summary window.

Figure 7-22 Import Certificate Summary Window



6. Review the certificate information in the window. Click Back to change any information or click Finish to import the certificate. When you click Finish a dialog box appears with the message that the active certificate already associated with the profile will be set to valid so the new certificate can be set to active.

7. Click OK. The Certificates information viewer is redisplayed with the new certificate you imported. The certificate you just imported has a status of active. The replaced certificate has a status of valid.
8. If the partner uses a trading engine other than WebLogic Integration – Business Connect and sent you a self-signed certificate, select Tools→Certificates > Trusted Roots and trust the imported certificate.

Note: Before you attempt to exchange encrypted and signed documents, contact the partner and confirm that the fingerprints in the certificate you imported are identical to the partner's. For more information see [“Certificate Window” on page 7-19](#).

Exporting Your Certificate for Backup or Distribution

Use this procedure to export a certificate to a file.

When exporting your certificate for distribution to your partners, only export your public key. Never give your partner a certificate that contains your private key.

When exporting your certificate for backup purposes, you can export a certificate that contains your private key. If you do so, keep this certificate in a secure place and never give it to anyone.

After you export a certificate with a public key for distribution to your trading partners, you can send the file to your trading partners by e-mail or on diskette. This is one way to save a certificate to a file. For another way to export a certificate see [“Viewing Certificate Information” on page 7-49](#).

Steps

1. On the Certificates information viewer, select the certificate you want to export and select File→Export to open the Export Certificate selection window.

Figure 7-23 Export Certificate Selection Window



2. Select an export option. If you are exporting a certificate for use by a trading partner, note that the DER and PKCS#7 options are functionally the same. However, the one to select depends primarily on what your partner’s trading engine supports.

For trading between partners who both use WebLogic Integration – Business Connect, we recommend selecting PKCS#7 and the check box for include all certificates in the certification path. Although this is the most all-inclusive choice, you can nevertheless choose DER instead with no adverse effects.

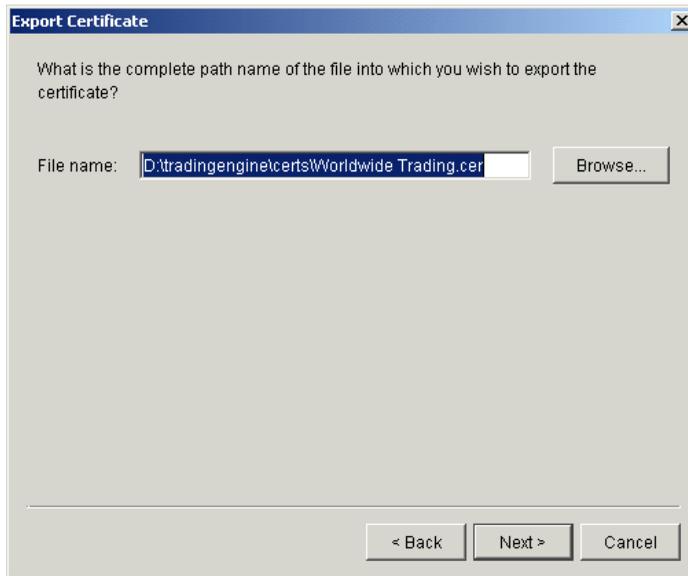
The following table explains the options in more detail. If you trade with partners who use a trading engine other than WebLogic Integration – Business Connect, we recommend that you determine whether their software supports DER, PKCS#7 or both.

Table 7-3 Export Options

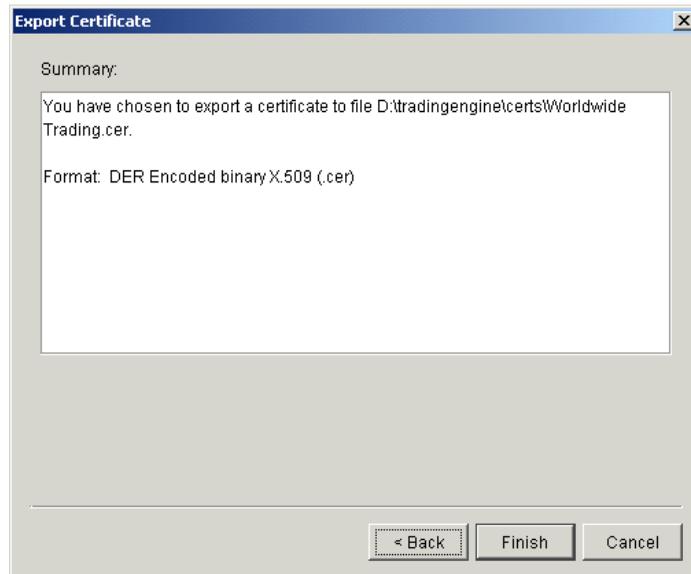
Export option	Description
DER encoded binary X.509 (.cer)	Select this option to export a binary file with an extension of <code>cer</code> . The file contains a single binary certificate containing a public key. Note: If you are exporting a certificate for distribution to a WebLogic Integration trading partner, you must select this option.
PKCS #7 (.p7c)	Select this option to export a file with an extension of <code>p7c</code> . The file can contain all the certificates needed to support trading, if more than one is required.
Include all certificates in the certification path if possible	If you select PKCS #7 (.p7c), select this option to include all certificates in the chain of trust for the certificate. This is the most all-inclusive method for exporting a certificate. However, be aware that your partner's software, if not WebLogic Integration – Business Connect, might not support the entire certificate path in the <code>p7c</code> file.
PKCS #12 (.p12, .pfx)	Select this option to export a certificate containing your private key. You should do this only if you can keep the certificate in a highly secure place. This option is only available for exporting one of your certificates and not one of your partner's certificates. Your partner would not send you a certificate that contains a private key.

3. Click Next to display the Export Certificate file name and path window.

Figure 7-24 Export Certificate File Name and Path Window



4. Review the file name and path for the file you are exporting. If you want to change the path or name, type your changes or click Browse to open a Browse window.
5. Click Next to display the Export Certificate summary window.

Figure 7-25 Export Certificate Summary Window

6. Review the certificate information in the window. Click Back to change any information or click Finish to export the certificate. When you click Finish a dialog box appears with the message that the export succeeded. Click OK.
7. If you exported the certificate for a partner, send the certificate file to the partner by a secure means.

Deleting Certificates

Use this procedure to retire certificates that you or your partners no longer use for verifying signatures or encrypting messages.

Retiring a certificate is a pseudo-deleting process. A retired certificate does not appear on the Certificates information viewer if View→Retired Certificates is turned off. A retired certificate remains in the system as a dormant entity that can be reactivated if need be. Allowing a certificate to be retired but not deleted is a safeguard for the future in the event a signature must be re-validated or a secure message decrypted again.

This is one way to retire certificates. You also can use the Certificate Profile window for a selected company or partner profile. See [“Retiring a Certificate” on page 7-52](#).

For the steps to reactivate a certificate, see [“Un-Retiring a Certificate” on page 7-53](#).

You can view a details window for retired certificates after you have withdrawn them.

Steps

1. At the Certificates information viewer, select the certificate you want to retire and click Delete. A dialog box appears with a message asking whether you want to retire the certificate.
2. Click Yes to retire the certificate or No to cancel the operation.

If you click Yes, the certificate no longer appears on the Certificates information viewer if View→Retired Certificates is turned off. Otherwise, the certificate's status changes to retired on the viewer.
3. If you want to verify that the certificate has been retired, select the profile associated with the retired certificate and click Open to open the Certificate Profile window. Select the Retired Certificates tab. The certificate you retired appears on the tab. To view details of the retired certificate, click View Certificate.

Certificate Profile Window

The Certificate Profile window can be opened from the Certificates information viewer. You can use the Certificate Profile window to manage the certificates associated with company and partner profiles. The following topics are provided for using the window.

- [“Viewing Certificate Information” on page 7-49](#)
- [“Viewing the Certificate Path” on page 7-50](#)
- [“Activating a Pending or Valid Certificate” on page 7-52](#)
- [“Retiring a Certificate” on page 7-52](#)
- [“Un-Retiring a Certificate” on page 7-53](#)

To open the window from the Certificates information viewer, select the name of the company or partner with the certificates you want and click Open.

The window has two tabs: Available Certificates and Retired Certificates.

Figure 7-26 Certificate Profile Window, Available Certificates Tab

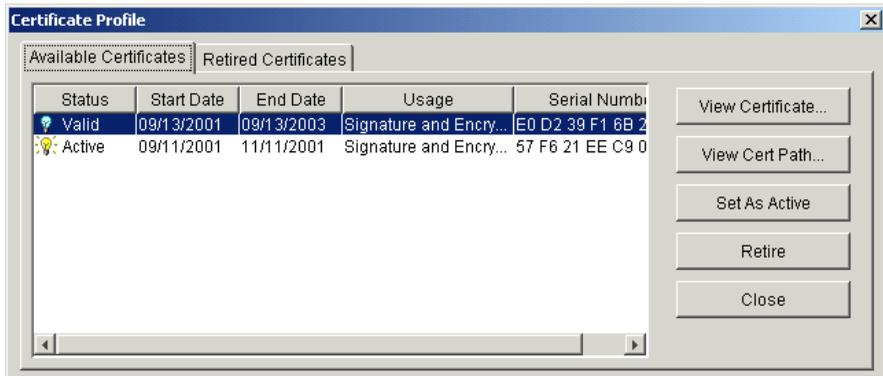
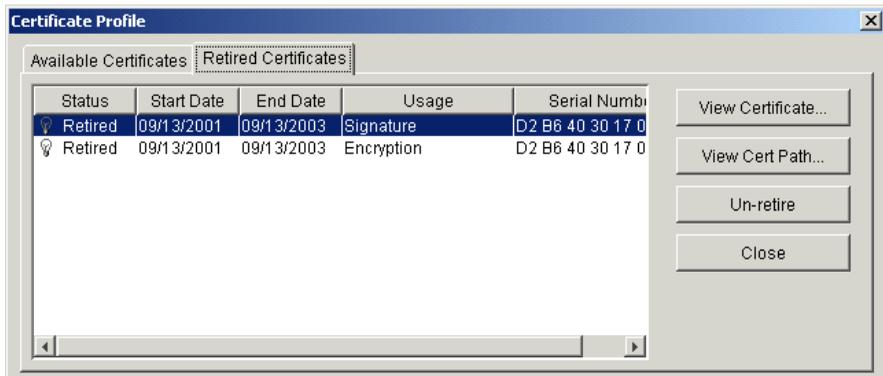


Figure 7-27 Certificate Profile Window, Retired Certificates Tab



Viewing Certificate Information

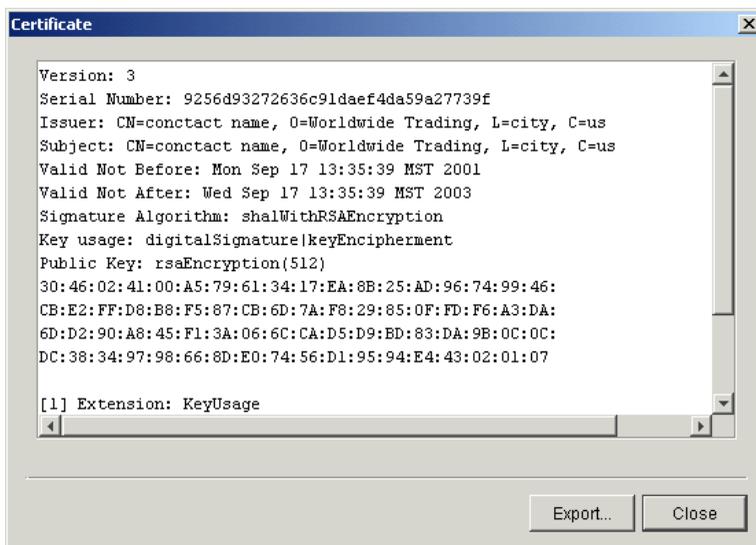
Use this procedure to view information about a certificate for a company or partner profile. You also can export a certificate to a file.

This procedure uses the Certificate window, which is the same one described in [“Certificate Window” on page 7-19](#), but here you access the window through the Certificate Profile window. See [“Certificate Profile Window” on page 7-48](#) for details about the window.

Steps

1. At the Certificates information viewer, select the name of the company or partner with the certificates you want. Click Open to open the Certificate Profile window with the Available Certificates tab selected.
2. Select the certificate you want to view and click View Certificate to open the Certificate window.

Figure 7-28 Certificate Window for a Self-Signed Certificate



See [“Certificate Window” on page 7-19](#) for a description of the fields.

If you want to export the certificate, click Export. See [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#).

3. When you finish viewing the certificate information, click Close to return to the Certificate Profile window.

Viewing the Certificate Path

Use this procedure to view information about a certificate’s chain of trust. You also can export a certificate or its trusted roots to a file.

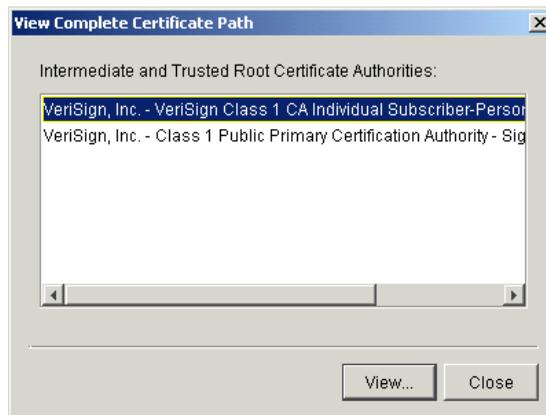
This procedure uses the Certificate Profile window. See [“Certificate Profile Window” on page 7-48](#) for details about the window.

A chain of trust or certificate chain is an ordered list of certificates that includes the certificate of the end-user and certificates of the issuing CA. A trusted root is a public key that is verified as belonging to an issuing CA, which is called a trusted third party.

Steps

1. At the Certificates information viewer, select the name of the company or partner with the certificates you want. Click Open to open the Certificate Profile window with the Available Certificates tab selected.
2. Select the certificate you want to view and click View Cert Path to open the View Complete Certificate Path window.

Figure 7-29 View Complete Certificate Path Window



3. To view details about a certificate in the chain, select the certificate and click View to open the Certificate window. See [“Certificate Window” on page 7-19](#) for a description of the fields.
4. To export a certificate in the chain, click Export on the Certificate window to display the Export Certificate window. You have the option to export a certificate file with an extension of .cer or .p7c. For procedure see [“Exporting Your Certificate for Backup or Distribution” on page 7-43](#).
5. Click Close to return to the Certificate Profile window.

Activating a Pending or Valid Certificate

Use this procedure to change the status of pending or valid certificates to active. A profile can have many certificates, but only one active certificate at a time. The active certificate is the one used for document trading.

This procedure uses the Certificate Profile window. See [“Certificate Profile Window” on page 7-48](#) for details about the window.

Steps

1. At the Certificates information viewer, select the name of the company or partner with the certificates you want. Click Open to open the Certificate Profile window with the Available Certificates tab selected.
2. Select the certificate with the pending or valid status that you want to set as the active certificate and click Set As Active. A dialog box appears asking you to confirm that you want to activate the certificate.
3. Click Yes to activate the certificate or No to cancel the activation. If you click Yes, the Available Certificates tab shows the status of the certificate as active. If there was an existing active certificate, its status is changed to valid.

Note: WebLogic Integration – Business Connect does not automatically distribute the certificate to your trading partners. You must use some method to distribute the certificate.

Retiring a Certificate

Use this procedure to retire a certificate. This procedure uses the Certificate Profile window and is one way to retire or delete a certificate. For details about inactivating certificates see [“Deleting Certificates” on page 7-47](#).

For the steps to reactivate a certificate, see [“Un-Retiring a Certificate” on page 7-53](#).

See [“Certificate Profile Window” on page 7-48](#) for details about the window.

1. At the Certificates information viewer, select the name of the company or partner with the certificates you want. Click Open to open the Certificate Profile window with the Available Certificates tab selected.
2. Select the certificate to retire and click Retire.
3. Click Yes to confirm you want to retire the certificate.

Un-Retiring a Certificate

Use this procedure to change the status of a retired certificate to valid or active.

As explained in [“Deleting Certificates” on page 7-47](#), certificates you have retired from use are maintained in the system in a dormant state in the event they are needed again. When you un-retire a certificate, its status changes to valid and it appears once more on the Certificates information viewer if View→Retired Certificates is turned off. After changing the status to valid, you can make the certificate active if you want.

This procedure uses the Certificate Profile window. See [“Certificate Profile Window” on page 7-48](#) for details about the window.

Steps

1. At the Certificates information viewer, select the name of the company or partner with the certificates you want. Click Open to open the Certificate Profile window with the Available Certificates tab selected.
2. Select the Retired Certificates tab to view a list of the retired certificates, if any, associated with the profile.
3. Select the certificate you want to bring out of retirement and click Un-retire. A dialog box opens with a message asking whether you want to bring the certificate out of retirement.
4. Click Yes to un-retire the certificate or No to cancel the operation.

If you click Yes, the certificate disappears from the Retired Certificates tab. The certificate status changes from retired to valid. The certificate now appears on the Available Certificates tab and the Certificates information viewer.

5. To change the status of the un-retired certificate from valid to active, see [“Activating a Pending or Valid Certificate” on page 7-52](#).

Trusted Roots

Trusted roots are the foundation upon which chains of trust are built in certificates. Underlying a certificate issued by a certificate authority is a root, self-signed certificate. In WebLogic Integration – Business Connect trusting a CA root means you trust all certificates issued by that CA. Conversely, if you elect not to trust a CA root, WebLogic Integration – Business Connect will not trust any certificates issued by that CA. Document trading fails in WebLogic Integration – Business Connect when a non-trusted certificate is used.

The self-signed certificates you can generate in WebLogic Integration – Business Connect are root certificates. This is because you are, in effect, your own CA when you generate a self-signed certificate.

WebLogic Integration – Business Connect by default trusts your and your partners' self-signed certificates that were generated by WebLogic Integration – Business Connect. WebLogic Integration – Business Connect also by default trusts the roots of many CA-issued certificates. You can, however, specify whether WebLogic Integration – Business Connect should not trust all or some certificates issued by a specific CA. You also can explicitly not trust a partner's self-signed certificate.

The Trusted Roots window displays trusted roots for various certificate authorities. It also displays the self-signed certificates of your partners and the certificates used by the WebLogic Integration – Business Connect SOAP-RPC HTTPS server and API HTTPS server (see [Chapter 12, “Application Security”](#)).

Importing a trusted root is a task that rarely, if ever, must be performed. You might have to import a trusted root if, for example, your partner sends you a CA-issued certificate and your system does not have the trusted root for it. In such a case, document trading would fail. As a solution, you would need to import the root underlying the certificate and trust it.

WebLogic Integration – Business Connect can import trusted roots contained in files with the following extensions: `.cer`, `.p7c` and `.p7b`. There are various ways you can obtain such trusted root files:

- You can use WebLogic Integration – Business Connect to export a certificate file with an extension of `.p7c`. See [“Viewing the Certificate Path” on page 7-50](#).
- You can check whether trusted root files are available for download on the web site of the public CA that issued the certificate.
- If the certificate was issued by an in-house CA such as Entrust, you can ask the CA administrator for a trusted root file.
- If the certificate is present in a browser, you can use the application's trusted roots option to export the trusted root to a file.

When you import a trusted root for a certificate to WebLogic Integration – Business Connect, we recommend that you compare the MD5 fingerprints in both the trusted root and the certificate to verify that they match.

Viewing, Editing or Importing Trusted Roots

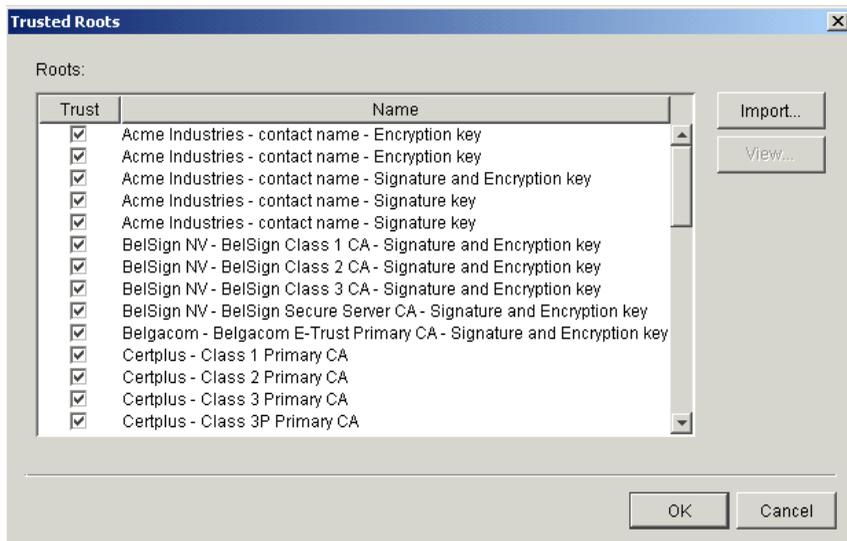
Use this procedure to specify whether to trust roots, view root details or import trusted roots. For details about trusted roots, see [“Trusted Roots” on page 7-53](#).

Steps

1. In Administrator select Tools→Certificates→Trusted Roots to open the Trusted Roots window. The window displays a list of CA roots and self-signed certificates your partners have sent you.

Self-signed certificates that you have generated in WebLogic Integration – Business Connect for document trading do not display on the window. This is because you must trust your own self-signed certificates created for document trading; you cannot elect not to trust them. However, the self-signed certificates for the SOAP-RPC HTTPS server and API HTTPS server are listed on the window and are trusted by default. See [“Certificate Tool \(certloader\)” on page 12-12](#).

Figure 7-30 Trusted Roots Window



2. Check or clear the trust check boxes to indicate whether to trust certain CA roots or self-signed certificates.

There are multiple lines for each CA because each has multiple roots, each with unique fingerprints under which it issues certificates.

3. To view the fingerprints, select a root and click View to open the Certificate window. By comparing fingerprints you can choose to trust or not trust some but not all of a CA's certificates. See [“Certificate Window” on page 7-19](#) for a description of the fields on the window.
4. To import a trusted root, click Import on the Trusted Roots window to open the Import Certificate dialog box. Select the certificate file to import and click Open. You can import a file with an extension of .cer, .p7c or .p7b.
5. Click OK to save your changes and close the Trusted Roots window or Cancel to cancel the operation and close the window.

Using Certificate Revocation Lists

Use this procedure to configure WebLogic Integration – Business Connect to compare your partners' certificates against lists of invalid certificates that are maintained by the issuing certificate authorities.

A certificate revocation list (CRL) is a list of third-party certificates that are no longer valid. Certificate authorities maintain such lists of certificates they issued, but later invalidated for one reason or another. CRLs are accessible on the Internet, and you need an Internet connection for WebLogic Integration – Business Connect to use them.

WebLogic Integration – Business Connect enables you to check your partners' certificates against CRLs. When you direct WebLogic Integration – Business Connect to use CRLs, your partners' certificates are checked each time documents are exchanged. For example, when a partner sends you an encrypted document, WebLogic Integration – Business Connect checks the certificate associated with the inbound document against the CRL. If the certificate is on the CRL, WebLogic Integration – Business Connect rejects the inbound document.

Although using CRLs can enhance security, the checking process can result in longer processing times. Consequently, your decision whether to use CRLs should weigh the security advantage against the performance handicap.

You can configure WebLogic Integration – Business Connect to check certificates against the CRLs of one or more certificate authorities. However, WebLogic Integration – Business Connect checks a specific certificate only against the appropriate CRL. For example, if you configure WebLogic Integration – Business Connect to use CRLs maintained by VeriSign, Inc. and GlobalSign and an inbound document is associated with a VeriSign certificate, the system checks only against the VeriSign CRL and not the GlobalSign CRL.

You are responsible for obtaining from the certificate authority the information required for accessing the CRL. WebLogic Integration – Business Connect downloads the latest CRL in performing certificate checks. It also downloads updates of the CRL, based on the update interval in the previously downloaded CRL.

Steps

1. In Administrator, select Tools→Certificates→Cert. Revocation List to open the Certificate Revocation List window. Go to one of the following:
 - “Adding CRLs” on page 7-58
 - “Deleting CRLs” on page 7-59
 - “Turning CRL Checking On and Off” on page 7-59

Figure 7-31 Certificate Revocation List Window

Update	Distribution Point	Host	Port	Protocol
<input checked="" type="checkbox"/>	class1.crl	crl.verisign.com	80	HTTP

Adding CRLs

Do the following on the Certificate Revocation List window to configure WebLogic Integration – Business Connect to use one or more CRLs.

1. Select the Use CRLs check box.
2. Obtain the information required to access the CA's CRL. This includes the CRL distribution point, the host name, port number and the TCP/IP protocol. Type the CRL access information in the appropriate fields.

The protocols are hypertext transfer protocol (HTTP) and lightweight directory access protocol (LDAP). For example, VeriSign CRLs are accessed via HTTP and Entrust CRLs are accessed via LDAP.

You can obtain the CRL information by viewing the details of a CA-issued certificate. See “Certificate Window” on page 7-19. The information, if present, is in the extensions section and is labeled as CRL distribution point.

As an example, the following is the CRL distribution point within a VeriSign certificate. This is a URL as follows:

<http://crl.verisign.com/class1.crl>

This URL corresponds to the fields on the Certificate Revocation List window as described in the following table.

Table 7-4 URL Components

<code>http:</code>	Select http from the protocol drop-down list.
<code>[port number]</code>	When a port number does not follow http:, the port number is 80 for HTTP only. Type 80 in the port field. If the port is other than 80, the URL will specify the port number.
<code>crl.verisign.com</code>	This is the value for the host field.
<code>class1.crl</code>	This is the value for the distribution point field.

3. Click Add to add to the CRL and display it on the window. By default the Update check box next to the new CRL is selected. The Update check box must be selected for WebLogic Integration – Business Connect to initially download and subsequently perform update downloads of the CRL.
4. Repeat the previous steps to add another CRL.

5. Click **OK** to complete the configuration.

After you add one or more CRLs and if the Server application is running, the system downloads the CRLs into the `crls` directory under the WebLogic Integration – Business Connect installation directory. There might be a delay of up to one hour before Server downloads a CRL the first time. This is because the application polls for new CRLs once an hour.

Each CRL contains a refresh date that indicates when the CA updates the list. WebLogic Integration – Business Connect downloads the updated CRL after each refresh date, provided the Update check box next to the CRL is selected.

The Update check boxes next to the CRLs tell WebLogic Integration – Business Connect whether to monitor the refresh dates within the CRLs and download updated CRLs from CAs at the appropriate times. When the Update check boxes are selected, WebLogic Integration – Business Connect downloads the latest available CRLs.

Deleting CRLs

Do the following on the Certificate Revocation List window to delete CRLs.

1. Make sure the Use CRLs check box is selected.
2. Select the CRL you want to delete and click **Delete**. Repeat to delete another CRL.
3. Click **OK** for the deletions to become effective.

Turning CRL Checking On and Off

Do the following on the Certificate Revocation List window to turn CRL checking on and off.

1. If you want WebLogic Integration – Business Connect to check your partners' certificates against CRLs, select the Use CRLs check box. If you want to turn off CRL checking, clear the Use CRLs check box.

The Use CRLs check box controls whether all CRL checking is turned on or off. You cannot turn on or off checking for a particular CRL by selecting or clearing the Update check box next to a CRL.

2. Click **OK** for the selection to become effective.

Keys and Certificates

Partner Profiles

The following topics are provided for using the Partner Profile information viewer for setting up and maintaining partner profiles.

Concepts

- [“Firewall Details” on page 8-30](#)

Procedures

- [“Importing a Profile from a Partner Who Uses WebLogic Integration” on page 8-2](#)
- [“Adding, Cloning, or Changing a Partner Profile” on page 8-5](#)
- [“Selecting an Active Outbound Protocol” on page 8-18](#)
- [“Adding an Outbound Protocol” on page 8-18](#)
- [“Editing an Outbound Protocol” on page 8-20](#)
- [“Removing an Outbound Protocol” on page 8-20](#)
- [“Delete a Partner Profile” on page 8-41](#)

Windows and Fields

- [“Partner Profile Identity Tab” on page 8-7](#)
- [“Partner Profile Preferences Tab” on page 8-12](#)
- [“Partner Profile Outbound Protocols Tab” on page 8-16](#)

- [“Partner Profile Firewall Tab” on page 8-26](#)
- [“Partner Profile Security Tab” on page 8-36](#)
- [“Partner Profile Binary Directories Tab” on page 8-39](#)

Importing a Profile from a Partner Who Uses WebLogic Integration

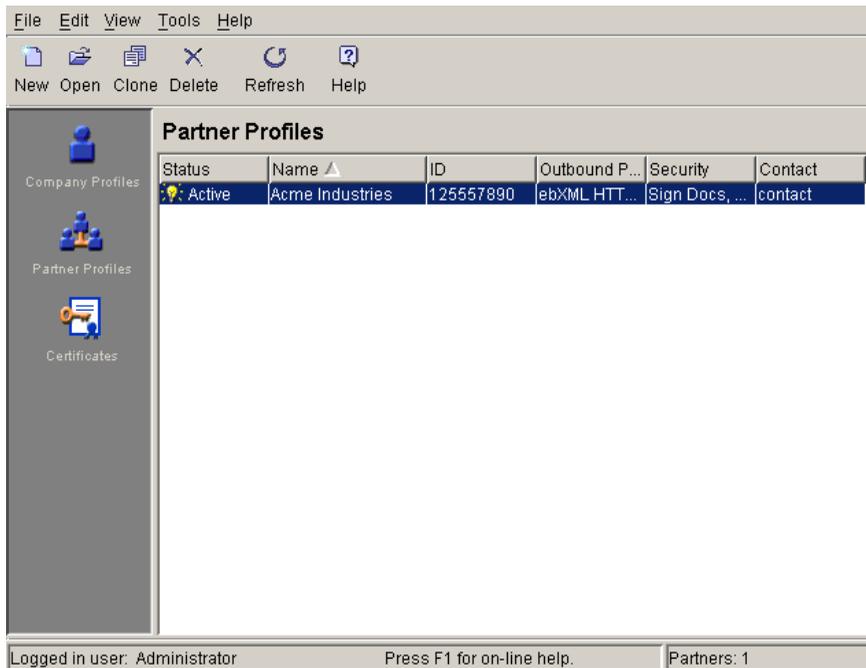
Use this procedure to import a company profile file that was sent to you by a trading partner who uses WebLogic Integration. When imported, the profile, which contains your partner’s identity and transport information, becomes a partner profile on your system.

Importing a profile from a partner who uses WebLogic Integration is a simple direct method of adding a new partner profile to your system. You must modify the profile appropriately after the import.

Steps

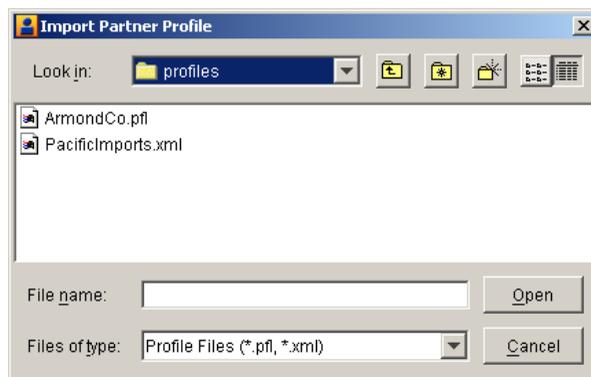
1. Have your trading partner send you by secure means the XML company profile file your partner created in WebLogic Integration.
2. Click Partner Profiles on the Administrator bar to open the Partner Profiles information viewer. The window displays any partner profiles added earlier.

Figure 8-1 Partner Profiles Information Viewer



3. Select File→Import to open the Import Partner Profile dialog box.

Figure 8-2 Import Partner Profile Dialog Box



4. Find and select the partner profile file you want to import and click Open. The file is located on your floppy disk drive or wherever your e-mail attachments are stored.

Partner profiles files are relatively small in size. The files are in the format *ProfileName.pfl* or *ProfileName.xml*.

Note: Partner profile generated in WebLogic Integration are XML files.

If you are importing a profile for a partner already on your system, you are asked to confirm that you want the imported data to overwrite the existing data.

If the profile includes more than one configured protocol-transport combination, the system reminds you to choose an active protocol-transport for the partner. Click OK to open the Partner Profile window Outbound Protocols tab. Select a configured protocol-transport as active. See [“Partner Profile Outbound Protocols Tab” on page 8-16](#).

You can import a profile that has incomplete information for one or more outbound protocol-transport combinations. If you import a profile with a single outbound protocol-transport and the configuration information is incomplete, the system displays a message informing you of the missing information. If you import a profile with two or more outbound protocol-transports, however, the system does not display a message if one or more is incompletely configured. Instead, the system reminds you to complete the configuration. Incompletely configured protocol-transports appear in red in the configured protocols area of the tab. Contact your partner to obtain the missing information or have your partner resend the profile.

5. Select the Security tab and review the settings. To successfully exchange documents, you must coordinate with your trading partner to confirm that both of you have made identical security selections. That is, the settings for your partner’s profile on your system must be the same as the settings for your profile on your partner’s system. For more information see [“Partner Profile Security Tab” on page 8-36](#).
6. If you intend to exchange binary documents with this partner, select the Binary Directories tab.

Select your company profile from the Companies drop-down list and click Add. The application sets up default paths names for the binary-in and binary-out directories. You can change these paths by clicking on the directories and typing your changes.

These are the directories WebLogic Integration – Business Connect polls for binary (non-EDI) documents. You create unique binary-in and binary-out directories for each partner so the system knows the addressee for the outbound documents and can store inbound documents in partner-specific directories. For more information see [“Partner Profile Binary Directories Tab” on page 8-39](#).

7. Click OK to save and close the profile.

8. If you are exchanging signed and encrypted data, open the Certificates information viewer and ensure that an active certificate exists for this partner profile. For more information see [“Certificate Window” on page 7-19](#).

Adding, Cloning, or Changing a Partner Profile

Use this procedure to add a new partner profile when you cannot import a partner’s profile file. You also can change an existing profile or clone a profile to add a new profile that is substantially the same as an existing profile.

Before you create a partner profile, consult with your partner on the ID to use and other details involving the outbound transport and firewall and security issues.

Steps

1. Click Partner Profiles on the Administrator bar to open the Partner Profiles information viewer. The window displays any partner profiles added earlier.
2. To add a new partner profile, click New to open the New Partner Profile dialog box.

To clone a partner profile, select the profile you want to copy and click Clone to open the New Partner Profile dialog box. Cloning lets you create a new profile that is substantially the same as an existing one. Cloning does not replicate certificates.

Figure 8-3 New Partner Profile Dialog Box

The image shows a standard Windows-style dialog box titled "New Partner Profile". It features a title bar with a close button (X) on the right. The main area contains two text input fields. The first field is labeled "Name:*" and the second is labeled "ID:*". Below these fields, there are two buttons: "OK" and "Cancel".

3. Complete the following fields.
 - *Name*
Type the profile name in this required field. You can edit this name after you have added and saved a profile. You can use any alphanumeric characters and the following characters: back slash (\), hyphen (-), forward slash (/), colon (:), underscore (_), comma (,), period (.). You can use spaces in your name; WebLogic Integration – Business Connect translates them to underscores. WebLogic Integration – Business Connect removes any other characters.

– *ID*

Type an identification for the profile. You cannot change the ID after you have created a profile.

You can use alphanumeric and non-alphanumeric characters as well as spaces in profile IDs. All alphanumeric characters are supported. Use of specific non-alphanumeric characters is supported, but results in the system creating names of data directories and processed files that use hex codes in place of the characters. Spaces in IDs are allowed within limitations. You also can create an ID in an electronic data interchange (EDI) format. For details see [“Supported Formats for Profile IDs” on page 6-5](#).

The system displays an error message if you try to create an ID with an unsupported format.

4. Click OK to open the Partner Profile window Identity tab.
5. Add information on the Partner Profile window tabs. You can complete a new profile by choosing the tabs in any order you want.

See the following topics for information about adding or changing information on the tabs:

Table 8-1 Adding or Changing Partner Profile Information

If you want to . . .	See . . .
Review or change partner name and location data and secondary IDs.	“Partner Profile Identity Tab” on page 8-7
Add or change partner preferences for document handling and processing for a partner profile.	“Partner Profile Preferences Tab” on page 8-12
Select, add or change the protocol and transport for sending documents to a partner.	“Partner Profile Outbound Protocols Tab” on page 8-16
Set the parameters WebLogic Integration – Business Connect uses to exchange data through a partner’s firewall.	“Partner Profile Firewall Tab” on page 8-26
Select or change the security settings for a partner profile. These are the parameters WebLogic Integration – Business Connect uses to sign, encrypt and acknowledge receipt of documents you send to a partner.	“Partner Profile Security Tab” on page 8-36
Set up partner-specific inbound and outbound directories for sending and receiving binary documents.	“Partner Profile Binary Directories Tab” on page 8-39

6. Click OK to save the new partner profile or Cancel to close without adding the profile.

Note: Click OK only after you have made all the changes or additions you want on all tabs.

7. If you exchange encrypted or signed documents, you must import this partner's certificate in your Certificates information viewer. You should also confirm with your partner that the fingerprints in both certificates are identical. See [“Importing Certificates for Partners” on page 7-40](#).

Partner Profile Identity Tab

Use the Partner Profile window Identity tab to review or change partner name and location data and secondary IDs. The tab has two parts:

- [“Identity, Primary Tab”](#)
- [“Identity, Secondary Tab” on page 8-10](#)

Identity, Primary Tab

Use the Partner Profile window Identity, Primary tab to view or change the name, location and contact information about your partner. You also can view the profile ID, but you cannot change it.

Figure 8-4 Partner Profile Identity, Primary Tab

The screenshot shows a software window titled "Partner - Acme Industries". At the top, there are several tabs: "Identity", "Preferences", "Outbound Protocols", "Firewall", "Security", and "Binary Directories". The "Identity" tab is selected and contains two sub-tabs: "Primary" and "Secondary". The "Primary" sub-tab is active and displays a form with the following fields:

Name:*	Acme Industries	Contact:*	
Address:*		Title:	
		Department:	
City:*		Phone:	
State / province:		Fax:	
Zip / postal code:			
Country code:*			
ID:*	125557890		

Field Descriptions

The following describes the fields on the Partner Profile window Identity, Primary tab. For procedure see [“Adding, Cloning, or Changing a Partner Profile”](#) on page 8-5 or [“Importing a Profile from a Partner Who Uses WebLogic Integration”](#) on page 8-2.

Name

This field contains the company name of the trading partner. You can edit this name after you have added and saved a profile. You can use any alphanumeric characters and the following characters: back slash (\), forward slash (/), colon (:), underscore (_), comma (,), period (.). You can use spaces in your name; the system translates them to underscores. The system removes any other characters.

Address

If you imported this profile, this field contains the trading partner’s street address. If you are manually adding this profile, type the trading partner’s street address. The first line of the address is required. The second line is optional.

City

If you imported this profile, this field contains the city where the trading partner is located. If you are manually adding this profile, type your trading partner's city. This field is required.

State/province

If you imported this profile, this field contains the name of the state or province where the trading partner is located. If you are manually adding this profile, type the state or province where the trading partner is located.

Zip/postal code

If you imported this profile, this field contains the trading partner's zip or postal code. If you are manually adding this profile, type the trading partner's zip or postal code.

Country code

If you imported this profile, this field contains the partner's two-letter ISO country code. If you are manually adding this profile, type the partner's country code. The following are the ISO codes for selected countries. See [Appendix A, "ISO Country Codes,"](#) for a complete list of the codes.

Table 8-2 Selected ISO Country Codes

Code	Country
ca	Canada
cn	China
fr	France
de	Germany
gb	Great Britain
it	Italy
jp	Japan
mx	Mexico
tw	Taiwan

ID

The ID for this trading partner. You cannot edit this field.

Contact

If you imported this profile, this field contains the name of the trading partner's contact person. If you are manually adding this profile, type the name of the trading partner's contact person.

Title

If you imported this profile, this field contains the job title of the trading partner's contact person. If you are manually adding this profile, type the title of the trading partner's contact person.

Department

If you imported this profile, this field contains the department where the trading partner's contact person works. If you are manually adding this profile, type the name of the department where the trading partner's contact person works.

Phone

If you imported this profile, this field contains the phone number for the trading partner's contact person. If you are manually adding this profile, type the phone number of the trading partner's contact person.

Fax

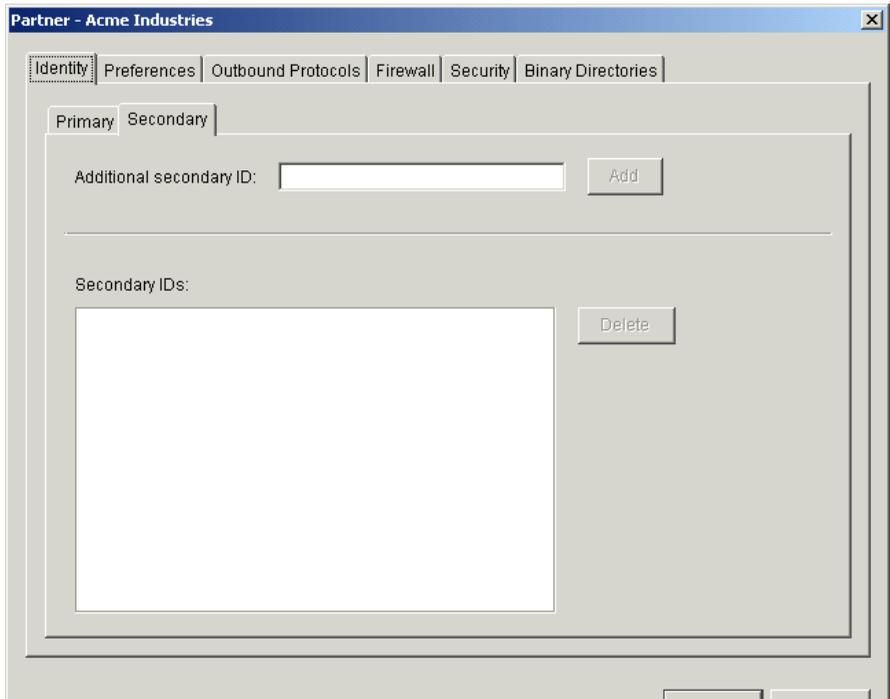
If you imported this profile, this field contains the fax number for the trading partner's contact person. If you are manually adding this profile, type the fax number of the trading partner's contact person.

Identity, Secondary Tab

Use the Partner Profile window Identity, Secondary tab to add or change secondary IDs for partners.

You can use secondary IDs to designate partners other than the current partner as the ultimate intended recipients of documents. Your current partner receives your document and routes it to the partner designated by the secondary ID. Using a secondary ID is useful when trading in a service provider environment. You can send EDI, XML and binary documents to a partner by routing them through a service provider.

Figure 8-5 Partner Profile Identity, Secondary Tab



Field Descriptions

The following describes the fields on the Partner Profile window Identity, Secondary tab. For procedure see [“Adding, Cloning, or Changing a Partner Profile”](#) on page 8-5 or [“Importing a Profile from a Partner Who Uses WebLogic Integration”](#) on page 8-2.

Additional secondary ID

Type the secondary partner’s ID. Do not enter the ID of a partner that already exists on your system or an ID that is already a secondary ID in another partner profile on your system. Secondary IDs are case sensitive; type IDs precisely.

Note: WebLogic Integration – Business Connect rejects outbound documents without valid IDs. However, you can force the application to send such documents by using the wildcard character * (asterisk) as a secondary ID for the intermediary partner to whom you want such documents directed. This works for EDI and XML documents, but not binary documents. The wildcard secondary ID forces WebLogic Integration – Business Connect to process outbound documents it otherwise would reject.

Click Add. Repeat this step to add another secondary ID or click OK to save and close the profile.

Secondary IDs

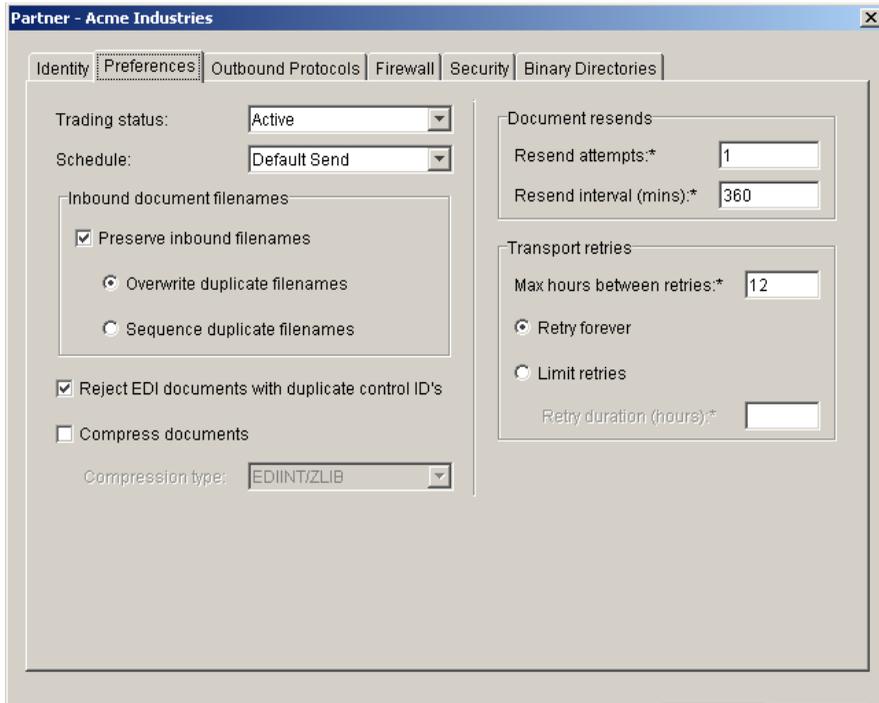
This window displays the secondary IDs associated with the partner profile.

