SeeBeyond ICAN Suite

e-Mail eWay Intelligent Adapter User's Guide

Release 5.0

SeeBeyond®

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Introducing the e-Mail eWay

This document describes how to install and configure the SeeBeyond e-Mail eWay Intelligent Adapter (called the e-Mail eWay throughout this document), as well as how to implement the eWay in an eGate environment.

This chapter provides a brief overview of operations, components, general features, and system requirements for the e-Mail eWay.

Chapter Topics

- **Overview** on page 7
- **Korean and Japanese e-mail Text Support** on page 8
- **Supported Operating Systems** on page 8
- **System Requirements** on page 9

1.1 Overview

The e-Mail eWay enables the eGate system to exchange data with an SMTP (outbound) or POP3 (inbound) mail server. The eWay can upload messages to, and download messages from, a mail server.

The e-Mail eWay allows many typically manual email operations to be automated. Functions are provided to log into a server, create e-Mails, and add recipients, subject headers, content, and attachments. Functions are also provided to read data associated with an incoming message and to save attachments.

Collaborations can therefore be written to intelligently send emails with formatted content and to receive, parse and act upon incoming messages. The SSL feature is supported through the use of JSSE version 1.0.3.

The e-Mail eWay's SSL (Secure Sockets Layer) feature provides secure communication channels for data exchanges, safe from unauthorized interception.

How does the eWay connect?

The e-Mail eWay takes advantage of widely used standard protocol.

- POP3 (Post Office Protocol) which can be thought of as a store and forward service. POP3 is used for retrieving email from a mail account. POP3 requires the mail server name, the TCP/IP Port, the email account name, and the email account password.

- SMTP (Simple Mail Transfer Protocol) is used for sending email to an account. SMTP, like POP3 requires the mail server name, the TCP/IP Port, the email account name, and the email account password. Some mail servers also require POP3 authentication to send messages.

- MIME (Multi-purpose Internet Mail Extensions) protocol. Servers insert the MIME header at the beginning of any Web transmission. Clients use the header to select appropriate applications for the type of data the header indicates. Multipart MIME messages (alternate text/HTML) and multiple attachments (other than nested MIME objects) are supported.

The eWay provides a custom Object Type Definition or OTD (MailClient) for managing email content, and for sending and retrieving email. The OTD allows dynamic configuration of the connection fields within a Collaboration (allowing properties to be changed from within an existing Collaboration).

1.2   Korean and Japanese e-mail Text Support

The e-Mail eWay supports Korean (Hangul) and Japanese character encoding in both the address and subject headers and text content of the e-mail message (for both text/plain and text/HTML). The e-Mail eWay conforms to RFC2047 standards for Multipurpose Internet Mail Extensions (MIME).

In order for the email to be in encoded in ISO-2022-KR (Korean characters) or ISO-2022-JP (Japanese characters), the value for CharSet must be set as "ISO-2022-KR" or "ISO-2022-JP" (see **Enabling Japanese and Korean Character Support** on page 58).

1.3   Supported Operating Systems

The the e-Mail eWay is available on the following operating systems:

- Windows Server 2003

- Windows 2000

- Windows XP

- Sun Solaris 8 and 9

- AIX 5.1 and 5.2

- HP-UX 11.0 and 11i (RISC)

- HP Tru64 V5.1A

- Red Hat Linux 8.0 (Intel)

- Red Hat Linux Advanced Server 2.1 (Intel)

1.4 System Requirements

To use the e-Mail eWay, you need the following:

- A TCP/IP network connection.
- Windows Server 2003, Windows XP SP1a, or Windows 2000 SP4. This is required for the user interface.
- Microsoft Internet Explorer 5.0 or above.

Note: *The e-Mail eWay's SSL functionality is only available when using an SSL enabled email server.*

Important: *The E-mail eWay does not currently support sending or receiving messages containing multi-level nested MIME parts.*

Chapter 2

Installing the e-Mail eWay

This chapter explains the procedures for installing the e-Mail eWay.

Chapter Topics

- **Before installing the eWay** on page 10
- **Installing the e-Mail eWay on an eGate supported system** on page 10
- **After Installation** on page 11

2.1 Installing the e-Mail eWay

During the ICAN Suite installation process, the Enterprise Manager, a web-based application, is used to select and upload eWay and Add-on files (.sar files) from the ICAN installation CD-ROM to the Repository.

When the Repository is running on a UNIX operating system, the eWays are loaded using the Enterprise Manager on a Windows computer connected to the Repository server using Internet Explorer.

Before installing the eWay

Open and review the **eGate Readme.txt** for any related information prior to installing the eWays.

Installing the e-Mail eWay on an eGate supported system

The e-Mail eWay is installed during the installation of the eGate Integrator. The eGate installation process includes the following operations:

- Installing the eGate Repository
- Uploading products to the Repository
- Downloading the components (including the eGate Enterprise Designer and the Logical Host)
- Viewing the product information home pages

Follow the instructions for installing the ICAN Suite found in the *SeeBeyond ICAN Suite Installation Guide*, and include the following steps:

1 During the procedures for uploading files to the eGate Repository using the Enterprise Manager, select and upload the following files:

 ◆ **eMaileWay.sar** (to install the e-Mail eWay)

 ◆ **eMaileWayDocs.sar** (to install the eWay user guide, Javadoc, and Samples)

 ◆ **FileeWay.sar** (to install the File eWay, used in the sample project)

2 Continue installing the eGate Integrator as instructed in the *SeeBeyond ICAN Suite Installation Guide.*

After Installation

Once the eWay is installed and configured it must then be incorporated into a project before it can perform its intended functions. See the *eGate Integrator User's Guide* for more information on incorporating the eWay into an eGate project.

e-Mail eWay Properties

This chapter describes how to create and configure the e-Mail eWay.

Chapter Topics

3.1 Configuring the e-Mail eWay Properties

All eWays contain a set of configuration properties with parameters that are unique to that eWay type. After an eWay is created and an External System for that eWay type is created in the project's Environment, the eWay's properties can be modified for your specific system. The e-Mail eWay properties are modified from two locations:

- From the **Connectivity Map**. These parameters most commonly apply to a specific component eWay, and may vary from other eWays (of the same type) in the project.

- From the **Environment Explorer tree**. These parameters are commonly global, applying to all eWays (of the same type) in the project. The saved properties are shared by all eWays in the eMail External System box.

3.1.1 Selecting e-Mail as the External Application

To create an e-Mail eWay you must first create an e-Mail External Application in your Connectivity Map. e-Mail eWays are located between an e-Mail External Application and a Service. Services are containers for Java Collaborations, Business Processes, eTL processes, and so forth.

To create the e-Mail External Application

1 From the Connectivity Map toolbar, click the External Applications icon.

2 Select the **e-Mail External Application** from the menu (see **Figure 1 on page 13**). The selected e-Mail External Application icon appears on the Connectivity Map toolbar.

Figure 1   External Applications Selection Menu
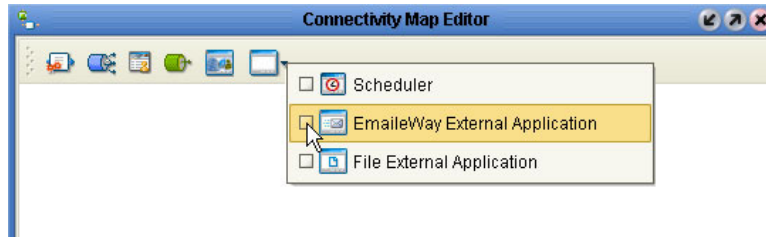
3 Drag the new **e-Mail External Application** from the toolbar onto the Connectivity Map canvas. This represents an external e-Mail system.

From the Connectivity Map, you can associate (bind) the External Application with the Service to establish an eWay (see Figure 2).

Figure 2   eWay Location.
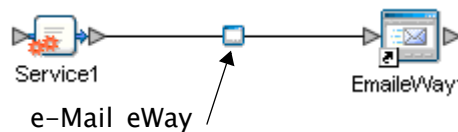
When **e-Mail** is selected as the External Application, it automatically applies the default e-Mail eWay properties, provided by the OTD, to the eWay that connects it to the Service. These properties can then be or modified for your specific system using the **Properties Sheet** .

3.1.2. Modifying the e-Mail eWay Properties

A project's eWay properties can be modified after the eWays have been established in the Connectivity Map and the Environment has been created.

Modifying the e-Mail eWay (Connectivity Map) Properties

1 From the Connectivity Map, double click the eWay icon, located in the link between the associated External Application and the Service.

2 The eWay **Properties Sheet** opens with the e-Mail eWay Connectivity Map properties. Make any necessary modifications and click **OK** to save the settings.

Modifying the e-Mail eWay (Environment Explorer) Properties

1 From the Environment Explorer tree, right-click the e-Mail External System. Select **Properties** from the shortcut menu. The **Properties Sheet** opens with the e-Mail eWay Environment properties.

2 Make any necessary modifications to the Environment parameters of the e-Mail eWays, and click **OK** to save the settings.

3.1.3. **Using the Properties Sheet**

Modifications to the eWay properties are made using the e-Mail eWay Properties Sheet.

Modifying the Default eWay Properties

1   An eWay has two different sets of parameters: those specific to that particular eWay (accessed from the **Connectivity Map**), and those that are common to all eWays of this type (accessed from the **Environment Explorer tree**). In addition, the e-Mail eWay properties will differ depending on whether the eWay is **inbound** or **outbound**. Open the Properties Sheet to the e-Mail eWay's outbound Environment Explorer default properties.

2   From the upper-right pane of the Properties Sheet, select a subdirectory of the Environment Configuration directory. The parameters contained in that subdirectory are now displayed in the Properties pane of the Properties Sheet. For example, clicking on the **Connector Settings** subdirectory displays the editable parameters in the right pane, as shown in Figure 3.

Figure 3   Properties Sheet -- e-Mail eWay outbound Environment Settings
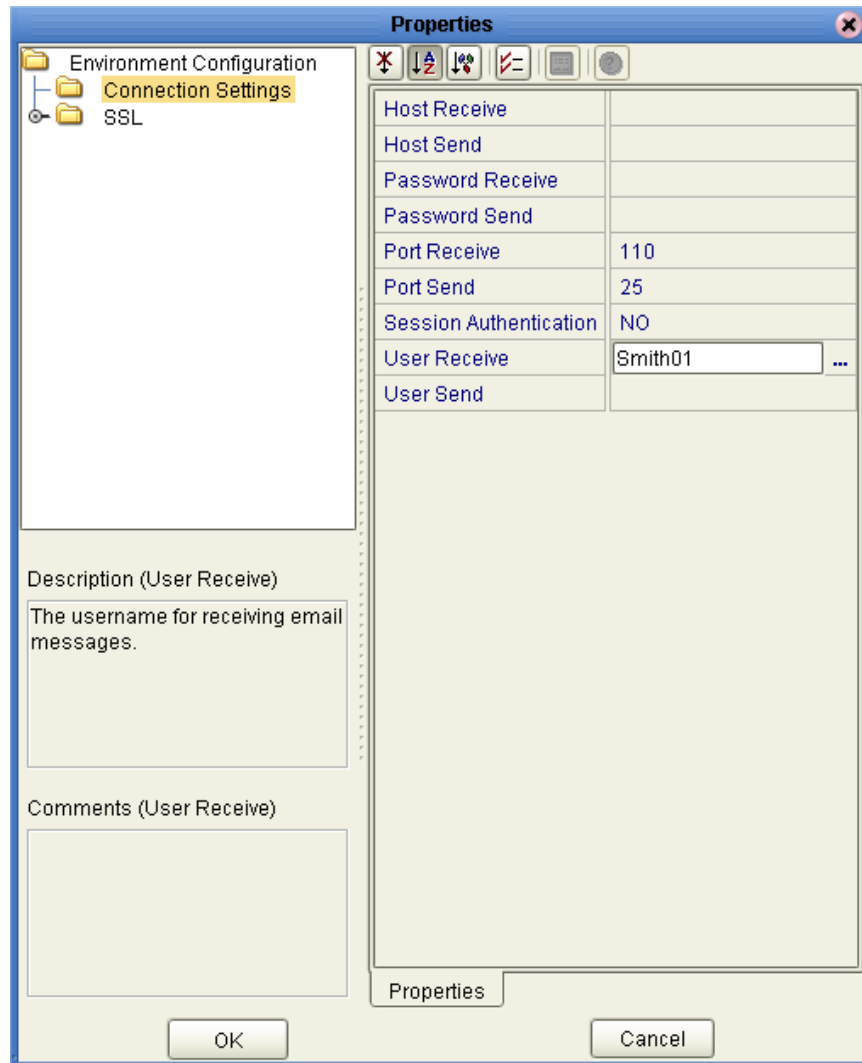
3 Click on any property field to make it editable. For example, click on the **User Receive** property to edit the user name. If a parameter's value is true/false or multiple choice, the field reveals a submenu of property options.

Click on the ellipsis (. . .) in the properties field (displayed during modification of the value) to open a separate configuration dialog box. This is helpful for large values that cannot be fully displayed in the parameter's property field. Enter the property value in the dialog box and click **OK**. The value is now displayed in the parameter's property field.

4 A description of each parameter is displayed in the **Description** pane when that parameter is selected, providing an explanation of any required settings or options.

5 The **Comments** pane provides an area for recording notes and information regarding the currently selected parameter. This is saved for future referral.

6 After modifying the configuration properties, click **OK** to close the Properties Sheet and save the changes.

Properties

The e-Mail eWay includes four different sets of parameters:

- **Inbound e-Mail eWay Connectivity Map Properties** on page 15
- **Inbound e-Mail eWay Environment Properties** on page 16
- **Outbound e-Mail eWay Connectivity Map Properties** on page 18
- **Outbound e-Mail eWay Environment Properties** on page 19

3.2 Inbound e-Mail eWay Connectivity Map Properties

The e-Mail eWay configuration parameters, accessed from the Connectivity Map, are organized into the following sections:

- **SSL - Receive** on page 15

3.2.1 SSL - Receive

This section contains the following top level parameters:

- **Use SSL** on page 15

Use SSL

Description

Specifies whether SSL connections are used for accessing email store.

Required Value

Yes or **No**. Yes indicates that SSL connections are used to access the email store.

3.2.2. Polling Setting

This section contains the following top level parameters:

- **Polling Interval** on page 16

Polling Interval

Description

Specifies the interval, in milliseconds, at which the email source file is polled for new incoming email messages.

