SeeBeyond™ eBusiness Integration Suite

e*Way Intelligent Adapter for the Microsoft Internet Information Server User's Guide

Release 4.5.4

Java Version

Version 20021106164140.

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Chapter 1

Introduction

This chapter provides an overview of SeeBeyond™ Technology Corporation's (SeeBeyond™) e*Way™ Intelligent Adapter for the Microsoft Internet Information Server (MS IIS e*Way) and an introduction to this guide.

1.1 Overview

The MS IIS e*Way is a gateway to the e*Gate Integrator system for the Microsoft Internet Information Server (IIS) Web server. The e*Way primarily uses the following components:

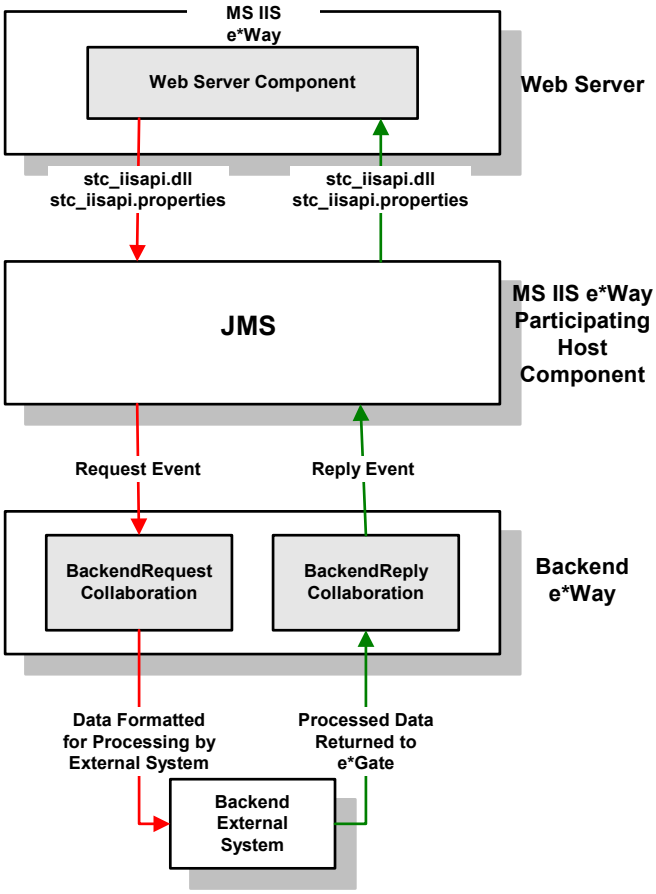
- A **.dll** file on the Web server
- SeeBeyond Java Messaging Service (JMS) on an e*Gate Participating Host

The **.dll** file's operation parses input supplied by the Web server, using either the GET or POST method, then packages the input along with the server's variables. After this process is done, the server sends the packaged message to the JMS component, which resides on the Participating Host.

After sending the message, the Web server (via the **.dll** file) waits for a reply. Upon receipt of the reply, a response message is sent to the Web server, which can deliver the message to a requesting Web client (for example, a browser).

Figure 1 on page 8 shows a sample implementation of the MS IIS e*Way. For details on implementing the MS IIS e*Way, see **Chapter 4**.

Figure 1 Overview of MS IIS Web Server e*Way Implementation



1.2 e*Way Components

The MS IIS e*Way is made up of the following components:

- Web server component
- Participating Host components

A complete list of installed files appears in **Table 1 on page 12**.

1.3 Intended Reader

The reader of this guide is presumed to be a developer or system administrator with responsibility for maintaining the e*Gate system; to have working knowledge of operations and administration for the operating systems under which the Web server and e*Gate systems run; to be familiar with MS IIS concepts; and to be familiar with Windows-style GUI operations.

1.4 Supporting Documents

The following documents are designed to work in conjunction with the *MS IIS e*Way Intelligent Adapter User's Guide* and to provide additional information:

- *Creating an End-to-end Scenario with e*Gate Integrator*
- *e*Gate Integrator Alert Agent User's Guide*
- *e*Gate Integrator Alert and Log File Reference Guide*
- *e*Gate Integrator Collaboration Services Reference Guide*
- *e*Gate Integrator Installation Guide*
- *e*Gate Integrator Intelligent Queue Services Reference Guide*
- *e*Gate Integrator SNMP Agent User's Guide*
- *e*Gate Integrator System Administration and Operations Guide*
- *e*Gate Integrator User's Guide*
- *Standard e*Way Intelligent Adapters User's Guide*
- *Readme.txt* file on the e*Gate installation CD-ROM.

1.5 Supported Operating Systems

The MS IIS e*Way is available on the following operating systems:

- Windows 2000, Windows 2000 SP1, Windows 2000 SP2, and Windows 2000 SP3
- Windows NT 4.0 SP6a

1.6 System Requirements

To use the MS IIS e*Way, you need to meet the following requirements:

- An e*Gate Participating Host, version 4.5.1 or later.
- In addition to the disk space required by e*Gate, additional disk space is required to process and queue the data that this e*Way processes; the amount necessary can vary based on the type and size of the data being processed, as well as any external applications performing the processing.
- A TCP/IP network connection

1.7 External System Requirements

To use the MS IIS e*Way, you need to meet the following external system requirements:

- Microsoft IIS Web server, version 5.0
- Sufficient memory and disk space to support Web-server functions. See your IIS Web server user's guides for more information about server requirements.

Note: *The e*Gate Participating Host can optionally host the Web server but is not required to do so.*

Chapter 2

Installation

This chapter covers the requirements for installing the e*Way Intelligent Adapter for the Microsoft Internet Information Server and how to configure the Web server components needed. A list of the files and directories created by the installation is also provided.

2.1 Installation on Windows Systems

Before installing e*Gate on your Windows system, read the sections in this chapter, to ensure a smooth and error-free installation.

Note: *For complete instructions on how to install the e*Gate Integrator system, see the* ***e*Gate Integrator Installation Guide****. The MS IIS e*Way is installed as an add-on component in the fourth phase of this installation.*

Pre-installation

Before installation, take the following steps:

- Exit all programs before running the setup program, including any anti-virus applications.
- You must have Administrator privileges to install this e*Way.

Note: *You must have Administrator privileges to successfully install e*Gate on a Windows system.*

To install the MS IIS e*Way on Windows systems

1. Log in as an Administrator on the workstation on which you want to install the e*Way.
2. Close any open applications.
3. Launch the setup application on the e*Gate installation CD-ROM.
4. Follow the online prompts in the InstallShield wizard. When the **Select Components** dialog box appears, clear all the check boxes except **Add-ons**. Click **Next** as necessary to proceed through the setup application.
5. When the **User Information** dialog box appears, type your name and company name.

6 When the **Choose Destination Location** window appears, **do not** change the **Default Destination** folder unless you are directed to do so by SeeBeyond support personnel; simply click **Next** to continue.

7 When the **Select Components** dialog box appears, select e*Ways, click the **Change** button, and select **MS IIS e*Way 4.5.3.**

8 After the installation is complete, reboot the computer and run the e*Gate Enterprise Manager.

Note: *For details on how to use the Enterprise Manager graphical user interface (GUI), see the* ***e*Gate Integrator User's Guide.***

2.2 Files/Directories Created by Installation

The MS IIS e*Way installation process installs the files listed in Table 1 within the e*Gate directory tree. Table 1 lists the files installed on the **eGate\server** side and committed to the "default" schema.

Table 1 Server-side Files Installed

Directories	Files
registry\repository\default\bin\win32	stc_iisapi.dll
registry\repository\default\external\ewmsisapi	stc_iisapi.properties

Note: *The target directories listed in this section are all suggested directories. If your knowledge of IIS permits and/or your needs require, you can use different directories.*

Table 2 lists the client-side files that must be manually copied onto the system running the Web server.

Table 2 Client-side Files To Copy

Source Directories	Target Directories (IIS)	Files
eGate\client\bin	\inetpub\msisapiext	stc_msclient.dll stc_mscommon.dll stc_msapi.dll stc_iisapi.dll
eGate\client\external\ewmsisapi	\inetpub\msisapiext	stc_iisapi.properties

Table 3 lists the sample files that must be copied from the Installation CD-ROM manually to the Web server scripts directory.

Table 3 Sample Files To Copy

Installation CD-ROM	Files
samples\ewmsisapi	readme.txt testmulptfrm.html testurlencoded.html webETD_MSAPI.zip

The sample files do *not* install automatically. They must be copied from the e*Gate installation CD-ROM to a temporary location.

Important: *The **stc_iisapi.properties** file is required to run the e*Way.*

See **"Configuring the Web Server Components" on page 17** and **"The Request/reply Sample" on page 25** for more information.

Note: *After installation, be sure to change the file permission to allow the Web server to read and execute these files.*

Chapter 3

Configuration

This chapter explains how to configure the e*Way Intelligent Adapter for the Microsoft Internet Information Server.

3.1 Configuring Participating Host Components

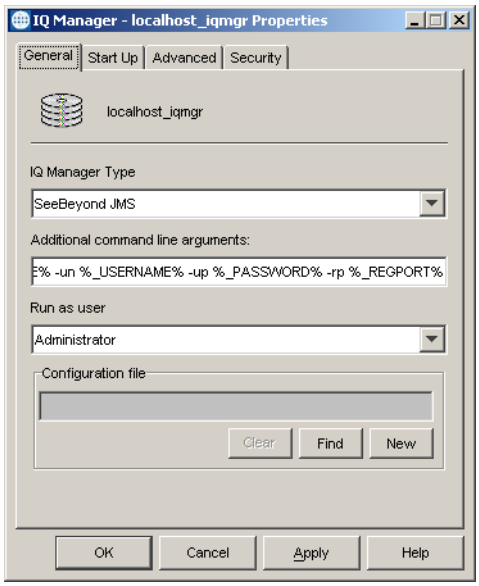
This section explains how to configure the Participating Host components using the e*Gate Enterprise Manager graphical user interface (GUI).

Important: *From the perspective of the e*Gate GUIs, the MS IIS e*Way is not a system of components distributed between the Web server and a Participating Host, but a single component that runs a dynamic link library file (the **stc_iisapi.dll**). When this guide discusses procedures within the context of any e*Gate GUI, the term "e*Way" refers only to the Participating Host component of the MS IIS e*Way system.*

To configure the Participating Host components

1. If you have not already done so, launch the Enterprise Manager.
2. Verify that the Intelligent Queue (IQ) Manager Type is set to **SeeBeyond JMS** by double-clicking on the IQ Manager to view the associated properties (see **Figure 2 on page 15**).

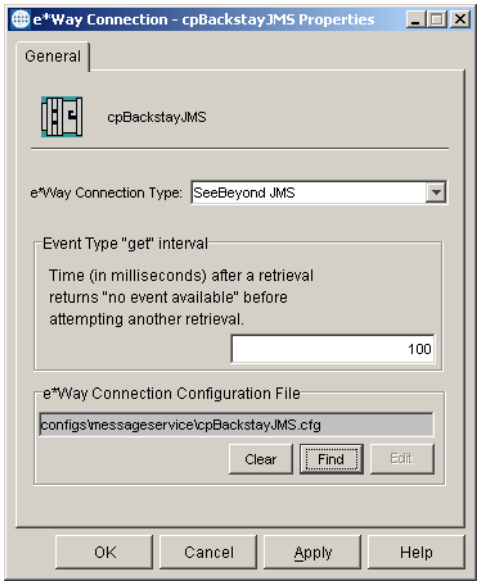
Figure 2 JMS IQ Manager



The **stc_iisapi.dll** publishes Events to the SeeBeyond Java Messaging Service (JMS), so the IQ Manager type in your Participating Host must be set to **SeeBeyond JMS** (the default).

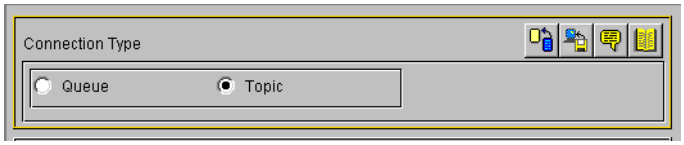
3 Create and configure an e*Way Connection. The connection type must be set to **SeeBeyond JMS** (for the sample, the e*Way Connection is **cpBackstayJMS**); see Figure 3.

Figure 3 e*Way Connection



In the configuration file, set the connection type to **Topic**, because the sample is using the publish/subscribe model (see **Figure 4 on page 16**).

Figure 4 Connection Type



The server name is the machine on which your JMS server (JMS IQ Manager) is running. This is also the machine on which the Participating Host is installed. The host name is the same as the server name/IQ Manager.

4 Using the Component editor, create a new e*Way.

5 Display the new e*Way's properties. The default e*Way executable is **stceway.exe**.

6 Click **OK** to close the properties sheet, or continue to configure the e*Way. Configuration parameters are discussed in **Chapter 3**. The setup and requirements of schemas required to use this e*Way are discussed in **Chapter 4**.

7 Each e*Way has a Collaboration associated with it. Each Collaboration must have an associated source/destination.

Note: *Once you have installed and configured this e*Way, you must incorporate it into a schema by defining and associating the appropriate Collaborations, Collaboration Rules, IQs, and Event Types before this e*Way can perform its intended functions. For more information about any of these procedures, see the online Help system.*

*For more information about configuring e*Ways or how to use the e*Way Editor, see the* ***e*Gate Integrator User's Guide*** *guide.*

3.1.1 Multi-Mode e*Way Configuration Parameters

Multi-Mode e*Way configuration parameters are set using the e*Way Editor.

To change e*Way configuration parameters

1 In the Enterprise Manager's Component editor, select the e*Way you want to configure and display its properties.

2 Under **Configuration File**, click **New** to create a new file, **Find** to select an existing configuration file, or **Edit** to edit the currently selected file.

3 In the **Additional Command Line Arguments** box, type any additional command line arguments that the e*Way may require, taking care to insert them *at the end* of the existing command-line string. Be careful not to change any of the default arguments unless you have a specific need to do so.

Configure the e*Way as needed for your system.

Additional References

For more information about how to use the e*Way Editor, see the e*Way Editor's online Help and/or the *e*Gate Integrator User's Guide*.

For more information about the Multi-Mode e*Way, see the *Standard e*Way Intelligent Adapter User's Guide*.

3.2 Configuring the Web Server Components

Each Web server requires different configuration. Consult your Web server documentation for complete information.

3.2.1 Configuring the IIS Web Server

The Web server loads and executes the client file, **stc_iisapi.dll** when a request arrives. It also needs to set the dynamic-load library path in order for **stc_msapi.dll, stc_mscommon.dll,** and **stc_msclient.dll** to be loaded by **stc_iisapi.dll**.

