

**SeeBeyond™ eBusiness Integration Suite**

# e\*Way Intelligent Adapter for Siebel EIM User's Guide

*Release 4.5.4*

*Monk Version*



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# Contents

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<b>Preface</b>	<b>9</b>
Intended Reader	9
Organization	9
Nomenclature	10
Online Viewing	10
Writing Conventions	10
Additional Information	11
<hr/>	
<b>Chapter 1</b>	
<b>Introduction</b>	<b>12</b>
Overview	12
System Features	12
Database Access	12
Interface Monitoring	12
System Alerts	13
Transactional Alerts	13
Auditing	13
Communicating with Siebel	14
Siebel EIM	14
IFB Control File	14
e*Way Operation	15
Siebel to e*Gate	15
e*Gate to Siebel	16
e*Way Components	17
e*Way Availability	18
<hr/>	
<b>Chapter 2</b>	
<b>Installation</b>	<b>19</b>
System Requirements	19
Environment Configuration	19

<b>External System Requirements</b>	<b>20</b>
Siebel	20
RDBMS	20
<b>External Configuration Requirements</b>	<b>20</b>
<b>Installing the e*Way</b>	<b>21</b>
Windows Systems	21
Installation Procedure	21
Subdirectories and Files	23
UNIX Systems	24
Installation Procedure	24
Subdirectories and Files	25
<b>Optional Example Files</b>	<b>26</b>
Installation Procedure	26
Subdirectories and Files	27
Siebel 99	27
Siebel 2000	28
Siebel 7	29

---

## Chapter 3

<b>System Implementation</b>	<b>31</b>
<b>Overview</b>	<b>31</b>
Implementation Sequence	32
Viewing e*Gate Components	32
<b>Creating a Schema</b>	<b>33</b>
<b>Creating Event Types</b>	<b>34</b>
<b>Creating Event Type Definitions</b>	<b>35</b>
Obtaining the Siebel Data Structure	35
Interface Table Names	36
Using the ETD Editor's Build Tool	36
Assigning ETDs to Event Types	37
<b>Defining Collaborations</b>	<b>39</b>
Using the Collaboration Rules Editor	40
<b>Creating Intelligent Queues</b>	<b>40</b>
<b>Auditing</b>	<b>41</b>
Error logging—Inbound to Siebel	41
Error logging—Outbound from Siebel	41
Journaling	41
<b>Known Issues and Limitations</b>	<b>42</b>
<b>Sample Schema</b>	<b>42</b>
Siebel_EIM_Extract	43
Components	43
Event Types	43
Collaborations (Siebel Extract)	44
Collaborations (Database Access)	45

Siebel_EIM_Post	47
Components	47
Event Types	47
Collaborations (Original Post)	48
Collaborations (Error Returned)	49
Collaborations (Post Corrected Error)	50
Collaborations (Error Returned Again)	51
Collaborations (Database Access)	52
Account Post (Corrected Error)	54

## Chapter 4

<b>Setup Procedures</b>	<b>57</b>
Overview	57
Setting Up the e*Way	58
Creating the e*Way	58
Modifying e*Way Properties	59
Configuring the e*Way	60
Using the e*Way Editor	61
Section and Parameter Controls	62
Parameter Configuration Controls	62
Command-line Configuration	63
Getting Help	63
Changing the User Name	64
Setting Startup Options or Schedules	64
Activating or Modifying Logging Options	66
Activating or Modifying Monitoring Thresholds	67
Troubleshooting the e*Way	68
Configuration Problems	68
System-related Problems	69

## Chapter 5

<b>Operational Overview</b>	<b>70</b>
Siebel EIM	70
IFB Control File	72
e*Way-Siebel Interaction	73
Siebel to e*Gate	73
Process Flow	73
Processing Logic	74
e*Gate to Siebel	75
Process Flow	75
Processing Logic	77
e*Way Architecture	79
Basic e*Way Processes	81
Initialization Process	82
Connect to External Process	83

Data Exchange Process	84
Disconnect from External Process	87
Shutdown Process	87

---

## Chapter 6

### **Configuration Parameters 88**

#### **Overview 88**

#### **General Settings 89**

Journal File Name	89
Max Resends Per Message	89
Max Failed Messages	89
Forward External Errors	90

#### **Communication Setup 91**

Start Exchange Data Schedule	91
Stop Exchange Data Schedule	92
Exchange Data Interval	92
Down Timeout	92
Up Timeout	93
Resend Timeout	93
Zero Wait Between Successful Exchanges	93

#### **Monk Configuration 94**

Specifying Function or File Names	94
Specifying Multiple Directories	94
Load Path	94
Additional Path	94
Auxiliary Library Directories	95
Monk Environment Initialization File	95
Startup Function	96
Process Outgoing Message Function	96
Exchange Data with External Function	97
External Connection Establishment Function	98
External Connection Verification Function	98
External Connection Shutdown Function	99
Positive Acknowledgment Function	99
Negative Acknowledgment Function	100
Shutdown Command Notification Function	101