Required Value

A number to indicate the polling interval in milliseconds. For example 5000 milliseconds equals 5 seconds. The configured default is 5000.

3.3 Inbound e-Mail eWay Environment Properties

The e-Mail eWay configuration parameters, accessed from the e-Mail eWay External System in the Environment Explorer tree, are organized into the following sections:

- **Connection Settings** on page 16

3.3.1. Connection Settings

This section contains the following set of top-level parameters

- **Host Receive** on page 16
- **Password Receive** on page 17
- **Port Receive** on page 17
- **User Receive** on page 17

Host Receive

Description

Specifies the host name of the server used to receive messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connections when the SessionAuth parameter is set to Yes (for POP3 login).

Required Value

The host name of the server used to receive messages.

Password Receive

Description

Specifies the password used when receiving messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connections when the SessionAuth parameter is set to Yes (for POP3 login).

Required Value

The user password used when receiving messages.

Port Receive

Description

Specifies the port number used to connect when receiving email messages. This is required for "receiving" eWay connections.This is also required for "sending" eWay connections when the SessionAuth parameter is set to Yes (for POP3 login).

Required Value

The port number used to connect when receiving email messages. This is a number between 1 and 65535. The configured default is 110.

User Receive

Description

Specifies the user name used when receiving messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connections when the SessionAuth parameter is set to Yes (for POP3 login).

Required Value

The valid user login name used when receiving email messages.

3.3.2. SSL - CACerts

This section contains the following set of top level parameters:

TrustStore

Description

Specifies the truststore used for CA certificate management when establishing SSL connections. A truststore file is a key database file that contains the public keys for a target server.

Required Value

The truststore used for CA certificate management.

TrustStore password

Description

Specifies the password for accessing the truststore used for CA certificate management when establishing SSL connections.

Required Value

Integer-set. An integer in the range of 1 to 65535. The configured default is 110.

TrustStore type

Description

Specifies the truststore type.

Required Value

The trustStore type. The default TrustStore is **JKS**.

3.4 Outbound e-Mail eWay Connectivity Map Properties

The e-Mail eWay configuration parameters, accessed from the Connectivity Map, are organized into the following sections:

- **SSL - Send** on page 18
- **SSL - Receive** on page 18

3.4.1. SSL - Send

This section contains the following top level parameters:

- **Use SSL** on page 18

Use SSL

Description

Specifies whether SSL connections will be used when sending e-mail via SMTP.

Required Value

YES or **NO**. YES indicates that SSL connections will be used.

3.4.2. SSL - Receive

This section contains the following top level parameters:

Use SSL on page 18

Class

Description

Specifies whether SSL connections will be used for accessing the e-mail store.

Required Value

YES or **NO**. YES indicates that SSL connections will be used.

3.5 Outbound e-Mail eWay Environment Properties

The e-Mail eWay configuration parameters, accessed from the e-Mail eWay External System in the Environment Explorer tree, are organized into the following sections:

- **Connection Settings** on page 19
- **SSL - CACerts** on page 21

3.5.1. Connection Settings

This section contains the following set of top-level parameters

- **Host Receive** on page 19
- **Host Send** on page 20
- **Password Receive** on page 20
- **Password Send** on page 20
- **Port Receive** on page 20
- **Port Send** on page 20
- **Session Authentication** on page 21
- **User Receive** on page 21
- **User Send** on page 21

Host Receive

Description

Specifies the host name of the server used to receive messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connections when the SessionAuth parameter is set to Yes (for POP3 login).

Required Value

The host name of the server used to receive messages.

Host Send

Description

Specifies the host name of the server used to send messages. This is required for "sending" eWay connection.

Required Value

The host name of the server used to send messages.

Password Receive

Description

Specifies the password used when receiving messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connections when the **Session Authentication** parameter is set to **Yes** (for POP3 login).

Required Value

The user login password used to access the receiving host server.

Password Send

Description

Specifies the password used when sending messages. This is required for "sending" eWay connections.

Required Value

The user login password used to access the sending host server.

Port Receive

Description

Specifies the port number to connect to when receiving messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connection when the **Session Authentication** parameter is set to **Yes** (for POP3 login).

Required Value

The port number used to connect with the receiving host server. This is an integer in the range of 1 to 65535. The configured default is **110**.

Port Send

Description

Specifies the port number to connect to when sending messages. This is required for "sending" eWay connections.

Required Value

The port number used to connect with the sending host server. This is an integer in the range of 1 to 65535. The configured default is **25**.

Session Authentication

Description

Determines whether a POP3 session authentication is performed before attempting an SMTP connection. This is required by some e-mail services. Set the value to **YES** only when necessary. Yes requires that settings for **Host Receive**, **Port Receive**, **User Receive**, and **Password Receive** are entered for the **sending** eWay connection.

Required Value

YES or **NO**. YES indicates that POP3 session authentication will be performed before attempting an SMTP connection.

User Receive

Description

Specifies the user name used when receiving messages. This is required for "receiving" eWay connections. This is also required for "sending" eWay connections when the **Session Authentication** parameter is set to **Yes** (for POP3 login).

Required Value

The user login name used to access the receiving host server.

User Send

Description

Specifies the user name used when sending messages. This is required for "sending" eWay connections.

Required Value

The user login name used to access the sending host server.

3.5.2. SSL - CACerts

This section contains the following set of top level parameters:

- **TrustStore** on page 21
- **TrustStore password** on page 22
- **TrustStore type** on page 22

TrustStore

Description

Specifies the truststore used for CA certificate management when establishing SSL connections. A truststore file is a key database file that contains the public keys for a target server.

Required Value

The truststore used for CA certificate management.

TrustStore password

Description

Specifies the password for accessing the truststore used for CA certificate management when establishing SSL connections.

Required Value

Integer-set. An integer in the range of 1 to 65535. The configured default is 110.

TrustStore type

Description

Specifies the truststore type.

Required Value

The trustStore type. The default TrustStore is **JKS**.

Using the e-Mail eWay With eInsight

This chapter describes how to use the e-Mail eWay with the ICAN Suite's eInsight Business Process Manager and the Web Services interface.

*Note: You must have the **eInsight.sar** file installed to use the Web Services interface.*

Chapter Topics

- **The eInsight Engine and Components** on page 23
- **The e-Mail eWay With eInsight** on page 24
- **Importing a Sample Project** on page 25
- **The eMailSampleBPEL Project Overview** on page 25
- **Alerting and Logging** on page 40

4.1   The eInsight Engine and Components

eGate components can be deployed as Activities in eInsight Business Processes. Once a component is associated with an Activity, eInsight invokes it using a Web Services interface. eGate components that can interface with eInsight in this way include the following:

- Object Type Definitions (OTDs)
- eWays
- Collaborations

Using the Enterprise Designer and eInsight, you can add an Activity to a Business Process, then associate that Activity with an eGate component, for example, an eWay. Then, when eInsight runs the Business Process, it automatically invokes that component via its Web Services interface.

See the *eInsight Business Process Manager User's Guide* for details.

4.2 The e-Mail eWay With eInsight

An eInsight Business Process Activity can be associated with the e-Mail eWay during the system design phase. To make this association, select the desired operators under the eWay in the Enterprise Explorer and drag it onto the eInsight Business Process Designer canvas.

The e-Mail eWay has the following operators available:

- receive
- sendMessage
- hasMessage
- receiveMessage

The operation is automatically changed to an Activity with an icon identifying the component that is the basis for the Activity. At run time, eInsight invokes each step in the order defined by the Business Process. Using eInsight's Web Services interface, the Activity in turn invokes the e-Mail eWay.

4.3 e-Mail eWay Considerations

- Closely monitor the "sending" email account for any errors in delivery. All error messages for errors in delivery that occur after the initial mail server will be sent only to the sending mail account.

- After a successful call to **EmailMessage.receiveMessage()** and before a successful call to **send()**, the received e-mail message is contained ONLY in the EmailMessage instance in the Collaboration Rule. Failure to process and/or store it properly will result in message loss.

- In the Collaboration or Business Process, when sending attachments, one of the following combinations must be mapped (set).

  - **content** and **contentType**
  - **name** and **contentType**
  - **content**, **contentType**, and **name**

  The content is a byte array (byte[]), and contentType and name Strings (java.lang.String).

- The E-mail eWay does not currently support sending or receiving messages containing multi-level nested MIME parts.

4.4   The e-Mail eWay eInsight Sample Project

This following pages provide directions for creating a simple project that demonstrates how eInsight Business Processes are used with the e-Mail eWay. The same project can be uploaded from the Installation CD-ROM in a near-complete state.

- For more information on creating ICAN projects see the *eInsight Business Process Manager User's Guide* and the *eGate Integrator User's Guide*.

4.5   Importing a Sample Project

Sample eWay projects are included as part of the installation CD-ROM package. To import a sample eWay project to the Enterprise Designer do the following:

1 The sample files are uploaded with the eWay's documentation .sar file and downloaded from the Enterprise Manager's Documentation tab. Extract the samples from the Enterprise Manager to a local file.

2 From the Enterprise Designer's Project Explorer pane, right-click the Repository and select **Import** from the shortcut menu. The **Import Manager** appears.

3 Browse to the directory that contains the sample project zip file. Select the sample file (for this sample, **eMailSampleBPEL.zip**) and click **Import**. After the sample project is successfully imported, click **Close**.

4 When the import has successfully completed, right-click the Repository and select **Refresh All from Repository** from the shortcut menu.

5 Before an imported sample project can be run you must do the following:

- Create an **Environment**
- Configure the eWays for your specific system
- Create a **Deployment Profile**

4.6   The eMailSampleBPEL Project Overview

The e-Mail eWay project, **eMailSampleBPEL**, demonstrates the following:

Send Message

- The inbound File eWay subscribes to an external directory. When a message is present the File eWay picks up the message and publishes the message to the bp_Send Business Process.

- The bp_Send Business Process adds a "To" name and email address, and a "From" name and email address, the subject name, and the text message and publishes the message to the outbound e-Mail eWay.

- The outbound e-Mail eWay publishes the email message to a POP3 server.

Receive Message

- The inbound e-Mail eWay subscribes to an external email account, polling the account every 60 seconds. Email is published to the bp_Receive Business Process.

- The bp_Receive Business Process parses the sender address, writes it to a text file and publishes the text file to the outbound File eWay.

- The outbound File eWay receives the text file and publishes the file to an external directory.

4.7 Creating the eMailSampleBPEL Project

The following pages provide step by step directions for creating the eMailSampleBPEL project.

4.7.1. Creating a Project

The first step is to create a new project in the SeeBeyond Enterprise Designer.

1 Start the Enterprise Designer.

2 From the Project Explorer tree, right-click the Repository and select **New Project** (see Figure 4). A new project (**Project1**) appears on the Project Explorer tree.

Figure 4   Enterprise Explorer - New Project
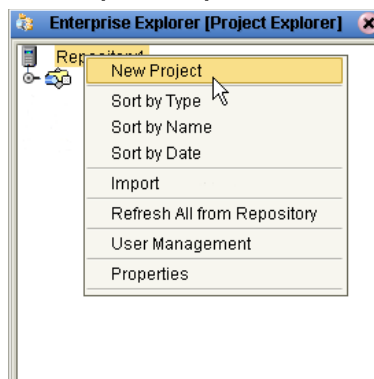
3 Click twice on **Project1** and rename the project (for this sample, **eMailSampleBPEL**).

4.7.2 Creating a Business Process

The **eMailSampleBPEL** contains two Business Processes:

- **bp_Send**: Used to send email messages

- **bp_Receive**: Used to receive email messages

To create the e-Mail eInsight Business Process, do the following:

Creating the bp_Send Business Process

1. Right-click the project (for this sample **eMailSampleBPEL**) in the Enterprise Designer's Project Explorer, and select **New** > **Business Process** from the shortcut menu. The eInsight Business Process Designer appears and **BusinessProcess1** is added to the Project Explorer tree. Rename **BusinessProcess1** to **bp_Send**.

2. From the Project Explorer tree, expand the SeeBeyond > eWays > EmaileWay > EmailClient, and File > FileClient nodes.

3. Populate the eInsight Business Process Designer's modeling canvas with the following activities from the Project Explorer tree, as displayed in **Figure 5 on page 27**:

   ◆ **receive**, under SeeBeyond > eWays > File > FileClient

   ◆ **sendMessage**, under SeeBeyond > eWays > EmaileWay > EmailClient

Figure 5   eInsight Business Process Designer - Populate the Canvas
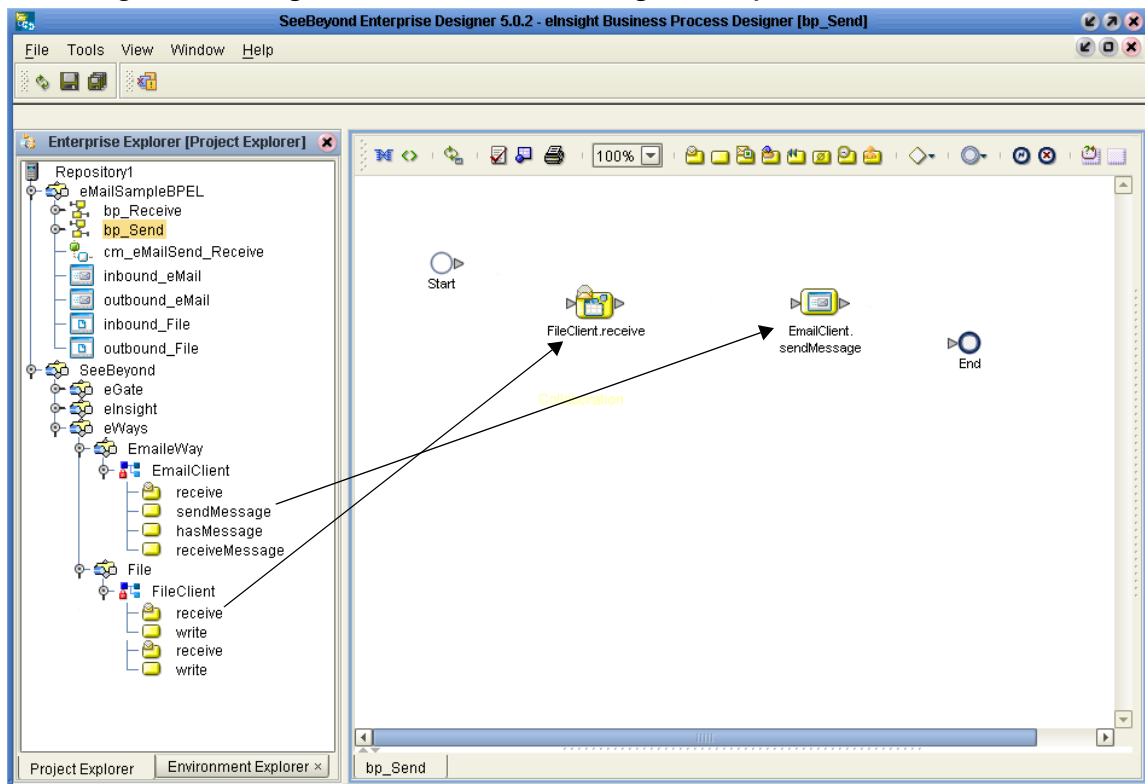
4. Link the modeling elements by clicking on the element connector and dragging the cursor to the next element connector, making the following links as displayed in Figure 6.

