

IBM WebSphere Data Interchange



Support Pack for HIPAA

Version 1.0

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Note

Before using this information and the product it supports, read the general information under Appendix B, "Notices," on page 103.

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This edition applies to the Support Pack for HIPAA, Version 1.0, and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this guide

This guide tells how to install the Support Pack for HIPAA and how to configure its components.

See “How to use this guide” on page vi for a description of the parts of this guide.

Who should read this guide

You should know the following products and specifications and have access to their documentation:

- IBM DB2 Universal Database
- IBM WebSphere Data Interchange
- IBM WebSphere Business Integration Collaborations for HIPAA Transactions
- IBM WebSphere InterChange Server
- IBM WebSphere MQ

Conventions and typography used in this guide

Typographical conventions	Usage
<i>Italic</i>	Indicates a variable name or a cross-reference.
Monospace	Indicates a literal value, such as a command name, file name, information that you type, or information that the system prints on the screen.
blue text	Indicates a cross-reference hyperlink. Blue text is visible only when you view this guide online. Click the blue text to jump to the object of the reference.
[]	In a syntax line, square brackets surround an optional parameter.
{ }	In a syntax line, curly braces surround a set of options from which you must select one and only one.
...	In a syntax line, ellipses indicate a repetition of the previous parameter. For example, [, ...] means that you can enter multiple, comma-separated options.
<i>ProductDir</i>	Represents the directory where a product is installed. All product path names are relative to the directory where the product is installed on your system.
/ or \	Use the forward slash or the backslash when appropriate for your platform.

The package distribution

You must obtain the products, files, and other components that make up the Support Pack for HIPAA. These items are available for download. This guide assumes that you have obtained these items, stored them in known directories, and unpackaged them.

Throughout the documentation, you will be instructed to install products and files from the directories where you installed them. “User names, passwords, and file names used” on page vii lists the names given to the various installation directories.

How to use this guide

This section gives some basic instructions, tells how to use the step-by-step tables, and lists the variables used throughout the guide.

This guide makes the following assumptions:

- All the required basic software is already installed.
- The user IDs, file names, project names, and database names given in the book are only suggestions. If you substitute your own, you are responsible for using the substitutes consistently.

Which part of the guide to use

This section tells which part of the guide to use, depending on your installation and needs.

- Part 1** Tells how to install and use the Support Pack for HIPAA with WebSphere Data Interchange on an AIX system.
- Part 2** Tells how to install and use the Support Pack for HIPAA with WebSphere Data Interchange on a Microsoft Windows system.
- Part 3** Tells how to install and use the Support Pack for HIPAA with WebSphere Business Integration on an AIX system. After using Part 3, you can skip to Part 5, “Using the collaborations,” on page 39.
- Part 4** Tells how to install and use the Support Pack for HIPAA with WebSphere Business Integration on a Windows system.
- Part 5** Tells how to install and use the HIPAA Collaborations and the Support Pack for HIPAA Collaborations with both platforms.
- Part 6** Contains an appendix listing some considerations and limitations for both platforms. It also contains the Notices section.

Using the step-by-step tables in this guide

The steps for installing, configuring, or modifying each component of the Support Pack for HIPAA are in 3-column tables. This section tells how to use the tables.

Left column

Window or prompt. This column tells where you are, what window is open, or what the prompt is on the screen. For example, you might be at the Windows system desktop or at a DB2 command window.

Center column

A sequence number to help you keep track of what to do next.

Right column

Action. What to do, what to look for, or what the system displays.

Some commands within a table might be reformatted to fit the page. A command with an indented line should be entered as one long line. For example,

```
define
    channel (CHANNEL1)
    chltype(SVRCONN)
```

should be entered as

```
define channel(CHANNEL1) chltype(SVRCONN)
```

Table 1. Sample table

Window or prompt	Action
Desktop	1. Start → Programs → Accessories → Calculator.
Calculator	2. Click 7.
	3. Click +.
	4. Click 8.
	5. Click =.
	6. The calculator displays 15.
	7. Click X to close the calculator.

User names, passwords, and file names used

This guide uses the following user names, passwords, and file names throughout the installation instructions. You can substitute your own names and passwords, but you must be consistent in their usage. The names and passwords are in *italics* throughout the guide.

This list contains names and passwords for both AIX systems and Windows systems. Use those names that apply to your platform.

hostname_server

The name of your AIX or Windows server. This is also the server on which you are installing the product. For example, *hostname_server.queue.manager* is a queue manager name.

hipaa_admin

The administrative user who manages the databases. You create this user and assign the necessary privileges. This user ID can have a maximum length of 8 characters. If you are using an AIX system server, use the same user ID and password for both the AIX system server and the Windows system client.

hipaa_admin_password

The password used for the *hipaa_admin* user. Use the same user ID and password for the AIX or Windows system server and the Windows system client.

hipaa_home

The directory where you installed the collaborations and other .eif files. This is the full path name down to that directory.

ics_database

The database that contains the WebSphere InterChange Server repository.
The database is created when installing the WebSphere InterChange Server.

ics_home

The directory where you installed WebSphere Business Integration. This is the full path name down to that directory.

server_ICL_project

The Integrated Component Library project you define to hold the WebSphere Business Integration files: collaborations, connectors, business objects, and related files.

server_user_project

The name of the user project on the server.

wdi_home

The directory where you installed the WebSphere Data Interchange server.
This is the full path name down to that directory.

Part 1. Using the Support Pack for HIPAA with WebSphere Data Interchange on an AIX system

Chapter 1. Requirements for an AIX system

This chapter lists the hardware and software requirements for an AIX system.

Hardware and software requirements

These requirements are only for the HIPAA software required for an AIX system. Other related and required software have additional requirements. The hardware and software requirements listed are those that support only the products or product components required for HIPAA. In some instances you install only selected components of a product.

Some products consist of a server and client components. Those products might require both an AIX system server and a Windows system client.

AIX system hardware requirements

The Support Pack for HIPAA has the following server hardware requirements:

- Two-way 750 MHz processor
- 2 GB RAM
- 40 GB free disk space
- Ethernet or token ring network connection

Software requirements

You need the following software installed on your AIX system before you install the HIPAA component. This guide assumes the software is already installed.

- IBM AIX 5.1 maintenance level 4 or IBM AIX 5.2 maintenance level 1
- IBM DB2 Universal Database (DB2) 8.1 Fixpack 2
- IBM WebSphere Data Interchange Server 3.2 CSD 10
- IBM WebSphere MQ 5.3.1 CSD 5

Client system requirements

Several components require the installation of a client interface that runs only in a Windows system environment. Therefore you also need a Windows system:

Windows system client

- Processor 400 MHz or faster
- Memory 256 MB or more
- Disk space 50 MB or more, 1 GB for applications and other documentation
- TCP/IP network interface
- A persistent Internet connection

Software requirements: You need the following software installed before you install the HIPAA component. This guide assumes the software is already installed.

- Windows 2000, with Service Pack 4
- Windows Internet Explorer, Version 4.01 or higher
- IBM DB2 Universal Database (DB2) 8.1.2
- IBM WebSphere Data Interchange Client 3.2 Fixpack 8

- IBM WebSphere MQ 5.3.1 CSD 05

Chapter 2. Installing and configuring

In this chapter you install the Support Pack for HIPAA packages. “The package distribution” on page vi lists the information for downloading the packages.

Unpacking the Support Pack for HIPAA files at the Windows system

Table 2. Unpacking the Support Pack for HIPAA files at the Windows system

Window or prompt	Action
Windows system prompt	1. Locate the directory where you downloaded and stored the Support Pack for HIPAA tar file.
	2. Create a directory called <i>hipaa_home</i> .
	3. Unpack the Support Pack for HIPAA tar file into <i>hipaa_home</i> .

WebSphere Data Interchange configuration for Support Pack for HIPAA

When you configure WebSphere Data Interchange to work with the Support Pack for HIPAA you must create several WebSphere MQ queues. Do the following steps to create the queues:

Table 3. Configuring the queues

Window or prompt	Action
AIX system prompt	1. Copy the <i>wdimqcommands.txt</i> file from <i>hipaa_home/config</i> to the <i>wdi_home/samples</i> directory.
	2. To make <i>wdimqcommands.txt</i> executable, as root, enter: <code>chmod 777 wdi_home/samples/wdimqcommands.txt</code>
	3. To create the queue manager, enter the command: <code>crtmqm hostname_server.queue.manager</code>
	4. To start the queue manager, enter the command: <code>strmqm hostname_server.queue.manager</code>
	5. To create the WebSphere MQ queues, enter the following commands: <code>cd wdi_home/samples</code> <code>runmqsc hostname_server.queue.manager</code> <code>< wdimqcommands.txt</code>

Remote administration of a queue manager from the Windows MQSeries Explorer interface to an AIX machine

The Queue Manager interface runs on the Windows system. Therefore, you must do some of these steps at a Windows system and some at your AIX system.

Administering the Queue Manager at the AIX system

On the AIX system, do the following:

Table 4. Administering the Queue Manager at the AIX system

Window or prompt	Action
AIX system prompt	<ol style="list-style-type: none">1. To create the channel, SYSTEM.ADMIN.SVRCONN, enter the following two commands, each on a single line: <pre>runmqsc hostname_server.queue.manager define channel(SYSTEM.ADMIN.SVRCONN) chltype(SVRCONN) trptype(TCP) end</pre>2. Make sure you have set up your listener port for this queue manager in the <code>/etc/services</code> file. Edit the <code>/etc/services</code> file. Add the line: <code>MQSeries 1414/tcp</code>3. Make sure you have set up your listener port for this queue manager in the <code>/etc/inetd.conf</code> file. Edit the file <code>/etc/inetd.conf</code> file. Enter the following as a single line: <pre>MQSeries stream tcp nowait mqm /usr/mqm/bin/amqcrsta amqcrsta -m hostname_server.queue.manager</pre>
System prompt	<ol style="list-style-type: none">4. To refresh the command list, enter the command: <code>refresh -s inetd</code>5. To start your queue manager, enter: <code>strmqcsv hostname_server.queue.manager</code>

Administering the Queue Manager at the Windows system

Make sure the user that is logged on to your Windows system is also defined on your AIX system and is part of the mqm group on the AIX system. In this guide the user is `hipaa_admin`.

At the Windows system, do the following:

Table 5. Administering the Queue Manager at the Windows system

Window or prompt	Action
Windows system Desktop	<ol style="list-style-type: none">1. Start the WebSphere MQ Explorer: Click Start → Programs → IBM WebSphere MQ → WebSphere MQ Explorer.
WebSphere MQ Explorer	<ol style="list-style-type: none">2. Right-click the Queue Managers folder → Show queue manager.3. In the dialog box, enter the name of your queue manager: <code>hostname_server.queue.manager</code> (The hostname is case sensitive.)

Table 5. Administering the Queue Manager at the Windows system (continued)

Window or prompt	Action
	4. Enter the IP address and port number of the AIX system connection: <i>n.nnn.nnn.nnn(port)</i> For example, 1.234.567.890(1234). You can use <i>hostname_server</i> in place of the IP address.
	5. Click OK .
	6. A new entry should show the queue manager and that it is currently active.

Do not close the WebSphere MQ Explorer.

Defining triggers at the Windows system for the queues

Do the following steps to define triggers for the queues:

Table 6. Defining triggers for the queues at the Windows system

Window or prompt	Action
WebSphere MQ Explorer	1. Expand WebSphere MQ Queue Manager → <i>hostname_server.queue.manager</i> → Queues .
	2. The right panel displays a list of the queues: DIEDIIN DIEDIOUT DIXMLIN DIXMLOUT
	3. Right-click DIEDIIN .
	4. Click Properties → General tab.
Default Persistence	5. Select Persistent in the drop-down list.
	6. Click the Triggering tab.
	7. Click Trigger Control ON in the drop-down list.
	8. Enter the following information: Initiation Queue Name: WDI.INIT.Q Process Name: WDI.PROC
	9. Right-click DIXMLIN and repeat steps 4 through 8.
	10. Close the MQ Explorer window.
Confirmation	11. Click Yes .

Importing the configuration at the Windows system client

Do the following steps at the Windows system client:

Table 7. Importing the configuration at the Windows system client

Window or prompt	Action
WebSphere Data Interchange Windows Client desktop	1. Start the WebSphere Data Interchange Client: Click Start → Programs → IBM WebSphere Data Interchange MP V3.2 → WDI MP V3.2 Client .
	2. Click File → Open Import File → HIPAAWDIConfig.eif in the <i>hipaa_home\config</i> directory.

Table 7. Importing the configuration at the Windows system client (continued)

Window or prompt	Action
Import File	3. Expand each of the following folders. Use Ctrl/left-mouse to select the files in one folder, then click Import Selected Documents : Mailbox Network Profile MQSeries Queues Service Profile Trading Partner X Envelope Profile
Select a system	4. Specify the local host name of your AIX system and click OK . This is the system you defined when you configured WebSphere Data Interchange.
Extraction	5. The message Import completed is displayed.
Import Map Rules Options	6. Click Replace the existing map rule with active imported map rule .
	7. Click OK .
	8. Click Close .
	9. Repeat steps 2 through 5 for each folder.

Specifying the Queue Manager name

You must change the queue manager name from `hipaa.queue.manager` to `hostname_server.queue.manager` for each of the queues.

Table 8. Specifying the Queue Manager name at the Windows system

Window or prompt	Action
Windows system, WebSphere Data Interchange Client	1. Click the Setup icon.
Setup	2. Click the MQSeries Queues tab. 3. Double-click the queue profile ID DIEDIIN .
General Properties	4. In the Queue Manager Name field change, hipaa.queue.manager to hostname_server.queue.manager . 5. Click Save . 6. Close the window.
	7. Repeat steps 3 through 6 for the other three queues: DIEDIOUT DIXMLIN DIXMLOUT
	8. Close the window.

Creating the HIPAA_XML_DICTIONARY at the Windows system client

Do the following steps to create the HIPAA_XML_DICTIONARY:

Table 9. Creating the HIPAA_XML_DICTIONARY at the Windows system

Window or prompt	Action
WebSphere Data Interchange Client	1. Click the XML icon.
hipaa(xml)-Query:All	2. Click the New icon.
Dictionary Name field	3. Specify HIPAA_XML_DICTIONARY.
Description field	4. This field is optional.
	5. Click Save and close the window.
	6. Close the hipaa(xml)-Query:All window.

Importing the DTDs at the Windows system client

Do the following steps at the Windows client:

Table 10. Importing the DTDs at the Windows system client

Window or prompt	Action
WebSphere Data Interchange Windows Client desktop	1. cd to the <i>hipaa_home</i> \collabs directory.
	2. Select the HIPAAaddts.zip file, and unzip it to the <i>wdi_home</i> \runtime\dtlds directory.
WDI Client	3. Click File → Open Import File .
	4. In the <i>wdi_home</i> \runtime\dtlds directory, select a DTD you unzipped and click Open .
Select a system	5. Click <i>hostname_server</i> and click OK .
Import XML DTD	6. Accept the default DTD name.
Dictionary Name	7. Click the drop-down list and select HIPAA_XML_DICTIONARY.
Root Element Name	8. Enter the same name as the DTD name.
	9. Click Import .
	10. Repeat steps 4 through 9 for each DTD you unzipped.

Configuring the DTDs at the Windows system client

Do the following steps to configure the DTDs at the Windows client:

Table 11. Configuring the DTDs at the Windows system client

Window or prompt	Action
WebSphere Data Interchange Client	1. Click Setup .
	2. Click the Service Profiles Tab.
	3. Double-click DIXMLIN .
PERFORM command, General tab	4. Edit XMLDXTDS (<i>wdi_home</i>) at the end of the file. Replace <i>/pathname/DTDs</i> with <i>wdi_home/runtime/dtlds</i> .

Table 11. Configuring the DTDs at the Windows system client (continued)

Window or prompt	Action
	5. Click Save .
	6. Click the X on the top-right corner to close the window.

Enabling event logging at the Windows system

Turning on event logging enables you to view the Event log which contains more detailed messages for WebSphere Data Interchange (WDI) Adapter return codes. These messages are in the file `WDIAdapter.trace`.

To turn on event logging, do the following in the HIPAA Server Window at the Windows system:

Table 12. Enabling event logging

Window or prompt	Action
<i>hostname_server</i>	1. Click the Application Defaults tab.
	2. Double-click EDIMP .
	3. Select Event Log Active at the bottom.
	4. Click Save and close the window.
	5. Double-click EDIFFS .
	6. Select Event Log Active at the bottom.
	7. Click Save and close the window.

Importing and configuring the Support Pack for HIPAA at the Windows client

In this series of steps, you import and configure the following:

- HIPAA standards files
- HIPAA code sets and forward translation
- HIPAA validation maps
- HIPAA transformation maps

Importing the HIPAA standards files

Do the following steps to import the HIPAA standards files:

Table 13. Importing the standards files at the Windows system

Window or prompt	Action
WebSphere Data Interchange Client at the Windows system	1. Select File → Open Import File .
	2. Select the HIPAA standards files, <code>HIPAAStandards.eif</code> in the <code>hipaa_home\data</code> directory and click Open .
	3. Expand the directory and select all the files.
Import File	4. Click Import Selected Documents .
Select a system	5. Specify <i>hostname_server</i> and click OK .
Extraction	6. The message Import completed is displayed.
	7. Click Close .

Importing the HIPAA code sets and forward translation

Do the following steps to import the HIPAA code sets:

Table 14. Importing the code sets

Window or prompt	Action
WebSphere Data Interchange Client	1. Select File → Open Import File .
	2. Select the HIPAA code sets <code>HIPAACodeSets.eif</code> in the <code>hipaa_home\data</code> directory.
	3. Expand the directory and select Code List . Select all the files in the folder.
Import File	4. Click Import Selected Documents .
Select a system	5. Specify <code>hostname_server</code> and click OK .
Extraction	6. The message Import completed is displayed.
	7. Click Close .
	8. Repeat steps 3 through 7 for the file in the Forward Translation folder.

Importing the validation maps

Do the following steps to import the validation maps:

Table 15. Importing the validation maps

Window or prompt	Action
WebSphere Data Interchange Client	1. Click File → Open Import File .
Import File	2. Select the HIPAA validation maps <code>HIPAAValidationMaps.eif</code> in the <code>hipaa_home\data</code> directory.
	3. Expand the directory and select all the files.
Import File	4. Click Import Selected Documents .
Select a system	5. Specify <code>hostname_server</code> and click OK .
Extraction	6. The message Import completed is displayed.
	7. Click Close .

