

*SeeBeyond ICAN Suite*

# File eWay Intelligent Adapter User's Guide

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# Introducing the File eWay

This guide explains how to install, set properties for, and operate the SeeBeyond® Integrated Composite Application Network Suite™ (ICAN) File eWay Intelligent Adapter, referred to as the File eWay throughout this guide.

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

## Chapter Topics

- [“Overview” on page 5](#)
- [“Setting Properties” on page 6](#)
- [“Alerting and Logging” on page 6](#)

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## 1.1 Overview

The File eWay exchanges data between an external file system and the eGate Integrator system. You can use this eWay for:

- Reading information from an external file into eGate.
- Writing information from eGate into an external file.

### eWay Operation

The eWay is provided as part of eGate and operates as follows:

- As an inbound eWay, the File eWay polls an input directory for files based on a file name matching a specified regular expression. When the eWay detects a matching file, it opens the file and publishes the data to a Collaboration or Business Process Service. The original data file is then renamed to the same file name with a **.~in** extension.

For example, **input1.txt** is renamed to **input1.~in**.

- As an outbound eWay, the eWay appends processed data to a file in an output directory.

The default file name is **output%d.dat**, for example, **output1.dat**, **output2.dat**, and so on.

---

## 1.2 Setting Properties

You can set configuration properties for the eWay, including names and locations of source and destination files, in the eWay **Properties** dialog box interface, which is part of the eGate Enterprise Designer. See [Chapter 3](#) for more information about using the eWay **Properties** dialog box.

For a description of a complete end-to-end scenario using the File eWay, inbound and outbound, see the *eGate Integrator User's Guide*.

---

## 1.3 Alerting and Logging

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

This feature provides general notifications indicating when the eWay is started, running (ready to process), stopped, or suspended. Alerts are generated when a file cannot be renamed during inbound processing.

# Installing the File eWay

This chapter explains how to install the File eWay.

### Chapter Topics

- [“Installation Procedure” on page 7](#)

### Supported Operating Systems

The File eWay is compatible with the same operating systems as eGate Integrator. For a complete list of the File eWay’s supported operating systems, system requirements, and external system requirements, see the *SeeBeyond ICAN Suite Installation Guide*.

---

## 2.1 Installation Procedure

During the eGate Integrator installation process, the Enterprise Manager, a Web-based application, is used to select and upload eWays (.sar files for eWays) from the eGate installation CD-ROM to the Repository.

When the Repository is running on a UNIX operating system, eGate and the eWays are installed using the Enterprise Manager on a computer running Windows connected to the Repository server.

### 2.1.1 Installing eGate

The eGate installation process includes the following operations:

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

## 2.1.2. Installing the File eWay on an eGate-supported System

The File eWay is installed during the installation of eGate Integrator. Follow the instructions in the *SeeBeyond ICAN Suite Installation Guide* for installing eGate and include the following steps:

- 1 During the procedures for uploading files to the eGate Repository using the Enterprise Manager, after uploading the **eGate.sar** file, select and upload the following file:
  - ◆ **FileeWay.sar**
- 2 Continue installing eGate Integrator as instructed in the *SeeBeyond ICAN Suite Installation Guide*.

---

## 2.2 After Installation

Once you have installed and set properties for the eWay, you must then incorporate it into a Project before it can perform its intended functions. See the *eGate Integrator User's Guide* and *eGate Integrator System Administration Guide* for more information on incorporating the eWay into an eGate Project.



# Configuring the File eWay

This chapter explains how to configure the properties for the File eWay.

## Chapter Topics

- [“File eWay Properties Dialog Box” on page 9](#)
- [“Configuring Properties” on page 11](#)

---

## 3.1 File eWay Properties Dialog Box

When you install the File eWay, a default properties template for the eWay is also installed. The template’s default configuration properties are accessible using the eGate Enterprise Designer. These default properties apply to the File eWays you use within your current Project or Business Process.

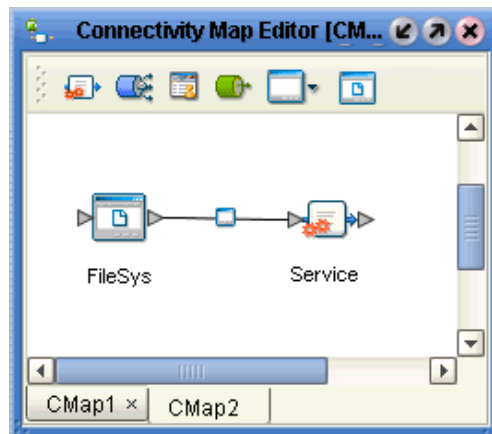
You can configure each individual eWay using the Enterprise Designer’s eWay **Properties** dialog box. This section describes general procedures on how to change these default properties for the eWay. For details on these steps, see the *eGate Integrator User’s Guide*.