   ▪ **Start** -> **FileClient.receive**

   ▪ **FileClient.receive** -> **EmailClient.sendMessage**

   ▪ **EmailClient.sendMessage** -> **End**

Figure 6   Business Process Designer - Link the Modeling Elements
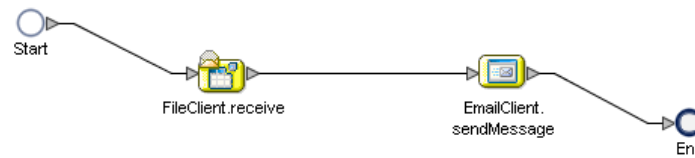
Configuring the bp_Send Modeling Elements

Business Rules, created between the Business Process Activities, allow you to configure the relationships between the input and output Attributes of the Activities using the Business Process Designer's Business Rule Designer. To create the **bp_Send** Business Rules do the following:

Adding Business Rules

1   Right-click the link between the **FileClient.receive** and **EmailClient.sendMessage** Activities and select **Add Business Rule** from the shortcut menu (see Figure 7).
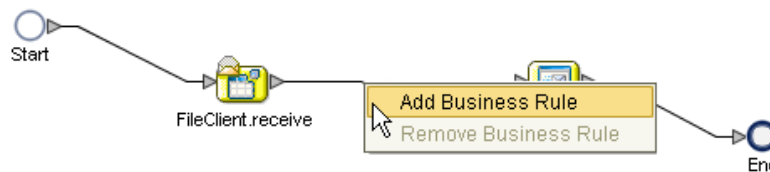
Figure 7   eInsight Business Process Designer - Adding Business Rules

Using the Business Rule Designer

1   From the eInsight Business Process Designer toolbar, click the **Map Business Process Attributes** button. The Business Rule Designer appears at the bottom of the eInsight Business Process Designer.

2   Click on the Business Rule icon in the link between **FileClient.receive** and **EmailClient.sendMessage** to display the Business Rule's Input and Output Attributes in the Business Rule Designer. These Attributes can now be modified.

3   Map **text**, under **FileClient.receive.Output** in the Output pane of the Business Rule Designer, to **msgText** under **EmailClient.sendMessage.Input** > **emailMessage** > **replyTo** in the Input pane of the Business Rule Designer. To do this, click on **text** in the Output pane and drag the cursor to **msgText** in the Input pane. A line now connects the two nodes in the Business Rule Designer (see **Figure 9 on page 31**).

4   Drag the **string-literal** icon from the Business Rule Designer toolbar to the Business Rule Designer canvas. The **Input** dialog box appears. Enter **maileway** as the literal value and click **OK**. Map the **maileway** output node to **name** under **EmailClient.sendMessage.Input** > **emailMessage** > **to[1]** in the Input pane of the Business Rule Designer (see **Figure 9 on page 31**).

5 Drag the **string-literal** icon from the Business Rule Designer toolbar to the Business Rule Designer canvas. Enter your sample input address as the literal value and click **OK**. Map the string literal's selected address output node to **address** under **EmailClient.sendMessage.Input** > **emailMessage** > **to[1]** in the Input pane of the Business Rule Designer (see **Figure 9 on page 31**).

6 Drag the **string-literal** icon from the Business Rule Designer toolbar to the Business Rule Designer canvas. Enter **maileway** as the literal value and click **OK**. Map the string literal's **maileway** output node to **address** under **EmailClient.sendMessage.Input** > **emailMessage** > **from** in the Input pane of the Business Rule Designer.

7 Drag the **string-literal** icon from the Business Rule Designer toolbar to the Business Rule Designer canvas. Enter your "from" address as the literal value and click **OK**. Map the string literal's selected address output node to **address** under **EmailClient.sendMessage.Input** > **emailMessage** > **from** in the Input pane of the Business Rule Designer.

8 Drag the **string-literal** icon from the Business Rule Designer toolbar to the Business Rule Designer canvas. Enter **eMail eWay** as the literal value and click **OK**. Map the string literal's **eMail eWay** output node to **address** under **EmailClient.sendMessage.Input** > **emailMessage** > **from** in the Input pane of the Business Rule Designer.

Figure 8   Business Rule Designer - bp_Send Business Process
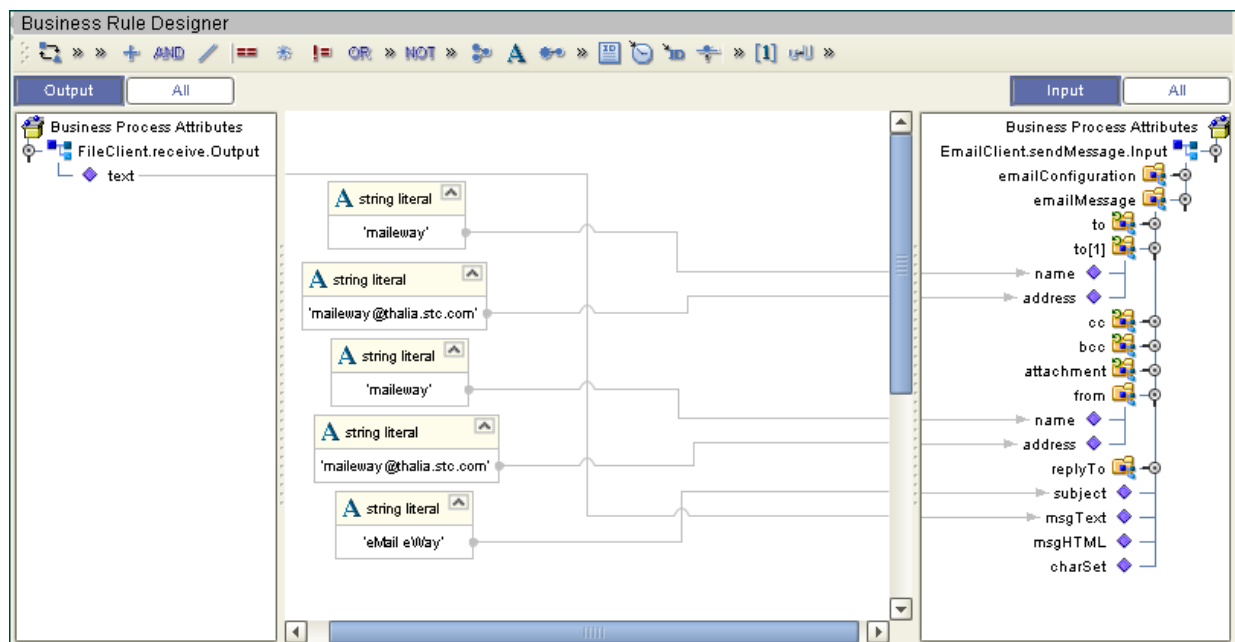
9 From the Business Process Designer toolbar, click the **Synchronize Graphical Model and Business Process** icon to synchronize the graphical interface to the Business Process code.

10 Save your changes to the Repository.

Creating the bp_Receive Business Process

1   Right-click the project in the Enterprise Designer's Project Explorer, and select **New** > **Business Process** from the shortcut menu. The eInsight Business Process Designer appears and **BusinessProcess1** is added to the Project Explorer tree. Rename **BusinessProcess1** to **bp_Receive**.

2   Populate the eInsight Business Process Designer's modeling canvas with the following activities from the Project Explorer tree:

   ◆ **receive**, under SeeBeyond > eWays > EmaileWay > EmailClient

   ◆ **write**, under SeeBeyond > eWays > File > FileClient

3   Link the modeling elements by clicking on the element connector and dragging the cursor to the next element connector, making the following links.

   ▪ **Start** -> **EmailClient.receive**

   ▪ **EmailClient.receive** -> **FileClient.write**

   ▪ **FileClient.write** -> **End**

Configuring the bp_Receive Modeling Elements

To create the **bp_Receive** Business Rules do the following:

Adding Business Rules

1   Right-click the link between the **EmailClient.receive** and **FileClient.write** Activities and select **Add Business Rule** from the shortcut menu.

Using the Business Rule Designer

1   From the eInsight Business Process Designer toolbar, click the **Map Business Process Attributes** button. The Business Rule Designer appears at the bottom of the eInsight Business Process Designer.

2   Click on the Business Rule icon in the link between **EmailClient.receive** and **FileClient.write** to display the Business Rule's Input and Output Attributes in the Business Rule Designer. These Attributes can now be modified.

3   Map **name**, under **EmailClient.receive.Output** > **emailMessage** > **from** in the Output pane of the Business Rule Designer, to **text** under **FileClient.write.Input** in the Input pane of the Business Rule Designer. To do this, click on **name** in the Output pane and drag the cursor to **text** in the Input pane. A line now connects the two nodes in the Business Rule Designer (see Figure 9).

Figure 9   Business Rule Designer - bp_Receive Business Process
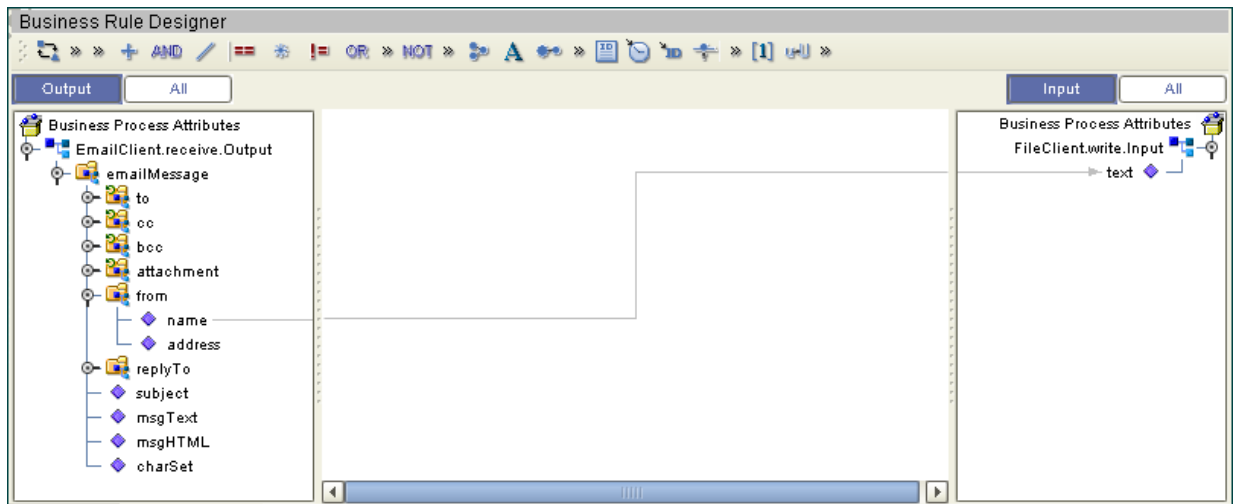
4   From the Business Process Designer toolbar, click the **Synchronize Graphical Model and Business Process** icon to synchronize the graphical interface to the Business Process code.

5   Save your changes to the Repository.

4.7.3 Creating a Connectivity Map

The Connectivity Map provides a canvas for assembling and configuring a project's components.

1   From the Project Explorer tree, right-click the new **eMailSampleBPEL** project and select **New > Connectivity Map** from the shortcut menu.

2   The New Connectivity Map appears and a node for the Connectivity Map is added under the project on the Project Explorer tree labeled **CMap1**. Rename the Connectivity Map **cm_eMailSend_Receive**.

The icons in the toolbar represent the available components used to populate the Connectivity Map canvas.

Selecting the External Applications

In the Connectivity Map, the eWays are associated with External Systems. For example, to establish a connection to an external email application, you must first select email as an External Application to use in your Connectivity Map (see Figure 10).

Figure 10 Connectivity Map - External Applications
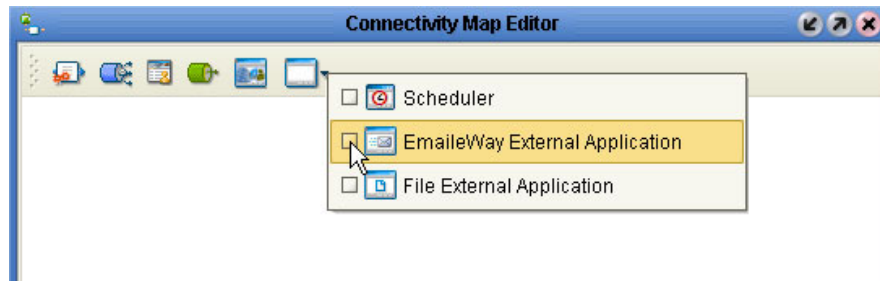
1 Click the **External Application** icon on the Connectivity Map toolbar,

2 Select the external systems necessary to create your project (for this sample, **EmaileWay** and **File**). Icons representing the selected external systems are added to the Connectivity Map toolbar.

Populating the Connectivity Map

Add the project components to the Connectivity Map by dragging the icons from the toolbar to the canvas.

1 For this sample, drag the following components onto the Connectivity Map canvas as displayed in Figure 11:

   - **File External System** (2 for this sample).

   - **Service** (2 for this sample) A service is a container for Java Collaborations, Business Processes, eTL processes, and so forth.

   - **EmaileWay External System** (2 for this sample)

2 Rename the **File1** External Application to **inbound_File** by right-clicking the object, selecting **Rename** from the shortcut menu, and typing in the new name.