Importing transformation maps

Do the following steps to import the transformation maps:

Table 16. Importing the transformation maps

Window or prompt	Action
WebSphere Data Interchange Client	1. Click File → Open Import File .
	2. Select the HIPAA transformation maps <code>HIPAATransformationMaps.eif</code> in the <code>hipaa_home\data</code> directory.
	3. Expand the directory and select all the files.
Import File	4. Click Import Selected Documents .
Select a system	5. Specify <code>hostname_server</code> and click OK .
Extraction	6. The message Import completed is displayed.

Table 16. Importing the transformation maps (continued)

Window or prompt	Action
	7. Click Close .

Compiling the control maps

Do the following steps to compile the control strings:

Table 17. Compiling the control strings

Window or prompt	Action
WebSphere Data Interchange Client	1. Click the Mapping icon.
	2. Click the Data Transformation Maps tab.
	3. Select all the Maps.
	4. Click the Compile icon.
	5. Click the Validation Maps tab.
	6. Select all the Maps.
	7. Click the Compile icon again.
	8. Click X to close the Mapping window.

You must recompile the maps after you apply a Corrective Service Diskette (CSD) at the client.

Validating the WebSphere Data Interchange installation

This validation checks whether the WebSphere Data Interchange installation is working correctly with HIPAA-specific messages. The test uses files in the *hipaa_home*\sample directory.

Do the following steps to validate the installation:

Table 18. Validating the WebSphere Data Interchange installation

Window or prompt	Action
WebSphere Data Interchange server prompt	1. Ensure that the command file HIPAAWDITest837I.cmd is in the same path as HIPAA837I.X12.
	2. Set the environment. Enter: <code>./usr/wdi/D1v32/samples/setdienv.sh</code>
	3. Log out, then log in again as <i>hipaa_admin</i> to have the environment change take effect. To verify the environment, enter: <code>echo \$LIBPATH</code> and see that <code>/usr/wdi/D1v32/bin</code> is in the libpath.
	4. To specify that the command is executable, enter: <code>chmod 777 HIPAAWDITest837I.cmd</code>
WDI server prompt	5. Enter the command: <code>HIPAAWDITest837I.cmd</code>

Table 18. Validating the WebSphere Data Interchange installation (continued)

Window or prompt	Action
	6. The following messages are displayed: DI Translator Started, <i>build date time stamp</i> DI Translator processed your request. DI Translator shutdown.
	7. After successful translation, the WDI Server has received a message for processing and a new file has been created in the current directory.
	8. The file contains information similar to Figure 1.

1Audit Trail Report -DataInterchange Utility- Date: 04/01/22 Time: 11:23:25 Page: 00001

FF0588 Command: PERFORM TRANSFORM WHERE INFILE(EDIFILE) OUTFILE(OUTFILE)
SYNTAX(E) CLEARFILE(Y) TRACELEVEL(A2)

Message: EV0019 Severity: 04
No trading partner found. Qualifier = 20 ID = 15.
Message: EV0019 Severity: 04
No trading partner found. Qualifier = 20 ID = 15.
Message: RU0003 Severity: 00
The best rule match for the document was: map name 837INST_TO_XML,
sending TP nickname ANY, receiving TP nickname ANY,
usage indicator P, document 837, dictionary name HIPAAI, syntax edi.
Message: UT0008 Severity: 00
Map name being processed: X12_837INST.
Message: UT0008 Severity: 00
Map name being processed: 837INST_TO_XML.
Message: UT0008 Severity: 00
Map name being processed: \$DT_FA997V3R7.

FF0007 Data was written to OUTFILE. Message control number or document id was .
FF0007 Data was written to QDATA. Message control number or document id was 0000000
FF0584 The PERFORM TRANSFORM command completed with a severity code of 04.
See associated messages to determine the acceptability
of the transformation.

Figure 1. Output from validating the WebSphere Data Interchange installation

Part 2. Using the Support Pack for HIPAA with WebSphere Data Interchange on a Windows system

Chapter 3. Requirements for a Windows system

This chapter lists the hardware and software requirements for a Windows system.

Hardware and software requirements

These requirements are only for the HIPAA software. Other related and required software have additional requirements.

For the AIX operating system requirements, see Part 1, “Using the Support Pack for HIPAA with WebSphere Data Interchange on an AIX system,” on page 1.

Because each software component has specific requirements, you might be required to have more than one level of a component simultaneously.

Hardware requirements

You can install all of the required program products on one system. This guide assumes that you are installing all the program products on a single system.

The WebSphere Data Interchange Server has the following requirements:

- A system (or equivalent) with a minimum processor speed of 1 GHz or dual processors each with a minimum speed of 667 MHz (for high availability)
- 512 MB memory

Server

- Processor 1 GHz or faster
- Memory 512 MB or more
- Disk space 20 GB or more
- TCP/IP network interface
- A persistent Internet connection

Client

- Processor 400 MHz or faster
- Memory 256 MB or more
- Disk space 50 MB or more, 1 GB for applications and other documentation
- TCP/IP network interface
- A persistent Internet connection

Software requirements

You need the following software installed before you install the Support Pack for HIPAA component. This guide assumes the software and any prerequisites are already installed.

- IBM DB2 Universal Database, Version 8.1 Fixpack 2
- IBM WebSphere MQ, Version 5.3.1 CSD 05
- IBM WebSphere Data Interchange Server, Version 3.2 CSD 10
- IBM WebSphere Data Interchange Client, Version 3.2 Fixpack 8

Support Pack for HIPAA requires the Windows 2000 (Professional, Server, or Advanced Server) with Service Pack 3 operating system.

Before you install the Support Pack for HIPAA product files

Before you install the Support Pack for HIPAA product files, the following products should be installed:

- WebSphere Data Interchange Server and Client with any Corrective Service Diskettes (CSDs) installed and configured
- WebSphere MQ and any CSDs installed
- DB2 installed and configured, and the required databases created

Chapter 4. Installing and configuring

This chapter describes installing and configuring the Support Pack for HIPAA.

Unpacking the Support Pack for HIPAA product files

Do the following steps to unpack the product files:

Table 19. Unpacking the Support Pack for HIPAA product files

Window or prompt	Action
Windows Desktop	1. cd to the directory where you installed the Support Pack for HIPAA zip file.
	2. Create a directory called <i>hipaa_home</i> .
	3. Unpack the Support Pack for HIPAA zip file into <i>hipaa_home</i> .

Creating WebSphere MQ queues

Do the following steps to create WebSphere MQ queues:

Table 20. Creating WebSphere MQ queues

Window or prompt	Action
Windows Desktop	1. Copy the <i>hipaa_home\config\wdimqcommands.txt</i> file to the <i>wdi_home\samples</i> directory.
	2. cd to <i>wdi_home\samples</i> .
	3. To create the queue manager, enter the following command: <code>crtmqm hostname_server.queue.manager</code>
	4. To start the queue manager, enter the command: <code>strmqm hostname_server.queue.manager</code>
	5. Enter the following command on one line: <code>runmqsc hostname_server.queue.manager</code> <code>< wdimqcommands.txt</code>

Defining triggers for the queues

Do the following steps to define triggers for the queues:

Table 21. Defining triggers for the queues

Window or prompt	Action
Desktop	1. Start the WebSphere MQ Explorer: Click Start → Programs → IBM WebSphere MQ → WebSphere MQ Explorer .
WebSphere MQ Explorer	2. Expand WebSphere MQ Queue Manager → <i>hostname_server.queue.manager</i> → Queues .

Table 21. Defining triggers for the queues (continued)

Window or prompt	Action
	3. The right panel displays a list of the queues: DIEDIIN DIEDIOUT DIXMLIN DIXMLOUT
	4. Right-click DIEDIIN .
DIEDIIN Properties	5. Click Properties → General tab.
	6. Default Persistence: Click Persistent in the drop-down list.
	7. Click the Triggering tab.
	8. Click Trigger Control ON in the drop-down list.
	9. Enter the following information: Initiation Queue Name: WDI.INIT.Q Process Name: WDI.PROC Click OK .
	10. Right-click DIXMLIN and repeat steps 5 through 9.
	11. Close the MQ Explorer window.
Confirmation	12. Click Yes .

Importing the configuration

Do the following steps to import the configuration:

Table 22. Importing the configuration

Window or prompt	Action
WebSphere Data Interchange Client	1. Click File → Open Import File → HIPAAWdiConfig.eif in the <i>hipaa_home</i> \config directory.
Import File	2. Expand each of the following folders. Use Ctrl/left-mouse to select the files in one folder, then click Import Selected Documents : Mailbox Network Profile MQSeries Queues Service Profile Trading Partner X Envelope Profile
Select a system	3. Specify <i>hostname_server</i> and click OK .
Extraction	4. The message Import completed is displayed.
Import Map Rules Options	5. Click Replace the existing map rule with active imported map rule .
	6. Click OK .
	7. Click Close .
	8. Repeat steps 2 through 5 for each folder.

Specifying the Queue Manager name

You must change the queue manager name from `hipaa.queue.manager` to `hostname_server.queue.manager` for each of the queues. Do the following steps to specify the queue manager name:

Table 23. Specifying the Queue Manager name

Window or prompt	Action
WebSphere Data Interchange Client	1. Click the Setup icon.
Set up	2. Click the MQSeries Queues tab.
	3. Double-click the queue profile ID DIEDIIN .
General Properties	4. In the Queue Manager Name field change <code>hipaa.queue.manager</code> to <code>hostname_server.queue.manager</code> .
	5. Click Save .
	6. Close the window.
	7. Repeat steps 3 through 6 for the other three queues: DIEDIOUT DIXMLIN DIXMLOUT
	8. Close the window.

Importing the DTDs

Do the following steps to import the DTDs:

Table 24. Importing the DTDs

Window or prompt	Action
Command window	1. Unzip <code>hipaa_home\collabs\HIPAAdtts.zip</code> to the <code>wdi_home\runtime\dtts</code> directory.
WebSphere Data Interchange Client	2. Click File → Open Import File .
	3. Set "Files of Type" to "XML DTD File (*.dtd)."
Select Import File	4. Select a DTD you unzipped and click Open .
	5. Click <code>hostname_server</code> and click OK .
Import XML DTD	6. Accept the default DTD name.
	7. Dictionary Name: Click the drop-down list and select <code>HIPAA_XML_DICTIONARY</code> .
	8. Specify the root element name, the same value as the DTD name. Add a Description if you want.
	9. Click Import .
	10. Repeat the steps for each DTD you unzipped.

Configuring the DTDs

Do the following steps to configure the DTDs:

Table 25. Configuring the DTDs

Window or prompt	Action
WebSphere Data Interchange Client	1. Click Setup .
	2. Click the Service Profiles tab.
Service Profile	3. Double-click DIXMLIN .
PERFORM command, General tab	4. Edit XMLDTDs (<i>wdi_home</i>) at the end of the file. Replace <i>\pathname\DTDs</i> with <i>wdi_home\runtime\dtDs</i> .
	5. Click Save .
	6. Click the X to close the window.

Installing and configuring the Support Pack for HIPAA

In these sections you import the following:

- HIPAA standards files
- HIPAA code sets and forward translation
- HIPAA validation maps
- HIPAA transformation maps

Importing the HIPAA standards files

Do the following steps to import the HIPAA standards files:

Table 26. Importing the standards files

Window or prompt	Action
WebSphere Data Interchange Client	1. Select File → Open Import File .
Select Import File	2. Select the HIPAA standards files, <i>HIPAAStandards.eif</i> in the <i>hipaa_home\data</i> directory.
	3. Expand the directory and select all the files.
	4. Click the Import Selected Documents icon.
Select a system	5. Specify <i>hostname_server</i> and click OK .
Extraction	6. Click OK to replace the file. You can ignore messages about overwriting existing files.
	7. Verify that the message Import completed is displayed. Click Close .
	8. A blue check icon indicates each item that was successfully imported.
	9. Close the window.

Importing the HIPAA code sets and forward translation

Do the following steps to import the HIPAA code sets:

Table 27. Importing the code sets

Window or prompt	Action
WebSphere Data Interchange Client	1. Select File → Open Import File .
	2. Select the HIPAA code sets <code>HIPAACodeSets.eif</code> in the <code>hipaa_home\data</code> directory.
	3. Expand the directory and select Code List . Select all the files in the folder.
Import File	4. Click Import Selected Documents .
Select a system	5. Specify <code>hostname_server</code> and click OK .
Extraction	6. You can ignore messages about overwriting existing files. The message Import completed is displayed.
	7. Click Close .
	8. Repeat steps 3 through 7 for the file in the Forward Translation folder.

Importing the validation maps

Do the following steps to import the validation maps:

Table 28. Importing the validation maps

Window or prompt	Action
WebSphere Data Interchange Client	1. Click File → Open Import File .
Import File	2. Select the HIPAA validation maps <code>HIPAAValidationMaps.eif</code> in the <code>hipaa_home\data</code> directory.
Import File	3. Click Import Selected Documents .
	4. Expand the directory and select all the files.
Select a system	5. Specify <code>hostname_server</code> and click OK .
Extraction	6. You can ignore messages about overwriting existing files. The message Import completed is displayed.
	7. Click Close .

Importing the transformation maps

Do the following steps to import the transformation maps:

Table 29. Importing the transformation maps

Window or prompt	Action
WebSphere Data Interchange	1. Click File → Open Import File .
	2. Select the HIPAA transformation maps <code>HIPAATransformationMaps.eif</code> in the <code>hipaa_home\data</code> directory.
Import File	3. Click Import Selected Documents .
	4. Expand the directory and select all the files.

Table 29. Importing the transformation maps (continued)

Window or prompt	Action
Select a system	5. Specify <i>hostname_server</i> and click OK .
Extraction	6. You can ignore messages about overwriting existing files. The message Import completed is displayed.
	7. Click Close .

Compiling the validation and transformation maps

Do the following steps to compile the validation and transformation maps:

Table 30. Compiling the validation and transformation maps

Window or prompt	Action
WebSphere Data Interchange	1. Click the Mapping icon.
hostname_server(Mapping) — Query:All	2. Click the Data Transformation Maps tab.
	3. Select all the Maps.
	4. Click the Compile icon.
	5. Click the Validation Maps tab.
	6. Select all the Maps.
	7. Click the Compile icon again.

You must recompile the maps after you apply a Corrective Service Diskette (CSD) at the client.

Enabling event logging

Turning on event logging enables you to view the Event log which contains more detailed messages for WDI Adapter return codes. These messages are in the file, *WDIAdapter.trace*.

To turn on event logging, do the following in the HIPAA Server Window:

Table 31. Enabling event logging

Window or prompt	Action
hostname_server (Setup)-Query:All	1. Click the Application Defaults tab.
	2. Double-click EDIMP .
	3. Select Event Log Active at the bottom.
	4. Click Save and close the window.
	5. Double-click EDIFFS .
	6. Select Event Log Active at the bottom.
	7. Click Save and close the window.

Validating the WebSphere Data Interchange installation

Validation checks whether the WebSphere Data Interchange installation is working correctly with HIPAA-specific messages. The test uses the HIPAAWDITest837I.cmd file in the *hipaa_home*\sample directory.

Do the following steps at the WebSphere Data Interchange server prompt:

Table 32. Validating the WDI installation

Window or prompt	Action
WebSphere Data Interchange server prompt	1. Ensure that the command file HIPAAWDITest837I.cmd is in the same path as HIPAA837I.X12.
WDI server prompt	2. Enter the command: edisrvr < HIPAAWDITest837I.cmd
	3. The following messages are displayed: DI Translator Started, <i>build date time stamp</i> DI Translator processed your request. DI Translator shutdown.
	4. After successful translation, the WebSphere Data Interchange Server has received a message for processing and a new file has been created in the current directory.
	5. The file contains information similar to Figure 2.

1Audit Trail Report -DataInterchange Utility- Date: 04/01/22 Time: 11:23:25 Page: 00001

FF0588 Command: PERFORM TRANSFORM WHERE INFILE(EDIFILE) OUTFILE(OUTFILE)
SYNTAX(E) CLEARFILE(Y) TRACELEVEL(A2)

Message: EV0019 Severity: 04
No trading partner found. Qualifier = 20 ID = 15.
Message: EV0019 Severity: 04
No trading partner found. Qualifier = 20 ID = 15.
Message: RU0003 Severity: 00
The best rule match for the document was: map name 837INST_TO_XML,
sending TP nickname ANY, receiving TP nickname ANY,
usage indicator P, document 837, dictionary name HIPAAI, syntax edi.
Message: UT0008 Severity: 00
Map name being processed: X12_837INST.
Message: UT0008 Severity: 00
Map name being processed: 837INST_TO_XML.
Message: UT0008 Severity: 00
Map name being processed: \$DT_FA997V3R7.

FF0007 Data was written to OUTFILE. Message control number or document id was .
FF0007 Data was written to QDATA. Message control number or document id was 0000000
FF0584 The PERFORM TRANSFORM command completed with a severity code of 04.
See associated messages to determine the acceptability
of the transformation.

Figure 2. Output from validating the WebSphere Data Interchange installation

Part 3. Using the Support Pack for HIPAA with WebSphere Business Integration on an AIX system

Chapter 5. Getting started

This section lists the requirements for using the Support Pack for HIPAA with IBM WebSphere Business Integration on an AIX system.

HIPAA software requirements

You need the following software installed on your AIX system. This guide assumes the software is already installed.

- IBM AIX 5.1 maintenance level 4 or IBM AIX 5.2 maintenance level 1
- IBM DB2 Universal Database (DB2) 8.1 Fixpack 2
- IBM WebSphere MQ 5.3.1 installed with CSD 05
- IBM Java Development Kit 1.3.1 SR5
- IBM WebSphere InterChange Server 4.2.2
- IBM WebSphere Business Integration Toolset 4.2.2
- IBM WebSphere Business Integration Data Handler for XML 2.5.0
- IBM WebSphere Business Integration Adapter for eMail 5.2.0
- IBM WebSphere Business Integration Adapter for JDBC 2.4.0
- IBM WebSphere Business Integration Adapter for WebSphere MQ 2.5.0
- Adobe Acrobat Reader (available free for download from <http://www.adobe.com>)
- A browser

Installing the HIPAA Collaborations

See the Support Pack for HIPAA readme for the latest information on installing the HIPAA collaborations.

Chapter 6. Configuring

Do these steps to configure your software for the Support Pack for HIPAA.