#### **Siebel Server 102**

Siebel Version	102
Database Client Connectivity	102
Database Host Name	102
Database Table Owner	103
Database User Name	103
Database Password	103
Gateway Server	103
Enterprise Server Name	103
Administrator User Name	104
Administrator Password	104
Name	104
Path to Siebel Server	104

#### **Siebel System Functions 105**

Batch Number	105
IFB Filename	105
Auto-Generate IFB File	105
IFB Generation Function	106

Database Interface Function	106
Post-Process Function	106
<b>Siebel System Import</b>	<b>107</b>
Continue on Insert Error	107
Siebel State File	107
<b>Siebel System Export</b>	<b>109</b>
Last Time of Export File	109
Siebel State File	109

## Chapter 7

<b>API Functions</b>	<b>110</b>
<b>Overview</b>	<b>110</b>
<b>Siebel IFB Functions</b>	<b>111</b>
siebel-eim-create-ifb	111
siebel-eim-create-ifb_entry	111
siebel-eim-run-eim	112
<b>Siebel Server Connection Functions</b>	<b>113</b>
siebel-eim-server-capture	113
siebel-eim-server-start-task	113
siebel-eim-server-task-state	114
siebel-eim-server-task-status	114
<b>Siebel Utility Functions</b>	<b>116</b>
stripout-string	116
db-systemtime	116
siebel-eim-get-last-exported-time	117
siebel-eim-set-last-exported-time	117
siebel-eim-get-import-state	118
siebel-eim-set-import-state	118
return-path	119
<b>e*Way Initialization Functions</b>	<b>120</b>
siebel-eim	120
siebel-eim-init	120
siebel-eim-startup	121
siebel-eim-shutdown	121
siebel-eim-external-db-connection	122
siebel-eim-verify-db-connect	122
siebel-eim-check-connect	122
siebel-eim-external-connection-establishment	123
siebel-eim-ack	123
siebel-eim-nack	124
siebel-eim-process-outgoing-message	125
siebel-eim-exchange-data	125
siebel-eim-return-empty-string	125
<b>Generic e*Way Functions</b>	<b>127</b>
event-commit-to-egate	127
event-rollback-to-egate	128
event-send-to-egate	128
event-send-to-egate-ignore-shutdown	129
event-send-to-egate-no-commit	129
get-logical-name	130
insert-exchange-data-event	130
send-external-up	131
send-external-down	131
shutdown-request	132

## Contents

start-schedule	132
stop-schedule	133
waiting-to-shutdown	133

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## Index

134



# Preface

This Preface contains information regarding the User's Guide itself.

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## P.1 Intended Reader

The reader of this guide is presumed to be a developer or system administrator with responsibility for maintaining the SeeBeyond™ e\*Gate™ Integrator system, and have a working knowledge of:

- Operation and administration of the appropriate operating systems (see [e\\*Way Availability](#) on page 18)
- Windows-style GUI operations
- Siebel 5, 6, or 7 (Front Office 99, 2000, or 7.0) and Siebel Enterprise Integration Manager (EIM)

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## P.2 Organization

This User's Guide is organized into two parts. The first part, consisting of Chapters 1-4, introduces the e\*Way and describes the procedures for installing the e\*Way and implementing a working system incorporating the e\*Way. Chapter 3 also contains descriptions of the sample schemas provided with the product. These can be used to test your system following installation and, if appropriate, as templates you can modify to produce your own custom schemas. This part should be of particular interest to a System Administrator or other user charged with the task of getting the system up and running.

The second part, consisting of Chapters 5-7, describes the architecture and internal functionality of the e\*Way. This part should be of particular interest to a Developer involved in customizing the e\*Way for a specific purpose. Information contained in this part that is necessary for the initial setup of the e\*Way is cross-referenced in the first part of the guide, at the appropriate points in the procedures.

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## P.3 Nomenclature

Note that for purposes of brevity, the e\*Way Intelligent Adapter for Siebel EIM is frequently referred to as the Siebel EIM e\*Way, or simply the e\*Way.

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## P.4 Online Viewing

This User's Guide is provided in Adobe Acrobat's Portable Document Format (PDF). As such, it can be printed out on any printer or viewed online. When viewing online, you can take advantage of the extensive hyperlinking imbedded in the document to navigate quickly throughout the Guide.

Hyperlinking is available in:

- The Table of Contents
- The Index
- Within the chapter text, indicated by **blue print**

Existence of a hyperlink *hotspot* is indicated when the hand cursor points to the text. Note that the hotspots in the Index are the *page numbers*, not the topics themselves. Returning to the spot you hyperlinked from is accomplished by right-clicking the mouse and selecting **Go To Previous View** on the resulting menu.

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## P.5 Writing Conventions

The writing conventions listed in this section are observed throughout this document.

### Monospaced (Courier) Font

Computer code and text to be typed at the command line are set in Courier as shown below:

```
Configuration for BOB_Promotion
java -jar ValidationBuilder.jar
```

Variables within a command line, or attributes within a function signature, are set within brackets <> as shown below:

```
stcregutl -rh <host-name> -un <user-name> -up <password> -sf
```

### Bold Sans-serif Font

- User Input: Click **Apply** to save, or **OK** to save and close.
- File Names and Paths: In the **Open** field, type **D:\setup\setup.exe**.
- Parameter, Function, and Command Names: The default parameter **localhost** is normally only used for testing; the Monk function **iq-put** places an Event into an IQ.