3 Rename the **File2** External Application to **outbound_File**.

4 Rename the **EmaileWay1** External Application to **inbound_eMail**.

5 Rename the **EmaileWay2** External Application to **outbound_eMail**.

6 Rename the **Service1** Service to **bp_Send1**.

7 Rename the **Service2** Service to **bp_Receive1** (see Figure 11).

8 Save your current changes to the Repository.

Figure 11   Connectivity Map with Components
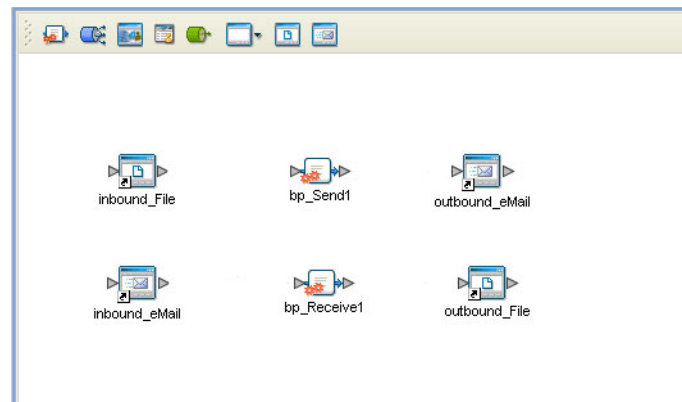
4.7.4. Binding the eWay Components

After the Business Processes have been completed, the components are associated and Bindings are created in the Connectivity Map.

1   From the Project Explorer, double-click **cm_eMailSend_Receive** to display the Connectivity Map.

2   Drag and drop the **bp_Send** Business Process from the Project Explorer onto the Service (**bp_Send1**). If the Business Process was successfully associated, the Service's icon changes to a Business Process icon (see Figure 12).

3   Drag and drop the **bp_Receive** Business Process from the Project Explorer onto the Service (**bp_Receive1**).

Figure 12   Connectivity Map - Binding the eWay Components
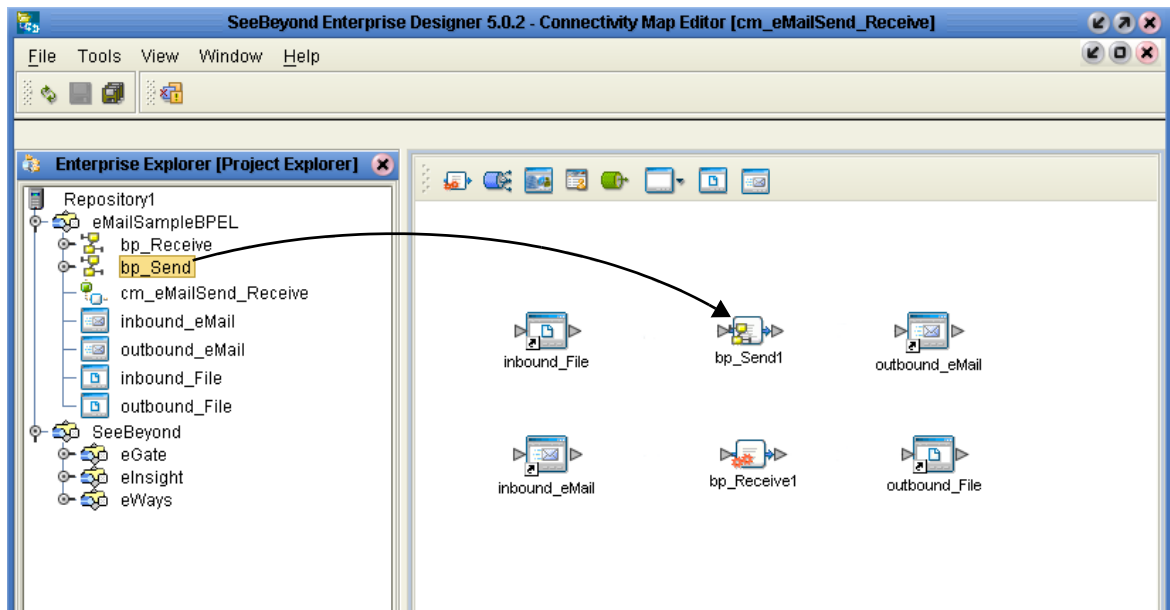
4   Double-click **bp_Send1**. The **bp_Send1** binding dialog box appears using the **bp_Send** Rule.

5   From the **bp_Send1** binding dialog box, drag **FileSender** (under Implemented Services) to the **inbound_File** (File) External Application.

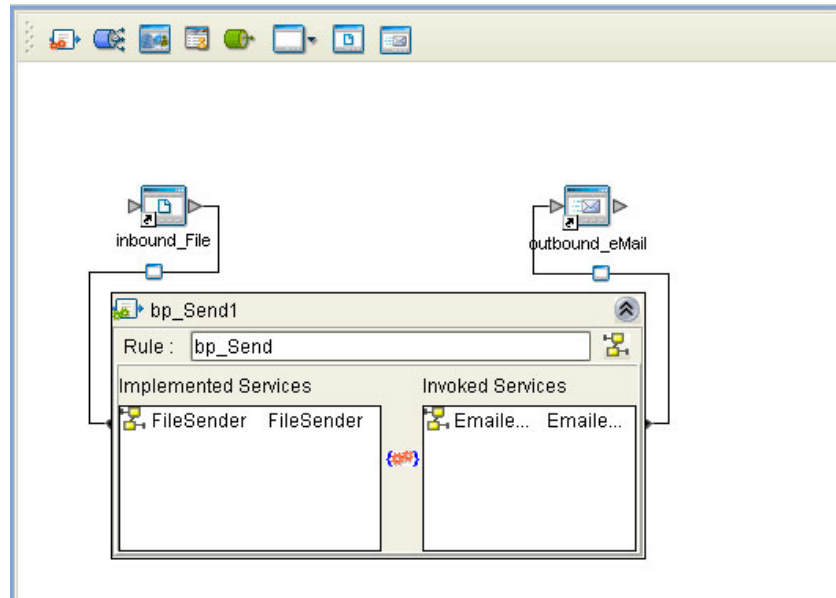6   From the **bp_Send1** binding dialog box, drag **EmaileWayReceiver** (under Invoked Services) to the **outbound_eMail** External Application (see **Figure 13 on page 34**). Minimize the **bp_Send1** binding dialog box by clicking the chevrons in the upper-right corner.

Figure 13 Connectivity Map - Associating (Binding) the Project's Components

7   Double-click **bp_Receive1**. The **bp_Receive1** binding dialog box appears using the **bp_Receive** Rule.

8   From the **bp_Receive1** binding dialog box, drag **EmaileWaySender** (under Implemented Services) to the **inbound_eMail** External Application.

9   From the **bp_Receive1** binding dialog box, drag **FileReceiver** (under Invoked Services) to the **outbound_File** External Application. Minimize the **bp_Receive1** binding dialog box by clicking the chevrons in the upper-right corner.

10 Minimize the **bp_Receive1** binding dialog box by clicking the chevrons in the upper-right corner.

11 Save your current changes to the Repository.

## 4.7.5. Creating an Environment

Environments include the external systems, Logical Hosts, integration servers and message servers used by a project and contain the configuration information for these components. Environments are created using the Enterprise Designer's Environment Explorer and Environment Editor.

1   From the Enterprise Designer's Enterprise Explorer, click the **Environment Explorer** tab.

2   Right-click the Repository and select **New Environment**. A new Environment is added to the Environment Explorer tree.

3   Rename the new Environment to **eMailSampleBPEL_ENV**.

4   Right-click **eMailSampleBPEL_ENV** and select **New e-Mail External System**. Name the External System **EmailExtSysIn** and select Inbound Email eWay as the External System Type. Click **OK**. **EmailExtSysIn** is added to the Environment Editor.

5   Right-click **eMailSampleBPEL_ENV** and select **New e-Mail External System**. Name the External System **EmailExtSysOut** and select Outbound Email eWay as the External System Type. Click **OK**. **EmailExtSysOut** is added to the Environment Editor.

6   Right-click **eMailSampleBPEL_ENV** and select **New File External System**. Name the External System **FileExtSysIn** and select **Inbound File eWay** as the External System Type. Click **OK**. **FileExtSysIn** is added to the Environment Editor.

7   Right-click **eMailSampleBPEL_ENV** and select **New File External System**. Name this External System **FileExtSysOut** and select Outbound File eWay as the External System Type. **FileExtSysOut** is added to the Environment Editor.

8   Right-click **eMailSampleBPEL_ENV** and select **New Logical Host**. **Localhost1** is added to the Environment Editor.

9   From the Environment Explorer tree, right-click **LocalHost1** and select **New SeeBeyond Integration Server**. A new Integration Server (**IntegrationSvr1**) is added to the Environment Explorer tree under LogicalHost1.

10 Save changes to the repository. The Environment Explorer and Environment Editor now appear as displayed in **Figure 14 on page 35**.

Figure 14   Environment Editor
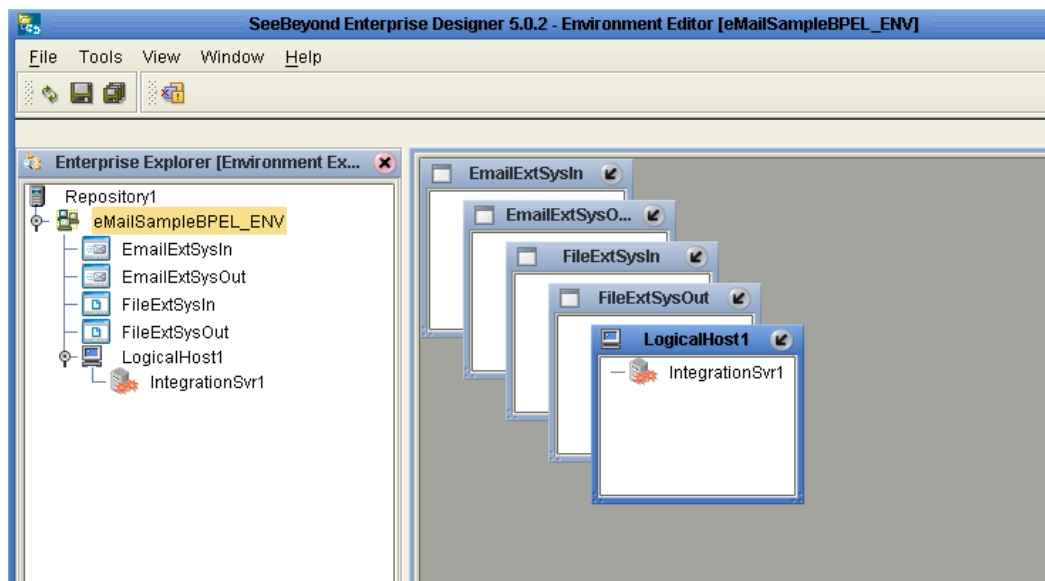
4.7.6. **Configuring the eWay Properties**

The eMailSampleBPEL project uses four eWays, each represented in the Connectivity Map as a node between an External Application and a Service. eWays facilitate communication and movement of data between the external applications and the eGate system.

The File eWay properties are configured from the Connectivity Map. The e-Mail eWay properties are set from both the Project Explorer's Connectivity Map and the Environment Explorer tree.

Configuring the File eWay Properties

1 Double-click the inbound **File eWay** (see Figure 15), select **Inbound File eWay** in the Templates dialog box and click **OK**.

Figure 15 eWays
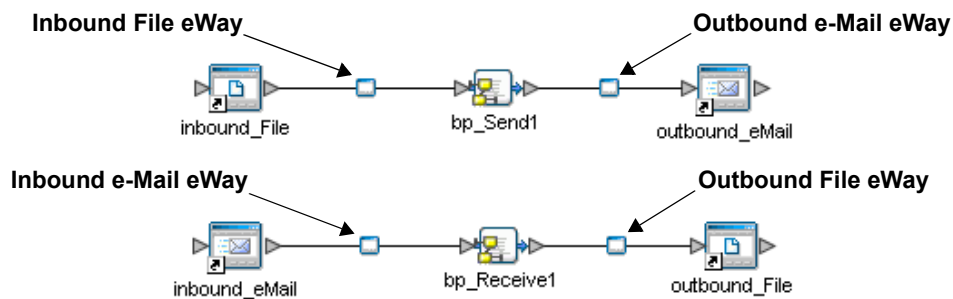
2 The **Properties Sheet** opens to the inbound File eWay properties. Modify the properties for your system, including the settings for the inbound File eWay in Table 1, and click **OK**.

Table 1 Inbound File eWay Settings

Inbound eWay Connection Parameters	
Directory	C:/temp
Input file name	Input*.txt
Polling interval	60000

3 In the same way, modify the outbound File eWay properties for your system, including the settings in Table 2, and click **OK**.

Table 2 Outbound File eWay Settings

Outbound eWay Connection Parameters	
Directory	C:/temp

Configuring the e-Mail eWay Properties

The e-Mail eWay properties must be set in both the Connectivity Map and the Environment Explorer. For more information on the e-Mail eWay properties and the Properties Sheet, see **Configuring the e-Mail eWay Properties** on page 12 or see the *eGate Integrator User's Guide.*

Modifying the e-Mail eWay Connectivity Map Properties

1 From the **Connectivity Map**, double-click the inbound **e-Mail eWay**, select **Inbound Email eWay** in the Templates dialog box and click **OK**. The Properties Sheet opens to the Inbound e-Mail eWay properties.

2 Modify the Inbound e-Mail eWay Connectivity Map properties for your system, including the settings in Table 3, and click **OK**.

Table 3 Inbound e-Mail eWay Connectivity Map Properties

Inbound e-Mail eWay (Connectivity Map) Properties	
Polling Setting Set as directed, otherwise use the default settings	
Polling Interval	60000

3 The **Outbound e-Mail eWay** Connectivity Map properties contain only SSL related parameters. Use the default for these settings.

Modifying the e-Mail eWay Environment Explorer Properties

1 From the **Environment Explorer** tree, right-click the inbound e-Mail eWay External System (**EmailExtSysIn** in this sample), and select **Properties** from the shortcut menu. The Properties Sheet appears.

2 Modify the inbound e-Mail eWay environment properties for your system, including the settings in Table 4, and click **OK**.

Table 4 Inbound e-Mail Environment Explorer eWay Properties

Inbound e-Mail eWay Environment Properties	
Connection Settings Set as directed, otherwise use the default settings	
Host Receive	*Host name of the receiving POP3 server*
Password Receive	*User password for receiving email*
Port Receive	*TCP/IP Port Number for receiving email*
User Receive	*User name for receiving email*

1 From the **Environment Explorer** tree, right-click the outbound e-Mail eWay external system (**EmailExtSysOut** in this sample), and select **Properties** from the shortcut menu. The Properties Sheet appears.