### 3.1.1 Configuring Properties on the Connectivity Map

To configure the File eWay using the Project Explorer

- 1 From the eGate Enterprise Designer’s **Project Explorer** create at least one Connectivity Map.
- 2 Create the desired external systems for your one or more Connectivity Maps.
- 3 Select the external application whose default eWay properties you want to change by clicking the **eWay** icon. This icon is located on the link between an **External Application** icon and a **Service** icon on the Connectivity Map canvas. See [Figure 1 on page 10](#).

Figure 1 eWay Icon



The eWay **Properties** dialog box appears. [Figure 2 on page 11](#), and [Figure 3 on page 14](#) show the eWay's default properties available from the **Project Explorer** and Connectivity Map. You can use this dialog box to modify the eWay's current properties settings.

- 4 Click **OK** then **Save All** to save your changes.

#### To use the eWay Properties dialog box

- The default properties are automatically provided. You can change the defaults, as desired.
- Clicking the **Property Settings** folder in the left pane displays the eWay's editable properties in the right pane.
- Many of the entries allow you to enter text. Click the desired text box, then click the ellipsis (...) that appears, to open a dialog box for this purpose.

**Note:** *Even if you do not change the eWay's properties, you must open each **Properties** dialog box for every eWay and click **OK** to activate the eWay.*

See the section under "**Configuring Properties**" on [page 11](#) for complete details on the eWay's configurable properties.

### 3.1.2 Setting Up the Environment

You do not need to set any properties for the File eWay in the Project's Environment. However, remember to create an inbound and/or outbound external File system in the Environment if you have created one or more on the Connectivity Map. See the *eGate Integrator User's Guide* for details.

**Note:** *To avoid confusion, be sure to name the external File systems in your Environment appropriately, that is, inbound or outbound. This naming convention allows you to keep track of your inbound versus outbound systems for later reference.*

## 3.2 Configuring Properties

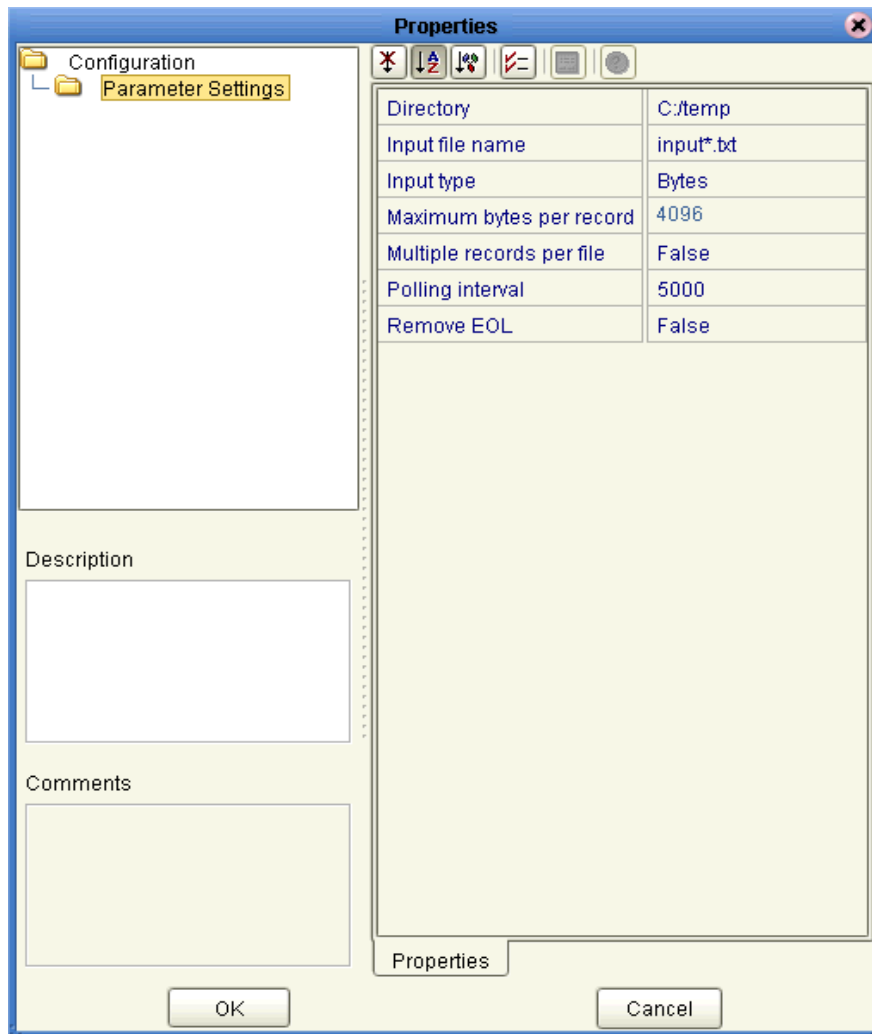
Configure the File eWay's properties using the eGate Enterprise Designer's eWay **Properties** dialog box. The eWay's properties are organized as follows:

- "Configuring the eWay in Inbound Mode" on page 11
- "Configuring the eWay in Outbound Mode" on page 13

### 3.2.1 Configuring the eWay in Inbound Mode

The inbound (poller) configuration determines the eWay's behavior for input operations. See Figure 2.