To delete a secondary ID, select the ID you want to delete and click Delete. Repeat this step to delete another secondary ID or click OK to save and close the profile.

Partner Profile Preferences Tab

Use the Partner Profile window Preferences tab to add or change partner preferences for document handling and processing for a partner profile.

Figure 8-6 Partner Profile Preferences Tab



Field Descriptions

The following describes the fields on the Partner Profile window Preferences tab. For procedure see [“Adding, Cloning, or Changing a Partner Profile” on page 8-5](#) or [“Importing a Profile from a Partner Who Uses WebLogic Integration” on page 8-2](#).

Trading status

Select Active from the drop-down list to indicate that the system is to process transactions to and from this trading partner. This is the default.

Select Inactive to indicate that the system is not to process transactions to and from this trading partner. Any attempt to exchange documents with this partner generates an alert.

Note: You can quickly change the trading status by right-clicking the partner profile in the Partner Profiles information viewer and then left-clicking Change Status in the pop-up menu that appears.

Schedule

Select from the drop-down list the document send schedule you want to use with this partner profile. The schedule controls the interval when documents are sent to a partner after the system has packaged them.

Default Send is the default schedule for sending documents to partners. The default send interval is 15 seconds.

Immediate Send sends documents right away after WebLogic Integration – Business Connect has packaged them. Although immediate sending can result in faster throughput, its efficiency can be affected by the number of simultaneous connections a transport server allows. If the server, usually your partner’s, allows more simultaneous connections than the volume of your outbound documents, this is not an issue. If a document fails to send under the immediate send option, the system retries using the default send schedule and follows the fall-off algorithm for re-send attempts. See [“Max hours between retries” on page 8-15](#).

Inbound document filenames

The following fields control file names of inbound documents from this partner.

Preserve inbound file names

Select this check box to have the system write inbound documents to the binary-in, EDI-in or XML-in directory using the documents’ original file names assigned by the remote partner. This is the default.

Clear this check box to have WebLogic Integration – Business Connect write inbound documents to the binary-in, EDI-in or XML-in directory using unique names.

For binary documents we recommend that you accept the default option to have WebLogic Integration – Business Connect preserve inbound file names. If you clear this option, WebLogic Integration – Business Connect assigns an inbound binary document a unique file name that does not provide any clues as to the content. Preserving inbound file names allows you to more easily identify the document. It also allows your business application to process inbound binary documents based on their file names.

Overwrite duplicate filenames

If you select preserve inbound file names, select this radio button to have WebLogic Integration – Business Connect overwrite the first file if it later receives a document with the same name. This is the default.

Sequence duplicate filenames

If you select preserve inbound file names, select this radio button to have WebLogic Integration – Business Connect sequence the names of files it later receives that have the same name rather than overwriting the files.

Reject EDI documents with duplicate control IDs

Select this check box to have WebLogic Integration – Business Connect place inbound EDI documents with duplicate transaction control numbers in the rejected directory. This is the default.

Clear the check box to indicate that WebLogic Integration – Business Connect is to place all inbound EDI documents in the EDI-in directory without checking for possible duplicate transaction control numbers. You might choose this option if your translator performs the duplicate-checking function.

Compress documents

This check box specifies whether or not WebLogic Integration – Business Connect compresses the documents you send. No compression (clear check box) is the default.

Note: This option has no effect when ebXML is the outbound protocol. Do not select the Compress document check box with ebXML.

Document resends

The following fields control how the system will attempt to resend documents following failed attempts.

Resend attempts

Type the number of times you want WebLogic Integration – Business Connect to resend a document for which it does not receive an expected acknowledgment. After the specified number of retries have failed, WebLogic Integration – Business Connect sends you an alert. The default is 1 time. Increasing this number increases the risk of swamping your trading partner with re-sent documents.

This option applies only if you also select the request acknowledgment of documents check box in the Partner Profile window Security tab.

Resend interval (mins)

Type the number of minutes WebLogic Integration – Business Connect is to wait before it tries to re-send a document. The range is from 1 to 9999 minutes. The default is 360 minutes.

You can shorten or lengthen this period for each partner based on such factors as distance, time of day, known partner system down times and historical patterns. Shortening this interval increases the risk of swamping your trading partner with re-sent documents.

Transport retries

The following fields control the system's persistence in trying again to send documents in the event of a transport failure.

Max hours between retries

Type a number for the longest interval in hours between attempts to re-send a packaged document that did not send because of a transport failure. The default is 12 hours, which also is the highest allowed value. This is the maximum hours between re-send attempts, which is an interval the system can reach only after many retries. Attempts to re-send outbound documents is based on a fall-off algorithm. This is how it works:

When a document fails to send the first time, the document enters a wait state of 10 seconds, after which the system tries again to send the document. If it fails again, the wait state doubles to 20 seconds, then doubles again 40 seconds, then doubles again to 80 seconds, and so on until it doubles to the number of hours in this field. When the longest retry interval is reached, the system keeps trying each time the interval elapses, limited only by whether you have selected retry forever or limit retries.

The wait state resets to zero when the partner profile is updated. This is because the update might resolve the connection problem. However, the fall-off algorithm restarts if the transport failure persists.

This field does not apply to transport failures for inbound documents. That also is based on a fall-off algorithm, but uses a doubling factor in conjunction with the inbound polling rate that plateaus at 12 hours. For details see [“Inbound Fall-Off Algorithm” on page 6-4](#).

Retry forever

Select this radio button for the system to keep re-trying without limit to resend documents to a partner. This is the default setting. It is strongly recommended that you use this setting unless you have a special situation or on the advice of technical support.

Limit retries

Select this radio button to limit retries for the maximum hours you type in the retry duration field.

Retry duration (hours)

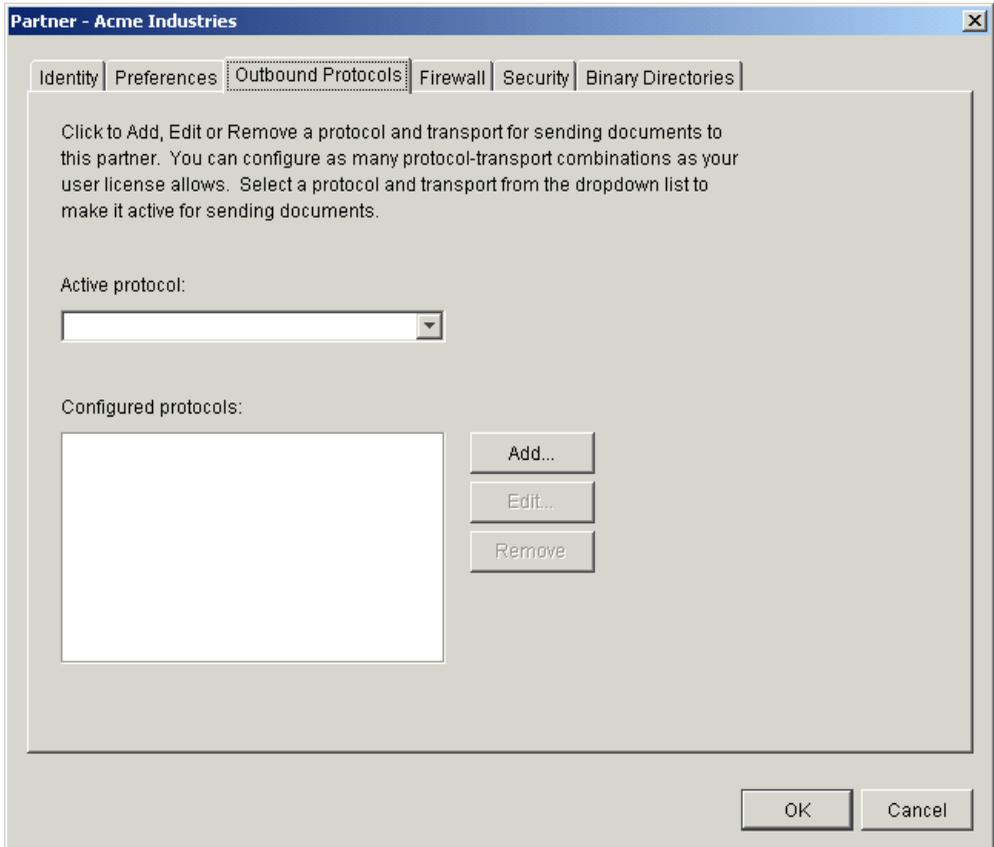
If you select limit retries, type the number of hours after which the system will stop re-trying to send documents. You can use numbers between 0 and 60.

Partner Profile Outbound Protocols Tab

Use the Partner Profile window Outbound Protocols tab to select, add or change the protocol and transport for sending documents to a partner. A profile must have at least one fully configured protocol and transport.

If you import a partner profile, your partner might have configured two or more transport methods for a single protocol. However, you can choose only one active transport type in the partner profile. It is recommended that you consult with your partners about preferred transports.

Figure 8-7 Outbound Protocols Tab



If you imported a profile from a user of WebLogic Integration – Business Connect, it should contain information about the protocol and transport methods your partner wants you to use for sending documents. If not, you must complete the fields yourself for the protocol and transport, based on information your partner provides.

For a list of supported protocols and transports, see [“Supported Protocols and Transports” on page 6-26](#).

The Outbound Protocols tab allows you to change a partner profile in the following ways:

- Select a configured protocol and transport combination as the active method for sending documents to partners.
- Add a transport that you can use to send documents to a partner.
- Edit the settings for a configured protocol and transport combination.
- Remove a protocol and transport combination from the list of configured protocols for the profile.

The following topics explain each of these functions in detail:

- [“Selecting an Active Outbound Protocol”](#)
- [“Adding an Outbound Protocol” on page 8-18](#)
- [“Editing an Outbound Protocol” on page 8-20](#)
- [“Removing an Outbound Protocol” on page 8-20](#)

Selecting an Active Outbound Protocol

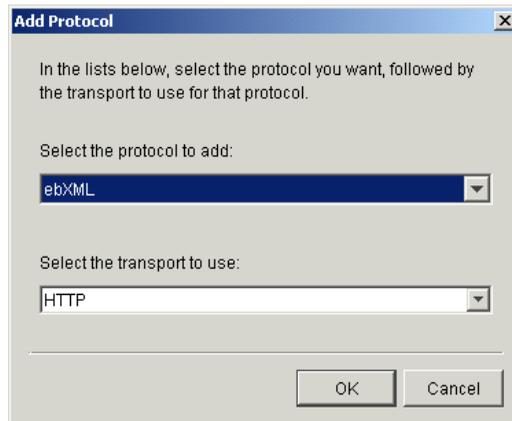
Select an active outbound protocol and transport combination from the active protocol drop-down list. If no protocol-transport combinations are available to select, you must first add one.

A partner profile can have more than one configured protocol and transport combination, but only one can be active at a time for sending documents to the partner. The protocol and transport for sending documents to a partner can be different than the protocol and transport for receiving documents from the same partner.

Click OK on the Outbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

Adding an Outbound Protocol

To add a configured protocol to a partner profile, click Add on the Partner Profile window Outbound Protocols tab. This opens the Add Protocol window.

Figure 8-8 Add Protocol Window

Select a protocol from the drop-down list. Select a transport from the transports drop-down list. A protocol has at least one transport from which to choose. If more than one transport is available, you must configure at least one, but you can later select another transport and configure it, too. See [“Transport Selection Considerations” on page 6-30](#) for guidelines about selecting transports.

After you select a protocol and transport, click OK. A configuration window opens for the transport method you selected. See one of the following topics for information about configuring the transport:

- [“SMTP Outbound Transport” on page 8-21](#)
- [“Bundled HTTP Outbound Transport” on page 8-22](#)
- [“Bundled HTTPS Outbound Transport” on page 8-23](#)
- [“POP Outbound Transport” on page 8-25](#)

On the configuration window for the selected transport, complete the applicable fields and then click OK to save the transport information and close the window. Or, click Cancel to close the configuration window without saving your changes.

After you click OK, the transport method you added appears on the list of configured protocols on the Outbound Protocols tab. The information appears in the following format: protocol transport.

If more than one transport is available for the protocol, you can click Add and repeat the process to configure another transport. If you are done, click OK on the Outbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

Editing an Outbound Protocol

To edit an outbound transport for a protocol that was configured earlier for a partner profile, select the protocol and transport combination you want from the configured protocol list on the Partner Profile window Outbound Protocols tab and then click Edit. This opens the configuration window for the transport. See one of the following topics for information about configuring the transport:

- [“SMTP Outbound Transport” on page 8-21](#)
- [“Bundled HTTP Outbound Transport” on page 8-22](#)
- [“Bundled HTTPS Outbound Transport” on page 8-23](#)
- [“POP Outbound Transport” on page 8-25](#)

On the configuration window for the selected transport, edit the applicable fields and then click OK to save the transport information and close the window. Or, click Cancel to close the configuration window without saving your changes. Then click OK on the Outbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

Removing an Outbound Protocol

To remove an outbound protocol-transport combination that was configured earlier for a partner profile, select the protocol-transport combination you want from the configured protocol list on the Partner Profile window Outbound Protocols tab and then click Remove. This removes the protocol-transport combination from the configured protocol list. Then click OK on the Outbound Protocols tab to save your changes and close the profile. Or, click Cancel to close the profile without saving your changes.

When you remove a protocol and transport combination, it no longer is available for sending documents. However, removing a protocol-transport only removes it from the list of configured protocols. It does not delete the configuration information for the protocol-transport. That information persists in your system. If you add a protocol-transport, later remove it and still later add it back, the earlier configuration information is saved and you do not have to re-enter it.

SMTP Outbound Transport

The SMTP transport enables you to send documents from the SMTP server in your WebLogic Integration – Business Connect system to the SMTP server in your partner’s WebLogic Integration – Business Connect system. You configure this transport on the SMTP Transport Options window accessed from the Partner Profile window Outbound Protocols tab.

If you imported this profile, configuration information about this transport should be present if your partner wants you to send documents by this method.

Figure 8-9 SMTP Transport Options Window

Field Descriptions

The following describes the fields on the SMTP Transport Options window. For procedure see the following topics: [“Adding an Outbound Protocol”](#) on page 8-18, [“Editing an Outbound Protocol”](#) on page 8-20, and [“Removing an Outbound Protocol”](#) on page 8-20.

E-mail address

The e-mail address where you send documents to your partner. If you are adding this profile manually, type this value.

The e-mail address must be in the standard format of `mailbox@server.domain` (for example, `john@worldwide.com`). This can be any address, as long as it is identical on your and your partner’s system.

The system uses the same e-mail address on the SMTP Transport Options window and the POP Transport Options window. The address you enter on one window also is used on the other, regardless whether you use the transport.

Host

The fully qualified domain name or IP address of the partner’s system.

If you imported the profile and there is a value in this field, it should be a FQDN. You can use this FQDN or obtain another FQDN or an IP address from your partner and enter that value.

Port

The host port. For sending from WebLogic Integration – Business Connect to a partner’s WebLogic Integration – Business Connect, the port by default is 4025. If you are creating the profile, the default port is 25.

Use SSL

Select this radio button to have WebLogic Integration – Business Connect send documents over Secure Sockets Layer (SSL) protocol.

SSL port

The host SSL port. For sending from WebLogic Integration – Business Connect to a partner’s WebLogic Integration – Business Connect, the port by default is 4026. If you are creating the profile, the default port is 465.

Bundled HTTP Outbound Transport

The bundled HTTP transport enables you to send documents to the HTTP server in your partner’s WebLogic Integration – Business Connect system. You configure this transport on the HTTP Transport Options window accessed from the Partner Profile window Outbound Protocols tab.

If you imported this profile, configuration information about this transport should be present if your partner wants you to send documents by this method.

Note: This bundled transport is named simply HTTP on the user interface.

Figure 8-10 HTTP Transport Options Window



Field Description

URL is the single field on the HTTP Transport Options window. If you imported this profile and your partner wants you to use this transport, this field contains the URL for sending documents to your partner's HTTP server, which is bundled in the partner's WebLogic Integration – Business Connect system. For your partner's security, the URL is an alias in the following format:

```
http://partner_host_name:4080/exchange/partner_ID
```

The word *exchange* in the URL is an alias for the directory on your partner's server where you send documents. The number *4080* is the default port where your partner's WebLogic Integration – Business Connect HTTP server is listening for inbound documents from you.

If you want to request synchronous acknowledgments (MDNs) from your partner, see [“Field Descriptions on the Security Tab” on page 8-37](#).

For procedure see the following topics: [“Adding an Outbound Protocol” on page 8-18](#), [“Editing an Outbound Protocol” on page 8-20](#), and [“Removing an Outbound Protocol” on page 8-20](#).

Bundled HTTPS Outbound Transport

The bundled HTTPS transport enables you to send documents to the HTTPS server in your partner's WebLogic Integration – Business Connect system. You configure this transport on the HTTPS Transport Options window accessed from the Partner Profile window Outbound Protocols tab.

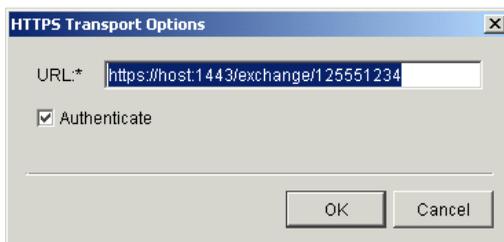
If you imported this profile, configuration information about this transport should be present if your partner wants you to send documents by this method.

If you use bundled HTTPS to send documents, we recommend that you make sure the sign documents check box is selected and the encrypt documents check box is not selected on the Partner Profile window Security tab.

Large-key certificates result in slower HTTPS processing.

Note: This bundled transport is named simply HTTPS on the user interface.

Figure 8-11 HTTPS Transport Options Window



Field Descriptions

The following describes the fields on the HTTPS Transport Options window. If you want to request synchronous acknowledgments (MDNs) from your partner, see [“Field Descriptions on the Security Tab” on page 8-37](#).

For procedure see the following topics: [“Adding an Outbound Protocol” on page 8-18](#), [“Editing an Outbound Protocol” on page 8-20](#), and [“Removing an Outbound Protocol” on page 8-20](#).

URL

If you imported this profile and your partner wants you to use this transport, this field contains the URL for sending documents to your partner’s HTTPS server, which is bundled in the partner’s WebLogic Integration – Business Connect system. For your partner’s security, the URL is an alias in the following format:

```
https://partner_host_name:1443/exchange/partner_ID
```

The word `exchange` in the URL is an alias for the directory on your partner’s server where you send documents. The number 1443 is the default port where your partner’s WebLogic Integration – Business Connect HTTPS server is listening for inbound documents from you.

Authenticate

If you imported this profile and your partner wants you to use this transport, this check box can be either:

- Selected if your trading partner requires that you authenticate the SSL connection with your certificate.
- Clear if your trading partner allows anonymous SSL connections.

POP Outbound Transport

The POP transport enables you to send documents to an SMTP server and your partner to retrieve them from a POP server. You configure this transport on the POP Transport Options window accessed from the Partner Profile window Outbound Protocols tab.

If you imported this profile, configuration information about this transport should be present if your partner wants you to send documents by this method.

Figure 8-12 POP Transport Options Window

Field Descriptions

The following describes the fields on the POP Transport Options window. For procedure see the following topics: [“Adding an Outbound Protocol” on page 8-18](#), [“Editing an Outbound Protocol” on page 8-20](#), and [“Removing an Outbound Protocol” on page 8-20](#).

E-mail address

The e-mail address where you send documents to your partner. If you are adding this profile manually, type this value.

The e-mail address must be in the standard format of *mailbox@server.domain* (for example, *john@worldwide.com*).

The system uses the same e-mail address on the SMTP Transport Options window and the POP Transport Options window. The address you enter on one window also is used on the other, regardless whether you use the transport.

SMTP server

The fully qualified domain name (FQDN) or IP address of the SMTP server your organization uses for sending documents. Your WebLogic Integration – Business Connect system provides this value or you must type it. If a value is already present, it comes from the Outbound SMTP tab in Tools→Preferences, if you completed that tab. If you imported the profile and this field is blank, or if you are manually creating a profile, you must enter your SMTP server. For more information see [“Preferences Outbound SMTP Tab” on page 10-11.](#)

User name

The user name for the server. If you are adding this profile manually, type this value.

Password

The password for this user name. If you imported the profile, the password appears as asterisks. If you are adding this profile manually, type this value.

Confirm password

The password for this user name. If you imported the profile, the password appears as asterisks. If you are adding this profile manually, type this value.

Use SSL

If this check box is selected, documents will be sent via Secure Sockets Layer protocol. If you imported this profile, do not change the value in this check box without consulting with your partner.

Partner Profile Firewall Tab

Use the Partner Profile window Firewall tab to set the parameters WebLogic Integration – Business Connect uses to exchange data through a partner’s firewall.

Many organizations have installed firewalls to prevent unauthorized access to their computer systems. A firewall is a server that an organization places outside its network. It intercepts all inbound connections from the Internet, and by use of one of several schemes allows only authorized users to connect to a server on the organization’s network. Three such schemes that WebLogic Integration – Business Connect supports are listed in the following table.

Table 8-3 Supported Firewall Methods

Transport	Firewall support method
HTTP	HTTP proxy routing
HTTPS	SSL tunneling

Because details about firewalls are kept confidential and because separate user IDs and passwords need to be set up for each partner, firewall information is not distributed in a company's profile. This is why you do not see this information in the Firewall tab when you import your partner's profile. You must get the firewall information from your partner and then add it to the partner profile.

WebLogic Integration – Business Connect does not support outbound routing through your company's firewall.

Note: Do not use the firewall tab for a partner who uses IP authentication.

For more information see [“Firewall Details” on page 8-30](#).

Getting Your Partner's Firewall Information

To get your partner's firewall information, contact your partner and determine the following:

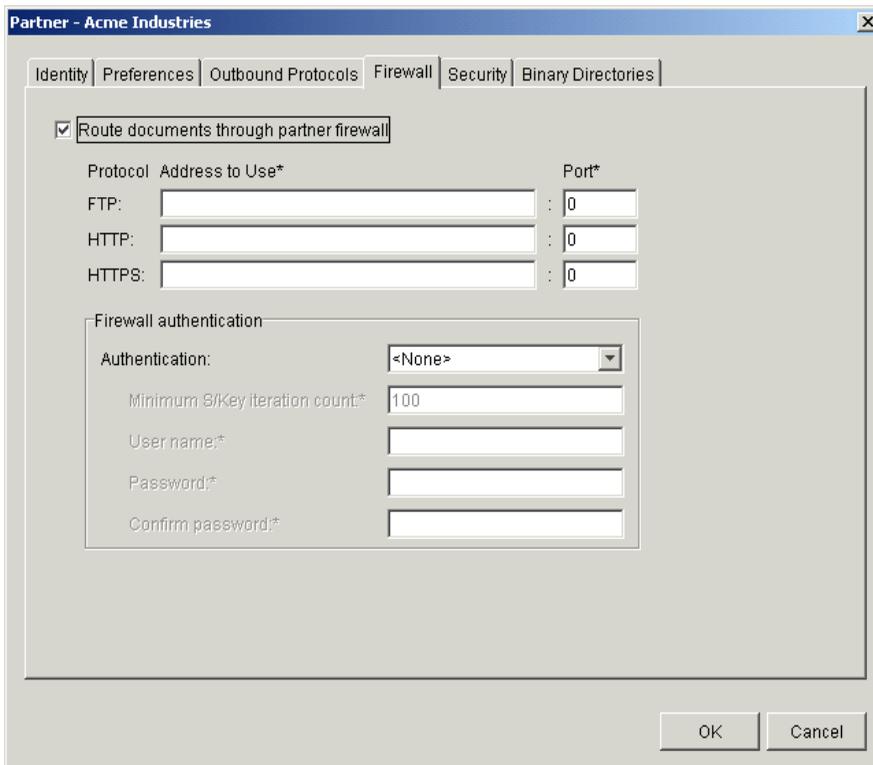
1. Ask whether your partner's organization has a firewall and whether it will require you to send documents through the firewall. Not all organizations with firewalls require that you use them.
2. If your partner requires you to send documents through a firewall, ask your partner for the following information:
 - What is the name or IP address and port number of the firewall for each transport protocol you intend to use?
 - Does the partner's firewall require authentication?
 - If the firewall requires authentication, determine what authentication the partner uses. That is, user ID and password authentication or S/KEY.
3. If your partner's firewall requires authentication, ask for the user name or user ID and secret password your partner wants your WebLogic Integration – Business Connect to use when establishing a connection with the partner's firewall.
4. If your partner uses S/KEY, ask the partner to recommend a minimum iteration count. This number depends on how often you need to connect to your partner's firewall to exchange documents. The iteration count functions as a reminder for you to obtain a new password from your partner. It is set each time your partner issues you a password. This setting is kept on your partner's system.

Depending on how your partner sets this up, one use of a key might last for a predetermined time, so that several transactions might be passed during the time it is valid.

Each use of this key decrements the iteration count by one. When the number reaches the limit you entered, WebLogic Integration – Business Connect issues a notification message reminding you to contact your partner for a new password. WebLogic Integration – Business Connect continues to send you notifications until your partner sends you a new password and resets your iteration count on the partner’s system. During the time when the iteration count is below the minimum, your password will continue to function, and message traffic will flow uninterrupted. If the iteration count falls to zero or below, authentication might fail.

After you get the preceding information, you are ready to enter information in the Partner Profile window Firewall tab.

Figure 8-13 Partner Profile Firewall Tab



Field Descriptions on the Firewall Tab

The following describes the fields on the Partner Profile window Firewall tab. For procedure see [“Adding, Cloning, or Changing a Partner Profile” on page 8-5](#) or [“Importing a Profile from a Partner Who Uses WebLogic Integration” on page 8-2](#).

Route documents through partner firewall

If your partner requires that you route documents through a firewall, select this check box.

Protocol address to use

For the transport method you plan to use to send documents to this partner, type the name or IP address of the firewall host to which WebLogic Integration – Business Connect logs on when it sends documents to this partner. Your partner provides this information.

If your partner requires you to route documents through the partner’s firewall but does not use authentication, you still must complete this field.

Port

In the port field for the transport method you plan to use to send documents to this partner, type the port number of your partner’s firewall host. Your partner provides this information.

If your partner requires you to route documents through the partner’s firewall but does not use authentication, you still must complete this field.

If you enter an address and port for the FTP transport protocol, WebLogic Integration – Business Connect uses them to establish the connection with the partner’s firewall. The firewall then directs the connection to the partner’s FTP server used by the partner’s WebLogic Integration – Business Connect system. In this case, the values you enter in the control port field on the FTP Transport Options window are not used.

Firewall authentication

Skip this area if your partner does not require authentication. If your partner uses clear text or S/Key authentication, complete the following fields as applicable. Your partner must provide this information.

Authentication

If you select S/Key, complete the minimum S/Key iteration count, user name and password fields. If you select clear text, complete the user name and password fields. If your partner uses clear text authentication, your user name and password are sent to the partner’s firewall in unencrypted form.

Minimum S/Key iteration count

If you select S/Key authentication, type the minimum iteration count you and your partner agreed upon. This field is active only if you select S/Key authentication.

When the number of iterations remaining on your current S/Key equals this number you enter, a notification is sent to you with each additional use of your key. In this way, it serves as a reminder that you need to ask your partner for a new key. For more information about how S/Key works see [“Firewall Details” on page 8-30](#).

User name

If your partner uses clear text or S/Key authentication, type user name that WebLogic Integration – Business Connect uses when it logs on to your partner’s firewall. Your partner must provide this information.

Password

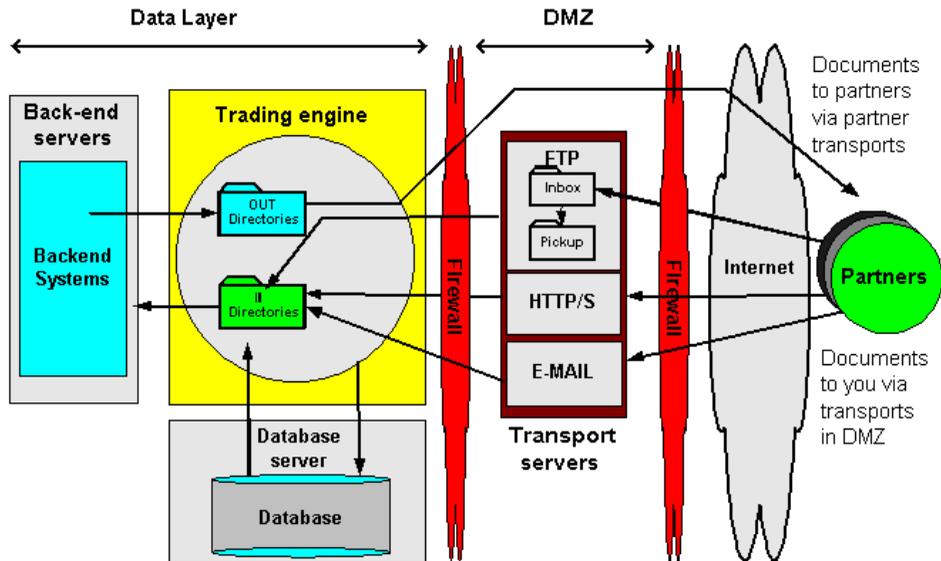
If your partner uses clear text or S/Key authentication, type the password that WebLogic Integration – Business Connect uses when it logs on to your partner’s firewall. If you authenticate with an S/Key-enabled firewall, your secret password is never sent in clear-text form. Your partner must provide this information.

Firewall Details

[Figure 8-14](#) depicts a standard architecture for deploying WebLogic Integration – Business Connect in an environment where firewalls are present. To maintain document and back-end security throughout the entire process, we recommend placing the transport servers in a demilitarized zone (DMZ) and WebLogic Integration – Business Connect in the data layer. A DMZ is the area between an organization’s trusted internal network and an untrusted, external area such as the Internet.

If you place WebLogic Integration – Business Connect in the DMZ, take precautions to move the decrypted documents out of the DMZ to a secure location. You can accomplish this any number of ways. The method usually depends on your back-end needs and choice of integration options.

Figure 8-14 Standard Firewall Architecture



HTTP and HTTPS for Firewalls and Proxy Servers

You can configure WebLogic Integration – Business Connect to communicate using the HTTP or HTTPS transport through firewall and proxy servers without compromising the security of your network.

To do this, you can use one of two alternatives:

- *Network Address Translation (NAT)*
This method translates a valid address from outside your firewall to an address behind your firewall. This is the recommended solution because it provides you the most flexibility in assigning port addresses.
- *Windows Sockets (Winsock)*
This method creates a secure channel or tunnel to your proxy server. You can use this alternative if your server does not support NAT. You can use this alternative on proxy servers that support sockets.

Using Network Address Translation

See your firewall software documentation for instructions on implementing this solution.

Using Winsock

1. In Administrator select Tools→Preferences to open the Preferences window. Select the Ports tab. Type 8080 in the HTTP port field. Open your company profile and select the Inbound Protocols tab. Open the HTTPS Transport Options window and type 4443 in the Port field.
2. Using your favorite text editor, create the `wspcfg.ini` file. The following is an example of the contents of this file:

```
[jre]
ServerBindTcpPorts=8080,4443
Persistent=1
KillOldSession=1
```

3. Save the file in installation directory\bin and close the text editor.
4. Re-initialize your server. The proxy server computer does not overwrite the `wspcfg.ini` file you created; rather it reads the file and binds the needed ports to WebLogic Integration – Business Connect when that application is started. Consequently, you can make configuration settings in this file that apply only to WebLogic Integration – Business Connect on a specific client computer.

Commands Sent to Firewalls

The following describes how WebLogic Integration – Business Connect sends documents through a trading partner’s firewall using FTP and HTTP. Listed are the commands WebLogic Integration – Business Connect sends to the partner firewall for each transport.

Native FTP Authentication

```
User PROXYUSER@FTPUSER@DESTINATION
Password PROXYPASSWORD@FTPPASSWORD
```

HTTP Proxy

```
POST http://destinationhost:port/uri
Authenticate: FIREWALLUSER:FIREWALLPSWD
```

HTTPS Tunnelling

```
CONNECT http://destinationhost:port/
Authenticate: FIREWALLUSER:FIREWALLPSWD
```

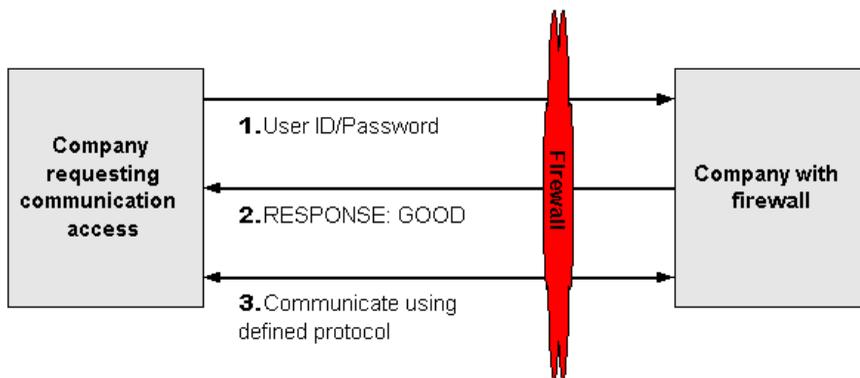
Firewall Authentication Methods

The following describes how WebLogic Integration – Business Connect authenticates with firewalls that use various authentication methods.

Organizations deploy firewalls to prevent unauthorized users from gaining access to the corporate data that resides on their networks or in their computer centers. Although most organizations use either clear text or S/KEY authentication methods, you might encounter partners who use other strategies. WebLogic Integration – Business Connect supports the following:

- *No authentication*
If your partner uses this strategy, your WebLogic Integration – Business Connect server log on to your partners firewall but does not need to authenticate using a user ID or password.
- *IP authentication*
The firewall checks the IP address of the sender against a known list of authorized senders. It blocks unauthorized addresses while allowing authorized senders to exchange data through the firewall. You do not need to use the WebLogic Integration – Business Connect firewall tab to navigate the firewall of a partner who uses this authentication method.
- *Clear-text authentication*
If your partner's firewall requires clear text authentication you use the WebLogic Integration – Business Connect partner firewall tab. In this tab you provide the IP address of your partners firewall host along with the port he/she wants you to use. You also use the user ID and password which your partner has provided you.
- *S/KEY authentication*
If your partner's firewall uses S/KEY authentication, you must supply the IP address and the port of the firewall host and a user ID and password which you would use for a series of challenge and response authentications.

Figure 8-15 User ID/Password Challenge-Response



Support for the S/KEY One-Time Password System

This section provides details about how WebLogic Integration – Business Connect uses the S/KEY One-time Password System (S/KEY) to navigate your partner's firewall. This information is for use by system administrators and other interested users. Because WebLogic Integration – Business Connect hides the complexity, a user need not understand it fully to successfully use the S/KEY.

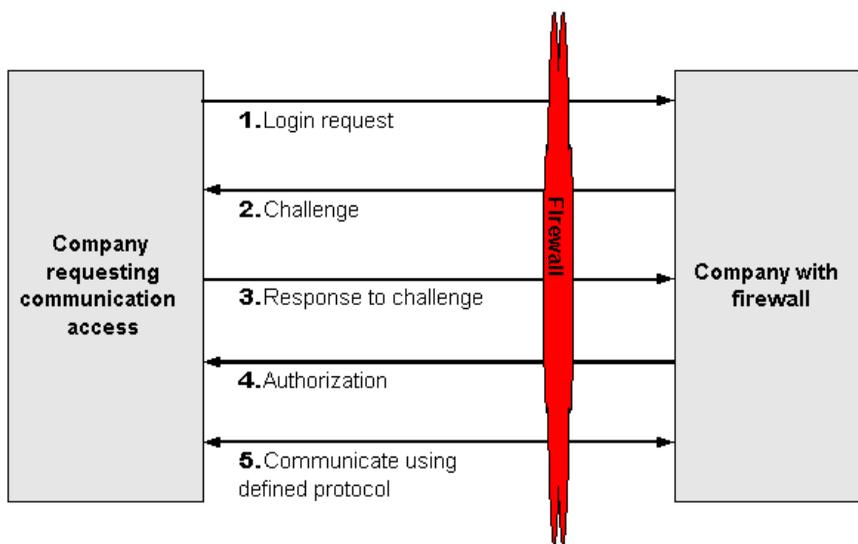
S/KEY is used to prevent what is known as a replay attack on an organization's network. In a replay attack, an unauthorized person outside an organization's network eavesdrops on that network's connections to obtain the login IDs and passwords of legitimate users. At some later time, the unauthorized intruder replays the log-ins and passwords to gain access to the network. S/KEY foils these attacks by exchanging a series of challenge and responses with the user who is requesting access.

The S/KEY is documented by RFC 1760. You can see this RFC along with a list of others posted by the Internet Engineering Task Force (IETF) at the following web site:

<http://www.ietf.org>

See “[Partner Profile Firewall Tab](#)” on page 8-26 for information on setting up WebLogic Integration – Business Connect to navigate an S/KEY-enabled firewall.

Figure 8-16 S/KEY Challenge-Response



A typical exchange between your WebLogic Integration – Business Connect and a partner with an S/KEY-enabled firewall occurs as follows (see [Figure 8-16](#)):

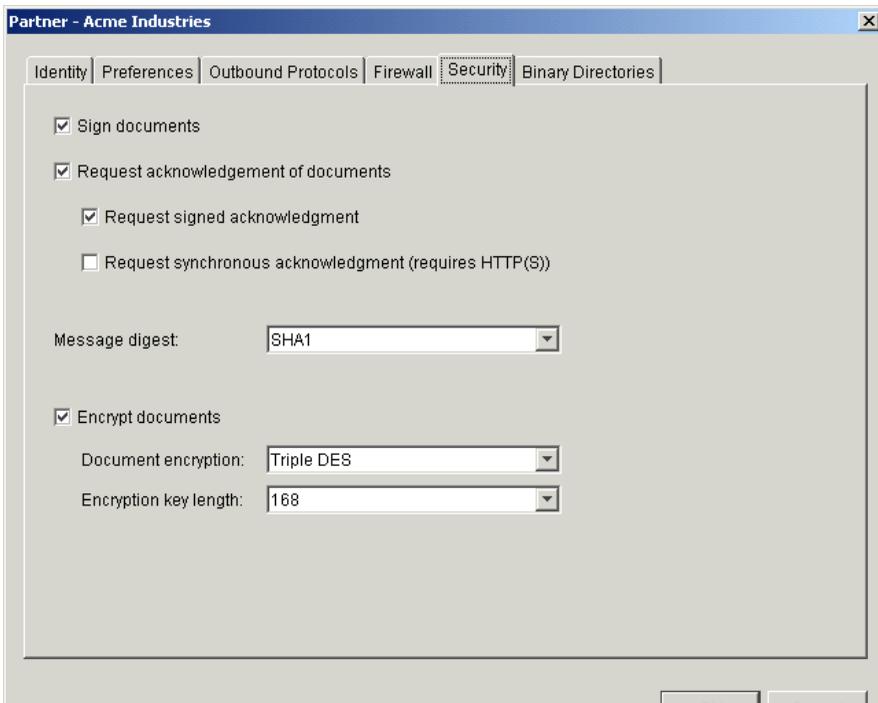
1. Your WebLogic Integration – Business Connect server sends a login request to connect to your partner's firewall using a user name or user ID from the user name field in the firewall tab.
2. In response, your partner's S/KEY-enabled firewall sends you a challenge. This challenge consists of the latest iteration count and a seed value.
3. Upon receipt of this challenge, your WebLogic Integration – Business Connect computes a new password by hashing the seed value, the iteration count from the challenge response, and the password from the firewall tab. More specifically, WebLogic Integration – Business Connect iteratively hashes the result of the previous hash up to the number specified in the iteration count that came with the challenge response. The new computed password consists of six English words. WebLogic Integration – Business Connect then sends this new, computed, multi-word password and your user ID to your partner.
4. Your partner verifies this new password and sends an approval or rejection back to your WebLogic Integration – Business Connect.
5. If the response is valid, your WebLogic Integration – Business Connect server then passes documents through the firewall to your partner's WebLogic Integration – Business Connect.

Partner Profile Security Tab

Use the Partner Profile window Security tab to select or change the security settings for a partner profile. These are the parameters WebLogic Integration – Business Connect uses to sign, encrypt, and acknowledge receipt of documents you send to a partner.

Note: If you use bundled HTTPS to send documents to partners, we recommend that you select the sign documents check box and that you do not select the encrypt documents check box on the Partner Profile window Security tab.

Figure 8-17 Partner Profile Security Tab



Field Descriptions on the Security Tab

The following describes the fields on the Partner Profile window Security tab. For procedure see [“Adding, Cloning, or Changing a Partner Profile” on page 8-5](#) or [“Importing a Profile from a Partner Who Uses WebLogic Integration” on page 8-2](#).

Sign documents

Select this check box to have WebLogic Integration – Business Connect sign the documents you transmit. This is the default.

Clear this check box to send documents without a digital signature.

Request acknowledgment of documents

Select this check box to have your partner send message disposition notification (MDN) acknowledgments to you upon receipt of your documents. The MDNs are signed or unsigned depending on your selection in the sign documents check box.

WebLogic Integration – Business Connect supports the use of MDNs for S/MIME documents as follows:

- Sends MDNs to those partners who request them for their S/MIME documents.
- If you receive an unsigned MDN from a trading partner who uses S/MIME, WebLogic Integration – Business Connect considers the document to have been acknowledged, but logs the MDN as *Received, Generic* in Tracker. The selected check box is the default.

Clear the check box to indicate that you do not want your trading partners to send you acknowledgments for the documents you send them.

WebLogic Integration – Business Connect appends file names of received MDNs with `_ack`.

Request signed acknowledgment

Select this check box to have your partner sign the MDNs the partner sends to you. This is the default when you import a profile with a certificate from a partner who uses WebLogic Integration – Business Connect.

Clear this check box to have your partner send you unsigned MDNs.

Request synchronous acknowledgment (requires bundled HTTP(S))

If you use the bundled HTTP or HTTPS transport, select this check box if you want synchronous MDNs in accord with the AS2 standard. This check box is selected by default when ebXML is the active outbound protocol. If ebXML is the active outbound protocol, we recommend selecting this check box.

Message digest

The algorithm that WebLogic Integration – Business Connect uses to create a hash of the unencrypted document. This hash is a number which is encrypted with the sender’s private key. It is decrypted by the recipient using the sender’s public key. The recipient rehashes the decrypted document and compares the result with the hash that came with the document. If the two are identical, it ensures that the contents have not been altered.

You can choose from the algorithms MD5 and SHA1 (the default).

Encrypt documents

Select this check box to have WebLogic Integration – Business Connect encrypt the documents you transmit. This is the default when you import a profile with a certificate from a partner who uses WebLogic Integration – Business Connect.

Clear this check box to send unencrypted documents.

Document encryption

If you select encrypt documents, select one of the following from the drop-down list to indicate which algorithm WebLogic Integration – Business Connect is to use to encrypt the documents you send: RC2, ARC4, DES or Triple DES, the default.

Encryption key length

If you select encrypt documents, select the key length appropriate for the encryption algorithm you chose:

40	Normal encryption (RC2, ARCFour)
56	Strong encryption (DES)
64	Strong encryption (RC2, ARCFour)
128	Very strong encryption (RC2, ARCFour)
168	Very strong encryption (Triple DES)

Partner Profile Binary Directories Tab

Use the Partner Profile window Binary Directories tab if you plan to exchange binary documents with a partner. This tab lets you set up partner-specific inbound and outbound directories for sending and receiving binary documents.

WebLogic Integration – Business Connect uses a unique binary-out directory for each partner so that it knows the correct addressee for the outbound binary documents. Conversely, the system uses a unique binary-in directory for each partner so that documents placed in it can be correctly processed by your business application.

Figure 8-18 Partner Profile Binary Directories Tab

Partner - Acme Industries

Identity | Preferences | Outbound Protocols | Firewall | Security | Binary Directories

Select a company and click 'Add' to enable binary trading with that company.

Companies: Worldwide Trading (125551234) Add

Select a company from the list to display the binary directories for that company.
Click 'Delete' to disable binary trading with that company.

Binary companies: Delete

Partner ID	Inbound Binary Directory	Outbound Binary Directory

Field Descriptions

The following describes the fields on the Partner Profile window Binary Directories tab. For procedure see [“Adding, Cloning, or Changing a Partner Profile” on page 8-5](#) or [“Importing a Profile from a Partner Who Uses WebLogic Integration” on page 8-2](#).

Companies

If you intend to exchange binary documents with this partner, select your company profile from the drop-down list and click Add.

If you set up a secondary ID for another trading partner on the Partner Profile window Identity tab for this partner, the system sets up binary directories on this tab for the secondary ID partner.

Note: Your partner must also make a similar selection in your partner profile on the partner’s WebLogic Integration – Business Connect system.

Binary companies

Select a company from the drop-down list to display the binary directories for the company. Click Delete if you want to disable binary trading with the company.

At your discretion, you can type new paths and directory names in the inbound and outbound binary directory fields. Outbound directories must be unique across the whole application; inbound directories need not be unique.

Delete a Partner Profile

Use this procedure to delete a partner profile that is no longer needed. When you delete a partner profile:

- You cannot undo it.
- The record for this partner is no longer displayed in the Certificates information viewer. Although not displayed, any certificates for this partner are retired, not deleted.
- The system directories that WebLogic Integration – Business Connect created for this partner are not deleted.
- Documents received for a partner that has been deleted are placed in the rejected documents directory.

Steps

1. At the Partner Profiles information viewer, select the partner profile you want to delete and click Delete.
2. Confirm the deletion in the dialog box that appears.

Partner Profiles

Document Send and Archive Schedules

The following topics are provided about document send and archive schedules.