2 Modify the outbound e-Mail eWay environment properties for your system, including the settings in Table 5, and click **OK**.

Table 5 Outbound e-Mail Environment Explorer eWay Properties

Outbound e-Mail eWay Environment Properties	
Connection Settings Set as directed, otherwise use the default settings	
Host Receive	*Host name of the receiving POP3 server*
Host Send	*Host name of the sending SMTP server*
Port Receive	*TCP/IP Port Number used for receiving email*
Port Send	*TCP/IP Port Number used for sending email*
Session Authentication	*NO*
User Receive	*User name for receiving email*
User Send	*User name for sending email*

## 4.7.7 Creating and Activating the Deployment Profile

Deployment Profiles are specific instances of a project in a particular Environment. A Deployment Profile contains information about the assignment of Services and message destinations to integration and message servers (JMS IQ Managers). It also contains version information for all versionable objects in the project. Deployment profiles are created using the Deployment Editor.

To create the eMailSampleBPEL Deployment Profile do the following:

1 From the Enterprise Explorer's Project Explorer, right-click the project (**eMailSampleBPEL**) and select **New** > **Deployment Profile** from the shortcut menu.

2 Enter a name for the Deployment Profile (for this sample **eMailSampleBPEL_DP**). Make sure that the selected Environment is **eMailSampleBPEL_ENV**. Click **OK**. The Deployment Profile Editor appears.

3 From the left pane of the Deployment Editor, drag the **inbound_File -> bp_Send1** (External Application) object to the **FileExtSysIn** window.

4 Drag the **bp_Receive1 -> outbound_File** (External Application) object to the **FileExtSysOut** window.

5 Drag the **bp_Send1 -> outbound_eMail** (External Application) object to the **EmailExtSysOut** window.

6 Drag the **inbound_eMail -> bp_Send1** (External Application) object to the **EmailExtSysIn** window.

7 Drag the **bp_Send1** and **bp_Receive1**(Services) to **IntegrationSvr1** in the **LogicalHost1** window (see Figure 16).

8   Drag the **Service1** object

Figure 16   Deployment Profile
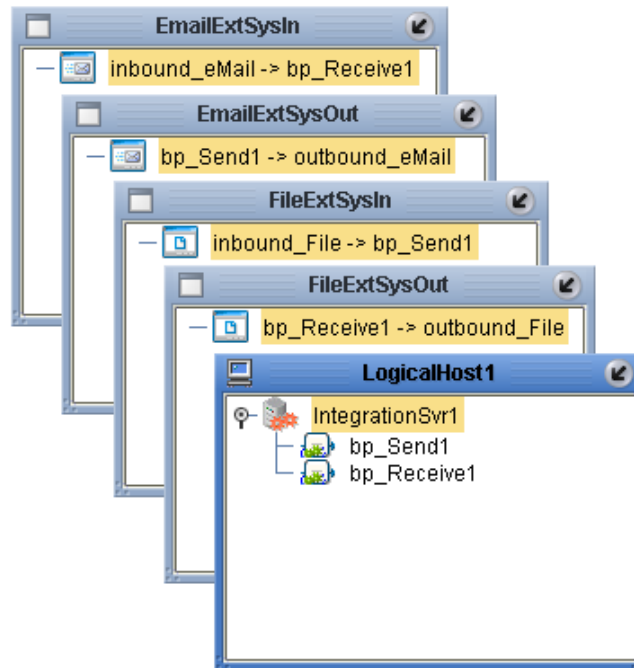
9   Click **Activate**. When activation succeeds, save your current changes to the Repository.

4.7.8. Running the Project

The following directions assume that the Enterprise Designer was downloaded to C:\ican50. If this is not the case, replace that location in the following directions with the appropriate location.

1   From the Enterprise Manager Downloads tab, download **Local Host**.

2   Extract the file to the **ican50\LogicalHost1** directory. You must specify the **LogicalHost1** directory for it to be created.

3   Navigate to **C:\ican50\LogicalHost1\bootstrap\config** directory and open the **logical-host.properties** file using Notepad™.

4   Enter the following information in the appropriate fields:

   ◆ Logical Host root directory: **ican50\LogicalHost1**

   ◆ Repository URL: **http://localhost:***port number/repository name*

   ◆ Repository user name and password: *Your user name and password*

   ◆ Logical Host Environment name: **eMailSampleBPEL_Env**

   ◆ Logical Host name: **LogicalHost1**

Save your changes to **logical-host.properties** and close the file.

5   Run the **bootstrap.bat** file in the eGate50\LogicalHost1\bootstrap\bin directory.

6 Copy the sample input data file to the input directory.

4.8 Alerting and Logging

eGate provides an alerting and logging feature. This allows monitoring of messages, and captures any adverse messages in order of severity based on configured severity level and higher. To enable Logging, please see the *eGate Integrator User's Guide*.

Note: *The alerts/status notifications for the e-Mail eWay are currently limited to Started, Running, Stopping, and Stopped.*

Implementing an e-Mail eWay Project

This chapter provides an introduction to the e-Mail eWay components and information on how these components are created and implemented in an eGate project. It is assumed that the reader understands the basics of creating a project using the SeeBeyond Enterprise Designer. For more information on creating an eGate project see the *eGate Tutorial* and the *eGate Integrator User's Guide*.

Chapter Topics

5.1 e-Mail eWay Components

This chapter presents a sample e-Mail eWay project created using the same procedures as the sample end-to-end project provided in the *eGate Tutorial*. The eWay components that are unique to the e-Mail eWay include the following:

e-Mail eWay Properties File

The properties file for the e-Mail eWay contains the parameters that are used to connecting with a specific external system. These parameters are set using the Properties Sheet. For more information about the e-Mail eWay properties file and the Properties Sheet see **Configuring the e-Mail eWay Properties** on page 12.

EmailMessage OTD

The EmailMessage OTD is provided with the eWay and contains methods and attributes that are used to create the Business Rules that invoke the e-Mail program.

5.2   e-Mail eWay Considerations

- Closely monitor the "sending" email account for any errors in delivery. All error messages for errors in delivery that occur after the initial mail server will be sent only to the sending mail account.

- After a successful call to **EmailMessage.receiveMessage()** and before a successful call to **send()**, the received e-mail message is contained ONLY in the EmailMessage instance in the Collaboration Rule. Failure to process and/or store it properly will result in message loss.

- In the Collaboration or Business Process, when sending attachments, one of the following combinations must be mapped (set).

  - **content** and **contentType**

  - **name** and **contentType**

  - **content**, **contentType**, and **name**

  The content is a byte array (byte[]), and contentType and name Strings (java.lang.String).

- The E-mail eWay does not currently support sending or receiving messages containing multi-level nested MIME parts.

5.3   Importing a Sample Project

Sample eWay projects are included as part of the installation CD-ROM package. To import a sample eWay project to the Enterprise Designer do the following:

1 The sample files are uploaded with the eWay's documentation .sar file and downloaded from the Enterprise Manager's Documentation tab. Extract the samples from the Enterprise Manager to a local file.

2 From the Enterprise Designer's Project Explorer pane, right-click the Repository and select **Import** from the shortcut menu. The **Import Manager** appears.

3 Browse to the directory that contains the sample project zip file. Select the sample file (for this sample, **eMailSampleJCE.zip**) and click **Import**. After the sample project is successfully imported, click **Close**.

4 When the import has successfully completed, right-click the Repository and select **Refresh All from Repository** from the shortcut menu.

5 Before an imported sample project can be run you must do the following:

  - Create an **Environment**

  - Configure the eWays for your specific system

  - Create a **Deployment Profile**

5.4 The eMailSampleJCE Project Overview

The e-Mail eWay project, **eMailSampleJCE**, demonstrates the following:

Send Message

- The inbound File eWay subscribes to an external directory. When a message is present the File eWay picks up the message and publishes the message to the collabSend Collaboration.
- The collabSend Collaboration adds a "To" name and email address, and a "From" name and email address, the subject name, and the text message and publishes the message to the outbound e-Mail eWay.
- The outbound e-Mail eWay publishes the email message to a POP3 server.

Receive Message

- The inbound e-Mail eWay subscribes to an external email account, polling the account every 60 seconds. Email is published to the collabReceive Collaboration.
- The collabReceive Collaboration parses the sender address, writes it to a text file and publishes the text file to the outbound File eWay.
- The outbound File eWay receives the text file and publishes the file to an external directory.

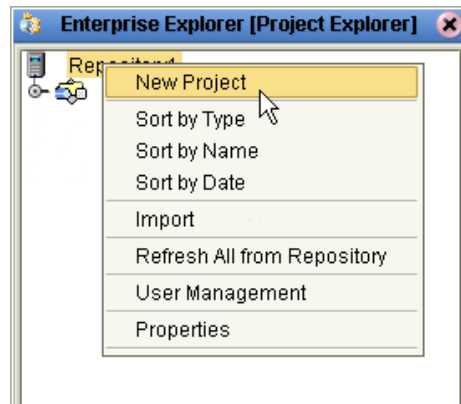## 5.5 Creating the eMailSampleJCE Project

The following pages provide step by step directions for manually creating the sample project components.

5.5.1. Creating a Project

The first step is to create a new project in the SeeBeyond Enterprise Designer.

1 Start the Enterprise Designer.

2 From the Project Explorer tree, right-click the Repository and select **New Project** (see **Figure 17 on page 44**). A new project (**Project1**) appears on the Project Explorer tree.

Figure 17 Enterprise Explorer - New Project

3 Click twice on **Project1** and rename the project (for this sample, **eMailSampleJCE**).

5.5.2 Creating a Connectivity Map

The Connectivity Map provides a canvas for assembling and configuring a project's components.

1 From the Project Explorer tree, right-click the new **eMailSampleJCE** project and select **New > Connectivity Map** from the shortcut menu.

2 The New Connectivity Map appears and a node for the Connectivity Map is added under the project on the Project Explorer tree labeled **CMap1**. Rename the Connectivity Map to **cm_eMailSend_Receive**.

The icons in the toolbar represent the available components used to populate the Connectivity Map canvas.

Selecting the External Applications

The icons in the toolbar represent the available components used to populate the Connectivity Map canvas.

In a Connectivity Map, the eWays are associated with External Systems. For example, to establish a connection to e-Mail, you must first select e-Mail as an External System to use in your Connectivity Map (see Figure 18).

Figure 18 Connectivity Map - External Applications
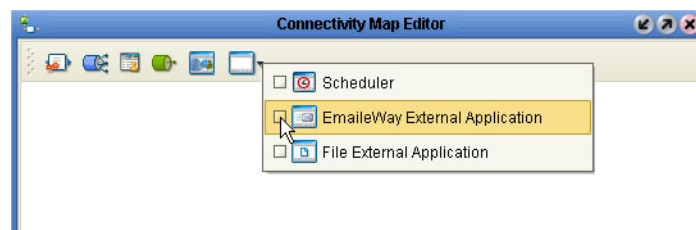
1 Click the **External Application** icon on the Connectivity Map toolbar,

2 Select the external systems needed for your project (for this sample, the **EmaileWay** and **File** External Applications). Icons representing the selected external systems are added to the Connectivity Map toolbar.

Populating the Connectivity Map

Add the project components to the Connectivity Map by dragging the icons from the toolbar to the canvas.

1 For this sample, drag the following components onto the Connectivity Map canvas as displayed in Figure 19:

   ◆ **File External System** (2 for this sample)

   ◆ **Service** (2 for this sample) A service is a container for Java Collaborations, Business Processes, eTL processes, and so forth.

   ◆ **EmaileWay External System** (2 for this sample)

Figure 19   Connectivity Map with Components
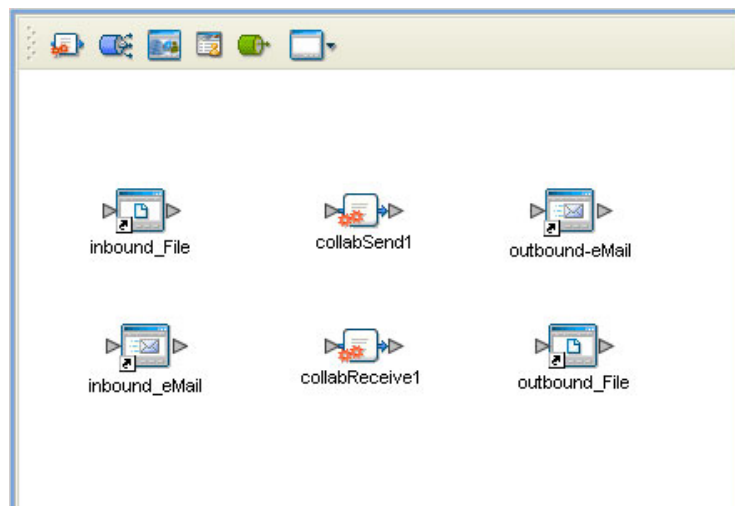
2 Rename the objects by right-clicking the object, selecting **Rename** from the shortcut menu, and typing in the new name. Change the names as follows:

   ◆ **File1** External Application to **inbound_File**

   ◆ **File2** External Application to **outbound_File**

   ◆ **EmaileWay1** External Application to **inbound_eMail**

   ◆ **EmaileWay2** External Application to **outbound_eMail**

   ◆ **Service1** Service to **collabSend1**

   ◆ **Service2** Service to **collabReceive1** (see Figure 19).