**Figure 2** File eWay: eWay Properties Dialog Box (Inbound)



## Directory

### Description

The folder or directory the eWay polls for input files.

### Required Values

A valid folder or directory name; you must use the absolute path; specify paths using the (forward) / slash mark. The default is **C:/temp**.

## Input file name

### Description

Specifies the file mask for input data files.

### Required Values

A valid file mask. The default is **input\*.txt**. You can provide only an extension with an asterisk (), for example, **\*.txt**, to allow all files with that extension. An input file's extension is renamed to **~in** after it is picked up.

***Note:** If a file with the same name as the rename name exists, for example, **input1.~in**, picking up the input file fails. You must ensure no files with the rename names exist before the files are processed by the inbound file poller.*

## Input type

### Description

Specifies the type of input file, for example, bytes.

### Required Values

A valid file type. The default is **Bytes**, the only valid value.

## Maximum bytes per record

### Description

Specifies the maximum number of bytes per record (message) sent to a subscriber. This property only applies if the **Multiple records per file** property is set to **True**.

### Required Values

An integer; the acceptable range is an integer from **2** to **99999**, inclusive, and the default is **4096**.

***Caution:** There is **no** error message if you enter an incorrect value.*

## Multiple records per file

### Description

Specifies whether multiple records (messages) are obtained per file. If this property is set to **True**, multiple records (messages) are generated per line up to the number specified in the **Maximum bytes per record** property. Any data exceeding the maximum bytes per record size is sent in subsequent messages.

### Required Values

**True** enables the feature; **False** disables it. The default is **False**.

### Additional Information

If the File eWay is configured to read an input file as a multi-record file (set to **True**), the eWay assumes the contents of a file is encoded with the system's default charset. So, in environments where this assumption is not true, for example, if the file contents are UTF-8 encoded but processed by a File eWay running on a system whose default charset is not UTF-8, you must configure the eWay to read the entire file as one record.

When this property is set to **False**, the eWay reads the file contents as a stream of bytes without making any assumptions about its encoding.

## Polling interval

### Description

The number of milliseconds the eWay waits between poll attempts of the input directory.

### Required Values

An integer; the acceptable range is an integer from **2** to **99999**, inclusive, and the default is **5000** (5000 milliseconds or 5 seconds). It is not advised to enter a value less than 5 seconds.

*Caution:* There is **no** error message if you enter an incorrect value.

## Remove EOL

### Description

Specifies whether the eWay excludes the terminating end-of-line (EOL) characters from records (messages) sent to a subscriber. This property only applies if the **Multiple records per file** property is set to **True**.