To configure the Web server to use the MS IIS e*Way Web server components via the IIS Internet Services Manager

1 Create a virtual directory, such as **C:\Inetpub\msisapiext**.

If the default IIS server installation was used, the root directory is:

```
\inetpub
```

For example, create the following directory:

```
\Inetpub\msisapiext
```

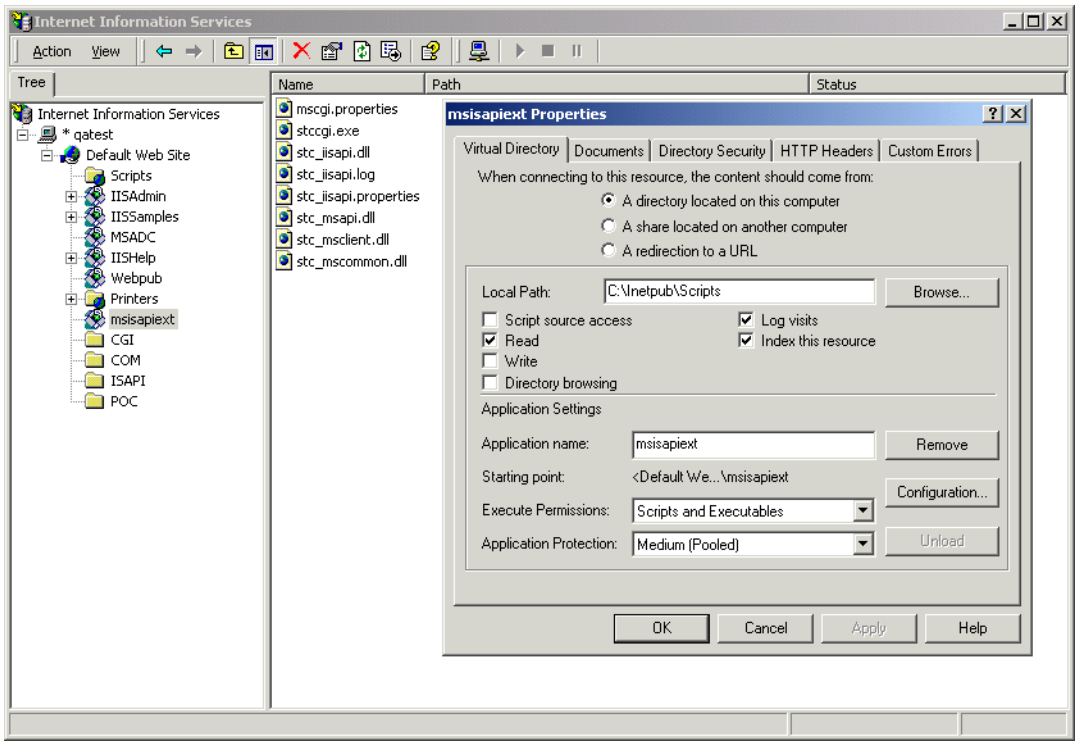
Note: *The creation of this directory is not mandatory but is recommended for easy maintenance, understanding and conformity to common industry practices. It is a good idea to create* ***msisapiext*** *to store all applications.*

2 Copy the **stc_msapi.dll**, **stc_mscommon.dll**, **stc_iisapi.dll,** and **stc_msclient.dll** files to the new directory.

Note: *See* **Table 2 on page 12** *for a list of files and source directories.*

Figure 5 on page 18 shows an example of the IIS Virtual Directory.

Figure 5 IIS Virtual Directory



If you rename the **stc_iisapi.dll** file to **yourapp.dll**, you must rename the **stc_iisapi.properties** file to **yourapi.properties**. The log file must follow the same naming conventions, as either **stc_iisapi.log** or **yourapp.log** in the same directory.

3 Use the following URL to access the **stc_iisapi.dll** file:

```
/msisapiext/stc_iisapi.dll
```

or

```
/directory_name/yourapp.dll
```

4 Copy the test HTML files, **testmulptfrm.html** and **testurlencoded.html,** to the following directory:

```
C:\Inetpub\wwwroot
```

As an alternative, you can copy these files to the **doc root** that was configured for IIS server, if desired.

Note: *See* **Table 3 on page 13** *for the install directories of these test files from the schema sample. See* **"HTML Test Files" on page 46** *for a complete explanation of these files.*

5 You must modify the **stc_iisapi.properties** file to configure the **stc_iisapi.dll** file. Change the permission on the **stc_msapi.dll**, **stc_iisapi.dll**, **stc_msclient.dll** and **stc_mscommon.dll** files, to enable the Web server to read and execute them.

For IIS, ensure that, for the virtual directory created previously, the (**msisapiext**) **Execute Permissions** setting is **Scripts and Executables**.

To modify this setting

A Go to the Internet Service Manager.

B Click on your Web site (for example, **Default Web Site**).

C Right-click on the (virtual) **msisapiext** directory and select **Properties**.

D In the Scripts Properties window, click the **Virtual Directory** tab.

E Choose **Scripts and Executables** on the **Execute Permissions** scroll menu.

F Click **OK** then restart the Web server.

Note: *Consult your Web server documentation for more information.*

6 To access a test .**html** file from a Web browser, send a file to the MS IIS e*Way server. If the operation is successful, you can see the file you sent to the server displayed. The URL used to access the **stc_iisapi.dll** file is:

```
http://hostname/msisapiext/stc_iisapi.dll
```

A sample HTML form used to access **stc_iisapi.dll** follows:

```
<HTML>

<FORM ACTION="/msisapiext/stc_iisapi.dll" METHOD="POST"
ENCTYPE="multipart/form-data">
Multipart test
<P>
<TABLE>
  <TR>
    <TD><LABEL for="fname">First name: </LABEL>
    <TD>  <INPUT type="text" name="firstname" id ="fname">
  <TR>
    <TD><LABEL for="lname">Last name: </LABEL>
    <TD><INPUT type="text" name="lastname" id="lname">
</TABLE>
    <LABEL for="email">email: </LABEL>
              <INPUT type="text" name="email"><BR>
    <INPUT type="radio" name="sex" value="Male"> Male<BR>
    <INPUT type="radio" name="sex" value="Female"> Female<BR>
    <LABEL for="filename">What files are you sending? </LABEL>
             <INPUT type="file" name="filename"><BR>
    <INPUT type="submit" value="Send"> <INPUT type="reset">
    </P>
</FORM>

</HTML>
```

3.2.2 Modifying the stc_iisapi.properties File

You must edit the **stc_iisapi.properties** file before running the MS IIS e*Way. This file contains the information pertaining to the JMS connection, data, and logging values.

This .**properties** file is loaded by the JMS **stc_iisapi.dll**. Each property is a name-value pairing. The name uniquely identifies the property. The value is the content associated with that name. The name is separated from the value with the ":" (colon) character.

Important: *Do **not** change the names. The **.properties** file is loaded only once, when the **.dll** file is loaded. If you change any of the property values, you must restart the IIS server to enable the changes.*

JMS Connection Section

Host

The name of the host where the JMS is running. The JMS IQ Manager acts as the message service (server). If the host name is not specified, **localhost** is the default value. An example follows:

```
Host:localhost
```

Port

The port at which the JMS is listening for connections. If port is not specified, 24053 is the default value. An example follows:

```
Port:24053
```

Timeout

Time-out for a request/reply operation. This specifies the time-out in milliseconds to wait for the reply. The value entered here provides the time the back-end requires to process the message. This value is used only for the request/reply mode. An example follows:

```
Timeout:60000
```

DestinationType

Selects the JMS mode as topic or queue request. Specify **t** for topic or **q** for queue requests. A topic request is used for topic publishing, meaning, one publisher, potentially multiple subscribers. Each subscriber gets the same copy of the message. A queue request is used for point-to-point operations, meaning one sender with a possible group of receivers. In these cases only one receiver actually receives the message. Use the lower case as follows:

```
DestinationType:t
```

DestinationName

If you are publishing to a topic, enter the topic name; if you are publishing to a queue enter the IQ name. An example follows:

```
DestinationName:etwebRequestETDTopic
```

RequestReply

Selects the JMS delivery mode as request/reply. Specify **True** for the request/reply mode (see **Timeout** for details on how to configure reply **Timeout**). Specify **False** for the publish or send modes only. In these cases, the system does not expect a JMS reply. Instead you get a generic reply saying the request is done. An example follows:

```
RequestReply:True
```

MaximumConnections

Specifies the maximum number of JMS connections allowed in the current e*Way Connection pooling. Any integer below 100 is acceptable. This value depends on the IIS server setup and can change. If the server can only handle 256 concurrent HTTP requests, you do not need to set this parameter to a higher value than 256. An example follows:

```
MaximumConnection:100
```

ClientID

The Client ID to use for the JMS connection. An example follows:

```
ClientID:SeeBeyondMSIIS
```

TimeToWaitForConnection

The time to wait in milliseconds for a JMS connection if all connection in the connection pool are used. An example follows:

```
TimeToWaitForConnection:10000
```

MS IIS API Data Section

ReadChunksize

When the **stc_iisapi.dll** performs a **ReadClient**. **ReadChunksize** specifies the chunk size, in bytes, of data to be read.

If you specify 1024 then **isapi** reads 1024 bytes of data one at a time. If the Control Block has all of the data, then isapi does not perform **ReadClient**, it just copies the data from the control block to the JMS message block. The default internal read chunk size is 409600 bytes. **ReadChunksize** is an integer value, the max you can specify is 2147483647 bytes. An example follows:

```
ReadChunkSize:409600
```

WriteChunksize

When isapi does write to HTTP server, **WriteChunksize** specifies the chunk size in bytes, of the data to be written at one time. If you specify 1024, **isapi** writes 1024 bytes of data one at a time. The default internal write chunk size is 409600 bytes. **WriteChunksize** is an integer value, and the maximum you can specify is 2147483647 bytes. An example follows:

```
WriteChunkSize:409600
```

Log Section

Trace

The trace level to use for trace/debug operations. The valid values are:

0	**Info** (in addition to all three following categories)
1	**Warn** (in addition to both following categories)
2	**Error** (in addition to the following category)
3	**Fatal** (only)

An example follows:

```
Trace:0
```

3.2.3 Hex Dump vs. Text Dump

The MS IIS e*Way Web server component provides *dumps*, that is, writes the contents of each message to the log file). The component writes the contents of every inbound (request) and outbound (reply) message that it handles, provided the Trace level in **stc_iisapi.properties** file is set to **0** (zero).

There are two types of dumps that can occur: a text dump and a hex dump. Text dumps are formatted into standard text. Hex dumps are formatted into lines of 16 bytes with two representations each, in per section. The first section is the hex representation of 16 bytes, followed by the second, which contains the ASCII representation of the same 16 bytes. If any byte is nonprintable, a dot is substituted. The type of dump that occurs is determined by the content type of the message.

If the inbound message to the MS IIS e*Way (the date read from the ReadClient) is any content-type other than text/*, a hex dump occurs. If the content-type is text/*, a text dump occurs. The inbound hex dump does not include any environment variables from the HTTP server, for example, CONTENT_TYPE, CONTENT_LENGTH, PATH, or HTTP_ACCEPT.

If the **Default Outgoing Message Type** parameter in the e*Way Connection configuration is set to publish "bytes" messages, a hex dump occurs. If it is set to publish "text" messages, a text dump occurs.

Examples

A sample hex dump follows:

```
JMS  I 3872 (iisapi.cxx:1185):  2D 2D 2D 2D 2D 2D 2D 2D 2D 2D 2D 2D 2
D 2D 2D 2D  ----------------
JMS  I 3872 (iisapi.cxx:1185):  2D 2D 2D 2D 2D 2D 2D 2D 2D 2D 2D 2D 2
D 37 64 32  -------------7d2
JMS  I 3872 (iisapi.cxx:1185):  33 64 37 31 33 38 30 31 38 34 0D 0A 4
3 6F 6E 74  3d71380184..Cont
JMS  I 3872 (iisapi.cxx:1185):  65 6E 74 2D 44 69 73 70 6F 73 69 74 6
9 6F 6E 3A  ent-Disposition:
JMS  I 3872 (iisapi.cxx:1185):  20 66 6F 72 6D 2D 64 61 74 61 3B 20 6
E 61 6D 65   form-data; name
JMS  I 3872 (iisapi.cxx:1185):  3D 22 66 69 72 73 74 6E 61 6D 65 22 0
D 0A 0D 0A  ="firstname"....
JMS  I 3872 (iisapi.cxx:1185):  66 67 66 67 0D 0A 2D 2D 2D 2D 2D 2D 2
D 2D 2D 2D  fgfg..----------
```

A sample text dump follows:

```
JMS  I 3872 (iisapi.cxx:1395): writeClient JMS TextMessage  of [6124]
 bytes actual written [6124] bytes
JMS  I 3872 (iisapi.cxx:1397): ------=_Part_0_1870449.1016041716682
Content-Type: text/plain; content-transfer-encoding=base64
Content-Disposition: form-data
Content-Description: add a sample description in collab
```

Two **Zmdm** samples follow:

```
------=_Part_0_1870449.1016041716682
Content-Type: text/plain; content-transfer-encoding=base64
Content-Disposition: form-data
Content-Description: add a sample description in collab


------=_Part_0_1870449.1016041716682
Content-Type: text/plain; content-transfer-encoding=base64
Content-Disposition: form-data
Content-Description: add a sample description in collab
Zmdm
```

Chapter 4

Implementation

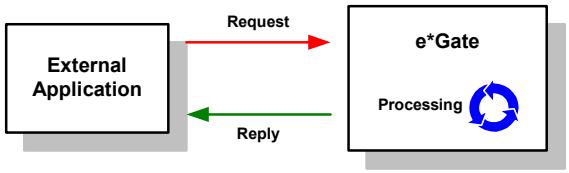
This chapter explains how to implement the e*Way Intelligent Adapter for the Microsoft Internet Information Server.

4.1 The Request/reply Model

All the applications of the MS IIS e*Way are based upon the request/reply model (see Figure 6). At a high level, this model works as follows:

- Request/reply, that is, data is sent to the e*Gate system, and a response is returned.
- Send-only (fire and forget), that is, data is sent to the e*Gate system, but no data is returned from e*Gate.