3 Save your current changes to the Repository.

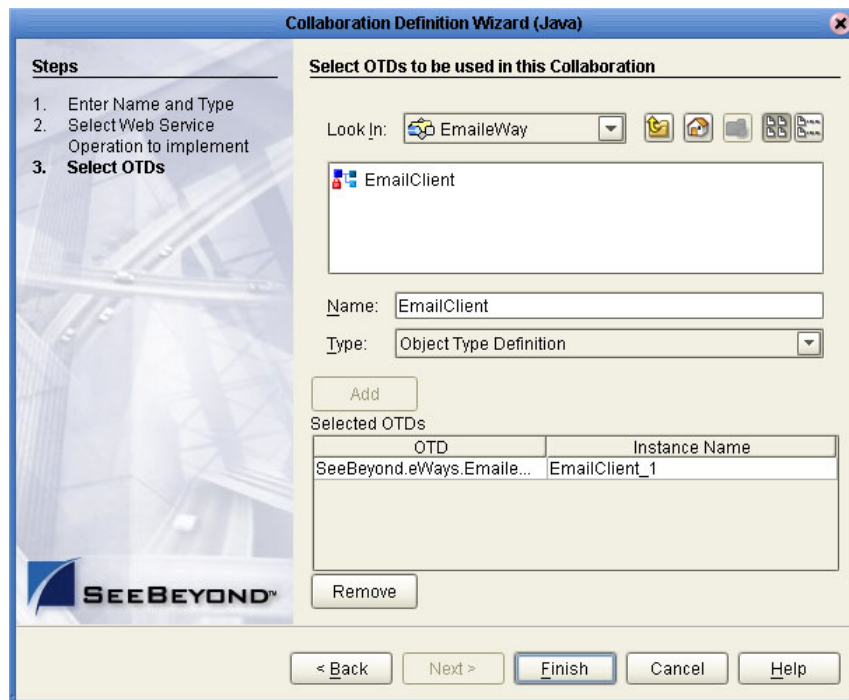### 5.5.3. Creating the Collaboration Definitions

The next step in the sample is to create two Java Collaborations using the Collaboration Definition Wizard (Java). Once the Collaboration Definitions have been created, the Business Rules of the Collaborations are written using the Collaboration Editor (Java).

Creating the collabSendCollaboration Collaboration Definition

The **collabSend** Collaboration defines transactions from the inbound File application to the e-Mail eWay and the e-Mail eWay External Application.

1 From the Project Explorer, right-click the sample project and select **New > Collaboration Editor (Java)** from the shortcut menu. The **Collaboration Definition Wizard (Java)** appears.

2 Enter a Collaboration Definition name (for this sample **collabSend**) and click **Next**.

3 For Step 2 or the wizard, from the Web Services Interfaces selection window, double-click **SeeBeyond** > **eWays** > **File** > **FileClient** > **receive**. The File Name field now displays **receive.** Click **Next**.

4 For Step 3 of the wizard, from the Select OTDs selection window, double-click **SeeBeyond** > **eWays** > **EmaileWay** > **EmailClient**. The **EmailClient** OTD is added to the Selected OTDs field.

Figure 20   Collaboration Definition Wizard (Java) - Select Web Service

5 Click **Finish**. The Collaboration Editor (Java) with the new collabSend Collaboration appears in the right pane of the Enterprise Designer.

Creating the collabReceive Java Collaboration

The **collabReceive** Collaboration (Java) defines transactions made from the inbound eMail eWay application to the Outbound File eWay and File External Application.

1 From the Project Explorer, right-click the sample project and select **New > Collaboration Editor (Java)** from the shortcut menu. The **Collaboration Definition Wizard (Java)** appears.

2 Enter a Collaboration Definition name (for this sample **collabReceive**) and click **Next**.

3 For Step 2 of the wizard, from the Web Services Interfaces selection window, double-click **SeeBeyond** > **eWays** > **EmaileWay** > **EmailClient** > **receive**. The Name field now displays **receive.** Click **Next**.

4 For Step 3, **Select OTDs**, from the Select OTDs selection window, double-click **SeeBeyond** > **eWays** > **File** > **FileClient**. The Selected OTDs field now lists the **FileClient** OTD.

5 Click **Finish**. The Collaboration Editor with the new JMS2File_Collab Collaboration appears.

5.5.4. Using the Collaboration Editor (Java)

The next step in the sample is to create the Business Rules of the Collaborations using the Collaboration Editor (Java).

Creating the collabSend Business Rules

Be careful to open all nodes specified in the directions to connect to the correct item. The **collabSend** Collaboration contains the Business Rule displayed in Figure 21.

**Figure 21**   collabSend Collaboration Business Rules
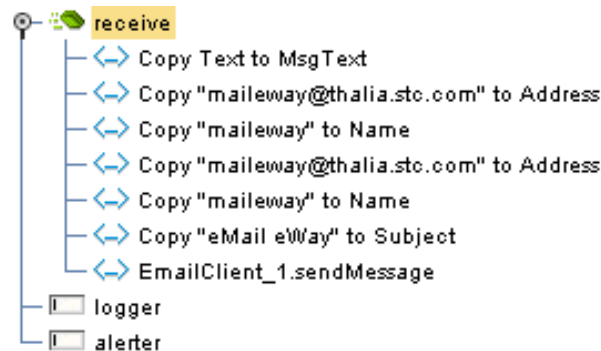
To create the **collabSend** Collaboration Business Rules do the following:

1 From the Project Explorer tree, double-click **collabSend** to open the Collaboration Editor (Java) to the e-Mailjms_Collab Collaboration.

2 Double-click the **EmailClient_1** and **input nodes** in the Business Rules Designer panes to expand the nodes.

3 To create the **Copy Text to MsgText** Business Rule do the following:

A Map **Text** under **input** in the left pane of the Business Rules Designer, to **MsgText** under **EmailClient_1** > **EmailMessage** in the right pane of the Business Rules Designer. To do this, click on **Text** in the left pane of the Business Rules Designer, and drag the cursor to MsgText in the right pane of the Business Rules Designer. A line now connects the two nodes (see Figure 22).

Figure 22 collabSend - Copy Text to MsgText Business Rule
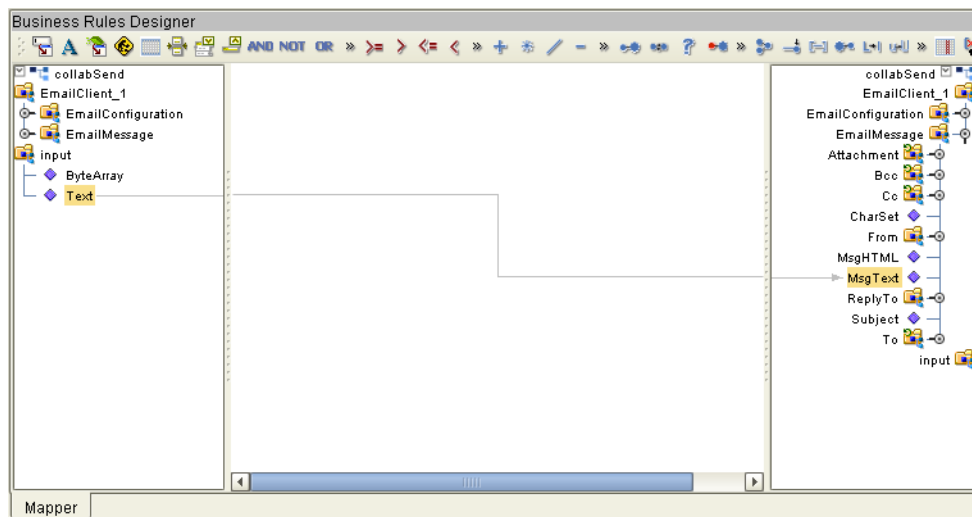
4 To create the (variable) **Copy "maileway@address.com" to Address** Business Rule do the following:

A From the Business Rules toolbar, click the **rule** icon to add a new rule.

B From the Business Rules Designer toolbar, click on the **Create Literal** icon. The **Create Literal** dialog box appears.

C From the Create Literal dialog box, select **String** as Type, enter the **maileway@"your send address"** as the Value, and click **OK**. The **Literal** method box appears on the Business Rules Designer canvas.

D Map the **maileway@"your send address"** output node of the Literal method box to **Address** under **EmailClient_1** > **EmailMessage** in the right pane of the Business Rules Designer.

5 To create the (variable) **Copy "maileway" to Name** Business Rule do the following:

A From the Business Rules toolbar, click the **rule** icon to add a new rule.

B From the Business Rules Designer toolbar, click on the **Create Literal** icon. The **Create Literal** dialog box appears.

C From the Create Literal dialog box, select **String** as Type, enter the **maileway** as the Value, and click **OK**. The **Literal** method box appears on the Business Rules Designer canvas.

D Map the **maileway** output node of the Literal method box to **Name** under **EmailClient_1** > **EmailMessage** > **From** in the right pane of the Business Rules Designer (see **Figure 23 on page 49**).

Figure 23   collabSend - Copy "maileway" to Name Business Rule
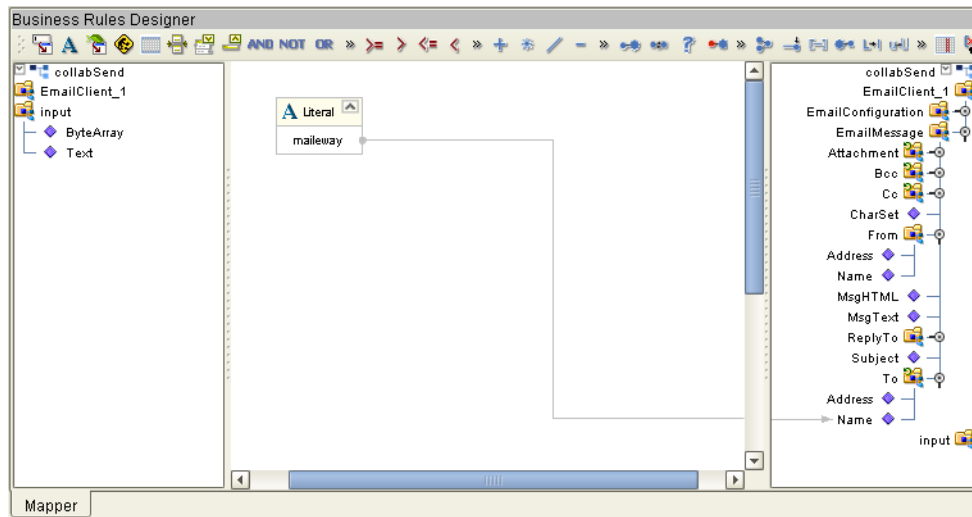
6   To create the **Copy "maileway@*from address*" to Address** Business Rule do the following:

A   From the Business Rules toolbar, click the **rule** icon to add a new rule.

B   From the Business Rules Designer toolbar, click on the **Create Literal** icon. The **Create Literal** dialog box appears.

C   From the Create Literal dialog box, select **String** as Type, enter the **maileway@"*your from address*"** as the Value, and click **OK**. The **Literal** method box appears on the Business Rules Designer canvas.

D   Map the **maileway@"*from address*"** output node of the Literal method box to **Address** under **EmailClient_1** > **EmailMessage** > **From** in the right pane of the Business Rules Designer.

7   To create the **Copy "eMail eWay" to Subject** Business Rule do the following:

A   From the Business Rules toolbar, click the **rule** icon to add a new rule.

B   From the Business Rules Designer toolbar, click on the **Create Literal** icon. The **Create Literal** dialog box appears.

C   From the Create Literal dialog box, select **String** as Type, enter the **eMail eWay** as the Value, and click **OK**. The **Literal** method box appears on the Business Rules Designer canvas.

D   Map the **eMail eWay** output node of the Literal method box to **Subject** under **EmailClient_1** > **EmailMessage** in the right pane of the Business Rules Designer.

8   To create the **EmailClient_1.sendMessage** Business Rule do the following:

A   From the Business Rules toolbar, click the **rule** icon to add a new rule.

B   Right-click **EmailClient_1** in the left pane of the Business Rules Designer, and click **Select a method to call** from the shortcut menu. The method selection menu appears.

C   Select **sendMessage()**. The sendMessage method box appears (see .

**Figure 24**   Collaboration Editor (Java) - EmailClient_1.sendMessage
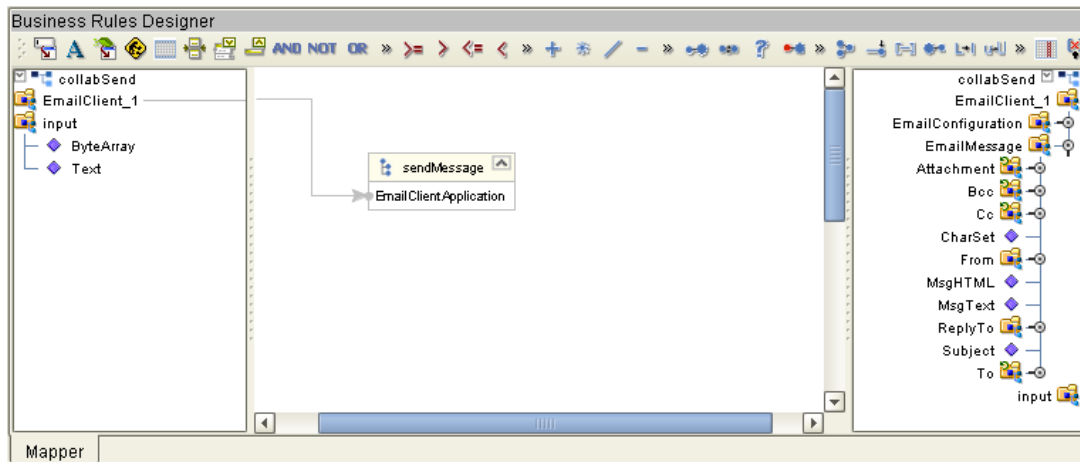
9   Save your current changes to the repository.

Creating the collabReceive Collaboration Business Rules

Be careful to open all nodes specified in the directions to connect to the correct item. The e-Mailjms_Collab Collaboration contains the Business Rule displayed in Figure 25

Figure 25   collabReceive Collaboration Business Rules
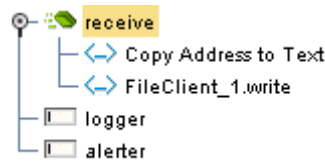
To create the **collabReceive** Collaboration Business Rules do the following:

1   From the Project Explorer tree, double-click **collabReceive** to open the Collaboration Editor (Java) to the **collabReceive** Collaboration.

2   To create the **Copy Address to Text** Business Rule do the following:

A   Select the **New rule** in the Business Rules pane.

B   Map **Address** under **input** > **EmailMessage** > **From** in the left pane of the Business Rules Designer to **Text** under **FileClient_1** in the right pane of the Business Rules Designer.

3   To create the **FileClient_1.write** Business Rule do the following:

A   From the Business Rules toolbar click the **rule** icon to add a new rule.

B   From the left pane of the Transformation Designer, right-click **FileClient_1** and click **Select a method to call** from the shortcut menu. The method selection box appears.

    C Select the **write** method. The **write** method box appears in the Transformation Designer canvas.

  4 Save your current changes to the repository.

For more information on how to create Business Rules using the Collaboration Editor see the *eGate Integrator User's Guide*.

5.5.5. Binding the eWay Components

After the Collaborations have been written, the components are associated and Bindings are created in the Connectivity Map.