Defining queues and starting the WebSphere MQ Queue Manager

After the InterChange Server is installed, you must configure the WebSphere MQ messaging system to work with the InterChange Server by:

- Configuring the WebSphere MQ scripts
- Setting up the WebSphere MQ messaging system

Do the following steps to configure the WebSphere MQ scripts:

Table 33. Starting the WebSphere MQ Queue Manager

Window or prompt	Action
AIX system prompt	<ol style="list-style-type: none">1. Use an ASCII editor to edit the file, <i>hipaa_home/config/hipaa_mq.tst</i>.2. In these lines, substitute your local host name, where <i>hostname_server</i> is the correct value for your InterChange Server installation: <pre>DEFINE QLOCAL (IC/hostname_server/JDBC_PROConnector) DEFINE QLOCAL (AP/JDBC_PROConnector/hostname_server) DEFINE QLOCAL (IC/hostname_server/JDBC_MSGConnector) DEFINE QLOCAL (AP/JDBC_MSGConnector/hostname_server) DEFINE QLOCAL (AP/WDI_MQConnector/hostname_server) DEFINE QLOCAL (IC/hostname_server/WDI_MQConnector) DEFINE QLOCAL (AP/Collab_MQConnector/hostname_server) DEFINE QLOCAL (IC/hostname_server/Collab_MQConnector) DEFINE QLOCAL (AP/Legacy_MQConnector/hostname_server) DEFINE QLOCAL (IC/hostname_server/Legacy_MQConnector) DEFINE QLOCAL (AP/EmailConnector/hostname_server) DEFINE QLOCAL (IC/hostname_server/EmailConnector)</pre>3. Save the modified file.4. To make the file executable, enter: <pre>chmod +x hipaa_home/config/hipaa_mq.tst</pre>5. To create the queues, enter, on a single line: <pre>runmqsc hostname_server.queue.manager < hipaa_home.../config/hipaa_mq.tst</pre>

Creating an Integration Component Library at the Windows system client

Do the following steps to create an Integration Component Library:

Table 34. Creating an Integration Component Library at the Windows system

Window or prompt	Action
Windows system desktop	1. Start the ICS System Manager: Start → Programs → IBM WebSphere InterChange Server → Administrative → System Manager .
System Manager	2. Right-click Integration Component Library .
InterChange Server dialog box	3. Click New Integration Component Library .
	4. Enter the name for your project: <i>server_ICL_project</i> .
	5. Click Finish .

Creating connector directories

Use the `hipaa_ConnectorActivate.sh` script to set up the connector directory structure and copy files.

This guide assumes the JDBC connector has been enabled for multi-driver support, specifically DB2 support. The JDBC connector's start file should already include all relevant class path names in the `JDBC_DRIVER_PATH` variable. If this configuration is not done before running the `hipaa_ConnectorActivate.sh` script, it must be done for each JDBC connector instance later.

Do the following steps to create the connectors:

Table 35. Creating the connectors for AIX at the Windows system

Window or prompt	Action
AIX system	1. Copy the file <code>hipaa_ConnectorActivate.sh</code> from <i>hipaa_home/config</i> to <i>ics_home/connectors</i> .
	2. Copy the file <code>hipaa_ActivateAllConnectors.sh</code> from <i>hipaa_home/config</i> to <i>ics_home/bin</i> .
	3. Add execute permission to <code>hipaa_ConnectorActivate.sh</code> and <code>hipaa_ActivateAllConnectors.sh</code> .
	4. <code>cd</code> to <i>ics_home/connectors</i> .
	5. Run <code>./hipaa_ConnectorActivate.sh</code> .

After configuring WebSphere InterChange Server and deploying the *server_user_project* project, run the `./hipaa_ActivateAllConnectors.sh` script to activate the connectors as described in "Activating the connectors" on page 64.

Part 4. Using the Support Pack for HIPAA with WebSphere Business Integration on a Windows system

Chapter 7. Getting started

This section lists the requirements for using the Support Pack for HIPAA with IBM WebSphere Business Integration on a Windows system.

HIPAA software requirements

You need the following software installed on your AIX system. This guide assumes the software is already installed.

- Windows 2000 with SP 4
- IBM DB2 Universal Database (DB2) 8.1 Fixpack 2
- IBM WebSphere MQ installed with CSD 05
- IBM Java Development Kit 1.3.1.6
- IBM WebSphere InterChange Server 4.2.2
- IBM WebSphere Business Integration Toolset 4.2.2
- IBM WebSphere Business Integration Data Handler for XML 2.5.0
- IBM WebSphere Business Integration Adapter for eMail 5.2.0
- IBM WebSphere Business Integration Adapter for JDBC 2.4.0
- IBM WebSphere Business Integration Adapter for WebSphere MQ 2.5.0
- Adobe Acrobat Reader (available free for download from <http://www.adobe.com>)
- A browser

Installing the HIPAA Collaborations

See the Support Pack for HIPAA readme for the latest information on installing the HIPAA collaborations.

Defining queues for WebSphere MQ

You must configure the WebSphere MQ queues needed for the adapters. WebSphere MQ includes a batch file and a text file that helps you configure the queues. You must edit the text file, `hipaa_mq.tst`, to replace the default information with the name of your system.

Do the following steps to configure the queues:

Table 36. Defining queues for WebSphere MQ

Window or prompt	Action
Windows Desktop	1. Use an ASCII editor to edit the file, <code>hipaa_home\config\hipaa_mq.tst</code> .

Table 36. Defining queues for WebSphere MQ (continued)

Window or prompt	Action
	2. In these lines, substitute your local host name, where <i>hostname_server</i> is the correct value for your InterChange Server installation: <pre> DEFINE QLOCAL(IC/<i>hostname_server</i>/JDBC_PROConnector) DEFINE QLOCAL(AP/JDBC_PROConnector/<i>hostname_server</i>) DEFINE QLOCAL(IC/<i>hostname_server</i>/JDBC_MSGConnector) DEFINE QLOCAL(AP/JDBC_MSGConnector/<i>hostname_server</i>) DEFINE QLOCAL(AP/WDI_MQConnector/<i>hostname_server</i>) DEFINE QLOCAL(IC/<i>hostname_server</i>/WDI_MQConnector) DEFINE QLOCAL(AP/Collab_MQConnector/<i>hostname_server</i>) DEFINE QLOCAL(IC/<i>hostname_server</i>/Collab_MQConnector) DEFINE QLOCAL(AP/Legacy_MQConnector/<i>hostname_server</i>) DEFINE QLOCAL(IC/<i>hostname_server</i>/Legacy_MQConnector) DEFINE QLOCAL(AP/EmailConnector/<i>hostname_server</i>) DEFINE QLOCAL(IC/<i>hostname_server</i>/EmailConnector) </pre>
	3. Save the modified file.
Windows System command prompt	4. To create the queues, enter, on a single line: <pre> runmqsc <i>hostname_server.queue.manager</i> < <i>hipaa_home...</i>\config\hipaa_mq.tst </pre>

Creating an Integration Component Library

Do the following steps to create an Integration Component Library:

Table 37. Creating an Integration Component Library

Window or prompt	Action
System Manager	1. Start the Persistent Name Server and InterChange Server, then start the System Manager and connect it to the server. 2. Create a new Integration Component Library, if one does not already exist.
System Manager	3. Right-click on Integration Component Libraries , click Select New Integration Component Library . 4. Enter a name for your project. The name can be characters or numbers. Spaces are not allowed. This guide assumes <i>server_ICL_project</i> as the name. 5. Click Finish .

Creating connector directories

Use the `hipaa_ConnectorActivate.bat` utility to set up the connector directory structure and copy files.

This guide assumes the JDBC connector has been enabled for multi-driver support, specifically DB2 support. The JDBC connector's start file should already include all relevant class path names in the `JDBCDRIVERPATH` variable. If this is not done before this section, it must be done for each JDBC connector instance later.

Do the following steps to create the connectors:

Table 38. Creating the connectors at the Windows system

Window or prompt	Action
Windows desktop	1. Copy the file <code>hipaa_ConnectorActivate.bat</code> from <code>hipaa_home/config</code> to <code>ics_home/connectors</code> .
	2. Copy the file <code>hipaa_ActivateAllConnectors.bat</code> from <code>hipaa_home/config</code> to <code>ics_home/connectors</code> .
	3. <code>cd</code> to <code>ics_home/connectors</code> .
	4. Run <code>hipaa_ConnectorActivate.bat</code> .

After configuring WebSphere InterChange Server and deploying the `server_user_project` project, run the `./hipaa_ActivateAllConnectors.bat` script to activate the connectors as described in “Activating the connectors” on page 64.

Part 5. Using the collaborations

Chapter 8. Installing and configuring the collaborations

This chapter tells how to install the Support Pack for HIPAA collaborations. The chapter contains information for both AIX systems and Windows systems. Use the information that is appropriate for your platform.

On an AIX system, you install the collaborations with the WebSphere Business Integration System Manager at the Windows client. On a Windows system, you install everything at the Windows system.

About the Support Pack for HIPAA bridge collaborations

The Support Pack for HIPAA includes a set of bridge collaboration templates designed to interact with the existing IBM HIPAA collaborations and WebSphere Data Interchange to enable insurance companies and other payers to comply with the United States Health Insurance Portability and Accountability Act of 1996. The Support Pack for HIPAA bridge collaboration templates work with the existing HIPAA collaboration templates.

Creating the HIPAA databases and tables

Scripts are provided to set up your HIPAA collaboration databases and tables. The databases are:

- HIPAADB, used by a variety of collaboration objects to hold specific state data.
- HIPAAMSG, used to store the 837 messages for the payer perspective.
- HIPAAPRO, used to store the 837 messages for the provider perspective.

Refer to HIPAA Collaboration documentation for information on creating the HIPAA databases and tables.

Maintenance and management of the records held in the HIPAA databases are the responsibility of your database administrator. No database pruning or maintenance is done by the HIPAA collaborations.

Importing Support Pack for HIPAA bridge collaborations using the System Manager at the Windows system

Do these steps for both AIX and Windows systems.

To install Support Pack for HIPAA, complete the following steps in the System Manager window:

Table 39. Importing the Support Pack for HIPAA bridge collaborations using the System Manager

Window or prompt	Action
System Manager at the Windows system	1. In the Integration Component Libraries , right-click <i>server_ICL_project</i> .
	2. Select Import Repository File .
	3. Browse for the InterChange Server repository file.

Table 39. Importing the Support Pack for HIPAA bridge collaborations using the System Manager (continued)

Window or prompt	Action
	4. Select the <i>hipaa_home\collabs\HIPAABridgeCollabs.jar</i> file.
	5. Click Open .
Import Repository File	6. Click Finish .

Importing HIPAA collaborations files

Import the HIPAA collaboration templates, business objects, and relationships jar files into the *server_ICL_project* through the System Manager. See Chapter 5, “Getting started,” on page 29 and Chapter 7, “Getting started,” on page 35 for AIX and Windows systems respectively for the latest version of the HIPAA collaborations. Refer to the HIPAA collaboration documentation for information on importing collaboration files.

Adding business objects to *server_ICL_project*

Use the Business Object Designer to add the business objects to *server_ICL_project*.

Table 40. Adding business objects to *server_ICL_project*

Window or prompt	Action
Windows Desktop	1. Start the Business Object Designer: Start → Programs → IBM WebSphere InterChange Server → IBM WebSphere Business Integration Toolset → Development → Business Object Designer .
Business Object Designer	2. Click File → Open From File .
Import Business Objects from Files	3. Change “files of type” to “*.txt”.
	4. In the directory IBM\ICSWebSphere\repository\DataHandlers, select: MO_DATAHandler_Default MO_DATAHandler_Delimited MO_DATAHandler_EDI MO_DATAHandler_FixedWidth MO_DATAHandler_NameValue MO_DATAHandler_Swift MO_DATAHandler_XML
	5. Click Open .
	6. Edit the file MO_DATAHandler_DefaultXMLConfig and remove “XMLTEST” from the default BOPrefix.
	7. Save the file and close the editor.
	8. Select the directory edk.
	9. Select MO_Server_DataHandler.
	10. Click Open .
	11. Close all the data handlers in the Business Object Designer window.
	12. Close the Business Object Designer window.

Creating the business objects

In this section you create the MetaObject business objects used with the WebSphere MQ connectors.

Business object	Connector
WDI_MetaObject	JDBC and WebSphere MQ
Legacy_MetaObject	PortConnector
Collab_MetaObject	WDI_MQConnector Legacy_MQConnector Collab_MQConnector

Creating the WDI_MetaObject business object

The WDI_MetaObject business object is used by the MO_DataHandler_Default and the WDI_MQConnector. You configure it to process each HIPAA Collaboration business object, and send a copy to an output queue. Do the following steps to create the WDI_MetaObject business object:

Table 41. Creating the WDI_MetaObject Business Object

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> .
	2. Right-click Business Objects → Create a New Business Object .
New Business Object	3. Enter the Business Object Name: <code>WDI_MetaObject</code> .
Business Object designer	4. Click OK .
	5. Add the attributes to the WDI_MetaObject business object. Set the following attributes for the first entry: Name: <code>Default</code> Type: <code>String</code> Key: ✓ The App Spec Info column is: <code>OutputQueue=queue://hostname_server.queue.manager/DIXMLIN?targetClient=1</code>
	6. Click File and Save .

Creating the Legacy_MetaObject business object

You must use a separate metaobject for the Legacy_MQConnector. The Legacy_MetaObject is used with the Legacy_MQConnector. Perform the following steps to create the Legacy_MetaObject:

Table 42. Creating the Legacy_MetaObject business object

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> .
	2. Right-click Business Objects → Create a New Business Object .

Table 42. Creating the Legacy_MetaObject business object (continued)

Window or prompt	Action
New Business Object	3. Enter the Business Object Name: Legacy_MetaObject.
Business Object designer	4. Click OK .
	5. Add the attributes to the new Legacy_MetaObject business object. Set the following attributes for the first entry: Name: Default Type: String Key: ✓ The App Spec Info column is: OutputQueue=queue://hostname_server.queue. manager/LEGACYCONN.OUT?targetClient=1
	6. Click File and Save .

Creating the Collab_MetaObject business object

You must use a separate metaobject for the Collab_MQConnector. The Collab_MetaObject is used with the Collab_MQConnector. Perform the following steps to create the Collab_MetaObject:

Table 43. Creating the Collab_MetaObject Business Object

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> .
	2. Right-click Business Objects → Create a New Business Object .
New Business Object	3. Enter the Business Object Name: Collab_MetaObject.
Business Object designer	4. Click OK .
	5. Add the attributes to the Collab_MetaObject business object. Set the following attributes for the first entry: Name: Default Type: String Key: ✓ The App Spec Info column is: OutputQueue=queue://hostname_server.queue. manager/COLLABCONN.OUT?targetClient=1
	6. Click File and Save .

Creating connectors

In this section you create and configure connectors. The WebSphere Business Integration Adapter for WebSphere MQ allows applications to communicate using WebSphere MQ messages. It uses the WebSphere Business Integration DataHandler for XML, which converts business objects to and from the XML format without the need to provide a complex mapping between an XML document and application-specific business objects. It generates business objects from DTD or XML Schema definitions.

In this section, you create the following connectors:

- WDI_MQConnector
- Legacy_MQConnector
- Collab_MQConnector
- PortConnector
- JDBC_PRO connector
- JDBC_MSG connector

Adding JDBC and WebSphere MQ connectors

Do the following steps to add JDBC and WebSphere MQ connectors:

Table 44. Adding a JDBC connector at the Windows system

Window or prompt	Action
Windows system Desktop	1. Start the Connector Configurator: Start → Programs → IBM WebSphere InterChange Server → IBM WebSphere Business Integration Toolset → Development → Connector Configurator .
Connector Configurator	2. Click File → Open → From File .
Browse	3. Browse to WebSphereICS → repository → JDBC .
	4. Change "files of type" to "all files *.*" and open the file CN_JDBC.txt .
	5. Click the Messaging tab and fill in the information from Table 45.
	6. Click File → Save → To Project .
	7. Click <i>server_ICL_project</i> .
	8. Click OK .
	9. Repeat steps 2 through 8 for the WebSphere MQ adapter in the directory WebSphereAdapters → repository → WebSphere MQ → CN_WebSphereMQ.txt .
	10. Close the Connector Configurator window.

Setting messaging properties

Table 45 lists the messaging properties for all connectors:

Table 45. Connector Configurator — Messaging properties

Field	Value
Messaging Type	MQSERIES
Host Name	<i>hostname_server</i>
Queue Manager	<i>hostname_server.queue.manager</i>
Client Channel	CHANNEL1
Port	1414

Creating the PortConnector

Create the PortConnector to bind any extra ports that are not used. The HIPAA collaborations have extra ports that could be used in your installation, but if they are not used, they can be bound with the PortConnector.

This PortConnector never runs, but it must be configured to work with the business objects in Table 48 on page 47. Other property fields need not be configured.

To create this connector, do the following steps:

Table 46. Creating the PortConnector

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Connectors .
	2. Double click WebSphereMQConnector .
	3. Click File → Save as → To Project . Save as PortConnector in the <i>server_ICL_project</i> .
	4. In the Standard Properties tab, specify the values contained in Table 47.
	5. In the Connector-Specific Properties tab, remove all lines; no connector-specific properties are necessary.
	6. In the Supported Business Objects tab, set the values contained in Table 48 on page 47.
	7. In the Messaging tab, set the values contained in Table 45 on page 45.
	8. Click File → Save → To Project .
	9. Click <i>server_ICL_project</i> . Click OK .
	10. Close the Connector Configurator window.