Figure 6 Request/reply Model



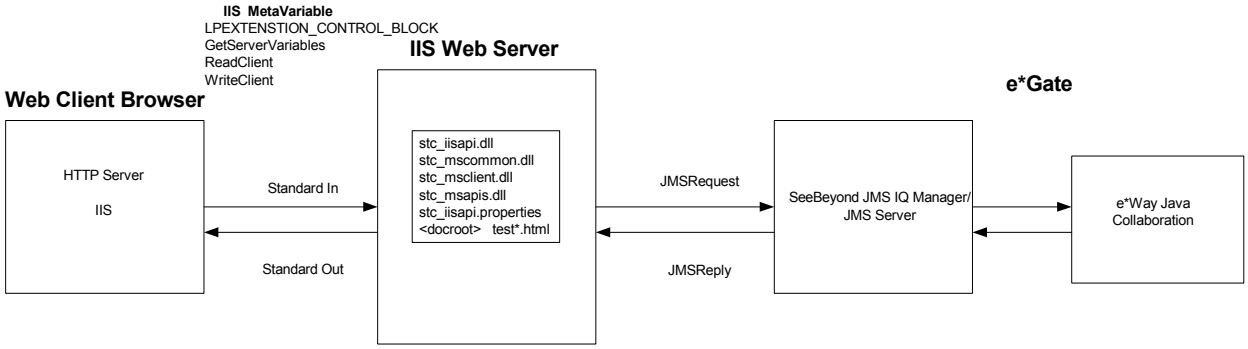
In the send-only model, the application extension **stc_iisapi.dll** sends a simple reply on behalf of the IIS server to acknowledge the HTTP request (so the HTTP request does not time out). Inside e*Gate, you do not need to reply to the Event.

4.1.1 Request/reply and e*Way Participating Host Components

The MS IIS e*Way Participating Host component is a Multi-Mode e*Way that uses a proprietary IP-based protocol to multi-thread Event exchange between the e*Way and external systems or other e*Gate components.

Figure 7 on page 25 illustrates how the e*Way receives data from an external application and returns processed data to the same application.

Figure 7 Data Flow Diagram



The operation shown in Figure 7 proceeds as follows:

1. The user accesses one of the test .**html** files from a Web browser, sending a file to the MS IIS e*Way server, using either HTTP **Post** or **Get**.
2. A **JMSRequest** is made, the **JMSReplyTo** property is assigned, and a **TemporaryTopic** subscriber is created.
3. The **JMSRequest** is passed to the SeeBeyond Java Messaging Service (JMS) server, that is, the JMS Intelligent Queue (IQ) Manager, which then uses the **etwebRequestETDTopic** Event Type name to forward the text message to an e*Way Collaboration.
4. Collaborations within the e*Way perform any appropriate processing that may be required, and route the processed Events to other destinations (such as an external system for additional data retrieval or processing, then back to the Web server as a **Reply**, using **TemporaryTopic**).
5. The Web server gets the content from **TemporaryTopic** and replies to the Web client.

4.1.2 The Request/reply Sample

The sample schema can be found in the e*Gate installation CD-ROM in the following directory location:

samples/ewmsisapi

e*Gate Request/reply Sample Setup

Request/reply Sample

1. Install the MS IIS e*Way Server add-on.
2. Import the sample schema

e*Gate 4.5.1 and Later

3 In e*Gate Enterprise Manager, go to the **File** menu and select **Import Definitions from File**, then select **Schema** in the Import wizard. Select **webETD_MSAPI.zip** for **Schema File Name**. **RequestReply.zip** is the file supplied in this sample directory.

These instructions also appear in the **Readme.txt** files in the MS IIS e*Way samples directory (**samples/ewmsisapi**).

Once the client and server are set up, you can test the entire system using a Web browser as follows:

1 Start the Control Broker. This also starts the JMS server (JMS IQ Manager).

2 Start the desired e*Way.

In the sample each e*Way demonstrates different functionality.

3 Use a browser to open the **test.html** file.

4 Fill out and submit the form.

5 Confirm that the **stc_iisapi.dll** returned the form data as expected. You can view the **msisapi.log** file, located in **msisapiext**, to see the content sent out/received by **stc_iisapi.dll** from the JMS server.

Sample Functionality

There are separate e*Ways that handle various activities. The basic steps involved in a standard request/reply schema are:

1 Define the content.

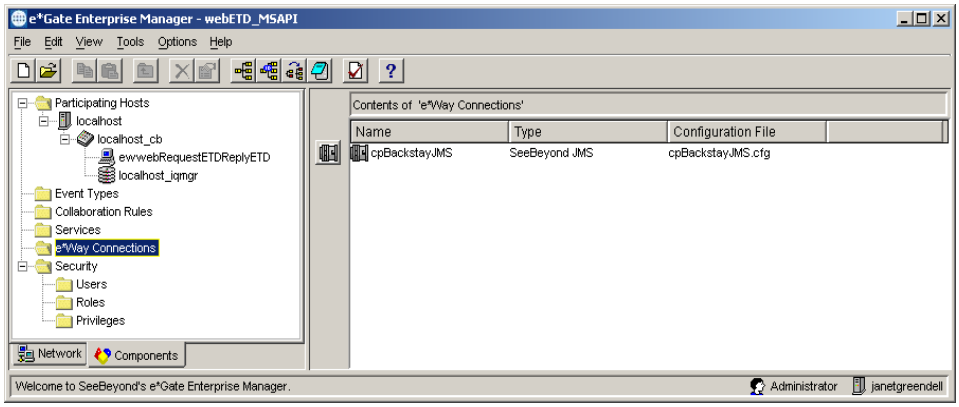
2 Populate the **webReplyETD** payload.

3 Call the **send()** method in the **webReplyETD**.

4 Using the **JMSReplyTo** property, send the input to the **webRequestETD**.

Once successfully installed, the Enterprise Manager (see Figure 8) opens as follows:

Figure 8 webETD_MSAPI Enterprise Manager Components View



The sample is comprised of one e*Way as follows:

ewwebRequestETDReplyETD

ewwebRequestETDReplyETD

The **ewwebRequestETDReplyETD** e*Way receives a block of data, parses the input into **webRequestETD**, allows you to create **webReplyETD**, marshaling the data into a block, and sends the block of data back.

crRequestReply_webRequestETDReplyETD

The Collaboration Rule associated with the **ewwebRequestETDReplyETD** e*Way performs the following operations:

1. Provides the HTTP content type for the reply message.
2. Gets the specified HTTP headers that **isapi** passes back to the Web server.
3. Demonstrates how to get the decoded inbound payload.
4. Demonstrates how to set outbound encoding. Encoding is not required, as it is performed automatically.
5. Shows **charSet** encoding/decoding activity. You perform a get of the decoded **charSet** payload from **textStringPayLoad**. If you require outbound encoding of the **charSet**, set the outbound **charSet** attributes.
6. Demonstrates how to get **multiPart** payload, how to drill down on nested **multiPart** payload.
7. Demonstrates how to build an outbound **multiPart** payload.
8. Demonstrates how to get **HTTP_GET** URL-encoded name value pairs. The URL-encoded string is decoded into name value pairs.
9. Sends the HTTP-enabled data to the specified reply topic.

colRequestETDReplyETD

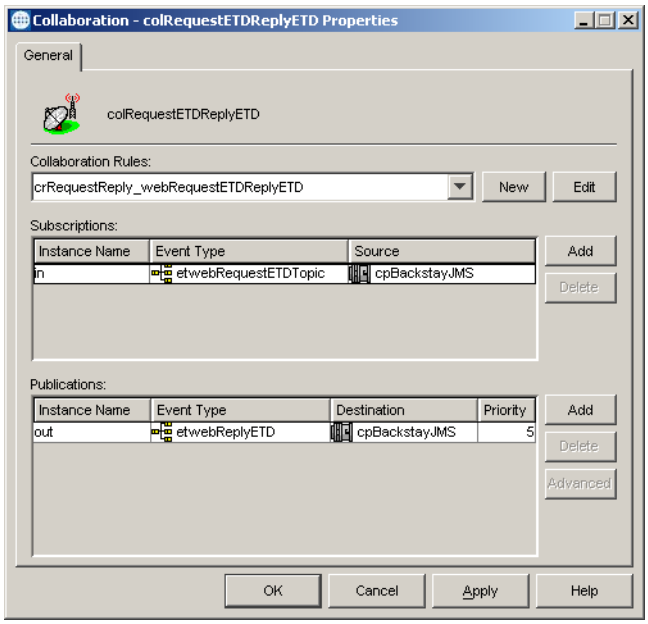
The Collaboration that ties the e*Way and the Collaboration Rule together is **colRequestETDReplyETD** (see **Figure 9 on page 28**). The Collaboration must have at least one Event Type, with source and destination Event Types defined for both subscription and publication.

For **colRequestETDReplyETD** Collaboration, the Collaboration subscribes to **etWebRequestETDTopic** Event Type. Remember that you have configured **stc_iisapi.dll** to publish **etWebRequestETDTopic**, this is where you see the publication and subscription of the topic.

The temporary topic replies to the request and is therefore transparent to the user. The exact temporary topic is stored in the input Event **JMSReplyTo** node.

The Collaborations subscribe and publish to the same external source and destination **cpBackstaryJMS** (the e*Way Connection).

Figure 9 colRequestETDReplyETD



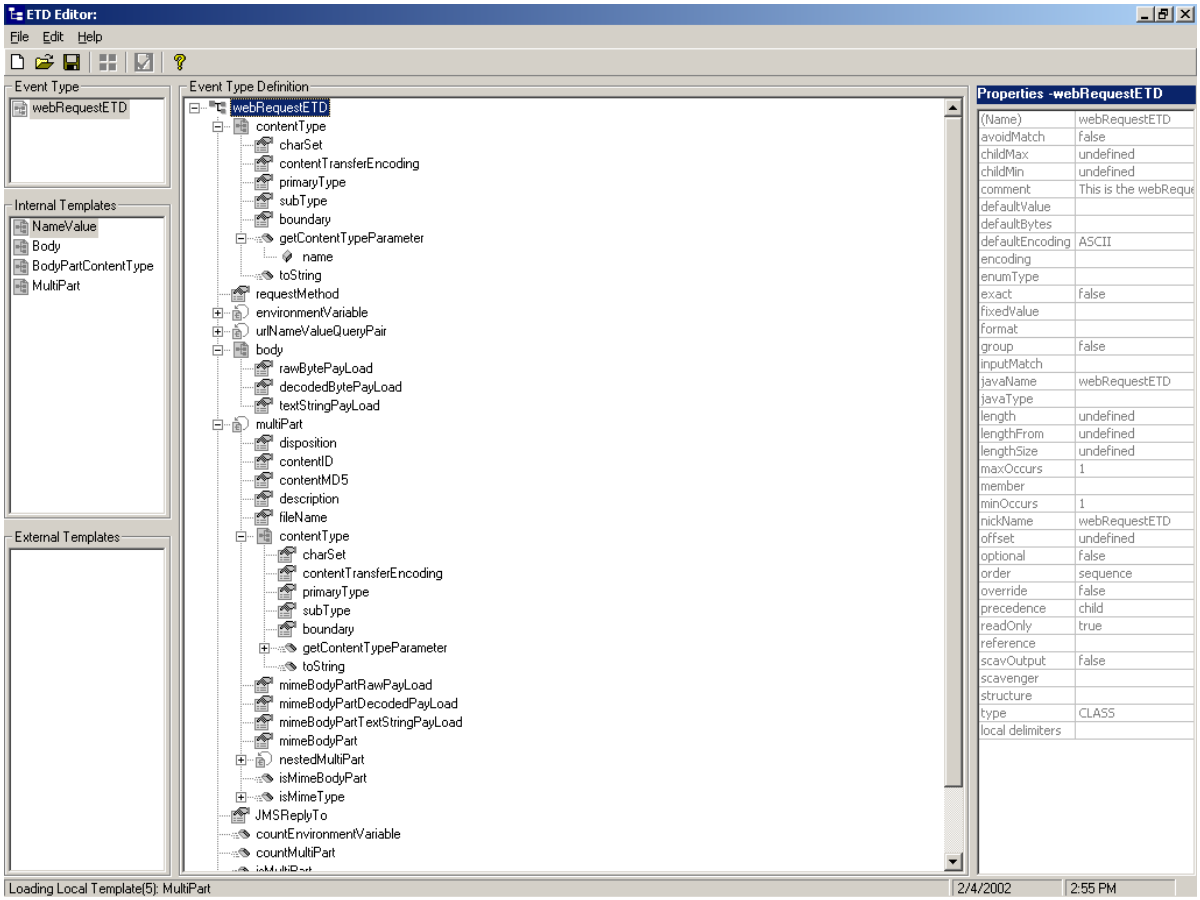
4.1.3 Event Type Definitions

As discussed in **"Request/reply and e*Way Participating Host Components" on page 24**, the MS IIS e*Way maintains **JMSReplyTo** property that must be set to facilitate the reply-data flows through the e*Gate system.

webRequestETD

The **webRequestETD** Event Type Definition (ETD) that can be used within a request/reply schema is shown in Figure 10. The **webRequestETD** is designed to be read-only, while the **webReplyETD** is designed to be write-only.

Figure 10 ETD Editor Main Window: webRequestETD



Node Descriptions

This section explains the nodes contained in the **webRequestETD** ETD.

contentType

The top-level node **contentType** represents the **CONTENT_TYPE** meta-variable as in **isapi**. If the message can be defined as a discrete-type media, such as **text**/*, **image**/*, the content type shows up at the top-level.

The following sub-nodes appear below **contentType**:

charSet
If the **charSet** is not supported or misspelled, the decoding can not take place. In that case, use **rawBytePayLoad** or **decodedBytePayLoad**. The **charSet** encoding table is available at the following Web site:

http://www.ingrid.org/java/i18n/encoding/table.html

The value can be null if the message does not have the **charSet** attribute.

contentTransferEncoding
Indicates whether the content is encoded (for example, Base64 or binary encoding) the field is not case-sensitive. It may be return a null string if it is not transfer-encoded.

primaryType
Indicates the primary content type. For example, text in **text/xml**.

subType
Indicates the sub type of the content. For example, XML in **text/xml**.

boundary
If it is multipart/* data, this node carries the value of the boundary. If the message is nested multipart, this node only provides the top-level boundary.

getContentTypeParameter
Provides a method to be called to get any other content type attributes, such as **ContentID**, may also return a null string, if the attribute is not defined.

requestMethod
Returns the HTTP method. For example, **Post** or **Get**.

environmentVariables

A top-level node that contains an array of **isapi** variables received or passed to **msisapi**. For example **HTTP_ACCEPT**.

name
Return the name of the environment variable.

value
Returns the value of the environment variable.

urlNameValueQueryPair

A top-level node that contains an array. Check the count of this array, if it returns a value equal to zero, the content is not a URL-encoded value pair. If HTTP server received a get command, a URL-encoded query string is received. The ETD decodes the string and populates the name-value pair for direct use.

name
The name of the part. For example:

```
firstname
```

value
The value of the part. For example:

```
myfirstname
```

body

This is a top-level node that contains the body of the content for discrete types, such as **text**/* or **image**/*.