Concepts

- [“Overview of Schedules” on page 9-1](#)

Procedures

- [“Changing the Send Schedule” on page 9-4](#)
- [“Changing the Archive Schedule” on page 9-6](#)

Overview of Schedules

WebLogic Integration – Business Connect has two types of schedules: send and archive. Send schedules set the intervals when documents are sent to your trading partners. The archive schedule sets the interval when Tracker runtime database records are moved to the archive database. Also, if you have elected document archiving, the archive schedule triggers the movement of documents from the WebLogic Integration – Business Connect backup directory to the archive directory.

The following topics describe schedules in more detail.

- [“Send Schedule”](#)
- [“Archive Schedule” on page 9-3](#)

Send Schedule

A send schedule enables you to control when WebLogic Integration – Business Connect sends outbound documents to your trading partners. Send schedules do not apply to inbound documents, which are processed as soon as they are received.

Note: A send schedule in WebLogic Integration – Business Connect might duplicate the functionality of your translator. If you decide to use your translator for send scheduling, ensure that the default WebLogic Integration – Business Connect send schedule is set to every 15 seconds. *If you do this, you do not need to set up any other send schedules.*

About the Send Schedule

The send schedule is named Default Send and is accessed by selecting Tools→Configure Schedule→Send Schedule in Administrator. The send schedule initially is set to trigger every 15 seconds, every day. At each send interval, all documents are sent for each partner whose profile specifies this schedule. For most users this schedule is adequate.

You can change the default send schedule or make it inactive, but you cannot delete it. On the Partner Profile window Preferences tab, you can choose whether to apply the default send schedule or immediately send documents to partners.

Immediate Sending

Selecting Immediate Send on the Partner Profile window Preferences tab bypasses schedules in favor of sending documents to a partner right after they have been packaged.

How a Send Schedule Works

The following describes the steps and order in which a schedule works for sending documents.

1. WebLogic Integration – Business Connect polls the EDI-out, binary-out and XML-out directories and reads the documents from these directories into memory up to the limit set in the document memory limit field on the General tab in Tools→Preferences, which you cannot change.
2. WebLogic Integration – Business Connect packages the documents according to the settings in your Partner Profile window Preferences and Security tabs and places the packaged documents in an outbound queue.

3. WebLogic Integration – Business Connect moves documents from the queue to the document transport by means of a send schedule. A send schedule runs at an interval measured from when WebLogic Integration – Business Connect finishes one batch of documents until it starts the next. The default interval of the send schedule is 15 seconds.
4. Using the send schedule, WebLogic Integration – Business Connect checks the queued documents by partner, selecting all documents for each partner who uses the default schedule.
5. WebLogic Integration – Business Connect creates a transport thread for the outbound documents and sends them to your trading partners.

Archive Schedule

There is a single archive schedule. You access the schedule by selecting Tools→Configure Schedule→Archive Schedule in Administrator. You can use it, change it or make it inactive, which turns off archiving, but you cannot delete it or create an archive schedule of your own.

About the Archiving Process

Archiving involves moving Tracker runtime database records to a historical repository called the archive database. You also can archive the actual documents you have sent or received from partners by choosing the backup and archive options on the Company Profile window Preferences tab. See [“Company Profile Preferences Tab” on page 6-21](#).

Only completed runtime records are moved during archiving. A completed record is one for which an inbound document has been received and an acknowledgment has been sent or for which an outbound document has been sent and an acknowledgment has been received. Completed records are moved from the runtime tables to the corresponding archive tables. Rejected traffic records are not archived. You must reprocess rejected records or manually delete rejected records in Tracker.

By default the archive schedule is set weekly at 12 a.m. Saturday, which means Tracker runtime database records will be moved to the archive database every Saturday at midnight. At the same time, the documents WebLogic Integration – Business Connect has processed are moved from the application’s backup directory to the archive directory, if you have elected document archiving. If you have more than a thousand transactions a day, inbound and outbound, we recommend that you change the schedule to perform archiving once a day.

The Server application must be running for Tracker archiving to occur. If the Server is not running at the scheduled archiving time, archiving will not occur and the runtime and archive databases will not change. If the Server is re-started after the scheduled archiving time, archiving will not take place retroactively. Rather, database records will be archived at the next scheduled time, presuming the Server is running.

There are two ways to turn off archiving: Make the archive schedule inactive or open the schedule and delete the archiving times.

The server.log File

WebLogic Integration – Business Connect writes output of Server application activity to a file called `server.log` located in the WebLogic Integration – Business Connect logs directory. When you use the View Server Log utility, you see the contents of this file as it is being written by WebLogic Integration – Business Connect.

The current output of Server application activity is continuously written to a `server.log` file. When the archive schedule triggers, WebLogic Integration – Business Connect closes the current `server.log` file, renames it using the current date and time, and begins writing output to a new `server.log` file. Closed `server.log` files are named according to the date and time archiving occurred in the following format: `server.log.mm-dd-yyyy-hh-mm-AM (OR PM)`.

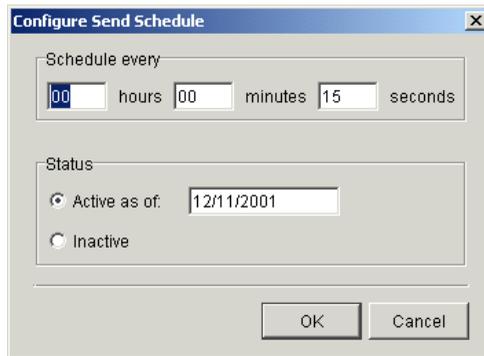
Changing the Send Schedule

Use this procedure to control when WebLogic Integration – Business Connect sends outbound documents to your trading partners using the send schedule. The send schedule does not apply to inbound documents, which are processed as soon as they are received.

The send schedule is initially set at a sending interval of 15 seconds. For most users this send interval is adequate.

Steps

1. Select Tools→Configure Schedule→Send Schedule in Administrator to open the Configure Send Schedule window.

Figure 9-1 Configure Send Schedule Window

2. Complete or change the fields. See [“Field Descriptions”](#).
3. Click OK to save your changes or Cancel to exit without saving your changes.

Field Descriptions

The following describes the fields on the Schedule - Every Day window. For procedure see the preceding [“Steps.”](#)

Schedule every [n] hours [n] minutes [n] seconds

Set the interval for WebLogic Integration – Business Connect to send documents. Type the interval in hours, minutes and seconds in the corresponding fields. The maximum interval is 99 hours, 59 minutes, and 59 seconds. This field is required.

Allowing a value greater than 24 hours enables you to use intervals that do not match the even-day intervals of the other schedules. For example, you can schedule documents to be sent every 32 hours.

Status

Choose one of the following:

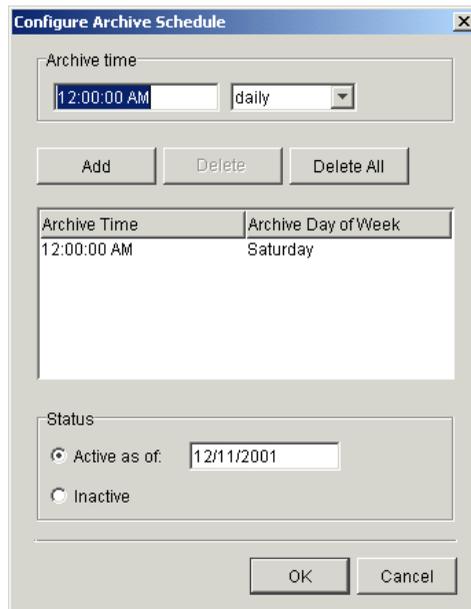
Active as of—indicates you want WebLogic Integration – Business Connect to use this schedule. WebLogic Integration – Business Connect provides this date, which is the date you make this schedule active. A new schedule is active by default.

Inactive—indicates you do not want WebLogic Integration – Business Connect to use this schedule.

Changing the Archive Schedule

Use this procedure to change or inactivate the archive schedule for Tracker database records. This schedule also archives trading documents, if you have elected document archiving in your company profile. For more information about this schedule, see [“Archive Schedule” on page 9-3](#).

Figure 9-2 Configure Archive Schedule Window



Steps

1. Select Tools→Configure Schedule→Archive Schedule in Administrator to open the Configure Archive Schedule window.
2. To change the schedule, change the Archive time values. Type the time you want and select the frequency from the drop-down list. Click Add.
3. To delete part of the schedule, select the times to delete and click Delete. Or, click Delete All to delete the entire schedule. If you delete an entire schedule and do not add one, archiving becomes inactive.
4. To make a schedule inactive without deleting it, click Inactive. You can re-activate the schedule by clicking Active as of. The active as of date is a system-selected date.
5. Click OK to close and save your changes or Cancel to close with saving.

Tools and Preferences

The following topics describe some of the configuration controls available on the Tools menu in Administrator.

Windows and Fields

- [“Change Password Window”](#) on page 10-2
- [“Remove Record Locks Window”](#) on page 10-3
- [“Preferences General Tab”](#) on page 10-5
- [“Preferences Ports Tab”](#) on page 10-9
- [“Preferences Outbound SMTP Tab”](#) on page 10-11
- [“Preferences Monitoring Tab”](#) on page 10-13

For other functions on the Tools menu, see the following topics:

- [API→Authentication](#). See [“API Authentication”](#) on page 15-12
- [API→JMS](#). See [Chapter 16, “Document and Event APIs.”](#)
- [Certificates→Trusted Roots](#). See [“Trusted Roots”](#) on page 7-53
- [Certificates→Cert Revocation List](#). See [“Using Certificate Revocation Lists”](#) on page 7-56
- [Configure Schedule→Send Schedule](#). See [“Changing the Send Schedule”](#) on page 9-4.

- Configure Schedule→Achrive Schedule. See [“Changing the Archive Schedule”](#) on page 9-6.
- Launch Server Monitor. See [“Monitoring the Server with a Browser”](#) on page 3-10.

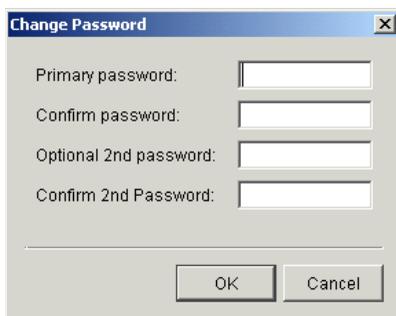
Change Password Window

Use the Change Password window to set or change an optional primary password for the default Administrator user to open the Administrator and Tracker applications. You also can set or change an optional secondary password to require two passwords to open Administrator and Tracker.

By default there is no password for Administrator and Tracker.

Select Tools→Change Administrator Password in Administrator to open the Change Password window.

Figure 10-1 Change Password Window



Field Descriptions

The following describes the fields on the Change Password window.

Primary password

Type the new or changed user password to be used at the login dialog box. The password length is from 1 to 50 characters and can be any combination of numbers and letters. This password is case-sensitive. Setting a password is optional.

Type the password carefully because the characters you type are masked.

WebLogic Integration – Business Connect does not provide a way for you to recover a forgotten password.

Confirm password

Type the same password you typed in the primary password field.

Optional 2nd password

Type the new or changed optional second user password to be used at the login dialog box. The password length is from 1 to 50 characters and can be any combination of numbers and letters. This password is case-sensitive.

If you require a second password, WebLogic Integration – Business Connect at login prompts the user to enter the second password after the first password is entered.

Confirm 2nd password

Type the same password you typed in the Optional 2nd password field.

Remove Record Locks Window

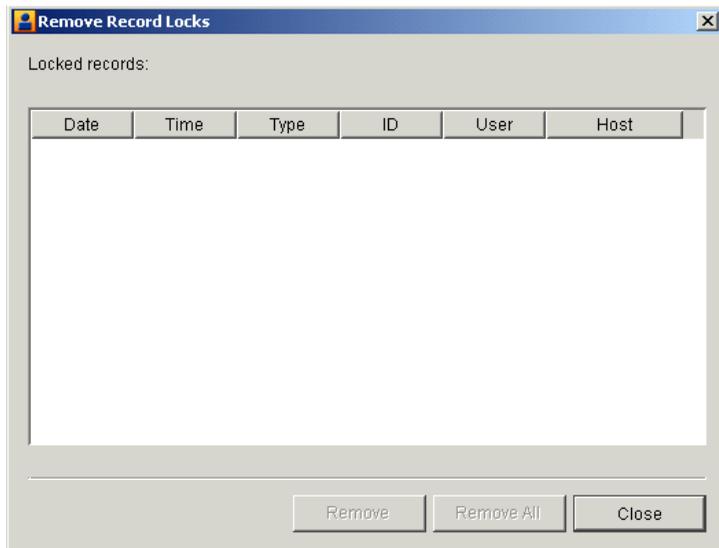
Use the Remove Record Locks window to unlock a record in use by another user. This enables you to make changes to the record even though another user already has accessed it.

When a user opens a record (for example, a company profile), WebLogic Integration – Business Connect locks it to prevent other users from changing it. If another user tries to open the record after the first user has accessed it, WebLogic Integration – Business Connect displays a message that another user has accessed the record and that you can only view but not change it. The remove record locks feature allows you to override this lock on open records.

When the second user, who removed the lock, opens the record, both users can edit it. The first user, who opened the record before the second user unlocked and opened it, does not know that another user has opened the same record. Both users can save changes by clicking OK. If both users change the same field in the record, the change made by the last user to click OK prevails.

Select Tools→Remove Records Lock in Administrator to open the Remove Record Locks window. The window shows information for records in use by other users. If no records are in use, the window is blank. Select the record you want to unlock and click Remove. If you want to unlock all records, click Remove All. Click Close to exit.

Figure 10-2 Remove Record Locks Window



Field Descriptions

The following describes the fields on the Remove Record Locks window.

Date

The date the record was locked by another user.

Time

The time the record was locked by another user.

Type

The type of record.

ID

The name of the record.

User

The user who is accessing the record.

Host

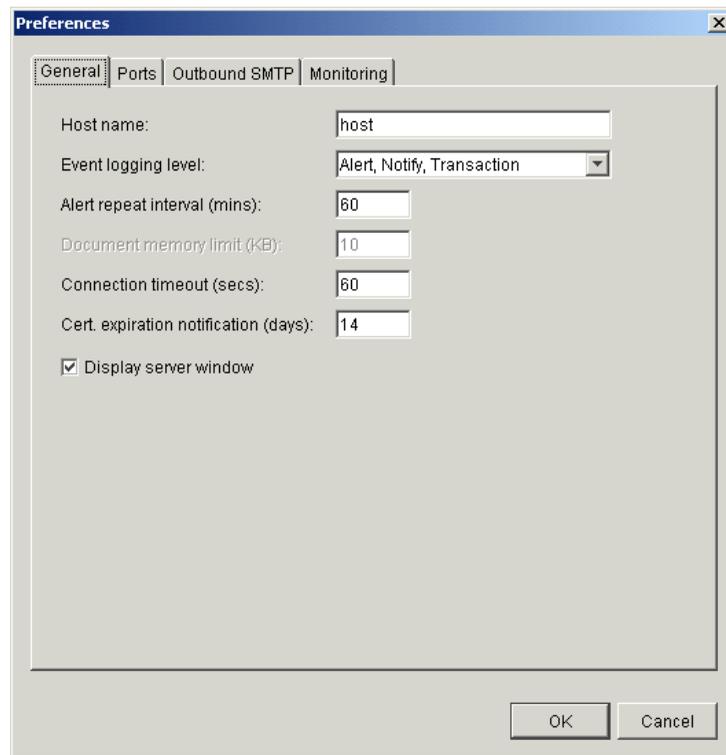
The name of the computer running the Server application.

Preferences General Tab

Use the Preferences window General tab to set the name of the computer running the Server application, the event logging level, alert message interval, connection time-out interval and certificate expiration notification period.

Select Tools→Preferences in Administrator to open the Preferences window General tab.

Figure 10-3 Preferences Window General Tab (Windows)



Field Descriptions

The following describes the fields on the Preferences window General tab.

Host name

The fully qualified domain name, registered with the domain name system (DNS), or IP address of the computer where the Server application is running.

If you configure the bundled HTTP or HTTPS transport, your company profile uses this host name in the URL for inbound documents. If you change this field, the URL changes accordingly in the company profile, but you must notify your partner of the change. If you change this field, we recommend that you restart the Server application for the change to become effective.

Event logging level

Select from the drop-down list the message group corresponding to the minimum event levels you want to record in the server log. The following table describes the levels you can set. The number of messages increases the lower you set the level. The lowest level is Alert, Notify, Transaction, Debug. The default level is Alert, Notify, Transaction.

Turning on debug messages (level 0) can be helpful in troubleshooting. Debug messages provide additional information about events in the server log, which is in the WebLogic Integration – Business Connect logs directory (see [“Viewing the server.log File in Windows and UNIX” on page 3-8](#)). Novice users might want to generate debug messages to help resolve issues that can occur while learning the application. Experienced users can find debug messages useful for advanced troubleshooting. We recommend that you turn off debug messages when not troubleshooting because generating debug messages slows application performance.

For more information about messages see [Chapter 19, “Messages.”](#)

Message setting	Message levels reported
Alert	Level 4, error Level 5, network error Level 6, configuration error Level 7, unexpected error Level 8, fatal error
Alert, Notify	Level 2, notification Level 3, rejected Level 4, error Level 5, network error Level 6, configuration error Level 7, unexpected error Level 8, fatal error
Alert, Notify, Transaction	Level 1, transaction Level 2, notification Level 3, rejected Level 4, error Level 5, network error Level 6, configuration error Level 7, unexpected error Level 8, fatal error
Alert, Notify, Transaction, Debug	Level 0, debug Level 1, transaction Level 2, notification Level 3, rejected Level 4, error Level 5, network error Level 6, configuration error Level 7, unexpected error Level 8, fatal error

Alert repeat interval (mins)

The interval in minutes WebLogic Integration – Business Connect waits before it sends you the next alert message about the same alert condition. For example, if WebLogic Integration – Business Connect cannot connect to the mail server, it sends you only one alert e-mail about this failure per interval that you specify. The default interval is 60 minutes.

Document memory limit (KB)

The limit in kilobytes for how much of each document WebLogic Integration – Business Connect reads into memory for processing during each cycle. The default is 10 KB. You cannot change this value.

Connection timeout (secs)

This is the time-out value in seconds for any TCP/IP connection.

Cert. expiration notification (days)

This is the number of days before an active company certificate expires that the system will issue an alert message warning of the upcoming expiration date. This warning is intended to provide time to replace the certificate before an expired certificate can interrupt trading. The system issues only one alert for a certificate about to expire.

Alerts for certificates about to expire are issued only for active certificates for company profiles and for active certificates for the WebLogic Integration – Business Connect API HTTPS server and SOAP-RPC HTTPS server. Alerts are not issued for partner certificates. Alert messages are reported on the Alerts information viewer in Tracker. Alert messages also are sent by e-mail if a notify e-mail address is specified on the Company Profile window Preferences tab.

The Server application must be running for certificate expiration date checking to take place. The Server checks upon start-up and once every 24 hours thereafter.

Display server window (Windows only)

Select this check box to display the Server Display window while the Server application is running. This is the default and recommended setting.

If you change the selection, you must restart the Server for the change to take effect.

Browser path (UNIX only)

If you previously specified a browser, this field shows the path to your Internet browser. You use a browser to view the online help and to obtain certificates from third-party certificate authorities.

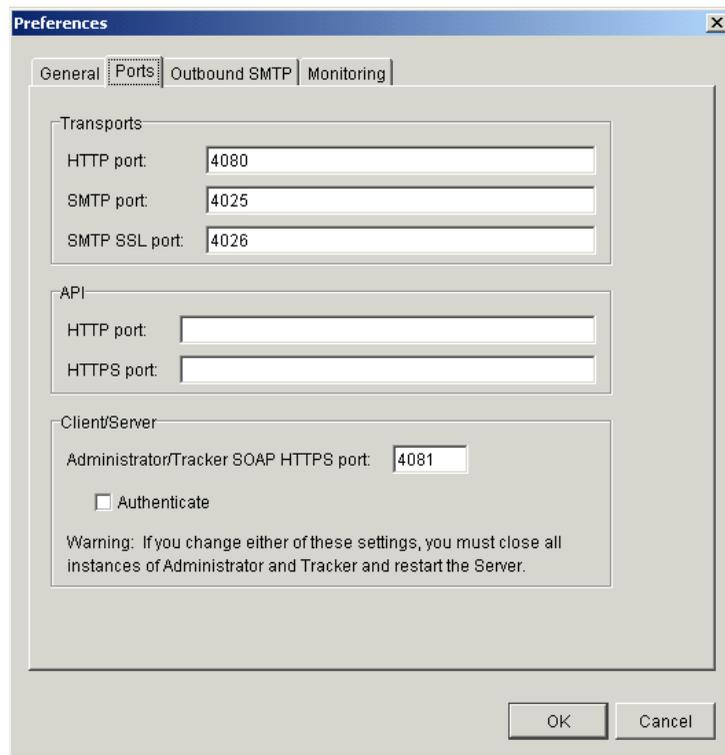
To set or change the browser path, click Browse to open the Browse dialog box. Type the path of the executable file for the browser and click OK to return to the General tab.

Preferences Ports Tab

Use the Preferences window Ports tab to view or change ports WebLogic Integration – Business Connect uses.

Select Tools→Preferences in Administrator to open the Preferences window General tab. Click Ports to open the Ports tab.

Figure 10-4 Preferences Window Ports Tab



The screenshot shows the 'Preferences' dialog box with the 'Ports' tab selected. The dialog has four tabs: 'General', 'Ports', 'Outbound SMTP', and 'Monitoring'. The 'Ports' tab is active and contains three sections: 'Transports', 'API', and 'Client/Server'. The 'Transports' section has three text boxes: 'HTTP port' (4080), 'SMTP port' (4025), and 'SMTP SSL port' (4026). The 'API' section has two text boxes: 'HTTP port' and 'HTTPS port'. The 'Client/Server' section has a text box for 'Administrator/Tracker SOAP HTTPS port' (4081) and a checkbox for 'Authenticate' which is unchecked. A warning message is displayed at the bottom of the section: 'Warning: If you change either of these settings, you must close all instances of Administrator and Tracker and restart the Server.' At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Section	Property	Value
Transports	HTTP port:	4080
	SMTP port:	4025
	SMTP SSL port:	4026
API	HTTP port:	
	HTTPS port:	
Client/Server	Administrator/Tracker SOAP HTTPS port:	4081
	Authenticate	<input type="checkbox"/>

Warning: If you change either of these settings, you must close all instances of Administrator and Tracker and restart the Server.

Field Descriptions

The following describes the fields on the Preferences window Ports tab.

Transports

The following port fields are for document transports.

HTTP port

The port where the WebLogic Integration – Business Connect HTTP server is listening for inbound documents from the remote trading partner’s HTTP client. The default is 4080.

SMTP port

The number of the port that the WebLogic Integration – Business Connect internal SMTP server listens to for inbound documents that are sent via the SMTP transport. The default is 4025.

If you change this port, make sure a value is present and restart the Server application for the change to become effective.

SMTP SSL server port

The number of the port that the WebLogic Integration – Business Connect internal SMTP server listens to for inbound documents that are sent via the SMTP transport with SSL engaged. The default is 4026.

If you change this port, make sure a value is present and restart the Server application for the change to become effective.

API

The following fields are for communications with a remote application program interface (API) client. To communicate with an API client via HTTPS you must also complete a number of other configuration tasks. See [“API HTTPS Security” on page 12-7](#).

HTTP port

The port for a remote API client communicating by way of an HTTP server.

HTTPS port

The port for a remote API client communicating by way of an HTTPS server.

If you use the API HTTPS port for integration, you must generate or load a certificate for the HTTPS server using the certloader tool. See [“Certificate Tool \(certloader\)” on page 12-12](#).

Client/Server

The following fields are for communication between WebLogic Integration – Business Connect Server and the client applications Administrator and Tracker.

Administrator/Tracker SOAP HTTPS port

The number of the port for the SOAP HTTPS server that is built into WebLogic Integration – Business Connect. Administrator and Tracker use this port to securely send updates to the Server application. For details see [“SOAP-RPC HTTPS Security” on page 12-2](#).

If you change this value, you must close Administrator and Tracker and restart the Server application for the change to become effective.

Authenticate

Select this check box only if you want the Server application to authenticate a certificate for Administrator and Tracker. For details see [“SOAP-RPC HTTPS Security” on page 12-2](#).

If you change this value, you must close Administrator and Tracker and restart the Server application for the change to become effective.

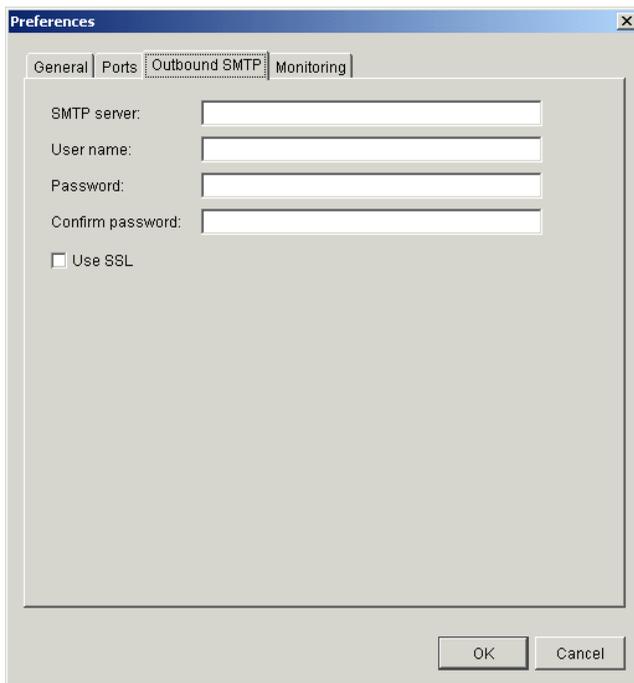
Preferences Outbound SMTP Tab

Use the Preferences Outbound SMTP tab to designate one SMTP server for sending documents to all partners via the POP transport (SMTP/POP). The information on this tab is used on the Partner Profile window Outbound Protocols tab for the POP transport for the partner profiles you import or create. You must first complete the Preferences window Outbound SMTP tab before importing or creating partner profiles for the information on this tab to become part of the POP transport configuration.

If you want to use different SMTP servers for sending documents to different partners, you have two options. You can complete the Outbound SMTP tab, create or import the partner profile, and then type new values in the SMTP server field on the POP Transport Options window, which is accessed from the Partner Profile window Outbound Protocol tab. Or, you can leave the Outbound SMTP tab blank and add the SMTP server information in the POP configuration for the partner profile.

Select Tools→Preferences in Administrator to open the Preferences window General tab. Click Outbound SMTP to open the Outbound SMTP tab.

Figure 10-5 Preferences Window Outbound SMTP Tab



Field Descriptions

The following describes the fields on the Preferences window Outbound SMTP tab.

SMTP server

Type the fully qualified domain name or IP address of the server used for sending documents to partners by POP (SMTP/POP).

User name

Type the user name for the server.

Password

Type the password for the user.

Confirm password

Type the password again.

Use SSL

Select this check box to use Secure Sockets Layer protocol.

Preferences Monitoring Tab

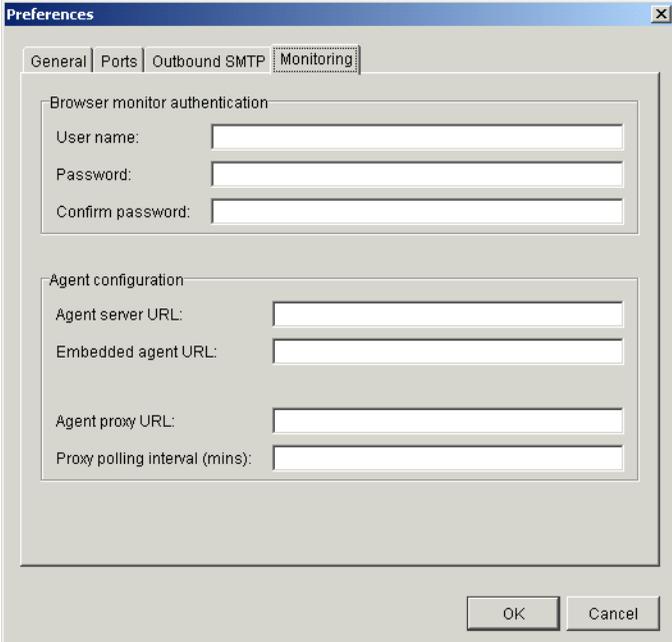
Use the Preferences window Monitoring tab to set a user name and password that authorizes a user to open the WebLogic Integration – Business Connect server monitor web page.

Select Tools→Preferences in Administrator to open the Preferences window General tab. Click Monitoring to open the Monitoring tab.

The server monitor page is opened in an Internet browser by selecting Tools→Launch Server Monitor in Administrator or Tracker. The page displays information about Server activities, including document trading data and events. For more information about the page see [“Monitoring the Server with a Browser” on page 3-10](#).

You can set a user name and password that can be used by a single user or that can be shared by two or more users, depending on your organization’s security practices. If you do not set a user name and password, any user can access the server monitor page.

Figure 10-6 Preferences Window Monitoring Tab



The screenshot shows a dialog box titled "Preferences" with a tabbed interface. The "Monitoring" tab is selected. The dialog is divided into two main sections: "Browser monitor authentication" and "Agent configuration".

Browser monitor authentication:

- User name:
- Password:
- Confirm password:

Agent configuration:

- Agent server URL:
- Embedded agent URL:
- Agent proxy URL:
- Proxy polling interval (mins):

At the bottom right of the dialog are "OK" and "Cancel" buttons.

Field Descriptions

Note: The Agent Configuration fields are associated with an unsupported feature. Ignore these fields.

The following describes the fields on the Preferences window Monitoring tab.

Browser monitor authentication

The following fields are for setting an optional user name and password for using the Launch Server Monitor option on the Tools menu for monitoring Server application activity on a browser.

User name

Type the name of the user who is authorized to access the server monitor page.

Password

Type a password for the user.

Confirm password

Type the password again.

Using ebXML

The following topics are provided about the ebXML-based business protocol that WebLogic Integration – Business Connect supports.

Concepts

- [“ebXML Overview” on page 11-2](#)
- [“Using Message Control Documents” on page 11-8](#)
- [“MCD Element Descriptions” on page 11-9](#)
- [“Optional ebXML MessageAgentInfo Elements” on page 11-12](#)
- [“Optional User-Defined Meta-Data for ebXML” on page 11-14](#)
- [“ebXML Document Processing Settings” on page 11-15](#)
- [“MCD Example for ebXML” on page 11-21](#)

Supported Transports

WebLogic Integration – Business Connect supports ebXML trading with the following transports:

- bundled HTTP
- bundled HTTPS
- SMTP
- POP

Prerequisite

Your organization must have a thorough understanding and working knowledge of ebXML to successfully trade documents using this business protocol. For information about ebXML see <http://www.ebxml.org>.

ebXML Overview

ebXML, sponsored by UN/CEFACT and OASIS, is a modular suite of specifications that enables a company located anywhere to conduct business over the Internet. ebXML embodies the definition and registration of processes for exchanging business messages, conducting trading relationships and communicating data in common terms.

WebLogic Integration – Business Connect supports version 2.0 of the ebXML Messaging specification. WebLogic Integration – Business Connect also supports version 1.0 of the ebXML Transport, Routing and Packaging (TRP) specification and a subset of version 1.0 of the ebXML Collaboration Protocol Agreement (CPA). WebLogic Integration – Business Connect supports packaging and transporting any document type according to the 2.0 Messaging specification and 1.0 TRP specification.

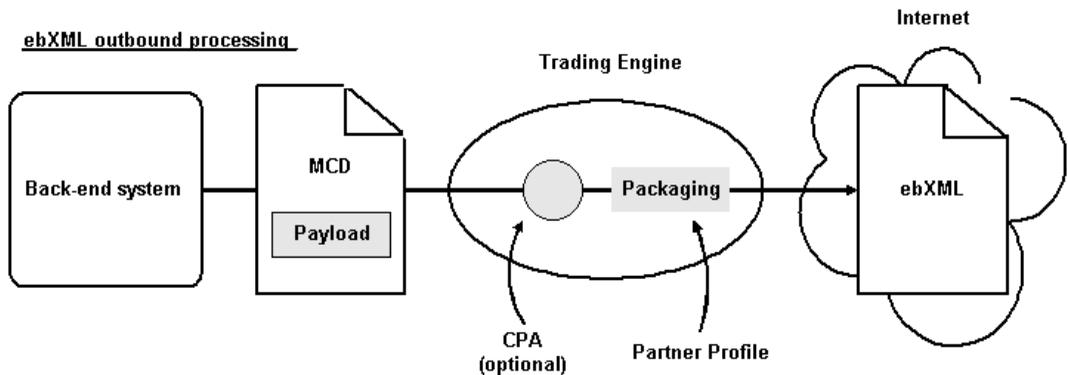
WebLogic Integration – Business Connect supports two methods for exchanging documents with the ebXML protocol. One method supports ebXML business processes. The other does not, but enables partners to trade documents that are packaged as ebXML documents. The following topics describe both of these methods:

- [“ebXML with MCD Interface”](#)
- [“ebXML with File System Interface” on page 11-5](#)

ebXML with MCD Interface

WebLogic Integration – Business Connect supports ebXML business processes using Message Control Documents (MCDs) as the interface between it and a back-end system. The MCDs are XML documents that contain an arbitrary payload and information that WebLogic Integration – Business Connect uses to process outbound and inbound ebXML documents. [Figure 11-1](#) and [Figure 11-2](#) show high-level views of ebXML processing with the MCD interface in WebLogic Integration – Business Connect.

Figure 11-1 ebXML with MCD Interface Outbound Processing

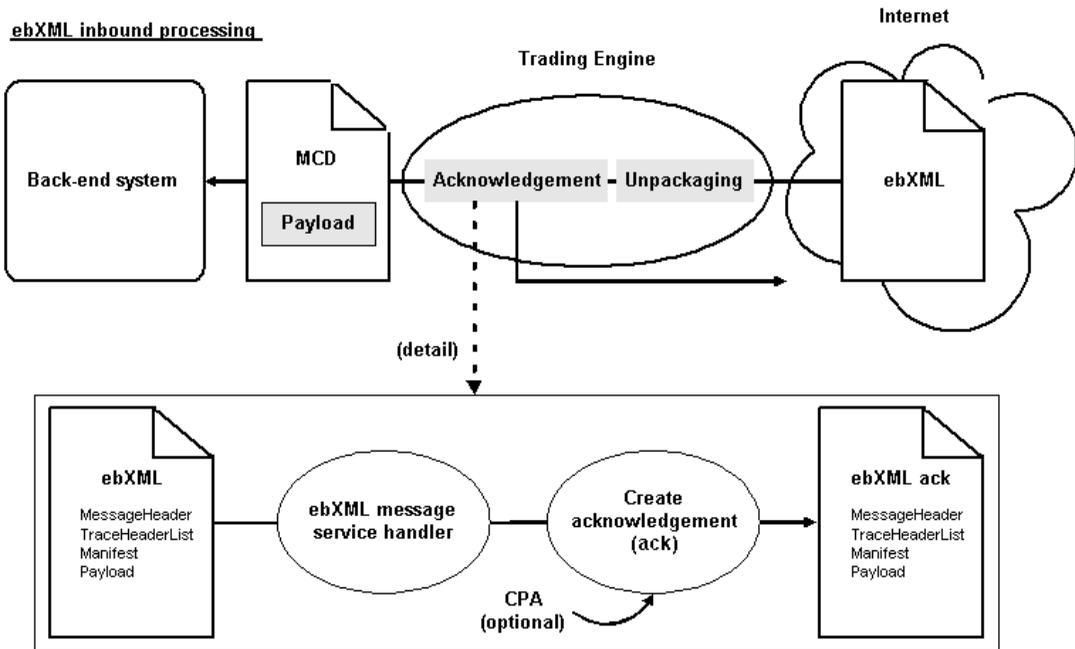


Outbound Processing with MCDs

For outbound processing, WebLogic Integration – Business Connect does the following:

- Retrieves the MCD from the XML-out directory.
- Validates the incoming MCD against an MCD schema that resides on the Internet.
- Uses the SenderId and ReceiverId of the MCD to look up a CPA document.
- If there is a CPA, loads the file and extracts document packaging information.
- If there is no CPA, uses information from the MCD and partner profile for packaging.
- Packages the ebXML document.
- Sends the ebXML document to the partner.

Figure 11-2 ebXML with MCD Interface Inbound Processing



Inbound Processing with MCDs

For inbound processing, WebLogic Integration – Business Connect does the following:

- Receives an ebXML document or acknowledgement.
- Unpackages the document or acknowledgement and sends it to the ebXML Message Service Handler (MSH).
- Uses the CPAId of the inbound ebXML document to look up a CPA document.
- If there is a CPA, loads the file and extracts reliable messaging parameters.
- For an inbound document, the MSH queries the CPA, if present, or the inbound document itself for whether an acknowledgement document is to be created and sent back to the sender.
- Wraps the inbound document, if the destination is the back-end system and not the MSH, in an MCD.
- Puts the MCD in the XML-in directory.

Using CPAs

WebLogic Integration – Business Connect supports the use of CPAs with the MCD interface. A CPA is an agreement between two or more parties that specifies the transport, messaging and security protocols to use in trading. WebLogic Integration – Business Connect supports file system-based lookups of CPA documents.

WebLogic Integration – Business Connect supports a subset of the CPA document, including security and reliable messaging settings for a specific DeliveryChannel. Parsing based on CollaborationRole is not supported. If there is more than one CollaborationRole element in a CPA, WebLogic Integration – Business Connect extracts the first one and uses it to resolve the specific DeliveryChannel to use. There is no automated support for creating or importing CPAs. You must provide pre-defined CPA documents.

You must edit the `CpaRegistry.xml` file for each CPA you use. This file is in the WebLogic Integration – Business Connect `mcd\ebxml\config` directory. The value for the CPA element must be a valid URL that references the location of the CPA document. A sample CPA document is in the WebLogic Integration – Business Connect `mcd\ebxml\cpas` directory. We recommend this directory as the location for your CPAs.

ebXML with File System Interface

MCDs are not used with the ebXML file system interface method. This method does not support ebXML business processes, but enables partners to trade documents that are packaged as ebXML documents.

With this method WebLogic Integration – Business Connect can retrieve any type of document from the EDI-out, XML-out or binary-out directory. Documents also can be retrieved from an API client or integration points.

WebLogic Integration – Business Connect can use the file system integration method after editing certain values in the `MCDHandlerConfig.xml` file in the WebLogic Integration – Business Connect MCD directory. Open the file with a text editor, edit the properties as noted in the following paragraphs and then save and close the file. The properties to edit are grouped together in the file.

In the following two properties, verify that the value is set to `false`. `False`, which is the default for both, enables the file system interface. `True` enables the MCD interface.

```
<mcdconfig:Property name="requireOutboundMcd">false</mcdconfig:Property>
<mcdconfig:Property name="generateInboundMcd">false</mcdconfig:Property>
```

Also complete the following three properties. Type your own values for *service* and *action*. These can be any values you choose. The third property is the version of the ebXML outbound packager to use. Valid values are 1.0 and 2.0. The default is 2.0.

Note: When trading with a WebLogic Integration trading partner, the value of *service* must match the name of the conversation definition defined in WebLogic Integration. There are no WebLogic Integration requirements for the value of the *action*.

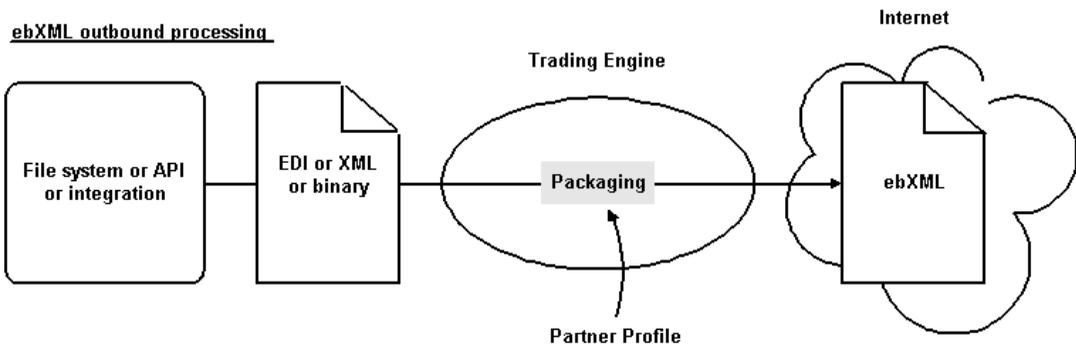
```
<mcdconfig:Property name="defaultService">service</mcdconfig:Property>
<mcdconfig:Property name="defaultAction">action</mcdconfig:Property>
<mcdconfig:Property name="defaultVersion">2.0</mcdconfig:Property>
```

Note: Do not edit the attributes set in the parent element, `mcdconfig:MessagingProtocol`. The value set for `mcdconfig:Property name="defaultVersion"` controls the version of the ebXML outbound packager.

Note: Using the ebXML file system interface, if WebLogic Integration – Business Connect receives an ebXML package that contains multiple attachments, one acknowledgment is sent to the sender. The control ID of the acknowledgment will be the same as one of the inbound attachment's. Which control ID is used depends on the order the inbound documents are unpackaged and logged. A control ID can be the control ID of an EDI document, XML for an XML document or `binary` for a binary document.

Figure 11-3 and Figure 11-4 show high-level views of ebXML processing with the file system interface in WebLogic Integration – Business Connect.

Figure 11-3 ebXML with File System Interface Outbound Processing

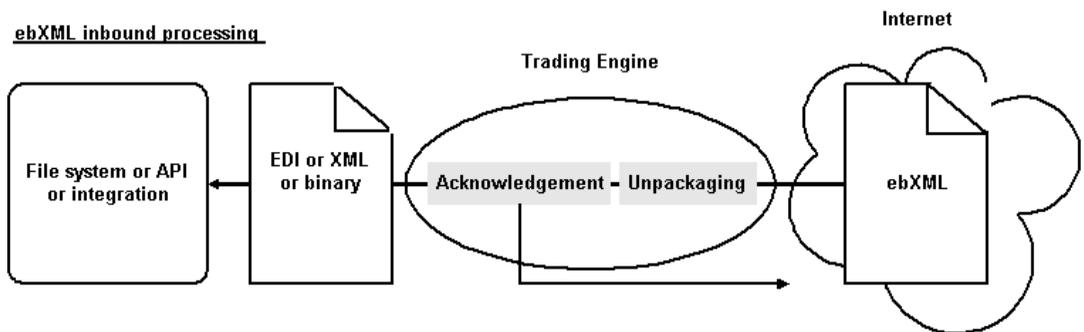


Outbound Processing with File System Interface

For outbound processing, WebLogic Integration – Business Connect does the following:

- Retrieves the document from the EDI-out, XML-out or binary-out directory or from the API or integration points.
- Uses information from the partner profile for packaging.
- Packages the document as an ebXML document.
- Sends the ebXML document to the partner.

Figure 11-4 ebXML with File System Interface Inbound Processing



Inbound Processing with File System Interface

For inbound processing, WebLogic Integration – Business Connect does the following:

- Receives an ebXML document or acknowledgment.
- Unpackages the document or acknowledgment.
- For an inbound document, an acknowledgement is created and sent back to the sender.
- Puts the document in the EDI-in, XML-in or binary-in directory or sends to the document API or integration points.

Validation of Inbound ebXML Documents

WebLogic Integration – Business Connect by default does not validate ebXML documents that are inbound from the Internet against an external XML schema. It can do so for ebXML 2.0 documents if you edit a property in the `msh_config.xml` file, which is in the WebLogic Integration – Business Connect `mcd` directory. You can enable schema validation only for ebXML 2.0 documents. Trading fails if you enable it for ebXML 1.0 documents.

Enabling external validation ensures strict adherence of inbound documents to the XML schema. The XML parser validates the ebXML message against the schema URI specified by the `schemaLocation` attribute located at the root element of the message. Enabling schema validation bypasses the validation the application itself performs against the document using the `msh_config.xml` file.

To enable validation against the XML schema, open the `msh_config.xml` file with a text editor and locate the following property near the top of the file:

```
<msh:Property name="msh.message.validate">false</msh:Property>
```

Change the value `false`, which disables schema validation, to `true`. Then save and close the file.

Using Message Control Documents

A Message Control Document (MCD) is an XML document that is used in the WebLogic Integration – Business Connect implementation of the ebXML business protocol. An MCD is an interface between a back-end system and WebLogic Integration – Business Connect for processing business messages.

The following topics explain more about the use of MCDs:

- [“MCDs for ebXML” on page 11-9](#)
- [“MCD Element Descriptions” on page 11-9](#)
- [“Optional ebXML MessageAgentInfo Elements” on page 11-12](#)
- [“MCD Example for ebXML” on page 11-21](#)

MCDs for ebXML

For ebXML, an MCD is an interface between a back-end business application and the WebLogic Integration – Business Connect ebXML engine.

MCDs are used to:

- Send outgoing business documents from the back-end system to WebLogic Integration – Business Connect
- Send incoming business documents from WebLogic Integration – Business Connect to the back-end system

For ebXML processing, MCDs are used to:

- Send outgoing ebXML business documents from the back-end system to the ebXML engine.
- Send incoming ebXML business documents from the ebXML engine to the back-end system.

MCD Element Descriptions

[Table 11-2](#) lists the information elements used in an MCD to send business documents between a back-end system and WebLogic Integration – Business Connect. The definitions of the letters in the Usage column are summarized in [Table 11-1](#).

Table 11-1 Key

This letter . . .	In this column . . .	Indicates that the element is . . .
R	Usage	Required in the MCD produced by the back-end system.
O	Usage	Optional in the MCD produced by the back-end system.
C	Usage	Optional only when a CPA is present.