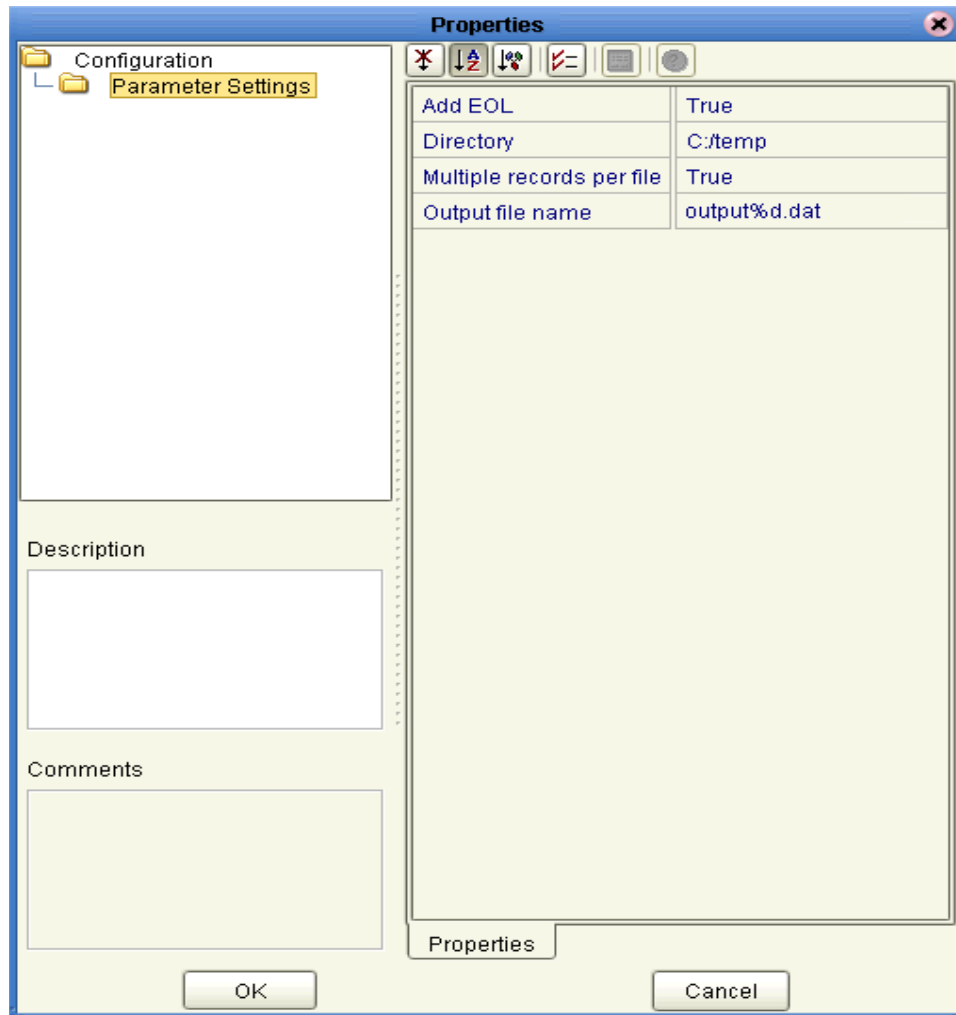
### Required Values

**True** enables the feature; **False** disables it. The default is **False**.

### 3.2.2 Configuring the eWay in Outbound Mode

The outbound (send) configuration determines the eWay's behavior for output operations. See [Figure 3 on page 14](#).

**Figure 3** File eWay: eWay Properties Dialog Box (Outbound)



## Add EOL

### Description

Specifies whether the system adds an end-of-line character to each record the eWay sends to the output file.

### Required Values

**True** means yes; **False** means no. The default is **True**.

## Directory

### Description

The directory to which output files are written.

### Required Values

A valid directory name with an absolute path (including the drive letter). The default is **C:/temp** (use “/” as a path separator).

## Multiple records per file

### Description

Specifies whether multiple records (messages) can be written to the output file. New messages are appended to the output file.

### Required Values

**True** indicates that the input files contain multiple records (messages); **False** indicates that each input file contains a single record (message). The default is **True**.

## Output file name

### Description

The name of the file to which the output is written.

### Required Values

A valid file name. The default is **output%d.dat**. The **%d** in the file name is a counter and increments for each new file.

Instead of **%d**, you can use any other **printf** style that takes an integer or long value. For example, you can specify **1%d** or **%012d**.

***Note:** For more information on the **printf** feature, see the appropriate C language documentation.*

### Additional Information

In cases when **Multiple records per file** is set to **False**:

- If no output file exists at the time of the first execution, a new output file is created for each record.
- If an output file already exists at the time of the first execution, messages are appended to it.

# Using the File eWay With eInsight

This chapter describes how to use the File eWay with SeeBeyond ICAN Suite's eInsight Business Process Manager.

## Chapter Topics

- [“eInsight Engine and Components” on page 16](#)
- [“File eWay With eInsight” on page 16](#)

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## 4.1 eInsight Engine and Components

You can set up and deploy an eGate component using eInsight. Once you have associated the desired component with a Business Process, the eInsight engine can automatically invoke that component during run time, using a Business Process Execution Language (BPEL) interface.

Examples of eGate components that can interface with eInsight in this way are:

- Java Messaging Service (JMS)
- Object Type Definitions (OTDs)
- An eWay
- eGate Service

Using the eGate Enterprise Designer and its eInsight canvas, you can add a desired operation to a Business Process, then associate that process with an eGate component, for example, a Service. In the Enterprise Designer, associate the Business Process and Service icons using drag-and-drop operations.

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

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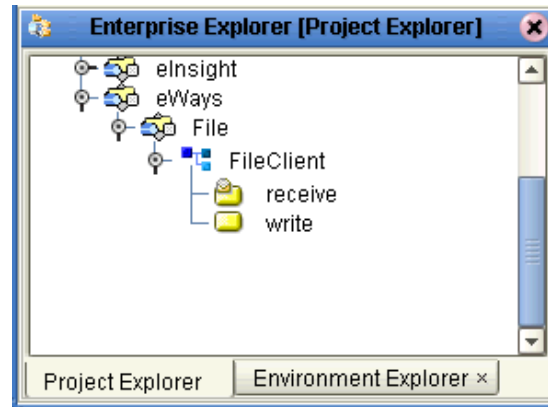
## 4.2 File eWay With eInsight

You can add File eWay objects to an eInsight Business Process during the system design phase. To make this association, select the desired **receive** or **write** operation under the eWay in the Enterprise Explorer and drag it onto the eInsight Business Process canvas. In turn, you can activate a Business Process in eGate by dragging it onto a Service or directly onto the canvas.



Figure 4 on page 17 shows the Enterprise Designer's **Project Explorer** with the File eWay Business Process operations exposed under the OTD icon.

**Figure 4** Project Explorer with Business Process Operations



At run time, the eInsight Engine is able to invoke each of the steps in order as set up in the Business Process. Using the engine's BPEL interface, eInsight in turn invokes the File eWay operations, as well as any other eWays in the current Project.

**Note:** The *write* (output) Business Process operation has an additional input function provided to receive and handle incoming error exception messages. For more information on this feature, see the *eInsight Business Process Manager User's Guide*.

### 4.2.1 Sample Scenario

For example, a Business Process with the File eWay can model a simple series of actions that accept or reject credit approvals. In this sample scenario, a system uses three types of "triggers" to determine what kind of letter is sent to an applicant who requests credit. In this system there are three possibilities: *credit approved*, *credit not approved*, and *may need more information*.