The following sub-nodes appear below **body**:

rawBytePayLoad
Contains raw byte data.

decodedBytePayLoad
If the content indicates that it has been transfer-encoded in the **contentType** header, **content-transfer-encoding** attribute, decodes the **rawBytePayload**. The result is the decoded byte array, while **rawBytePayLoad** still contains the original encoded byte data.

textStringPayLoad
If the content primary type indicates that it is text based, a string is created from **rawBytePayLoad** (or **decodedBytePayLoad**, if the content has been transfer-encoded). The resulting text string is a Java internal representation of the original text string, in the designated **charSet** character encoding.

For example, a byte stream of data is received that is **EUC_JP** character-encoded, the **textStringPayLoad** produces a Java internal string representation (Unicode) of that Japanese character stream. It is not in **EUC_JP** encoding, but in Java Unicode.

If the **charSet** is not recognized by the Java decoder, (for example, you misspelled **EUC_JP** to **ECU_JP**) then you are not provided with a **textStringPayLoad**. You can access the data from **rawBytePayLoad** or **decodedBytePayLoad**.

If the original message contains a content transfer-encoded text string, the **rawBytePayLoad**, **decodedBytePayLoad**, and **textStringPayLoad** all contain data.

If you specify the content type as application/xml, rather than text/xml, this media form is not recognized as a text type. **textStringPayLoad** is not populated, even though the content body is a text based byte array. In this case the content must be retrieved from **rawBytePayLoad** or **decodedBytePayLoad** (if the content transfer is encoded).

If the content type is not text/* and is not multipart/*, the payload must be retrieved via **rawBytePayLoad** or **decodedBytePayLoad** (if the content is transfer-encoded).

For example, to use:

```
Content-Type: text/plain;Content-Transfer-Encoding="Quoted-
    Printable"
```

With the following text:

```
Now is the time for all folk to come to the aid of msisapieway
```

The quoted-printable transfer encoding appears as follows:

```
Now is the time=
For all folk to come=
To the aid of msisapieway=
```

For more information, refer to RFC2045 (page 16) at the following Web site:

http://www.ietf.org/rfc/rfc2045.txt.

Per RFC2045:

```
Content-Type:text/plain; charset=EUC_JP
Content-transfer-encoding: base64
```

In accordance with RFC2045, the body is a Base64 US_ASCII encoding of data that was originally, in **EUC_JP**. After unmarshaling via the **webRequestETD**, the **textStringPayLoad** provides a Java string Unicode encoding of the Japanese content originally in **EUC_JP**.

multiPart

A top-level node, used in conjunction with multipart/* content type data, the following sub-nodes are available:

disposition
The content-disposition of each body part in the multipart array. Check for null values. For example, multipart/form data has the top-level content type populated as **multipart/form:boundary=____**. Each part has disposition form data.

contentID
Contains the **ContentID** attributes; checks for null values.

contentMD5
Returns the value of the **content-MD5** header field; returns null if this field is unavailable or absent. MD5 is a 128-bit digital fingerprint.

description
Returns the **content-Description** field.

filename
If the content contains a file name, returns the value; otherwise, null.

contentType
Allows you to access all **contentType** parameters. Similar to the top-level **contentType** node, this **contentType** indicates the break down of attributes for this body part. It also checks for null values.

mimeBodyPartRawPayLoad
Contains the raw byte data.

mimeBodyPartDecodedPayLoad
If the content indicates that it has been transfer-encoded in the **contentType** header, **content-transfer-encoding** attribute, decodes the **rawBytePayLoad**, returning a decoded byte array. In this case the **mimeBodyPartRawPayLoad** still contains the encoded byte data.

mimeBodyPartTextStringPayLoad
If the content primary type indicates that it is text data, a string is created from the **mimeBodyPartRawPayLoad** (or the **mimeBodyPartDecodedPayLoad** if the content is transfer-encoded). The resulting text string is a Java internal representation of the original text string, in the designated **charSet** character encoding.

For example, a byte stream of data is received that is **EUC_JP** character-encoded, the **textStringPayLoad** produces a Java internal string representation (Unicode) of that Japanese character stream. It is not in **EUC_JP** encoding, but in Java Unicode.

If the original message contains a content transfer-encoded text string, the **mimeBodyPartRawBytePayLoad**, **mimeBodyPartDecodedBytePayLoad**, and **mimeBodyParttextStringPayLoad** all contain data.

If you specify the content type as a**pplication/xml,** rather than **text/xml**, this media form is not recognized as a text type. The **mimeBodyParttextStringPayLoad** node is not populated, even though the content body is a text-based byte array. In this case, the content must be retrieved from **mimeBodyPartRawBytePayLoad** or **mimeBodyPartDecodedBytePayLoad** (if the content it transfer-encoded).

If the content type is not text/* and is not multipart/*, the payload must be retrieved via **mimeBodyPartRawBytePayLoad** or **mimeBodyPartDecodedBytePayLoad** (if the content is transfer-encoded).

For example, to use:

```
Content-Type: text/plain;Content-Transfer-Encoding=”Quoted-
Printable”
```

With the following text:

```
“Now is the time for all folk to come to the aid of msisapieway”
```

The quoted-printable transfer encoding appears as follows:

```
Now is the time=
For all folk to come=
To the aid of msisapieway=
```

For more information, refer to RFC2045 (page 16) at the following Web site:

http://www.ietf.org/rfc/rfc2045.txt.

Per RFC2045:

```
Content-Type:text/plain; charset=EUC_JP
Content-transfer-encoding: base64
```

In accordance with RFC2045, the **body** is a Base64 US_ASCI-encoding of data that was originally, in **EUC_JP**. After unmarshaling via **webRequestETD**, the **textStringPayLoad** provides a Java string Unicode encoding of the Japanese content originally in **EUC_JP**.

mimeBodyPart

Returns an object of **javax.Mail.Internet.MimeBodyPart**. This value can be accessed via multipart nesting. This provides the means to access a raw object handle.

nestedMultiPart

If the **multiPart** contains another multipart, as an associated body part, this node allows for drilling down to the nested multiPart. If it is not nested, it returns null. The **mimeBodyPartRawPayLoad** and **decodedPayLoad** are maintained at the same time.

isMimeBodyPart

Queries whether the body part is of a mime type.

isMimeType
Queries whether the body part is of a certain mime type.

JMSReplyTo

Gets the **JMSReplyTo** property. See**"Event Type Definitions" on page 28** for more information about **JMSReplyTo** properties.

countEnvironmentVariable

Returns an integer, indicating the number of environment variables.

countMultiparts

Returns an integer, indicating the number of body parts.

isMulitpart

Returns true or false, indicating whether multipart or not.

isUrlencoded

Returns true or false, indicating whether the data is URL-encoded.

isSingleBody

Returns true or false, indicating whether the data consists of a single body part.

countURLNameValueQueryPairs

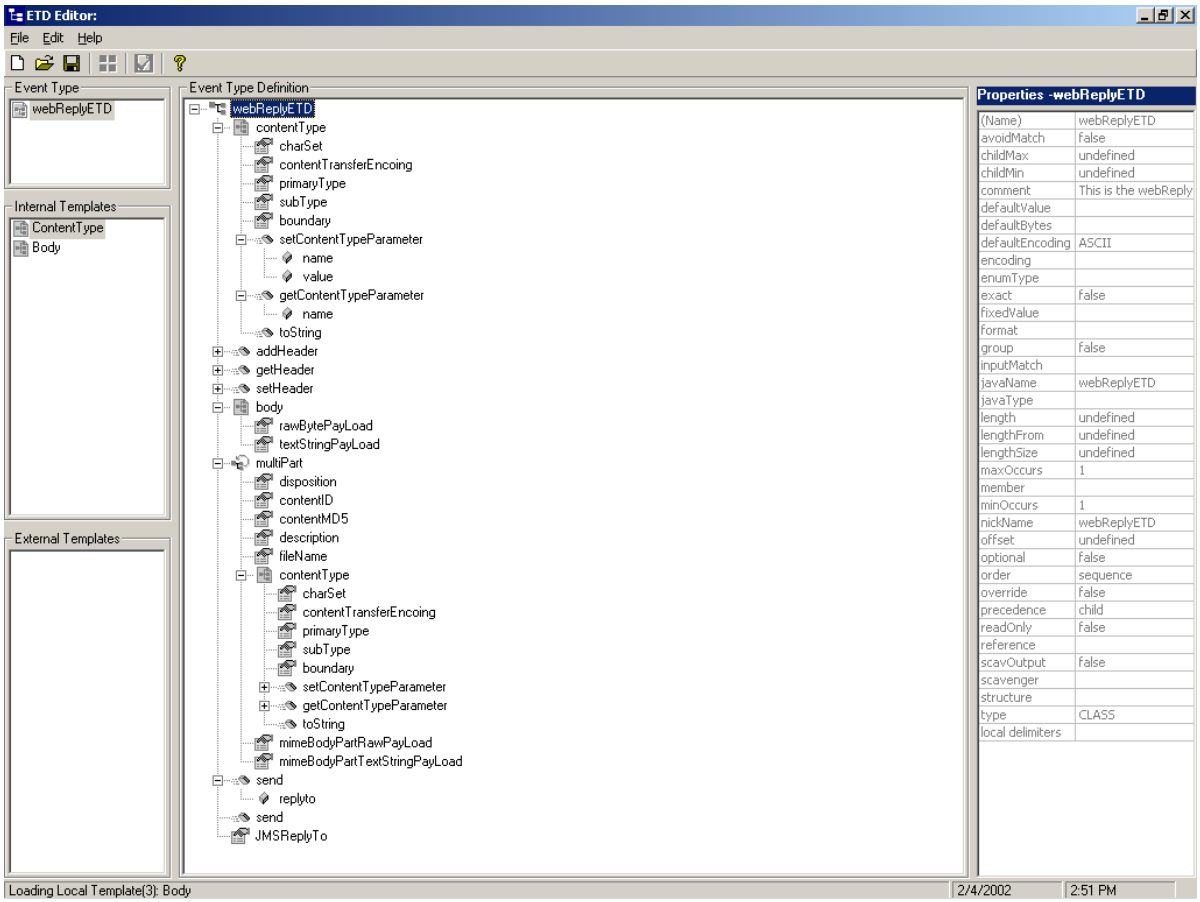
Returns an integer, indicating the number of name-value pairs.

webReplyETD

The **webReplyETD** Event Type Definition (ETD) that can be used within a request/reply schema is shown in the following sections. The **webReplyETD** mirrors the webRequestETD. The **webReplyETD** is write-only, while the **webRequestETD** is read-only.

There are functions availabe to allow you to read the node value, but the node value must be set, before reading (see Figure 11).

Figure 11 ETD Editor Main Window: webReplyETD



Node Description

This section explains the nodes contained in the **webReplyETD** ETD.

contentType

The **CONTENT_TYPE** header returned to the HTTP client. This **contentType** is prepended to the body, with two CRLFs (carriage return line feeds) and the body.

The following sub-nodes appear below **contentType**:

charSet
Setting this value, causes a byte array of text data to result as the output. You must also then set the **body** node's **textStringPayLoad**.

contentTransferEncoding
Setting this value, defines the content as encoded (such as Base64). If the data is multipart, do not set transfer encoding at the top level.

primaryType
Sets the primary content type. For example, text in **text/xml**.

subType
Sets the sub type of the content. For example, **xml** in **text/xml**.

boundary
This value is only set if you do not want to use the system-defined boundary. Do not set this node if the data is not multipart data.

setContentTypeParameter
Sets a name-value pair in **contentType**.

getContentTypeParameter
Gets a name-value pair from **contentType**.

addHeader

A method that allows you to add other **http/isapi** response headers, taking a name-value pair as the parameters. You do not need to add **CONTENT_TYPE** headers here, because that is already accomplished by the setting the **contentType** node. The ETD bundles the **contentType** headers behind the scenes.

getHeader

A method, that allows you to retrieve the header, taking a name-delimited pair as the parameters.

setHeader

A method, that allows you to set the header value, taking a name-value pair as the parameters.

body

This is a top-level node, if the data is of the discrete type, such as **text**/* or **image**/*, the body of the content appears here. You can either set **rawBytePayLoad** or **textStringPayLoad**, but not both.

The following sub-nodes appear below **body**:

rawBytePayLoad
If the data is not text-based, the raw byte data is contained here.

textStringPayLoad
Set this pay load for text-string-based data. If this value is set, the content type is not verified. The text string can be from any language, as specified by the following Web site:

http://www.ingrid.org/java/i18n/encoding/table.html

You need to specify the out put **charSet**, if the string contains any non-default text, such as **EUC_JP, SJIS, GB2312, ISO-8859-1**. Even if you do not want to perform any conversion, such as **EUC_JP** to **SJIS**, specify the desired output character set. For example, if the **textStringPayLoad** contains Java Unicode string **EUC_JP**, specify **charSet=EUC_JP**.

The Unicode output results in a byte array that contains **EUC_JP** characters. If you set **charSet=SJIS**, the output results in Java Unicode encoding of the original **EUC_JP** string to a byte array that contains an **SJIS** character set.

multiPart

This is an array of body part. The ETD allocates a new body part for you, the first time you access the body part attribute, while you are responsible to set each body part data payload. If the boundary is set in the **contentType** node, that boundary value is used. If you only set the header and neglect to set the **payLoad**, you receive a marshaling exception.

The following sub-nodes appear below **multiPart**:

disposition
Sets the disposition.

contentID
Sets the **contentID**.

contentMD5
Sets the MD5 signature.

description
Sets the description.

filename
Sets the file name.

contentType
Allows you to set the values of the following sub-nodes:

charSet
Setting this value, causes a byte array of text data to result as the output. You must also set the **body** node's **textStringPayLoad**.

contentTransferEncoding
Setting this value causes a byte array of text data to be the output. You must also set the **body** node's **textStringPayLoad**.

primaryType
Sets the primary content type. For example, text in **text/xml**.

subType
Set the sub-type of the content. For example, xml in **text/xml**.

boundary
This value is only set if you do not want to use the system-defined boundary. Do not set if the data is not multipart.

setContentTypeParameter
Sets a name/value pair in **contentType**.

getContentTypeParameter
Gets a name/value pair from **contentType**.

mimeBodyPartRawPayLoad
Sets the body part payload to "raw."

mimeBodyPartDecodedPayLoad
Sets the body part payload to "decoded."

send

Sends the reply to the **JMSReply** property, taking the **replyTo** parameter string.

send

Sends the reply to the **JMSReply** property.

JMSReplyTo

Sets the **JMSReplyTo** property.