Also see the following topic, [“Optional ebXML MessageAgentInfo Elements”](#) on page 11-12.

Table 11-2 MCD Information Elements

MCD element	Description	Usage
PackagingProtocol		
Standard	Contains a value, ebXML, indicating the protocol in which the outbound message or acknowledgement is to be packaged or the packaging protocol used by the inbound message or acknowledgement. The MCD supports CIDX and ebXML packaging standards.	R
Version	Contains a value indicating the version of the packaging protocol. Valid values for ebXML are: 01.00 or 02.00	R
Service	Back-end system service name (ebXML BPSS Service). If a CPA is present this is an optional element, otherwise it is required.	C
Type	If Service value is not a valid URI then use the type attribute to indicate the format of the Service value.	O
Action	Back-end system document action name.	R
TimeStamp	The creation time of the MCD.	O
CorrelationId	An identifier that matches multiple documents to the same process flow.	R

Table 11-2 MCD Information Elements (Continued)

MCD element	Description	Usage
RoutingInfo		
SenderID	A unique business identifier for the sender of a message.	R
ReceiverID	A unique business identifier for the receiver of a message.	R
TransportInfo		
SessionID	A unique identifier for a specific transport session. This identifier is used when sending multiple message using the same transport instance. If the SessionID is present on an inbound message, it must be copied to the outbound response MCD.	O
MaxRetrys	The maximum number of times to retry sending a message at the message level.	O
RetryInterval	The time to wait for an acknowledgement before resending a document.	O
MessageAgentInfo	An optional element for attaching protocol-specific information. See “Optional ebXML MessageAgentInfo Elements” on page 11-12.	O
ManifestInfo		
MessageContentInfo	Contains a back-end system business payload.	
MIME Content ID	A unique identifier for this part of the message.	R
MIME Content Type	The MIME content type of the payload.	R
Description	A string describing the payload.	O
URI	An optional pointer to the actual data. URI or Body, but not both, must be specified.	R
Body	The actual data for this section of the message. URI or Body, but not both, must be specified.	R

Table 11-2 MCD Information Elements (Continued)

MCD element	Description	Usage
StatusInfo	The status information container.	O
StatusType	The type of status message, acknowledgement or exception.	O
User-defined meta-data	See “Optional User-Defined Meta-Data for ebXML” on page 11-14.	
ExceptionInfo	Exception Info if Status Type = Exception.	O
Error Description	A description of the error.	O
Error Classification	The classification of the error.	O
Offending Message Component	The section of the message that generated the error.	O
Exception Type	The type of exception received.	O
DigestInfo		
DigestValue	A base64 encoded digest value.	O
DigestAlgorithm	The algorithm used in computing the digest.	O

Optional ebXML MessageAgentInfo Elements

The following table lists the optional `MessageAgentInfo` elements for ebXML. These elements are optional only when a CPA is present.

Note: The settings in the MCD for signing, encrypting and requesting acknowledgments should match the settings on the Partner Profile window Security tab or inbound documents from the partner will be rejected.

Table 11-3 Optional MessageAgentInfo Elements

MessageAgentInfo element	Description
ebXML	An MCD extension element for ebXML-specific options.
ebXMLBinding	

Table 11-3 Optional MessageAgentInfo Elements (Continued)

MessageAgentInfo element	Description
ReliableMessaging	Contains ebXML Reliable Messaging specific data.
Retries	The maximum number of times to retry sending a message at the message level. Overrides the MCD MaxRetries element.
RetryInterval	The time to wait for an acknowledgement before resending a document.
PersistDuration	n/a
Acknowledgement	The ackRequested attribute specifies if the ebXML engine should request an acknowledgement. Values are Signed, Unsigned and None.
DeliveryReceipt	The deliveryReceiptRequested attribute specifies if the ebXML engine should request a DeliveryReceipt. Values are Signed, Unsigned and None.
Envelope	Security related values for the ebXML header envelope.
NonRepudiation	Non-repudiation specific values.
Protocol	The non-repudiation protocol to use for the ebXML envelope. Only XMLDSIG is supported. Value is http://www.w3.org/2000/09/xmlsig# .
HashFunction	The hash function to use for XMLDSIG non-repudiation protocol. Only SHA1 is supported. Value is http://www.w3.org/2000/09/xmlsig#sha1 .
DigitalEnvelope	Encryption specific values. Currently, ebXML header envelope encryption is not supported.
Protocol	The encryption protocol to use for the ebXML envelope.
EncryptionAlgorithm	The encryption algorithm to use.
ManifestInfo	Security related values for the ebXML payloads.
NonRepudiation	Non-repudiation specific values.
Protocol	The non-repudiation protocol to use for the ebXML payloads. Only S/MIME is supported. Value is S/MIME.

Table 11-3 Optional MessageAgentInfo Elements (Continued)

MessageAgentInfo element	Description
HashFuntion	The hash function to use for the S/MIME non-repudiation protocol.
DigitalEnvelope	Encryption specific values.
Protocol	The encryption protocol to use for the ebXML envelope. Only S/MIME is supported. Value is S/MIME.
EncryptionAlgorithm	The encryption algorithm to use.

Optional User-Defined Meta-Data for ebXML

You can place any type of data you want in an MCD used for ebXML trading that is not otherwise defined in the MCD. You define the elements in a specific format in the MCD and then provide values for them.

Figure 11-5 shows the proper location of the user-defined meta-data elements after the end of the StatusInfo element. The meta-data are between the opening and closing cyclone-prop:Property elements. The user-defined data in this example are username and password and their values.

Figure 11-5 User-Defined Meta-Data Elements in ebXML MCD

```

</mcd:StatusInfo>
- <cyclone-prop:Properties soap:mustUnderstand="1" xmlns:cyclone-
  prop="http://www.cyclonecommerce.com/namespaces/properties"
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xsi:schemaLocation="http://www.cyclonecommerce.com/namespaces/properties
  http://www.cyclonecommerce.com/Schemas/2002/05/cyclone-properties.xsd">
  <cyclone-prop:Property cyclone-prop:name="username">jturpin</cyclone-prop:Property>
  <cyclone-prop:Property cyclone-prop:name="password">abcdefg</cyclone-prop:Property>
</cyclone-prop:Properties>
- <mcd:ManifestInfo>

```

The soap:mustUnderstand property in the first line can have a value of 0 or 1. A value of 0 means your partner's ebXML message service handler (MSH) is not required to understand the cyclone-prop:Property elements and the user-defined data. If the receiving system does not understand, it can ignore the elements and the data. A value of 1 forces your partner's trading software to understand the data or else reject the ebXML document and respond with a soap:mustUnderstand fault or an ebXML not supported error message. If you are trading with a WebLogic Integration partner, use 0.

The following is an example from [Figure 11-5](#) of a user-defined element and its value. You can define as many elements as you want.

```
<cyclone-prop:Property
cyclone-prop:name="password">abcdefg</cyclone-prop:Property>
```

The following describe the attributes that are used for user-defined data. These are required and need to be used as-is.

The following attribute defines the `cyclone-prop` namespace prefix:

```
xmlns:cyclone-prop=http://www.cyclonecommerce.com/namespaces/properties attribute
```

The following attribute defines the SOAP namespace prefix:

```
xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/
```

The following attribute points to the WebLogic Integration – Business Connect properties schema:

```
xsi:schemaLocation
```

ebXML Document Processing Settings

Processing settings such as document signing and acknowledgments can be specified a number of ways for outbound and inbound ebXML documents. You need to know how WebLogic Integration – Business Connect parses processing settings to properly configure CPAs, MCDs and WebLogic Integration – Business Connect partner profiles. The following topics provide this information:

- [“Outbound ebXML Document Processing Settings”](#)
- [“Inbound ebXML Document Processing Settings” on page 11-18](#)
- [“ebXML Processing Settings at a Glance” on page 11-19](#)

Outbound ebXML Document Processing Settings

The following table describes how WebLogic Integration – Business Connect determines the processing settings for outbound ebXML documents.

Table 11-4 Outbound Document Processing Settings

Outbound documents		
Setting	ebXML with MCDs	ebXML with File System Interface
Sign document	<p>The system first looks for this setting in an optional CPA, if present. If not specified, it looks in the MCD. If not specified in a CPA or the MCD, the document is not signed.</p> <p>You and your partner must have the same setting or documents are rejected.</p>	<p>The WebLogic Integration – Business Connect partner profile specifies whether outbound documents are signed.</p> <p>You and your partner must have the same setting or documents are rejected.</p>
Request acknowledgment	<p>The system first looks for this setting in an optional CPA, if present. If not specified, it looks in the MCD. If not specified in a CPA or the MCD, an acknowledgment is not requested for the document.</p> <p>You and your partner must have the same setting or documents are rejected.</p>	<p>The WebLogic Integration – Business Connect partner profile specifies whether acknowledgments are requested for outbound documents.</p> <p>You and your partner must have the same setting or documents are rejected.</p>
Request signed acknowledgment	<p>The system first looks for this setting in an optional CPA, if present. If not specified, it looks in the MCD. If not specified in a CPA or the MCD, a signed acknowledgment is not requested for the document.</p> <p>You and your partner must have the same setting or documents are rejected.</p>	<p>The WebLogic Integration – Business Connect partner profile specifies whether signed acknowledgments are requested for outbound documents. On the Security tab, the sign document and request acknowledgment check boxes must both be selected.</p> <p>You and your partner must have the same setting or documents are rejected.</p>
Request synchronous acknowledgment	<p>The system first looks for this setting in an optional CPA, if present. If not specified, it looks in the MCD. If not specified in a CPA or the MCD, a synchronous acknowledgment is not requested for the document.</p> <p>A synchronous acknowledgment can be requested only when the transport is bundled HTTP or bundled HTTPS.</p>	<p>The WebLogic Integration – Business Connect partner profile specifies whether synchronous acknowledgments are requested for outbound documents.</p> <p>A synchronous acknowledgment can be requested only when the transport is bundled HTTP or bundled HTTPS.</p>

Table 11-4 Outbound Document Processing Settings (Continued)

Outbound documents		
Setting	ebXML with MCDs	ebXML with File System Interface
Number of times to try to resend upon failure	The system first looks for this setting in an optional CPA, if present. If not specified, it looks in the MCD's ReliableMessaging element. If not specified, it looks in the MCD's TransportInfo element. If not specified in a CPA or the MCD, the WebLogic Integration – Business Connect partner profile specifies the number of times to try resending documents.	The WebLogic Integration – Business Connect partner profile specifies the number of times to try resending documents.
Resend interval	The system first looks for this setting in an optional CPA, if present. If not specified, it looks in the MCD's ReliableMessaging element. If not specified, it looks in the MCD's TransportInfo element. If not specified in a CPA or the MCD, the WebLogic Integration – Business Connect partner profile specifies the interval for trying to resend documents.	The WebLogic Integration – Business Connect partner profile specifies the interval for trying to resend documents.
Signature algorithm to use	<p>Inclusion of an XML digital signature is controlled by the mcd-ext:Envelope element and sub elements. The supported algorithm is SHA1. The XML digital signature is calculated over the SOAP envelope and the payloads.</p> <p>Signing individual payloads is controlled by the mcd-ext:ManifestInfo element and sub elements. The mcd-ext:ManifestInfo element controls S/MIME signing of the payloads.</p>	<p>Inclusion of an XML digital signature is controlled by the WebLogic Integration – Business Connect partner profile sign document setting. If this setting is on, SHA1 is used to calculate a signature over the SOAP Envelope and Payloads.</p> <p>Signing individual payloads is controlled by the same setting. The payloads are signed using the algorithm selected in the WebLogic Integration – Business Connect partner profile for message digests.</p>

Table 11-4 Outbound Document Processing Settings (Continued)

Outbound documents		
Setting	ebXML with MCDs	ebXML with File System Interface
Document encryption	The WebLogic Integration – Business Connect partner profile specifies whether documents are encrypted before sending to partners. You and your partner must have the same setting or documents are rejected.	The WebLogic Integration – Business Connect partner profile specifies whether documents are encrypted before sending to partners. You and your partner must have the same setting or documents are rejected.
Action	The system looks in the MCD for the action.	If you are using an API, this setting can be specified in the sendDocument call. If you are using JMS global integration, this setting can be included as a string property. You also can specify the action in the <code>MCDHandlerConfig.xml</code> file in the WebLogic Integration – Business Connect MCD directory.
Service	The system looks in the MCD for the service.	If you are using an API, this setting can be specified in the sendDocument call. If you are using JMS global integration, this setting can be included as a string property. You also can specify the action in the <code>MCDHandlerConfig.xml</code> file in the WebLogic Integration – Business Connect MCD directory.

Inbound ebXML Document Processing Settings

The WebLogic Integration – Business Connect partner profile specifies whether signatures are required on inbound documents by virtue of whether document signing is set for outbound documents. If you digitally sign outbound XML documents, WebLogic Integration – Business Connect expects inbound documents also to be signed. S/MIME signing of individual payloads is expected if the sign document setting is on.

The same situation applies to whether acknowledgments you send partners are signed and whether inbound documents are encrypted. If the partner profile requests signed acknowledgments from a partner, you also send signed acknowledgments. In the same manner, if the profile specifies that outbound documents are to be encrypted, WebLogic Integration – Business Connect expects inbound documents to be encrypted.

ebXML Processing Settings at a Glance

The following tables provide quick-scan views of how WebLogic Integration – Business Connect determines the processing settings for ebXML documents. The columns represent the places and the order that WebLogic Integration – Business Connect checks for these settings. Check marks indicate whether WebLogic Integration – Business Connect checks for a particular setting. WebLogic Integration – Business Connect determines the setting in the first place it is found. That is, if the system looks in the CPA for a setting and cannot find it, the system looks next in the MCD and, lastly, in the WebLogic Integration – Business Connect partner profile. Conversely, if the system finds the setting in the CPA, it stops looking.

ebXML with MCDs

Outbound documents			
Setting	1. CPA	2. MCD	3. Partner profile
Sign document	✓	✓	
Request acknowledgment	✓	✓	
Request signed acknowledgment	✓	✓	
Request synchronous acknowledgment	✓	✓	
Number of times to try to resend upon failure	✓	✓	✓
Resend interval	✓	✓	✓
Signature algorithm to use		✓	
Document encryption			✓

Outbound documents			
Setting	1. CPA	2. MCD	3. Partner profile
Action		✓	
Service		✓	

Inbound documents		
Setting	1. CPA	2. Partner profile
Require signature		✓
Require signed acknowledgment		✓
Require encryption		✓

ebXML with File System Interface

Outbound documents		
Setting	1. CPA	2. Partner profile
Sign document		✓
Request acknowledgment		✓
Request signed acknowledgment		✓
Request synchronous acknowledgment		✓
Number of times to try to resend upon failure		✓
Resend interval		✓

Outbound documents		
Setting	1. CPA	2. Partner profile
Signature algorithm to use		✓
Document encryption		✓
Action	see note below	
Service	see note below	

Note: See [“Outbound ebXML Document Processing Settings”](#) on page 11-15.

Inbound documents		
Setting	1. CPA	2. Partner profile
Require signature		✓
Require signed acknowledgment		✓
Require encryption		✓

MCD Example for ebXML

The following is an example of an MCD for an ebXML document. You can additional find examples of ebXML MCDs in the following directory:

installation_directory/MCD/ebxml/

Listing 11-1 MCD for an ebXML document

```
<?xml version="1.0" encoding="UTF-8"?>

<mcd:MessageControlDocument
xmlns:mcd="http://www.cyclonecommerce.com/Schemas/2001/08/mcd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" version="2.0"
```

Using ebXML

```
xsi:schemaLocation="http://www.cyclonecommerce.com/Schemas/2001/08/mcd
http://www.cyclonecommerce.com/Schemas/2001/08/MCD_v2_0.xsd">
  <mcd:PackagingProtocol>
    <mcd:Standard>ebXML</mcd:Standard>
    <mcd:Version>2.0</mcd:Version>
  </mcd:PackagingProtocol>
  <mcd:MessageId></mcd:MessageId>
  <mcd:Service type="string">MCD Test</mcd:Service>
  <mcd:Action>Request</mcd:Action>
  <mcd:TimeStamp>2002-05-13T09:07:10.733Z</mcd:TimeStamp>
  <mcd:RoutingInfo>
    <mcd:SenderId type="Name"
role="http://www.ebxml.org/roles/Buyer">Company1</mcd:SenderId>
    <mcd:ReceiverId type="Name"
role="http://www.ebxml.org/roles/Seller">Company2</mcd:ReceiverId>
    <mcd:MarketPlace/>
  </mcd:RoutingInfo>
  <mcd:TransportInfo sessionId="">
    <mcd:MaxRetry>0</mcd:MaxRetry>
    <mcd:RetryInterval>0</mcd:RetryInterval>
  </mcd:TransportInfo>
  <mcd:TrackingInfo>
    <mcd:RefToMessageId/>
    <mcd:CorrelationId/>
  </mcd:TrackingInfo>
  <mcd:MessagingAgentInfo>
    <mcd-ext:ebXML
xmlns:mcd-ext="http://www.cyclonecommerce.com/Schemas/2001/10/mcd-ext-ebXM
L" xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
xsi:schemaLocation="http://www.cyclonecommerce.com/Schemas/2001/10/mcd-ext
-ebXML
http://www.cyclonecommerce.com/Schemas/2001/10/MCD_Extension_ebXML_v1_0.xs
d">
      <mcd-ext:ebXMLBinding version="1.0" syncReply="true">
        <mcd-ext:ReliableMessaging deliverySemantics="OnceAndOnlyOnce"
messageOrderSemantics="NotGuaranteed">
          <mcd-ext:Retries>0</mcd-ext:Retries>
          <mcd-ext:RetryInterval>0</mcd-ext:RetryInterval>
```

```

        <mcd-ext:PersistDuration>0</mcd-ext:PersistDuration>
        <mcd-ext:Acknowledgement ackRequested="Signed" />
    </mcd-ext:ReliableMessaging>
    <mcd-ext:DeliveryReceipt deliveryReceiptRequested="None" />
    <mcd-ext:Envelope>
        <mcd-ext:NonRepudiation>
            <mcd-ext:Protocol
version="">http://www.w3.org/2000/09/xmldsig#</mcd-ext:Protocol>
            <mcd-ext:HashFunction>http://www.w3.org/2000/09/xmldsig#sha1</mcd-ext:HashFunction>
            </mcd-ext:NonRepudiation>
            <mcd-ext:DigitalEnvelope>
                <mcd-ext:Protocol version="" />
                <mcd-ext:EncryptionAlgorithm/>
            </mcd-ext:DigitalEnvelope>
        </mcd-ext:Envelope>
    </mcd-ext:ebXMLBinding>
</mcd-ext:ebXML>
</mcd:MessagingAgentInfo>
<mcd:StatusInfo type="">
    <mcd:Description/>
    <mcd:ExceptionInfo type="">
        <mcd:ErrorDescription/>
        <mcd:ErrorClassification/>
        <mcd:OffendingMessageComponent/>
    </mcd:ExceptionInfo>
    <mcd:DigestInfo>
        <mcd:DigestValue/>
        <mcd:DigestAlgorithm/>
    </mcd:DigestInfo>
</mcd:StatusInfo>
    <cyclone-prop:Properties soap:mustUnderstand="1"
xmlns:cyclone-prop="http://www.cyclonecommerce.com/namespaces/properties"
xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xsi:schemaLocation="http://www.cyclonecommerce.com/namespaces/properties
http://www.cyclonecommerce.com/Schemas/2002/05/cyclone-properties.xsd">
    <cyclone-prop:Property
cyclone-prop:name="username">jturpin</cyclone-prop:Property>

```

Using ebXML

```
<cyclone-prop:Property
cyclone-prop:name="password">abcdefg</cyclone-prop:Property>
</cyclone-prop:Properties>
<mcd:ManifestInfo>
  <mcd:MessageContentInfo id="ID25789961021306030733REMERy2">
    <mcd:MIMEContentId>Large-XML</mcd:MIMEContentId>
    <mcd:MIMEContentType>application/xml</mcd:MIMEContentType>
    <mcd:Description/>
    <mcd:Filename>Company2_TO_Company4_3.xml</mcd:Filename>
    <mcd:Body bodyEncoding=" "><![CDATA[<?xml version="1.0"?>
<BizTalk xmlns="urn:schemas-biztalk-org:BizTalk/biztalk-0.81.xml">
<Route>
<To locationID="Company2" locationType="DUNS" process="DocGen" route=" "
handle="00"/>
<From locationID="Company4" locationType="DUNS" process="DocGen" route=" "
handle="00"/>
</Route>
<Body>
<FILLER>
<ID>0</ID>
<Title>Reilly's Luck</Title>
<Quantity>1</Quantity>
<UnitPrice>$5.00</UnitPrice>
<Title>Rapid Development</Title>
<Quantity>1</Quantity>
<UnitPrice>$20.00</UnitPrice>
</FILLER>
</Body>
</BizTalk>
]]></mcd:Body>
  </mcd:MessageContentInfo>
</mcd:ManifestInfo>
</mcd:MessageControlDocument>
```

Application Security

The following topics describe available security features for communications between the WebLogic Integration – Business Connect Server application and client applications.

Concepts

- [“SOAP-RPC HTTPS Security” on page 12-2](#)
- [“API HTTPS Security” on page 12-7](#)

Procedures

- [“Configuring Administrator and Tracker to Authenticate the SOAP-RPC Server” on page 12-4](#)
- [“Configuring the SOAP-RPC Server to Authenticate Administrator or Tracker” on page 12-6](#)
- [“Configuring an API Client to Use HTTPS” on page 12-10](#)
- [“Configuring an API Client to Authenticate the API Server” on page 12-10](#)
- [“Configuring the API Server to Authenticate an API Client” on page 12-11](#)

Tools

- [“Certificate Tool \(certloader\)” on page 12-12](#)
- [“SOAP Configuration Tool \(soapconfig\)” on page 12-17](#)

SOAP-RPC HTTPS Security

WebLogic Integration – Business Connect uses Simple Object Access Protocol (SOAP) to enable the Administrator and Tracker applications to securely send updates to the Server application. WebLogic Integration – Business Connect uses a built-in server for this purpose called the SOAP-RPC HTTPS server.

SOAP is a message-based protocol for accessing services on the Internet. SOAP uses XML syntax to send text commands across the Internet using HTTP. For more information about SOAP, see <http://www.w3.org/TR/SOAP/>. RPC stands for remote procedure call, which is a common protocol for the client-server model of distributed systems.

The SOAP-RPC HTTPS server has a certificate with a public-private key pair. For brevity, this is referred to as the RPC certificate. By default, this is a self-signed certificate with a life of five years that is generated upon installing WebLogic Integration – Business Connect. You can replace the certificate either with another self-signed certificate or with a certificate obtained from a third-party certificate authority. For details see “[Certificate Tool \(certloader\)](#)” on [page 12-12](#).

Default SOAP-RPC HTTPS Security

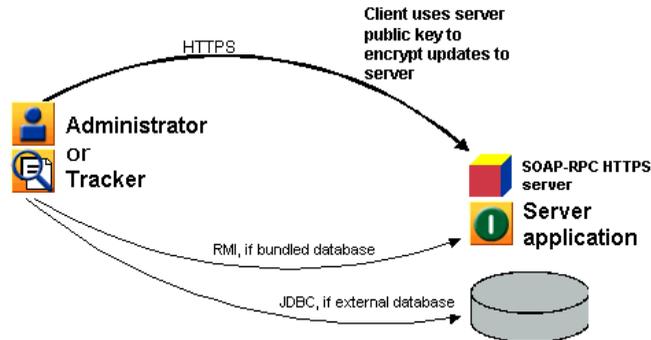
Administrator and Tracker use the public key in the RPC certificate to encrypt updates to the WebLogic Integration – Business Connect Server application by way of the SOAP-RPC HTTPS server. This security occurs by default; you do not have to do anything to enable it.

Triple DES is the default encryption strength for the SOAP-RPC HTTPS server. Triple DES has a key length of 168 bits.

[Figure 12-1](#) illustrates the default security for the SOAP-RPC HTTPS server.

Figure 12-1 Default SOAP-RPC HTTPS Server Security

Default: Client encrypts updates to Server



Optional SOAP-RPC HTTPS Security

Two additional, optional layers of security for authenticating certificates are available:

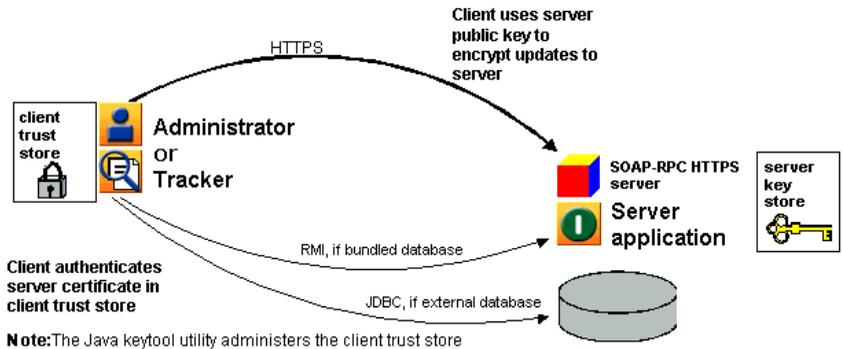
- Configure Administrator and Tracker to authenticate the RPC certificate. This validates that Administrator and Tracker are communicating with the authorized Server application. This authentication requires that you obtain a CA certificate for the Server application.
- Configure the Server application to authenticate a certificate owned by Administrator and Tracker. This validates that the Server application is communicating with the authorized Administrator and Tracker. This authentication requires that you obtain a CA certificate for each client computer running Administrator and Tracker.

Configuration for authenticating certificates requires knowledge of Java tools, particularly `keytool`, which is a key and certificate management utility. It also requires using the WebLogic Integration – Business Connect `certloader` and `soapconfig` tools. For details see “[Certificate Tool \(certloader\)](#)” on page 12-12 and “[SOAP Configuration Tool \(soapconfig\)](#)” on page 12-17.

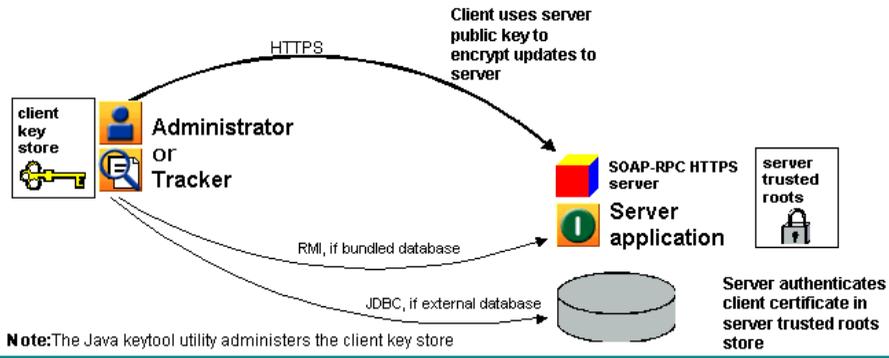
[Figure 12-2](#) illustrates the optional security for the SOAP-RPC HTTPS server.

Figure 12-2 Optional SOAP-RPC HTTPS Server Security

Option 1: Client authenticates server certificate



Option 2: Server authenticates client certificate



Configuring Administrator and Tracker to Authenticate the SOAP-RPC Server

Use this procedure to configure Administrator and Tracker to authenticate a CA certificate for the SOAP-RPC HTTPS server. This authentication validates that the remote Administrator and Tracker applications are communicating with the authorized WebLogic Integration – Business Connect Server application. For details about such authentication, see [“Optional SOAP-RPC HTTPS Security” on page 12-3.](#)

Steps

1. Obtain a digital certificate with a public-private key pair from a certificate authority. Export the certificate from your browser or mail client to a file with an extension of `p12`. The private key must be exported with the file. Export the certificate to include the entire certificate chain.
2. Use the `certloader` tool to import the CA certificate to the WebLogic Integration – Business Connect keystore. The certificate you import will replace the current RPC certificate. Use the following format:

```
certloader -rpc -l filename password
```

You will use the password again in step 7.

For details about the tool, see [“Certificate Tool \(certloader\)” on page 12-12](#).

3. Use the Java `keytool` to create a truststore on the client computer that runs Administrator and Tracker. This truststore cannot be the `keys.db` file found in the WebLogic Integration – Business Connect keys directory; it must be another file. If you use Administrator and Tracker on more than one client, you must create a truststore for each computer.

See Sun Microsystems Java documentation for information about using `keytool`.

4. Use the Java `keytool -import` option to import the certificate and public key to the client truststore. If you use more than one client, you must import the certificate and public key to the truststore of each computer.
5. Use a text editor such as Notepad to open the `DB.properties` file in the WebLogic Integration – Business Connect installation directory. Scroll to Section 3: Miscellaneous Settings. Type `true` after the `SOAP.Admin.CheckTrust=` property.
6. Save and close the `DB.properties` file.
7. Use the SOAP configuration tool to set the client truststore path and truststore password in the `DB.properties` file.

If you are using the tool from a command line, use the following format:

```
soapconfig -ts truststore -tp truststorepassword
```

If are using the tool’s graphical user interface, complete the following fields: Trust store, Trust store password and Confirm trust store password.

Use the same password as the one used to import the certificate to the WebLogic Integration – Business Connect keystore in step 2.

For details about the tool, see [“SOAP Configuration Tool \(soapconfig\)” on page 12-17](#).

8. Restart the WebLogic Integration – Business Connect Server application.

Configuring the SOAP-RPC Server to Authenticate Administrator or Tracker

Use this procedure to configure the WebLogic Integration – Business Connect Server application to authenticate a CA certificate for Administrator and Tracker. This authentication validates that the Server application is communicating with the authorized remote Administrator and Tracker applications via the SOAP-RPC HTTPS server. For details about such authentication, see [“Optional SOAP-RPC HTTPS Security” on page 12-3](#).

Steps

1. Request a CA certificate by using the Java keytool to generate a certificate signing request (CSR) with the `-certreq` command and sending the CSR to the CA.
See Sun Microsystems Java documentation for information about using keytool.
2. Use the Java keytool to create a keystore on the client computer that runs Administrator and Tracker. This keystore cannot be the `keys.db` file found in the WebLogic Integration – Business Connect keys directory; it must be another file. If you use Administrator and Tracker on more than one client, you must create a keystore for each computer.
3. Once the CA has issued the certificate, use the keytool `-import` command to import the certificate to the client keystore.
4. Use Administrator to make sure the root of the CA certificate is trusted. Select Tools→Certificates→Trusted Roots to open the Trusted Roots window. Scroll through the list of trusted roots. It is possible that the root of the CA certificate already is trusted. If not, import the root underlying the certificate and trust it. See [“Trusted Roots” on page 7-53](#).
5. Use the SOAP configuration tool to set the client keystore path and keystore password in the `DB.properties` file.

If you are using the tool from a command line, use the following format:

```
soapconfig -ks keystore -kp keystorepassword
```

If are using the tool’s graphical user interface, complete the following fields: Key store, Key store password and Confirm key store password. The password is the one you used to export the certificate to a `p12` file from a browser or mail client.

For details about the tool, see [“SOAP Configuration Tool \(soapconfig\)” on page 12-17](#).

6. In Administrator, select Tools→Preferences and click the Ports tab. Below the SOAP HTTPS server port field, select the Authenticate check box. Click OK to save the change and close the window.
7. Restart the WebLogic Integration – Business Connect Server application.

API HTTPS Security

WebLogic Integration – Business Connect supports communicating with an application program interface (API) client by way of HTTP and HTTPS servers that are built into the application.

Communicating by way of the HTTP server with an API client does not require special configuration, beyond specifying the API HTTP port on the Ports tab, which is accessed by selecting Tools→Preferences in Administrator.

Using the HTTPS server, however, requires additional configuration and is explained in the following topics:

- [“API Security Summary”](#)
- [“Optional API Security” on page 12-8](#)

API Security Summary

WebLogic Integration – Business Connect supports an API client communicating with the Server application. WebLogic Integration – Business Connect has two built-in servers for this purpose. One is an HTTP server. The other is an HTTPS server. The API HTTPS server enables an API client to use a public key to securely encrypt messages to the Server application.

The API HTTPS server must be used with a certificate and a public-private key pair. For brevity, this is referred to as the API certificate. This can be a self-signed certificate or a certificate obtained from a third-party certificate authority. For details see [“Certificate Tool \(certloader\)” on page 12-12](#).

Optional API Security

WebLogic Integration – Business Connect supports three security options for communicating with an API client by way of HTTPS, which is HTTP over Secure Sockets Layer protocol. They are:

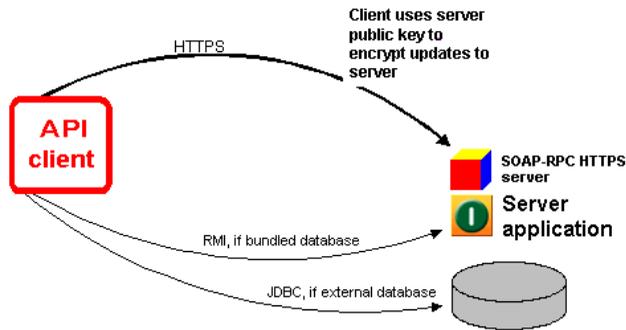
- Enable the API client to communicate securely with the WebLogic Integration – Business Connect Server application. The API client uses the public key in the API certificate to encrypt messages to the Server application.
- Configure the API client to authenticate the API certificate. This validates that the API client is communicating with the authorized Server application. This authentication requires that you obtain a CA certificate for the Server application.
- Configure the Server application to authenticate a certificate owned by the API client. This validates that the Server application is communicating with the authorized API client. This authentication requires that you obtain a CA certificate for the API client.

Implementing these security options requires knowledge of Java tools, particularly keytool, which is a key and certificate management utility. It also requires using the WebLogic Integration – Business Connect certloader tool. For details see [“Certificate Tool \(certloader\)” on page 12-12](#).

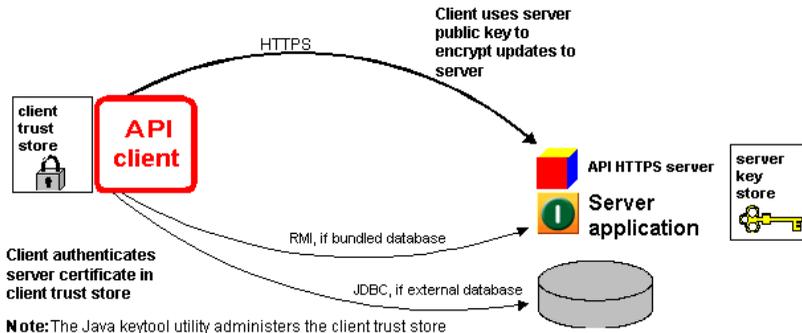
[Figure 12-3](#) illustrates the optional security for the API HTTPS server.

Figure 12-3 Optional API HTTPS Server Security

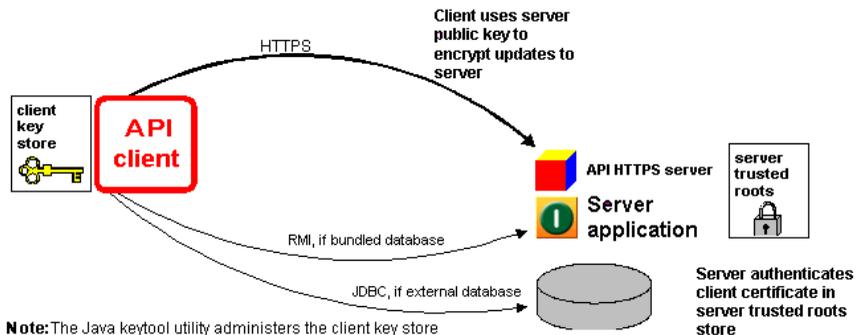
Option 1: Client encrypts updates to Server



Option 2: Client authenticates server certificate



Option 3: Server authenticates client certificate



Configuring an API Client to Use HTTPS

Use this procedure to configure the API client to use the public key in the API certificate to encrypt messages to the WebLogic Integration – Business Connect Server application. For details about this security, see [“API HTTPS Security” on page 12-7](#).

Steps

1. Generate or obtain an API certificate for the API HTTPS server. See [“Certificate Tool \(certloader\)” on page 12-12](#).
2. In Administrator set the HTTPS port that the API client and the Server application will use. The port is set on the Ports tab, which is accessed by selecting Tools→Preferences. See [“Preferences Ports Tab” on page 10-9](#).
3. Point the API client at the correct port and host running the WebLogic Integration – Business Connect Server application. Include the `jsse.jar` file in the API client’s class path. The file is in the WebLogic Integration – Business Connect lib directory.
4. In configuring the API client, see the sample code for the Java classes `AlwaysTrustManager` and `AlwaysTrueVerifier`. The sample code is in the WebLogic Integration – Business Connect API directory.

The API client should use `AlwaysTrustManager` as the trust manager and `AlwaysTrueVerifier` as the host name verifier. `AlwaysTrustManager` will trust all certificates returned from the server. `AlwaysTrustManager` is required because the server's certificate is not included in the client's keystore. `AlwaysTrueVerifier` will allow mismatch of the host name of the request and the common name in the certificate. `AlwaysTrueVerifier` might be required because of the nature of the self-signed certificate being used. The self-signed certificate is generated upon installation using the host name of the server. A server can have multiple host names. So the host name the API client is connecting with might not be the host name in the generated certificate.

5. Restart the WebLogic Integration – Business Connect Server application.

Configuring an API Client to Authenticate the API Server

Use this procedure to configure an API client to authenticate a CA certificate for the API HTTPS server. This authentication validates that the remote API client is communicating with the authorized WebLogic Integration – Business Connect Server application. For details about such authentication, see [“Optional API Security” on page 12-8](#).

You must first configure the API client to use the API HTTPS server before you can do this procedure. See [“Configuring an API Client to Use HTTPS” on page 12-10.](#)

Steps

1. Do this step if the API certificate is a self-signed certificate. Obtain a digital certificate with a public-private key pair from a certificate authority. Export the certificate from your browser or mail client to a file with an extension of `p12`. The private key must be exported with the file. Export the certificate to include the entire certificate chain.

Use the `certloader` tool to import the CA certificate to the WebLogic Integration – Business Connect keystore. The certificate you import will replace the current API certificate. Use the following format:

```
certloader -api -l filename password
```

For details about the tool, see [“Certificate Tool \(certloader\)” on page 12-12.](#)

2. Use the Java `keytool` to create a truststore on the computer that runs the API client. This truststore cannot be the `keys.db` file found in the WebLogic Integration – Business Connect keys directory; it must be another file.

See Sun Microsystems Java documentation for information about using `keytool`.

3. Use the Java `keytool -import` option to import the certificate and public key to the client truststore.

The API client should not use the Java classes `AlwaysTrustManager` and `AlwaysTrueVerifier`.

4. Restart the WebLogic Integration – Business Connect Server application.

Configuring the API Server to Authenticate an API Client

Use this procedure to configure the WebLogic Integration – Business Connect Server application to authenticate a CA certificate for the API client. This authentication validates that the Server application is communicating with the authorized remote API client. For details about such authentication, see [“Optional API Security” on page 12-8.](#)

You must first configure the API client to use the API HTTPS server before you can do this procedure. See [“Configuring an API Client to Use HTTPS” on page 12-10.](#)

Steps

1. Request a CA certificate by using the Java keytool to generate a certificate signing request (CSR) with the `-certreq` command and sending the CSR to the CA.
See Sun Microsystems Java documentation for information about using keytool.
2. Use the Java keytool to create a keystore on the computer that runs the API client. This keystore cannot be the `keys.db` file found in the WebLogic Integration – Business Connect keys directory; it must be another file.
3. Once the CA has issued the certificate, use the keytool `-import` command to import the certificate to the client keystore.
4. Use Administrator to make sure the root of the CA certificate is trusted. Select Tools→Certificates→Trusted Roots to open the Trusted Roots window. Scroll through the list of trusted roots. It is possible that the root of the CA certificate already is trusted. If not, import the root underlying the certificate and trust it. See [“Trusted Roots” on page 7-53](#).
5. Restart the WebLogic Integration – Business Connect Server application.

Certificate Tool (certloader)

Certloader is a command line utility that can perform tasks for enhancing application security. It can generate self-signed certificates containing public-private encryption key pairs. It also can load a certificate containing a public-private key pair that was generated by a third-party certificate authority.

Certloader is used for managing certificates used by two HTTPS servers that are built into WebLogic Integration – Business Connect:

- The SOAP-RPC HTTPS server owns the RPC certificate. This bundled server enables Administrator and Tracker to communicate securely with the WebLogic Integration – Business Connect Server application. Administrator and Tracker use the certificate’s public key to encrypt updates to the Server application. A self-signed RPC certificate is generated upon installing WebLogic Integration – Business Connect and stored in the application’s keystore.

- The API HTTPS server owns the API certificate. This bundled server enables API clients to communicate securely with the WebLogic Integration – Business Connect Server application. An API client uses the certificate’s public key to encrypt messages to the Server application. WebLogic Integration – Business Connect support of API clients is an optional feature. If you want to use the API HTTPS server, you must use certloader to either generate a self-signed certificate or load a certificate obtained from a certificate authority.

In addition to generating self-signed certificates, certloader can import P12 certificate files containing public-private key pairs that have been obtained from a certificate authority. CA certificates are recommended as the API and RPC certificates when you want the client to authenticate the server certificate or the server to authenticate the client certificate or both. For details see [“SOAP-RPC HTTPS Security” on page 12-2](#) and [“API HTTPS Security” on page 12-7](#).

You cannot use certloader to delete a certificate used by the API HTTPS server or SOAP-RPC HTTPS server.

The following topics are provided about certloader:

- [“The Default RPC Certificate” on page 12-13](#)
- [“Using certloader” on page 12-14](#)
- [“Description of certloader Parameters” on page 12-15](#)

The Default RPC Certificate

During installation, WebLogic Integration – Business Connect uses the name of the host computer for the Server application and the company name you enter to generate the initial RPC certificate. This is a self-signed certificate. Default values are used for the length of the public-private key and the certificate expiration date. Other values are blank by default.

[Listing 12-1](#) shows the information for a default RPC certificate. [“Using certloader” on page 12-14](#) explains how to display the certificate information using the `certloader` command. The certificate also is in the WebLogic Integration – Business Connect trusted roots store. You can view the certificate’s information by selecting Tools→Certificates→Trusted Roots in Administrator.

Listing 12-1 Default RPC Certificate

```
Name: WORLDWIDE
E-mail address:
Commany: Worldwide Trading
Department:
City:
Country code:
Serial number: 5294f5ece4299c75710582f441b6f63a
Algorithm: sha1WithRSAEncryption
Key length: 512
Valid from: Tue Aug 21 10:13:53 MST 2001
Valid to: Mon Aug 21 10:13:53 MST 2006
MD5 Fingerprint: CA:A2:34:28:CB:0D:CD:64:4E:CE:FD:4F:5B:B9:D4:57
Issuer: O=Worldwide Trading, CN=WORLDWIDE
```

Administrator and Tracker use the public key in the RPC certificate to communicate with the Server application; you do not have to configure this.

Using certloader

The following shows the usage of certloader and its parameters. The words following parameters are the names of variables that are used with the associated parameter. This command is executed in a console or command window. The certloader tool is in the WebLogic Integration – Business Connect bin directory.

- Display help about parameters:

```
certloader -?|-help
```

- Generate a self-signed certificate for the API HTTPS server or SOAP-RPC HTTPS server:

```
certloader -api|-rpc -g [-c common name] [-o organization name]
[-u organization unit name] [-loc locality name] [-cty country code]
[-e e-mail address] [-len 512|1024|2048] [-v number[d|m|y]]
```

- Load a CA certificate in the WebLogic Integration – Business Connect keystore for the API HTTPS server or SOAP-RPC HTTPS server:

```
certloader -api|-rpc -l filename password
```

- Display information about the certificate for the API HTTPS server or SOAP-RPC HTTPS server:

```
certloader -api|-rpc -dump
```

Typing `certloader` without a parameter generates an error message. The command must be used with parameters to function.

Description of certloader Parameters

The `certloader` parameters are described in the following table.

Table 12-1 certloader Parameters

Parameter	Description
-?, -help	Displays information about the <code>certloader</code> command and its parameters.
-api	Generates a self-signed certificate, loads a CA certificate or displays information about a certificate. The certificate is used by the API HTTPS server that is within the application. This parameter must be used with other parameters. It cannot be used alone with the <code>certloader</code> command.
-rpc	Generates a self-signed certificate, loads a CA certificate or displays information about a certificate. The certificate is used by the SOAP-RPC HTTPS server that is within the application. This parameter must be used with other parameters. It cannot be used alone with the <code>certloader</code> command.
-g	Generates a self-signed certificate for the API HTTPS server or the SOAP-RPC HTTPS server. This parameter must be preceded by <code>-api</code> or <code>-rpc</code> . You must restart the Server application for the new certificate to become active. The newly active certificate replaces the previous certificate.
-c common name	This optional parameter is used after <code>-g</code> to create a common name for a self-signed certificate. Common name is a certificate term for the name of a person. This can be the name of the person who generates or owns the certificate. If you do not use this parameter, the name of the host running the Server application is used.