  1 From the Project Explorer, double-click the **cm_eMailSend_Receive** to display the Connectivity Map.

  2 Drag and drop the **collabSend** Collaboration from the Project Explorer to the **collabSend1** Service. If the Collaboration was successfully associated, the Service's "gears" icon changes from red to green (see Figure 26).

Figure 26 Connectivity Map - Binding the Components
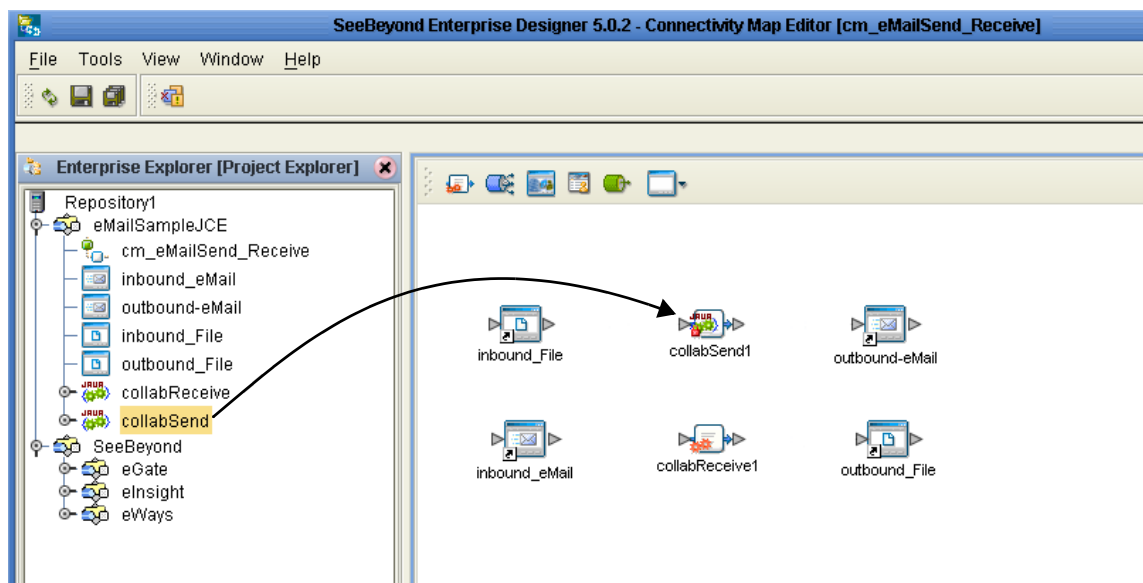
  3 Drag and drop **collabReceive** from the Project Explorer to the **collabReceive**1 Service.

  4 From the Connectivity Map canvas, double-click **collabSend1**. The **collabSend1** binding dialog box appears with the **collabSend** Rule.

  5 From the **collabSend1** binding dialog box, map **FileClient Input** (under Implemented Services) to the inbound **inbound_File** External Application.

  6 From the **collabSend1** binding dialog box, map **EmailClient** (under Invoked Services) to the **outbound_eMail1** External Application.

Figure 27 Connectivity Map - Associating (Binding) the Project's Components
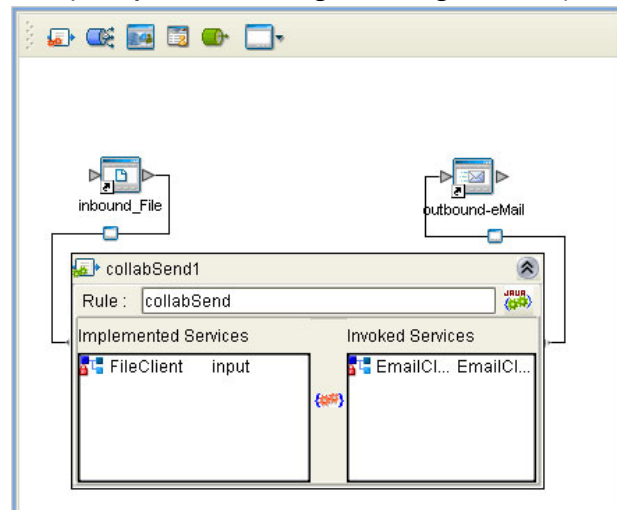
7   Minimize the **collabSend1** binding dialog box by clicking the chevrons in the upper-right corner.

8   From the Connectivity Map, double-click the **collabReceive1** Service. The **collabReceive1** binding dialog box appears with the **collabReceive** Rule.

9   From the **collabReceive1** binding dialog box, drag **EmailClient input** (under Implemented Services) to **inbound_eMail**.

10 From the **collabReceive1** binding dialog box, drag **FileClient** (under Invoked Services) to the outbound **outbound_File** Application.

11 Minimize the **collabReceive1** binding dialog box, and save your current changes to the Repository

5.5.6. Creating an Environment

Environments include the external systems, Logical Hosts, integration servers and message servers used by a project and contain the configuration information for these components. Environments are created using the Enterprise Designer's Environment Explorer and Environment Editor.

1   From the Enterprise Designer's Enterprise Explorer, click the **Environment Explorer** tab.

2   Right-click the Repository and select **New Environment**. A new Environment is added to the Environment Explorer tree.

3   Rename the new Environment to **eMailSampleJCE_ENV**.

4   Right-click **eMailSampleJCE_ENV** and select **New e-Mail External System**. Name the External System **EmailExtSysIn** and select Inbound Email eWay as the External System Type. Click **OK**. **EmailExtSysIn** is added to the Environment Editor.

5   Right-click **eMailSampleJCE_ENV** and select **New e-Mail External System**. Name the External System **EmailExtSysOut** and select Outbound Email eWay as the External System Type. Click **OK**. **EmailExtSysOut** is added to the Environment Editor.

6 Right-click **eMailSampleJCE_ENV** and select **New File External System**. Name the External System **FileExtSysIn** and select **Inbound File eWay** as the External System Type. Click **OK**. **FileExtSysIn** is added to the Environment Editor.

7 Right-click **eMailSampleJCE_ENV** and select **New File External System**. Name this External System **FileExtSysOut** and select Outbound File eWay as the External System Type. **FileExtSysOut** is added to the Environment Editor.

8 Right-click **eMailSampleJCE_ENV** and select **New Logical Host**. **Localhost1** is added to the Environment Editor.

9 From the Environment Explorer tree, right-click **LocalHost1** and select **New SeeBeyond Integration Server**. A new Integration Server (**IntegrationSvr1**) is added to the Environment Explorer tree under LogicalHost1.

10 Save changes to the repository. The Environment Explorer and Environment Editor now appear as displayed in Figure 28.

Figure 28   Environment Editor - eMailSampleJCE_Env
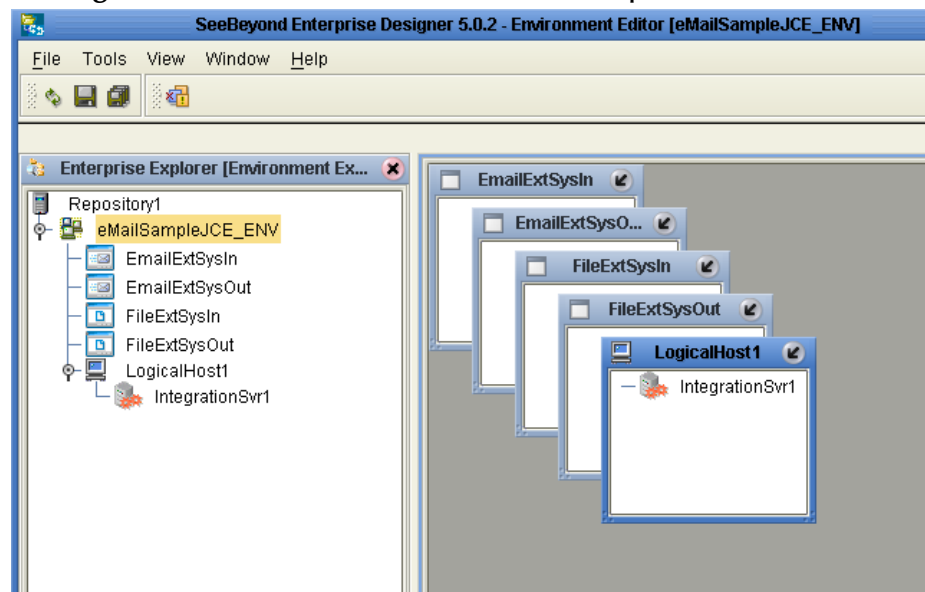

11 Save your current changes to the Repository.

5.5.7. Configuring the eWays

The eMailSampleJCE project uses four eWays, each represented in the Connectivity Map as a node between an External Application and a Service. eWays facilitate communication and movement of data between the external applications and the eGate system.

The File eWay properties are configured from the Connectivity Map. The e-Mail eWay properties are set from both the Project Explorer's Connectivity Map and the Environment Explorer tree.

Configuring the File eWay Properties

1   Double-click the inbound **File eWay** (see Figure 29), select **Inbound File eWay** in the Templates dialog box and click **OK**.
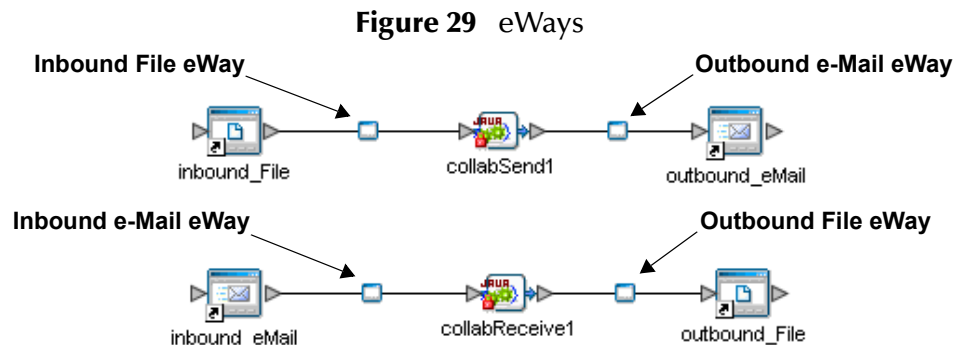
Figure 29   eWays

2   The **Properties Sheet** opens to the inbound File eWay properties. Modify the properties for your system, including the settings for the inbound File eWay in Table 6, and click **OK**.

Table 6   Inbound File eWay Settings

Inbound eWay Connection Parameters	
Directory	C:/temp
Input file name	Input*.txt
Polling interval	60000

3   In the same way, modify the outbound File eWay properties for your system, including the settings in Table 7, and click **OK**.

Table 7   Outbound File eWay Settings

Outbound eWay Connection Parameters	
Directory	C:/temp

Configuring the e-Mail eWay Properties

The e-Mail eWay properties must be set in both the Connectivity Map and the Environment Explorer. For more information on the e-Mail eWay properties and the Properties Sheet, see **Configuring the e-Mail eWay Properties** on page 12 or see the *eGate Integrator User's Guide*.

Modifying the e-Mail eWay Connectivity Map Properties

1   From the **Connectivity Map**, double-click the inbound **e-Mail eWay**, select **Inbound Email eWay** in the Templates dialog box and click **OK**. The Properties Sheet opens to the Inbound e-Mail eWay properties.

2   Modify the Inbound e-Mail eWay Connectivity Map properties for your system, including the settings in **Table 8 on page 55**, and click **OK**.

Table 8   Inbound e-Mail eWay Connectivity Map Properties

Inbound e-Mail eWay (Connectivity Map) Properties	
Polling Setting Set as directed, otherwise use the default settings	
Polling Interval	60000

3   The **Outbound e-Mail eWay** Connectivity Map properties contain only SSL related parameters. Use the default for these settings.

Modifying the e-Mail eWay Environment Explorer Properties

1   From the **Environment Explorer** tree, right-click the inbound e-Mail eWay External System (**EmailExtSysIn** in this sample), and select **Properties** from the shortcut menu. The Properties Sheet appears.

2   Modify the inbound e-Mail eWay environment properties for your system, including the settings in Table 9, and click **OK**.

Table 9   Inbound e-Mail Environment Explorer eWay Properties

Inbound e-Mail eWay Environment Properties	
Connection Settings Set as directed, otherwise use the default settings	
Host Receive	*Host name of the receiving POP3 server*
Password Receive	*User password for receiving email*
Port Receive	*TCP/IP Port Number for receiving email*
User Receive	*User name for receiving email*

1   From the **Environment Explorer** tree, right-click the outbound e-Mail eWay external system (**EmailExtSysOut** in this sample), and select **Properties** from the shortcut menu. The Properties Sheet appears.

2   Modify the outbound e-Mail eWay environment properties for your system, including the settings in Table 10, and click **OK**.

Table 10   Outbound e-Mail Environment Explorer eWay Properties

Outbound e-Mail eWay Environment Properties	
Connection Settings Set as directed, otherwise use the default settings	
Host Receive	*Host name of the receiving POP3 server*
Host Send	*Host name of the sending SMTP server*
Port Receive	*TCP/IP Port Number used for receiving email*

| Outbound e-Mail eWay Environment Properties	
Port Send	*TCP/IP Port Number used for sending email*
Session Authentication	*NO*
User Receive	*User name for receiving email*
User Send	*User name for sending email*

5.5.8 Creating and Activating the Deployment Profile

Deployment Profiles are specific instances of a project in a particular Environment. A Deployment Profile contains information about the assignment of Services and message destinations to integration and message servers (JMS IQ Managers). It also contains version information for all versionable objects in the project. Deployment profiles are created using the Deployment Editor.

To create the **eMailSampleJCE_DP** Deployment Profile do the following:

1 From the Enterprise Explorer's Project Explorer, right-click the project (**eMailSampleJCE**) and select **New** > **Deployment Profile** from the shortcut menu.

2 Enter a name for the Deployment Profile (for this sample **eMailSampleJCE_DP**). Make sure that the selected Environment is **eMailSampleJCE_ENV**. Click **OK**. The Deployment Profile Editor appears.

3 From the left pane of the Deployment Editor, drag the **inbound_File -> collabSend1** (External Application) object to the **FileExtSysIn** window.

4 Drag the **collabReceive1 -> outbound_File** (External Application) object to the **FileExtSysOut** window.

5 Drag the **collabSend1 -> outbound_eMail** (External Application) object to the **EmailExtSysOut** window.

6 Drag the **inbound_eMail -> collabSend1** (External Application) object to the **EmailExtSysIn** window.

7 Drag the **collabSend1** and **collabReceive1** (Services) to **IntegrationSvr1** in the **LogicalHost1** window (see Figure 30).