Table 47. Connector Configurator — PortConnector, Standard Properties

Property	Value	Update Method
1 AgentConnections	1	component restart
2 AgentTraceLevel	0	dynamic
3 ApplicationName	PortConnector	component restart
4 Broker Type	ICS	connector restart
5 CharacterEncoding	ascii7	component restart
6 ConcurrentEventTriggeredFlows	1	component restart
7 ControllerStoreAndForwardMode	true	dynamic
8 ControllerTraceLevel	0	dynamic
9 DeliveryTransport	MQ	component restart
10 JvmMaxHeapSize	128m	component restart
11 JvmMaxNativeStackSize	128k	component restart
12 JvmMinHeapSize	1m	component restart
13 ListenerConcurrency	1	component restart
14 Locale	en_US	component restart
15 LogAtInterchangeEnd	False	component restart
16 MaxEventCapacity	2147483647	dynamic
17 MessageFileName	PortConnector.txt	component restart
18 OADAutoRestartAgent	false	dynamic
19 OADMaxNumRetry	10000	dynamic

Table 47. Connector Configurator — PortConnector, Standard Properties (continued)

Property	Value	Update Method
20 OADRetryTimeInterval	10	dynamic
21 PollEndTime	HH:MM	component restart
22 PollFrequency	10000	dynamic
23 PollStartTime	HH:MM	component restart
24 RepositoryDirectory	<REMOTE>	agent restart
25 RestartRetryCount	3	dynamic
26 RestartRetryInterval	1	dynamic
27 WireFormat	CwBO	agent restart

Table 48. Supported Business Objects for the PortConnector

Business Object Name	Agent Support
1 Hipaa837Resp	✓
2 MO_DataHandler_Default	✓
3 MO_DataHandler_DefaultXMLConfig	✓
4 Serial837	✓
5 X12_A1_270	✓
6 X12_A1_271	✓
7 X12_A1_276	✓
8 X12_A1_277	✓
9 X12_A1_278	✓
10 X12_A1_820	✓
11 X12_A1_834	✓
12 X12_A2_278	✓
13 X12_Q1_837	✓
14 X12_Q2_837	✓
15 X12_Q3_837	✓
16 X12_U1_837	✓
17 X12_U2_837	✓
18 X12_U3_837	✓
19 X12_W1_835	✓

Creating the WDI_MQConnector

You create the WDI_MQConnector using the WebSphere MQ connector in the repository as an example.

To create the WDI_MQConnector, perform the following steps:

Table 49. Creating the WDI_MQConnector at the Windows system

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Connectors .

Table 49. Creating the WDI_MQConnector at the Windows system (continued)

Window or prompt	Action
	2. Double-click WebSphereMQConnector .
	3. Click File → Save as → To Project and type the name WDI_MQConnector and click Save .
Connector Configurator	4. Set the Standard Property values as shown in Table 50.
	5. Click File → Save → To Project .

Table 50. Connector Configurator — WDI_MQConnector, standard properties

Property	Value	Update Method
1 AgentConnections	1	component restart
2 AgentTraceLevel	0	dynamic
3 ApplicationName	WDI_MQConnector	component restart
4 Broker Type	ICS	connector restart
5 CharacterEncoding	ascii7	component restart
6 ConcurrentEventTriggeredFlows	1	component restart
7 ControllerStoreAndForwardMode	true	dynamic
8 ControllerTraceLevel	0	dynamic
9 DeliveryTransport	MQ	component restart
10 JvmMaxHeapSize	128m	component restart
11 JvmMaxNativeStackSize	128k	component restart
12 JvmMinHeapSize	1m	component restart
13 ListenerConcurrency	1	component restart
14 Locale	en_US	component restart
15 LogAtInterchangeEnd	False	component restart
16 MaxEventCapacity	2147483647	dynamic
17 MessageFileName	ics_home /connectors /messages /WebSphereMQConnector.txt	component restart
18 OADAutoRestartAgent	false	dynamic
19 OADMaxNumRetry	10000	dynamic
20 OADRetryTimeInterval	10	dynamic
21 PollEndTime	HH:MM	component restart
22 PollFrequency	10000	dynamic
23 PollStartTime	HH:MM	component restart
24 RepositoryDirectory	<REMOTE>	agent restart
25 RestartRetryCount	3	dynamic
26 RestartRetryInterval	1	dynamic
27 WireFormat	CwBO	agent restart

See Table 51 on page 49 for the steps to add rows to a Connector Configurator window.

Note:

To add a row to a Connector Configurator window, do the following steps:

Table 51. Adding a row to a Connector Configurator window

Window or prompt	Action
	1. Right-click on a number in the left column.
	2. Click ADD .
	3. Type the name of the property you want to add.
	4. Click OK .
	5. Enter the value you want to set.
	6. You can drag-and-drop to change the order of entries.

Set the connector-specific values as follows:

Window or prompt	Action
Connector Specific Properties	7. Set the property values as shown in Table 52.

Table 52. Connector Configurator — WDI_MQConnector, connector-specific properties

Property	Value
1 ApplicationUserName	
2 ApplicationPassword	
3 ArchiveQueue	queue://hostname_server.queue.manager/WDICONN.ARCHIVE
4 CCSID	
5 Channel	CHANNEL1
6 ConfigurationMetaObject	WDI_MetaObject
7 DataHandlerClassName	com.crossworlds.DataHandlers.text.xml
8 DataHandlerConfigMO	MO_DataHandler_Default
9 DataHandlerMimeType	text/xml
10 DefaultVerb	Create
11 ErrorQueue	queue://hostname_server.queue.manager/WDICONN.ERROR
12 HostName	hostname_server
13 InDoubtEvents	Reprocess
14 InProgressQueue	queue://hostname_server.queue.manager/WDICONN.IN_PROGRESS
15 InputQueue	queue://hostname_server.queue.manager/DIXMLOUT
16 Port	1414
17 ReplyToQueue	queue://hostname_server.queue.manager/WDICONN.REPLY
18 ReplyToQueuePollFrequency	250
19 UnsubscribedQueue	queue://hostname_server.queue.manager/WDICONN.UNSUBSCRIBED
20 UseDefaults	true

Window or prompt	Action
Supported Business Objects	8. Set the property values as shown in Table 53 on page 50.

Table 53. Supported business objects for the WDI_MQConnector

Business Object Name	Agent Support
1 MO_DataHandler_Default	✓
2 MO_DataHandler_DefaultXMLConfig	✓
3 X12_A1_270	✓
4 X12_A1_271	✓
5 X12_A1_276	✓
6 X12_A1_277	✓
7 X12_A1_278	✓
8 X12_A1_820	✓
9 X12_A1_834	✓
10 X12_A2_278	✓
11 X12_Q1_837	✓
12 X12_Q2_837	✓
13 X12_Q3_837	✓
14 X12_U1_837	✓
15 X12_U2_837	✓
16 X12_U3_837	✓
17 X12_W1_835	✓
18 WDI_MetaObject	✓
19 Hipaa837Resp	✓

Window or prompt	Action
Messaging	9. Verify the values you set.
	10. Save the connector. Click File → Save to project .

Creating the Legacy_MQConnector

The back-end legacy is also connected with a WebSphere MQ Connector. However, two WebSphere MQ connectors with the same name cannot exist at the same time, so you must create a clone, called here, the Legacy_MQConnector. This section creates the Legacy_MQConnector, repeating the WDI_MQConnector connector section.

To create this Legacy_MQConnector, do the following steps:

Table 54. Creating the Legacy_MQConnector

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Connectors .
	2. Double-click WDI_MQConnector .
	3. Click File → Save as → To Project and type the name Legacy_MQConnector and click Save .
Connector Configurator	4. Set the Standard Property values as shown in Table 55 on page 51.
	5. Click File → Save → To Project .

On the Standard Properties page, set the property values as follows:

Table 55. Connector Configurator — Legacy_MQConnector, standard properties

	Property	Value	Update Method
1	AgentConnections	1	component restart
2	AgentTraceLevel	0	dynamic
3	ApplicationName	Legacy_MQConnector	component restart
4	Broker Type	ICS	connector restart
5	CharacterEncoding	ascii7	component restart
6	ConcurrentEventTriggeredFlows	1	component restart
7	ControllerStoreAndForwardMode	true	dynamic
8	ControllerTraceLevel	0	dynamic
9	DeliveryTransport	MQ	component restart
10	JvmMaxHeapSize	128m	component restart
11	JvmMaxNativeStackSize	128k	component restart
12	JvmMinHeapSize	1m	component restart
13	ListenerConcurrency	1	component restart
14	Locale	en_US	component restart
15	LogAtInterchangeEnd	False	component restart
16	MaxEventCapacity	2147483647	dynamic
17	MessageFileName	ics_home /connectors /messages /WebSphereMQConnector.txt	component restart
18	OADAutoRestartAgent	false	dynamic
19	OADMaxNumRetry	10000	dynamic
20	OADRetryTimeInterval	10	dynamic
21	PollEndTime	HH:MM	component restart
22	PollFrequency	10000	dynamic
23	PollStartTime	HH:MM	component restart
24	RepositoryDirectory	<REMOTE>	agent restart
25	RestartRetryCount	3	dynamic
26	RestartRetryInterval	1	dynamic
27	WireFormat	CwBO	agent restart

On the Connector-Specific Properties page, set the property values as follows:

Table 56. Connector Configurator — Legacy_MQConnector, connector-specific properties

	Property	Value
1	ApplicationUserName	
2	DefaultVerb	Create
3	ReplyToQueue	queue://hostname_server.queue.manager/LEGACYCONN.REPLY
4	UnsubscribedQueue	queue://hostname_server.queue.manager/LEGACYCONN.UNSUBSCRIBED

Table 56. Connector Configurator — Legacy_MQConnector, connector-specific properties (continued)

	Property	Value
5	InDoubtEvents	Reprocess
6	Channel	CHANNEL1
7	CCSID	
8	InProgressQueue	queue://hostname_server.queue.manager/LEGACYCONN.IN_PROGRESS
9	DataHandlerConfigMO	MO_DataHandler_Default
10	ConfigurationMetaObject	Legacy_MetaObject
11	ArchiveQueue	queue://hostname_server.queue.manager/LEGACYCONN.ARCHIVE
12	DataHandlerMimeType	text/xml
13	ErrorQueue	queue://hostname_server.queue.manager/LEGACYCONN.ERROR
14	InputQueue	queue://hostname_server.queue.manager/LEGACYCONN.IN
15	DataHandlerClassName	com.crossworlds.DataHandlers.text.xml
16	HostName	hostname_server
17	Port	1414
18	ApplicationPassword	
19	UseDefaults	true
20	ReplyToQueuePollFrequency	250

Table 57. Supported business objects for the Legacy_MQConnector

	Business Object Name	Agent Support
1	MO_DataHandler_Default	✓
2	MO_DataHandler_DefaultXMLConfig	✓
3	X12_A1_270	✓
4	X12_A1_271	✓
5	X12_A1_276	✓
6	X12_A1_277	✓
7	X12_A1_278	✓
8	X12_A1_820	✓
9	X12_A1_834	✓
10	X12_A2_278	✓
11	X12_Q1_837	✓
12	X12_Q2_837	✓
13	X12_Q3_837	✓
14	X12_U1_837	✓
15	X12_U2_837	✓
16	X12_U3_837	✓
17	X12_W1_835	✓
18	Legacy_MetaObject	✓
19	Hipaa837Resp	✓

Creating the Collab_MQConnector

Create a third connector, Collab_MQConnector, for use between the bridge collaborations and the HIPAA collaborations. Instead of creating a collaboration group, link the collaborations with this middle connector. The output queue of the Collab_MQConnector is also its input queue.

This section creates the Collab_MQConnector, repeating the WDI_MQConnector section.

To create this Collab_MQConnector, do the following steps:

Table 58. Creating the Collab_MQConnector

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Connectors .
	2. Double-click WDI_MQConnector .
	3. Click File → Save as → To Project and enter the name Collab_MQConnector and click Save .
Connector Configurator	4. Set the Standard Property values as shown in Table 59.
	5. Click File → Save → To Project .

On the Standard Properties page, set the property values as follows:

Table 59. Connector Configurator — Collab_MQConnector, standard properties

	Property	Value	Update Method
1	AgentConnections	1	component restart
2	AgentTraceLevel	0	dynamic
3	ApplicationName	Collab_MQConnector	component restart
4	Broker Type	ICS	connector restart
5	CharacterEncoding	ascii7	component restart
6	ConcurrentEventTriggeredFlows	1	component restart
7	ControllerStoreAndForwardMode	true	dynamic
8	ControllerTraceLevel	0	dynamic
9	DeliveryTransport	MQ	component restart
10	JvmMaxHeapSize	128m	component restart
11	JvmMaxNativeStackSize	128k	component restart
12	JvmMinHeapSize	1m	component restart
13	ListenerConcurrency	1	component restart
14	Locale	en_US	component restart
15	LogAtInterchangeEnd	False	component restart
16	MaxEventCapacity	2147483647	dynamic
17	MessageFileName	ics_home /connectors /messages /WebSphereMQConnector.txt	component restart
18	OADAutoRestartAgent	false	dynamic

Table 59. Connector Configurator — Collab_MQConnector, standard properties (continued)

	Property	Value	Update Method
19	OADMaxNumRetry	10000	dynamic
20	OADRetryTimeInterval	10	dynamic
21	PollEndTime	HH:MM	component restart
22	PollFrequency	10000	dynamic
23	PollStartTime	HH:MM	component restart
24	RepositoryDirectory	<REMOTE>	agent restart
25	RestartRetryCount	3	dynamic
26	RestartRetryInterval	1	dynamic
27	WireFormat	CwBO	agent restart

On the Connector-Specific Properties page, set the property values as follows:

Table 60. Connector Configurator — Collab_MQConnector, connector-specific properties

	Property	Value
1	ApplicationUserName	
2	DefaultVerb	Create
3	ReplyToQueue	queue://hostname_server.queue.manager/COLLABCONN.REPLY
4	UnsubscribedQueue	queue://hostname_server.queue.manager/COLLABCONN.UNSUBSCRIBED
5	InDoubtEvents	Reprocess
6	Channel	CHANNEL1
7	CCSID	
8	InProgressQueue	queue://hostname_server.queue.manager/COLLABCONN.IN_PROGRESS
9	DataHandlerConfigMO	MO_DataHandler_Default
10	ConfigurationMetaObject	Collab_MetaObject
11	ArchiveQueue	queue://hostname_server.queue.manager/COLLABCONN.ARCHIVE
12	DataHandlerMimeType	text/xml
13	ErrorQueue	queue://hostname_server.queue.manager/COLLABCONN.ERROR
14	InputQueue	queue://hostname_server.queue.manager/COLLABCONN.OUT
15	DataHandlerClassName	com.crossworlds.DataHandlers.text.xml
16	HostName	hostname_server
17	Port	1414
18	ApplicationPassword	
19	UseDefaults	true
20	ReplyToQueuePollFrequency	250

Table 61. Supported business objects for the Collab_MQConnector

	Business Object Name	Agent Support
1	MO_DataHandler_Default	✓
2	MO_DataHandler_DefaultXMLConfig	✓
3	X12_A1_270	✓
4	X12_A1_271	✓

Table 61. Supported business objects for the Collab_MQConnector (continued)

Business Object Name	Agent Support
5 X12_A1_276	✓
6 X12_A1_277	✓
7 X12_A1_278	✓
8 X12_A1_820	✓
9 X12_A1_834	✓
10 X12_A2_278	✓
11 X12_Q1_837	✓
12 X12_Q2_837	✓
13 X12_Q3_837	✓
14 X12_U1_837	✓
15 X12_U2_837	✓
16 X12_U3_837	✓
17 X12_W1_835	✓
18 Collab_MetaObject	✓
19 Hipaa837Resp	✓

Configuring the JDBC adapter

To enable the X12_Ux_837_Store collaborations that call the JDBC connector using the NameValueDataHandler, you must edit the M0_Server_DataHandler metaobject as shown below and add the text_namevalue attribute. This corresponds to the MIME_TYPE collaboration property in the Serial 837 Store collaborations.

To configure the JDBC adapter for use with WebSphere Business Integration Collaboration for HIPAA Transaction, complete the following steps:

Table 62. Configuring the JDBC adapter

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Business Objects .
Business Object Designer	2. Double-click M0_Server_DataHandler. 3. Right-click the first column and select Insert below .
Name column	4. Enter text_xml.
Name field, Type column	5. In the drop-down box, select M0_DataHandler_DefaultXMLConfig. 6. Expand text_xml.
Default column	7. Remove the BO prefix value. 8. Collapse the text_xml field. 9. Right-click text_xml and select Insert below .
Name column	10. Enter text_namevalue. 11. In the drop-down list, select M0_DataHandler_defaultNameValueConfig.
File menu	12. Click Save .

Table 62. Configuring the JDBC adapter (continued)

Window or prompt	Action
Console window	<p>13. The following messages are displayed:</p> <pre> Validating "MO_Server_DataHandler..." Validating "MO_DataHandler_DefaultXMLConfig..." Validating "MO_DataHandler_DefaultNameValueConfig..." Succeeded saving "MO_Server_DataHandler" to project "server_ICL_project" </pre>
	14. Close the Business Object Designer.

Considerations for defining the JDBC connector

Each set of collaborations has its own SERIAL837 table that it writes to in its respective database.

Be sure to set the DatabaseURL property to indicate the HIPAAMSG (or HIPAAPRO) database name according to the type of database software used. For example, if the database HIPAAMSG is local to the WebSphere InterChange Server and is using DB2, the URL might look as follows:

```
jdbc:db2:HIPAAMSG
```

If the database HIPAAPRO is local to the WebSphere InterChange Server and is using DB2, the URL might look like this:

```
jdbc:db2:HIPAAPRO
```

The collaborations that support the 837 and 835 message types rely upon the JDBC connector to interface with the HIPAAMSG database. If you create both HIPAA837 and HIPAA835 collaborations and HIPAA837Prov and HIPAA835Prov collaborations, you must create another copy of the JDBC adapter file structure along with its files, and give it a unique name (for example, JDBCCConnector2). This duplicate file structure is needed to support both the HIPAAMSG database used by the HIPAA837 and HIPAA835 collaborations, and the HIPAAPRO database used by the HIPAA837Prov and HIPAA835Prov collaborations.

Be sure to set the ApplicationUserName and ApplicationPassword properties to your appropriate user ID and password.

If the standard property called ControllerStoreAndForwardMode is set to **true** and the JDBCCConnector agent is not started, the collaboration accessing the JDBCCConnector will wait for the JDBCCConnector agent to start. If the property is set to **false** and the JDBCCConnector agent is not available, the JDBCCConnector request returns a failure to the calling collaboration.

Ensure that you have set your system-specific values for the JDBCCConnector in the Messaging Notebook tab (at the far right of the Connector Configurator window) if required by your selected DeliveryTransport type.

Set the MessageFileName to correspond to the path where WebSphere InterChange Server is installed.

Set the PollFrequency value to **no** to avoid Connector Agent start-up problems.

If more than one message database is required, a unique JDBC connector instance is required for each, including a unique copy of the JDBCConfig.cfg file.

The userid used to start the JDBC connector must be the same ID used to create the HIPAAMSG or HIPAAPRO database and table.

Creating the JDBC_MSG connector

The JDBC_MSG connector is one of two JDBC connectors. (“Specifying another instance of the JDBC connector” on page 59 tells how to create the JDBC_PROConnector.)