---

## P.6 Additional Information

- Many of the procedures included in this User's Guide are described in greater detail in the *e\*Gate Integrator User's Guide*.
- For information on the File e\*Way, see the *Standard e\*Way Intelligent Adapters User's Guide*
- For information on the ODBC e\*Way, see the *e\*Way Intelligent Adapter for JDBC/ODBC User's Guide*
- For information on the Oracle e\*Way, see the *e\*Way Intelligent Adapter for Oracle User's Guide*
- For information on the Sybase e\*Way, see the *e\*Way Intelligent Adapter for Sybase User's Guide*
- For details regarding Siebel EIM, see the *Siebel Administration Guide*

# Introduction

---

## 1.1 Overview

The e\*Way Intelligent Adapter for Siebel EIM provides connectivity between e\*Gate and Siebel Front Office using the Enterprise Integration Manager (EIM). It provides an inbound and outbound batch interface option to or from another system, through e\*Gate. See [e\\*Way Availability](#) on page 18 for Siebel version support.

The e\*Way serves as the central command center for the entire interface process. It provides a development environment that allows automatic Event Type Definition of Siebel's interface tables to provide easy, drag-and-drop Collaborations between Siebel and virtually any other application. The Siebel EIM e\*Way is designed to generate all **.ifb** file definitions, providing the ability to control the entire interface from one source.

Also provided is an execution environment that oversees Siebel's EIM processes and dynamically creates Siebel EIM configuration files. It incorporates detailed error logs, bad-Event journalling, and reprocessing capabilities for the failed imported records during operation of the Siebel Enterprise Integration Manager. All Application Logic and Business Rules are enforced using Siebel EIM.

### 1.1.1 System Features

#### Database Access

The e\*Way Intelligent Adapter for Siebel EIM uses elements of the e\*Way Intelligent Adapter for ODBC to communicate with the Siebel database. Alternatively, the e\*Way Intelligent Adapter for Oracle can be used to furnish the necessary elements.

#### Interface Monitoring

The Siebel EIM provides error messages, which are stored in a flat file on the Application Server. This file can be read via the Siebel Administration Screen.

Siebel-specific monitoring capabilities are custom log files created during processing. All errors encountered during EIM processing are captured in a log file to be viewed, fixed and reprocessed.

## System Alerts

Typically a third party product is used to monitor the Process Identification Numbers (PID) on the Siebel Server to notify administrators if the system or process goes down. The e\*Gate Monitor tracks the flow of PIDs, which are below the NT service level, to ensure that crucial process are running properly.

## Transactional Alerts

Transactional alerts pertain to errors that occur during the processing of any customized pieces on both the Siebel and e\*Gate side. In Siebel this pertains to errors which occur during the failure of any SQL statements, looping through internal tables and other logic errors during the EIM export. In e\*Gate, transactional errors pertain to any errors which may occur during the business rules configured in e\*Gate.

If an error occurs in either the Siebel export, or in e\*Gate, the e\*Gate Monitor can be configured to display any error Events.

## Auditing

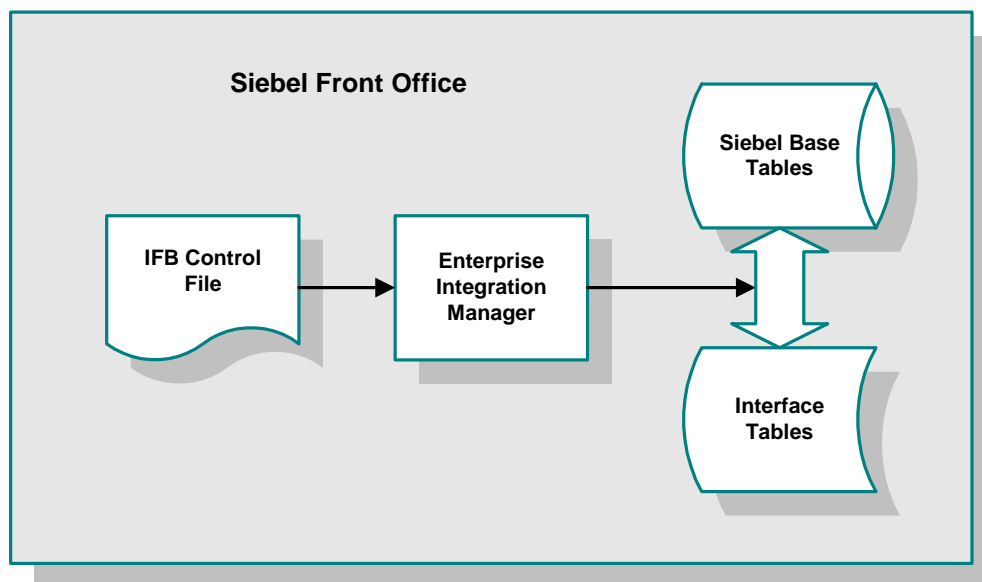
Error counts and totals are returned to the e\*Way through variables. When a non-zero return code is given, these errors are written to the standard e\*Way error logs.