4.1.4 Collaboration Rules and the IIS Header

The Collaboration Rule provided in the sample (shown in **Figure 12 on page 39**) demonstrates a variety of possible behavior as follows:

1. Provides the HTTP content type for the reply/outbound message:

```
getout().getContentType().setPrimaryType("text")
getout().getContentType().setSubType("plain")
```

2. Gets the request/inbound **isapi** meta-variables:

```
getin().getEnvironmentVariables(i).getName()
getin().getEnvironmentVariables(i).getValue()
```

3. Adds another reply/outbound HTTP header:

```
getout().addHeader(getin().getEnvironmentVariables(i).getName(),ge
tin().getEnvironmentVariables(i).getValue())
```

4. Tests and gets the decoded inbound payload:

   Multipart test:

```
getin().getMultiParts(j).getContentType().getContentTransferEncodi
ng()==null
```

   Single body test:

```
getin().getContentType().getContentTransferEncoding()==null
```

   Multipart get decoded payload:

```
byt[]temppayload=getin().getMultiParts(outmlptindex).getMimeBodyPa
rtDecodedPayLoad()
```

   Single body decoded payload:

```
byte[]bytesinglebody=getin().getBody().getTransferCodePayLoad()
```

   If it is text message, it is always decoded for you with:

```
String strsinglebody=getin().getBody().getTextStringPayLoad()
```

5. Sets the **charSet** or content-transfer encoding for reply/outbound and sets the proper payload; the encoding is performed for you:

```
getout().getContentType().setCharSet("SJIS")
getout().getMultiParts(outmlptindex).getContentType().setContentTr
ansferEncoding("base64")
getout().getMultiParts(outmlptindex).setMimebodyPartTextStringPayL
oad(getin().getMultiParts(j).getMimeBodyPartTextStringPayLoad())
getout().getMultiParts(outmlptindex).setMimeBodyPartRawPayLoad(tem
ppayload)
```

6 Determines how to get URL encoded name-value pair:

```
getin().isUrlencoded()
strbuf4.append(" url name:
"+getin().getURLNameValueQueryPairs(k).getName()+" value:
"+getin().getURLNameValueQueryPairs(k).getValue())
```

7 Sends the HTTP-enabled data to the reply topic:

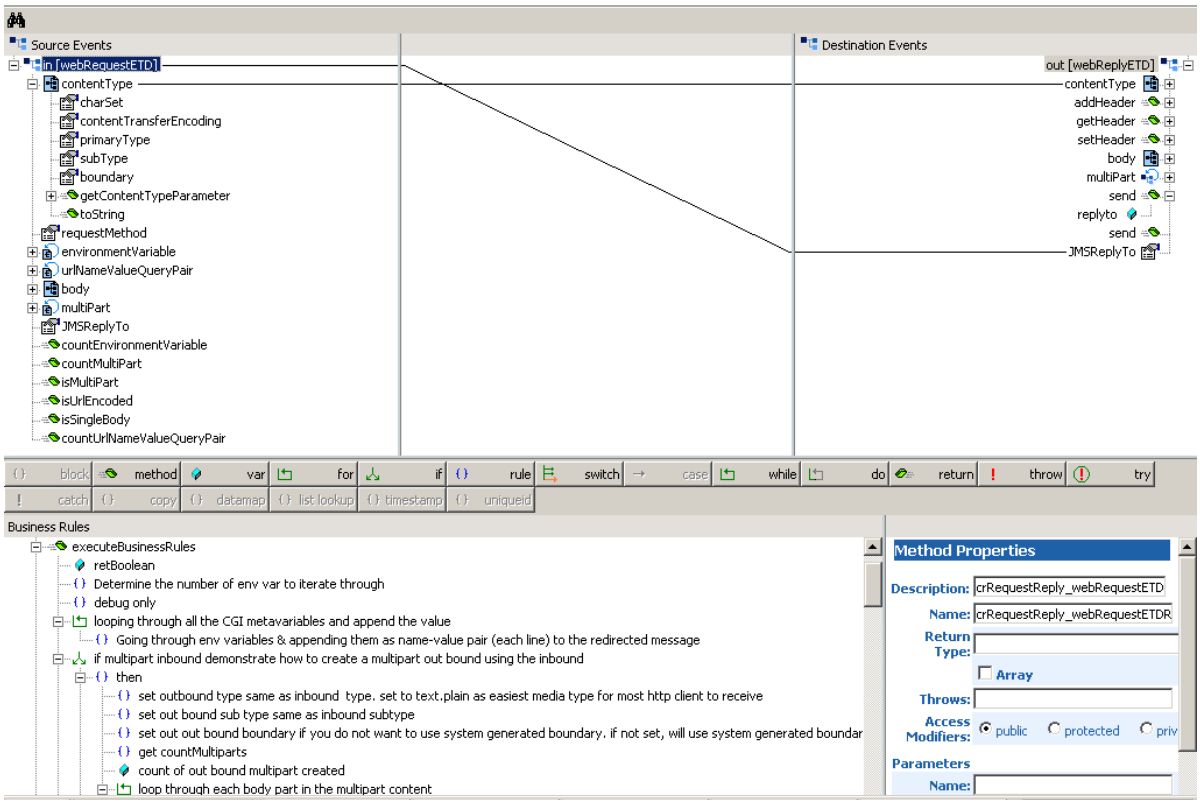
Manual publish:

```
getout().send(getout().getJMSReplyTo())
```

crRequestReply_webRequestETDReplyETD

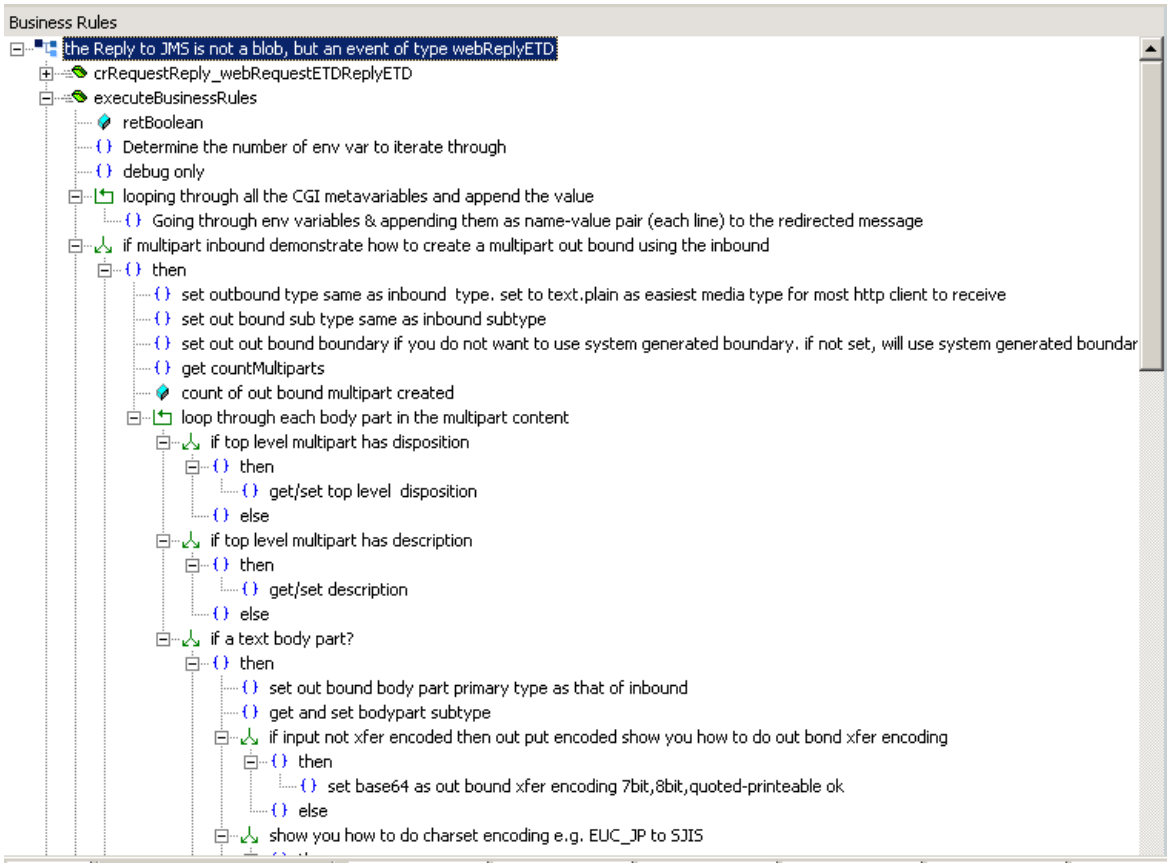
Figure 12 shows how to copy the request/reply field.

Figure 12 Copying the Request/reply Field



A portion of the Business Rules that were implemented for **crRequestReply_webRequestETDReplyETD** Collaboration Rules sample, appear in **Figure 13 on page 40**.

Figure 13 Business Rules



The code itself can be viewed in the GUI from the **View** menu. Select **View Java Code**. The code appears as follows:

```
import com.stc.common.collabService.*;
import com.stc.jcsre.*;
import com.stc.eways.util.*;
import java.io.*;
import java.sql.*;
import java.util.*;
import com.stc.eways.webETD.*;


   class crRequestReply_webRequestETDReplyETDBase extends JCollaborat
ion
   {
      public crRequestReply_webRequestETDReplyETDBase()
      {
         super();
      }

      com.stc.eways.webETD.webRequestETD in = null;

      public com.stc.eways.webETD.webRequestETD getin()
      {
         return this.in;
      }

      com.stc.eways.webETD.webReplyETD out = null;
```

```
      public com.stc.eways.webETD.webReplyETD getout()
      {
         return this.out;
      }

      public void resetData() throws CollabConnException, CollabDataE
xception
      {
         this.in = (com.stc.eways.webETD.webRequestETD) this.reset((E
TD)this.getin());
         this.out = (com.stc.eways.webETD.webReplyETD) this.reset((ET
D)this.getout());
      }
      public void createInstances() throws CollabConnException
      {
         this.in = (com.stc.eways.webETD.webRequestETD) this.newInsta
nce("com.stc.eways.webETD.webRequestETD", "in", ETD.IN_MODE);
         this.out = (com.stc.eways.webETD.webReplyETD) this.newInstan
ce("com.stc.eways.webETD.webReplyETD", "out", ETD.OUT_MODE);
      }
   }



   public class crRequestReply_webRequestETDReplyETD extends crReques
tReply_webRequestETDReplyETDBase implements JCollaboratorExt
   {
      public  crRequestReply_webRequestETDReplyETD()
      {
         super();
      }

      public boolean executeBusinessRules() throws Exception
      {
         boolean retBoolean = true;
         int EnvVarCnt = getin().countEnvironmentVariables();
         System.err.println("boundary:"+getin().getContentType().getM
ultipartBoundary());
         for( int i = 0;i < EnvVarCnt;i++)
         {
            getout().addHeader(getin().getEnvironmentVariables(i).get
Name(),getin().getEnvironmentVariables(i).getValue());
         }
         if (getin().isMultipart())
         {
            getout().getContentType().setPrimaryType( "text"  );
            getout().getContentType().setSubType("plain");
            //getout().getContentType().setMultipartBoundary("xi-li-
hu-tu-yi-xian-tian-kai-zi-bian-zi-zao-boundary");
            int partscount = getin().countMultiParts();
            int outmlptindex = 0;
            for( int j = 0;j < partscount;j++)
            {
               if (getin().getMultiParts(j).getDisposition() != null)
               {
                  getout().getMultiParts(outmlptindex).setDisposition
(getin().getMultiParts(j).getDisposition());
               }
               else
               {
               }
               if (getin().getMultiParts(j).getDescription() != null)
               {
```

```
                    getout().getMultiParts(outmlptindex).setDescription
(     getin().getMultiParts(j).getDescription()     );
                 }
                 else
                 {
                 }
                 if (getin().getMultiParts(j).getContentTypeString().in
dexOf("text") >= 0)
                 {
                    getout().getMultiParts(outmlptindex).getContentType
().setPrimaryType(getin().getMultiParts(j).getContentType().getPrimar
yType() );
                    getout().getMultiParts(outmlptindex).getContentType
().setSubType(     getin().getMultiParts(j).getContentType().getSubTy
pe()  );
                    if (getin().getMultiParts(j).getContentType().getCo
ntentTransferEncoding() == null)
                    {
                       getout().getMultiParts(outmlptindex).getContentT
ype().setContentTransferEncoding("base64");
                    }
                    else
                    {
                    }
                    if (getin().getMultiParts(j).getContentType().getCh
arSet() != null &&
                    getin().getMultiParts(j).getContentType().getCharSe
t().compareToIgnoreCase("EUC_JP") == 0)
                    {
                       getout().getMultiParts(outmlptindex).getContentT
ype().setCharSet("SJIS");
                    }
                    else
                    {
                       if (getin().getMultiParts(j).getContentType().ge
tCharSet() != null)
                       {
                          getout().getMultiParts(outmlptindex).getConte
ntType().setCharSet(         getin().getMultiParts(j).getContentType(
).getCharSet()             );
                       }
                       else
                       {
                       }
                    }
                    getout().getMultiParts(outmlptindex).setDisposition
( getin().getMultiParts(j).getDisposition() );
                    getout().getMultiParts(outmlptindex).setDescription
("add a sample description in collab");
                    getout().getMultiParts(outmlptindex).setFileName(
          getin().getMultiParts(j).getFileName()  );
                    getout().getMultiParts(outmlptindex).setMimeBodyPar
tTextStringPayLoad(getin().getMultiParts(j).getMimeBodyPartTextString
PayLoad());
                    outmlptindex++;
                 }
                 else
                 {
                    if (getin().getMultiParts(j).countNestedMultiPart()
 == 0)
                    {
                       if (getin().getMultiParts(j).getMimeBodyPartDeco
dedPayLoad() != null)
                       {
```

```
                        byte[] temppayload = getin().getMultiParts(ou
tmlptindex).getMimeBodyPartDecodedPayLoad();
                        getout().getMultiParts(outmlptindex).setMimeB
odyPartRawPayLoad(temppayload);
                        getout().getMultiParts(outmlptindex).setDispo
sition(   getin().getMultiParts(j).getDisposition()    );
                        getout().getMultiParts(outmlptindex).setDescr
iption(    getin().getMultiParts(j).getDescription()  );
                        getout().getMultiParts(outmlptindex).setFileN
ame(         getin().getMultiParts(j).getFileName() );
                        getout().getMultiParts(outmlptindex).getConte
ntType().setPrimaryType(     getin().getMultiParts(j).getContentType(
).getPrimaryType());
                        getout().getMultiParts(outmlptindex).getConte
ntType().setSubType(       getin().getMultiParts(j).getContentType().
getSubType()          );
                     }
                     else
                     {
                        byte[] temppayload = getin().getMultiParts(j)
.getMimeBodyPartRawPayLoad();
                        getout().getMultiParts(outmlptindex).setMimeB
odyPartRawPayLoad(temppayload);
                        getout().getMultiParts(outmlptindex).setDispo
sition(   getin().getMultiParts(j).getDisposition()    );
                        getout().getMultiParts(outmlptindex).setDescr
iption(    getin().getMultiParts(j).getDescription()  );
                        getout().getMultiParts(outmlptindex).setFileN
ame(         getin().getMultiParts(j).getFileName() );
                        getout().getMultiParts(outmlptindex).getConte
ntType().setPrimaryType(     getin().getMultiParts(j).getContentType(
).getPrimaryType());
                        getout().getMultiParts(outmlptindex).getConte
ntType().setSubType(       getin().getMultiParts(j).getContentType().
getSubType()          );
                     }
                     outmlptindex++;
                  }
                  else
                  {
                     int cntnestedpart = getin().getMultiParts(j).cou
ntNestedMultiPart();
                     for( int l = 0;l < cntnestedpart;l++)
                     {
                        if (getin().getMultiParts(j).getNestedMultiPa
rt(l).getMimeBodyPartDecodedPayLoad() != null)
                        {
                           byte[] temppayload = getin().getMultiParts
(j).getNestedMultiPart(l).getMimeBodyPartDecodedPayLoad();
                           getout().getMultiParts(outmlptindex).setMi
meBodyPartRawPayLoad(temppayload);
                           getout().getMultiParts(outmlptindex).setDi
sposition(   getin().getMultiParts(j).getNestedMultiPart(l).getDispos
ition()    );
                           getout().getMultiParts(outmlptindex).setDe
scription(    getin().getMultiParts(j).getNestedMultiPart(l).getDescr
iption()  );
                           getout().getMultiParts(outmlptindex).setFi
leName(         getin().getMultiParts(j).getNestedMultiPart(l).getFil
eName() );
                           getout().getMultiParts(outmlptindex).getCo
ntentType().setPrimaryType(     getin().getMultiParts(j).getNestedMul
tiPart(l).getContentType().getPrimaryType());
```

```
                              getout().getMultiParts(outmlptindex).getCo
ntentType().setSubType(       getin().getMultiParts(j).getNestedMulti
Part(l).getContentType().getSubType()          );
                           }
                           else
                           {
                              byte[] temppayload = getin().getMultiParts
(j).getNestedMultiPart(l).getMimeBodyPartRawPayLoad();
                              getout().getMultiParts(outmlptindex).setMi
meBodyPartRawPayLoad(temppayload);
                              getout().getMultiParts(outmlptindex).setDi
sposition(   getin().getMultiParts(j).getNestedMultiPart(l).getDispos
ition()    );
                              getout().getMultiParts(outmlptindex).setDe
scription(    getin().getMultiParts(j).getNestedMultiPart(l).getDescr
iption()  );
                              getout().getMultiParts(outmlptindex).setFi
leName(         getin().getMultiParts(j).getNestedMultiPart(l).getFil
eName() );
                              getout().getMultiParts(outmlptindex).getCo
ntentType().setPrimaryType(     getin().getMultiParts(j).getNestedMul
tiPart(l).getContentType().getPrimaryType());
                              getout().getMultiParts(outmlptindex).getCo
ntentType().setSubType(       getin().getMultiParts(j).getNestedMulti
Part(l).getContentType().getSubType()          );
                           }
                           outmlptindex++;
                        }
                     }
                  }
               }
            }
            else
            {
               System.err.println("Not Multiupart");
            }
            String strsinglebody;
            byte[] bytesinglebody;
            if (getin().isSingleBody())
            {
               getout().getContentType().setPrimaryType(getin().getConte
ntType().getPrimaryType());
               getout().getContentType().setSubType(getin().getContentTy
pe().getSubType());
               if (getin().getBody().getTextStringPayLoad() != null)
               {
                  strsinglebody=getin().getBody().getTextStringPayLoad()
;
                  getout().getBody().setTextStringPayLoad(strsinglebody)
;
                  if (getin().getContentType().getCharSet() != null &&
                  getin().getContentType().getCharSet() .compareToIgnore
Case("EUC_JP")==0)
                  {
                     getout().getContentType().setCharSet("SJIS");
                  }
                  else
                  {
                     if (getin().getContentType().getCharSet() != null)
                     {
                        getout().getContentType().setCharSet(getin().get
ContentType().getCharSet());
                     }
                     else
```

```
                        {
                        }
                     }
                  }
                  else
                  {
                     if (getin().getBody().getTransferCodePayLoad() != null
)
                     {
                        bytesinglebody = getin().getBody().getTransferCodeP
ayLoad();
                        getout().getBody().setRawPayLoad(bytesinglebody);
                     }
                     else
                     {
                        bytesinglebody = getin().getBody().getRawPayLoad();
                        getout().getBody().setRawPayLoad(bytesinglebody);
                     }
                     System.err.println("Single body does not have text pay
load");
                  }
               }
               else
               {
                  System.err.println("is not single body type");
               }
               StringBuffer strbuf4 = new StringBuffer();
               if (getin().isUrlencoded())
               {
                  for( int k = 0;k  < getin().countURLNameValueQueryPairs()
;k++)
                  {
                     strbuf4.append(" url name: "+getin().getURLNameValueQu
eryPairs(k).getName()+" value: "+getin().getURLNameValueQueryPairs(k)
.getValue());
                  }
                  getout().getContentType().setPrimaryType("text");
                  getout().getContentType().setSubType("plain");
                  getout().getBody().setTextStringPayLoad(strbuf4.toString(
));
               }
               else
               {
                  System.err.println("not url encoded request");
               }
               getout().setJMSReplyTo(getin().getJMSReplyTo());
               getout().send(getout().getJMSReplyTo());
               ;
               return retBoolean;
            }

            public void userInitialize()
            {
            }

            public void userTerminate()
            {
            }

         }
```