An approval trigger sends an activity command to mail out a form letter to the applicant stating the credit is approved. A disapproval trigger mandates a letter giving the opposite news. A "may need more information" trigger tells the system to wait 48 hours. In this case, if no approval or disapproval is received, a command is sent, which flags the application for manual intervention.

The text orders are received, read, and sent out to the appropriate destinations for handling.

## 4.2.2 Setting Up a Business Process

Table 1 shows the Business Processes involved in this scenario.

**Table 1** Sample Scenario Business Process

Case	Activity	Result
Case 1: Credit approved	Send "approval" order.	Order sent to office for processing and mailing.
Case 2: Credit not approved	Send "disapproval" order.	Order sent to office for processing and mailing.
Case 3: May need more information	Wait 48 hours then send "need information" order.	Order sent to office for further handling.

## 4.2.3 Using the Business Process Canvas

Once you have designed your Business Process for this scenario, you can use the eGate Enterprise Designer to create it.

To create a Business Process

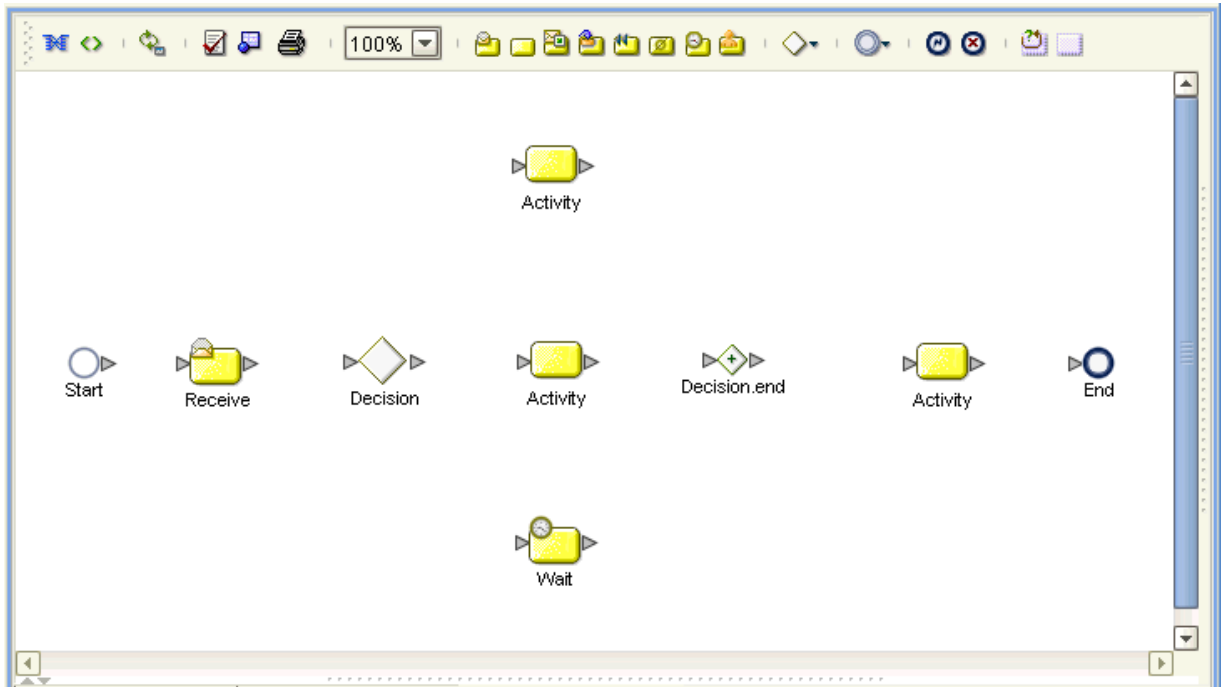
- 1 Right-click the desired Project in the **Project Explorer** and choose **New > Business Process** from the pop-up menus. Name the Business Process **BusinessProcess1**.

A blank Business Process canvas appears in the right pane, along with the Business Process toolbar.

- 2 Arrange the **Start** and **End** icons at opposite sides of the canvas, then drag the following icons onto the canvas:
  - ♦ **Receive**
  - ♦ **Decision** (a **Decision End** icon also appears)
  - ♦ Two **Activity** icons, for your first two cases
  - ♦ **Wait**, for your third case
  - ♦ An additional **Activity** (for your result)