You create the JDBC_MSG connector using the JDBC connector in the repository as an example:

Table 63. Creating the JDBC_MSG Connector

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Connectors .
	2. Double-click JDBCCConnector .
	3. Click File → Save to project and enter the name JDBC_MSGConnector and click Save .
Connector Configurator	4. Set the Standard Property values as shown in Table 64.
	5. Click File → Save → To Project .

Table 64 shows the settings for the Standard Properties tab for the JDBC connector sample.

Table 64. Connector Configurator — JDBC_MSG Connector, standard properties

	Property	Value	Update Method
1	AgentConnections	1	component restart
2	AgentTraceLevel	0	dynamic
3	ApplicationName	JDBC_MSGConnector	component restart
4	Broker Type	ICS	connector restart
5	CharacterEncoding	ascii7	component restart
6	ConcurrentEventTriggeredFlows	1	component restart
7	ControllerStoreAndForwardMode	true	dynamic
8	ControllerTraceLevel	0	dynamic
9	DeliveryTransport	MQ	component restart
10	JvmMaxHeapSize	128m	component restart
11	JvmMinHeapSize	128k	component restart
12	JvmMinHeapSize	1m	component restart
13	Locale	en_US	component restart
14	LogAtInterchangeEnd	False	component restart
15	MaxEventCapacity	2147483647	dynamic

Table 64. Connector Configurator — JDBC_MSG Connector, standard properties (continued)

	Property	Value	Update Method
16	MessageFileName	<i>ics_home</i> /connectors /messages /JDBCCConnector.txt	component restart
17	OADAutoRestartAgent	false	dynamic
18	OADMaxNumRetry	10000	dynamic
19	OADRetryTimeInterval	10	dynamic
20	PollEndTime	HH:MM	component restart
21	PollFrequency	no	dynamic
22	PollStartTime	HH:MM	component restart
23	RepositoryDirectory	<REMOTE>	agent restart
24	RestartRetryCount	3	dynamic
25	RestartRetryInterval	1	dynamic
26	WireFormat	CwBO	agent restart

On the Connector-Specific Properties page, set the property values as follows:

Table 65. Connector Configurator — JDBC_MSG, connector-specific properties

	Property	Value
1	ApplicationPassword	<i>hipaa_admin_password</i>
2	ApplicationUserName	<i>hipaa_admin</i>
3	ArchiveProcessed	true
4	ArchiveTableName	xworlds_archive_events
5	AutoCommit	false
6	CheckForEventTableInInit	true
7	ChildUpdatePhyDelete	false
8	CloseDBConnection	false
9	ConnectorID	NONE
10	DatabaseURL	jdbc:db2:HIPAAMSG (See “Specifying another instance of the JDBC connector” on page 59)
11	DateFormat	MM/dd/yyyy HH:mm:ss
12	DriverConnectionProperties	
13	DriverSupportForLong	true
14	EventKeyDel	;
15	EventOrderBy	
16	EventQueryType	Fixed
17	EventTableName	null
18	JDBCDriverClass	COM.ibm.db2.jdbc.app.DB2Driver
19	MaximumDatabaseConnections	12
20	PingQuery	
21	PollQuantity	19
22	PreserveUIDSeq	true

Table 65. Connector Configurator — JDBC_MSG, connector-specific properties (continued)

Property	Value
23 RDBMS.initsession	
24 RDBMSVendor	DB2
25 ReplaceAllStr	false
26 ReplaceStrList	Q,DSQ
27 RetryCountAndInterval	3,20
28 SchemaName	
29 SPBeforePollCall	
30 StrDelimiter	,:
31 TimingStats	0
32 UniqueIDTableName	xworlds_uid
33 UseDefaults	false

Supported business objects

Set the JDBC-supported business object values:

Table 66. Supported business object for the JDBC Connector

Business Object Name	Agent Support
1 Serial837	✓
2 X12_U1_837	✓
3 X12_U2_837	✓
4 X12_U3_837	✓

Specifying another instance of the JDBC connector

You must define the database URL for each instance of the JDBC connector. You must also define the database URL for jdbc:db2:HIPAAPRO. After you have saved the first JDBC connector, define a second connector following the steps in “Considerations for defining the JDBC connector” on page 56. Make sure to make the following changes:

- In Table 64 on page 57, change the Application to JDBC_PROConnector.
- In Table 65 on page 58, change the DatabaseURL to jdbc:db2:HIPAAPRO.

Compiling the collaboration templates

You must compile each collaboration template before creating the collaboration objects.

You must have the JDK installed and defined in your path before performing this step.

To create the collaboration objects, perform the following steps:

Table 67. Compiling the collaboration templates

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> .

Table 67. Compiling the collaboration templates (continued)

Window or prompt	Action
	2. Right-click Collaboration Templates → Compile All .

Setting up collaboration objects

Setting up a collaboration involves specifying the items to use; the collaboration template, the ports, whether to use a store database, and the queues to use. This section tells how to set up the parts of the collaboration. The following tables are examples of a matrix of the parts you can use in each collaboration object:

- Table 75 on page 71
- Table 76 on page 75
- Table 77 on page 79
- Table 78 on page 84

This guide refers to Table 75 on page 71 for the rest of this section, as a reference. However, use the table that correlates to your system scenario.

Note: When you create the connection pool, described in “Creating a connection pool at the Windows system” on page 62, the value defined in the **Name** field for New connection pool table window is HIPAA_STATE_DATA. The value you use here must match that value. If you specify a different name here, you must specify that matching name in “Creating a connection pool at the Windows system” on page 62.

Do the following steps to set up a collaboration:

Table 68. Setting up collaboration objects

Window or prompt	Action
System Manager	1. Expand <i>server_ICL_project</i> .
	2. Right-click Collaboration Objects .
	3. Click Create New Collaboration Object .
Create New Collaboration	4. Specify a template name and enter a collaboration object name from Table 75 on page 71.
	5. Click Next .
Bind Ports window	6. Based on Table 75, bind each port for the corresponding collaboration object or connector. See “Bind considerations” on page 61 for more information.
	7. Click Next .
Collaboration General Properties	8. System Trace Level For debugging or test, you can set the trace level high. For efficiency in production, set the level to zero (0).
Collaboration General Properties	9. Collaboration Trace Level For debugging or test, you can set the trace level high. For efficiency in production, set the level to zero (0).

Table 68. Setting up collaboration objects (continued)

Window or prompt	Action
Collaboration General Properties	10. Fill in any other necessary information.
	11. Click Next .
Properties	12. If necessary, edit the properties page. Some collaborations require properties to be configured: <ul style="list-style-type: none"> • Verify the DB_CONN_POOL_NAME property is correct. (See “Creating a connection pool at the Windows system” on page 62 for the name that is used.) • See “Collaboration properties” for any necessary custom properties.
	13. Click Finish .
	11. Repeat each step until you have created all the collaboration objects in Table 75.

Bind considerations

Review the following bind considerations:

Binding to a collaboration instead of to a connector

If Table 75 shows a port binding to a collaboration instead of to a connector, the collaboration must exist before you can bind to it.

For example, assume you are creating the U1_837_Inst1 collaboration object. You cannot configure the From port with the collaboration object 837.Store yet. Similarly, the Store port for the collaboration object 837Prof cannot be configured yet.

After you have created both, edit the U1_837_Inst1 collaboration object to bind the From port with the collaboration 837.Store. Edit the 837Prof collaboration object to bind the Store port to collaboration U1_837.Inst1.From.

Binding without using all the ports

If you do not bind all the ports when you bind the collaboration objects, you get an error when you deploy the collaboration object. Bind the extra ports with the generic PortConnector to prevent the error. The collaboration tables do not show the PortConnector. Whenever a port is not shown as bound, bind it to the PortConnector.

“Creating the PortConnector” on page 45 tells how to configure the PortConnector.

Collaboration properties

CLAIMID_REQUIRED and PRIVACY_ENABLE are fields that exist in some HIPAA collaborations. If you create collaborations that use these fields, you must set these fields to false when creating collaborations objects.

CLAIMID_REQUIRED must be set to **true** in the collaborations objects associated with the following HIPAA collaboration templates:

HIPAA837Dental
HIPAA837Inst

HIPAA837Prof
HIPAA837DentalProv
HIPAA837InstProv
HIPAA837ProfProv

PRIVACY_ENABLE must be set to **false** in the collaborations objects associated with the following HIPAA collaboration templates:

HIPAA271
HIPAA277
HIPAA278Resp
HIPAA835
HIPAA270Prov
HIPAA276Prov
HIPAA278ReqProv
HIPAA837DentalProv
HIPAA837InstProv
HIPAA837ProfProv

Creating a connection pool at the Windows system

Do the following steps to create a connection pool:

Table 69. Creating a connection pool at the Windows system

Window or prompt	Action
At the Windows system System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> .
	2. Right-click Database Connection Pools → Create New Database Connection .
Database Driver menu	3. Select DB2 and specify the HIPAADB.
	4. Enter the DBConnection Name HIPAADB.
Connected Servers	5. Enter the login <i>hipaa_admin</i> and password <i>hipaa_admin_password</i> .
	6. Select <i>server_ICL_project</i> .
	7. Click Unlimited .
New connection pool table	8. Right-click, and select New Connection Pool .
	9. For the Name field, enter HIPAA_STATE_DATA.
	10. For the Minimum connections field, enter 20.
	11. Click OK .
	12. Click Finish .

Modifying static relationships at the Windows client

If the front-end application or back-end application requires relationships, use these steps to modify the relationships.

This step is only necessary if relationships are required. If relationships are not required, you can skip this step. Also, when deploying the project, as described in “Deploying the project at the Windows client” on page 63, do not deploy the relationships.

This step specifies the type of database software used, the database name, user name and password:

Table 70. Modifying static relationships at the Windows client

Window or prompt	Action
System Manager	1. Expand Integration Component Libraries → <i>server_ICL_project</i> → Relationships → Static .
	2. Double-click to open the Relationship Designer .
	3. Right-click on a relationship and select Advanced Settings .
	4. Update the URL to <code>jdbc:db2:ics_database</code> (the database name must be all uppercase).
	5. Set the login ID to <code>hipaa_admin</code> .
	6. Enter the password.
	7. Click OK .
Do steps 3 through 6 for each relationship, then close the Relationship Designer.	

Creating a user project at the Windows client

Do the following steps to create a user project:

Table 71. Creating a user project at the Windows client

Window or prompt	Action
System Manager	1. Right-click User Projects → New User Project . Enter a project name. The name can be characters or numbers. Spaces are not allowed. This guide assumes <i>server_user_project</i> as the name.
New Project	2. Click OK .
New User Project window	3. In the window at the bottom, expand the Integration Component Library, and use the check boxes to add the following components to your user project: Business Objects Collaboration Objects Connectors Database Connection Pools Maps, if applicable Relationships, if applicable
	4. Clear JDBC and WebSphere MQ from Connectors.
	5. Click Finish .

Deploying the project at the Windows client

Do the following steps to deploy the project:

Table 72. Deploying the project at the Windows client

Window or prompt	Action
System Manager, WebSphere Business Integration System Manager	1. Expand User Project → InterChange Server Projects → <i>server_user_project</i> .

Table 72. Deploying the project at the Windows client (continued)

Window or prompt	Action
System Manager, InterChange Servers window	2. Right-click <i>server_user_project</i> . Select Deploy User Project .
Deploy window	Select <i>hostname_server</i> from the drop-down list.
	3. Expand <i>server_user_project</i> . Select the following objects to be deployed: Business Objects Collaboration Objects Collaboration Templates Connectors Database Connection Pools Maps (if applicable) Relationships (if applicable)
	4. Click Finish .
System Manager, WebSphere Business Integration System Manager	5. After the project has deployed, shut down the server: Right-click your server instance and select Shut down → Gracefully .

Restarting the server

Do the following steps to start the server:

Table 73. Restarting the server

Window or prompt	Action
Windows Desktop	1. To start the server, click Start → Programs → IBM WebSphere InterChange Server → IBM WebSphere InterChange Server → IBM WebSphere InterChange Server .
	2. Look in <i>ics_home/InterChange Server.log</i> for the message InterChange Server <i>hostname_server</i> is ready.

Activating the connectors

Verify each JDBC Connector (JDBC_MSGConnector and JDBC_PROConnector) is enabled for DB2 driver support. Each connector's start file should include the relevant class path names in the JDBC_DRIVER_PATH variable.

Note: You must edit this file to ensure the hostname matches the name of your WebSphere InterChange Server.

Do the following steps to activate the connectors:

Table 74. Activating the connectors

Window or prompt	Action
AIX system or Windows Desktop	<ol style="list-style-type: none">1. <ul style="list-style-type: none">• For the AIX server, from the AIX system:<ol style="list-style-type: none">1. cd to <i>ics_home/bin</i>2. Run <i>./hipaa_ActivateAllConnectors.sh</i>.• For the Windows server, from a Windows desktop:<ol style="list-style-type: none">1. cd to <i>ics_home/connectors</i>2. Run <i>hipaa_ActivateAllConnectors.bat</i>.

Chapter 9. Overview of the collaborations

The Support Pack for HIPAA supports two points of view: the Provider and the Payer. Use the appropriate point of view setup for your solution. Both the Provider and the Payer solutions support the same software products, however the setup of each is different.

The Provider point of view includes a message originating at a legacy front-end system. The message is processed by the WebSphere Business Integration component, including the collaborations, and then by WebSphere Data Interchange and sent to a trading partner. The response message is received by the trading partner, and processed by WebSphere Data Interchange and then the WebSphere Business Integration component, including the collaborations.

The Payer point of view includes a message originating at the trading partner. The message is processed by the WebSphere Data Interchange and then the WebSphere Business Integration and the collaborations. The legacy back-end system processes the message and returns the response message to the WebSphere Business Integration, including the collaborations, and then to the WebSphere Data Interchange. The message is then returned to the trading partner.

The collaborations used in the Support Pack for HIPAA include the HIPAA collaborations and bridge collaborations. The bridge collaborations bridge the WebSphere Business Integration component with WebSphere Data Interchange. The bridge collaborations split 270, 271, 278Req, 278Resp, 837Dental, 837Institutional, and 837Professional messages, if the messages contain multiple loops. When messages are received by the trading partner, the user cannot be guaranteed the message does not contain multiple loops. The bridge collaborations split the message so the HIPAA collaborations can process it.

If the legacy front end or the legacy back end give the WebSphere Business Integration component a 270, 271, 278Req, 278Resp, 837Dental, 837Institutional, or 837Professional message that contains multiple loops, the optional bridge collaborations must be configured.

In the Provider point of view, the optional bridge collaborations are used when 270, 278Req, 837Dental, 837Institutional, or 837Professional messages with multiple loops are sent to the WebSphere Business Integration component. If the legacy front-end system sends the WebSphere Business Integration component messages that contain single loops, the optional bridge collaborations are not needed.

In the Payer point of view, the optional bridge collaborations are used when 271 and 278Resp messages with multiple loops are sent to the WebSphere Business Integration component. If the legacy front-end system sends the WebSphere Business Integration component messages that contain single loops, the optional bridge collaborations are not needed.

A detailed description of the overall Support Pack for HIPAA solution is as follows:

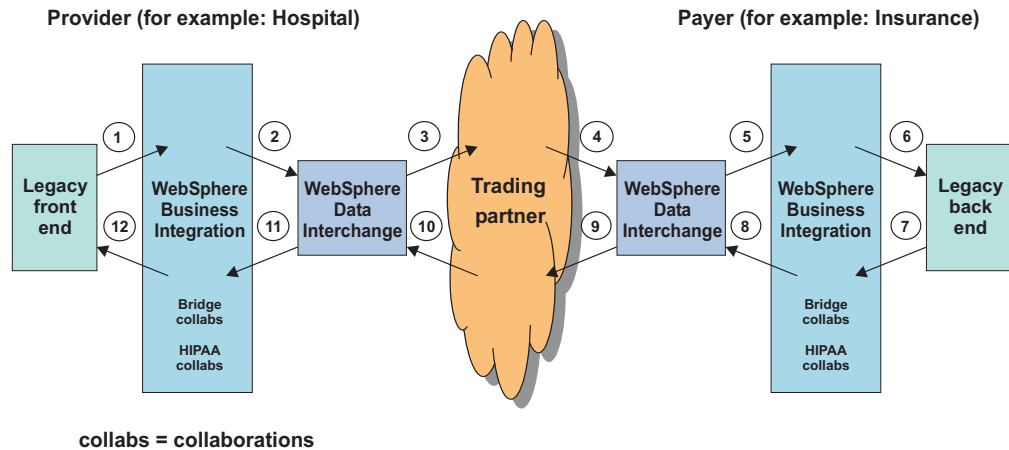


Figure 3. Overview of the HIPAA collaboration environment

1. The Provider's legacy front end puts an XML file on a queue, LegacyConn.in. WebSphere Business Integration processes the message.
2. WebSphere Business Integration processes the message by using WebSphereMQ, WebSphereMQ Adapters, DB2, and the HIPAA and bridge collaborations. The processed messages are placed on the queue DIXMLIN.
3. WebSphere Data Interchange transforms the message to X12 and validates the message. The X12 message is sent through the Internet to the trading partner.
4. The Payer's WebSphere Data Interchange gets the X12 file from the queue DIEDIIN.
5. WebSphere Data Interchange validates the X12 message, transforms it to XML, and then puts it on the queue DIXMLOUT. WebSphere Business Integration picks up the XML message.
6. WebSphere Business Integration processes the XML message by using WebSphereMQ, WebSphereMQ Adapters, DB2, and the HIPAA and bridge collaborations. The processed messages are placed on the queue LegacyConn.out. The Payer's legacy back end processes the XML messages.
7. The response messages that the Payer's legacy back end produces are sent back through WebSphere Business Integration.
8. WebSphere Business Integration processes the messages using WebSphereMQ, WebSphereMQ Adapters, DB2, and the HIPAA and bridge collaborations. The processed messages are placed on the queue DIXMLIN.
9. WebSphere Data Interchange transforms the message to X12 and validates the message. The X12 message is sent through the Internet to the trading partner. The Provider's WebSphere Data Interchange gets the X12 file from the queue DIEDIIN.
10. WebSphere Data Interchange validates the X12 message, transforms it to XML, and puts it on the queue DIXMLOUT. WebSphere Business Integration picks up the XML message.
11. WebSphere Business Integration processes the XML message by using WebSphereMQ, WebSphereMQ Adapters, DB2, and the HIPAA and bridge collaborations. The processed messages are placed on the queue LegacyConn.out. The Provider's legacy back end processes the XML messages.