Once the sample functions to your satisfaction, you can modify the schema to add functionality or create a new schema.

4.1.5 HTML Test Files

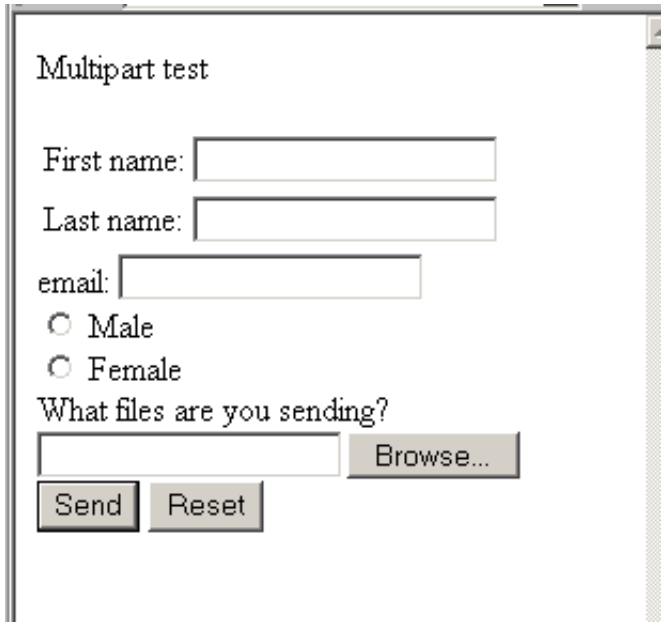
The following HTML test files are provided with the sample:

- **testmulptfrm.html**
- **testurlencoded.html**

Test File: testmulptfrm.html

The **testmulptfrm.html** file is provided for multipart form data exchange and appears in Figure 14.

Figure 14 Sample testmultptfrm.html File



The HTML code follows:

```
<HTML>

<FORM ACTION="msisapiext/stc_iisapi.dll" METHOD="POST"
ENCTYPE="multipart/form-data">
Multipart test
<P>
<TABLE>
  <TR>
    <TD><LABEL for="fname">First name: </LABEL>
    <TD>  <INPUT type="text" name="firstname" id ="fname">
  <TR>
    <TD><LABEL for="lname">Last name: </LABEL>
    <TD><INPUT type="text" name="lastname" id="lname">
</TABLE>
    <LABEL for="email">email: </LABEL>
              <INPUT type="text" name="email"><BR>
    <INPUT type="radio" name="sex" value="Male"> Male<BR>
    <INPUT type="radio" name="sex" value="Female"> Female<BR>
```

```
    <LABEL for="filename">What files are you sending? </LABEL>
              <INPUT type="file" name="filename"><BR>
    <INPUT type="submit" value="Send"> <INPUT type="reset">
    </P>
</FORM>

</HTML>
```

Test File: testurlencoded.html

The **testurlencoded.html** file is provided for name-value pair form data exchange and appears in Figure 15.

Figure 15 Sample testurlencoded.html File

The HTML code follows:

```
<FORM ACTION="msisapiext/stc_iisapi.dll" METHOD=POST>
Hello!
<P>
First Name:
<INPUT NAME=fname><BR>
<P>
LastName Name:
<INPUT NAME=lname><BR>
<P>
EMail:
<INPUT NAME=email><BR>
<p>
<INPUT type="radio" name="sex" value="Male"> Male<BR>
<p>
<INPUT type="radio" name="sex" value="Female"> Female<BR>
```

```
<P>
<LABEL for="filename">What files are you sending? </LABEL>
             <INPUT type="file" name="filename"><BR>
<P>
<INPUT TYPE=submit>
</FORM>
```

4.1.6 Message Routing to Multiple Collaborations

Only one type of topic can be published to each **msisapiext** directory. If the requirement is to publish many topics at the same time, the solution is to set up multiple **msisapext** directories.

For example, **msisapiext**, **msisapiext2**, and so on. In each directory, there must be a copy of **stc_msapi.dll**, **stc_iisapi.dll**, **stc_msclient.dll**, **stc_mscommon.dll**, and **stc_iisapi.properties** (for more information, see **"Configuring the Web Server Components" on page 17**).

Modify the **stc_iisapi.properties** file to point to the correct host and topic/queue to be published.

For example, if you want to publish the topics **Topic:etwebRequestETDTopic** and **Topic:webRequest**, you can modify the **stc_iisapi.properties** file, located in **msisapiext** directory, to specify **Topic:etwebRequestETDtopic**. **Topic:webRequest** is specified in the **stc_iisapi.properties** file, located in **msisapiext2**.

Both the **msisapiext** and **msisapiext2** directories must contain the same version of the previously mentioned files. You can then create two Collaboration Rules to subscribe to **etwebRequestETDTopic** and **webRequest**.

To submit **Topic:etwebRequestETDTopic** via an HTTP client, the URL format used is:

```
hostname:port\msisapiext\stc_iisapi.dll
```

To submit **Topic:webRequest** via an HTTP client, the URL used is:

```
hostname:port\msisapiext2\stc_iisapi.dll
```

To achieve the previously described behavior, each Web server must be configured to allow multiple **msisapiext** directories.

For IIS, you can create two virtual directories for **msisapiext** and **msisapiext2**.

Chapter 5

e*Way Java Methods

This chapter explains the Java classes and methods used by the e*Way Intelligent Adapter for the Microsoft Internet Information Server.

5.1 Classes and Methods: Overview

The e*Gate Enterprise Manager's Collaboration Rules Editor allows you to call Java methods by dragging and dropping an Event Type Definition (ETD) node into the **Rules** window feature.

Note: *The node name can be different from the Java method name.*

After you drag and drop, the actual conversion takes place in the **.xsc** file. To view the **.xsc** file, use the Enterprise Manager's ETD Editor.

For example, if the node name is **encoding**, the associated **javaName** is **Encoding**. If you want to get the node value, use the Java method called **getEncoding**. If you want to set the node value, use the Java method called **setEncoding**.

Class Hierarchy

The MS IIS e*Way components support the following classes:

```
class java.lang.Object
   class com.stc.eways.webETD.Body
   class com.stc.eways.webETD.NameValue
   class com.stc.eways.webETD.OneMimeBodyPart
   class com.stc.eways.webETD.OneMimeBodyPart.NestedMultiPart
   class com.stc.jcsre.SimpleETDImpl (implements com.stc.jcsre.ETD)
      class com.stc.jcsre.MsgETDImpl
           class com.stc.eways.webETD.webReplyETD (implements
             com.stc.jcsre.ETD)
           class com.stc.eways.webETD.webRequestETD (implements
             com.stc.jcsre.ETD)
      class com.stc.eways.webETD.webETDContentType
      class com.stc.eways.webETD.webETDInternetHeaders
      class com.stc.eways.webETD.webReplyETD.ReplyMultiParts
      class com.stc.eways.webETD.webRequestETD.EnvironmentVariables
      class com.stc.eways.webETD.webRequestETD.MultiParts
      class com.stc.eways.webETD.webRequestETD.URLNameValueQueryPairs
```

5.2 Java Method List

This section lists the MS IIS e*Way Java methods by the following classes:

5.2.1 Class Body

```
com.stc.eways.webETD
    java.lang.Object

com.stc.eways.webETD.Body
public class Body
extends java.lang.Object
```

Body

Description

A constructor.

Syntax

```
public Body()
```

getRawPayLoad

Description

Gets the raw payload byte array.

Syntax

```
public byte[] getRawPayLoad()
```

Parameters

None.

Returns

byte array
Returns a byte array of the raw payload.

setRawPayLoad

Description

Sets the raw payload to the byte array.

Syntax

```
public void setRawPayLoad(byte[] inrawpayload)
                          throws java.io.IOException
```

Parameters

Name	Type	Description
inrawpayload	byte array	The raw payload to be set.

Returns

void

getTransferCodePayLoad

Description

Returns the decoded byte array (request) or encoded byte array (reply).

Syntax

```
public byte[] getTransferCodePayLoad()
```

Parameters

None.

Returns

byte array
Returns the decoded or encoded byte array.

setTrasferCodePayLoad

Description

Sets the encoded payload to the byte array.

Syntax

```
public void setTrasferCodePayLoad(byte[] inpayload)
                                  throws java.io.IOException
```

Parameters

Name	Type	Description
inpayload	byte array	The payload to be set.

Returns

void

getTextStringPayLoad

Description

Gets the **charSet** decoded string payload.

Syntax

```
public java.lang.String getTextStringPayLoad()
```

Parameters

None.

Returns

java.lang.String
Returns the decoded string payload.

setTextStringPayLoad

Description

Sets the **charSet** encoded string payload.

Syntax

```
public void setTextStringPayLoad(java.lang.String inpayload)
```

Parameters

Name	Type	Description
inpayload	java.lang.String	The payload to be set.

Returns

void

marshal

Description

The outbound Collaboration controller calls this method; you only need to set the raw payload or the text string data payload.