## 1.2 Communicating with Siebel

### 1.2.1 Siebel EIM

The Siebel Enterprise Integration Manager is the first step in exporting, and the last step in importing, data. The database consists of two main groups of tables, interface tables and base tables. The Siebel client application communicates directly with the highly normalized base tables. The interface tables are used as a staging area for importing, exporting, deleting and merging logical groups of data. Each interface table represents a subset of the data in a specific base table.

**Figure 1** Siebel Enterprise Integration Manager



When run, EIM coordinates the transfer of data between the base and interface tables. In addition, EIM creates and writes codes and row IDs to the base tables that directly correspond to the complex set of business rules used by the Siebel client application to display data. The EIM process must run on the server also running the Transaction Processor.

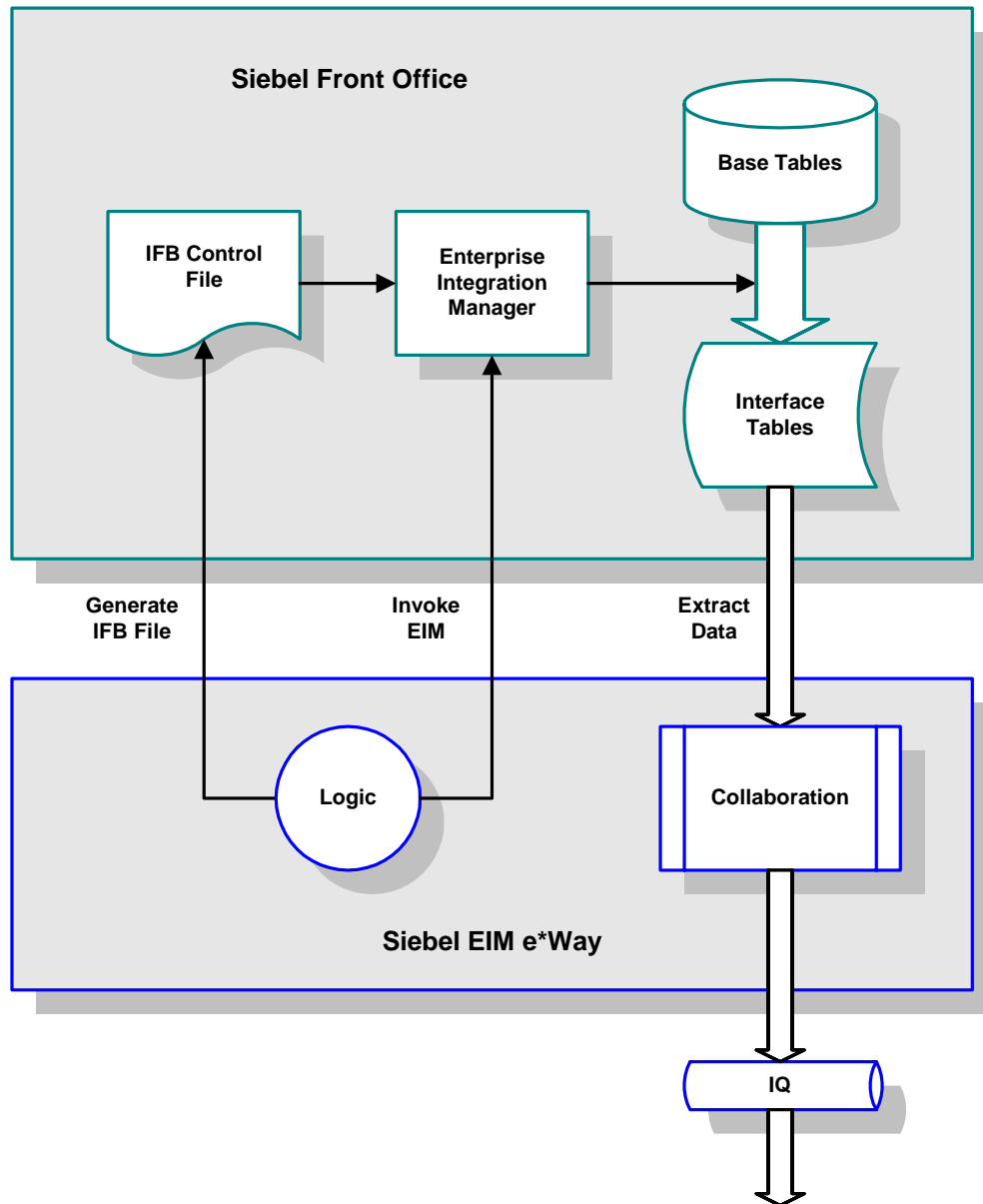
### 1.2.2 IFB Control File

A control file (\*.ifb) is used to determine what data types are loaded and how. The control file follows a certain format—it tells the interface how to log into the database and what process to run. It also lists the columns that the interface does *not* populate (in Siebel-inbound mode), thus preventing erroneous error messages. The IFB control file can be generated automatically by the e\*Way or created manually, as configured by the user.