Provider point of view

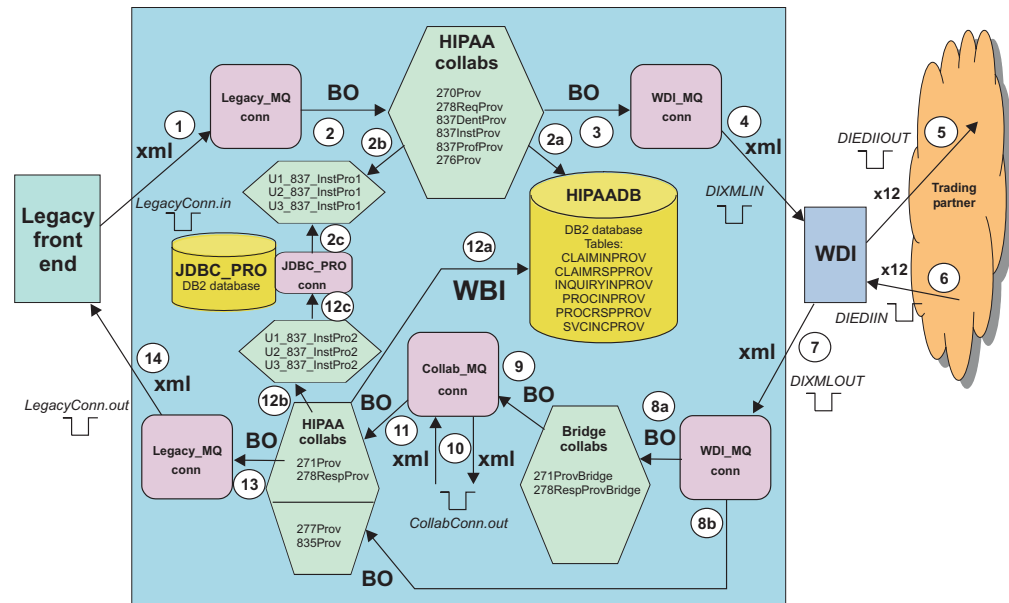


Figure 4. Provider point of view

1. The legacy front end puts a 270, 278Req, 837Dental, 837Institutional, 837Professional, or 276 XML message on the queue, LegacyConn.in. The Legacy_MQConnector receives the message.

2. The Legacy_MQConnector processes the message, converts it to a Generic Business Object using the XMLDataHandler, and then sends this business object to the corresponding HIPAA collaboration.

If the message contains multiple loops, it will fail in the HIPAA collaborations. If the message does contain multiple loops, then the Provider needs to use the bridge collaborations in the solution. See “Provider point of view with optional bridge collaborations” on page 72.

a. If the messages are to write to the HIPAAADB DB2 database, the following tables are updated:

CLAIMINPROV
CLAIMRSPPROV
INQUIRYINPROV
PROCINPROV
PROCRSPPROV
SVCINCPROV

b. If configured to do so, the 837ProfProv, 837InstProv, and 837DentProv send data through the Store port to the collaborations U1_837_InstPro1, U2_837_InstPro1, and U3_837_InstPro1, respectively.

c. Each of the U1_837_InstPro1, U2_837_InstPro1, and U3_837_InstPro1 collaborations store to the DB2 JDBC_PRO database using a JDBC Connector, to be used later by the 835Prov collaboration.

3. The HIPAA collaboration processes the business object, and then sends it to the WDI_MQConnector.

4. The WDI_MQConnector converts the business object to XML and puts it on the DIXMLIN queue.

5. WebSphere Data Interchange gets the XML file from DIXMLIN, transforms the message to X12, and validates the message. The X12 message is sent to the queue DIEDIOUT, where the trading partner, using the Internet, gets the message.
6. After the Payer has sent a reply, the message taken from the trading partner, and put on the DIEDIIN queue.
7. WebSphere Data Interchange gets the X12 message, validates it, and transforms it to XML. The message is put on the DIXMLOUT queue.
8. WDI_MQConnector gets the message, and converts it to XML to a business object with the XMLDataHandler.
 - a. If the message is a 271 or a 278Response, the business object is sent to the bridge collaborations. Since the Provider does not know if the incoming message has multiple loops, the 271 or 278Response message may need to be split by the bridge collaborations. Processing continues at 9.
 - b. If the message is a 277 or 835, the business object does not need to be split. The business object is sent to the HIPAA collaborations. Processing continues at 12.
9. The bridge collaborations split the business object, if need be. Each split message is sent to the Collab_MQConnector.
10. The COLLAB_MQConnector converts the message to XML and puts it on the CollabConn.out queue. The XML is immediately picked up off the CollabConn.out queue and picked up again by the Collab_MQConnector.
11. The message is converted to a business object by the XMLDataHandler and sent to the HIPAA Collaborations.
12. If the message is written to the HIPAADB DB2 database, the following tables are updated:
 - CLAIMINPROV
 - CLAIMRSPPROV
 - INQUIRYINPROV
 - PROCINPROV
 - PROCRSPPROV
 - SVCINCPCPROV

The 835Prov uses the U1_837_InstPro2, U2_837_InstPro2, and U3_837_InstPro2 collaborations. The U1_837_InstPro2, U2_837_InstPro2, and U3_837_InstPro2 collaborations write to the JDBC_PRO DB2 database using a JDBC Connector.
13. The HIPAA collaborations process the business object and sends it to the Legacy_MQConnector.
14. The Legacy_MQConnector converts the business object to XML using the XMLDataHandler and puts it on the LegacyConn.out queue. The legacy front-end system may now process the response message.

Port setup for the Provider point of view

Table 75. Port setup for the Provider point of view

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
U1_837_InstPro1	X12_U1_837_Store	Collaboration 837ProfProv.Store	JDBC_PRO	-	-	-	-
U1_837_InstPro2	X12_U1_837_Store	Collaboration 835ProfProv.837	JDBC_PRO	-	-	-	-
U2_837_InstPro1	X12_U2_837_Store	Collaboration 837DentalProv.Store	JDBC_PRO	-	-	-	-
U2_837_InstPro2	X12_U2_837_Store	Collaboration 835DentalProv.837	JDBC_PRO	-	-	-	-
U3_837_InstPro1	X12_U3_837_Store	Collaboration 837InstProv.Store	JDBC_PRO	-	-	-	-
U3_837_InstPro2	X12_U3_837_Store	Collaboration 835InstProv.837	JDBC_PRO	-	-	-	-
270Prov	HIPAA270Prov	Legacy_MQ	WDL_MQ	-	-	-	-
271Prov	HIPAA271Prov	Collab_MQ	Legacy_MQ	-	-	-	-
276Prov	HIPAA276Prov	Legacy_MQ	WDL_MQ	-	-	-	-
277Prov	HIPAA277Prov	WDL_MQ	Legacy_MQ	-	-	-	-
278ReqProv	HIPAA278ReqProv	Legacy_MQ	WDL_MQ	-	-	-	-
278RespProv	HIPAA278RespProv	Collab_MQ	Legacy_MQ	-	-	-	-
	HIPAA820Prov	-	-	-	-	-	-
	HIPAA834Prov	-	-	-	-	-	-
835Prov	HIPAA835Prov	WDL_MQ	Legacy_MQ	-	Collaboration U1_837_InstPro2.From U2_837_InstPro2.From U3_837_InstPro2.From	Collaboration U1_837_InstPro1.From	Collaboration U2_837_InstPro1.From
837ProfProv	HIPAA837ProfProv	Legacy_MQ	WDL_MQ	Collaboration U1_837_InstPro1.From	-	-	-
837DentalProv	HIPAA837DentalProv	Legacy_MQ	WDL_MQ	Collaboration U2_837_InstPro1.From	-	-	-
837InstProv	HIPAA837InstProv	Legacy_MQ	WDL_MQ	Collaboration U3_837_InstPro1.From	-	-	-
271ProvBridge	HIPAA271Bridge	WDL_MQ	Collab_MQ	-	-	-	-
278RespProvBridge	HIPAA278RespBridge	WDL_MQ	Collab_MQ	-	-	-	-

Provider point of view with optional bridge collaborations

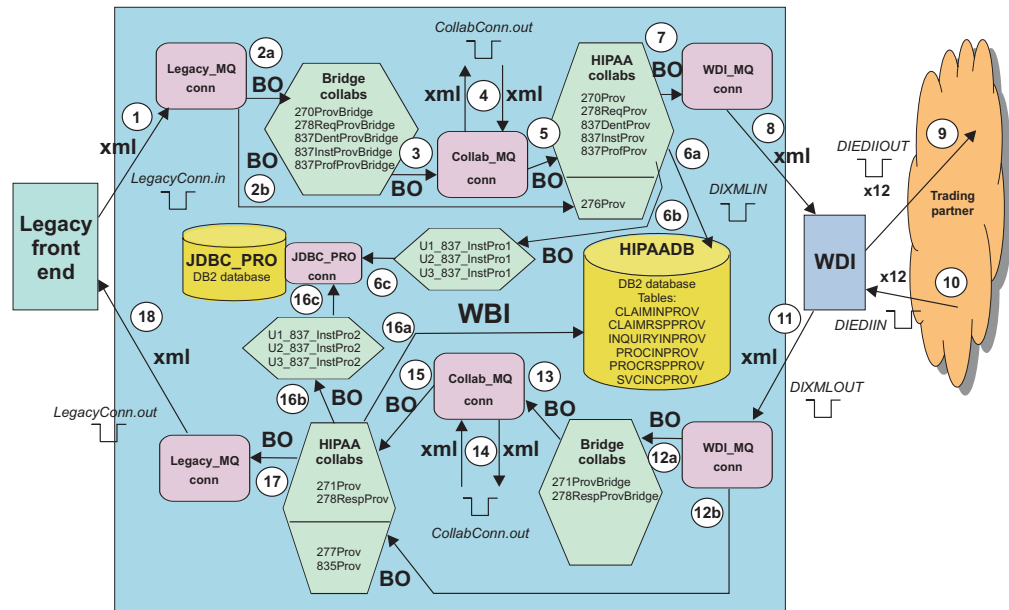


Figure 5. Provider point of view with optional bridge collaborations

1. The legacy front end (not included with Support Pack for HIPAA) puts 270, 278Req, 837Dental, 837Institutional, 837Professional, or 276 XML messages on the queue, LegacyConn.in. The Legacy_MQConnector receives the message.
2. The Legacy_MQConnector processes the message and converts it to a Generic Business Object using the XMLDataHandler.
 - a. If the message writes to the HIPAADB DB2 database, the following tables are updated:
 - CLAIMINPROV
 - CLAIMRSPPROV
 - INQUIRYINPROV
 - PROCINPROV
 - PROCRSPPROV
 - SVCINCPROV
 - b. If the business object is a 270, 278Request, 837Dental, 837Institutional, or an 837Professional message, the business object is sent to its corresponding bridge collaboration. The Provider can use the bridge collaborations to split the message that gets sent through the HIPAA collaborations.
 - c. If the business object is a 276 message, it is sent to its corresponding HIPAA collaboration and processing continues at step 6.
3. The bridge collaborations split the business object, if need be. Each split message is sent to the COLLAB_MQConnector.
4. The COLLAB_MQConnector uses the XMLDataHandler to convert the message to XML and then puts it on the CollabConn.out queue. The XML is immediately picked up off the CollabConn.out queue and picked up again by the Collab_MQConnector.
5. The message is converted to a business object by the XMLDataHandler and sent to the HIPAA collaborations.
- 6.

- a. If the message writes to the HIPAADB DB2 database, the following tables will be updated:
 - CLAIMINPROV
 - CLAIMRSPPROV
 - INQUIRYINPROV
 - PROCINPROV
 - PROCRSPPROV
 - SVCINCPROV
 - b. If configured to do so, the 837ProfProv, 837InstProv, and 837DentProv send data through the Store port to the collaborations U1_837_InstPro1, U2_837_InstPro1, and U3_837_InstPro1, respectively.
 - c. Each of the U1_837_InstPro1, U2_837_InstPro1, and U3_837_InstPro1 collaborations store to the DB2 JDBC_PRO database using a JDBC Connector, to be used later by the 835Prov collaboration.
7. The HIPAA collaboration processes the business object, and then sends it to the WDI_MQConnector.
8. The WDI_MQConnector converts the business object to XML and puts it on the DIXMLIN queue.
9. WebSphere Data Interchange gets the XML file from DIXMLIN, transforms the message to X12, and validates the message. The X12 message is sent to the queue DIEDIOUT, where the trading partner, via the Internet, gets the message.
10. After the Payer has sent a reply, the message taken from the trading partner, is put on the DIEDIIN queue.
11. WebSphere Data Interchange gets the X12 message, validates it, and transforms it to XML. The message is put on the DIXMLOUT queue.
12. WDI_MQConnector gets the message, and converts it to XML to a business object with the XMLDataHandler.
 - a. If the message is written to the HIPAADB DB2 database, the following tables will be updated: CLAIMINPROV, CLAIMRSPPROV, INQUIRYINPROV, PROCINPROV, PROCRSPPROV, SVCINCPROV.
 - b. If the message is a 271 or a 278Response, the business object is sent to the bridge collaborations. Since the Provider does not know if the incoming message has multiple loops, the 271 or 278Response message may need to be split by the bridge collaborations. Processing continues at 13.
 - c. If the message is a 277 or 835, the business object does not need to be split. The business object is sent to the HIPAA collaborations. Processing continues at 16.
13. The bridge collaborations split the business object, if need be. Each split message is sent to the COLLAB_MQConnector.
14. The COLLAB_MQConnector converts the message to XML and puts it on the CollabConn.out queue. The XML is immediately picked up off the CollabConn.out queue and picked up again by the Collab_MQConnector.
15. The message is converted to a business object by the XMLDataHandler and sent to the HIPAA collaborations.
16.
 - a. The 835Prov uses the U1_837_InstPro2, U2_837_InstPro2, and U3_837_InstPro2 collaborations.
 - b. The U1_837_InstPro2, U2_837_InstPro2, and U3_837_InstPro2 collaborations write to the JDBC_PRO DB2 database using a JDBC Connector.

17. The HIPAA collaborations process the business object and sends it to the Legacy_MQConnector.
18. The Legacy_MQConnector converts the business object to XML using the XMLDataHandler and puts it on the LegacyConn.out queue. The legacy front end system may now process the response message.

Port setup for the Provider point of view with the optional bridge collaborations

Table 76. Port setup for the Provider point of view with the optional bridge collaborations

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
U1_837_InstPro1	X12_U1_837_Store	Collaboration 837ProfProv.Store	JDBC_PRO	-	-	-	-
U1_837_InstPro2	X12_U1_837_Store	Collaboration 835ProfProv.837	JDBC_PRO	-	-	-	-
U2_837_InstPro1	X12_U2_837_Store	Collaboration 837DentalProv.837	JDBC_PRO	-	-	-	-
U2_837_InstPro2	X12_U2_837_Store	Collaboration 835DentalProv.Store	JDBC_PRO	-	-	-	-
U3_837_InstPro1	X12_U3_837_Store	Collaboration 837InstProv.837	JDBC_PRO	-	-	-	-
U3_837_InstPro2	X12_U3_837_Store	Collaboration 835InstProv.Store	JDBC_PRO	-	-	-	-
270Prov	HIPAA270Prov	Collab_MQ	WDL_MQ	-	-	-	-
271Prov	HIPAA271Prov	Collab_MQ	Legacy_MQ	-	-	-	-
276Prov	HIPAA276Prov	Legacy_MQ	WDL_MQ	-	-	-	-
277Prov	HIPAA277Prov	WDL_MQ	Legacy_MQ	-	-	-	-
278ReqProv	HIPAA278ReqProv	Collab_MQ	WDL_MQ	-	-	-	-
278RespProv	HIPAA278RespProv	Collab_MQ	Legacy_MQ	-	-	-	-
	HIPAA820Prov	-	-	-	-	-	-
	HIPAA834Prov	-	-	-	-	-	-
835Prov	HIPAA835Prov	WDL_MQ	Legacy_MQ	-	Collaboration U1_837_InstPro2.From U2_837_InstPro2.From U3_837_InstPro2.From	Collaboration U1_837_InstPro1.From	Collaboration U3_837_InstPro1.From
837ProfProv	HIPAA837ProfProv	Collab_MQ	WDL_MQ	Collaboration U1_837_InstPro1.From	-	-	-
837DentalProv	HIPAA837DentalProv	Collab_MQ	WDL_MQ	Collaboration U2_837_InstPro1.From	-	-	-
837InstProv	HIPAA837InstProv	Collab_MQ	WDL_MQ	Collaboration U3_837_InstPro1.From	-	-	-
270ProvBridge	HIPAA270Bridge	Legacy_MQ	Collab_MQ	-	-	-	-
271ProvBridge	HIPAA271Bridge	WDL_MQ	Collab_MQ	-	-	-	-

Table 76. Port setup for the Provider point of view with the optional bridge collaborations (continued)

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
278ReqProvBridgeHIPAA278ReqBridge		Legacy_MQ	Collab_MQ				
278RespProvBridgeHIPAA278RespBridge		WDL_MQ	Collab_MQ				
837DentProvBridgeHIPAA837DentBridge		Legacy_MQ	Collab_MQ				
837InstProvBridgeHIPAA837InstBridge		Legacy_MQ	Collab_MQ				
837ProfProvBridgeHIPAA837ProfBridge		Legacy_MQ	Collab_MQ				

Payer point of view

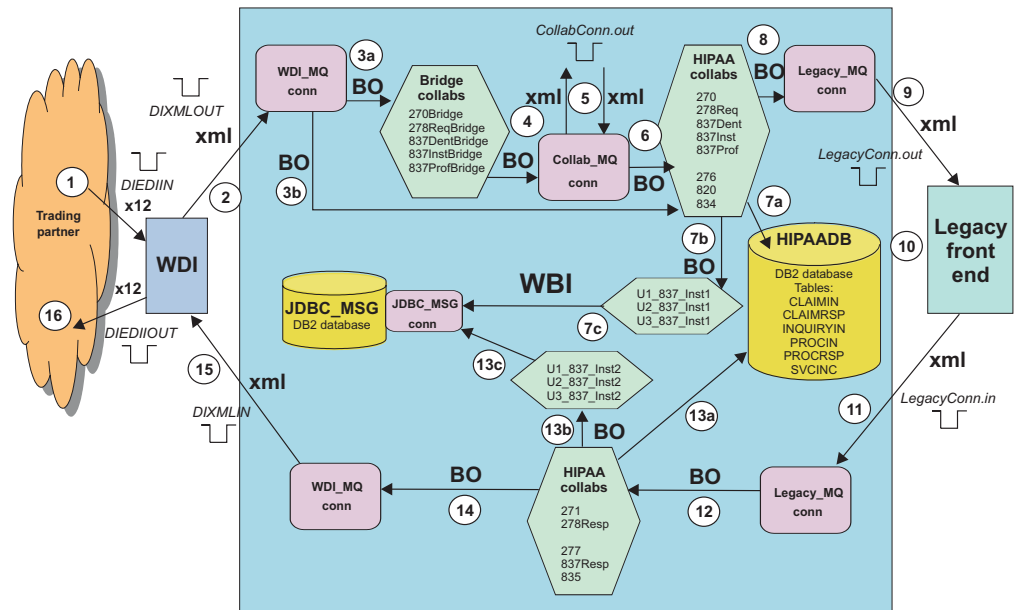


Figure 6. The Support Pack for HIPAA collaborations from the Payer point of view

1. After the Provider has sent a message, it is taken from the trading partner, via the Internet, and put on the DIEDIIN queue, where WebSphere Data Interchange picks it up.
2. WebSphere Data Interchange gets the X12 message, validates it and transforms it to XML. The message is put on the DIXMLOUT queue.
3. WDI_MQConnector gets the XML message, and converts it to a Generic Business Object (business object) with the XMLDataHandler.
 - a. If the message is written to the HIPAADB DB2 database, the following tables are updated:
 CLAIMIN
 CLAIMRSP
 INQUIRYIN
 PROCIN
 PROCRSP
 SVCINC
 - b. If the message is a 270, 278Request, 837Dental, 837Institutional, or 837Professional, the business object is sent to the bridge collaborations. Since the Payer does not know if the incoming message has multiple loops, these messages need to be split by the bridge collaborations, before going through the HIPAA collaborations.
 - c. If the message is a 276, 820, or 834, the message does not need to be split. The message is sent to the HIPAA collaborations and processing continues at Step 7 on page 78.
4. If necessary, the bridge collaborations split the business object into individual messages. Each split message is sent to the COLLAB_MQConnector.
5. The COLLAB_MQConnector converts the message to XML and puts it on the CollabConn.out queue. The XML is immediately picked up off the CollabConn.out queue and picked up again by the Collab_MQConnector.