Syntax

```
public byte[] marshal(java.lang.String encodingstyle,
   java.lang.String charset, boolean isText)
   throws com.stc.jcsre.MarshalException
```

Parameters

Name	Type	Description
encodingstyle	java.lang.String	The encoding style.
charset	java.lang.String	The charset.
isText	Boolean	true indicates the payload is set to text.

Returns

byte array
Returns a byte array of flattened data.

unmarshal

Description

Takes a byte array and parses it into a raw payload, decoded payload, or text string payload based on the content type.

Syntax

```
public void unmarshal(byte[] bytearraybodyin,webETDContentType
contenttype)
   throws com.stc.jcsre.UnmarshalException
```

Parameters

Name	Type	Description
bytearraybodyin	byte array	An inbound byte array.
contenttype	weETDContentType	The content type to which to parse the data.

Returns

void

5.2.2 Class NameValue

```
java.lang.Object
    com.stc.eways.webETD.NameValue

public class NameValue
extends java.lang.Object
```

NameValue

Description

A constructor.

Syntax

```
public NameValue()
```

NameValue

Description

A constructor.

Syntax

```
public NameValue(java.lang.String nmin, byte[] valin)
```

Parameters

Name	Type	Description
nmin	java.lang.String	The name
valin	byte array	A byte array of value

---

getName

Description

Gets the name of the variable.

Syntax

```
public java.lang.String getName()
```

Parameters

None.

Return Values

java.lang.String
Returns the name of the variable.

getValue

Description

Gets the value of this pair.

Syntax

```
public byte[] getValue()
```

Parameters

None.

Return Values

byte array
Returns value as a byte array.

setIsURLencoded

Description

Marks this pair as URL-encoded.

Syntax

```
public void setIsURLencoded(boolean isEncoded)
```

Parameters

Name	Type	Description
isEncoded	Boolean	true indicates that the part is URL-encoded.

Returns

void

marshal

Description

Serializes this object into a byte array.

Syntax

```
public byte[] marshal()
   throws com.stc.jcsre.MarshalException
```

Parameters

None.

Returns

byte array
Returns the corresponding deserialized NameValue object.

unmarshal

Description

Deserializes the byte array passed into this object.

Syntax

```
public void unmarshal(byte[] inputEvent)
   throws com.stc.jcsre.UnmarshalException
```

Parameters

Name	Type	Description
inputEvent	byte array	A byte array deserialized into a NameValue object.

5.2.3 Class OneMimeBodyPart

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.OneMimeBodyPart

public class OneMimeBodyPart
extends java.lang.Object
```

OneMimeBodyPart

Description

A constructor.

Syntax

```
public OneMimeBodyPart()
```

getMimeBodyPart

Description

Returns a **javax.mail.internet.MimeBodyPart** object.

Syntax

```
public com.stc.eways.webETD.MimeBodyPart getMimeBodyPart()
```

Parameters

None.

getMimeBodyPartRawPayLoad

Description

Returns the raw payload byte array.

Syntax

```
public byte[] getMimeBodyPartRawPayLoad()
   throws javax.mail.MessagingException,
          java.io.IOException
```

Parameters

None.

Return

byte array
Returns a byte array of the raw payload.

setMimeBodyPartRawPayLoad

Description

Sets the raw payload.

Syntax

```
public void setMimeBodyPartRawPayLoad(byte[] inbytearray)
   throws javax.mail.MessagingException,
          java.io.IOException
```

Parameters

Name	Type	Description
inbytearray	byte array	A byte array of the raw payload.

Parameters:

getMimeBodyPartDecodedPayLoad

Description

Returns the decoded data payload byte array.

Syntax

```
public byte[] getMimeBodyPartDecodedPayLoad()
   throws javax.mail.MessagingException,
          java.io.IOException
```

Parameters

None.

Return

byte array
Returns a byte array of the decoded payload.

getMimeBodyPartTextStringPayLoad

Description

Returns the string payload.

Syntax

```
public java.lang.String getMimeBodyPartTextStringPayLoad()
   throws javax.mail.MessagingException,
          java.io.IOException
```

Parameters

None.

Return

java.lang.String
Returns the string payload.

setMimeBodyPartTextStringPayLoad

Description

Sets the string payload.

Syntax

```
public void setMimeBodyPartTextStringPayLoad(java.lang.String instr)
   throws javax.mail.MessagingException,
          java.io.IOException
```

Parameters

Name	Type	Description
instr	java.lang.String	The inbound string to set.

Return

void

isMimeBodyPart

Description

Determines whether the part is a Multipurpose Internet Mail Extensions (MIME) part or URL-encoded.

Syntax

```
public boolean isMimeBodyPart()
```

Parameters

None.

Returns

Boolean
Returns **true** if the part is a MIME part; otherwise, returns **false**.

isMimeType

Description

Queries whether this part of the specified MIME type. This method compares only the **primaryType** and **subType**.

Syntax

```
public boolean isMimeType(java.lang.String typein)
   throws javax.mail.MessagingException
```

Parameters

Name	Type	Description
typein	java.lang.String	The part to query.

Returns

Boolean
Returns true if the part is a MIME type.

getDisposition

Description

Returns the content disposition parameter as a string.

Syntax

```
public java.lang.String getDisposition()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the content disposition parameter as a string.

setDisposition

Description

Sets the disposition of the content type parameter.

Syntax

```
public void setDisposition(java.lang.String instr)
```

```
        throws javax.mail.MessagingException
```

Parameters

Name	Type	Description
instr	java.lang.String	The content type to be set.

Return

void

setContentID

Description

Sets the **ContentID** content type parameter.

Syntax

```
public void setContentID(java.lang.String instr)
   throws javax.mail.MessagingException
```

Parameters

Name	Type	Description
instr	java.lang.String	The contentID to be set.

Return

void

getContentID

Description

Gets the **contentID** content type parameter.

Syntax

```
public java.lang.String getContentID()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the **contentID** content type parameter.

getContentTypeString

Description

Returns the **contentType** string.

Syntax

```
public java.lang.String getContentTypeString()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the **contentType** string.

setContentMD5

Description

Sets the **contentMD5** for this body part.

Syntax

```
public void setContentMD5(java.lang.String instr)
   throws javax.mail.MessagingException
```

Parameters

Name	Type	Description
instr	java.lang.String	The contentMD5 to be set.

Return

void

getContentMD5

Description

Gets the **contentMD5** for this body part.

Syntax

```
public java.lang.String getContentMD5()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the **contentMD5** for this body part.

getDescription

Description

Gets the description of this body part.

Syntax

```
public java.lang.String getDescription()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the description for the body part.

setDescription

Description

Sets the description of this body part.

Syntax

```
public void setDescription(java.lang.String instr)
   throws javax.mail.MessagingException
```

Parameters

Name	Type	Description
instr	java.lang.String	The description to be set.

Return

void

getEncoding

Description

Gets the encoding of this body part.

Syntax

```
public java.lang.String getEncoding()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the encoding for the body part.

getFileName

Description

Gets the file name parameter for this body part.

Syntax

```
public java.lang.String getFileName()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

java.lang.String
Returns the file name parameter for the body part.

setFileName

Description

Sets the filename of this body part.

Syntax

```
public void setFileName(java.lang.String instr)
   throws javax.mail.MessagingException
```

Parameters

Name	Type	Description
instr	java.lang.String	The file name to be set.

Return

void

getContentType

Description

Gets the content type as a **webETDContentType** object for this body part.

Syntax

```
public webETDContentType getContentType()
   throws javax.mail.MessagingException
```

Parameters

None.

Return

object
Returns the content type as a **webETDContentType** object for the body part.

countNestedMultiPart

Description

Counts the number of parts in a nested multipart.

Syntax

```
public int countNestedMultiPart()
```

Parameters

None.

Return

integer
Returns the number of parts in the nested multipart form; if there is none, returns zero.

getNestedMultiPart

Description

Returns the nested multipart.

Syntax

```
public OneMimeBodyPart getNestedMultiPart(int index)
```

Parameters

Name	Type	Description
index	int	The index number for the nested multipart to be returned.

Return

object
Returns the nested multipart object.

marshal

Description

Serializes this object into a byte array.

Syntax

```
public byte[] marshal(boolean buildmbponly)
   throws com.stc.jcsre.MarshalException,
          javax.mail.MessagingException,
          java.io.IOException
```

Parameters

Name	Type	Description
buildmbponly	Boolean	The object to be deserialized. The build MimeBodyPart does not return a byte array.

Return

byte array
Returns a byte array corresponding to a deserialized **OneMimeBodyPart** object; otherwise returns null.

unmarshal

Description

Deserializes the byte array passed into this object.

Syntax

```
public void unmarshal(byte[] abodyins)
   throws javax.mail.MessagingException,
          java.io.IOException
```

Parameters

Name	Type	Description
abodyins	byte array	The byte array to be deserialized into a OneMimeBodyPart object.

5.2.4 Class OneMimeBodyPart.NestedMultiPart

```
com.stc.eways.webETD
Class OneMimeBodyPart.NestedMultiPart
java.lang.Object
   com.stc.eways.webETD.OneMimeBodyPart.NestedMultiPart

Enclosing class:OneMimeBodyPart
public class OneMimeBodyPart.NestedMultiPart
extends java.lang.Object
```

OneMimeBodyPart.NestedMultiPart

Description

A constructor.

Syntax

```
public OneMimeBodyPart.NestedMultiPart()
```

setCurrIndex

Description

Sets the current index point.

Syntax

```
public void setCurrIndex(int i)
```

Parameters

Name	Type	Description
i	int	The index number for the nested multpart to be set.

Return

void

getSize

Description

Gets the size.

Syntax

```
public int getSize()
```

Parameters

None.

Return

integer
Returns the size of the object.

getPart

Description

Gets the part.

Syntax

```
public OneMimeBodyPart getPart()
```

Parameters

None.

Return

object
Returns the OneMimeBodyPart object.

---

unmarshal

Description

Deserializes the byte array passed into this object.

Syntax

```
public void unmarshal(byte[] bytearraybodyin)
   throws com.stc.jcsre.UnmarshalException,
          java.io.IOException,
          javax.mail.MessagingException
```

Parameters

Name	Type	Description
bytearraybodyin	byte array	The byte array to be deserialized into a OneMimeBodyPart object.

5.2.5 Class webReplyETD

```
java.lang.Object
   com.stc.jcsre.StimpleETDImpl
       com.stc.jcsre.MsgETDImpl
           com.stc.eways.webETD.webReplyETD

All Implemented Interfaces: com.stc.jcsre.ETD,
com.stc.jcsre.ETDConstansts
public class webReplyETD
extends com.stc.jcsre.MsgETDImpl
implements com.stc.jcsre.ETD
```

---

webReplyETD

Description

A constructor.

Syntax

```
public webReplyETD()
```

getJMSReplyTo

Description

Gets the **JMSReplyTo** field. This field s normally obtained from the corresponding **webRequestETD**.

Syntax

```
public java.lang.String getJMSReplyTo()
```

Parameters

None.

Return Values

java.lang.String
Returns the **JMSReplyTo** field.

setJMSReplyTo

Description

Sets the **JMSReplyTo** filed. This field is normally obtained from the corresponding **webRequestETD**.

Syntax

```
public void setJMSReplyTo(java.lang.String replyTo)
```

Parameters

Name	Type	Description
replyTo	java.lang.String	The JMSReplyTo field to set.

Return Values

void

send

Description

Overrides the super's send( ) method to work with the Java Messaging Service (JMS). You must call **setJMSReplyTo** before calling this method.

Syntax

```
public void send()
```

Parameters

None.

Return

void

Specified by

```
send in interface com.stc.jcsre.ETD
```

Overrides

```
send in class com.stc.jcsre.MsgETDImpl
```

getBody

Description

Gets the body of this reply, if the reply is of a discrete type (**text/plain, image/jpeg**).

Syntax

```
public Body getBody()
```

Parameters

None.

Return

Returns the body of this reply if the reply is discrete type, for example, **text/plain** or **image/jpeg**.

getContentType

Description

Gets the content type of this reply, as a **webETDContentType** object.

Syntax

```
public webETDContentType getContentType()
```

Parameters

None.

Return Values

object
Returns the **webETDContentType** object.

addHeader

Description

Adds a name-value pair as a new header to this reply.

Syntax

```
public void addHeader(java.lang.String name, java.lang.String value)
```

Parameters

Name	Type	Description
name	java.lang.String	The name string
value	java.lang.String	The value string

Return Values

void

setHeader

Description

Sets the name-value pair header. If the header name already exists, the associated value is overwritten.

Syntax

```
public void setHeader(java.lang.String name, java.lang.String value)
```

Parameters

Name	Type	Description
name	java.lang.String	The name of the header to set.
value	java.lang.String	The value to set for the header.

Return Values

void

getHeader

Description

Gets the first header line by the name and delimiter.

Syntax

```
public java.lang.String getHeader(java.lang.String name,
java.lang.String delim)
```

Parameters

Name	Type	Description
name	java.lang.String	The name of the header to get.
delim	java.lang.String	The delimiter.

Return Values

java.lang.String
Returns the first header line value.

getMultiParts

Description

Gets the value for the indexed part, provided it is multipart data.

Syntax

```
public OneMimeBodyPart getMultiParts(int index)
```

Parameters

Name	Type	Description
index	int	The index point for the part.

Return Values

object
Returns the value for the part as an object.

isMultipart

Description

Queries whether the request, originated as multipart data.

Syntax

```
public boolean isMultipart()
```

Parameters

None.

Return Values

Boolean
Returns **true** if the request originated as multipart data; otherwise returns **false**.

countMultiParts

Description

Counts the number of parts contained in the multipart body.

Syntax

```
public int countMultiParts()
```

Parameters

None.

Return Values

integer
Returns the number of parts.

---

marshal

Description

Serializes the object into a byte array.

Syntax

```
public byte[] marshal()
   throws com.stc.jcsre.MarshalException
```

Parameters

None.

Return Values

byte array
Returns a byte array of the serialized object.

Specified by

```
marshal in interface com.stc.jcsre.ETD
```

Overrides

```
marshal in class com.stc.jcsre.SimpleETDImpl
```

5.2.6 Class webRequestETD

```
java.lang.Object
   com.stc.jcsre.SimpleETDImpl
       com.stc.jcsre.MsgETDImpl
           com.stc.eways.webETD.webRequestETD

All Implemented Interfaces:
com.stc.jcsre.ETD, com.stc.jcsre.ETDConstants
public class webRequestETD
extends com.stc.jcsre.MsgETDImmpl
implements com.stc.jcsre.ETD
```

---

webRequestETD

Description

A constructor.