## 1.3 e\*Way Operation

### 1.3.1 Siebel to e\*Gate

**Figure 2** Siebel-to-e\*Gate Process Flow

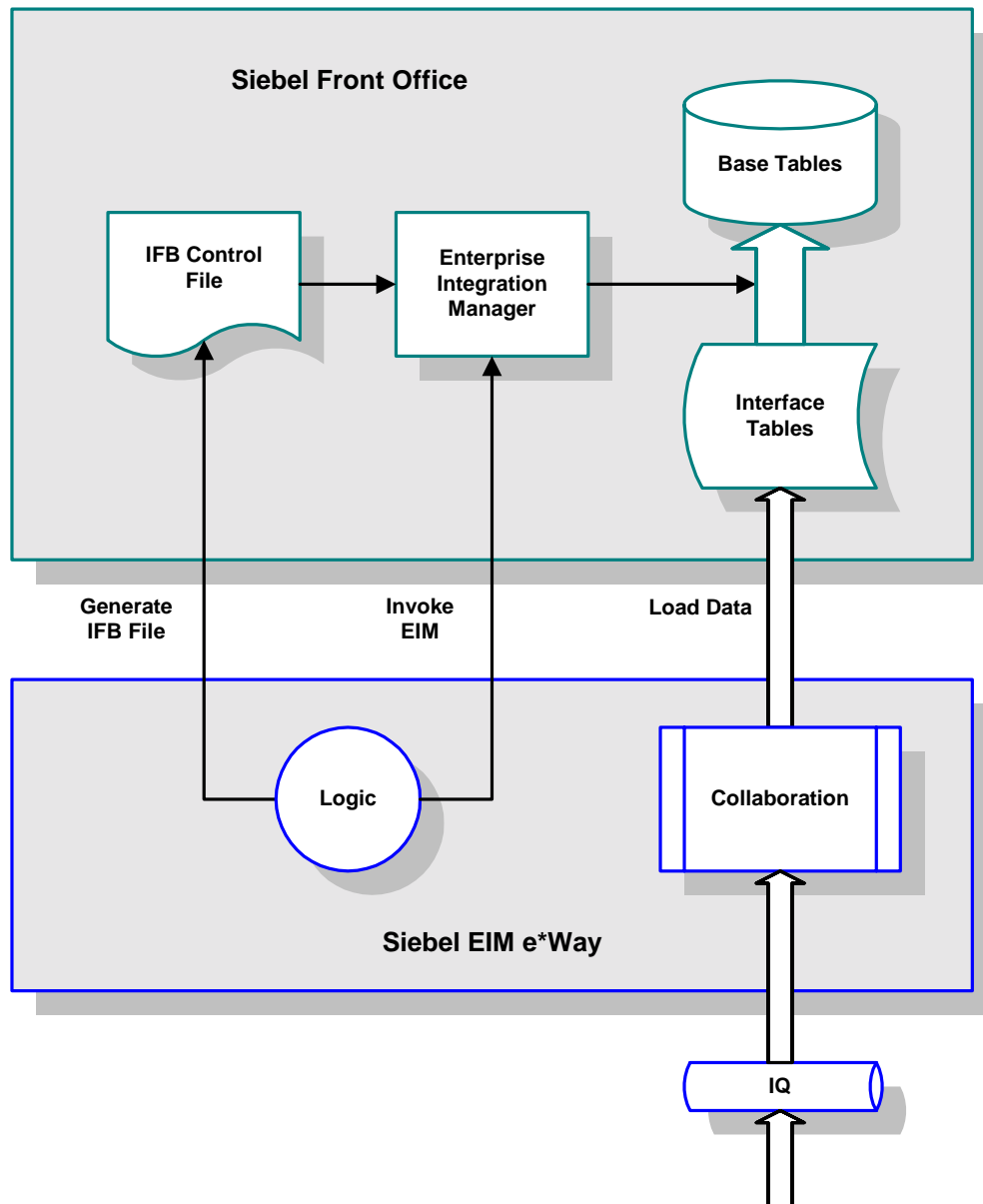


Following a prescribed schedule, the Siebel EIM e\*Way sends an IFB file and invokes the Siebel EIM process. Following the definitions in the IFB control file, the EIM copies data from the Siebel Base Tables into the Interface Tables. The e\*Way extracts the data from the Interface Tables and maps it into the desired Event Type Definition. The data

then is passed to an Intelligent Queue for subsequent processing and/or routing to the target application by other e\*Gate components.

### 1.3.2 e\*Gate to Siebel

**Figure 3** e\*Gate-to-Siebel Process Flow



Following a prescribed schedule, the Siebel EIM e\*Way extracts information from an e\*Gate Intelligent Queue. The e\*Way generates an IFB control file and sends it to Siebel. It then inserts validated rows of data into the interface table. Records that do not successfully load into the interface table are written to an error file for reprocessing. After the interface tables are populated, the e\*Way initiates the Siebel EIM to load the data from the Interface Tables to the Siebel Base Tables.