6. The message is converted to a business object by the XMLDataHandler and sent to the HIPAA Collaborations.
7. If configured to do so, the 837Prof, 837Inst, and 837Dent send data through the Store port to the collaborations U1_837_Inst1, U2_837_Inst1, and U3_837_Inst1, respectively.
Each of the U1_837_Inst1, U2_837_Inst1, and U3_837_Inst1 collaborations store to the DB2 JDBC_MSG database using a JDBC Connector, to be used later by the 837RespProv and 835Prov collaborations.
8. The HIPAA collaborations process the business object and sends it to the Legacy_MQConnector.
9. The Legacy_MQConnector converts the business object to XML using the XMLDataHandler and puts it on the LegacyConn.out queue. The legacy back end system now processes the response message.
10. As the legacy back end produces response XML messages, if the 271 and 278Response messages do not have multiple loops, they can be sent directly to the HIPAA collaborations. If they contain multiple loops, the bridge collaborations must be used, before the HIPAA collaborations can process these messages. If this is the case, see "Payer point of view with optional bridge collaborations" on page 81.
11. The legacy back end puts the response XML messages (271, 278Response, 277, 837Response, or 835) on the LegacyConn.in queue.
12. If the message is written to the HIPAADB DB2 database, the following tables are updated:
CLAIMIN
CLAIMRSP
INQUIRYIN
PROCIN
PROCRSP
SVCINC

The 837Resp and 835 use the U1_837_Inst2, U2_837_Inst2, and U3_837_Inst2 collaborations. 12c. The U1_837_Inst2, U2_837_Inst2, and U3_837_Inst2 collaborations write to the JDBC_MSG DB2 database using a JDBC Connector.
13. The Legacy_MQConnector receives the message. The Legacy_MQConnector processes the XML message, converts it to a business object using the XMLDataHandler, and sends the business object to its corresponding HIPAA collaboration.
14. The HIPAA collaboration processes the business object, and then sends it to the WDI_MQConnector.
15. The WDI_MQConnector converts the business object to XML and puts it on the DIXMLIN queue.
16. WebSphere Data Interchange gets the XML file from DIXMLIN, transforms the message to X12, and validates the message. The X12 message is sent to the queue DIEDIOUT, where the trading partner, via the Internet, gets the message.

Port setup for the Payer point of view

Table 77. Port setup for the Payer point of view

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
U1_837_Inst1	X12_U1_837_Store	Collaboration 837Prof.Store	JDBC_MSG	-	-	-	-
U1_837_Inst2	X12_U1_837_Store	Collaboration 835.Prof_837	JDBC_MSG	-	-	-	-
U2_837_Inst1	X12_U2_837_Store	Collaboration 837Dental.Store	JDBC_MSG	-	-	-	-
U2_837_Inst2	X12_U2_837_Store	Collaboration 835.Dental_837	JDBC_MSG	-	-	-	-
U3_837_Inst1	X12_U3_837_Store	Collaboration 837Inst.Store	JDBC_MSG	-	-	-	-
U3_837_Inst2	X12_U3_837_Store	Collaboration 835.Inst_837	JDBC_MSG	-	-	-	-
270	HIPAA270	Collab_MQ	Legacy_MQ	-	-	-	-
271	HIPAA271	Collab_MQ	WDL_MQ	-	-	-	-
276	HIPAA276	WDL_MQ	Legacy_MQ	-	-	-	-
277	HIPAA277	Legacy_MQ	WDL_MQ	-	-	-	-
278Req	HIPAA278Req	Collab_MQ	Legacy_MQ	-	-	-	-
278Resp	HIPAA278Resp	Collab_MQ	WDL_MQ	-	-	-	-
820	HIPAA820Prov	WDL_MQ	Legacy_MQ	-	-	-	-
834	HIPAA834Prov	WDL_MQ	Legacy_MQ	-	-	-	-
835	HIPAA835	Legacy_MQ	WDL_MQ	-	Collaboration U1_837_Inst2.From	Collaboration U2_837_Inst2.From	Collaboration U3_837_Inst2.From
837Resp	HIPAA837Resp	Legacy_MQ	WDL_MQ	-	-	-	-
837Prof	HIPAA837Prof	Collab_MQ	Legacy_MQ	Collaboration UI_837_Inst1.From	-	-	-
837Dental	HIPAA837Dental	Collab_MQ	Legacy_MQ	Collaboration U2_837_Inst1.From	-	-	-
837Inst	HIPAA837Inst	Collab_MQ	Legacy_MQ	Collaboration U3_837_Inst1.From	-	-	-
270Bridge	HIPAA270Bridge	WDL_MQ	Collab_MQ	-	-	-	-

Table 77. Port setup for the Payer point of view (continued)

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
278ReqBridge	HIPAA278ReqBridge	WDL_MQ	Collab_MQ	-	-	-	-
837DentalBridge	HIPAA837DentalBridge	WDL_MQ	Collab_MQ	-	-	-	-
837InstBridge	HIPAA837InstBridge	WDL_MQ	Collab_MQ				
837ProfBridge	HIPAA837ProfBridge	WDL_MQ	Collab_MQ				

Payer point of view with optional bridge collaborations

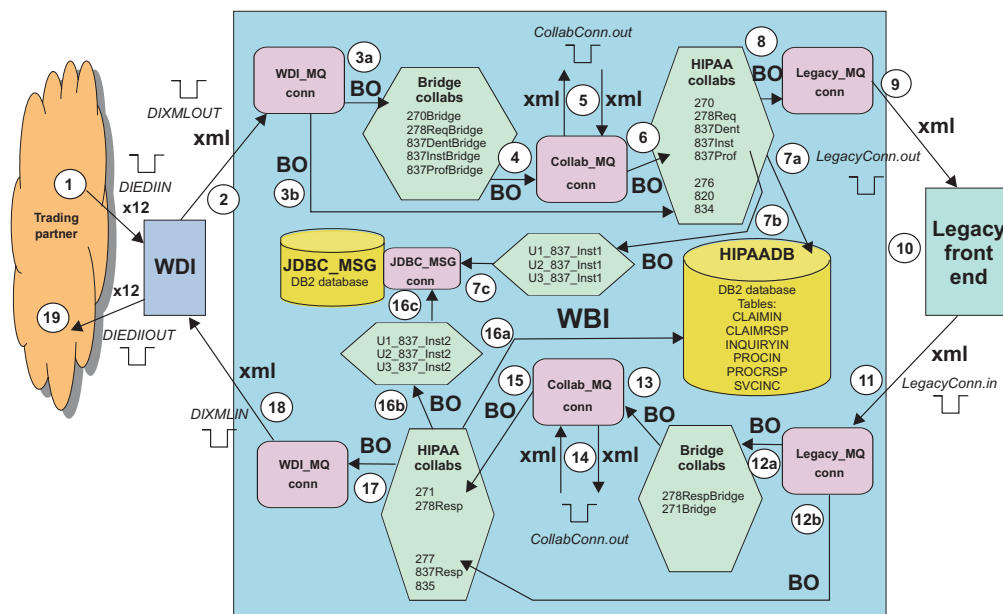


Figure 7. Payer point of view with optional bridge collaborations

1. After the Provider has sent a message, it is taken from the trading partner, via the Internet, and put on the DIEDIIN queue, where WebSphere Data Interchange picks it up.
2. WebSphere Data Interchange gets the X12 message, it validates it and transforms it to XML. The message is put on the DIXMLOUT queue.
3. WDI_MQConnector gets the XML message, and converts it to a Generic Business Object (business object) with the XMLDataHandler.
 - a. If the message is written to the HIPAAADB DB2 database, the following tables are updated:
 CLAIMIN
 CLAIMRSP
 INQUIRYIN
 PROCIN
 PROCRSP
 SVCINC
 - b. If the message is a 270, 278Request, 837Dental, 837Institutional, or 837Professional, the business object is sent to the bridge collaborations. Since the Payer does not know if the incoming message has multiple loops, these messages need to be split by the bridge collaborations, before going through the HIPAA collaborations.
 - c. If the message is a 276, 820, or 834, the message does not need to be split. The message is sent to the HIPAA collaborations. Processing continues at 7 on page 82.
4. The bridge collaborations split the business object, if need be. Each split message is sent to the Collab_MQConnector.
5. The Collab_MQConnector converts the message to XML and puts it on the CollabConn.out queue. The XML is immediately picked up off the CollabConn.out queue and picked up again by the Collab_MQConnector.

6. The message is converted to a business object by the XMLDataHandler and sent to the HIPAA Collaborations.
7.
 - a. If configured to do so, the 837Prof, 837Inst, and 837Dent send data through the Store port to the collaborations U1_837_Inst1, U2_837_Inst1, and U3_837_Inst1, respectively.
 - b. Each of the U1_837_Inst1, U2_837_Inst1, and U3_837_Inst1 collaborations store to the DB2 JDBC_MSG database using a JDBC Connector, to be used later by the 837RespProv and 835Prov collaborations.
8. The HIPAA collaborations process the business object and sends it to the Legacy_MQConnector.
9. The Legacy_MQConnector converts the business object to XML using the XMLDataHandler and puts it on the LegacyConn.out queue. The legacy back end system may now process the response message.
10. As the legacy back end produces response XML messages, if the 271 and 278Response messages do not have multiple loops, they can be sent directly to the HIPAA collaborations. If they contain multiple loops, the bridge collaborations must be used, before the HIPAA collaborations can process these messages. If this is not the case, use the scenario in "Payer point of view" on page 77.
11. The legacy back end puts the response XML messages (271, 278Response, 277, 837Response, or 835) on the LegacyConn.in queue.
12. The Legacy_MQConnector receives the message and converts it to a business object using the XMLDataHandler. It then sends the business object to its corresponding HIPAA collaboration.
 - a. If the message is written to the HIPAADB DB2 database, the following tables are updated:
 - CLAIMIN
 - CLAIMRSP
 - INQUIRYIN
 - PROCIN
 - PROCRSP
 - SVCINC
 - b. If the message is 271 or 278Response, it is sent to the bridge collaborations.
 - c. If the message is 277, 837Response, or 835, it is sent to the HIPAA collaborations. Processing continues at Step 14.
13. The bridge collaborations split the business object, if need be. Each split message is sent to the Collab_MQConnector.
14. The Collab_MQConnector converts the message to XML and puts it on the CollabConn.out queue. The XML is immediately picked up off the CollabConn.out queue and picked up again by the Collab_MQConnector.
15. The message is converted to a business object by the XMLDataHandler and then sent to the HIPAA Collaborations.
16.
 - a. The 837Resp and 835 use the U1_837_Inst2, U2_837_Inst2, and U3_837_Inst2 collaborations.
 - b. The U1_837_Inst2, U2_837_Inst2, and U3_837_Inst2 collaborations write to the JDBC_MSG DB2 database using a JDBC Connector.
17. The HIPAA collaboration processes the business object, and then sends it to the WDI_MQConnector.

18. The WDI_MQConnector converts the business object to XML and puts it on the DIXMLIN queue.
19. WebSphere Data Interchange gets the XML file from DIXMLIN, transforms the message to X12, and validates the message. The X12 message is then sent to the queue DIEDIOUT, where the trading partner, via the Internet, gets the message.

Port setup for the Payer point of view with optional bridge collaborations

Table 78. Port setup for the Payer point of view with optional bridge collaborations

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
U1_837_Inst1	X12_U1_837_Store	Collaboration 837Prof.Store	JDBC_MSG	-	-	-	-
U1_837_Inst2	X12_U1_837_Store	Collaboration 835.Prof_837	JDBC_MSG	-	-	-	-
U2_837_Inst1	X12_U2_837_Store	Collaboration 837Dental.Store	JDBC_MSG	-	-	-	-
U2_837_Inst2	X12_U2_837_Store	Collaboration 835.Dental_837	JDBC_MSG	-	-	-	-
U3_837_Inst1	X12_U3_837_Store	Collaboration 837Inst.Store	JDBC_MSG	-	-	-	-
U3_837_Inst2	X12_U3_837_Store	Collaboration 835.Inst_837	JDBC_MSG	-	-	-	-
270	HIPAA270	Collab_MQ	Legacy_MQ	-	-	-	-
271	HIPAA271	Collab_MQ	WDL_MQ	-	-	-	-
276	HIPAA276	WDL_MQ	Legacy_MQ	-	-	-	-
277	HIPAA277	Legacy_MQ	WDL_MQ	-	-	-	-
278Req	HIPAA278Req	Collab_MQ	Legacy_MQ	-	-	-	-
278Resp	HIPAA278Resp	Collab_MQ	WDL_MQ	-	-	-	-
820	HIPAA820Prov	WDL_MQ	Legacy_MQ	-	-	-	-
834	HIPAA834Prov	WDL_MQ	Legacy_MQ	-	-	-	-
835	HIPAA835	Legacy_MQ	WDL_MQ	-	Collaboration U1_837_Inst2.From	Collaboration U2_837_Inst2.From	Collaboration U3_837_Inst2.From
837Resp	HIPAA837Resp	Legacy_MQ	WDL_MQ	-	-	-	-
837Prof	HIPAA837Prof	Collab_MQ	Legacy_MQ	Collaboration UI_837_Inst1.From	-	-	-
837Dental	HIPAA837Dental	Collab_MQ	Legacy_MQ	Collaboration U2_837_Inst1.From	-	-	-
837Inst	HIPAA837Inst	Collab_MQ	Legacy_MQ	Collaboration U3_837_Inst1.From	-	-	-
270Bridge	HIPAA270Bridge	WDL_MQ	Collab_MQ	-	-	-	-

Table 78. Port setup for the Payer point of view with optional bridge collaborations (continued)

Collaboration object name	Template used	From port	To port	Store port	Prof_837 port	Dental_837 port	Inst_837 port
271Bridge	HIPAA271Bridge	Legacy_MQ	Collab_MQ				
278ReqBridge	HIPAA278ReqBridge	WDL_MQ	Collab_MQ	-	-	-	-
278RespBridge	HIPAA278RespBridge	Legacy_MQ	Collab_MQ				
837DentalBridge	HIPAA837DentalBridge	WDL_MQ	Collab_MQ	-	-	-	-
837InstBridge	HIPAA837InstBridge	WDL_MQ	Collab_MQ				
837ProfBridge	HIPAA837ProfBridge	WDL_MQ	Collab_MQ				

Chapter 10. Code sets and conversions

This section tells where to obtain the code sets and how to convert them to EIF format.

Externally-obtained code sets

The WebSphere Data Interchange validation maps use externally-obtained code sets for SNIP level 5 and 6 validation. See “Setting SNIP type options for validation maps” on page 97 for more information. A list of the code sets is available at the following Web site:

<http://www.wpc-edi.com>

WebSphere Data Interchange requires the code sets to be in EIF file format. To assist with this, a utility is included that converts code sets from comma separated value (CSV) file format into EIF format before importing the code set. See “Converting CSV-formatted files to EIF-formatted files with the CodeSetHandler utility” on page 89 for the syntax of the conversion utility. It is the customer’s responsibility to obtain the external code sets and to provide them in CSV format.

The external HIPAA code sets are a prerequisite for processing SNIP level 5 and 6 messages and that these must be obtained from a third party source. See “Setting SNIP type options for validation maps” on page 97 for SNIP settings.

The following code sets are used by Support Pack for HIPAA. You are responsible for updating these code sets as necessary.

All of these code sets must be provided for error-free processing if you specify SNIP level 5. If one or more code sets are missing, then multiple error messages are produced during processing.