Syntax

```
public webRequestETD()
```

getJMSReplyTo

Description

Gets the **JMSReplyTo** for this Event.

Syntax

```
public java.lang.String getJMSReplyTo()
```

Parameters

None.

Return Values

java.lang.String
Returns the **JMSReplyTo** string.

getContentType

Description

Gets the **ContentType** object.

Syntax

```
public webETDContentType getContentType()
```

Parameters

None.

Return Values

object
Returns **webETDContentType** object.

getRequestMethod

Description

Gets request method string.

Syntax

```
public java.lang.String getRequestMethod()
```

Parameters

None.

Returns

java.lang.String
Returns the request method string.

getEnvironmentVariables

Description

Gets the environment variables object.

Syntax

```
public webRequestETD.EnvironmentVariables getEnvironmentVariables(int
    index)
```

Parameters

Name	Type	Description
index	int	The index point.

Return Values

object
Returns the **webRequestETD.EnvironmentVariable** object.

countEnvironmentVariables

Description

Counts the number of environment variables that are part of the SeeBeyond JMS property passed in. Each environment variable is a name-value pair, for example, **SERVER_PROTOCOL=HTTP/1.1**.

Syntax

```
public int countEnvironmentVariables()
```

Parameters

None.

Return Values

integer
Returns the number of environment variables.

getURLNameValueQueryPairs

Description

Gets the specified name-value pair, URL decoded.

Syntax

```
public webRequestETD.URLNameValueQueryPairs
    getURLNameValueQueryPairs(int index)
```

Parameters

Name	Type	Description
index	int	The index point.

Return Values

object
Returns the specified name-value pair.

isSingleBody

Description

Queries whether the request originated as **Application/x-www-urlencoded** data.

Syntax

```
public boolean isSingleBody()
```

Parameters

None.

Return Values

Boolean
Returns **true** if the original request was sent in **Application/x-www-urlencoded** format; otherwise returns **false**.

getBody

Description

Gets the body of this **webRequestETD**, provided the content type is discrete (**text/plain** or **image/jpeg**).

Syntax

```
public Body getBody()
```

Parameters

None.

Return Values

object
Returns the body of the **webRequestETD**.

isUrlencoded

Description

Queries whether the HTTP request (**Get**) is URL-encoded.

Syntax

```
public boolean isUrlencoded()
```

Parameters

None.

Return Value

Boolean
Returns **true** to indicate that the HTTP request (**Get**) is URL-encoded; otherwise returns **false**.

countURLNameValueQueryPairs

Description

Counts the number of environment variables.

Syntax

```
public int countURLNameValueQueryPairs()
```

Parameters

None.

Return Value

integer
Returns the number of environment variables.

getMultiParts

Description

Gets the specified part.

Syntax

```
public OneMimeBodyPart getMultiParts(int index)
```

Parameters

Name	Type	Description
index	int	The index point.

Return Values

object
Returns the **OneMimeBodyPart** object.

isMultipart

Description

Queries whether the request originated as multipart/form data.

Syntax

```
public boolean isMultipart()
```

Parameters

None.

Return Values

Boolean
Returns **true** if the request originated as multipart/form data; otherwise returns **false**.

countMultiParts

Description

Counts the number of MIME parts.

Syntax

```
public int countMultiParts()
```

Parameters

None.

Return Values

integer
Returns the number of MIME parts.

unmarshal

Description

Deserializes the byte array passed into this object.

Syntax

```
public void unmarshal(byte[] inputEvent)
   throws com.stc.jcsre.UnmarshalException
```

Parameters

Name	Type	Description
inputEvent	byte array	The input Event to be deserialized.

Return Values

void

Specified by

```
unmarshal in interface com.stc.jcsre.ETD
```

Overrides

```
unmarshal in class com.stc.jcsre.SimpleETDImpl
```

5.2.7 Class webETDContentType

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.webETDContentType

public class webETDContentType
extends java.lang.Object
```

---

webETDContentType

Description

A constructor.

Syntax

```
public webETDContentType()
```

---

unmarshal

Description

Deserializes an object input as a string.

Syntax

```
public void unmarshal(java.lang.String instr)
   throws javax.mail.internet.ParseException
```

Parameters

Name	Type	Description
instr	java.lang.String	The input as a string.

Return Values

void

---

toString

Description

Returns a string representation of the object.

Syntax

```
public java.lang.String toString()
```

Parameters

None.

Return Values

java.lang.String
Returns a string representation of the object.

Overrides

```
toString in class java.lang.Object
```

getPrimaryType

Description

Gets the primary type in a media type, such as, **text** in **text/plain**.

Syntax

```
public java.lang.String getPrimaryType()
```

Parameters

None.

Returns

java.lang.String
Returns the primary type as a string.

setPrimaryType

Description

Sets the primary type in the object, for example, **text** in **text/plain**.

Syntax

```
public void setPrimaryType(java.lang.String instr)
```

Parameters

Name	Type	Description
instr	java.lang.String	The primary type to set.

Return Value

void

getSubType

Description

Gets the sub-type in media type, for example, **plain** in **text/plain**.

Syntax

```
public java.lang.String getSubType()
```

Parameters

None.

Return Values

java.lang.String
Returns the sub-type in a media type.

setSubType

Description

Sets the sub-type in the object, for example, plain in **text/plain**.

Syntax

```
public void setSubType(java.lang.String instr)
```

Parameters

Name	Type	Description
instr	java.lang.String	The sub type to set.

Return Values

void

getCharSet

Description

Gets the **charSet** in a media type, for example, **EUC_JP**.

Syntax

```
public java.lang.String getCharSet()
```

Parameters

None.

Return Values

java.lang.String
Returns the **charSet** value.

setCharSet

Description

Sets the **charSet** in a media type, for example, **EUC_JP**.

Syntax

```
public void setCharSet(java.lang.String instr)
```

Parameters

Name	Type	Description
instr	java.lang.String	The charSet type to set.

Return Values

void

getMultipartBoundary

Description

Gets the boundary parameter for a content type.

Syntax

```
public java.lang.String getMultipartBoundary()
```

Parameters

None.

Return Values

java.lang.String
Returns the boundary parameter.

setMultipartBoundary

Description

Sets the boundary parameter in a content type.

Syntax

```
public void setMultipartBoundary(java.lang.String instr)
```

Parameters

Name	Type	Description
instr	java.lang.String	The boundary to set.

Return Values

void

getContentTransferEncoding

Description

Gets the content transfer-encoding parameter for a content type, for example, Base64.

Syntax

```
public java.lang.String getContentTransferEncoding()
```

Parameters

None.

Return Values

java.lang.String
Returns the content transfer-encoding parameter.

setContentTransferEncoding

Description

Sets the content transfer-encoding parameter in a content type, for example, Base64.

Syntax

```
public void setContentTransferEncoding(java.lang.String instr)
```

Parameters

Name	Type	Description
instr	java.lang.String	The content transfer-encoding to set.

Return Values

void

getContentTypeParameter

Description

Gets a specified parameter in a content type, for example, **ContentID**.

Syntax

```
public java.lang.String getContentTypeParameter(java.lang.String nm)
```

Parameters

Name	Type	Description
nm	java.lang.String	The name of the parameter to get.

Return Values

java.lang.String
Returns a parameter as a string.

setContentTypeParameter

Description

Sets the parameter value in a content type, for example, **ContentID**.

Syntax

```
public void setContentTypeParameter(java.lang.String nm,
                                    java.lang.String val)
```

Parameters

Name	Type	Description
nm	java.lang.String	The name of the parameter to set.
val	java.lang.String	The value to be set.

Return Values

void

marshal

Description

Serializes the object into a byte array.

Syntax

```
public byte[] marshal()
   throws com.stc.jcsre.MarshalException
```

Parameters

None.

Return Values

byte array
Returns a byte array of the serialized object.

5.2.8 Class webETDInternetHeaders

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.webETDInternetHeaders

public class webETDInternetHeaders
extends java.lang.Object
```

---

webETDInternetHeaders

Description

A constructor.

Syntax

```
public webETDInternetHeaders()
```

---

addHeader

Description

Adds a name-value pair header. The delimiter defaults.

Syntax

```
public void addHeader(java.lang.String nm,
                      java.lang.String val)
```

Parameters

Name	Type	Description
nm	java.lang.String	The name of the parameter to set.
val	java.lang.String	The value to be set.

Return Values

void

---

setHeader

Description

Sets a name-value pair header delimiter. If the header already exists, it is overwritten.

Syntax

```
public void setHeader(java.lang.String name,
                      java.lang.String value)
```

Parameters

Name	Type	Description
name	java.lang.String	The name of the parameter to set.
value	java.lang.String	The value to be set.

Return Values

void

getHeader

Description

Gets the value of a header and delimiter. If multiple header lines match, the first one is returned.

Syntax

```
public java.lang.String getHeader(java.lang.String nm,
                                  java.lang.String delim)
```

Parameters

Name	Type	Description
nm	java.lang.String	The name of the parameter to get.
delim	java.lang.String	The delimiter to get.

Return Values

java.lang.String
Returns the value of a header and delimiter. If multiple header lines match, the first one is returned.

getAsInternetHeaders

Description

Gets the headers as internet headers.

Syntax

```
public javax.mail.internet.InternetHeaders getAsInternetHeaders()
```

Parameters

None.

Return Values

object
Returns the headers as **javax.mail.internet.InternetHeaders**.

marshal

Description

Serializes the object into a byte array.

Syntax

```
public byte[] marshal()
   throws com.stc.jcsre.MarshalException
```

Parameters

None.

Return Values

byte array
Returns a byte array of the serialized object.

5.2.9 Class webReplyETD.ReplyMultiParts

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.webReplyETD.ReplyMultiParts

Enclosing class:
webReplyETD
   public class webReplyETD.ReplyMultiParts
extends java.lang.Object
```

webReplyETD.ReplyMultiParts

Description

A constructor.

Syntax

```
public webReplyETD.ReplyMultiParts()
```

setCurrIndex

Description

Sets the current index.

Syntax

```
public void setCurrIndex(int i)
```

Parameters

Name	Type	Description
i	int	The index point to set.

Return Values

void

getSize

Description

Gets the size of the part.

Syntax

```
public int getSize()
```

Parameters

None.

Return Values

integer
Returns the size of the part.

getPart

Description

Gets the **OneMimeBodyPart** object.

Syntax

```
public OneMimeBodyPart getPart()
```

Parameters

None.

Return Values

object
Returns the **OneMimeBodyPart** object.

marshal

Description

Serializes the object into a byte array, based on the content type.

Syntax

```
public byte[] marshal(webETDContentType topcontenttype)
   throws com.stc.jcsre.MarshalException
```

Parameters

Name	Type	Description
topcontenttype	webETDContentType	The webETDContentType object.

Return Values

byte array
Returns a byte array of the serialized object.

5.2.10 Class webRequestETD.EnvironmentVariables

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.webRequestETD.EnvironmentVariables

Enclosing class:
   webRequestETD
public class webRequestETD.EnvironmentVariables
extends java.lang.Object
```

---

webRequestETD.EnvironmentVariables

Description

A constructor.

Syntax

```
public webRequestETD.EnvironmentVariables()
```

---

setCurrIndex

Description

Sets the current index point.

Syntax

```
public void setCurrIndex(int i)
```

Parameters

Name	Type	Description
i	int	The index point to set.

Return Values

void

addEnvVarPair

Description

Adds an environmental variable pair.

Syntax

```
protected void addEnvVarPair(NameValue newpair)
```

Parameters

Name	Type	Description
newpair	NameValue	The name value object to be added.

Return Values

void

getSize

Description

Gets the size of the variable.

Syntax

```
public int getSize()
```

Parameters

None.

Return Values

integer
Returns the size of the variable.

getName

Description

Gets the name of the variable.

Syntax

```
public java.lang.String getName()
```

Parameters

None.

Return Values

java.lang.String
Returns the name of this environment variable.

---

getValue

Description

Gets the value of the variable.

Syntax

```
public java.lang.String getValue()
```

Parameters

None.

Return Values

java.lang.String
Returns the value for the environment variable.

5.2.11 Class webRequestETD.MultiParts

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.webRequestETD.MultiParts

Enclosing class:
webRequestETD
public class webRequestETD.MultiParts
extends java.lang.Object
```

---

webRequestETD.MultiParts

Description

A constructor.

Syntax

```
public webRequestETD.MultiParts()
```

---

setCurrIndex

Description

Sets the current index point.

Syntax

```
public void setCurrIndex(int i)
```

Parameters

Name	Type	Description
i	int	The index point to set.

Return Values

void

getSize

Description

Gets the size of the part.

Syntax

```
public int getSize()
```

Parameters

None.

Return Values

integer
Returns the size of the part.

unmarshal

Description

Deserializes the byte array passed into this object.

Syntax

```
public void unmarshal(byte[] bytearraybodyin)
   throws com.stc.jcsre.UnmarshalException,
          java.io.IOException,
          javax.mail.MessagingException
```

Parameters

Name	Type	Description
bytearraybodyin	byte array	The object to be deserialized.

Return Values

void

---

getPart

Description

Gets the part.

Syntax

```
public OneMimeBodyPart getPart()
```

Parameters

None.

Return Values

object
Returns the **OneMimeBodyPart** object.

5.2.12 Class webRequestETD.URLNameValueQueryPairs

```
com.stc.eways.webETD
java.lang.Object
   com.stc.eways.webETD.webRequestETD.URLNameValueQueryPairs

Enclosing class:
webRequestETD
public class webRequestETD.URLNameValueQueryPairs
extends java.lang.Object
```

---

webRequestETD.URLNameValueQueryPairs

Description

A constructor.

Syntax

```
public webRequestETD.URLNameValueQueryPairs()
```

---

getSize

Description

Gets the size of the name-value pair.

Syntax

```
public int getSize()
```

Parameters

None.

Return Values

integer
Returns the size of the name-value pair.

getName

Description

Gets the name of the name-value pair.

Syntax

```
public java.lang.String getName()
```

Parameters

None.

Return Values

java.lang.String
Returns the name of the name-value pair.

getValue

Description

Gets the value for the name-value pair.

Syntax

```
public java.lang.String getValue()
```

Parameters

None.

Return Values

java.lang.String
Returns the value for the name-value pair.

setCurrIndex

Description

Sets the current index point.

Syntax

```
public void setCurrIndex(int i)
```

Parameters

Name	Type	Description
i	int	The index point to set.

Return Values

void

---

unmarshal

Description

Separates the URL-encoded string into name-value pairs.

Syntax

```
public void unmarshal(java.lang.String urlencodedstring)
   throws com.stc.jcsre.UnmarshalException
```

Parameters

Name	Type	Description
urlencodedstring	java.lang.String	The string to be broken down into a name-value pair.

Return Values

void

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