Figure 30   Deployment Profile
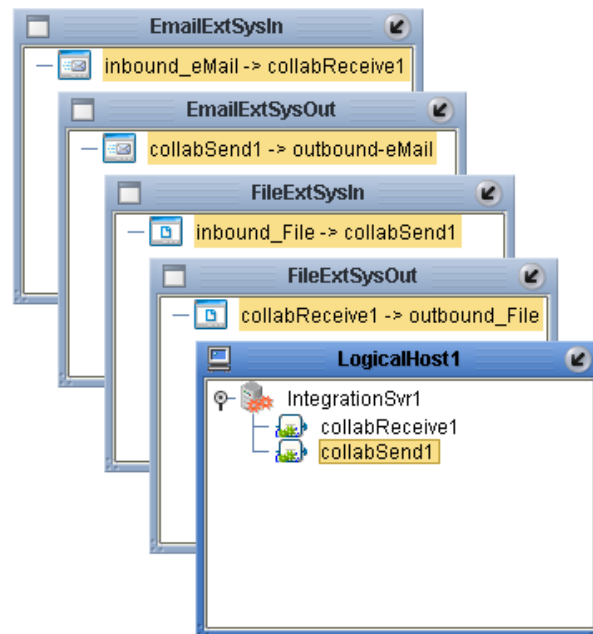
8   Click **Activate**. When activation succeeds, save the changes to the Repository.

5.5.9. **Running the Project**

The following directions assume that the Enterprise Designer was downloaded to **C:\ican50**. If this is not the case, replace that location in the following directions with the appropriate location.

1   From the Enterprise Manager Downloads tab, download **LogicalHost**.

2   Extract the file to the **ican50\LogicalHost2** directory. You must specify the **LogicalHost2** directory for it to be created.

3   Navigate to **C:\ican50\LogicalHost2\bootstrap\config** directory and open the **logical-host.properties** file using Notepad™.

4   Enter the following information in the appropriate fields:

  ◆ Logical Host root directory: **ican50\LogicalHost2**

  ◆ Repository URL: **http://localhost:***port number/repository name*

  ◆ Repository user name and password: *Your user name and password*

  ◆ Logical Host Environment name: **eMailSampleJCE_Env**

  ◆ Logical Host name: **LogicalHost2**

  Save your changes to **logical-host.properties** and close the file.

5   Run the **bootstrap.bat** file in the **ican50\LogicalHost2\bootstrap\bin** directory.

6   Copy the sample input data file to the input directory.

5.6   Alerting and Logging

eGate provides an alerting and logging feature. This allows monitoring of messages, and captures any adverse messages in order of severity based on configured severity level and higher. To enable Logging, please see the *eGate Integrator User's Guide*.

Note: *The alerts/status notifications for the e-Mail eWay are currently limited to Started, Running, Stopping, and Stopped.*

5.7   Enabling Japanese and Korean Character Support

The e-Mail e*Way supports Korean (Hangul) and Japanese character encoding in both the header and message content of the e-mail message (for both text/plain and text/HTML). The e-Mail e*Way conforms to RFC2047 standards for Multipurpose Internet Mail Extensions (MIME).

In order for email to be in encoded to support Korean character text (ISO-2022-KR) or Japanese character text (ISO-2022-JP), the value for **CharSet** must be set to one of the following:

- **ISO-2022-KR** for Korean character support.
- **ISO-2022-JP** for Japanese character support.

The **CharSet** property is only valid for sending messages and is only available in mailclient.xsc. To enable Korean or Japanese character support to **send** messages add the following Business Rule to the Collaboration:

1. From the Business Rules toolbar, click the **rule** icon to add a new rule.

2. From the Business Rules Designer toolbar, click on the **Create Literal** icon. The **Create Literal** dialog box appears.

3. From the Create Literal dialog box, select **String** as Type, enter the **ISO-2022-KR** (for Korean characters) or **ISO-2022-JP** (for Japanese characters) as the Value, and click **OK**. The **Literal** method box appears on the Business Rules Designer canvas.

4. Map the **ISO-2022-KR** (or JP) output node of the Literal method box to **CharSet** under **EmailClient_1** > **EmailConfiguration** in the right pane of the Business Rules Designer (see **Figure 31 on page 59**).

Figure 31   Business Rule Designer - Japanese and Korean Character Encoding
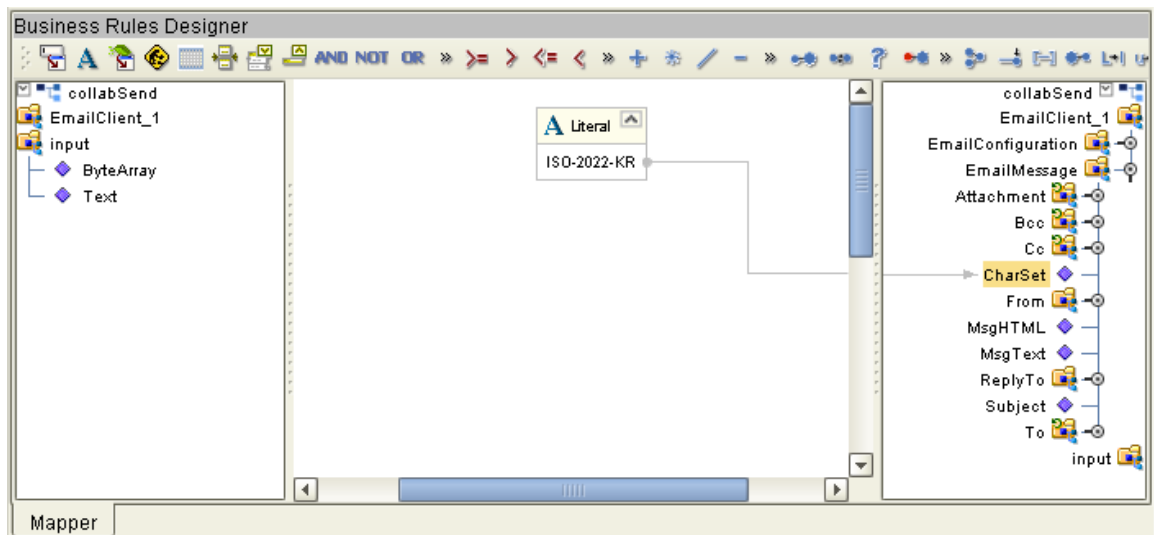
Using SSL

This chapter describes the operation of the eWay's Secure Sockets Layer (SSL) feature.
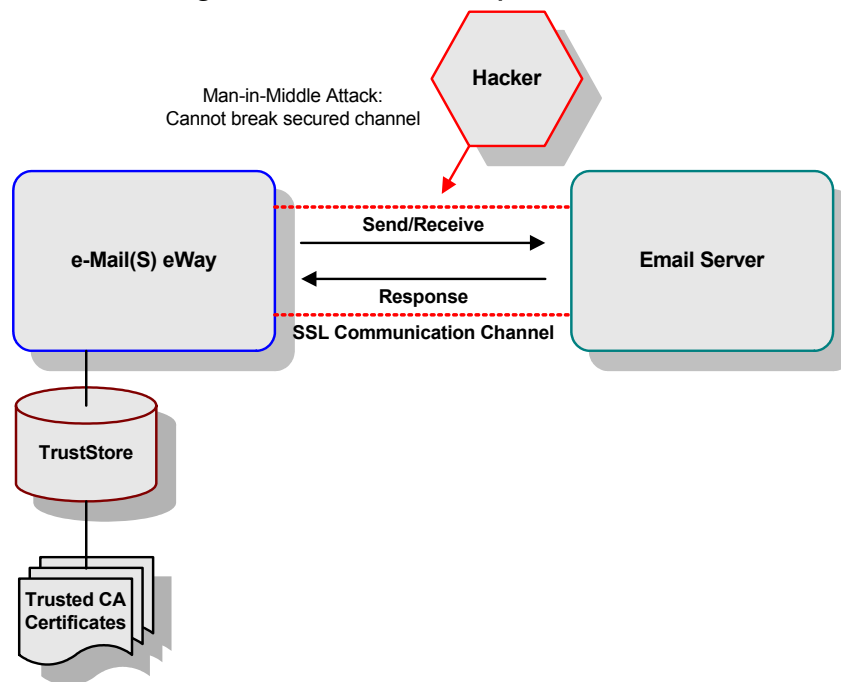
Chapter Topics:

6.1 Overview

The use of SSL with the e-Mail eWay enables secure email exchanges, safe from unauthorized interception by "hackers" or other entities. The eWay's SSL feature provides a secure communications channel for the data exchanges (see Figure 32).

Figure 32 General SSL Operation

This SSL feature is supported through the use of JSSE version 1.0.3.

Note: *JSSE 1.0.3 if using SDK 1.3.1, or JSEE version bundled with SDK 1.4.1 release.*

Currently, the JSSE reference implementation is used. JSSE is a provider-based architecture, meaning that it implements a set of standard interfaces for cryptographic algorithms, hashing algorithms, secured-socket-layered URL stream handlers, and so forth.

Because the user is interacting with JSSE through these interfaces, the different components can be mixed and matched as long as the implementation is programmed under the published interfaces. However, some implementations may not support a particular algorithm.

The JSSE 1.0.3 application programming interface (API) is capable of supporting SSL versions 2.0 and 3.0 and Transport Layer Security (TLS) version 1.0. These security protocols encapsulate a normal bidirectional stream socket and the JSSE 1.0.3 API adds transparent support for authentication, encryption, and integrity protection. The JSSE reference implementation implements SSL version 3.0 and TLS 1.0.

For more information see the Sun Microsystem's JSSE documentation, available from the Sun Java Web site:

> **http://java.sun.com**

6.2 TrustStores

Creating a TrustStore

For demonstration purposes, suppose you have the following CAs (CA is short for Certification Authority) that you trust: **firstCA.cert, secondCA.cert, thirdCA.cert**, located in the directory **C:\cascerts**. You can create a new TrustStore consisting of these three trusted certificates.

To create a new TrustStore use the following command:

```
keytool -import -file C:\cascerts\firstCA.cert -alias firstCA
    -keystore myTrustStore
```

You must enter this command two more times, but for the second and third entries, substitute **secondCA** and **thirdCA** for **firstCA**. Each of these command entries have the following purposes:

1 The first entry creates a KeyStore file name **myTrustStore** in the current working directory and imports the **firstCA** certificate into the TrustStore with an alias of **firstCA**. The format of **myTrustStore** is JKS.

2 For the second entry, substitute **secondCA** to import the **secondCA** certificate into the TrustStore, **myTrustStore**.

3 For the third entry, substitute **thirdCA** to import the **thirdCA** certificate into the TrustStore.

Once completed, myTrustStore is available to be used as the TrustStore for the eWay.

Using an Existing TrustStore

This section explains how to use an existing TrustStore (such as trustedcacertsjks created earlier). Notice that in the previous section, steps 2 and 3 were used to import two CAs into the TrustStore created in step 1.

For example, suppose you have a trusted certificate file named: **C:\trustedcerts\foo.cert** and want to import it to the **trustedcacertsjks** TrustStore.

If you are importing certificates into an existing TrustStore, use the following:

```
keytool -import -file C:\cacerts\secondCA.cert -alias secondCA
    -keystore trustedcacertsjks
```

Once you are finished, **trustedcacertsjks** can be used as the TrustStore for the eWay.

6.3   SSL Handshaking

The majority of eCommerce Web sites on the Internet are configured for **Server-Side Authentication**. The eWay requests a certificate from the Web server and authenticates the Web server by verifying that the certificate can be trusted. Essentially, the eWay performs this operation by looking into its TrustStore for a CA certificate with a public key that can validate the signature on the certificate received from the Web server. This option is illustrated in Figure 33.

Figure 33 Server-side Authentication
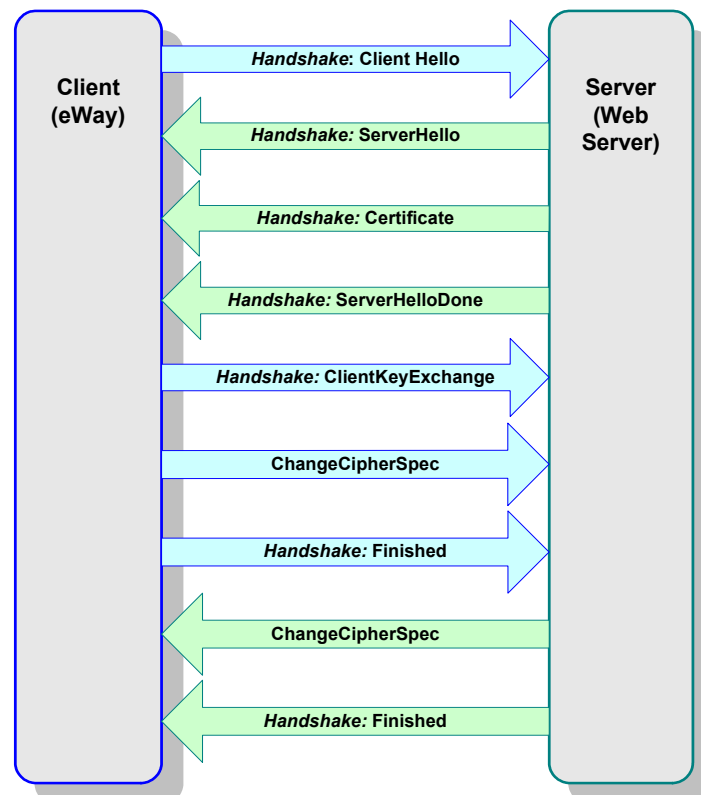
Classes and Methods for the e-Mail eWay

The e-Mail eWay contains a number of Java methods that have been exposed to extend the functionality of the eWay. To view a list of the available methods see the e-Mail eWay Javadoc.

7.0.1. e-Mail eWay Classes

The e-Mail eWay methods are contained in the following classes:

- EmailAddress Class
- EmailApplicationException

- EmailAttachment Class
- EmailClientApplication (Interface)
- EmailConfiguration
- EmailMessage Class

e-Mail eWay Javadoc

The e-Mail eWay Javadoc is uploaded with the eWay's documentation file (**EmaileWayDocs.sar**) and downloaded from the **Documentation** tab of the Enterprise Manager. To access the full Javadoc, extract the Javadoc to an easily accessible folder, and double click the **index.html** file.

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