Table 79. List of code sets

X12 Code Set Number	Description	Name
4	ABA Routing Number	HPA4
5	Countries-ISO3166	HPA5
	Currencies and Funds-ISO4217	
16	D-U-N-S Number	HPA16
22	States and Outlying Areas of the U.S.	HPA22
41	Universal Product Code	HPA41
43	FIPS-55 (Named Populated Places)	HPA43
51	Zip Code	HPA51
60	Depository Financial Institution (DFI) Identification Number	HPA60
77	X12 Directories	HPA77
91	Canadian Financial Institution Branch and Institution Number	HPA91
94	International Organization for Standardization (Date and Time)	HPA94

Table 79. List of code sets (continued)

X12 Code Set Number	Description	Name
102	Languages	HPA102
121	Health Industry Identification Number	HPA121
130	Health Care Financing Administration Common Procedural Coding System	HPA130
	HCPCS – Level I	
	HCPCS – Level II	
	HCPCS – Level III	
131	International Classification of Diseases Clinical Mod (ICD-9-CM) Procedure	HPA131
132	National Uniform Billing Committee (NUBC) Codes	HPA132
	UB92 Revenue Codes	
	UB92 Bill Type Code	
	UB92 Facility Type Code	
	Occurrence Span Codes	
	Occurrence Codes	
	Value Codes	
	Condition Codes	
133	Common Procedural Terminology (CPT) codes	HPA133
134	National Drug Code	HPA134
135	American Dental Association Codes	HPA135
139	Claim Adjustment Reason Code	HPA139
158	Health Care Financing Administration (HCFA)	HPA158
229	Diagnosis Related Group Number (DRG)	HPA229
230	Admission Source Code	HPA230
231	Admission Type Code	HPA231
235	Claim Frequency Type Code	HPA235
236	Uniform Billing Claim Form Bill Type	HPA236
237	Place of Service from Health Care Financing Administration Claim Form	HPA237
239	Patient Status Code	HPA239
240	National Drug Code by Format	HPA240
245	National Association of Insurance Commissioners (NAIC) Code	HPA245
307	National Association of Boards of Pharmacy Number	HPA307
359	Treatment Codes	HPA359
411	Remittance Remark Codes	HPA411
457	NISO Z39.53 Language Code List	HPA457
507	Health Care Claim Status Category Code	HPA507
508	Health Care Claim Status Code	HPA508

Table 79. List of code sets (continued)

X12 Code Set Number	Description	Name
513	Home Infusion EDI Coalition (HIEC) Product/Service Code List	HPA513
522	Health Industry Labeler Identification Code	HPA522
530	National Council for Prescription Drug Programs Reject/Payment Codes	HPA530
537	Health Care Financing Administration National Provider Identifier	HPA537
540	Health Care Financing Administration National Plan ID	HPA540
663	Logical Observation Identifier Names and Codes (LOINC)	HPA663
DOD1	Military Rank Health Care Service Region*	HPADOD1
DOD2	Paygrade HCFA Public Use Files Canadian Province Abbreviations CLIA Number IHS/CHS Tribal Residency Codes	HPADOD2
HPTC	Provider Taxonomy Codes	HPAHPTC
HIPPS	Health Insurance Prospective Payment System (HIPPS) Code Skilled Nursing Facility Home Health Inpatient Rehab Facilities	HPAHIPPS

Converting CSV-formatted files to EIF-formatted files with the CodeSetHandler utility

WebSphere Data Interchange requires that the code set files be EIF-formatted files. Use the CodeSetHandler utility to parse the content of one or more CSV-formatted code set files and convert them to a single EIF-formatted file. The CodeSetHandler utility accepts parameters passed on the command line to create an EIF-formatted file that can be imported into WebSphere Data Interchange. The utility can run on any platform with an installed Java runtime, and has no special memory or system requirement. The Java runtime must be installed and the utility program must be in the current directory.

CSV input file

You can specify multiple input CSV files to be converted to one EIF file.

The CodeSetHandler utility expects the CSV file to begin with a title, such as "KEY", "NAME", "VALUE" although the text need not be these exact words. Blank spaces can precede or interspace these values. The second record in the file is the

most important and it defines the output file. The second and subsequent records must have the format "*tt_yyyymmdd*",*"var1"*,*"var2"* with or without white spaces in between, where:

tt Table ID (up to 5 characters in length)
_ Separator
yyyy year
mm Month
dd Day
var1 Code set-dependent value string
var2 Code set-dependent value description

The underscore character (_) need not be present. The utility uses all characters up to the underscore or a maximum of five characters as the name of the code set with the prefix "HPA". This limits the code set name to a maximum of eight characters, five of which are up to the builder's discretion. After the code set name is set, the utility validates subsequent records in the file to ensure they belong to the current code set. If a record does not belong to the code set formed from the information in the second record in the file, the utility skips the record and displays an invalid record message. The utility discards the characters representing the date separator, if one exists. It also discards the remaining date, and any duplicate occurrence of *var1*.

The CodeSetHandler utility truncates *var1* and *var2* to a maximum of 35 and 63 characters respectively and inserts escape characters needed by WebSphere Data Interchange; however these escape characters are not part of the total length of *var1* and *var2*.

Running the utility

To run CodeSetHandler utility, use the following syntax. Note that parameters starting with a dash (-) can be in any order, but the input and output file names must be at the end:

```
java -jar CodeSetHandler.jar        [-debug = ON|OFF]
                                   [-trace = ON|OFF]
                                   [-cmttext="8A1recordinformation "]
                                   [-tblasc="description"]
                                   [outputFileName]
                                   inputFile1 [inputFile2 ...]
```

-debug

When set to ON, the utility displays each input record as read from the CSV file and written to the EIF file. The utility also shows the information written for records one through three, which are values not read directly from the CSV file.

A count of records read and written is displayed to indicate the number of records in the input file that were not written to the output file. You can redirect the output to a file.

The default is OFF, if the parameter is not specified. This parameter is optional.

-trace Displays the methods called by the program as it runs. This information can be redirected to a file.

The default is OFF, if the parameter is not specified. This parameter is optional.

-cmttext

Lets you include additional information to identify the CSV source file in the output EIF file. The `-cmttext` parameter creates an 8A1 record when present. Enclose the text in double quotation marks.

This parameter is optional.

-tblidsc

Further identify the Code Set. Enclose the text in double quotation marks if it contains one or more blanks. If this parameter is not supplied, the value of the TBLID in the input file is used.

This parameter is optional.

outputFileName

Specifies the name of the EIF output file. If not provided, the name of the first CSV file is used with the extension EIF appended. This file is created in the local directory, or the directory specified on the command line. If this parameter is not present, the file is created in the same directory as the source file.

inputFile

Specifies the name of the input CSV file. If this file is not in the current directory, the directory path must be part of the file name. To specify more than one input file, separate file names with a space. If a file name includes spaces, surround that file name with quotation marks.

At least one *inputFile* name is required.

Importing code sets into WebSphere Data Interchange

To import code sets into WebSphere Data Interchange, refer to the steps described in “Importing the HIPAA code sets and forward translation” on page 11.

Part 6. Appendixes

Appendix A. Considerations, limitations, and modifications

This appendix contains considerations pertaining to WebSphere Data Interchange and other more general considerations, including troubleshooting tips.

WebSphere Data Interchange considerations

Considerations pertaining to WebSphere Data Interchange are discussed in this section.

Creating the Any-to-Any translation profile

Use an Any-to-Any translation profile only when a trading partner authentication product, such as TPI, is used. Otherwise a trading partner profile must be set up and map usages defined for each trading partner. You might just verify that the values are set as indicated.

See “Trading partner considerations” on page 98 for trading partner considerations.

Do or verify the following steps in the WebSphere Data Interchange Client window:

Table 80. Creating the Any-to-Any translation profile

Window or prompt	Action
WDI Client	1. Click the Trading Partner icon.
	2. Click Any profile.
	3. Click the Rules/Usages icon.
	4. Click the Data Transformation Map Rules tab.
	5. Click create new usage .
	6. Click map name .
Associated with: Trading Partner	7. Set the values: Sender: ANY Receiver: ANY
	8. Click Property: Active .
	9. Click the Envelopes Attributes tab.
	10. Set the values: Envelope: X Profile: <i>hipaa</i>
	11. Click the WDI Options tab.
	12. Select Ack expected .
	13. Set the values: Funackmap = \$DT_Fa997V3R7 Envelope: X Profile: <i>hipaa</i>
	14. Click Save .
Trading Partner	15. Double-click Trading Partner Nickname column ANY .
Development-Trading Partner - Any	16. Click the WDI Proc Options tab.

Table 80. Creating the Any-to-Any translation profile (continued)

Window or prompt	Action
Special Characters drop-down list	17. Specify the following values: Segment ID Separator: FF - None Segment Delimiter: 7E.~ Data Element Delimiter: 2A.* Subelement Delimiter: 3A-: Release Character: 00 - default Repetition Separator: 20 (the default)
	18. Click Save .
	19. Close the window. Click X in the top-right corner.
	20. Close the Development-Trading Partner - Any window.

Using an alternate WebSphere Data Interchange Client user ID

The installation instructions specified *hipaa_admin* as the user ID for all the installation steps. This user ID should be used consistently throughout the installation process.

However, if you attempt to run the WebSphere Data Interchange from a different ID, the message Configuration Database: Data source name not found and not default driver specified is displayed.

Click **OK** to display 12004 - Failed to initialize the application. Click **OK** to close the message window. The WebSphere Data Interchange Client does not start.

Do the following steps at the client to recover:

Table 81. Using an alternate WebSphere Data Interchange Client user ID

Window or prompt	Action
Windows System client desktop	1. Start → Settings → Control Panel → Administrative Tools → Data Sources (ODBC) .
ODBC Data Source Administrator	2. Click the User DSN tab, and click Add .
Create New Data Source	3. Click Microsoft Access Driver (*.mdb) and click Finish .
ODBC Microsoft Access Setup	4. Enter the following information: Enter Data Source Name: wdiclient32cfg Description: Config32 MP and click Select .
Select Database	5. Select <i>wdi_home\wdiclient32cfg.mdb</i> , and click OK
ODBC Microsoft Access Setup	6. Click OK .
	7. Repeat steps 2 through 6, changing wdiclient32cfg to wdiclient32dev in each instance.

Note: The original user ID, *hipaa_admin*, remains valid.

Specifying a non-default installation drive

You can specify a non-default installation drive for WebSphere Data Interchange. However, if you do so, you must also make the following changes in your installation specifications.

In the following directories:

```
C:\WDIServer32\samples
C:\WDIServer32\runtime\dicmd
```

change the following lines in the `wdi.properties` file to point to the correct directory:

```
runtimedirectory=C:\WDIServer32\bin
datadirectory=C:\WDIServer32\runtime
```

In the `hipaa_home/config` directory, change the following lines in the `wdimqcommands.txt` file to point to the correct directory:

```
USERDATA('C:\WDIServer32\runtime\dicmd') +
ENVIRONMENT('C:\WDIServer32\runtime\prt\WDIAdapter.trace')
```

Validation map considerations and limitations

This section lists considerations and limitations of validation map processing.

Setting SNIP type options for validation maps

You can set SNIP Type 5 or 6 on or off, based on your requirements. The default is off. Specifying Y turns on validation mapping. If you have set Y, you must have provided the external code sets. See Chapter 10, “Code sets and conversions,” on page 87 for a list of the external code sets.

Do the following to change the SNIP settings:

Table 82. Selecting SNIP Type for validation maps

Window or prompt	Action
Windows System client desktop	1. Start → Programs → IBM WebSphere Data Interchange MP V3.2 → WDI MP V32 Client .
	2. Click the Mapping icon.
	3. Click the Global Variables tab, SNIPType5 .
	4. To set SNIP validation Type 5 on, change the N (the default) to Y .
	To set SNIP validation Type 5 off, change the Y to N .
	5. Click the Save icon and close the window.
	6. Repeat steps 3 through 5 with SNIPType6 to set SNIP validation Type 6 on or off.

Validation maps version updates

SNIP Type 6 validations enable customization of the validation maps. Importing validation maps will override any custom code. If you import any maps, you must re-code your customizations.

Transformation limitations

This section lists transformation limitations.

Blank fields within alphanumeric fields

Blank fields, such as leading blanks, trailing blanks, and completely blank records within alphanumeric fields are eliminated or skipped when transforming from XML to X12 format or when transforming from X12 to XML. This action conserves space when transmitting records.

Trading partner considerations

You can modify some of the trading partners settings that were defined during installation.

Enabling and disabling functional acknowledgment for a map

From the WebSphere Data Interchange client, you can enable or disable a functional acknowledgment.

Disabling functional acknowledgment for a map: Do the following steps to disable a functional acknowledgement for a map:

Table 83. Disabling functional acknowledgment for a map

Window or prompt	Action
Windows System client desktop	1. Start the WebSphere Data Interchange Client: Click Start → Programs → IBM WebSphere Data Interchange MP V3.2 → WDI MP V3.2 Client .
	2. Click the Trading Partner icon.
	3. Click Any profile.
	4. Click the Rules/Usages icon.
	5. In the Data Transformation Map Rule tab, select the map name for which the acknowledgment needs to be disabled. Double-click the map name.
	6. Click the WebSphere Data Interchange Options tab.
	7. Under Acknowledgement Options , do the following: 1. Clear the Acknowledgement Expected check box. 2. Remove the values in the field Functional Acknowledgment Map .
	8. Click Save .

Enabling functional acknowledgment for a map: Do the following steps to enable a functional acknowledgement for a map:

Table 84. Enabling functional acknowledgment for a map

Window or prompt	Action
Windows System client desktop	1. Start the WebSphere Data Interchange Client: Click Start → Programs → IBM WebSphere Data Interchange MP V3.2 → WDI MP V3.2 Client .
	2. Click the Trading Partner icon.
	3. Click Any profile.
	4. Click the Rules/Usages icon.

Table 84. Enabling functional acknowledgment for a map (continued)

Window or prompt	Action
	5. In the Data Transformation Map Rule tab, select the map name for which the acknowledgment needs to be enabled. Double-click the map name.
	6. Click the WebSphere Data Interchange Options tab.
	7. Under Acknowledgement Options do the following: <ol style="list-style-type: none"> 1. Check Acknowledgement Expected. 2. Set the value for Functional Acknowledgment Map: \$DT_Fa997V3R7
	8. Click Save .

Queue manager startup

After you enter the command:

```
runmqtrm -m hostname_server.queue.manager -q WDI.INIT.Q
```

you might receive the this error message in the WebSphere Data Interchange server window:

```
SQL Error Code : -1013
SQL1013N The database alias name or database name "" could not be found.
SQLSTATE=42705
```

Open the file C:\WDIServer32\runtime\prt\WDIAdapter.trace for more information. If the error is wdi.properties not found!, do the following steps:

1. Shut down both the WebSphere Data Interchange client and the server.
2. Copy the properties file into the correct directory.
3. Restart the WebSphere Data Interchange server and client. The conversion of the message from X12 to XML now works correctly.

Error starting the InterChange Server

If the following error message is displayed when you start the InterChange Server:

```
[Mesg: Failed to access the InterChange Server repository.
Reason An error occurred during the schema creation for the repository.
Reason CxTransBlobs
```

Make sure your AIX system installation points to the alias name of the database.

Other considerations

This section describes some possible situations and gives suggestions for handling them. This section is not a replacement for the complete problem diagnosis and resolution information provided by each of the component products.

Unique TRN values required for 278Request and 270 messages

The Support Pack for HIPAA requires all incoming 278 Request and 270 messages to contain a unique TRN value for digitally linking requests with responses 278Response and 271, respectively. For 278 Request messages, the TRN must be unique in the 2000F loop. For 270 messages, the TRN must be unique in the 2000C or 2000D loops, depending on which loop is the patient.

Provider systems must ensure they send a unique TRN segment. Payer systems must guarantee all incoming 278 Request and 270 messages contain a unique TRN value. This must be a requirement in the *Companion Guide*.

You can provide for these unique TRN values by customizing the Support Pack for HIPAA.

837Institutional line item control number

The line item control number (L2000A.L2000B.L2000C.2300.2400.REF) of 837 Institutional messages is reserved. The HIPAA collaboration DTDs define this segment, but the implementation guide for 837Institutional does not. The 837 Institutional transformation maps will not transform this segment. The line item control number for the 837 Dental and 837 Professional are defined in the implementation guides and can be used.

Log file considerations

Your log files might overflow. You can check the log file size and increase the log file size.

Table 85. Changing the log file size

Window or prompt	Action
Windows System client desktop	1. Start → Programs → IBM DB2 → General Administrative Tools → Control Center.
DB2 Control Center	2. Expand All Cataloged Systems → <i>hostname_server</i> → Instances → DB2 → Databases → <i>ics_database</i> .
	3. Right-click CWREPOS and click Configure Database Logging
	- or -
	select <i>ics_database</i> , click Configure Database Logging in the Selected menu.
Logging Type	4. Verify that Circular Logging is specified and click Next .
Logging Size	5. Specify the following values: Number of primary log files: 3 Number of secondary log files: 2 Size of each log file (4K Pages): 1000 Click Next .
Logging Location	6. Accept the Active Log Path.
Schedule	7. Accept the checked Run now without saving task history and click Next .
Summary	8. Verify that each log file size is set to 1000.

Table 85. Changing the log file size (continued)

Window or prompt	Action
	9. Click Finish .

Server problems, all platforms

Rule problem

Problem

RU0001*08 – No active rule record found for the message when a rule is defined and is marked active.

Solution

Check test message's ISA-15 segment for a usage indicator (P or T). Change map usage indicator (Test or Production). Set ISA-15 to T while testing.

Parsing error

Problem

UP0001*08 – Error parsing XML document-message could not open DTD file in Event Log.

Solution

WebSphere Data Interchange attempts to locate the DTD file and never finds it. Check the incoming message's DOCTYPE for the expected location of the DTD. WebSphere Data Interchange does not understand http, and cannot use DTDs located on the Web. Do one of the following:

- In Service Profile for incoming XML messages, add to PERFORM statement XMLVALIDATE(0) – this will disable XML validation against the DTD.
- In Service Profile for incoming XML messages, add to PERFORM statement XMLDTDS(path). Where path is the absolute location of the DTDs.

Server problems, AIX systems

SQL errors

Problem

SQL errors are reported by the WebSphere Data Interchange Server Trigger monitor and WebSphere Data Interchange trace file.

Solution

Check your AIX configuration. See *WebSphere Data Interchange Messages and Codes*.

Event Log error

Problem

Out of space errors in the event log.

Solution

Clear the print files. Use the command:

```
rm usr/wdi/Div32/runtime/prt/*.prt
```

DTDs missing

Problem

The WebSphere InterChange Server on an AIX system might report it is unable to find the DTDs needed to create the business objects, when messages are processed by the collaborations.

Solution

Unzip the DTD files in *hipaa_home*\collabs\HIPAAdtds.zip to the *\home\hipaa_admin* directory. Resend the message.

Client problems, Windows systems

Database error

Problem

Error SQL0204N received when connecting to the database in the client.

Solution

Open the database in the DB2 Control Center and check the schema name. Make sure that the schema name matches the database qualifier in the View → Systems → HIPAA definition.

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