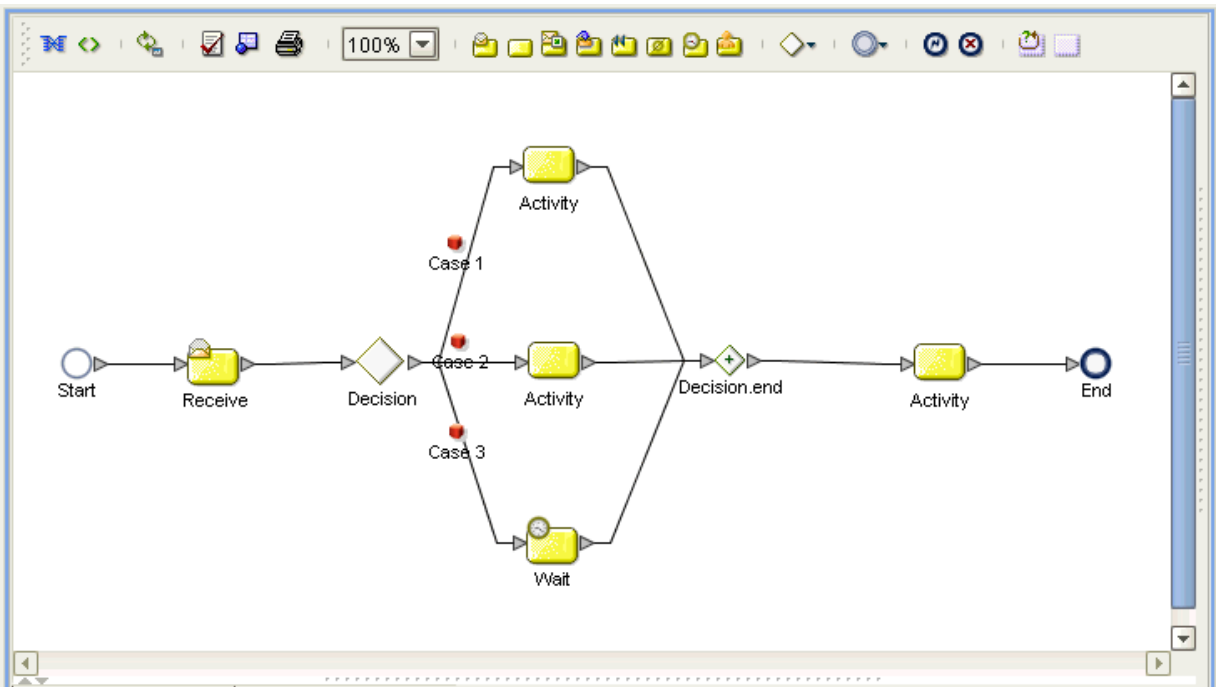
- 3 Again by dragging, arrange these icons on the canvas as shown in Figure 5.

**Figure 5** Business Process Icons



- 4 By dragging from one icon to another, link the icons on the canvas, as shown in Figure 6 on page 19.

**Figure 6** Business Process Icons With Links



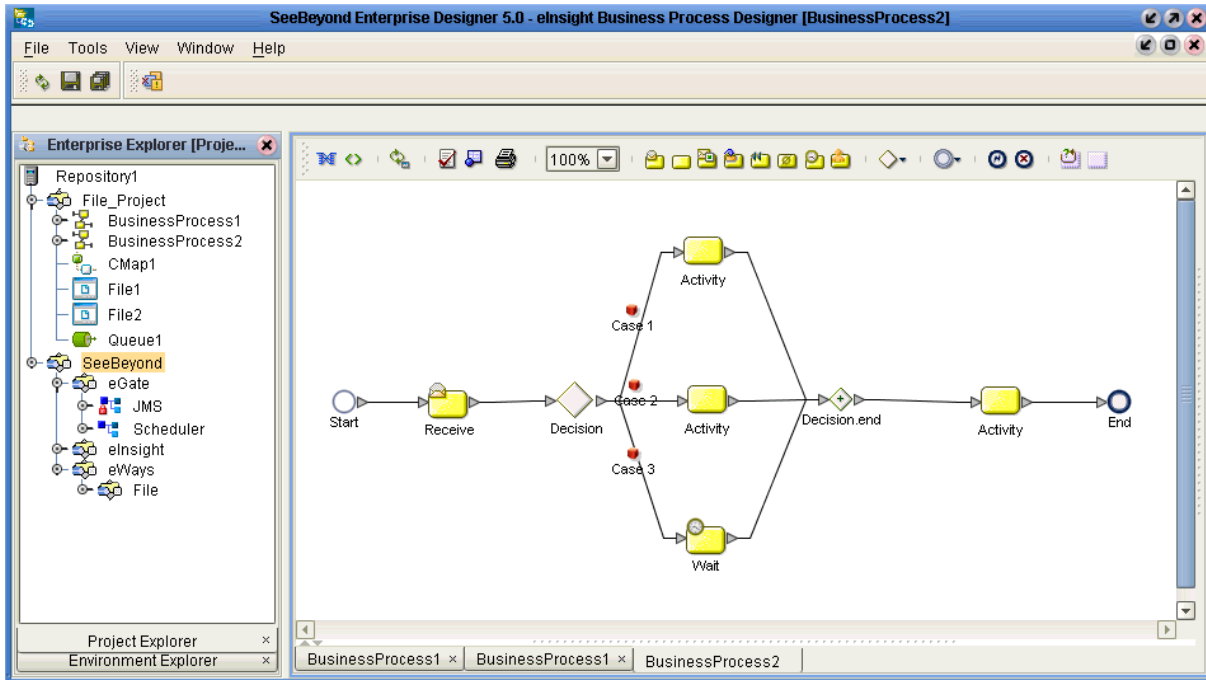
### To implement the File eWay in your Business Process

- 1 From the **Project Explorer**, open the **SeeBeyond** icon.  
**eGate** and **eWays** icons appear under **SeeBeyond**.