---

## 1.4 e\*Way Components

The Siebel EIM e\*Way incorporates the following primary components:

- The Generic Monk e\*Way executable (installed as part of e\*Gate Integrator):
  - ♦ `stcewgenericmonk.exe`
- Dynamic Load Libraries, which extend the Generic Monk executable file to form the Siebel EIM e\*Way:
  - ♦ `stc_monksiebeleim.dll` (for Windows systems)
  - ♦ `stc_monkpipes.dll` (for UNIX systems)
- A configuration definition file:
  - ♦ `SiebelEim.def`
- Monk function scripts and library files, discussed in [Chapter 7](#)

For a list of installed files, see [Chapter 2](#).

## 1.5 e\*Way Availability

The e\*Way Intelligent Adapter for Siebel EIM currently supports the following combinations of operating systems and Siebel versions.

### English

**Table 1** English-language Version

Operating System	Siebel Server			Siebel Front Office			
	5.0	6.0	7.0	99.5	99.6	2000	7.0
Windows XP	X	X	X	X	X	X	X
Windows 2000 SP1	X	X	X	X	X	X	X
Windows 2000 SP2	X	X	X	X	X	X	X
Windows NT 4.0 SP6a	X	X	X	X	X	X	X
Solaris 2.6	-	-	X	-	-	-	X
Solaris 7	-	-	X	-	-	-	X
Solaris 8	-	-	X	-	-	-	X
AIX 4.3.3	-	-	X	-	-	-	X
AIX 5.1	-	-	X	-	-	-	X

### Japanese

**Table 2** Japanese-language Version

Operating System	Siebel Server			Siebel Front Office			
	5.0	6.0	7.0	99.5	99.6	2000	7.0
Windows 2000 SP1 (Japanese)	X	X	X	-	-	X	X
Windows 2000 SP2 (Japanese)	X	X	X	-	-	X	X
Windows NT 4.0 SP6a (Japanese)	X	X	X	-	-	X	X

# Installation

This chapter describes the requirements and procedures for installing the e\*Way software. Procedures for implementing a working system, incorporating instances of the e\*Way, are described in [Chapter 3](#).

**Note:** Please read the *readme.txt* file located in the *addons\ewsiebeleim* directory on the installation CD-ROM for important information regarding this installation.

---

## 2.1 System Requirements

To use the e\*Way Intelligent Adapter for Siebel EIM, you need the following:

- 1 An e\*Gate Participating Host, version 4.5.1 or later. For Windows XP operating systems, an e\*Gate Participating Host, version 4.5.3. or later.
- 2 A TCP/IP network connection.
- 3 Sufficient free disk space to accommodate e\*Way files:
  - ♦ Approximately 7.7 MB on Windows systems
  - ♦ Approximately 6.5 MB on Solaris systems
  - ♦ Approximately 6.7 MB s on AIX systems

Additional disk space is required to process and queue the data that this e\*Way processes; the amount necessary varies, based on the type and size of the data being processed, and any external applications performing the processing.

**Note:** It is not necessary to install the e\*Gate components on the Siebel Application server; however, the e\*Way must have access to the Siebel File system.

### 2.1.1 Environment Configuration

No changes are required to the Participating Host's operating environment to support this e\*Way.

---

## 2.2 External System Requirements

### 2.2.1 Siebel

To use the e\*Way Intelligent Adapter for Siebel EIM, you need compatible versions of the following. Please see the *Siebel System Requirements and Supported Platforms* document for the version of Siebel you are using (see also [e\\*Way Availability](#) on page 18).

#### English

- Siebel Server 5.0, 6.0, or 7.0
- Siebel Front Office 99.5, 99.6, 2000, or 7.0

#### Japanese

- Siebel Server 5.0, 6.0, or 7.0
- Siebel Front Office 2000

**Note:** *If you are using a non-English version of Siebel, you need to modify the Monk function `siebel-eim-run-eim.monk`. See [Siebel IFB Functions](#) on page 111.*

### 2.2.2 RDBMS

To use the e\*Way Intelligent Adapter for Siebel EIM, you need one of the following relational database management systems:

- ODBC
- Oracle
- Sybase

Please see the *Siebel System Requirements and Supported Platforms* document for the version of Siebel you are using.

---

## 2.3 External Configuration Requirements

Most installations of Siebel applications require some customization of the Data Model to meet the client's specific requirements. We assume that any customization of Siebel required for your implementation has been performed previous to the installation of e\*Gate. No special configuration of the Siebel application is required to interface with e\*Gate.