Table 12-1 certloader Parameters (Continued)

Parameter	Description
<code>-o organization name</code>	This optional parameter is used after <code>-g</code> to create an organization name for a self-signed certificate. This usually is your company name. If you do not use this parameter, the name of the application's registered user is used.
<code>-u organization unit name</code>	This optional parameter is used after <code>-g</code> to create an organization unit name for a self-signed certificate. This usually is the name of a department or division within the company. If you do not use this parameter, the value is blank.
<code>-loc locality name</code>	This optional parameter is used after <code>-g</code> to create a locality name for a self-signed certificate. This usually is a city name. If you do not use this parameter, the value is blank.
<code>-cty country code</code>	This optional parameter is used after <code>-g</code> to create a two-letter ISO country code for a self-signed certificate. For example, <code>us</code> is United States. If you do not use this parameter, the value is blank.
<code>-e e-mail address</code>	This optional parameter is used after <code>-g</code> , to create an e-mail address for a self-signed certificate. If you do not use this parameter, the value is blank.
<code>-len 512 1024 2048</code>	This optional parameter is used after <code>-g</code> to create a key pair of a specified length for a self-signed certificate. You can specify 512, 1024 or 2048. If you do not use this parameter, a key length of 512 is generated.
<code>-v number[d m y]</code>	<p>This optional parameter is used after <code>-g</code> to create an expiration date for a self-signed certificate.</p> <p>The <code>certloader</code> command calculates the expiration date based on the number of days, months or years from today's date that you want the certificate to expire. For example, <code>-v10d</code> specifies that the expiration date is 10 days from today's date.</p> <p>If you do not use this parameter, the expiration date is five years from today's date.</p>

Table 12-1 certloader Parameters (Continued)

Parameter	Description
-l filename password	Loads a P12 formatted CA certificate file containing a public-private key pair. You must specify the name of the file and the password protecting the keys. You must restart the Server application for the new certificate to become active. The newly active certificate replaces the previous certificate.
-dump	Displays information about the API HTTPS server certificate or the SOAP-RPC HTTPS server certificate. This parameter must be preceded by -api or -rpc.

SOAP Configuration Tool (soapconfig)

The soapconfig tool, which is in the application's bin directory, configures the SOAP truststore and keystore settings for communications between Administrator and Tracker and the Server application. You use the soapconfig tool when setting up the certificate authentication security options described in [“Optional SOAP-RPC HTTPS Security” on page 12-3](#) or [“Optional API Security” on page 12-8](#).

Using the soapconfig tool is a step in setting up a truststore or keystore or both for each client computer running Administrator and Tracker. The truststore and keystore actually are set up using the Java keytool. The soapconfig tool is used to point Administrator and Tracker to the truststore or keystore that keytool was used to create. The properties soapconfig manages are in the `DB.properties` file in the WebLogic Integration – Business Connect installation directory.

Keytool manages a keystore of private keys and their associated X.509 certificate chains authenticating the corresponding public keys. It also manages certificates from trusted entities. For information about keytool see <http://java.sun.com>.

You can use the soapconfig tool with a graphical user interface or from a command line. The following topics explain how to use it both ways:

- [“Using soapconfig as a Command Line Tool” on page 12-18](#)
- [“Using soapconfig with the User Interface” on page 12-20](#)

After using soapconfig, you must restart the Server application for the changes to become effective.

Listing 12-2 shows the section of the `DB.properties` file that the `soapconfig` tool manipulates. Specifically, the tool affects some of the properties that begin with the words `SOAP.Admin`. We recommend that you use the `soapconfig` tool to change these settings and do not directly edit the `DB.properties` file, unless advised to do so. The `soapconfig` tool encrypts the password settings and direct editing does not.

Listing 12-2 DB.properties File

```
// SECTION 3: MISCELLANEOUS SETTINGS

Cyclone.client.browser=unknown
RMI.Port=
RMIServer=
Debug=0
// SOAP.* settings used by Administrator and Tracker when communicating
with
// the controller. These values are not used by the Controller when
// initializing the SOAP Server. The Controller values are set inside the
// Administrator under Tools-Preferences.
SOAP.Admin.Host=
SOAP.Admin.Port=
SOAP.Admin.CheckTrust=
SOAP.Admin.TrustStore=
SOAP.Admin.TrustStorePassword=
SOAP.Admin.KeyStore=
SOAP.Admin.KeyStorePassword=
```

Using soapconfig as a Command Line Tool

The following shows the usage of `soapconfig` and its parameters as a command line tool. The words following parameters are the names of variables that are used with the associated parameter.

- Display help about parameters:

```
soapconfig -?|-h|-help
```

- Change truststore settings in the `DB.properties` file that are used by Administrator and Tracker:

```
soapconfig [-ts truststore] [-tp truststorepassword] [-ks keystore]
           [-kp keystorepassword]
```

Typing `soapconfig` without a parameter opens the Soap Configuration window. This user interface is an alternative to using `soapconfig` as command line utility. See [“Using soapconfig with the User Interface” on page 12-20](#).

Note: Before you use the `soapconfig` tool, use the Java `keytool` to create the truststore or keystore or both for Administrator and Tracker.

Description of Command Line Parameters

The `soapconfig` parameters are described in the following table.

Table 12-2 soapconfig Parameters

Parameter	Description
-?, -h, -help	Displays information about the <code>soapconfig</code> command and its parameters.
-ts truststore	The name of the Administrator and Tracker truststore that was created with <code>keytool</code> . A truststore is a keystore that is used to make decisions about trusting entities. A truststore contains trusted certificates information, but not private information.
-tp truststorepassword	The truststore password.
-ks keystore	The name of the Administrator and Tracker keystore that was created with <code>keytool</code> . A keystore is a database of key information that is used for authentication and data integrity. A keystore contains private information, including private keys.
-kp keystorepassword	The keystore password.

Using soapconfig with the User Interface

To use the soapconfig tool with a graphical user interface, type `soapconfig` on a command line with no parameters and press Enter. In Windows, you also can double-click the `SOAPConfig.bat` file in the WebLogic Integration – Business Connect bin directory to open the window. When you complete the fields and click OK, the window closes and the changes appear in the `DB.properties` file.

Note: Before you use the soapconfig tool, use the Java keytool to create the truststore or keystore or both for Administrator and Tracker.

Figure 12-4 SOAP Configuration Window



Description of Soap Configuration Window

The following describes the fields on the Soap Configuration window.

If you are running the tool for the first time, the fields are blank. If you have used the tool before, the default values are the same as the values you entered when you previously used the tool.

Trust store

The name of the Administrator and Tracker truststore that was created with keytool. A truststore is a keystore that is used to make decisions about trusting entities. A truststore contains trusted certificates information, but not private information.

Trust store password

The truststore password. For security the password appears as asterisks. In `DB.properties` the password is encrypted.

Confirm trust store password

The truststore password repeated.

Key store

The name of the Administrator and Tracker keystore that was created with keytool. A keystore is a database of key information that is used for authentication and data integrity. A keystore contains private information, including private keys.

Key store password

The keystore password. For security the password appears as asterisks. In `DB.properties` the password is encrypted.

Confirm key store password

The keystore password repeated.

Application Security

Exporting and Importing Data

The following topics provide information about exporting configuration data in Administrator and log data in Tracker and importing the data to a new installation of WebLogic Integration – Business Connect.

Procedures

- [“Exporting Administrator Data” on page 13-2](#)
- [“Exporting Tracker Data” on page 13-2](#)
- [“Importing Data” on page 13-3](#)

This information is about exporting and importing data only within version 8.1 of WebLogic Integration – Business Connect. If you want to copy data from one version of WebLogic Integration – Business Connect to another, see “Upgrading” in *Installing WebLogic Integration – Business Connect*.

You might want to export data and preserve it in the event you want to back up data or use WebLogic Integration – Business Connect on a computer other than where you first installed the application.

The utility that enables you to import configuration and log data only allows you to import data into a newly installed instance of WebLogic Integration – Business Connect. The utility does not allow you to import data into an instance of WebLogic Integration – Business Connect that already has data. Moreover, you can only export and import data on the same platform (for example, export from WebLogic Integration – Business Connect on Windows and import to WebLogic Integration – Business Connect on Windows).

Exporting Administrator Data

Use this procedure to export a file containing all data in Administrator about company and partner profiles, schedules, certificates and users. This procedure is only for exporting data from version 8.1 of Administrator.

The exported data can be imported only to a newly installed instance of WebLogic Integration – Business Connect 8.1. You cannot import the file to the same system that exported the data.

Steps

1. Select File→Save Administrator Data in Administrator to open the Save Administrator Data dialog box.
2. Type the name of the data file to export and select the export directory. The default file name is `Administrator.dat`.
3. Click Save. The Export Password dialog box opens. Setting a password for the data file you export is an optional step. Setting a password encrypts sensitive data in the file. It also ensures that only a user who knows the password can import the file to Administrator.
4. If you want, type a password in the password field and retype it in the confirm password field. For security, the password appears as asterisks. You can use alphanumeric characters for your password.

Although not required, a password is recommended. However, there is no way to recover a lost or forgotten password. If you lose or forget your password, you must export the data file again and create another password.

If you do not want a password for the exported file, leave these fields blank.

5. Click OK to save the data file to the selected directory.

Exporting Tracker Data

Use this procedure to export a file containing runtime log data in Tracker. Archived data is not exported. This procedure is only for exporting data from version 8.1 of Tracker.

The exported data can be imported only to a newly installed instance of WebLogic Integration – Business Connect 8.1. You cannot import the file to the same system that exported the data.

Steps

1. Select File→Save Tracker Runtime Data in Tracker to open the Save Tracker Data dialog box.
2. Type the name of the data file to export and select the export directory. The default file name is `Tracker.dat`.
3. Click Save. The Export Password dialog box opens. Setting a password for the data file you export is an optional step. Setting a password encrypts sensitive data in the file. It also ensures that only a user who knows the password can import the file to Tracker.
4. If you want, type a password in the password field and retype it in the confirm password field. For security, the password appears as asterisks. You can use alphanumeric characters for your password.

Although not required, a password is recommended. However, there is no way to recover a lost or forgotten password. If you lose or forget your password, you must export the data file again and create another password.

If you do not want a password for the exported file, leave these fields blank.

5. Click OK to save the data file to the selected directory.

Importing Data

Use this procedure to import a file containing Administrator data or Tracker data or both. You can import data only into a new instance of WebLogic Integration – Business Connect that does not have any configuration or log data.

This procedure is only about importing to a newly installed instance of WebLogic Integration – Business Connect 8.1 the data exported from a previously installed instance of WebLogic Integration – Business Connect 8.1.

Before performing this procedure you must have exported the data for Administrator or Tracker or both. See [“Exporting Administrator Data” on page 13-2](#) and [“Exporting Tracker Data” on page 13-2](#).

Steps

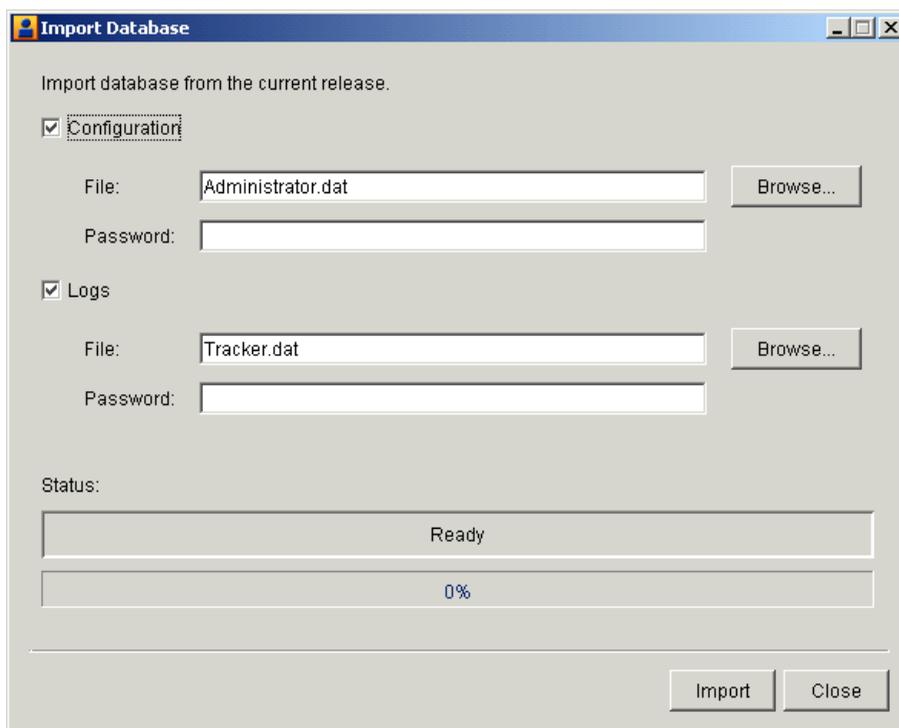
1. Install the version 8.1 software.
2. Using the newly installed 8.1 software, start the import database utility in the WebLogic Integration – Business Connect bin directory to open the Import Database window.

In Windows, in the WebLogic Integration – Business Connect bin directory, double-click `Import.bat`.

In UNIX, run the following command:

```
installation_directory/bin/import
```

Figure 13-1 Import Database Window



3. On the Import Database window, make sure the check boxes for the data files you want to import are selected. The check boxes are Configuration for Administrator data and Logs for Tracker data. Both check boxes are selected by default.

4. Click **Browse** next to the **Configuration File** field to open a browse dialog box. Select the `Administrator.dat` file in the directory where you saved the file and click **Open**. If you created a password for the data file when you exported it, type it in the password field.
5. Click **Browse** next to the **Logs File** field to open a browse dialog box. Select the `Tracker.dat` file in the directory where you saved the file and click **Open**. If you created a password for the data file when you exported it, type it in the password field.
6. Click **Import** to start the import process. When the process is completed, a message appears confirming the success of the import.
7. Click **Close** to close the **Import Database** window.
8. Start the **Server** application.

Exporting and Importing Data

Document Generator

The Document Generator utility is included with WebLogic Integration – Business Connect. You can use it to create test documents that conform to the structures of X12 EDI or XML formats. To create an end-to-end test, you can generate documents of any size and send them at any interval you choose to another WebLogic Integration – Business Connect server.

The following topics are provided about using Document Generator to create test trading documents.

Procedures

- [“Create EDI or XML Test Documents” on page 14-1](#)

Concepts

- [“Run Document Generator From a Command Line” on page 14-4](#)

Create EDI or XML Test Documents

Use this procedure to create EDI or XML test documents in Document Generator and put them in an output directory.

You can run multiple sessions of the Document Generator. Each session can generate different document types, sizes and rates.

Steps

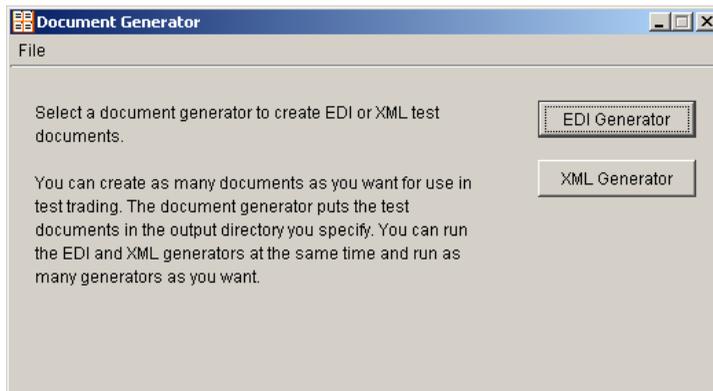
1. On Windows select Programs→BEA WebLogic Integration – Business Connect 8.1→Document Generator on the Start menu.

On UNIX log in to the cyclone account you created previously. Ensure that you have X Windows connectivity to the server where you installed the application. Run the following command to open the Document Generator:

```
installation_directory/bin/docgen
```

You also can run the Document Generator from a command line. See [“Run Document Generator From a Command Line”](#) on page 14-4.

Figure 14-1 Document Generator Window



2. Click EDI Generator or XML Generator to open the EDI or XML Document Generator window. The two windows are similar, but only the EDI window has Control ID and Input template fields.

Figure 14-2 EDI Document Generator Window

The screenshot shows a window titled "EDI Document Generator" with a close button in the top right corner. The window contains the following fields and controls:

- Sender's ID:
- Receiver's ID:
- Control ID:
- Output Directory: - Input template: - Documents to generate:
- Document size (K):
- Regeneration time (min):

At the bottom of the window, there are three buttons: , , and .

3. Complete the fields. See [“Field Descriptions” on page 14-3](#).
4. Click Generate to generate the number and size of documents you specified. The Document Generator continues to generate documents at the interval you specified until you click Stop or close the EDI or XML Document Generator window.

Field Descriptions

The following describes the fields on the EDI and XML Document Generator windows. For procedure see [“Steps” on page 14-2](#).

Sender's ID

Type the ID of the sender.

Receiver's ID

Type the ID of the receiver.

Control ID (EDI only)

Type any numeric control ID. This is the starting number for the document counter.

Output Directory

Type the directory where the Document Generator writes the outbound documents. Or, use the **Browse** button to locate this directory. This is typically the sender's EDI or XML out directory.

Input template (EDI only)

If you want to use your own EDI document as the template for creating test EDI documents, click **Browse** to point to the document on your system. Document Generator copies your document and inserts your specified sender, receiver and control ID in the generated test documents.

If you want Document Generator to create documents for you, leave this field blank.

Documents to generate

Type any value between 1 and 999999 to indicate the number of documents you want to create per unit of time. The Document Generator creates all of these documents at once.

Document size (K)

Type any value between 1 and 999999 to indicate the size of each document you want to create.

Regeneration time (min)

Type any value between 1 and 999999 to indicate the time in minutes the Document Generator waits to create the next document or set of documents.

Run Document Generator From a Command Line

You can use Document Generator from a command line without the graphical user interface (GUI). You do this by running a command with parameters for the test documents you want to create. On UNIX, the command is `docgen`. On Windows in a DOS window the command is `DocumentGenerator` as one string with no spaces between words.

You cannot pause the Document Generator from the command line as you can when using the Document Generator GUI. Only one Document Generator at a time can be started from the command line in a single DOS window or terminal window.

Note: If you run WebLogic Integration – Business Connect on UNIX and there are spaces in the sender's or receiver's ID, we recommend that you use the Document Generator GUI. See [“Create EDI or XML Test Documents” on page 14-1](#).

Command Line Parameters

The following table shows the command line parameters for the Document Generator. You do not have to use the parameters in the order listed.

Parameter	Description	Usage
-type	Valid document types are EDI or XML.	Required
-sender	ID of the sender.	Required
-receiver	ID of the receiver.	Required
-docid	The number to use as the control ID of the first EDI document to be generated. Do not use for XML documents because they do not have control IDs.	Required for EDI N/A for XML
-outpath	The directory where the Document Generator writes the outbound documents. This is typically the sender's EDI-out or XML-out directory.	Required
-size	Any value between 1 and 999999 to indicate the size of each document you want to create.	Required
-ndocs	Any value between 1 and 999999 to indicate the number of documents you want to create per unit of time. The Document Generator creates all of these documents at once.	Required
-infile	The path to the EDI document on your system that you want to use as the template for generating test documents. You can use copies of your own EDI document as the test documents rather than the test documents that Document Generator creates for you. If you use your own EDI document as the template, Document Generator copies it and inserts your specified sender, receiver and control ID.	Optional for EDI N/A for XML

Parameter	Description	Usage
-interval	Any value between 1 and 999999 to indicate the time in minutes the Document Generator waits to create the next document or set of documents. If you do not use a value, Document Generator creates the number of documents specified by -ndocs once. If you use a value, Document Generator creates the specified number of documents at the specified interval until you stop the tool.	Optional
-h, -help or ?	Displays a list of the parameters.	Optional

Command Line Format

The following are examples for running Document Generator from a command line. Be sure you run the utility from the WebLogic Integration – Business Connect bin directory.

UNIX

For UNIX, the following example shows the command line format for Company1 to create 7 EDI documents that are 3K in size every 5 minutes and place them in the EDI out directory for sending to Partner1. The control ID is 302.

```
./docgen -type edi -sender company1 -receiver partner1 -docid 302 -outpath
/home/cyclone/ci400/data/company1/ediout -size 3 -ndocs 7 -interval 5
```

If you run the docgen command without any parameters, the GUI opens.

To stop the generator, execute *installation_directory/bin/processes*. From the resulting output, locate the PID associated with docgen, and execute the kill command on the PID.

Windows

For Windows, the following example shows the proper command line format.

```
documentgenerator -type edi -sender company1 -receiver partner1 -docid 302
-outpath [installation_directory]/data/company1/ediout -size 3 -ndocs 7
-interval 5
```

Press Ctrl-C in the DOS window to stop the Document Generator.

If there are spaces in the sender's or receiver's ID or out directory name, place the IDs or directory name in quotation marks so Windows properly handles the spaces.

Overview of APIs

The following topics are provided about the application program interface (API) capabilities of WebLogic Integration – Business Connect.

Concepts

- [“APIs at a Glance” on page 15-1](#)
- [“Sample Code” on page 15-2](#)
- [“Required Tools” on page 15-4](#)
- [“Required Knowledge and Skills” on page 15-4](#)
- [“Technical Documentation” on page 15-5](#)
- [“Support for Correlation IDs” on page 15-6](#)
- [“User-Defined Meta-Data for ebXML” on page 15-7](#)

Windows and Fields

- [“API Authentication” on page 15-12](#)

APIs at a Glance

The application program interfaces (APIs) enable you to integrate with WebLogic Integration – Business Connect across three functional areas: document integration, event listening and profile management.

The APIs enable you to:

1. Exchange documents between WebLogic Integration – Business Connect and your back-end application. This can be done the following ways:
 - Local Java remote method invocation (RMI) client
 - Local HTTP or HTTPS client
 - Global JMS document integration
 - JMS document integration by company
2. Pass WebLogic Integration – Business Connect status messages to your back-end application. This can be done the following ways:
 - Java event listening client
 - Global JMS event integration
3. Remotely manage WebLogic Integration – Business Connect company and partner profiles via a profile management client.

The APIs are accessed singly or by a combination of Java programs, Java message service (JMS) or Simple Object Access Protocol (SOAP). These APIs work with, but do not override, the standard document integration options that can set up by company. For details about the standard interfaces see [“Company Profile Integration Tab” on page 6-42](#).

Sample Code

In the WebLogic Integration – Business Connect `api/samplecode` installation directory are sample client applications written in Java 2. The sample applications demonstrate the various ways of interfacing with the Server application. The sample applications are in a source form only, and you must compile them with your Java compiler before using them. `EventClient` and `FullClient` also need to be compiled by the RMI compiler. More information is in the `readme.txt` file for each application.

You can use all or portions of these samples as you want. There is a `readme` file for each sample that describes how the sample code works. The samples are described in the following table.

Sample API	API	Description
<code>ConfigurationClient</code>	Profile management	<code>ConfigurationClient</code> is the profile management API for adding, updating and removing company and partner profiles. See “Profile Management API” on page 17-1.
<code>EventClient</code>	Java event listening	<code>EventClient</code> is a small sample that demonstrates only using the API to listen to events pushed by the Server application. See “Java RMI Event Listening” on page 16-1.
<code>FullClient</code>	Java document exchange	<code>FullClient</code> has the same features as <code>EventClient</code> sample, but builds on it by adding the ability to send and receive documents. The <code>FullClient</code> example can use correlation IDs. See “Local Java RMI Client for Document Exchange” on page 16-9.
<code>JMSClient</code>	Global JMS document integration	<code>JMSClient</code> demonstrates the JMS global document integration functions and JMS event integration. As such, it is akin to the <code>FullClient</code> sample application. See “Global JMS Document Integration” on page 16-22.
<code>JMSEvents</code>	Global JMS event integration	<code>JMSEvents</code> is a small sample that demonstrates using JMS to listen to events pushed by the Server application into a JMS topic set up by the administrator. See “JMS Integration for Events” on page 16-5.
<code>JMSIntegration</code>	JMS document integration by company	<code>JMSIntegration</code> demonstrates how to do document integration at the company level. See “JMS Document Integration by Company” on page 16-30.

If you intend to use `FullClient` or `EventClient` you must modify the Server application start-up file, depending on the invocation method and your operating system. The reason is when RMI compiles the class files for these applications, the compiler produces additional files that the Server application needs. If you intend to use these applications remotely, you must copy the stub files to Server and add it to the classpath environment variable.

Required Tools

If you want to compile or run any of the sample code or if you want to write your own code for the RMI document submission or event listener API, you need a Java 2 SDK version 1.3. For information about obtaining this, see <http://java.sun.com/j2se/1.3/>. Java 2 Runtime Environment (J2RE) version 1.3 is provided upon installing WebLogic Integration – Business Connect.

A SOAP implementation compatible with Apache SOAP 2.2 is required to directly use the profile management API. There is no requirement for Java for the profile management API; you can use another language.

If you try to use Apache's Xerces, Xalan or SOAP JAR files, we suggest that you only use the versions of the JAR provided in the WebLogic Integration – Business Connect installation directory. This will help to minimize possible compatibility problems.

You need a JMS server to use the global JMS event integration API, the global JMS document integration API and the JMS document integration by company API.

Required Knowledge and Skills

It is incumbent on you to correctly write an API and properly configure WebLogic Integration – Business Connect for successful operation. You need the following knowledge and skills to use the APIs:

- Basic knowledge of WebLogic Integration – Business Connect
- Basic understanding of networking and TCP/IP
- Java knowledge and experience with development in a distributed environment
- For the profile management API, XML knowledge and experience
- For the profile management API, basic knowledge of data encryption

- For the profile management API, SOAP knowledge and experience
- For the profile management API, knowledge of the WebLogic Integration – Business Connect company and partner configuration schemas

Technical Documentation

Technical documentation for the APIs is included in the WebLogic Integration – Business Connect API directory.

There are two types of documentation in the API directory:

- HTML files you can access with a browser provide details of the methods and fields for the Java classes ([Figure 15-1](#)). This Java documentation is available by opening the file `index.html` in `api/documentation`.

The Java documentation defines the APIs. It defines all the entry points, parameters and return codes.

- Readme files provide technical information about using the API sample code in `api\samplecode`. There is one readme file for each sample code subdirectory.

We recommend that you review this documentation before designing your own application.

Figure 15-1 Page from Java Documentation in api/documentation/index.html

All Classes

- [BytesMessage](#)
- [CompanyId](#)
- [ConfigAPICor](#)
- [Configuration](#)
- [ConfigurationA](#)
- [DefaultDocum](#)
- [DocumentArriv](#)
- [DocumentListe](#)
- [DocumentType](#)
- [EventConstant](#)
- [EventHelper](#)
- [IntegrationDoc](#)
- [InterchangeEve](#)
- [InterchangeEve](#)
- [InterchangeEv](#)
- [InterchangeSe](#)
- [InterchangeSer](#)
- [InterchangeUR](#)
- [InvalidD receive](#)

Package [Class](#) [Use Tree](#) [Deprecated](#) [Index](#) [Help](#)

[PREV PACKAGE](#) [NEXT PACKAGE](#) [FRAMES](#) [NO FRAMES](#)

Package com.cyclonecommerce.cybervan.api

Interface Summary

[Configuration.Api](#)

This interface defines the Configuration API The interface is described in WSDL by:
ConfigurationApi.wsdl
All XML conforms to that described in the WSDL.

The basic purpose of this interface is to provide a means to retrieve, add, modify, or remove company and partner profiles from an instance of Interchange.

Support for Correlation IDs

WebLogic Integration – Business Connect supports correlation IDs that are passed to it with documents from an API client, JMS queue or message control document (MCD). Correlation IDs, or conversation IDs, tie together documents as part of conversations. Use of correlation IDs are required in business protocols such as RosettaNet and ebXML. Although WebLogic Integration – Business Connect generates correlation IDs for documents that do not have them, a back-end system must pass correlation IDs to WebLogic Integration – Business Connect and track them for correlation IDs to be used in the context of conversations.

Although correlation IDs are not apparent as such in the graphical user interface, they are used in a number of ways in WebLogic Integration – Business Connect. Correlation IDs are written to the database and to the server.log file with every document event. They are included in WebLogic Integration – Business Connect API events, document post-processing, JMS integration and MCDs.

Along with correlation IDs, WebLogic Integration – Business Connect supports reference to message IDs (`RefToMessageId`) in packaging documents. A `RefToMessageId` is a unique ID of a message that spawned a reply. The `RefToMessageId` of the first message is contained in the database record of the reply.

User-Defined Meta-Data for ebXML

You can associate user-defined meta data with ebXML documents that go in and out of WebLogic Integration – Business Connect via an API client. This can be done in the following ways:

- User-defined meta data can be associated with outbound documents submitted to WebLogic Integration – Business Connect via the HTTP or HTTPS API or the RMI API from a back-end system. The meta data are incorporated into ebXML messages and can be passed to receiving partners.
- Extra data elements associated with inbound ebXML messages can be parsed and passed as meta data to an API event client via RMI to the back-end system.
- You can place any type of data you want in an MCD used for ebXML trading that is not otherwise defined in the MCD. You define the elements in a specific format in the MCD and then provide values for them.

The values for key names and data values are limited to being simple strings. The maximums are 30 characters for key names and 128 characters for data values. The following sections provide more details about outbound and inbound requirements.

- [“Example of Packaged ebXML Message” on page 15-7](#)
- [“Outbound Integration via HTTP or HTTPS” on page 15-9](#)
- [“Outbound Integration via RMI” on page 15-10](#)
- [“Inbound Integration via RMI” on page 15-10](#)
- [“User-Defined Meta-Data in MCDs” on page 15-11](#)

Example of Packaged ebXML Message

The following code is the SOAP envelope portion of an example ebXML message that includes a `#wildcard` element structure for the user-defined meta data. WebLogic Integration – Business Connect creates the meta data elements for outbound messages and parses the meta data elements for inbound messages. The relevant meta data elements are in bold.

Listing 15-1 Example SOAP Envelope an ebXML Message

```

<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance"
xsi:schemaLocation="http://schemas.xmlsoap.org/soap/envelope/
http://ebxml.org/project_teams/transport/envelope.xsd">
<SOAP-ENV:Header xmlns:eb="http://www.ebxml.org/namespaces/messageHeader"
xmlns:cyclone-props="http://www.cyclonecommerce.com/namespaces/properties"
xsi:schemaLocation="http://www.ebxml.org/namespaces/messageHeader
http://ebxml.org/project_teams/transport/messageHeaderv0_99.xsd">
<eb:MessageHeader SOAP-ENV:mustUnderstand="1" eb:id="7206985" eb:version="1.0">
<eb:From>
<eb:PartyId eb:type="Name">sender</eb:PartyId>
</eb:From>
<eb:To>
<eb:PartyId eb:type="Name">receiver</eb:PartyId>
</eb:To>
<eb:CPAId> </eb:CPAId>
<eb:ConversationId>1d0cc7b6c60217cd:e9ba867282:-8000</eb:ConversationId>
<eb:Service eb:type="string">FileTransfer</eb:Service>
<eb:Action>Receive</eb:Action>
<eb:MessageData>
<eb:MessageId>c509914e1d9a9e96:88c0:eb56e5e742:-8000</eb:MessageId>
<eb:Timestamp>2002-01-11T11:53:42.613Z</eb:Timestamp>
</eb:MessageData>
<eb:QualityOfServiceInfo eb:deliveryReceiptRequested="None"
eb:deliverySemantics="OnceAndOnlyOnce"
eb:messageOrderSemantics="NotGuaranteed"/>
</eb:MessageHeader>
<eb:Via SOAP-ENV:actor="http://schemas.xmlsoap.org/soap/actor/next"
SOAP-ENV:mustUnderstand="1" eb:ackRequested="Signed"
eb:reliableMessagingMethod="ebXML" eb:syncReply="true" eb:version="1.0">
<eb:CPAId> </eb:CPAId>
</eb:Via>
<cyclone-props:Properties SOAP-ENV:mustUnderstand="1">
<cyclone-props:Property name="username">administrator</cyclone-props:Property>
<cyclone-props:Property name="password">0M8R4KGxGuEA</cyclone-props:Property>
</cyclone-props:Properties>
</SOAP-ENV:Header>
<SOAP-ENV:Body xmlns:eb="http://www.ebxml.org/namespaces/messageHeader"
xsi:schemaLocation="http://www.ebxml.org/namespaces/messageHeader
http://ebxml.org/project_teams/transport/messageHeaderv0_99.xsd">
<eb:Manifest SOAP-ENV:mustUnderstand="1" eb:id="584126810107752"
eb:version="1.0">
<eb:Reference eb:id="4582781010775" xlink:href="cid:Test" xlink:type="simple"/>
</eb:Manifest>

```

```
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

The following sections provide more details about outbound and inbound requirements.

Outbound Integration via HTTP or HTTPS

For outbound document integration via the HTTP or HTTPS API, the additional user data is specified in the HTTP Post using form variables according to the following syntax:

```
USERKEY0=key name 0
USERDATA0=data value 0
USERKEY1=key name 1
USERDATA1=data value 1
...
USERKEYN=key value N
USERDATAN=data value N
```

`USERKEYN` provides the Nth key name and `USERDATAN` provides the value associated with the Nth key. The values for these variables must be URI-encoded according to RFC 2396.

WebLogic Integration – Business Connect parses these variables in order (`USERKEY0`, `USERKEY1`, ..., `USERKEYN`) until the sequence is broken. If variables are posted as `USERKEY0`, `USERKEY1`, `USERKEY5`, then WebLogic Integration – Business Connect parses only `USERKEY0` and `USERKEY1`; `USERKEY5` is ignored.

For each `USERKEYN` variable successfully parsed, WebLogic Integration – Business Connect attempts to parse a corresponding `USERDATAN`. If values for `USERKEYN` and `USERDATAN` cannot both be parsed, the pair is ignored.

The following is an example URL for sending a document using the HTTP or HTTPS document submission API.

```
http://localhost:5082/InterchangeAPI?SENDERID=mpany1&SENDEREDIID=Company1&
SENDERTRUEID=Company1&SENDERNAME=Company1&RECEIVERID=mpany2&RECEIVEREDIID=
Company2&RECEIVERTRUEID=Company2&RECEIVERNAME=Company2&NAME=out.bin&ORIGIN
ALNAME=out.bin&DOCTYPE=BINARY&CONTROLID=NA&BACKUP=true&SYNCSEND=false&CORR
ID=API_CORRID_1017265620018&REFID=NA&PACKAGINGTYPE=EBXML&PACKAGINGVER=1.0&
USERKEY0=userDefinedKey2&USERDATA0=someUserData2&USERKEY1=userDefinedKey1&
USERDATA1=someUserData1
```

Outbound Integration via RMI

The outbound meta data functionality also is supported through the WebLogic Integration – Business Connect RemoteInterchangeServer interface.

The `com.cyclonecommerce.cybervan.api.IntegrationDocument` interface in this API includes a method for setting the user data.

The additional user data can be specified in the following method:

```
public void setUserData(Properties userProperties);
```

This method sets additional user-defined data that the packager can use when constructing the packaged document. The method is only used when packaging ebXML documents. `setUserData` can be called for outbound documents. The method is used to populate the ebXML `#wildcard` element.

An example of this functionality is provided in the `FullClient` sample code in `api\samplecode` in the WebLogic Integration – Business Connect directory.

Inbound Integration via RMI

Because inbound HTTP clients must supplement their solutions with an RMI-based event client, the inbound meta data functionality is supported through the WebLogic Integration – Business Connect event listener API.

The `com.cyclonecommerce.cybervan.api.IntegrationDocument` interface in this API includes a method for obtaining the user data. (An `IntegrationDocument` is only available when a `DocumentArrivalEvent` is received). The signature of this method is the following:

```
java.util.Properties getUserData();
```

All user key-value data pairs are returned in a properties object. The value for any specific key can then be obtained via the `getProperty()` method.

The following provides more details about the method:

```
public Properties getUserData();
```

This method gets the additional user-defined data. The method is only supported for ebXML documents.

`getUserData` can be called for inbound documents. The method is read from the inbound ebXML document's `#wildcard` element. Additional user data are transferred in the header of an inbound document.

An example of this functionality is provided in the `FullClient` sample code in `api\samplecode` in the WebLogic Integration – Business Connect directory.

User-Defined Meta-Data in MCDs

You can place any type of data you want in an MCD used for ebXML trading that is not otherwise defined in the MCD. You define the elements in a specific format in the MCD and then provide values for them.

Figure 15-2 shows the proper location of the user-defined meta-data elements after the end of the `StatusInfo` element. The meta-data are between the opening and closing `cyclone-prop:Property` elements. The user-defined data in this example are username and password and their values.

Figure 15-2 User-Defined Meta-Data Elements in ebXML MCD

```

</mcd:StatusInfo>
- <cyclone-prop:Properties soap:mustUnderstand="1" xmlns:cyclone-
  prop="http://www.cyclonecommerce.com/namespaces/properties"
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xsi:schemaLocation="http://www.cyclonecommerce.com/namespaces/properties
  http://www.cyclonecommerce.com/Schemas/2002/05/cyclone-properties.xsd">
  <cyclone-prop:Property cyclone-prop:name="username">jturpin</cyclone-prop:Property>
  <cyclone-prop:Property cyclone-prop:name="password">abcdefg</cyclone-prop:Property>
</cyclone-prop:Properties>
- <mcd:ManifestInfo>

```

The `soap:mustUnderstand` property in the first line can have a value of 0 or 1. A value of 0 means your partner's ebXML message service handler (MSH) is not required to understand the `cyclone-prop:Property` elements and the user-defined data. If the receiving system does not understand, it can ignore the elements and the data. A value of 1 forces your partner's trading software to understand the data or else reject the ebXML document and respond with a `soap:mustUnderstand` fault or an ebXML not supported error message. If your partner uses WebLogic Integration – Business Connect, use 1.

The following is an example from Figure 15-2 of a user-defined element and its value. You can define as many elements as you want.

```

<cyclone-prop:Property
cyclone-prop:name="password">abcdefg</cyclone-prop:Property>

```

The following describe the attributes that are used for user-defined data. These are required and need to be used as-is.

The following attribute defines the cyclone-prop namespace prefix:

```

xmlns:cyclone-prop=http://www.cyclonecommerce.com/namespaces/properties
attribute

```

The following attribute defines the SOAP namespace prefix:

```
xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/
```

The following attribute points to the WebLogic Integration – Business Connect properties schema:

```
xsi:schemaLocation
```

API Authentication

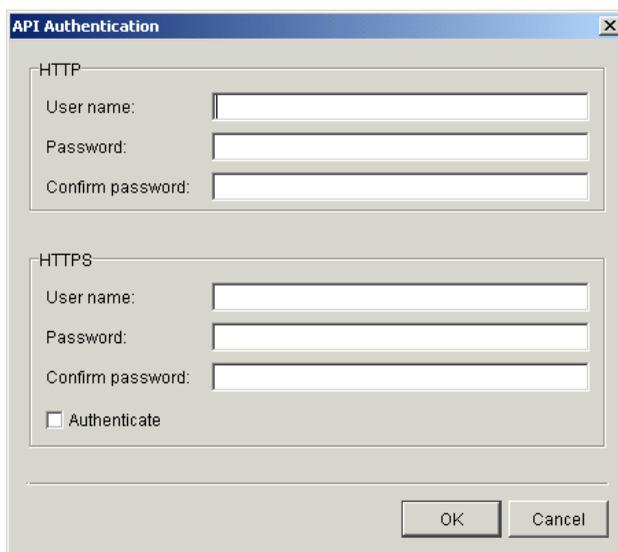
The default Administrator user can use the API Authentication window to set a user name and password for the HTTP or HTTPS server that is built into WebLogic Integration – Business Connect for communicating with an API client.

Select Tools→API→Authentication in Administrator to open the API Authentication window.

To set HTTP or HTTPS ports for communications with an API client, see [“Preferences Ports Tab” on page 10-9](#).

If you use the API HTTPS port for integration, you must generate or load a certificate for the HTTPS server using the certloader tool. See [“Certificate Tool \(certloader\)” on page 12-12](#).

Figure 15-3 API Authentication Window



Field Descriptions

The following describes the fields on the Preferences window API tab. The fields are described once for both HTTP and HTTPS.

User name

The user name that you specify for the API HTTP or HTTPS server. The API client uses this to access the server.

Password

The password that you specify for the API HTTP or HTTPS server. The API client uses this to access the server.

Confirm password

Type the password again.

Authenticate (HTTPS)

Select this check box only if the API HTTPS server will authenticate the client certificate. See [“Configuring the API Server to Authenticate an API Client” on page 12-11](#).

Overview of APIs

Document and Event APIs

The following topics describe the WebLogic Integration – Business Connect application program interfaces (APIs) for document integration and events.

Concepts

- [“Java RMI Event Listening” on page 16-1](#)
- [“JMS Integration for Events” on page 16-5](#)
- [“Local Java RMI Client for Document Exchange” on page 16-9](#)
- [“HTTP Client for Document Exchange” on page 16-15](#)
- [“Global JMS Document Integration” on page 16-22](#)
- [“JMS Document Integration by Company” on page 16-30](#)

Java RMI Event Listening

The Java RMI event listening API enables a client to listen to document and system events generated by the WebLogic Integration – Business Connect Server application.

Calls made by WebLogic Integration – Business Connect Server into an event client run on a single Server thread. Any long-running processes should not be run within the `isRemote` or `eventArriving` methods. If long-running processing is required, the processing should be spun off onto a separate thread.

For the same reason, using multiple RMI event listeners could slow the performance of WebLogic Integration – Business Connect because of the single thread.

Events are passed in real time. They are not persisted for retrieval later.

System and document events are reported according to the event logging level set on the General tab under Tools→Preferences in Administrator.

Performance is enhanced if the Java RMI API client and server application run on the same computer, but this is not a requirement. An API client running on the same computer is referred to as a local client. An API client running on a different computer is referred to as a remote client. If you set up a remote client, it should run on the same side of a firewall as the Server application. Running a remote client on the opposite side of a firewall presents RMI protocol difficulties.

RMI is the TCP/IP protocol employed. For more information about RMI, visit <http://java.sun.com/products/jdk/rmi/index.html>.

The following topics provide describe how to use the Java RMI event listening API.

- “Application Configuration” on page 16-2
- “Semantics” on page 16-3
- “Scenario” on page 16-4
- “Sample Code” on page 16-4

Application Configuration

You must add event client RMI stubs to the WebLogic Integration – Business Connect Server class path.

You also must copy the `cyclone.jar` and `xerces.jar` files to your client's machine and make them available by modifying the classpath environment variable. The `cyclone.jar` file is required to be able to interface with the Server application. The `xerces.jar` file is required to send XML files to and receive them from the Server application. If you intend to use JMS to interface with the Server application you still must include these two files into your classpath. However, you must also include `jms.jar` and `jndi.jar` in your classpath. All of these files are located in the WebLogic Integration – Business Connect lib directory.

In Windows modify the class path in two places. First, modify the `server.bat` file in the WebLogic Integration – Business Connect bin directory. Add the path to the event client RMI stubs to the `USERCLASSES` environment variable. Secondly, modify the `COMMAND LINE` variable in the `server.ini` file, which also is in the bin directory. Add the path to the RMI stubs to the end of the already configured class path. If you run Windows service, also modify `ECEngine.ini`.

In UNIX modify the class path in the environment file in the `bin` directory.

Semantics

An event client must implement the following interface:

```
com.cyclonecommerce.cybervan.api.InterchangeEventListener
```

The methods that WebLogic Integration – Business Connect calls are defined in this interface. You must implement two methods: `isRemote` and `eventArriving`.

The event client must locate WebLogic Integration – Business Connect in the RMI Registry on the machine where WebLogic Integration – Business Connect Server is running. For this purpose use `LocateRegistry.getRegistry` and `Registry.lookup`.

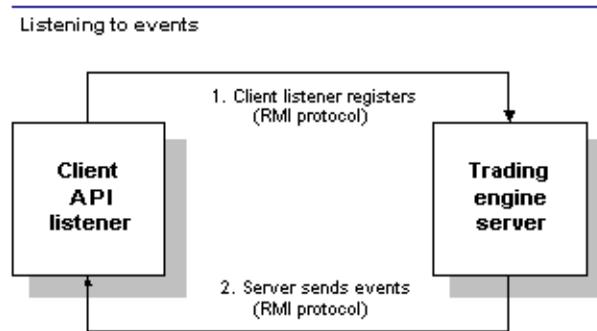
The event client must be registered with WebLogic Integration – Business Connect. For this purpose use `RemoteInterchangeServer.setEventListener`.

Once registered the event client's `eventArriving` method is called for each event that WebLogic Integration – Business Connect produces. The possible events are defined in the `com.cyclonecommerce.cybervan.api.EventConstants` interface. The `com.cyclonecommerce.cybervan.api.InterchangeEvent` object passed to the `eventArriving` method is initialized with a `com.cyclonecommerce.cybervan.api.InterchangeEventDescription` object. The `com.cyclonecommerce.cybervan.api.InterchangeEventDescription` object contains a source, level, description and details for the event. If the event relates to a document (`SEND`, `RECEIVED`, `PACKAGED` and so on), the `com.cyclonecommerce.cybervan.api.InterchangeEventDescription` object also contains a `com.cyclonecommerce.cybervan.api.IntegrationDocument` object.

Scenario

Figure 16-1 shows a high-level view of the Java RMI event listening API.

Figure 16-1 Local or Remote Client Listens to Server Events



Key to Figure 16-1

1. API listener client registers at startup with WebLogic Integration – Business Connect Server application.
2. Client listens as Server sends events.

Sample Code

The sample code for the Java RMI event listening API is in `api/samplecode/EventClient`.

If `EventClient` and WebLogic Integration – Business Connect are going to be run on separate machines, then you must modify the `INTERCHANGE_HOST_ADDRESS` and `IS_REMOTE` variables before compiling the code.

If WebLogic Integration – Business Connect has been configured to use a non default registry port, then you must modify `LocateRegistry.getRegistry` call before compiling the code.

For information about building and running the sample code, see the readme file in `api/samplecode/EventClient`.

JMS Integration for Events

The JMS integration for events API enables a client to listen to document and system events generated by the WebLogic Integration – Business Connect Server application.

JMS topics provide support for multiple listeners. Multiple listeners have no direct effect on the performance of WebLogic Integration – Business Connect.

JMS topics provide reliable messaging. As long as the JMS server is enabled, messages are stored until retrieval by a topic listener.

System and document events are reported according to the event logging level set on the General tab under Tools→Preferences in Administrator.

The following topics describe how to use the JMS integration for events API:

- [“Application Configuration” on page 16-5](#)
- [“Semantics” on page 16-7](#)
- [“Scenario” on page 16-8](#)
- [“Sample Code” on page 16-8](#)

Application Configuration

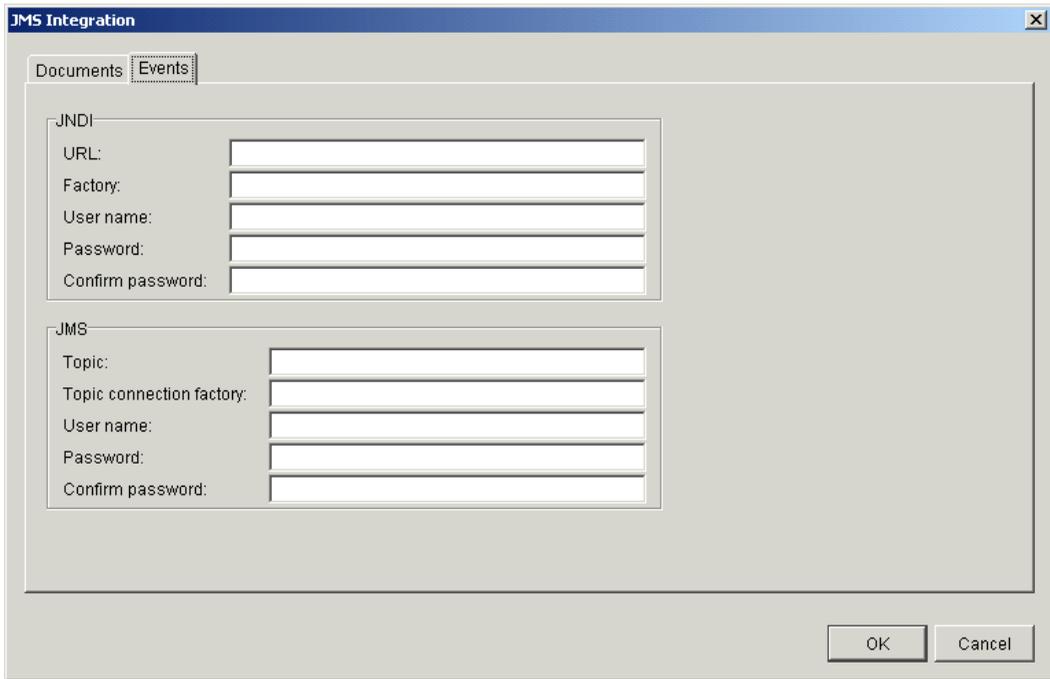
The default Administrator user can use the JMS Integration window Events tab to configure the Server application to publish all events to your system’s JMS server and locate the JMS server by calling the JNDI provider in your JMS enterprise messaging system. This feature enables persistent event logging to the JMS server.

To use this tab your organization must have JMS experience and a working JMS enterprise messaging system.

In addition to completing this tab, you must add the names of the JAR or class files or both in the `server.ini` or `server.bat` file in Windows or your environment file in UNIX so the Server application can locate the JMS and JNDI provider. The `server.ini` and `server.bat` files are located in the installation directory `bin` subdirectory. In some cases, you need to add the name of only one JAR file (for example, `swiftmq.jar`), but you might have to include a series of jars or paths.

To display the JMS Integration window Events tab, select Tools→API→JMS and click the Events tab.

Figure 16-2 JMS Integration Window Events Tab



Field Descriptions

The following describes the fields on the JMS Integration window Events tab.

JNDI

Complete the following fields for the Java naming and directory interface (JNDI).

URL

Type the network URL that will be used to obtain access to the JNDI service provider for your JMS service. Example:

```
smqp://localhost:4001/timeout=10000
```

Factory

Type the name for the JNDI service provider class. Example:

```
com.swiftmq.jndi.InitialContextFactoryImpl
```

User name

Type a user name that will be used to access the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Password

Type a password for the JNDI user name. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Confirm password

Type the password again.

JMS

Complete the following fields for the Java messaging service (JMS).

Topic

Type the name of the topic. Example: eventTopic

Topic connection factory

Type the connection factory as defined within the JMS provider. This value can be either in the form *factory_name@router_name* or the JNDI public symbol for the `TopicConnectionFactory`. Examples: `plainsocket@router1` or `TopicConnectionFactory22`. This will depend on your JMS provider and how it is configured.

User name

Type a user name on the router that has access to the specified topic. This can be the same as the JNDI user name. However, this will depend on your JMS provider and how it is configured.

Password

Type the password for the JMS user name.

Confirm password

Type the password again.

Semantics

To use JMS event integration it would be useful for you to understand the Java event listening code, as both APIs have similar functionality.

A `com.cyclonecommerce.cybervan.api.InterchangeEvent` object is posted to the configured JMS topic for every event generated by WebLogic Integration – Business Connect. The `InterchangeEvent` is published to the JMS topic as a JMS `ObjectMessage`.

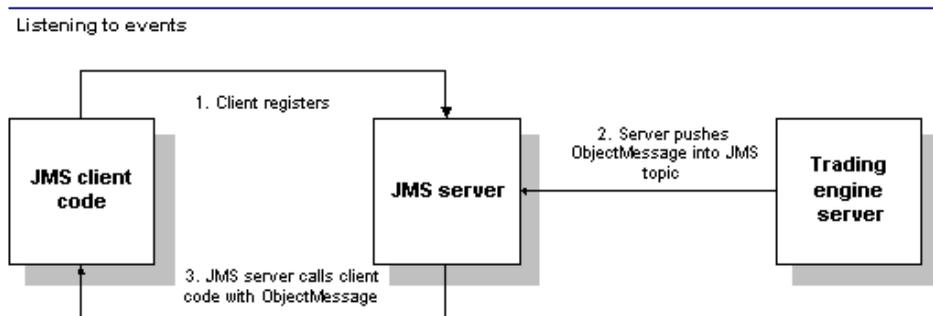
The `com.cyclonecommerce.cybervan.api.InterchangeEventDescription` object contains a source, level, description and details for the event. If the event relates to a document (SEND, RECEIVED, PACKAGED and so on), the

`com.cyclonecommerce.cybervan.api.InterchangeEventDescription` object also contains a `com.cyclonecommerce.cybervan.api.IntegrationDocument` object.

Scenario

Figure 16-3 shows a high-level view of the JMS integration for events API.

Figure 16-3 JMS Integration for Events



Key to Figure 16-3

1. Client registers a durable subscriber against topic.
2. Server pushes `ObjectMessage` into JMS topic for each event.
3. JMS server calls client code with `ObjectMessage`.

Sample Code

The sample code for JMS integration for events API is in `api/samplecode/JMSEvents`.

`JMSEvents` shows how to pull events out of the JMS topic after WebLogic Integration – Business Connect has written the event into the topic.

For information about building and running the sample code, see the readme file in `api/samplecode/JMSEvents`.

Local Java RMI Client for Document Exchange

The local Java RMI client for document exchange API enables a client to send documents to, and receive documents from, WebLogic Integration – Business Connect.

Calls made by WebLogic Integration – Business Connect Server into a document exchange client run on a Server thread. Any long-running processes should not be run within the `isRemote` or `documentArriving` methods. If long-running processing is required, the processing should be spun off onto a separate thread.

Sending and receiving documents is best achieved when the document exchange client is running on the same machine as WebLogic Integration – Business Connect Server. It is possible to run the document exchange client on a separate machine, but this is a much more complex configuration.

The following topics describe how to use the local Java RMI client for document exchange API:

- [“Application Configuration” on page 16-9](#)
- [“Semantics” on page 16-10](#)
- [“Scenarios” on page 16-13](#)
- [“Sample Code” on page 16-14](#)

Application Configuration

You must add document exchange client RMI stubs to the WebLogic Integration – Business Connect Server class path.

You also must copy the `cyclone.jar` and `xerces.jar` files to your client's machine and make them available by modifying the classpath environment variable. The `cyclone.jar` file is required to be able to interface with the Server application. The `xerces.jar` file is required to send XML files to and receive them from the Server application. All of these files are located in the WebLogic Integration – Business Connect lib directory.

In Windows modify the class path in two places. First, modify the `server.bat` file in the WebLogic Integration – Business Connect `bin` directory. Add the path to the document exchange client RMI stubs to the `USERCLASSES` environment variable. Secondly, modify the `COMMAND LINE` variable in the `server.ini` file, which also is in the `bin` directory. Add the path to the RMI stubs to the end of the already configured class path. If you run Windows service, also modify `ECEngine.ini`.

In UNIX modify the class path in the environment file in the `bin` directory.

Semantics

To use the document exchange API for a local Java RMI client, it would be useful for you to understand the Java RMI event listening code.

Receive Document

The following are requirements to receive a document:

1. The document exchange client must implement the following interface:

```
com.cyclonecommerce.cybervan.api.RemoteDocumentListener
```

WebLogic Integration – Business Connect calls methods in the document exchange client that are defined in this interface. Two methods must be implemented: `isRemote` and `documentArriving`.

2. The document exchange client must locate WebLogic Integration – Business Connect in the RMI Registry on the machine where WebLogic Integration – Business Connect is running. `LocateRegistry.getRegistry` and `Registry.lookup` are used for this purpose.
3. The document exchange client must be registered with WebLogic Integration – Business Connect. `RemoteInterchangeServer.setDocumentListener` is used for this purpose.
4. Once registered, the document exchange client's `documentArriving` method is called for each document that WebLogic Integration – Business Connect receives and successfully unpackages. The `documentArriving` method is not called for inbound documents that are rejected. If an MCD is created for a RosettaNet or ebXML document, the `documentArriving` method also is called for acknowledgments as well as documents.

A `com.cyclonecommerce.cybervan.api.DocumentArrivalEvent` object is passed into each call to the `documentArriving` method. The `DocumentArrivalEvent` object contains a `com.cyclonecommerce.cybervan.api.IntegrationDocument` object. The `IntegrationDocument` object contains the meta-data describing the document received.

5. The actual document content is not included in the `IntegrationDocument` object. If the intent of your Document Exchange Client is to copy the document content to another location – the path to the file containing the document content can be determined by calling the `IntegrationDocument` object `getPath` method. It is then up to the Document Exchange Client to copy, move or delete the document.

Send Document

The following are requirements to send a document:

1. Create and populate a `DefaultDocument` object.
 - a. Use `DefaultDocument.setSenderId` to set the company that is sending the document.
 - b. Set the file name.
 - c. Set the path to the file. WebLogic Integration – Business Connect must be able to access this path.
 - d. Set the document type (XML, EDI or binary).
 - e. If sending a binary document, use `DefaultDocument.setReceiverId` to set the ID of the receiving partner. If an MCD is being used, however, do not set the partner ID. Otherwise, the partner ID is optional. Including the Partner ID might speed document packaging.
 - f. If ebXML and trading with the file system interface (no MCD), set the packaging type to ebXML and the packaging version to 1.0 or 2.0. Otherwise do not set the packaging type and version.
 - g. If ebXML and trading with the file system interface (no MCD), the `ebXmlService` and `ebXmlAction` are required.
 - h. If ebXML and trading with the file system interface (no MCD), the userdata properties can optionally be set. See [“User-Defined Meta-Data for ebXML” on page 15-7](#).
 - i. You can use correlation IDs if supported by your back-end system. WebLogic Integration – Business Connect supports correlation IDs that are passed to it with documents from an API client. See [“Support for Correlation IDs” on page 15-6](#). Do not set a correlation ID if an MCD is used.

2. Call one of the overloaded `RemoteInterchangeServer.sendDocument` methods to send the document. We recommend using `sendDocument(DefaultDocument)` or `sendDocument(DefaultDocument, backup)`. If you use `sendDocument(DefaultDocument, backup, synchronousSend)`, WebLogic Integration – Business Connect will not perform any transport failure retries.
3. The call to `sendDocument` returns a unique ID. This ID can be used to match to events passed to the `RemoteEventListener` interface. The unique ID value correlates to the ID returned by `IntegrationDocument.getUniqueId` for outbound document events (NEW, PACKAGED, SENT events).

Methods for Sending Documents

The `RemoteInterchangeServer` interface has three `sendDocument` methods. There can be confusion on which to use. This topic provides clarification. All three methods send the document to the indicated recipient via WebLogic Integration – Business Connect Server.

1. `sendDocument(IntegrationDocument document)`

The document contents are backed up before WebLogic Integration – Business Connect packages and sends the document.

This is the simplest of the three methods. This method packages and backs up the outbound document before returning control to the client application. The document is sent to the destination partner based on the partner's configured send schedule. If the default schedule is used, control is returned to the client application before the document is actually sent to the partner. If the partner's send schedule is immediate send, control does not return to the client application until the document is successfully sent or rejected.

2. `sendDocument(IntegrationDocument document, boolean backup)`

This version of the `sendDocument` method allows the client application to specify if the outbound file should be backed up. Otherwise it works identically to the `sendDocument(IntegrationDocument document)` version of the method. Note that if the outbound document is not backed up, the Interchange Resend Logic, and document Resubmitted Logic does not work with the sent document. In other words, the document can never be resent on resubmit or failure to receive a ACK.

3. `sendDocument(IntegrationDocument document, boolean backup, boolean synchronousSend)`

This version of the `sendDocument` method allows the client application to override the partner's send schedule. If `synchronousSend` is true, the document is backed up (if not disabled), packaged and sent before control is returned to the client application. The partner's send schedule is ignored. If there is a transport failure, an exception is thrown

back to the client application. No other attempt is made to send the document on transport failure.

Note that if the document was successfully sent, and backups were enabled, WebLogic Integration – Business Connect will resend the document if an ACK is expected and not received.

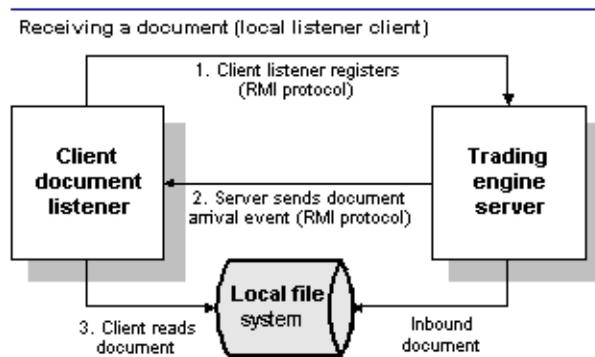
If `synchronousSend` is `false`, this method works just like

```
sendDocument(IntegrationDocument document, boolean backup).
```

Scenarios

The following graphics show high-level views of the document exchange API for local Java RMI clients.

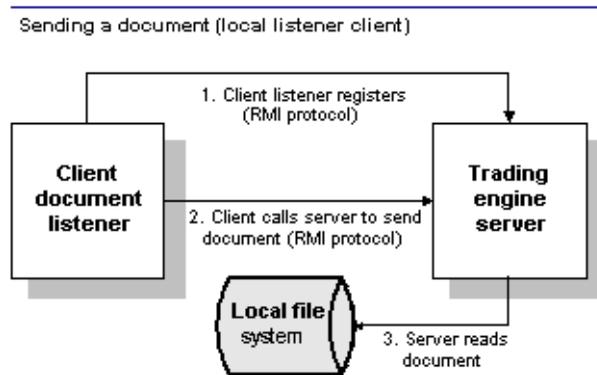
Figure 16-4 Local Client Receives a Document from WebLogic Integration – Business Connect



Key to Figure 16-4

1. Local client registers at startup with WebLogic Integration – Business Connect Server.
2. Local client receives an event of an inbound document in WebLogic Integration – Business Connect.
3. Local client reads the document on local file system.

Figure 16-5 Local Client Sends a Document to WebLogic Integration – Business Connect



Key to Figure 16-5

1. Local client registers at startup with WebLogic Integration – Business Connect Server.
2. Local client calls Server to send document.
3. Server reads the document on the local file system.

Sample Code

The sample code for the local Java RMI client for document exchange API is in `api/samplecode/FullClient`.

If `FullClient` and `WebLogic Integration – Business Connect` are going to be run on separate machines:

- The `INTERCHANGE_HOST_ADDRESS` and `IS_REMOTE` variables must be modified before compiling the code.
- The company data directories must be accessible on the network so that the inbound and outbound files can be accessed by both `WebLogic Integration – Business Connect` and the `FullClient`.

If `WebLogic Integration – Business Connect` has been configured to use a non default registry port, the `LocateRegistry.getRegistry` call must be modified before compiling the code.

For information about building and running the sample code, see the readme file in `api/samplecode/FullClient`.

HTTP Client for Document Exchange

The HTTP or HTTPS client for document exchange API enables a client to send documents to, and receive documents from, WebLogic Integration – Business Connect.

Although documents can move via HTTP from a client to WebLogic Integration – Business Connect, inbound processing is via HTTP after WebLogic Integration – Business Connect notifies the client via RMI of a document arrival event. With this API the document exchange client and WebLogic Integration – Business Connect Server can run on the same or a different computer.

Calls made by WebLogic Integration – Business Connect Server into a document exchange client run on a Server thread. Any long-running processes should not be run within the `isRemote` or `documentArriving` methods. If long-running processing is required, the processing should be spun off onto a separate thread.

WebLogic Integration – Business Connect loads an HTTP or HTTPS server instance to process document submission and retrieval operations. These ports should be protected behind a firewall.

You can set up user name and password authentication for the API HTTP or HTTPS server in the Administrator application. You also can enable SSL authentication. See [“API Authentication” on page 15-12](#).

If you use an API HTTPS server, you must use the certloader tool to load the SSL certificate. See [“Configuring an API Client to Authenticate the API Server” on page 12-10](#).

The following topics describe how to use the HTTP or HTTPS client for document exchange API:

- [“Application Configuration” on page 16-15](#)
- [“Semantics” on page 16-16](#)
- [“Scenarios” on page 16-20](#)
- [“Sample Code” on page 16-21](#)

Application Configuration

You must set an API port in Administrator by selecting the Ports tab in Tools→Preferences. Set the API HTTP port or API HTTPS port or both. The sample code uses API HTTP port 5082 by default.

You must add document exchange client RMI stubs to the WebLogic Integration – Business Connect Server class path.

In Windows modify the class path in two places. First, modify the `server.bat` file in the WebLogic Integration – Business Connect bin directory. Add the path to the document exchange client RMI stubs to the `USERCLASSES` environment variable. Secondly, modify the `COMMAND LINE` variable in the `server.ini` file, which also is in the bin directory. Add the path to the RMI stubs to the end of the already configured class path. If you run Windows service, also modify `ECEngine.ini`.

In UNIX modify the class path in the environment file in the bin directory.

Semantics

To use an HTTP or HTTPS client for document exchange, it would be useful for you to understand the code for Java RMI event listening and local Java RMI client for document exchange.

Receive Document

The following are requirements to receive a document:

1. The document exchange client must implement the following interface:

```
com.cyclonecommerce.cybervan.api.RemoteDocumentListener
```

WebLogic Integration – Business Connect calls methods in the document exchange client that are defined in the interface. Two methods must be implemented: `isRemote` and `documentArriving`.

2. The meta-data in the following table are associated with the received document.

Parameter	Description
SENDEREDIID	The ID of the document sender.
RECEIVEREDIID	The ID of the document receiver.
NAME	The file name of the inbound document.
DOCTYPE	Indicates whether the document is EDI, XML or binary.

3. The document exchange client must locate WebLogic Integration – Business Connect in the RMI Registry on the machine where WebLogic Integration – Business Connect is running. `LocateRegistry.getRegistry` and `Registry.lookup` are used for this purpose.
4. The document exchange client must be registered with WebLogic Integration – Business Connect. `RemoteInterchangeServer.setDocumentListener` is used for this purpose.
5. Once registered, the document exchange client’s `documentArriving` method is called for each document that WebLogic Integration – Business Connect receives and successfully unpackages. The `documentArriving` method is not called for inbound documents that are rejected. If an MCD is created for a RosettaNet or ebXML document, the `documentArriving` method also is called for acknowledgments as well as documents.

A `com.cyclonecommerce.cybervan.api.DocumentArrivalEvent` object is passed into each call to the `documentArriving` method. The `DocumentArrivalEvent` object contains a `com.cyclonecommerce.cybervan.api.IntegrationDocument` object. The `IntegrationDocument` object contains the meta-data describing the document received.

6. The actual document content is not included in the `IntegrationDocument` object. If the intent of your document exchange client is to copy the document content to another location, the URL to the document content can be determined by calling the `IntegrationDocument` object `getInterchangeURL` method or the `getInterchangeHttpsURL` method. It is then up to the document exchange client to perform an HTTP GET to retrieve the document content.

Send Document

The following are the requirements to send a document:

1. The document to send must be posted (POST) to the WebLogic Integration – Business Connect API HTTP or HTTPS port. The URL is required to include the following meta-data as form variables:

Parameter	Description
SENDERID	The ID portion of an EDI ID without the EDI qualifier. This parameter is optional.
SENDEREDIID	The ID of the document sender. This parameter is required.
RECEIVERID	The ID portion of an EDI ID without the EDI qualifier. This parameter is optional.

Parameter	Description
RECEIVEREIID	<p>The ID of the document receiver.</p> <p>If you are sending a binary document, this parameter is required. Use <code>DefaultDocument.setReceiverId</code>.</p> <p>Do not use this parameter if an MCD is used. Otherwise, this parameter is optional.</p> <p>Using the receiver ID might speed document packaging.</p>
NAME	The file name of the outbound document.
DOCTYPE	Indicates whether the document is EDI, XML or binary.
REF0, REF1, REF2	Deprecated.
BACKUP	Set to <code>true</code> to back up the outbound document or <code>false</code> for no backup.
SYNCSEND	Set to <code>true</code> to have the document backed up (if applicable), packaged and sent before control is returned to the client application. The partner's send schedule is ignored. If there is a transport failure, an exception is thrown back to the client and no other attempt is made to send the document.
CORRID	The correlation ID. See “Support for Correlation IDs” on page 15-6 .
REFID	The reference to message ID. See “Support for Correlation IDs” on page 15-6 .
PACKAGINGTYPE	If ebXML and trading with the file system interface (no MCD), set the packaging type to ebXML and the packaging version to 1.0 or 2.0. Otherwise do not set the packaging type and version.
PACKAGINGVER	If ebXML and trading with the file system interface (no MCD), set the packaging type to ebXML and the packaging version to 1.0 or 2.0. Otherwise do not set the packaging type and version.
EBXMLSERVICE	If ebXML and trading with the file system interface (no MCD), the <code>ebXmlService</code> is required.
EBXMLACTION	If ebXML and trading with the file system interface (no MCD), the <code>ebXmlAction</code> is required.

Parameter	Description
USERKEY0 ... USERKEYn	If ebXML and trading with the file system interface (no MCD), the userdata properties can optionally be set.
USERDATA 0... USERDATAn	If ebXML and trading with the file system interface (no MCD), the userdata properties can optionally be set. See “User-Defined Meta-Data for ebXML” on page 15-7.

2. Create and populate a `DefaultDocument` object. Then create a `com.cyclonecommerce.cybervan.api.InterchangeURL` object and call the `getPath` method. This is one way to create the appropriate URL for sending a document.
 - a. Use `DefaultDocument.setSenderId` to set the ID of the company for the document to be sent.
 - b. Set the file name.
 - c. Set the path to the file. WebLogic Integration – Business Connect must be able to access this path.
 - d. Set the document type (XML, EDI or binary).
 - e. If the document is binary, use `DefaultDocument.setReceiverId` to set the ID of the receiver. If you are using an MCD, do not include the receiver ID. Otherwise, using the receiver ID is optional. Including the receiver ID might speed document packaging.
 - f. If ebXML and trading with the file system interface (no MCD), set the packaging type to ebXML and the packaging version to 1.0 or 2.0. Otherwise do not set the packaging type and version.
 - g. If ebXML and trading with the file system interface (no MCD), the `ebXmlService` and `ebXmlAction` are required.
 - h. If ebXML and trading with the file system interface (no MCD), the userdata properties can optionally be set. See [“User-Defined Meta-Data for ebXML” on page 15-7.](#)
 - i. You can use correlation IDs if supported by your back-end system. WebLogic Integration – Business Connect supports correlation IDs that are passed to it with documents from an API client. See [“Support for Correlation IDs” on page 15-6.](#)
 - j. Optionally, use synchronous sending to have the document packaged and sent before control is returned to the client application. The partner’s send schedule is ignored. If there

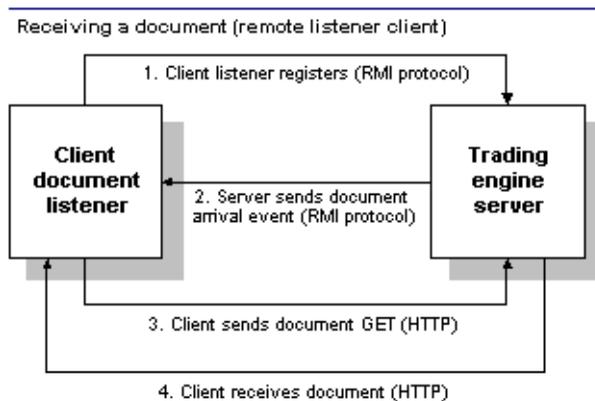
is a transport failure, an exception is thrown back to the client and no other attempt is made to send the document.

3. Use `POST` to send the document to the URL returned by `InterchangeURL.getPath`. If applicable, the document submission client must handle SSL negotiation and HTTP basic authentication.
4. The `POST` call returns a unique ID in the `POST` response. This ID can be used to match to events passed to the `RemoteEventListener` interface. The unique ID value correlates to the ID returned by `IntegrationDocument.getUniqueId` for Outbound Document events (`NEW`, `PACAKGED`, `SENT` events).

Scenarios

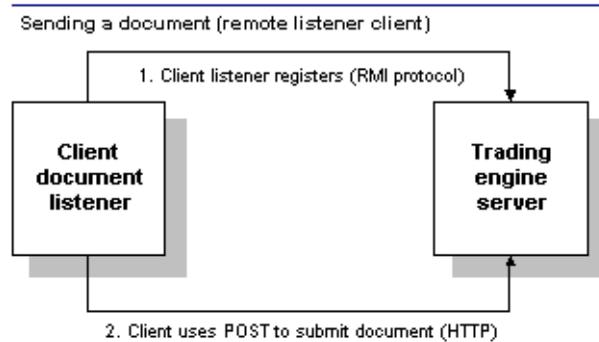
The following graphics show high-level views of the document exchange API via HTTP or HTTPS client.

Figure 16-6 Remote Client Receives a Document from WebLogic Integration – Business Connect



Key to Figure 16-6

1. Remote client registers at startup with WebLogic Integration – Business Connect Server.
2. Remote client receives an event of an inbound document in Server.
3. Remote client sends document `GET`.
4. Remote client receives document.

Figure 16-7 Remote Client Sends a Document to WebLogic Integration – Business Connect**Key to Figure 16-7**

1. Remote client registers at startup with WebLogic Integration – Business Connect Server.
2. Remote client uses HTTP POST to submit a document to the WebLogic Integration – Business Connect HTTP server.

Sample Code

The sample code for the HTTP or HTTPS client for document exchange API is in `api/samplecode/FullClient`.

The following modifications are required for the FullClient sample:

- Set `INTERCHANGE_HOST_PORT` to the API HTTP port number on the Ports tab in Tools→Preferences in Administrator
- Set `IS_REMOTE` to `true`.
- Modify `IS_SECURE`, `USERNAME` and `PASSWORD` if HTTP or HTTPS basic authentication is enabled.
- If you want to use HTTPS, set `USE_HTTPS` to `true`.

If WebLogic Integration – Business Connect has been configured to use a non default registry port, the `LocateRegistry.getRegistry` call must be modified before compiling the code.

For information about building and running the sample code, see the readme file in `api/samplecode/FullClient`.

Global JMS Document Integration

The global JMS document integration API enables a JMS server to send documents to, and receive documents from, WebLogic Integration – Business Connect for all active companies.

JMS topics provide reliable messaging. As long as the JMS server is enabled, messages are stored until retrieval by a topic listener. There is one inbound queue and one outbound queue.

You need knowledge of JMS programming to retrieve documents from, or submit documents to, a JMS topic.

Files are packaged immediately after retrieval from the JMS server. This is different than JMS integration by company, in which files are written to disk and then processed according to polling mechanisms.

WebLogic Integration – Business Connect registers a `QueueMessageListener`. This can reduce latency as compared to polling. However, thread thrashing can occur if too many large documents are pushed into WebLogic Integration – Business Connect simultaneously.

Document size is limited by memory constraints. JMS requires `BytesMessages` to be in memory when read from, or written to, the JMS server. There is no support for streaming. The result can be `OutOfMemoryExceptions` in the WebLogic Integration – Business Connect JVM when transferring large documents.

Partner send schedules are respected in sending documents.

The following topics describe how to use the global JMS document integration API:

- [“Global Versus Company JMS Integration” on page 16-22](#)
- [“Application Configuration” on page 16-23](#)
- [“Semantics” on page 16-26](#)
- [“Scenarios” on page 16-29](#)
- [“Sample Code” on page 16-30](#)

Global Versus Company JMS Integration

WebLogic Integration – Business Connect enables JMS document integration globally for all companies, partners and document types, or by specific company, partner and document type combinations, or both. Global and company-level integration operate independently of each other.

With global JMS integration there is one inbound queue and one outbound queue for all companies, partners and document types. On the company level, a queue is required per company, partner and document type combination.

Parameters are required for documents WebLogic Integration – Business Connect retrieves from the JMS queue when global JMS integration is configured. These properties specify the sender, receiver, document type and other information. These parameters are passed to WebLogic Integration – Business Connect in a `JMSMessage`. If JMS integration is configured by company, however, the parameters are not required. This is because there is one queue per company, partner and document type combination and the parameter information already is established.

Regardless whether JMS integration is global or by company, WebLogic Integration – Business Connect provides values for the sender, receiver and document type parameters when passing inbound documents from partners to a JMS queue.

For information about JMS integration by company, see [“JMS Document Integration by Company” on page 16-30](#).

Application Configuration

The default Administrator user can use the JMS Integration window Documents tab to configure WebLogic Integration – Business Connect to retrieve outbound documents from or direct inbound documents to a JMS queue. This affects inbound and outbound documents for all active company profiles, all partners and all document types: EDI, XML and binary.

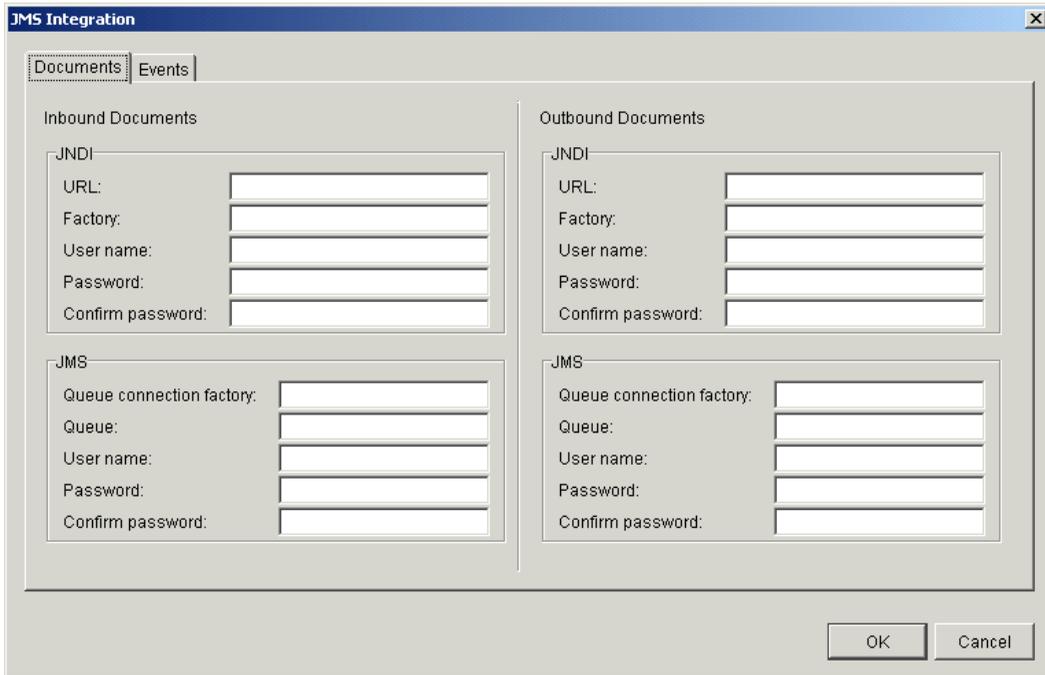
The global treatment of all documents distinguishes this tab from JMS document integration that can be configured for a single company using the Company Profile window Integration tab. For more information see [“JMS Document Integration by Company” on page 16-30](#).

To use the JMS Integration window Documents tab your organization must have JMS experience and a working JMS messaging system.

In addition to completing this tab, you must add the names of the JAR or class files or both in the `server.ini` or `server.bat` file in Windows or your environment file in UNIX so the Server application can locate the JMS and JNDI provider. The `server.ini` and `server.bat` files are located in the installation directory `bin` subdirectory. In some cases, you need to add the name of only one JAR file (for example, `swiftmq.jar`), but you might have to include a series of jars or paths.

To display the JMS Integration window Documents tab, select Tools→API→JMS and click the Documents tab.

Figure 16-8 JMS Integration Window Documents Tab



Field Descriptions

The following describes the fields on the JMS Integration window Documents tab.

The fields are described once for inbound and outbound documents.

The Inbound Documents area is for configuring WebLogic Integration – Business Connect to place documents that have been received from partners and unpackaged on a back-end JMS queue.

The Outbound Documents area is for configuring WebLogic Integration – Business Connect to retrieve documents from a back-end JMS queue and then package and send the documents to partners.

Except for the user name and password, you can obtain the information needed to complete the tab from the JMS or JNDI provider's documentation. The information will vary depending on the provider. If you have questions, contact your JMS or JNDI provider.

JNDI

Complete the following fields for the Java naming and directory interface (JNDI).

URL

Type the network URL that will be used to obtain access to the JNDI service provider for your JMS service. Example:

```
smqp://localhost:4001/timeout=10000
```

Factory

Type the name for the JNDI service provider class. Example:

```
com.swiftmq.jndi.InitialContextFactoryImpl
```

User name

Type a user name for the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Password

Type a password for the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Confirm password

Type the password again.

JMS

Complete the following fields for the Java messaging service (JMS).

Queue connection factory

Type the connection factory as defined within the JMS provider. This value can be either in the form *factoryname@routername* or the JNDI public symbol for the `QueueConnectionFactory`. Examples: `plainsocket@router1` or `QueueConnectionFactory22`. This would be dependent on your JMS provider and how it is configured.

Queue

Type the name of the queue in the form *queuename@routername*. Example:
`XMLQueue@router1`

User name

Type a user name for the JMS provider. This can be the same as your JNDI user name. However, this will depend on how your JMS provider and how it is configured.

Password

Type a password for the JMS provider. This can be the same as your JNDI password. However, this will depend on how your JMS provider and how it is configured.

Confirm password

Type the password again.

Semantics

This API is an input and output source for documents. This is how it works: WebLogic Integration – Business Connect registers as a listener with the JMS server for the designated inbound queue. This means that any `JMSMessage` placed in the queue by another process is passed to WebLogic Integration – Business Connect, which verifies that it is a `BytesMessage` (a type of `JMSMessage`). If verified, WebLogic Integration – Business Connect packages and sends it to the partner. Likewise, every document WebLogic Integration – Business Connect receives from a partner is unpackaged, converted to a `BytesMessage` and placed on the designated inbound queue.

The API requires that the JMS messages be in the format `BytesMessage`. WebLogic Integration – Business Connect does not process any other type of `JMSMessage` (such as `ObjectMessage`). WebLogic Integration – Business Connect performs routing decisions based on JMS message string parameters that must be appended to each `BytesMessage` sent to it. If the required parameters are omitted, WebLogic Integration – Business Connect does not process the message. WebLogic Integration – Business Connect also places the same parameters on each message that it sends to the outbound queue. The parameters WebLogic Integration – Business Connect uses are in the following table.

Parameter	Description
<code>SenderRoutingId</code>	The ID of the document sender. This parameter is required.
<code>TrueSenderId</code>	The ID of the document sender. This is for document re-routing. This parameter is optional.
<code>ReceiverRoutingId</code>	The ID of the document receiver. This parameter is required.
<code>TrueReceiverId</code>	The ID of ultimate receiver of the document. This is for document re-routing. This parameter is optional.

Parameter	Description
DocumentType	Indicates whether the document is XML, binary, X12 or EDIFACT. This parameter is required.
DocumentSubType	The sub type of the message. This is used for EDI documents. This parameter is optional.
Path	The current path of the document. WebLogic Integration – Business Connect sets this value.
OriginalFileName	The original name of the file. This parameter is required.
CorrelationId	The assigned correlation ID of the document. This ID relates documents that are parts of conversations between partners in RosettaNet and ebXML exchanges. This parameter is optional.
RefToMessageId	The assigned reference message ID of the document. This ID relates the current document to another document. This parameter is optional.
SequenceId	Indicates duplicate document names by appending file names with _1, _2, _3 and so on. You only want to use this parameter when you have selected sequence duplicate file names on the Partner Profile window Preferences tab. WebLogic Integration – Business Connect sets this value.
DocumentId	The unique alphanumeric string WebLogic Integration – Business Connect assigns to the document. Appended to the value is the receiver's ID. WebLogic Integration – Business Connect sets this value.
ControlId	The control ID of an EDI document. Otherwise, the ID is XML or BINARY. WebLogic Integration – Business Connect sets this value.
Transport	The transport method used to receive the document. WebLogic Integration – Business Connect sets this value. The possible transports are: Bundled HTTP Bundled HTTPS EMAIL SMTP
ebXmlAction	Identifies an ebXML process within a service that processes the message. For example, <code>NewOrder</code> . If you are using the file system ebXML protocol method, the user sets this for outbound documents. WebLogic Integration – Business Connect sets this value for inbound documents.

Parameter	Description
<code>ebXmlService</code>	Identifies an ebXML business process. For example, a purchase order. If you are using the file system ebXML protocol method, the user sets this for outbound documents. WebLogic Integration – Business Connect sets this value for inbound documents.
<code>PackagingType</code>	If you are using the file system ebXML protocol method, set to <code>ebXML</code> for outbound documents. WebLogic Integration – Business Connect sets this value for inbound documents.
<code>PackagingVersion</code>	If you are using the file system ebXML protocol method, set to <code>1.0</code> or <code>2.0</code> for outbound documents, depending on whether your partner is compliant with 1.0 or 2.0. WebLogic Integration – Business Connect sets this value for inbound documents.

It would be helpful for you to understand the JMS event integration API to use this API.

Send Document

The following are the requirements for sending a document:

1. Build a JMS `BytesMessage`. The contents of the `BytesMessage` should contain the raw document data and string parameters.
2. Send the `BytesMessage` to the outbound queue.
3. WebLogic Integration – Business Connect receives the `BytesMessage` from the queue. It then packages and send the document with the string parameters.

Receive Document

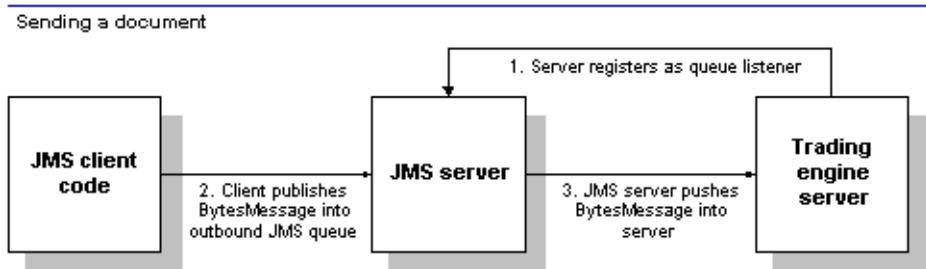
The following are the requirements for receiving a document:

1. WebLogic Integration – Business Connect receives and unpackages a document
2. WebLogic Integration – Business Connect creates a `BytesMessage` that contains the raw document content. The `BytesMessage` also includes the string properties.

Scenarios

The following graphics show high-level views of the JMS global document integration API.

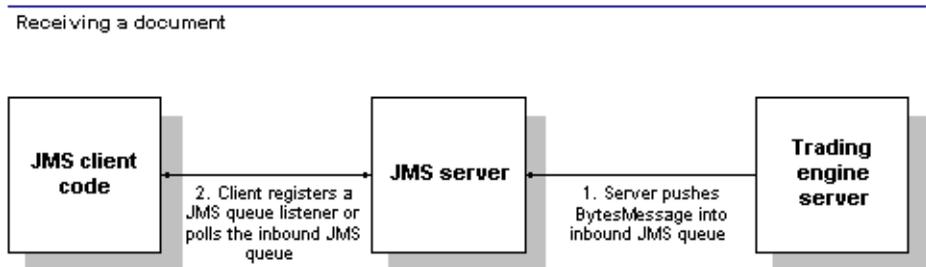
Figure 16-9 Send Document with Global JMS Document Integration



Key to Figure 16-9

1. Server registers a queue listener for outbound queue.
2. Client publishes `BytesMessage` into outbound JMS queue.
3. JMS server pushes `BytesMessage` into WebLogic Integration – Business Connect Server.

Figure 16-10 Receive Document with Global JMS Document Integration



Key to Figure 16-10

1. WebLogic Integration – Business Connect Server pushes `BytesMessage` into inbound JMS queue.
2. Client can either register a JMS queue listener or periodically poll the inbound JMS queue.

Sample Code

The sample code for the global JMS document integration API is in `api/samplecode/JMSClient`.

For information about building and running the sample code, see the readme file in `api/samplecode/JMSClient`.

JMS Document Integration by Company

The JMS document integration by company API enables a JMS server to send documents to, and receive documents from, WebLogic Integration – Business Connect for a single active company.

JMS topics provide reliable messaging. As long as the JMS server is enabled, messages are stored until retrieval by a topic listener. There is one queue by company and document type and direction.

You need knowledge of JMS programming to retrieve events from a JMS topic.

WebLogic Integration – Business Connect writes the file to be sent to disk after retrieving it from the JMS server. The system then packages the document according to the usual document polling mechanisms. This is different than global JMS document integration, in which a document is packaged immediately after WebLogic Integration – Business Connect retrieves it from the JMS server.

Document size is limited by memory constraints. JMS requires `BytesMessages` to be in memory when read from, or written to, the JMS server. There is no support for streaming. The result can be `OutOfMemoryExceptions` in the WebLogic Integration – Business Connect JVM when transferring large documents.

See [“Global Versus Company JMS Integration” on page 16-22](#).

The following topics describe how to use the JMS document integration by company API:

- [“Application Configuration” on page 16-31](#)
- [“Semantics” on page 16-34](#)
- [“Scenarios” on page 16-34](#)
- [“Sample Code” on page 16-35](#)

Application Configuration

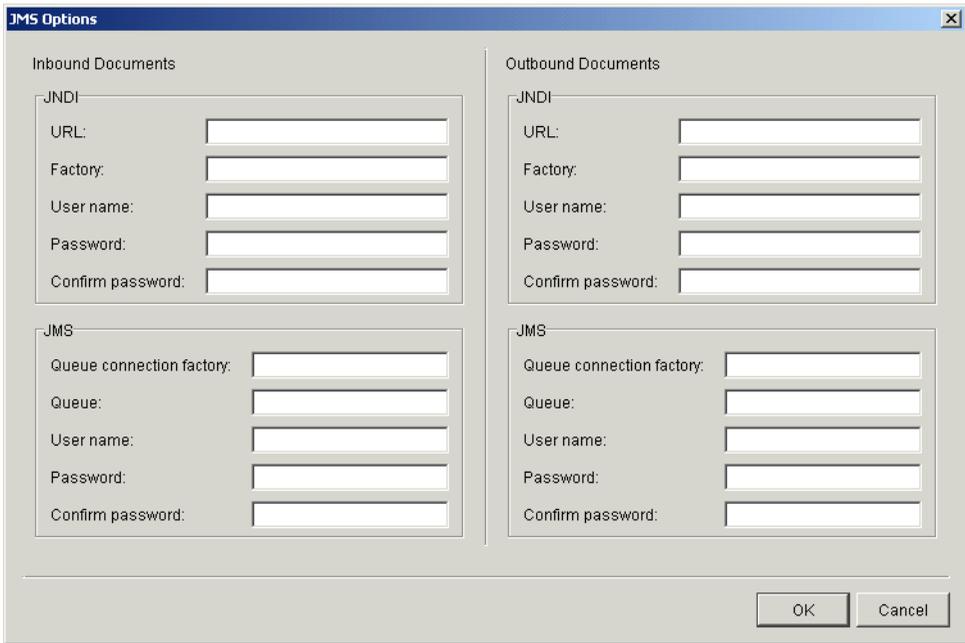
Use the JMS Options window for configuring document integration with a JMS queue. To access the window, select *by document type* as the integration method on the Company Profile window Integration tab, select an integration option for EDI, XML or binary documents and click Options. See [“Company Profile Integration Tab” on page 6-42](#).

To use this tab your organization must have JMS experience and a working JMS messaging system.

In addition to completing this tab, you must add the names of the JAR or class files or both in the `server.ini` or `server.bat` file in Windows or your environment file in UNIX so the Server application can locate the JMS and JNDI provider. The `server.ini` and `server.bat` files are located in the installation directory `bin` subdirectory. In some cases, you need to add the name of only one JAR file (for example, `swiftmq.jar`), but you might have to include a series of jars or paths.

This window is for configuring JMS document integration for a single company. To configure JMS document integration for all companies, see [“Global JMS Document Integration” on page 16-22](#).

Figure 16-11 JMS Options Window



Field Descriptions

The following describes the fields on the JMS Options window.

The fields are described once for inbound and outbound documents.

The Inbound Documents area is for configuring WebLogic Integration – Business Connect to place documents that have been received from partners and unpackaged on a back-end JMS queue.

The Outbound Documents area is for configuring WebLogic Integration – Business Connect to retrieve documents from a back-end JMS queue and then package and send the documents to partners.

Except for the user name and password, you can obtain the information needed to complete the tab from the JMS or JNDI provider's documentation. The information will vary depending on the provider. If you have questions, contact your JMS or JNDI provider.

JNDI

Complete the following fields for the Java naming and directory interface (JNDI).

URL

Type the network URL that will be used to obtain access to the JNDI service provider for your JMS service. Example:

```
smqp://localhost:4001/timeout=10000
```

Factory

Type the name for the JNDI service provider class. Example:

```
com.swiftmq.jndi.InitialContextFactoryImpl
```

User name

Type a user name for the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Password

Type a password for the JNDI provider. This value could be blank and is typically provided for in the JNDI URL. However, this will depend on the JNDI provider and how it is configured.

Confirm password

Type the password again.

JMS

Complete the following fields for the Java messaging service (JMS).

Queue connection factory

Type the connection factory as defined within the JMS provider. This value can be either in the form *factoryname@routername* or the JNDI public symbol for the `QueueConnectionFactory`. Examples: `plainsocket@router1` or `QueueConnectionFactory22`. This would be dependent on your JMS provider and how it is configured.

Queue

Type the name of the queue in the form *queuename@routername*. Example:
`XMLQueue@router1`

User name

Type a user name for the JMS provider. This can be the same as your JNDI user name. However, this will depend on how your JMS provider and how it is configured.

Password

Type a password for the JMS provider. This can be the same as your JNDI password. However, this will depend on how your JMS provider and how it is configured.

Confirm password

Type the password again.

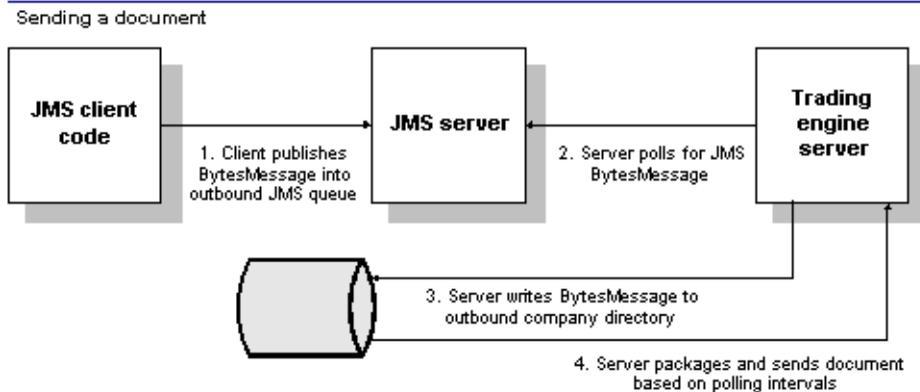
Semantics

See “Semantics” on page 16-26 for “Global JMS Document Integration”.

Scenarios

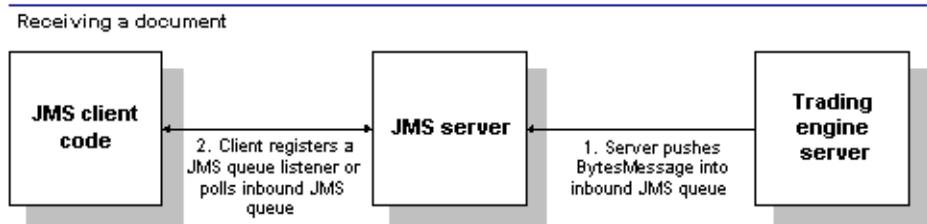
The following graphics show high-level views of the JMS document integration by company API.

Figure 16-12 Send Document with JMS Document Integration by Company



Key to Figure 16-12

1. Client publishes `BytesMessage` into outbound JMS queue.
2. WebLogic Integration – Business Connect Server polls for JMS `BytesMessage` in the outbound queue.
3. Server writes `BytesMessage` contents to the outbound directory for the appropriate company.
4. Server packages and sends document based on polling intervals.

Figure 16-13 Receive Document with JMS Document Integration by Company**Key to Figure 16-13**

1. WebLogic Integration – Business Connect Server pushes `BytesMessage` into inbound JMS queue.
2. Client can register a JMS queue listener or periodically poll the inbound JMS queue.

Sample Code

The sample code for the JMS document integration by company API is in `api/samplecode/JMSIntegration`.

The sample code models listening for events and document submission and retrieval.

For information about building and running the sample code, see the readme file in `api/samplecode/JMSIntegration`.

Document and Event APIs

Profile Management API

The following topics describe the WebLogic Integration – Business Connect profile management application program interface (API).

Concepts

- [“Profile Management Overview” on page 17-1](#)
- [“Profile Management Client Session” on page 17-2](#)
- [“Profile Management Functions” on page 17-3](#)
- [“Disposition Codes” on page 17-7](#)
- [“Profile Management Scenario” on page 17-12](#)
- [“Profile Management Sample Code” on page 17-12](#)

Profile Management Overview

The profile management API enables programmatic access to the WebLogic Integration – Business Connect profile and certificate repository. Profiles can be created, deleted and modified via a SOAP interface. These APIs are a convenient mechanism for populating or updating the WebLogic Integration – Business Connect profile repository without using the interactive graphical user interface.

The profile management API enables you to add, update, retrieve or remove company and partner profiles. The Server application must be running with an open Simple Object Access Protocol (SOAP) port to return various XML formats. Each format has a corresponding schema file.

The following summarizes the functionality of the profile management API:

- Find companies or partners based on unique IDs
- Find all companies or partners based on configuration data
- Delete companies or partners
- Register a new company or partner profile
- Update a company or partner profile

Profile Management Client Session

All profile management functions require a client session object as a parameter to the SOAP method being invoked. All sessions used to communicate with the server are anonymous. The following topics describe how to create and end a client session:

- [“Create a Client Session” on page 17-2](#)
- [“End a Client Session” on page 17-3](#)

Create a Client Session

You need to know two things to create a client session. The first is the name of the session authenticator to use. The second is the URL to the profile management server.

Because the server only uses anonymous authentication, the name of the authenticator is always `Anonymous`. This value is case-sensitive and must be used as shown or authentication will fail.

The URL consists of the protocol (HTTP or HTTPS) followed by the server, port and the resource. The resource is always `api/servlet/rpcrouter`. For example, to connect to the profile management server using a normal socket and with the server on a machine named `pmapiserver` and listening on port 5081, the URL is:

```
http://pmapiserver:5081/api/servlet/rpcrouter
```

The `ClientSession` class contains a factory method that allows you to create a client session object to use in SOAP method calls. To create a client session, invoke the `createSession` method of the class.

The following is an example:

```
ClientSession clientSession = ClientSession.createSession("Anonymous", url);
```

The sample code in `api\samplecode\ConfigurationClient` has examples of how to create a client session.

End a Client Session

As previously explained, you create a client session for the purpose of invoking a SOAP method of the profile management server. After you have invoked a method, you should immediately terminate the session by invoking the `close` method of the `ClientSession` object. This allows the server to remove old conversations from its pool. If you need to make several SOAP call, it is best to create a new session each time and close the previous session. If you fail to close sessions, the server will close them after 30 seconds of inactivity.

Profile Management Functions

The profile management API enables the following functions:

- `FindCompanies`
- `FindPartners`
- `GetCompanyProfiles`
- `GetPartnerProfiles`
- `SetCompanyProfiles`
- `SetPartnerProfiles`
- `RemoveCompanyProfiles`
- `RemovePartnerProfiles`
- `SetCompanyProfiles`
- `SetPartnerProfiles`

There is a utility class named `ConfigurationApiStub` that encapsulates each of these functions and is recommended to be used to connect to the SOAP interface. We recommend that you review this class in the HTML documentation in `api\documentation;open index.html`. All of the methods in the class take a `org.w3c.dom.Element` object as a parameter and all return a result of `org.w3c.dom.Element`. All examples assume your code uses this class. The constructor of this class takes an instance of `ClientSession` located in the SOAP package. The purpose of this class is authentication and to maintain a session within the SOAP server in WebLogic Integration – Business Connect.

SetCompanyProfiles and SetPartnerProfiles

`SetCompanyProfiles` and `SetPartnerProfiles` must both be supplied an `Element` instance (`org.w3c.dom.Element`) of an XML document that conforms to each of their respective schemas. For example, `InterchangeCompanyConfig` for the `SetCompanyProfiles` function and `InterchangePartnerConfig` for the `SetPartnerProfiles` function.

`SetCompanyProfiles` and `SetPartnerProfiles` are multipurpose functions that can be used for insert and update purposes.

When the server receives a request for either function, it compares the supplied routingid element value to the list of known IDs in the system. If the ID exists, the server treats the request as an update rather than as new. If the ID is not known, it inserts the data as a new company or partner.

If you insert a company into WebLogic Integration – Business Connect and do not specify the system directories, WebLogic Integration – Business Connect uses the default directories in the format installation directory\data\companyID).

Updating works just like inserts. For example, if you submit a company configuration XML file with the following elements:

```
<XMLRoutings>
  <XMLRouting name="BizTalk">
    <Sender>/:BizTalk/:Route/:From/@locationID</Sender>
    <Receiver>/:BizTalk/:Route/:To/@locationID</Receiver>
  </XMLRouting>
</XMLRoutings>
```

This would add BizTalk with its Xpaths for sender and receiver. If you then re-submit the XML file with only the following:

```
<XMLRoutings>
</XMLRoutings>
```

This tells WebLogic Integration – Business Connect to update the company with no XML routing information. If you had not included an `XMLRoutings` section in the XML document you submitted to WebLogic Integration – Business Connect, the BizTalk routings would have been unchanged.

If a client requests to create or update profiles using `SetCompanyProfiles` or `SetPartnerProfiles`, the server acknowledges the request with a disposition. The server response is an `OrganizationDataOutputList` that shows the status of the request. Each request contains a corresponding `OrganizationDataOutput` indicating the organization ID

under the root element. Beneath each `OrganizationDataOutput` is a disposition indicating success or failure. The following is an example:

```
<OrganizationDataOutputList
xmlns="http://www.cyclonecommerce.com/Schemas/2001/07/pmapi"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <OrganizationDataOutput
xmlns:bapi="http://www.cyclonecommerce.com/Schemas/2001/07/bapi"
organizationId="edi3551">
    <bapi:Disposition id="000" title="Company created successfully."/>
  /OrganizationDataOutput>
</OrganizationDataOutputList>
```

The important element in this example is `bapi:Disposition`, and the important attributes to this tag are `id` and `title`. For a table describing disposition codes, see [“Disposition Codes” on page 17-7](#).

FindCompanies and FindPartners

`FindCompanies` and `FindPartners` must both be supplied an `Element` instance (`org.w3c.dom.Element`) of an XML document that conforms to the `ProfileQuery` schema. This function returns all the company and partner IDs that match given criteria. If a large number of profile IDs can be returned, the client or the server can specify a maximum. The client specifies the limit by supplying the optional `MaxProfiles` attribute on the main `ProfileQuery` element.

There are three ways to search for partners and two ways to search for companies, as explained in the following table.

Element	Use	Description
<code>ProfileName</code>	Company or partner search	Search for profiles using case-sensitive full or partial names (for example, find all profiles with names beginning with <code>Ac</code>).
<code>ProfileStatus</code>	Company or partner search	Search for profiles with a specific status (for example, find all inactive status profiles).
<code>PartnerGroup</code>	Partner search	Search for partner profiles in a specific group (for example, find all partner profiles in the Office Suppliers group).

The following is an example that asks for all partners in the group Office Suppliers:

```
<ProfileQuery xmlns="http://www.cyclonecommerce.com/Schemas/2001/09/icapi">
  <SearchBy>
    <PartnerGroup>Office Suppliers</ PartnerGroup >
  </SearchBy>
</ProfileQuery>
```

If your query asks for more profile IDs than allotted in the `MaxProfiles` attribute, the server returns a `Cursor` (`bapi:Cursor`). The `Cursor` object only has value to the WebLogic Integration – Business Connect server, which means you should receive this element only when your query results exceed the `MaxProfiles` limit. This `Cursor` can be passed to any subsequent call to get the next set of IDs, which might in turn have only a subset of the remaining items, in which case the same scenario exists again. When called with a `Cursor`, the only other parameter the server uses is `MaxProfiles`; all others are ignored.

These functions must be in the form of the `ProfileQuery` schema, which can be located in the `InterchangeConfigAPI.xsd` file in the `xmlschema` directory. As these function only return IDs, you probably would use them with `GetCompanyProfiles` and `GetPartnerProfiles`.

GetCompanyProfiles and GetPartnerProfiles

`GetCompanyProfiles` and `GetPartnerProfiles` must both be supplied an `Element` instance (`org.w3c.dom.Element`) of an XML document that has an `OrganizationIdList` element containing any number of `OrganizationId` sub elements. This returns the entire organization data for each of the specified organizations in the XML format requested.

The following example is a client request to retrieve the profile for company ID `Company1`. In this example, the client only wants the profile for one partner. It could have requested multiple profiles by specifying multiple organization IDs in the request.

```
<OrganizationIdList
xmlns="http://www.cyclonecommerce.com/Schemas/2001/07/bapi">
  <OrganizationId> Company1</OrganizationId>
</OrganizationIdList>
```

RemoveCompanyProfiles and RemovePartnerProfiles

`RemoveCompanyProfiles` and `RemovePartnerProfiles` remove an entire organization from the WebLogic Integration – Business Connect server. Companies and partners can be deleted regardless of their status. However, a binary relationship is established between companies and partners and you cannot delete a company until that relationship is dissolved.

The following example is a client request to remove the profile for company ID Company1:

```
<OrganizationIdList
xmlns="http://www.cyclonecommerce.com/Schemas/2001/07/bapi">
  <organizationId>Company1</organizationId>
</OrganizationIdList>
```

If a client requests to create or update profiles using `RemoveCompanyProfiles` or `RemovePartnerProfiles`, the server acknowledges the request with a disposition. The server response is an `OrganizationDataOutputList` that shows the status of the request. Each remove request contains a corresponding `OrganizationDataOutput` indicating the organization ID under the root element. Beneath each `OrganizationDataOutput` is a disposition indicating success or failure. The following is an example of a response to a remove request:

```
<OrganizationDataOutputList
xmlns="http://www.cyclonecommerce.com/Schemas/2001/07/pmapi "
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <OrganizationDataOutput
xmlns:bapi="http://www.cyclonecommerce.com/Schemas/2001/07/bapi "
organizationId=" duns6097">
    <bapi:Disposition id="002" title="Partner removed successfully."/>
  </OrganizationDataOutput>
</OrganizationDataOutputList>
```

The important element in this example is `bapi:Disposition`, and the important attributes to this tag are `id` and `title`. For a table describing disposition codes, see [“Disposition Codes”](#).

Disposition Codes

The following tables and graphics show company and partner disposition codes and validation message schemas.

Disposition codes are returned when a client makes a set, get or remove request for a company or partner profile. If a profile does not pass the server validation (for example, a required field is missing or blank), the server also includes a validation message element with the disposition.

Company Disposition Codes

The following table provides company disposition codes and descriptions. If the client calls a request to create or update a company profile using the `SetCompanyProfiles` method, the server acknowledges the request with a disposition.

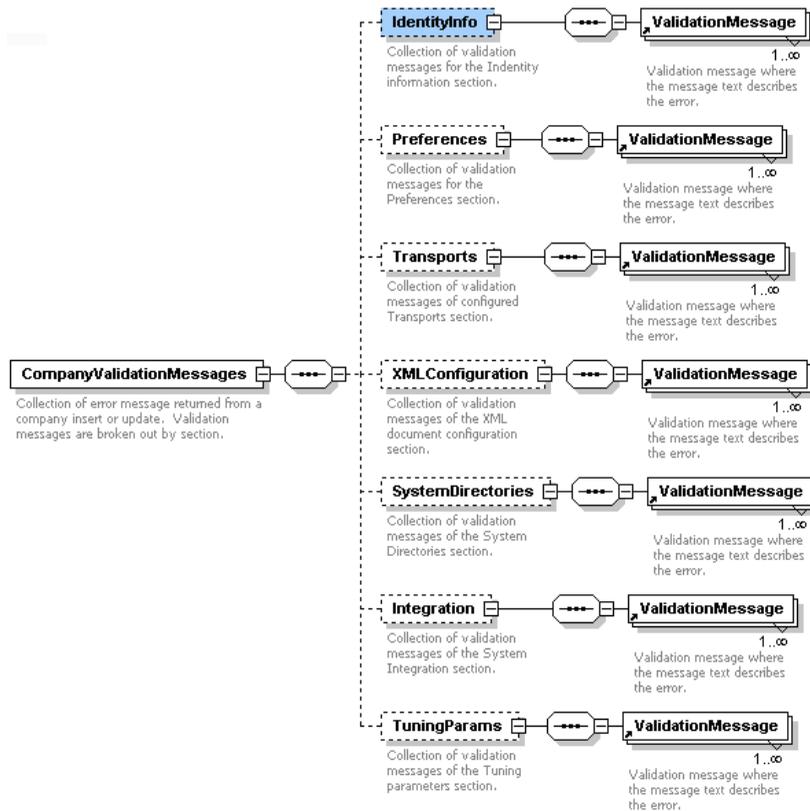
Company disposition codes

Code	Title
000	Company created successfully.
001	Company updated successfully.
002	Company deleted successfully.
100	Company created successfully, but errors are present. The status has been set to inactive.
101	Company updated successfully, but errors are present. The status has been set to inactive.
200	Company could not be created.
201	Company could not be updated.
202	Company could not be deleted.
300	One or more company certificates could not be imported.
400	Company not found.

Company Validation Message Schema

Figure 17-1 shows the company validation message schema. The server returns a `CompanyValidationMessage` element with the disposition when the server cannot validate a `SetCompanyProfiles` call from the client.

Figure 17-1 Company Validation Message Schema



Partner Disposition Codes

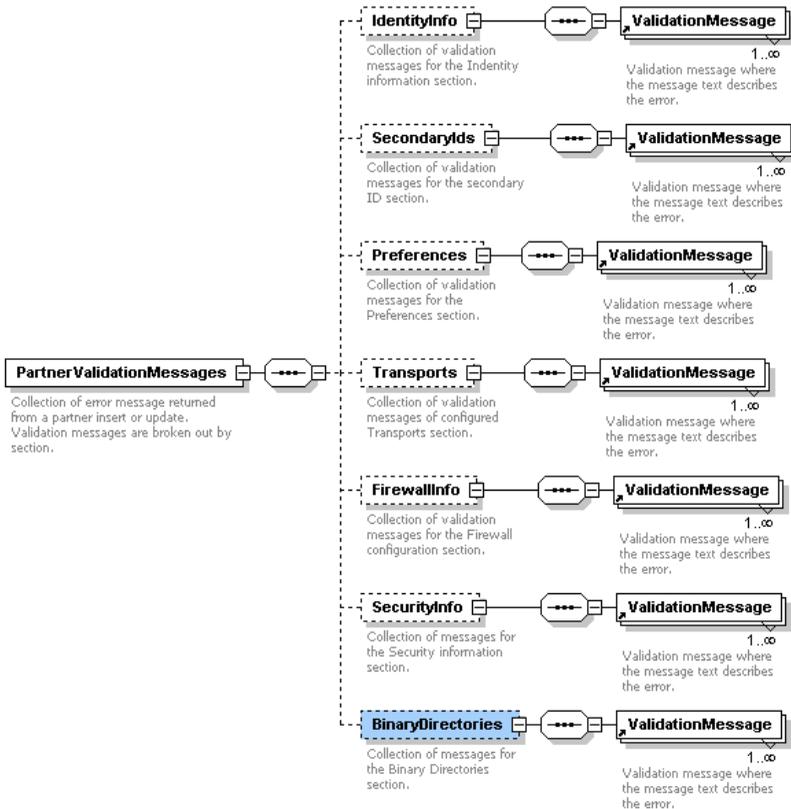
The following table provides partner disposition codes and descriptions. If the client calls a request to create or update a partner profile using the `SetPartnerProfiles` method, the server acknowledges the request with a disposition.

Partner disposition codes	
Code	Title
000	Partner created successfully.
001	Partner updated successfully.
002	Partner deleted successfully.
100	Partner created successfully, but errors are present. The status has been set to inactive.
101	Partner updated successfully, but errors are present. The status has been set to inactive.
200	Partner could not be created.
201	Partner could not be updated.
202	Partner could not be deleted.
300	One or more company certificates could not be imported.
400	Partner not found.

Partner Validation Message Schema

Figure 17-2 shows the partner validation message schema. The server returns a `PartnerValidationMessage` element with the disposition when the server cannot validate a `SetPartnerProfiles` call from the client.

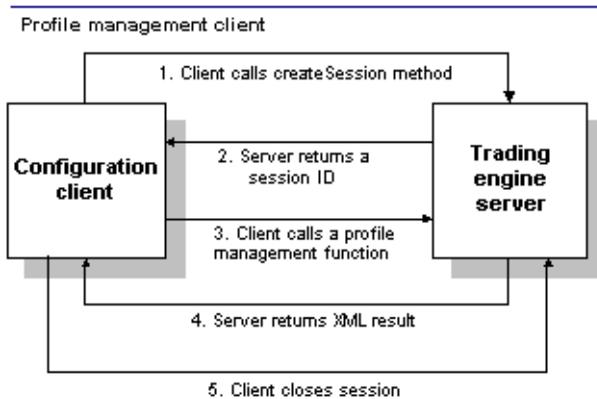
Figure 17-2 Partner Validation Message Schema



Profile Management Scenario

Figure 17-3 shows a high-level view of the profile management API.

Figure 17-3 Profile Management Client Updates Server



Key to Figure 17-3

1. The configuration client calls the `createSession` method to authenticate and create a session with WebLogic Integration – Business Connect.
2. The `createSession` method assigns a unique ID to the client. The session ID must be passed back to WebLogic Integration – Business Connect in all subsequent calls.
3. The client returns the session ID and calls a profile management method (for example, `FindCompanies`, `FindPartners`, `GetCompanyProfiles`).
4. WebLogic Integration – Business Connect returns the XML result of the profile management method.
5. Client closes the session.

Profile Management Sample Code

A sample application using the profile management API is in `api\samplecode\ConfigurationClient` in the WebLogic Integration – Business Connect installation directory. The `ConfigurationClient` sample is a full-featured client application that works with pre-configured company and partner XML profiles. It implements all the API functionality.

The sample application presumes the SOAP port is 5081. In Administrator, check the HTTP API port setting on the Ports tab in Tools→Preferences. The sample is configured to not delete the companies and partners it creates. For more information about the sample code, see the `readme.txt` file in `api\samplecode\ConfigurationClient`.

We also recommend that you review the company configuration and partner configuration XML schemas as well as the query. See the following files in the WebLogic Integration – Business Connect `xmlschema` directory:

- `InterchangeCompanyConfig.xsd`
- `InterchangePartnerConfig.xsd`
- `InterchangeConfigAPI.xsd`

Profile Management API

Tracker

Tracker enables you to monitor your use of WebLogic Integration – Business Connect by providing runtime and archived views of database records of transactions and events. You also can use Tracker to search for and resend documents to your trading partners or resubmit them through the Server application to your translator or business application.

The following topics are provided.

Concepts

- [“Overview of Tracker” on page 18-2](#)
- [“Refreshing the Tracker Display” on page 18-3](#)
- [“Filtering Tracker Records” on page 18-3](#)
- [“Printing Tracker Records” on page 18-4](#)
- [“Guidelines for Finding and Reprocessing” on page 18-4](#)

Procedures

- [“Logging on to Tracker” on page 18-8](#)
- [“Manually Archiving Database Records” on page 18-8](#)
- [“Clearing Tracker Database Records” on page 18-9](#)
- [“Finding and Reprocessing Documents” on page 18-9](#)

Windows and Fields

- [“Alerts Information Viewer” on page 18-15](#)
- [“Traffic Information Viewers” on page 18-18](#)
- [“Transactions Information Viewer” on page 18-26](#)

Overview of Tracker

Tracker provides runtime and archived views of records or logs that show your organization’s inbound and outbound document traffic as well as alert messages of high importance. Runtime views display database records before they have been archived. Archive view shows database records that have been archived. You control the frequency of archiving in the Administrator Schedules information viewer.

Tracker has information viewers that display database records of inbound, outbound and rejected documents. You can switch between views of the runtime and database records by selecting Runtime or Archive from the Database table drop-down list at the top left. Click Refresh to make sure the latest records are displayed (see [“Refreshing the Tracker Display” on page 18-3.](#))

The following provides an overview of the information viewers in Tracker.

Alerts

You can view the date, time, partner ID or combined EDI qualifier and ID, contact name, and contact e-mail address for each alert or notification message. You can also view or print the text of the message.

Traffic

You can view runtime and archive database records for inbound, outbound and rejected documents. There are three Traffic information viewers:

- Inbound Traffic
- Outbound Traffic
- Rejected Traffic

The Inbound Traffic and Outbound Traffic information viewers provide an audit trail for documents you received from or sent to your trading partners. The Rejected Traffic information viewer provides a list of inbound or outbound documents that WebLogic Integration – Business Connect could not process and routed to the rejected directory.

Transactions

You can view a reverse chronological listing of each milestone event in the processing of in and outbound documents. For each transaction event, you can see the date, time, control ID, ID or combined EDI qualifier and ID, status, and any message associated with it.

Refreshing the Tracker Display

To view the latest database records, click Refresh or select View→Refresh or press the F5 key. You must refresh the display when you want to view the latest records, especially the latest runtime records.

Tracker database information viewers refresh automatically the first time you display them. Automatic refreshing occurs when you start Tracker. It also occurs the first time you select another information viewer or change from a runtime to archive display or vice versa. Apart from that, you must manually refresh the displays.

When you click Refresh, the action refreshes records on the currently active information viewer, but not others. For example, say you click Refresh while viewing the Inbound Traffic information viewer. The viewer refreshes the record display. But if you switch to the Outbound Traffic information viewer, you must click Refresh again to also refresh the records displayed in that viewer.

If you want to see continuously updated records of document trading activity, open the server monitor page in a browser by selecting Tools→Launch Server Monitor in Tracker or Administrator.

Filtering Tracker Records

Tracker has filters that enable you to view many or few runtime or archive database records at a time in information viewers. The filter settings persist from one Tracker session to another until you change them. You set filters by information viewer by database view. For example, the filter settings for the runtime view of the Alerts information viewer apply only to that window.

Click Filter or select View→Filter to access the filter window for an information viewer. Use the optional fields to specify the date range and type of records you want to display and click OK.

You can specify to view only records dated between certain dates or records dated within the last number of hours, days or months that you specify.

On filter windows with a maximum records field, you can leave the field blank, which displays all records, or you can type the number of records you want displayed on the information viewer.

On filter windows with a control ID field, you can use the following values to filter records.

Type this	To display this
Control ID	All records associated with that number
XML	All XML records
Binary	All binary records
Profile	All profile records
Certificate	All X509 certificate records

Printing Tracker Records

You can print a list of the records in the currently active information viewer by selecting File→Print or pressing Ctrl-P. Tracker prints to your system's default printer.

The application prints the data as displayed on the current information viewer, so maximizing the window size before you print yields longer horizontal printed records. Although the records print in landscape format, you might have to adjust the column widths or hide columns of data in the information viewers to print the columns you want. This is necessary to account for differences in fonts and printers.

You can adjust column widths by placing the cursor over the lines between the columns headings to make a double-arrow appear. Click and hold the left button to adjust the widths. You also can click and drag columns headings to change their locations. You can hide or show columns of data by selecting View→Columns or right-clicking on a column heading and selecting the columns option.

Guidelines for Finding and Reprocessing

You can use Tracker to search for records of documents and, in the case of records of documents in the runtime database, you can submit such documents for reprocessing. Reprocessing involves resending documents to your trading partners or re-submitting documents through WebLogic

Integration – Business Connect to your translator or business system. For procedure see [“Finding and Reprocessing Documents” on page 18-9](#).

The following topics describe the various options for reprocessing documents:

- [“Reprocessing Only the Most Recent Document”](#)
- [“Reprocessing Unacknowledged Documents” on page 18-5](#)
- [“Reprocessing Rejected Documents” on page 18-6](#)
- [“Reprocessing by Control ID” on page 18-6](#)
- [“Reprocessing by Partner” on page 18-7](#)

Reprocessing Only the Most Recent Document

When you reprocess a document, WebLogic Integration – Business Connect creates a new version of it with a new, unique file name. You can reprocess each file name only once. To reprocess a document more than once, you must select only the most recently processed document.

For example, you attempt to send to your partner a document with the control ID 100000000 and a file name of 56in. The document is rejected. You use Tracker to resubmit this document through WebLogic Integration – Business Connect to your translator. WebLogic Integration – Business Connect names the resubmitted document (control ID 100000000) to file name 68in. To resubmit the document (control ID 100000000) a second time, choose file name 68in in the Find window.

Note: Tracker cannot reprocess completed documents that have been archived. This includes inbound documents that have been placed in the EDI-in directory and outbound documents for which you have received an MDN.

For procedure see [“Finding and Reprocessing Documents” on page 18-9](#).

Reprocessing Unacknowledged Documents

When you send a document and you have selected the acknowledge documents option in the partner profile, your trading partner sends you an MDN, which acknowledges the receipt, successful decryption and verification of the document.

If your WebLogic Integration – Business Connect system does not receive an acknowledgment, it attempts to resend the transaction up to the limits in the Partner Profile window Preferences tab. If your system still does not receive an acknowledgment, WebLogic Integration – Business

Connect generates and sends you an e-mail alert. You can then locate and resend the unacknowledged document.

From the document status drop-down list on the Find window, select Not Acknowledged to search for unacknowledged documents. When you find the documents you want, you can select them and click Reprocess. WebLogic Integration – Business Connect moves the selected documents to an outbound directory for reprocessing and retransmission to your trading partner.

For procedure see [“Finding and Reprocessing Documents” on page 18-9](#).

Reprocessing Rejected Documents

You can resend rejected outbound documents to your trading partners and resubmit rejected inbound documents to your WebLogic Integration – Business Connect system for reprocessing.

From the document status drop-down list on the Find window, select Rejected to search for rejected documents. Based on the information about these documents, you should correct whatever condition caused the documents to be rejected before you attempt to reprocess them.

When you find the documents you want, you can select them and click Reprocess. Then the following occurs:

Outbound transactions	WebLogic Integration – Business Connect moves the selected documents to an outbound directory for reprocessing and retransmission to your trading partner. During this reprocessing, WebLogic Integration – Business Connect gives the documents new file names.
Inbound transactions	The documents are queued for reprocessing by WebLogic Integration – Business Connect and resubmission to your translator. The documents retain the same file names WebLogic Integration – Business Connect gave them when it processed or attempted to process them the first time.

For procedure see [“Finding and Reprocessing Documents” on page 18-9](#).

Reprocessing by Control ID

A control ID is the unique identifier assigned to a document by a company’s translator application. When you locate a document this way, you can resend it to your trading partners or resubmit it to your WebLogic Integration – Business Connect system for reprocessing.

In the control ID field on the Find window, type the control ID for the document you need to find. The control ID is an alphanumeric ID that has a maximum length of 12 characters. You must include any leading zeros.

When you find the document you want, you can select it and click Reprocess. Then the following occurs:

For outbound transactions	WebLogic Integration – Business Connect moves the selected document to an outbound directory for reprocessing and retransmission to your trading partner. During this reprocessing, WebLogic Integration – Business Connect gives the document a new file name.
For inbound transactions	WebLogic Integration – Business Connect sends a duplicate acknowledgment to the sender of the received document, but does no other processing.

For procedure see [“Finding and Reprocessing Documents” on page 18-9.](#)

Reprocessing by Partner

You can search for documents you sent to or received from a certain partner. When you locate the documents, you can resend outbound documents to your trading partners or resubmit inbound documents to your WebLogic Integration – Business Connect system for reprocessing.

From the trading partner drop-down list on the Find window, select the partner associated with the documents you want to find. When you find the documents you want, you can select them and click Reprocess. Then the following occurs:

For outbound transactions	WebLogic Integration – Business Connect moves the selected documents to an outbound directory for reprocessing and retransmission to your trading partner. During this reprocessing, WebLogic Integration – Business Connect gives the document a new file name.
For inbound transactions	WebLogic Integration – Business Connect sends duplicate acknowledgments to the senders of the received documents, but does no other processing

For procedure see [“Finding and Reprocessing Documents” on page 18-9.](#)

Logging on to Tracker

Use this procedure to start Tracker and log on.

Steps

1. On Windows, select Programs→BEA WebLogic Integration – Business Connect 8.1→Tracker on the Start menu to open the login dialog box.

On UNIX, ensure you have X Windows connectivity to the server where WebLogic Integration – Business Connect is installed. Log in to the account you created during installation. Run the following command to open the login dialog box:

```
installation_directory/bin/tracker
```

2. Type your user ID and password in the appropriate fields. Use the same user ID and password you use to access Administrator.
3. Click OK.

Manually Archiving Database Records

Use this procedure to force the Server application to archive the runtime database records displayed in Tracker. Activating this feature forces archiving to occur now and overrides the archive schedule, which is accessed from Tools →Configure Schedule→Archive Schedule in Administrator. Using this feature also suspends all runtime processing until archiving is completed.

The Server application must be running for immediate archiving to occur.

After archiving is completed, you can switch to the archive view in Tracker to review archived database records.

Steps

1. Select Tools→Run Archiver Now in Tracker. A dialog box displays with a message prompting you to confirm whether you want to archive runtime database records.
2. Click Yes to confirm you want to run the archiving process. A dialog box displays with a message that the archiving process has been scheduled.
3. Click OK to close the dialog box.

Clearing Tracker Database Records

Use this procedure to clear the Tracker runtime or archive database records.

Note: If you clear the runtime database, you will permanently lose all records before they have been archived. Also, if you clear the archive database, you will permanently lose all archived records. Be careful when using these functions.

Steps

1. Select File→Clear All Archive Logs or File→Clear All Runtime Logs.
2. Click Yes on the confirm delete dialog box to clear all logs.

Finding and Reprocessing Documents

Use this procedure to find runtime and archive records of documents in Tracker. After you have found the documents you want, you can reprocess runtime documents, but not archived documents. Reprocessing involves resending documents to your trading partners or re-submitting documents through WebLogic Integration – Business Connect to your translator or business system. See [“Guidelines for Finding and Reprocessing” on page 18-4](#).

The document search process enables you to search the Tracker database for one or more documents using a filter and then reprocess them. Searches you can perform include:

- Search for acknowledged and unacknowledged documents and for documents for which no acknowledgments were requested.
- Search for documents that WebLogic Integration – Business Connect rejected because, for example, it could not encrypt or decrypt, sign or verify, or find a valid partner.
- Search for a document based on its control ID or partner ID.

Tracker can find only those documents in the backup or rejected directories. Consequently, your ability to find and resend or resubmit documents depends on how often you elect to run the archive process.

You cannot reprocess a document that WebLogic Integration – Business Connect has successfully received from a partner. If you need to reprocess a document that already has been successfully received and processed, ask your partner to send the document to you again. Only MDNs that have been rejected can be reprocessed.

If you choose the *do not back up* option for inbound documents in your company profile preferences, you can use Tracker to access documents only in the rejected directory.

If you choose the *back up and archive* or the *back up and delete* option in your company profile preferences, the archive process deletes completed documents or moves them to the archive directory. A completed inbound document is one that has been placed in the inbound document directory. A completed outbound document is one for which you have received an MDN (if you requested one). After these completed documents have been moved or deleted, you can no longer search for them or reprocess them using Tracker.

If you want to reprocess an ebXML document for which you already have received an acknowledgment, be aware of the following. WebLogic Integration – Business Connect repackages documents that are selected for reprocessing. When you reprocess an ebXML document, your partner re-sends the original acknowledgment. This causes your system to generate a message integrity check (MIC) error upon receiving the acknowledgment, because the hash of the outbound reprocessed document does not match the hash of the inbound acknowledgment. This only occurs when an MCD is used and when a messageID element is present in the MCD.

Steps

The following are the steps for setting up a filtered search for documents. You do not have to use all the fields on the Find window to perform a search. The fields are available to help you perform a wide or narrow search.

1. Click Find on the Tracker toolbar or select Edit→Find or press Ctrl-F to open the Find window.

Figure 18-1 Find Window

Fill in the criteria below in order to find documents that meet those criteria. A criteria of blank date fields, a blank Control ID, and 'All' will select all records.

Start date: Trading partner:

End date: Document direction:

Control ID: Document status:

Date	Control ID	Sender ID	Receiver ID	Direction	Acknowledgment	Rejected

2. Choose a date range for your search if you are not searching by a control ID (see the next step). Note the following about the date fields:
 - To search for documents for a single date, type the same date in the start and end date fields.
 - To include documents for all dates in your search, leave the start and end date fields blank.
 - If you type a start date but not an end date, the system lists all documents processed on or after that date.
 - If you type an end date but not a start date, the system lists all documents processed on or before that date.

3. Select a control ID. Because control IDs are unique, you can normally use it as the only search criterion. In other words, when you search for a document by control ID, leave the date fields blank.

You must type all digits of the control ID, including leading zeros. You cannot use wild cards or Boolean symbols in this field.

4. Select a partner from the trading partner drop-down list to search for documents sent to or received from that partner. Use the default selection All to search for documents for all partners.
5. Select the direction of the traffic you want to display from the document direction drop-down list. The options are:

Both	Search for all documents you sent and received.
Inbound	Search only for documents you received.
Outbound	Search only for documents you sent.

6. Select a document status from the document status drop-down list. The options are:

All	Search for documents in all status categories.
Acknowledged	Search for documents for which you received acknowledgments (MDNs).
Ack Not Requested	Search for documents for which you did not request acknowledgments (MDNs).
Not Acknowledged	Search for documents that timed-out before they could be sent or for which you did not receive acknowledgments (MDNs).
Rejected	Search for rejected documents.
Rejected or Not Acknowledged	Search for unacknowledged and rejected documents.

7. Click Search to find documents that meet your search criteria. If documents are found, information about them is displayed (see [“Field Descriptions”](#)). If no documents are found, a message to that effect is displayed.

8. When you find the documents you want, you can reprocess one or more documents by selecting them and clicking Reprocess.
9. Click Close to exit the Find window.

Field Descriptions

The following describes the fields on the Find window for documents that Tracker has found that meet your search criteria. For procedure see [“Steps” on page 18-10](#).

Date

The date and time WebLogic Integration – Business Connect processed the document. You can sort records in ascending or descending order by clicking the arrow in this column.

Control ID

The document’s control ID. For EDI documents, this is the number assigned by the translator.

Documents without control IDs might be binary or XML documents. Or, it is an inbound document that WebLogic Integration – Business Connect could not read and placed in the rejected directory.

Sender ID

The ID or combined EDI qualifier and ID of the sender.

Receiver ID

The ID or combined EDI qualifier and ID of the recipient.

Direction

Indicates whether the document is inbound (you received it) or outbound (you sent it).

Acknowledgment

Values that can appear in this field for inbound documents include:

Yes	You sent an acknowledgment to the document's sender.
No	You did not send an acknowledgment, or your trading partner did not request that you send one.
N/A	Not applicable.

Values that can appear in this field for outbound documents include:

Yes	You received an acknowledgment from the document's recipient.
No	You did not receive an acknowledgment from the document's recipient, or you did not request that your partner send one.
N/A	Not applicable.

Unexpected processing error

Rejected

Values that can appear in this field include:

Yes	WebLogic Integration – Business Connect could not process this document and placed it in the rejected directory.
N/A	WebLogic Integration – Business Connect successfully processed this document.

Transport

The transport method.

File

The file name that your WebLogic Integration – Business Connect assigned to the document, either inbound or outbound.

Path

The complete path to the directory where this document is stored. This path is to one of the following directories.

Backup directory	WebLogic Integration – Business Connect stores all inbound and outbound documents in this directory. If the document is stored here, it has been processed successfully. The document is stored in this directory until the next time the WebLogic Integration – Business Connect archive process runs.
Rejected directory	Documents that WebLogic Integration – Business Connect cannot successfully process are stored in the rejected directory.

Alerts Information Viewer

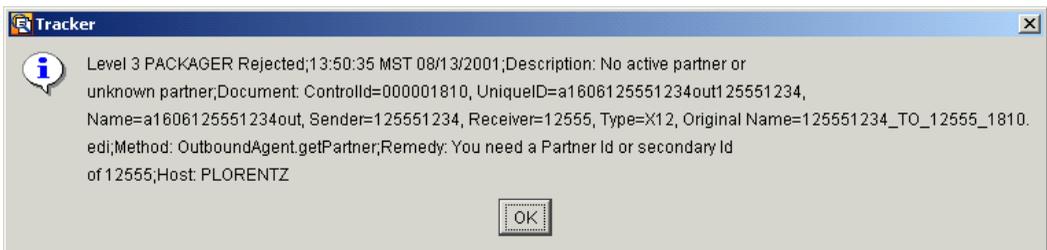
Use the Alerts information viewer to examine records for alerts and notifications.

Access the viewer by selecting Alerts on the Tracker bar.

WebLogic Integration – Business Connect continuously performs self-checks to ensure proper operation. When it detects a problem, WebLogic Integration – Business Connect generates an alert or notification that appears in the Alerts information viewer. Simultaneously, WebLogic Integration – Business Connect sends your point of contact an e-mail message that describes the problem in plain text. Such e-mails are sent if a contact person's e-mail address is provided in the alert or notify mail address fields on the Preferences tab of the Company Profile window.

You can view the text of alerts and notifications by placing the cursor over the record line in the Alerts information viewer, right-clicking and selecting View on the pop-up menu. This displays a pop-up window with the text of the message. You also can copy a message by right-clicking. You can paste copied messages into a text editor.

Figure 18-2 Right-Click a Record and Select View to Display the Message



Description of Alert E-Mail

Identified by the word *alert* in the e-mail subject line, alert messages are sent when WebLogic Integration – Business Connect detects a condition that halts document exchange and requires you to take action. An example is when WebLogic Integration – Business Connect cannot connect to the network or when there is a problem with the WebLogic Integration – Business Connect software.

Description of Notification E-Mail

Identified by the word *notification* in the e-mail subject line, notification messages are informational and do not require you to take action. Document exchange continues. WebLogic Integration – Business Connect sends a notification, for example, when it rejects a document or when it receives a binary (non-EDI) document from a partner for which it does not have a partner profile.

Figure 18-3 Alerts information Viewer

Alerts - Runtime Table

The current filter settings have caused 0 records to be omitted from this view.

Date	ID	Contact	E-mail	Message
04/18/2002 11:39:30	125551234	contact		Level 7 PACKAGER Unex
04/18/2002 11:32:25	125551234	contact		Level 3 PACKAGER Reje

Logged in user: Administrator Press F1 for on-line help. Records: 2

Field Descriptions

The following describes the fields on the Alerts information viewer.

Date

The date and time of the message. You can sort records in ascending or descending order by clicking the arrow in this column.

ID

The partner ID or combined EDI qualifier and ID for the document that caused or is related to this message.

Contact

The name of the person to whom the message was sent.

E-mail

The e-mail address, if any, to which the message was sent. This e-mail address is specified in the Company Profile window Preferences tab.

Message

The text of the message.

Traffic Information Viewers

Use the Traffic information viewers to view runtime and archive database records for inbound, outbound and rejected documents. There are three Traffic information viewers:

- Inbound Traffic
- Outbound Traffic
- Rejected Traffic

Access each viewer by selecting the corresponding icon on the Tracker bar.

The Inbound Traffic and Outbound Traffic information viewers provide an audit trail for documents you received from or sent to your trading partners.

The Rejected Traffic information viewer provides a list of inbound or outbound documents that WebLogic Integration – Business Connect could not process and routed to the rejected directory.

Reprocessing Documents

You can reprocess documents whose records appear in the runtime database of the Inbound Traffic, Outbound Traffic and Rejected Traffic information viewers. You do this by selecting one or more records, right-clicking, and selecting Reprocess on the pop-up menu. Or, you can select one or more records and select Tools→Reprocess.

Reprocessing does the following:

- For an inbound document that was received successfully, a duplicate acknowledgment is sent to the sender.
- For an outbound document, the document is re-submitted to WebLogic Integration – Business Connect for packaging and sending to your partner.
- For a rejected document, the inbound or outbound document is re-submitted for inbound or outbound processing.

Copying, Viewing, or Deleting Records

You can right-click records in the Traffic information viewers to view an inbound or rejected document or to copy or delete a record. The following describes what you can do in each viewer.

In the Inbound Traffic and Rejected Traffic information viewers you can:

- View a document by right-clicking the record and selecting View from the pop-up menu.
- Copy a record by right-clicking it and selecting Copy from the pop-up menu. You can then paste the record contents into a text editor.
- Delete a record by right-clicking it and selecting Delete from the pop-up menu.

In the Outbound Traffic information viewer you can:

- Copy a record by right-clicking it and selecting Copy from the pop-up menu. You can then paste the record contents into a text editor.
- Delete a record by right-clicking it and selecting Delete from the pop-up menu.

In addition, in the Rejected Traffic information viewer you can double-click a record to view a dialog box with a plain text message about why the document was rejected.

Viewing Documents

In the Inbound Traffic and Rejected Traffic information viewers, you can display the document by right-clicking it and selecting View from the menu as follows:

- In Windows, to view the document from Tracker you must associate the document type with an application. For example, you can associate documents with the extension `.edi` with a text editor such as Notepad. You can associate `.xml` documents with your Internet browser.

- In UNIX, when you choose View from the menu, the document is displayed in a UNIX viewer, regardless of the type of document. In this viewer, press the plus sign (+) key or the Enter key to page down; press the minus sign key (-) to page up. Press α to close the viewer.

Figure 18-4 Inbound Traffic information Viewer

The screenshot displays the 'Inbound Traffic - Runtime Table' window. The interface includes a menu bar (File, Edit, View, Tools, Help), a toolbar with icons for Copy, Delete, Find, Filter, Refresh, and Help, and a dropdown menu for 'Database table' set to 'Runtime'. A sidebar on the left contains navigation icons for Alerts, Inbound Traffic, Outbound Traffic, Rejected Traffic, and Transactions. The main area shows a table with the following data:

Date	Control ID	Sender ID	Receiver ID	Acknowledgment	Processed
04/18/2002 13:18:21	000000100	125551234	125557890	Sent	Yes
04/18/2002 13:18:20	000000099	125551234	125557890	Sent	Yes
04/18/2002 13:17:49	000000098	125551234	125557890	Sent	Yes
04/18/2002 13:17:49	000000097	125551234	125557890	Sent	Yes
04/18/2002 13:17:48	000000096	125551234	125557890	Sent	Yes
04/18/2002 13:17:48	000000095	125551234	125557890	Sent	Yes
04/18/2002 13:17:47	000000094	125551234	125557890	Sent	Yes
04/18/2002 13:17:47	000000093	125551234	125557890	Sent	Yes
04/18/2002 13:17:46	000000092	125551234	125557890	Sent	Yes
04/18/2002 13:17:15	000000091	125551234	125557890	Sent	Yes
04/18/2002 13:17:15	000000090	125551234	125557890	Sent	Yes
04/18/2002 13:17:14	000000089	125551234	125557890	Sent	Yes
04/18/2002 13:17:14	000000088	125551234	125557890	Sent	Yes
04/18/2002 13:17:13	000000087	125551234	125557890	Sent	Yes
04/18/2002 13:17:12	000000086	125551234	125557890	Sent	Yes
04/18/2002 13:17:12	000000085	125551234	125557890	Sent	Yes
04/18/2002 13:17:11	000000084	125551234	125557890	Sent	Yes
04/18/2002 13:17:10	000000083	125551234	125557890	Sent	Yes
04/18/2002 13:17:10	000000082	125551234	125557890	Sent	Yes
04/18/2002 13:16:39	000000081	125551234	125557890	Sent	Yes
04/18/2002 13:16:38	000000080	125551234	125557890	Sent	Yes
04/18/2002 13:16:38	000000079	125551234	125557890	Sent	Yes
04/18/2002 13:16:37	000000078	125551234	125557890	Sent	Yes
04/18/2002 13:16:37	000000077	125551234	125557890	Sent	Yes
04/18/2002 13:16:36	000000076	125551234	125557890	Sent	Yes

The status bar at the bottom indicates: 'Logged in user: Administrator', 'Press F1 for on-line help.', and 'Records: 100'.

Inbound and Outbound Traffic Field Descriptions

The following describes the fields on the Inbound Traffic and Outbound Traffic information viewers. The fields are on both viewers, except as noted.

Date

The date and time the record was created of the inbound, outbound or rejected document. You can sort records in ascending or descending order by clicking the arrow in this column.

Control ID

Possible values include:

Control ID	The control ID of an EDI document.
XML	An XML document without a control ID.
Binary	A binary document without a control ID.
Profile	The document is a profile created with WebLogic Integration – Business Connect.
Certificate	The document is an X509 certificate with a public key.

Sender ID

The ID or combined EDI qualifier and ID of the document's sender.

Receiver ID

The ID or combined EDI qualifier and ID of the document's recipient.

Acknowledgment (Inbound Traffic)

The acknowledgment status of the document. Possible values for inbound documents include:

Not Requested	Your partner did not request an acknowledgment.
Pending	You received the document, created an MDN and placed it in the queue to send.

Sent	You sent an MDN to your trading partner for this document.
Unknown	The acknowledgment status of the document cannot be determined because of an error condition in the database.

Acknowledgment (Outbound Traffic)

The acknowledgment status of the document. Possible values for outbound documents include:

Authentication Failed	Your remote trading partner could not verify the document you sent.
Decryption Failed	Your remote trading partner could not decrypt the document you sent.
Failed	Your remote trading partner could not process the document for unknown reasons.
Not Received	You have not yet received an acknowledgment for a document you sent.
Not Requested	You did not request an MDN.
Received	You received an acknowledgment for a document you sent.
Received, Generic	You received an S/MIME acknowledgment from a mail client.
Received, INVALID	You received a non-standard acknowledgment that did not specify a reason the remote trading partner could not process the document you sent.
Resend Limit Reached	WebLogic Integration – Business Connect re-sent the document as many times as you specified without receiving a requested acknowledgment. WebLogic Integration – Business Connect sends you an alert and does not attempt to send the document again.

Processed (Inbound Traffic)

Indicates whether WebLogic Integration – Business Connect processed the inbound document. Possible values are:

Yes	WebLogic Integration – Business Connect has completed processing the inbound document.
No	WebLogic Integration – Business Connect has not completed processing the inbound document.

Processed (Outbound Traffic)

Indicates whether WebLogic Integration – Business Connect processed the outbound document. Possible values are:

Yes	WebLogic Integration – Business Connect has completed processing the outbound document.
No	WebLogic Integration – Business Connect has not completed processing the outbound document.
Initial Send	WebLogic Integration – Business Connect sent the document and is waiting for an acknowledgment.
Retry - <i>n</i>	WebLogic Integration – Business Connect has sent the document again because it had not received an acknowledgment. The number of retries this attempt represents is indicated by the number (<i>n</i>) following the dash.
Retry Limit Exceeded	WebLogic Integration – Business Connect has attempted to re-send the document for the duration specified on the Partner Profile window Preferences tab.

Original File

The file name of the inbound or outbound document. This is the original name of the file as it originated on the sender's system.

Unique ID

The identification WebLogic Integration – Business Connect assigns to the document.

Backup File

The name of the file as it appears in the backup directory.

MDN File (Outbound Traffic)

The name of the MDN or ACK file in the backup directory, if you received an MDN or acknowledgment from a partner to acknowledge receiving a document from you. This serves to associate the MDN or ACK you received with the document you sent.

Type

The document type. Possible values include:

Binary	Binary (non-EDI) document
Certificate	X509 certificate containing the public key
MDN	MDN or acknowledgment
Profile	WebLogic Integration – Business Connect partner profile
X12	X12 EDI document
XML	XML document

Size

The file size in bytes of the inbound or outbound document.

Security Level

The security applied to this document. Possible values include:

Clear text	The document is neither encrypted nor signed.
Signed	The document is signed.
Encrypted	The document is encrypted.
Signed, Encrypted	The document is signed and encrypted.
Unknown	The security of the document cannot be determined because of an error condition in the database.

Transport

The transport method.

File (Inbound Traffic)

The fully qualified path to the document in the EDI-in, XML-in or binary-in directory.

Rejected Traffic Field Descriptions

The following describes the fields on the Rejected Traffic information viewer.

Date

The date and time the document was rejected. You can sort records in ascending or descending order by clicking the arrow in this column.

Control ID

Possible values include:

- The control ID of a rejected EDI document.
- NA–The document is an XML or binary document.

Sender ID

The ID or combined EDI qualifier and ID of the document's sender.

Receiver ID

The ID or combined EDI qualifier and ID of the document's recipient.

Type

The document type. The possible values are:

Binary	Binary (non-EDI) document
Certificate	X509 certificate containing the public key
MDN	MDN or acknowledgment
Profile	WebLogic Integration – Business Connect partner profile
X12	X12 EDI document
XML	XML document

Original File

The original file name of the rejected document as it was sent by the originator.

Unique ID

The identification WebLogic Integration – Business Connect assigns to the document.

Tracker

File

The unique name WebLogic Integration – Business Connect gives to the file. This is the name of the file as it appears in the Rejected directory.

Transport

The transport method.

Reason

The reason WebLogic Integration – Business Connect rejected the document.

Transactions Information Viewer

Use the Transactions information viewer to view records about transaction activity. This viewer provides an audit trail for successfully processed and transmitted documents as they move through the system.

Access the viewer by selecting Transactions on the Tracker bar.

In the Transactions information viewer you can copy a record by right-clicking it and selecting Copy from the pop-up menu. You can then paste the record contents into a text editor.

Figure 18-5 Transactions Information Viewer

File Edit View Tools Help

Database table:

Copy Find Filter Refresh Help

Alerts
 Inbound Traffic
 Outbound Traffic
 Rejected Traffic
 Transactions

Transactions - Runtime Table

The current filter settings have caused 0 records to be omitted from this view.

Date	Control ID	ID	Status	Source	Orig File N...
04/18/2002 13:18:58	000000100	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:57	000000099	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:57	000000098	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:27	000000097	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:26	000000096	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:26	000000095	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:26	000000094	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:26	000000100	125557890	MDN SENT	Bundled H...	125551234...
04/18/2002 13:18:26	000000093	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:25	000000099	125557890	MDN SENT	Bundled H...	125551234...
04/18/2002 13:18:25	000000092	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:25	000000091	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:24	000000090	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:24	000000089	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:24	000000088	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:18:21	000000100	125557890	RECEIVED	Bundled H...	125551234...
04/18/2002 13:18:20	000000099	125557890	RECEIVED	Bundled H...	125551234...
04/18/2002 13:17:53	000000087	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:53	000000086	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:53	000000085	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:53	000000084	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:52	000000083	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:52	000000082	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:52	000000081	125551234	MDN REC...	Bundled H...	125551234...
04/18/2002 13:17:52	000000098	125557890	MDN SENT	Bundled H...	125551234...
04/18/2002 13:17:51	000000097	125557890	MDN SENT	Bundled H...	125551234...

Logged in user: Administrator Press F1 for on-line help. Records: 603

Field Descriptions

The following describes the fields on the Transactions information viewer.

Date

The date and time of the event. You can sort records in ascending or descending order by clicking the arrow in this column.

Control ID

The possible values are:

Control ID	The control ID of an EDI document.
XML	An XML document without a control ID.
Binary	A binary document without a control ID.
Profile	The document is a profile created with WebLogic Integration – Business Connect.
Certificate	The document is an X509 certificate with a public key.

ID

The partner ID or combined EDI qualifier and ID associated with this transaction.

Status

The status of the transaction. Possible values include:

For outbound documents:

Document Packaged	WebLogic Integration – Business Connect encrypted, signed, and optionally compressed the document.
Document Sent	WebLogic Integration – Business Connect sent the document.
MDN Received	WebLogic Integration – Business Connect received an acknowledgment from the trading partner indicating the receipt of the document.

For inbound documents:

Document Received	WebLogic Integration – Business Connect received a document from a remote trading partner.
Document Transferred	WebLogic Integration – Business Connect decrypted, verified and optionally uncompressed the document and transferred it to the EDI In, XML In, or Binary In directory.
MDN Sent	WebLogic Integration – Business Connect sent an acknowledgment to the remote trading partner.

Source

The transport method.

Original File Name

The original name of the file. This enables you to distinguish between binary documents because all such documents are listed as binary in the ID field.

Tracker

Messages

The following topics are provided about WebLogic Integration – Business Connect messages.

Messages

- [“Level 0 Debug Messages” on page 19-1](#)
- [“Level 1 Transaction Messages” on page 19-3](#)
- [“Level 2 Notification Messages” on page 19-6](#)
- [“Level 3 Rejected Messages” on page 19-13](#)
- [“Level 4 Error Messages” on page 19-18](#)
- [“Level 5 Network Error Message” on page 19-20](#)
- [“Level 6 Configuration Error Messages” on page 19-21](#)
- [“Level 7 Unexpected Error Messages” on page 19-22](#)
- [“Level 8 Fatal Error Messages” on page 19-32](#)

For information about how to control the message levels WebLogic Integration – Business Connect generates, see [“Preferences General Tab” on page 10-5](#).

Level 0 Debug Messages

Level 0 messages identify normal events. In addition to the messages documented here, debug messages include reporting of a higher level of detail of events in the server log, which is in the

WebLogic Integration – Business Connect logs directory (see [“Viewing the server.log File in Windows and UNIX”](#) on page 3-8).

Turning on debug messages can be helpful in troubleshooting. Novice users might want to generate debug messages to help resolve issues that can occur while learning the application. Experienced users can find debug messages useful for advanced troubleshooting. We recommend that you turn off debug messages when not troubleshooting because generating debug messages slows application performance.

Agent started

Description

An agent has started and is running.

Backup file has been archived

Description

A confirmation that a file was moved successfully from the backup directory to the archive directory.

Backup file has been deleted

Description

A confirmation that a file was deleted successfully from the backup directory during the archiving process.

Duplicate received (automated resend)

Description

WebLogic Integration – Business Connect received more than once a document that a partner resent automatically. WebLogic Integration – Business Connect discards all subsequent documents.

File backed up

Description

A file has been copied to the backup directory.

Partner certificate updated

Description

A partner certificate has been changed, and the database has been updated successfully.

Partner Profile updated

Description

A partner profile has been changed, and the database has been updated successfully.

SKey iteration count level has reached minimum allowable level for partner

Description

The number of S/Key iterations set on the Partner Profile window Firewall tab has been reached. Your partner's firewall administrator should reset the authentication rule, but no action is required on your part.

Level 1 Transaction Messages

Level 1 messages identify transactional and administrative events requiring no action.

A Company profile has been removed

Description

A company profile has been deleted in Administrator.

A Company profile has been updated

Description

A company profile has been updated in Administrator.

A new Company has been registered

Description

A company profile has been created in Administrator.

A new Partner has been registered

Description

A partner profile has been created in Administrator.

A Partner profile has been removed

Description

A partner profile has been deleted in Administrator.

A Partner profile has been updated

Description

A partner profile has been updated in Administrator.

API - NOTIFY - LOCAL

Description

The system has notified a local API client of an event.

API - NOTIFY - REMOTE

Description

The system has notified a remote API client of an event.

API - RECEIVING - REMOTE

Description

An API client has received a document from an HTTP or HTTPS server.

API - SENDING - LOCAL

Description

The system has sent a document for a local API client.

API - SENDING - REMOTE

Description

The system has sent a document for a remote API client.

AQUIRED

Description

The system has acquired a document through the outbound integration set up in your company profile.

Companies started

Description

Server has completed its startup routine.

Companies starting

Description

Server starts all company-based threads (packager, inbound, https servers, and so on).

MDN RECEIVED

Description

The system has received a message disposition notice (MDN), which confirms that the partner has received the document you sent.

MDN SENT

Description

The system has sent an MDN to a trading partner to acknowledge receiving a document from that partner.

NEW

Description

The system has retrieved a new document for outbound processing.

PACKAGED

Description

The system has successfully packaged a document for delivery. Packaged means the document has been encrypted and MIME wrapped.

RECEIVED

Description

The system has received a document from a trading partner.

SENT

Description

The system has successfully sent a document to a trading partner.

Server configuration completed

Description

Server has successfully configured all agents and threads.

Server configuration started

Description

Server starts all agents and threads and also starts building Administrator objects such as companies, partners, certificates and schedules.

Server shutdown completed

Description

Server has successfully shut down all agents and threads.

Server shutdown started

Description

Server begins the process of cleanly shutting down agents and threads.

TRANSFERRED

Description

The system has moved an unpackaged document received from your partner to the inbound integration set up in your company profile.

Level 2 Notification Messages

Level 2 messages are for system events. Some of these messages are informational and some might require action on your part to resolve.

These messages generate notification messages in Tracker. If you have completed the notify e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends these messages via e-mail.

An Api document listener has been removed

Description

An external API document listener connection has closed. No more document events will be sent to the listener.

An Api event listener has been removed

Description

An external API event listener connection has closed. No more events will be sent to the listener.

Duplicate MDN received

Description

WebLogic Integration – Business Connect received a message disposition notice (MDN) for an outbound document that already has been acknowledged. This is because the original document was resent automatically, so multiple MDNs were returned. Or, the MDN was not deleted from the transport server after it was processed.

New Api document listener registered

Description

An external API document listener connection has opened. All document events will be sent to the listener.

New Api event listener registered

Description

An external API event listener connection has opened. All events will be sent to the listener.

Received duplicate document

Description

WebLogic Integration – Business Connect received an EDI document with a control ID that was the same as a previously received document's control ID. WebLogic Integration – Business Connect detected this because the check box for preserving inbound binary and XML file names is selected for the partner's profile.

Cause 1

Your partner sent you more than one EDI document with the same control ID.

Remedy 1

If necessary, contact your partner for clarification.

Cause 2

The check box for preserving inbound binary and XML file names is unintentionally selected on the Preferences tab for the partner's profile.

Remedy 2

Turn off the selection for the partner's profile.

Received miscellaneous document

Description

WebLogic Integration – Business Connect received a binary or unidentifiable document that could not be associated with a partner. The file was placed in the company's **other** directory.

Cause 1

WebLogic Integration – Business Connect received a binary document for a partner that has not been configured to receive such documents. In other words, there was no matching partner for the inbound document.

Remedy 1

Examine the received file as necessary. Select a company for this partner in the binary company drop-down list in the partner's profile in WebLogic Integration – Business Connect.

Cause 2

A MIME message does not have body parts. WebLogic Integration – Business Connect received an e-mail message without an attachment for this partner.

Remedy 2

Resend or resubmit this document in Tracker. If necessary, examine the document in the other directory to see whether it is the one you need to receive. You then can manually route it to the appropriate application.

If you want to receive binary documents from this partner, select a company in the binary company drop-down list in the partner's profile in WebLogic Integration – Business Connect.

The currently Active certificate for Company [name] will expire on [date].

Description

A certificate will soon expire. It must be updated to avoid disruptions in trading.

The returned Acknowledgement indicates a message delivery failure.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates a problem resolving a URI on the sent document.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates a SOAP Fault.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates an error in an element content or attribute value.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates an unknown error.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates that a XML element content or attribute value inconsistent with other elements or attributes.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates that a XML element content or attribute value not recognized.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates that a XML element or attribute not supported.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates that an unspecified error occurred processing the document (see the Acknowledgement MCD).

Description

Only used for RosettaNet. The partner rejected the message.

The returned Acknowledgement indicates that the contents of the RosettaNet headers were invalid (see the Acknowledgement MCD).

Description

Only used for RosettaNet. The partner rejected the message.

The returned Acknowledgement indicates that the message security checks failed.

Description

Only used for ebXML. The partner rejected the message.

The returned Acknowledgement indicates that the Message Time To Live Expired.

Description

Only used for ebXML. The partner rejected the message.

The returned MDN indicates that the partner could not authenticate the signature of the sent document

Remedy

Make sure your certificate is valid and active and that the partner has your correct certificate.

The returned MDN indicates that the partner could not decrypt the sent document

Remedy

Make sure your certificate is valid and active and that the partner has your correct certificate.

The returned MDN indicates that the partner could not process the sent document.

Description

Your partner received the document you sent, but cannot process it.

Remedy

Re-send the document. If it fails again, verify that you and your partner are using the same valid certificate.

The returned MDN indicates that the partner could not validate the integrity of the sent document

Description

The sent document was altered between the time it was signed and sent and when it was received and the signature verified. Or the algorithm used to calculate the hash of the document is not the same on both the sending and receiving ends.

Cause 1

The document might have been corrupted in transit.

Remedy 1

Re-send the document.

Cause 2

You and your partner might not have the same certificates.

Remedy 2

Make sure you and your partner are using the same valid certificates. Re-send the document.

The returned MDN indicates that the partner does not recognize the sender of the document.

Description

The partner rejected the document because the sender could not be identified.

Cause

The document was rejected for one of the following reasons:

Unknown partner ID

Unknown partner certificate

Unknown partner e-mail address

Inactive partner profile

Unknown or missing partner secondary ID

Remedy

Troubleshoot the possible causes and re-send the document.

The returned MDN indicates that the partner does not support the packaging format of the sent document.

Description

The partner cannot parse an XML document or the MIME used in packaging the document is invalid.

The returned MDN indicates that the partner expected a signature on the sent document.

Description

The partner expected the document you sent to be signed and rejected it.

Remedy 1

Make sure you are sending documents with the proper security settings on the Partner Profile window Security tab.

Remedy 2

Make sure the mail server supports S/MIME signatures.

The returned MDN mic value was invalid

Description

WebLogic Integration – Business Connect received an MDN with a MIC (message integrity check) that does not match that of the corresponding outbound document.

Cause

A non-trusted party has sent the MDN.

Remedy

Contact the partner to verify the state of the remote servers and network.

Warning: The product license is about to expire.

Description

The user license for WebLogic Integration – Business Connect will expire soon. When this occurs, the application will be unusable.

Remedy

Obtain a new user license file before the old file expires.

Level 3 Rejected Messages

Level 3 messages identify reasons why WebLogic Integration – Business Connect has rejected documents.

These messages generate alert messages in Tracker. If you have completed the alert e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends these messages via e-mail.

ebXML SOAP FAULT

Description

SOAP faults are error conditions specific to ebXML.

EDI parsing error

Description

WebLogic Integration – Business Connect attempted to process a malformed X12 or EDIFACT document from your translator and rejected it.

Cause 1

Your translator put a malformed EDI document in the WebLogic Integration – Business Connect EDI outbound directory.

Remedy 1

Have your translator resubmit the document. Or, verify whether the rejected file is an EDI file; if not put the file in the correct outbound directory.

Cause 2

WebLogic Integration – Business Connect received a malformed EDI document from a trading partner. The application determines this by checking the document for certain standard information that EDI documents should have.

Remedy 2

Examine the file and contact the partner to resolve the EDI formatting problem.

Insufficient security: not encrypted

Description

WebLogic Integration – Business Connect received an encrypted document from a partner, but was expecting to receive an unencrypted document. Or, WebLogic Integration – Business Connect received an unencrypted document from a partner, but was expecting to receive an encrypted document.

WebLogic Integration – Business Connect requires you and your partner to have identical settings for signing documents, encrypting documents, acknowledging documents and signing acknowledgments.

Cause

You and your partner do not have synchronized settings for document encryption.

Remedy

Make sure you and your partner have the same setting for document encryption on the Partner Profile Security tab for your respective partners. The encrypt documents check box should be either checked or unchecked on both systems. Once the setting is synchronized, have your partner resend the document.

Insufficient security: not signed

Description

WebLogic Integration – Business Connect received a signed document or MDN from a partner, but was expecting to receive an unsigned document or MDN. Or, WebLogic Integration – Business Connect received an unsigned document or MDN from a partner, but was expecting to receive a signed document or MDN.

WebLogic Integration – Business Connect requires you and your partner to have identical settings for signing documents, encrypting documents, acknowledging documents and signing acknowledgments.

Cause 1

You and your partner do not have synchronized settings for document signing.

Remedy 1

Make sure you and your partner have the same setting for document signing on the Partner Profile Security tab for your respective partners. The sign documents check box should be either checked or unchecked on both systems. Once the setting is synchronized, have your partner resend the document.

Cause 2

WebLogic Integration – Business Connect received an unsigned MDN.

Remedy 2

Make sure you and your partner have the same setting for acknowledgments on the Partner Profile Security tab for your respective partners. The acknowledgment check box should be checked on both systems.

Invalid or untrusted certificate was needed to verify message signature**Description**

The certificate used to sign the document is not trusted (the certificate root is not in the list of trusted roots) or the certificate is invalid.

MDN received with no matching outbound document**Description**

You received an MDN acknowledging a document you sent, but your system cannot match the MDN and the document because the runtime record of the document has been manually deleted or archived.

Cause

A document was sent. After not receiving an expected MDN, the document was sent again. After the document was sent the second time, the MDN was received for when the document was sent the first time. The runtime document record is manually deleted or archived before the second MDN is received.

Remedy

None.

No active partner or unknown partner**Description**

WebLogic Integration – Business Connect attempted to process a document for which there is no active partner.

Cause 1

An EDI or XML document was dropped in the corresponding outbound directory. The document's recipient ID does not match any active partner.

Remedy 1

Import and activate the profile of the partner to whom the document addressed. Resend the document in Tracker.

If you do not want to send documents to this partner, make sure your EDI translator or XML application does not place documents in the outbound directories for WebLogic Integration – Business Connect.

Cause 2

WebLogic Integration – Business Connect received a document from an inactive or nonexistent partner.

Remedy 2

If you do not have a profile for this partner, ask the partner to send you one that you can import to WebLogic Integration – Business Connect.

If you have a profile for this partner but it is inactive, activate it in the Partner window in WebLogic Integration – Business Connect.

Packager certificate or signature related error

Description

This is an error from the Crossworks security module.

Remedy

Set the event logging level to debug and check the server log for additional information.
Set the event logging level on the General tab in Tools→Preferences.

Packager decryption error

Description

The document was encrypted and there was an error in decrypting it.

Remedy

Set the event logging level to debug and check the server log for additional information.
Set the event logging level on the General tab in Tools→Preferences.

RosettaNet content validation error

Description

This indicates a problem with the content or structure of the RosettaNet document.

Cause

For example, a missing required element or a value of an element that is not valid.

Signature certificate is not in list of partner's active or valid certificates

Description

The certificate used to sign the document needs to be in the partner's list of active or valid certificates.

Cause

The certificate might be new, and the partner might not have received it yet. Or the certificate might be in a pending or retired state.

The sender and receiver have the same Id

Description

WebLogic Integration – Business Connect received a message from a partner who has an ID identical to yours.

Cause 1

You are trading documents with yourself (that is, testing with a single company exported or imported as the partner).

Remedy 1

Create another company profile with a different ID. Export and import the second company and have the first company trade with the second company.

Cause 2

The transport server (most likely SMTP-POP) has returned or bounced the message.

Remedy 2

Verify the partner's e-mail address and the state of the SMTP-POP server and connection.

Cause 3

There are two real-world companies with identical IDs.

Remedy 3

Create another company profile with a unique ID or ask your partner to do so.

Unlicensed protocol

Description

You are trying to use a protocol that is not authorized under your user license.

Remedy

Use a licensed protocol.

XML parsing error

Description

WebLogic Integration – Business Connect attempted to process a malformed XML document and rejected it.

Cause 1

Your XML application put a malformed XML document in the WebLogic Integration – Business Connect XML outbound directory.

Remedy 1

Have your XML application resubmit the document. Or, verify whether the rejected file is an XML file; if not put the file in the correct outbound directory.

Cause 2

WebLogic Integration – Business Connect received and rejected a malformed XML document.

Remedy 2

Examine the file and contact the partner to resolve the formatting problem.

Level 4 Error Messages

Level 4 messages identify errors that affect document transactions.

These messages generate alert messages in Tracker. If you have completed the alert e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends these messages via e-mail.

Network error

Description

WebLogic Integration – Business Connect is unable to send or receive documents due to transport protocol or network problems.

Cause 1

The FTP or POP server is offline.

Remedy 1

Verify the status of the POP server or FTP server or both.

Cause 2

The local network is down.

Remedy 2

Verify the network status.

Cause 3

A firewall might be impeding document transport.

Remedy 3

Verify correct connectivity through the firewall for inbound and outbound documents.

No active signer certificate**Description**

WebLogic Integration – Business Connect attempted to sign a document or an MDN for a company for which there is no active certificate.

Cause 1

A certificate exists for this company profile, but it is not active.

Remedy 1

In the Certificates window in WebLogic Integration – Business Connect, select and activate the certificate.

Cause 2

There is no certificate for this company profile.

Remedy 2

Generate a self-signed certificate from the Certificates window in WebLogic Integration – Business Connect. Or, import a third-party certificate.

Cause 3

You do not want to exchange signed documents with this partner.

Remedy 3

Clear the sign documents check box on the Security tab for this partner profile in WebLogic Integration – Business Connect.

Resend limit reached**Description**

The system has resent the document the configured number of times but has not received an acknowledgement from the trading partner.

Cause 1

If you are sending documents by e-mail, the e-mail address might be incorrect.

Remedy 1

Verify the e-mail address with your trading partner.

Cause 2

The partner's transport server is failing or not in service.

Remedy 2

Contact the partner.

Cause 3

The partner is not online.

Remedy 3

Contact the partner and verify that the partner's trading engine is online.

Cause 4

If you are sending documents by FTP, the FTP information might be incorrect.

Remedy 4

Verify with your partner the FTP inbox and pickup directories and the FTP server.

Retry limit reached

Description

The system has tried unsuccessfully to resend the document for the configured number of hours.

Remedy

See [“Resend limit reached”](#).

You are not licensed to configure profiles using the API.

Description

Your user license does not authorize you to use the profile management API.

Remedy

Obtain a user license that authorizes you use the API.

You are not licensed to submit documents using the API.

Description

Your user license does not authorize you to use an API client to submit documents to WebLogic Integration – Business Connect.

Remedy

Obtain a user license that authorizes you use the API.

Level 5 Network Error Message

The Level 5 message identifies a network error.

This message generates an alert message in Tracker. If you have completed the alert e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends this message via e-mail.

Unable to send API Client a System event. Removing API Client from queue.

Description

An attempt was made to send an event to a API client that was registered but no longer exists.

Level 6 Configuration Error Messages

Level 6 messages identify profile configuration errors.

These messages generate alert messages in Tracker. If you have completed the alert e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends these messages via e-mail.

Active transport for partner has been disabled

Description

The partner is no longer listening on the active transport.

Cause

A partner profile has been electronically updated. In other words, your partner has switched from one transport to another for receiving documents.

Remedy

Activate a new transport for the partner.

Incomplete transport configuration

Description

The connection to be used for sending or receiving documents was not established due to missing or incorrect information in the company or partner profile.

Incomplete transport configuration for binary re-routing

Description

The company is set up to re-route binary documents. A binary document was received and had a secondary ID that is different than the primary ID, but the secondary ID is unknown.

Remedy

Add a secondary partner ID that matches the one used for the binary document or have the partner resend the document with a valid secondary partner ID.

No active transport

Description

WebLogic Integration – Business Connect attempted to send a document or MDN to a partner who does not have an active transport.

Cause

You created or imported a partner profile, but did not activate a transport.

Remedy

Activate a transport for the partner on the Partner Profile Transports tab.

Level 7 Unexpected Error Messages

Level 7 messages identify unexpected errors.

These messages generate alert messages in Tracker. If you have completed the alert e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends these messages via e-mail.

Crossworks exception

Description

Indicates a problem loading the private keys for the company active certificate.

Password is null

Description

Indicates a missing password while trying to load the private keys for the company active certificate.

Remedy

Delete the current active certificate and generate a new active certificate.

Unable to archive

Cause

Set the event logging level to debug and check the server log to determine the specific cause of this exception. Set the event logging level on the General tab in Tools→Preferences.

Unable to configure

Description

There are many possible reasons for this. For example, unable to configure the Server upon startup, unable to establish a SMTP connection possibly due to incorrect port, unable to get the certificate fingerprints to load into the HTTPS server for client authentication.

Unable to configure Company Profiles

Description

Unable to configure a company profile from the database to a Server company object.

Unable to configure FTP Integration

Description

Unable to configure the FTP integration as specified in the Company Profile window Integration tab.

Unable to configure IBM MQSeries Integration

Description

Unable to configure the MQSeries integration as specified in the Company Profile window Integration tab.

Unable to configure JMS Integration

Description

Unable to configure the JMS integration as specified in the Company Profile window Integration tab.

Unable to configure Partner Profiles

Description

Unable to load all the partner profiles into the Server.

Unable to configure Post-processing

Description

Unable to configure the inbound post-processing integration as specified in the Company Profile window Integration tab.

Unable to configure Schedules

Description

Unable to configure one or more schedules from the Schedules information viewer.

Unable to configure System Integration

Description

A generic error dealing with configuring integration of one or more of the following types: FTP, MQSeries, JMS, post-processing.

Unable to construct

Description

This error has various reasons:

Error parsing an X12 document

Error creating an Ack or MDN

Error creating a Resend Request object (used to resend documents if the Ack or MDN is not received within a set time)

Error trying to read in the initial content of a document

Error creating the partner transports for a specific company

Error creating the binary-related polling objects for a specific company

Unable to get certificate

Description

This error has various reasons:

Unable to get the active certificate for a company

Unable to get the valid certificate for a company

Unable to get the invalid certificate for a company

Unable to load and start a new instance of the API HTTPS server due to no certificate available

Unable to load and start a new instance of the SOAP RPC HTTPS server due to no certificate available

Unable to initialize

Description

Unable to load and initialize the system parameters.

Cause

The system parameter table in the database might be corrupt.

Unable to package

Description

The Server application cannot package an outbound document.

Cause 1

No active partner.

Remedy 1

Make sure the partner profile is active.

Cause 2

No active certificate.

Remedy 2

Make sure an active and valid certificate is associated with the partner profile.

Cause 3

Out of disk space.

Remedy 3

Make sure adequate disk space is available on your system.

Unable to process documents

Description

This error has various reasons:

Error occurred while an API client tried to submit a document

Unable to log a new outbound document due to a duplicate ID already in the database for this document

Error occurred while trying to unpackage a document

An e-mail message with one or more attachments failed to process all the attachments

Unable to process FTP Integration inbound documents

Description

The Server application cannot run document integration with the back-end system.

Cause 1

A connection failure between WebLogic Integration – Business Connect and the FTP server.

Remedy 1

Make sure there is a working connection.

Cause 2

Integration is not configured properly in the company profile.

Remedy 2

Make sure integration is properly configured.

Cause 3

A problem with the FTP server.

Remedy 3

Check the FTP server.

Unable to process FTP Integration outbound documents

Description

The Server application cannot run document integration with the back-end system.

Cause 1

A connection failure between WebLogic Integration – Business Connect and the FTP server.

Remedy 1

Make sure there is a working connection.

Cause 2

Integration is not configured properly in the company profile.

Remedy 2

Make sure integration is properly configured.

Cause 3

A problem with the FTP server.

Remedy 3

Check the FTP server.

Unable to process IBM MQSeries Integration inbound documents

Description

The Server application cannot run document integration with the back-end system.

Cause 1

A connection failure between WebLogic Integration – Business Connect and MQSeries.

Remedy 1

Make sure there is a working connection.

Cause 2

Integration is not configured properly in the company profile.

Remedy 2

Make sure integration is properly configured.

Cause 3

A problem with MQSeries.

Remedy 3

Check MQSeries.

Unable to process IBM MQSeries Integration outbound documents

Description

The Server application cannot run document integration with the back-end system.

Cause 1

A connection failure between WebLogic Integration – Business Connect and MQSeries.

Remedy 1

Make sure there is a working connection.

Cause 2

Integration is not configured properly in the company profile.

Remedy 2

Make sure integration is properly configured.

Cause 3

A problem with MQSeries.

Remedy 3

Check MQSeries.

Unable to process inbound Post-processing document

Description

The Server application cannot execute post-processing on an inbound document.

Cause 1

The post-processing script is not correct.

Remedy 1

Check the post-processing script for accuracy.

Cause 2

The fully qualified path and file name of the batch file, script or executable file for the post process is not correct.

Remedy 2

Check the post-process name in the company profile.

Cause 3

In UNIX the post-processing script does not have execute permission.

Remedy 3

Make sure WebLogic Integration – Business Connect has execute permission for the script.

Cause 4

WebLogic Integration – Business Connect does not have directory permission where the script is located.

Remedy 4

Make sure WebLogic Integration – Business Connect has directory permission.

Unable to process incomplete inbound documents

Description

Error occurred while trying to process an inbound document that was not previously processed. This only happens during Server restarts or when a company is added or updated.

Cause

Set the event logging level to debug and check the server log to determine the specific cause of this exception. Set the event logging level on the General tab in Tools→Preferences.

Unable to process incomplete outbound documents

Description

Error occurred while trying to process an outbound document that was not previously processed. This only happens during Server restarts or when a company is added or updated.

Cause

Set the event logging level to debug and check the server log to determine the specific cause of this exception. Set the event logging level on the General tab in Tools→Preferences.

Unable to process JMS Integration inbound documents

Description

The Server application cannot run document integration with the back-end system.

Cause 1

A connection failure between WebLogic Integration – Business Connect and the JMS server.

Remedy 1

Make sure there is a working connection.

Cause 2

Integration is not configured properly in the company profile.

Remedy 2

Make sure integration is properly configured.

Cause 3

A problem with the JMS server.

Remedy 3

Check the JMS server.

Unable to process JMS Integration outbound documents

Description

The Server application was unable to retrieve a document from a JMS server because of a configuration or connection problem.

Unable to receive documents

Description

Error occurs when attempting to receive documents from the transport connection.

Cause

Set the event logging level to debug and check the server log to determine the specific cause of this exception. Set the event logging level on the General tab in Tools→Preferences.

Unable to reject

Description

Error occurs when a document is rejected and the document cannot be written to the rejected directory.

Unable to run

Description

This error has various reasons:

The outbound agent thread for EDI, XML or binary cannot run

The outbound agent thread for EDI, XML or binary cannot process new documents

The transport agent thread that sends out documents cannot run

Unable to send

Description

WebLogic Integration – Business Connect cannot send documents due to transport protocol or network problems.

Cause 1

The SMTP or FTP server is offline.

Remedy 1

Verify the status of the SMTP or FTP server.

Cause 2

The local network or Internet connection is down.

Remedy 2

Verify the network status.

Cause 3

The partner's HTTPS server is offline.

Remedy 3

Contact the partner and verify the status of the HTTPS server.

Unable to send API Client an Inbound Document event. Removing API Client from queue.

Description

There was a problem in sending a document to a remote client API listener.

Unable to split document

Description

Error occurs when trying to split an EDI document.

Unable to store

Description

Error occurs when a document cannot be written to disk. This should only occur when a file is being backed up.

Cause

Might be lack of disk space or directory permissions.

Unable to transfer document

Description

Error occurs when document is transferred to the inbound directory or the back-end system.

Cause

Might be lack of disk space or directory permissions.

Unable to update certificate

Description

Error occurs while trying to add a certificate to a partner profile from an incoming electronic certificate update.

Unable to update Company Profile

Description

Error occurs when an incoming partner (not company) profile is processed.

Unable to write

Description

The Server application cannot write a document to the inbound directory on your system.

Cause

WebLogic Integration – Business Connect does not have permission to write to the directory.

Remedy

Make sure WebLogic Integration – Business Connect has write permissions to the inbound directories.

Level 8 Fatal Error Messages

Level 8 messages identify fatal errors that prevent the application from running.

These messages generate alert messages in Tracker. If you have completed the alert e-mail address and alert/notify SMTP server fields on the Company Profile window Preferences tab, the system sends these messages via e-mail.

The license has expired. Shutting down

Description

The user license for WebLogic Integration – Business Connect has expired. The application cannot operate without a valid license.

Cause

The application cannot operate without a valid license.

Remedy

Obtain a valid license file and replace the expired license file.

The license is not active yet. Verify the system date is correct. Shutting down

Description

The time on your computer pre-dates the active period of the user license.

Cause

The time and date on your computer might be wrong.

Remedy

Check whether the time and date are correct on your computer.

There is already an instance running. Shutting down

Description

There already is an instance of Server running on your computer.

Cause

Only one Server session can be active at the same time on a computer.

Remedy

Run only one Server session.

Your license file does not contain the correct hardware platform.

Description

You tried to install WebLogic Integration – Business Connect on a computer with an operating system that is not authorized by your user license.

Remedy

Install the application on the platform authorized by your user license.

Your license file does not contain the correct version number.

Description

Error occurs during the startup sequence and is generated when the license version number does not match the stamped version.

Remedy

Obtain a valid license file.

Messages

ISO Country Codes

The following table provides the International Organization for Standardization (ISO) two-character country codes. You can use one of these codes in the ISO country code field on the Company Profile window Identity tab. See [“Company Profile Identity Tab” on page 6-19](#).

For updates or countries not listed in this table, search the Internet for “ISO country codes.”

Table A-1 ISO Country Codes

Code	Country
af	Afghanistan
al	Albania
dz	Algeria
as	American Samoa
ad	Andorra
ao	Angola
ai	Anguilla
aq	Antarctica
ag	Antigua and Barbuda
ar	Argentina

Table A-1 ISO Country Codes (Continued)

Code	Country
am	Armenia
aw	Aruba
au	Australia
at	Austria
az	Azerbaijan
bs	Bahamas
bh	Bahrain
bd	Bangladesh
bb	Barbados
by	Belarus
be	Belgium
bz	Belize
bj	Benin
bm	Bermuda
bt	Bhutan
bo	Bolivia
ba	Bosnia-Herzegovina
bw	Botswana
bv	Bouvet Island
br	Brazil
io	British Indian Ocean Territory
bn	Brunei Darussalam
bg	Bulgaria

Table A-1 ISO Country Codes (Continued)

Code	Country
bf	Burkina Faso
bi	Burundi
kh	Cambodia
cm	Cameroon
ca	Canada
cv	Cape Verde
ky	Cayman Islands
cf	Central African Republic
td	Chad
cl	Chile
cn	China
cx	Christmas Island
cc	Cocos (Keeling) Islands
co	Colombia
km	Comoros
cg	Congo
ck	Cook Islands
cr	Costa Rica
hr	Croatia
cu	Cuba
cy	Cyprus
cz	Czech Republic
dk	Denmark

Table A-1 ISO Country Codes (Continued)

Code	Country
dj	Djibouti
dm	Dominica
do	Dominican Republic
tp	East Timor
ec	Ecuador
eg	Egypt
sv	El Salvador
gq	Equatorial Guinea
er	Eritrea
ee	Estonia
et	Ethiopia
fk	Falkland Islands
fo	Faroe Islands
fj	Fiji
fi	Finland
cs	Former Czechoslovakia
su	Former USSR
fr	France
fx	France (European Territory)
gf	French Guyana
tf	French Southern Territories
ga	Gabon
gm	Gambia

Table A-1 ISO Country Codes (Continued)

Code	Country
ge	Georgia
de	Germany
gh	Ghana
gi	Gibraltar
gb	Great Britain
gr	Greece
gl	Greenland
gd	Grenada
gp	Guadeloupe (French)
gu	Guam (USA)
gt	Guatemala
gn	Guinea
gw	Guinea Bissau
gy	Guyana
ht	Haiti
hm	Heard and McDonald Islands
hn	Honduras
hk	Hong Kong
hu	Hungary
is	Iceland
in	India
id	Indonesia
int	International

Table A-1 ISO Country Codes (Continued)

Code	Country
ir	Iran
iq	Iraq
ie	Ireland
il	Israel
it	Italy
ci	Ivory Coast (Cote D'Ivoire)
jm	Jamaica
jp	Japan
jo	Jordan
kz	Kazakhstan
ke	Kenya
ki	Kiribati
kw	Kuwait
kg	Kyrgyzstan
la	Laos
lv	Latvia
lb	Lebanon
ls	Lesotho
lr	Liberia
ly	Libya
li	Liechtenstein
lt	Lithuania
lu	Luxembourg

Table A-1 ISO Country Codes (Continued)

Code	Country
mo	Macau
mk	Macedonia
mg	Madagascar
mw	Malawi
my	Malaysia
mv	Maldives
ml	Mali
mt	Malta
mh	Marshall Islands
mq	Martinique (French)
mr	Mauritania
mu	Mauritius
yt	Mayotte
mx	Mexico
fm	Micronesia
md	Moldavia
mc	Monaco
mn	Mongolia
ms	Montserrat
ma	Morocco
mz	Mozambique
mm	Myanmar
na	Namibia

Table A-1 ISO Country Codes (Continued)

Code	Country
nr	Nauru
np	Nepal
nl	Netherlands
an	Netherlands Antilles
net	Network
nt	Neutral Zone
nc	New Caledonia (French)
nz	New Zealand
ni	Nicaragua
ne	Niger
ng	Nigeria
nu	Niue
nf	Norfolk Island
kp	North Korea
mp	Northern Mariana Islands
no	Norway
om	Oman
pk	Pakistan
pw	Palau
pa	Panama
pg	Papua New Guinea
py	Paraguay
pe	Peru

Table A-1 ISO Country Codes (Continued)

Code	Country
ph	Philippines
pn	Pitcairn Island
pl	Poland
pf	Polynesia (French)
pt	Portugal
pr	Puerto Rico
qa	Qatar
re	Reunion (French)
ro	Romania
ru	Russian Federation
rw	Rwanda
gs	S. Georgia & S. Sandwich Isls.
sh	Saint Helena
kn	Saint Kitts & Nevis Anguilla
lc	Saint Lucia
pm	Saint Pierre and Miquelon
st	Saint Tome (Sao Tome) and Principe
vc	Saint Vincent & Grenadines
ws	Samoa
sm	San Marino
sa	Saudi Arabia
sn	Senegal
sc	Seychelles

Table A-1 ISO Country Codes (Continued)

Code	Country
sl	Sierra Leone
sg	Singapore
sk	Slovak Republic
si	Slovenia
sb	Solomon Islands
so	Somalia
za	South Africa
kr	South Korea
es	Spain
lk	Sri Lanka
sd	Sudan
sr	Suriname
sj	Svalbard and Jan Mayen Islands
sz	Swaziland
se	Sweden
ch	Switzerland
sy	Syria
tj	Tadjikistan
tw	Taiwan
tz	Tanzania
th	Thailand
tg	Togo
tk	Tokelau

Table A-1 ISO Country Codes (Continued)

Code	Country
to	Tonga
tt	Trinidad and Tobago
tn	Tunisia
tr	Turkey
tm	Turkmenistan
tc	Turks and Caicos Islands
tv	Tuvalu
ug	Uganda
ua	Ukraine
ae	United Arab Emirates
uk	United Kingdom
us	United States
uy	Uruguay
um	USA Minor Outlying Islands
uz	Uzbekistan
vu	Vanuatu
va	Vatican City State
ve	Venezuela
vn	Vietnam
vg	Virgin Islands (British)
vi	Virgin Islands (USA)
wf	Wallis and Futuna Islands
eh	Western Sahara

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Code	Country
ye	Yemen
yu	Yugoslavia
zr	Zaire
zm	Zambia
zw	Zimbabwe

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