- 2 Open the **eGate** and **eWays** icons.

Additional icons appear, including **JMS** and **File**. See [Figure 7 on page 20](#).

**Figure 7** Business Process Icons With Links



- 3 From the **Project Explorer**, drag the **File** icon onto the **Receive** icon on the Business Process canvas.

This action allows the File eWay to subscribe to the needed data from an external system and provide it for your Business Process.

- 4 From the **Project Explorer**, drag the **JMS** icon onto the final **Activity** icon. This action allows the File eWay to publish to an eGate JMS Queue.

From this component, the appropriate data can be sent along to the next Business Process for further routing. See Figure 7.

### Finishing your Business Process

Once you are done implementing the File eWay, you can use eInsight's Business Process canvas features to enter the desired information to set up your decision, case/activity, and Business Rule Designer operations. See the *eInsight Business Process Manager User's Guide* for complete information on how to use these features.

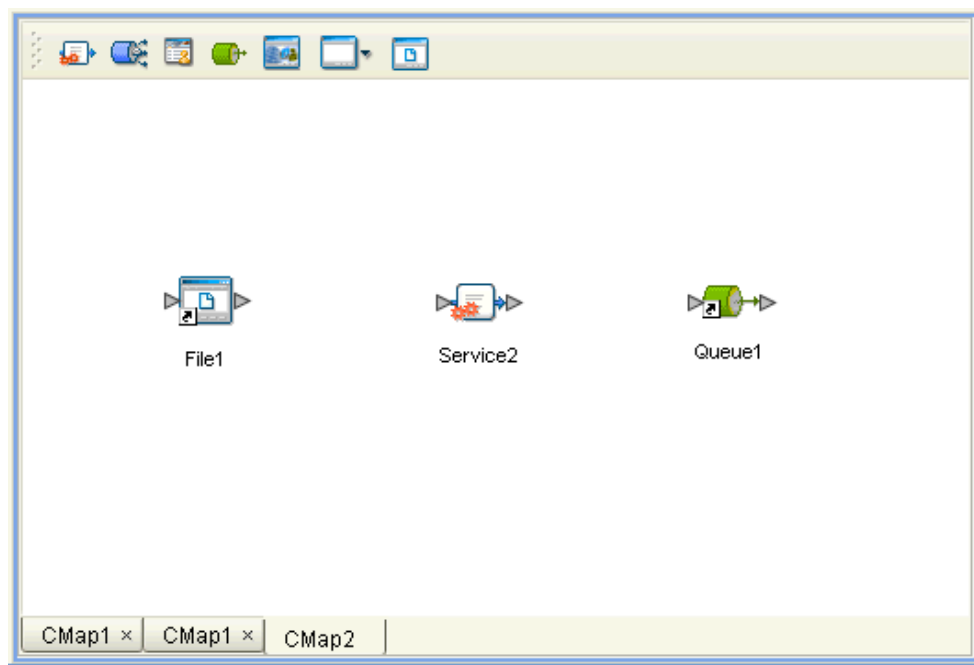
After you have finished creating your Business Process, you can use it to define one or more of the eGate Services on your Connectivity Map.

### To implement your Business Process on the Connectivity Map

- 1 Under the same Project where you created your Business Process, create a Connectivity Map and give it the following components:
  - ♦ File external application
  - ♦ Service
  - ♦ Queue

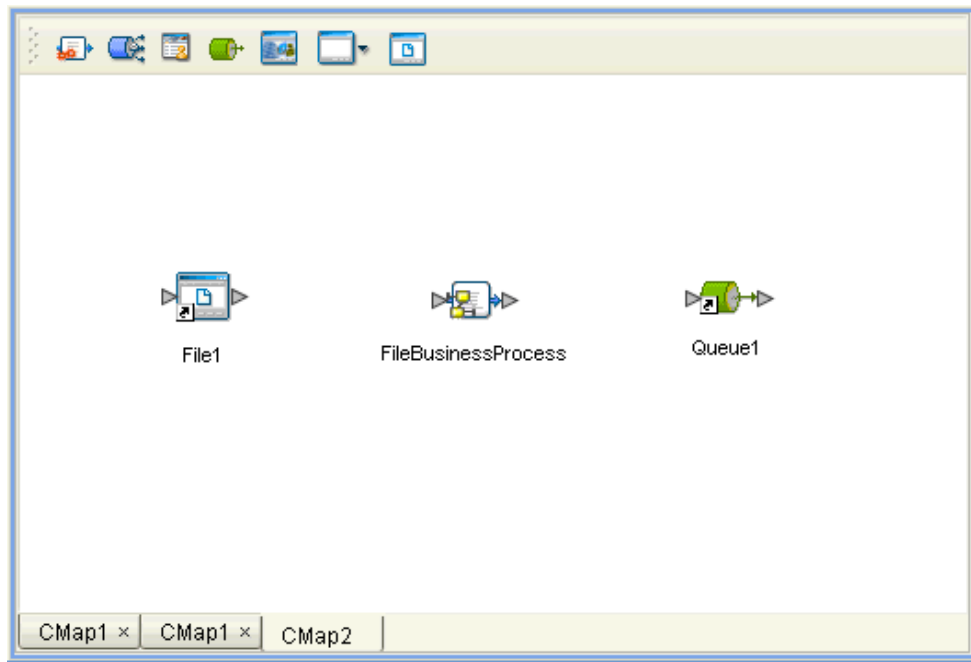
See Figure 8.