## 2.4 Installing the e\*Way

### 2.4.1 Windows Systems

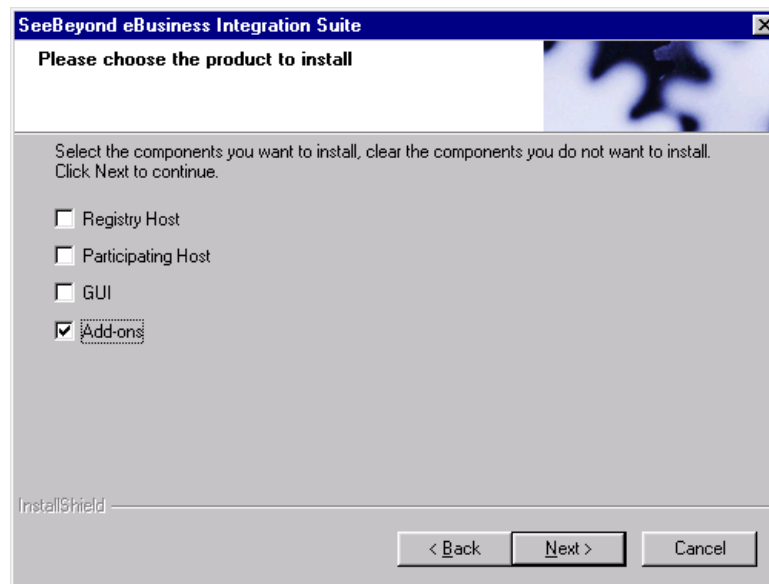
#### Installation Procedure

**Note:** *The installation utility detects and suggests the appropriate installation directory. Use this directory unless advised otherwise by SeeBeyond.*

#### To Install the e\*Way on a Microsoft Windows System

- 1 Log in as an Administrator on the workstation on which you want to install the e\*Way (you must have Administrator privileges to install this e\*Way).
- 2 Exit all Windows programs and disable any anti-virus applications before running the setup program.
- 3 Insert the e\*Way installation CD-ROM into the CD-ROM drive.
- 4 Launch the setup program.
  - A If the CD-ROM drive's Autorun feature is enabled, the setup program should launch automatically. Follow the on-screen instructions until the **Choose Product** dialog box appears (see Figure 4). Check **Add-ons**, then click **Next**.

**Figure 4** Choose Product Dialog

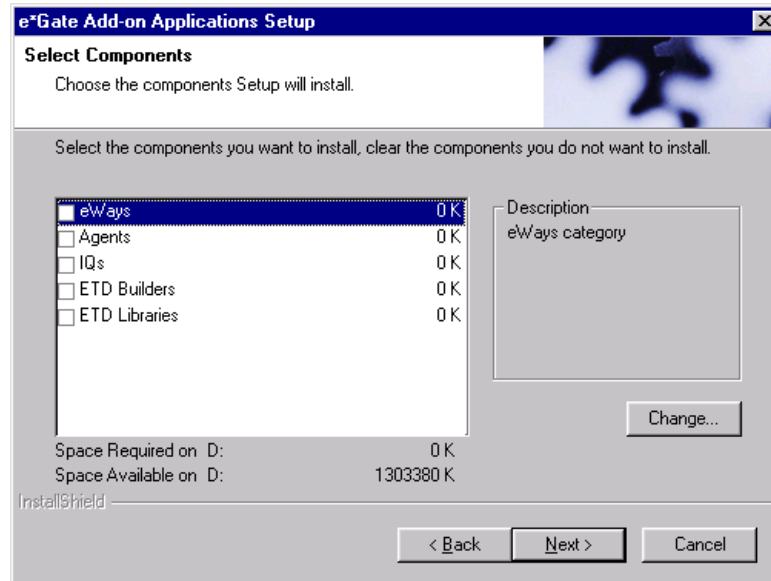


- B If the setup program does not launch automatically, use the Windows Explorer or the Control Panel's **Add/Remove Applications** feature to launch the following file on the CD-ROM drive (bypassing the **Choose Product** dialog):

setup\addons\setup.exe

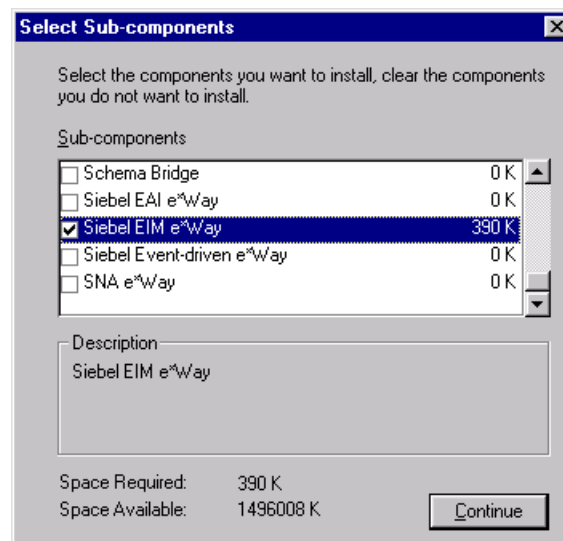
- 5 Follow the on-screen instructions until the **Select Components** dialog box appears (see Figure 5). Highlight—but do not check—**eWays** and then click **Change**.

**Figure 5** Select Components Dialog



- 6 When the **Select Sub-components** dialog box appears (see Figure 6), check the **Siebel EIM e\*Way**.