**Figure 8** Starting Connectivity Map



- 2 Drag and drop **BusinessProcess1** from the **Project Explorer** onto the Collaboration. The **Service** icon changes to show you have implemented it with a Business Process. See [Figure 9 on page 22](#). You can give the Service another name, for example, **FileSendBusinessProcess**.

**Figure 9** Connectivity Map: Business Process in Collaboration



- 3 Finish building your eGate Project as desired. For details on how to create and implement a Project, see the *eGate Integrator User's Guide*.

# Using Java-based Collaborations

This chapter describes using the File eWay with eGate Java-based Collaborations.

## Chapter Topics

- [“Java-based Collaborations and eGate” on page 23](#)
- [“Business Rules and Collaboration Definitions” on page 23](#)

---

## 5.1 Java-based Collaborations and eGate

Java-based Collaborations and their Definitions contain a set of rules that define the processing and transport of data as it travels among eGate components.

You create these Collaboration Definitions to assign to the Services in your Project. This operation enables eGate to recognize the source and destination data relationships in your Project.

You must use the Collaboration Definition wizard (Java) to create a Java-based Collaboration Definition. After one of these Collaboration Definitions is created, you can use the Collaboration Editor (Java) to create the Business Rules logic of the Collaboration. Assign Collaboration input and output data relationships using the Collaboration Binding window.

*Note:* See the *eGate Integrator User’s Guide* for complete information on creating and editing Collaborations (Java) and their Definitions, as well as using the wizard.

You can use File eWays to pass file data into and out of eGate, in Projects that contain Java-based Collaborations.

---

## 5.2 Business Rules and Collaboration Definitions

You can customize Java-based Collaboration Definitions by mapping Business Rules using the Collaboration Editor (Java) window in the Enterprise Designer. By clicking and dragging, you map items in the Transformation Designer areas with other desired items via their icons.

### Using the Collaboration Editor (Java)

The Collaboration Editor (Java) window displays in the Enterprise Designer after you create a new Java-based Collaboration Definition. You can also open this Editor by right-clicking on the name of the desired Collaboration Definition in the **Project Explorer** and choosing **Open** from the pop-up menu.

See the *eGate Integrator User's Guide* for complete information on how to use the Collaboration Editor (Java). To complete one of these Collaboration Definitions, you can use the Collaboration Editor (Java) to create Business Rules that implement your business logic.

For complete information on how to use the File eWay with Java-based Collaboration Definitions, see the *eGate Integrator User's Guide*.



# Nondefault Locale Encoding

This appendix explains additional considerations you must keep in mind with the inbound File eWay. For nondefault locale encoding, instead of using the **getText** method for a string, you must use **getByteArray**. For the outbound eWay, you must also use the **setByteArray** method for the same purpose.

For more information on the eWay's methods, see the **Javadoc**.

---

## A.1 Inbound eWay

With the inbound File eWay, the **getText** method returns data as a string. This string is constructed by decoding the file contents using the default charset. This method is not recommended if the content charset and default charset are not the same.

***Note:** You must also set the appropriate configuration property when using these methods. For more information, see ["Multiple records per file" on page 13](#).*

The current solution is to avoid **getText**, and use instead **getByteArray**. If a string representation of the data is desired, create a string using a Java-based Collaboration with the desired charset.

### To create a string in a Collaboration with the desired encoding method

- 1 Create a variable which is assigned to the input data retrieved as a byte array, for example:

```
byte[] rawData = input.getByteArray();
```

- 2 Create a string out of the byte array, specifying the encoding method, for example:

```
String data = new String( rawData, "UTF8" );
```

- 3 Use the newly created string as the data to be unmarshaled, for example:

```
input_multiple_Employees_1.unmarshalFromString( data );
```

---

## A.2 Outbound eWay

With the outbound File eWay, if you want to send data that has nondefault locale encoding, use the **setByteArray** method. In a Java-based Collaboration, use this method as follows:

### To specify a desired encoding method in the Collaboration

- 1 Convert a string to a byte array, and specify the encoding, for example:

```
byte[] bytesUTF8 =  
output_multiple_Employees_1.marshallToString().getBytes( "UTF-8" );
```

- 2 Create the output file, for example:

```
FileClient_1.setByteArray( bytesUTF8 );  
FileClient_1.writeBytes;
```

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