**Figure 6** Select e\*Way Dialog



- 7 Click **Continue**, and the **Select Components** dialog box reappears, showing your selection. Note that several database e\*Ways are also listed.
- 8 Click **Next** and continue with the installation.

## Subdirectories and Files

**Note:** *Installing the e\*Way Intelligent Adapter for Siebel EIM installs both Java and Monk versions, and also elements of several database e\*Ways. Only the files used by the Monk version of the Siebel EIM e\*Way are listed in this section. The files installed for the other e\*Ways are listed in their respective User's Guides.*

By default, the InstallShield installer creates the following subdirectories and installs the following files within the \eGate\client tree on the Participating Host, and the \eGate\Server\registry\repository\default tree on the Registry Host.

**Table 3** Participating Host & Registry Host

Subdirectories	Files
\bin\	stc_monksiebeleim.dll
\configs\stcewgenericmonk\	SiebelEim.def siebelEim3.6To4.1Rule.txt
\monk_library\	ewsiebeleim.gui
\monk_library\ewsiebeleim\	CaptureProcessOutput.monk popen-layer.monk Siebel_EIM_server_tasks.ssc Siebel_EIM_server_tasks_2000.ssc Siebel_IFB.ssc siebel-eim-create-ifb.monk siebel-eim-init.monk siebel-eim-run-eim.monk siebel-eim-server-capture.monk siebel-eim-utils.monk siebel-eim.monk

**Note:** *If you are using a non-English version of Siebel, you need to modify the Monk function `siebel-eim-run-eim.monk`. See [Siebel IFB Functions](#) on page 111.*

By default, the InstallShield installer also installs the following file within the \eGate\Server\registry\repository\default tree on the Registry Host.

**Table 4** Registry Host Only

Subdirectories	Files
\	stcewsiebeleim.ctl

## 2.4.2 UNIX Systems

### Installation Procedure

**Note:** *You are not required to have root privileges to install this e\*Way. Log on under the user name that you wish to own the e\*Way files. Be sure that this user has sufficient privilege to create files in the e\*Gate directory tree.*

- 1 Log onto the workstation containing the CD-ROM drive and, if necessary, mount the drive.
- 2 Insert the e\*Way installation CD-ROM into the CD-ROM drive.
- 3 At the shell prompt, type  

```
cd /cdrom
```
- 4 Start the installation script by typing:  

```
setup.sh
```
- 5 A menu appears, containing several options. Select the **Install e\*Way** option, and follow any additional on-screen directions.

**Note:** *The installation utility detects and suggests the appropriate installation directory. Use this directory unless advised otherwise by SeeBeyond. Note also that **no spaces** should appear in the installation path name.*



## Subdirectories and Files

**Note:** *Installing the e\*Way Intelligent Adapter for Siebel EIM installs both Java and Monk versions, and also elements of several database e\*Ways. Only the files used by the Monk version of the Siebel EIM e\*Way are listed in this section. The files installed for the other e\*Ways are listed in their respective User's Guides.*

The preceding installation procedure creates the following subdirectories and installs the following files within the /eGate/client tree on the Participating Host, and the /eGate/Server/registry/repository/default tree on the Registry Host.

**Table 5** Participating Host & Registry Host

Subdirectories	Files
/bin/	stc_monkpipes.dll
/configs/stcewgenericmonk/	SiebelEim.def siebelEim3.6To4.1Rule.txt
/monk_library/	ewsiebeleim.gui
/monk_library/ewsiebeleim/	CaptureProcessOutput.monk popen-layer.monk Siebel_EIM_server_tasks.ssc Siebel_EIM_server_tasks_2000.ssc Siebel_IFB.ssc siebel-eim-create-ifb.monk siebel-eim-init.monk siebel-eim-run-eim.monk siebel-eim-server-capture.monk siebel-eim-utils.monk siebel-eim.monk

The preceding installation procedure also installs the following file only within the /eGate/Server/registry/repository/default tree on the Registry Host.

**Table 6** Registry Host Only

Subdirectories	Files
/	stcewsiebeleim.ctl

## 2.5 Optional Example Files

The installation CD-ROM contains sample schema, **Siebel\_EIM\_Post** and **Siebel\_EIM\_Extract**, located in the **samples\ewsiebeleim** directory. To use a schema, you must load it onto your system using the following procedure. See **Sample Schema** on page 42 for descriptions of the sample schema and instructions regarding its use.

Two versions of each schema are provided:

- **Siebel\_EIM\_Post** (Siebel-inbound e\*Way example)
  - ◆ Use **Siebel\_EIM\_Post.zip** for Siebel 99
  - ◆ Use **Siebel\_EIM\_Post\_2000.zip** for Siebel 2000
  - ◆ Use **Siebel7\_EIM\_Post.zip** for Siebel 7
- **Siebel\_EIM\_Extract** (Siebel-outbound e\*Way example)
  - ◆ Use **Siebel\_EIM\_Extract.zip** for Siebel 99
  - ◆ Use **Siebel\_EIM\_Extract\_2000.zip** for Siebel 2000
  - ◆ Use **Siebel7\_EIM\_Extract.zip** for Siebel 7

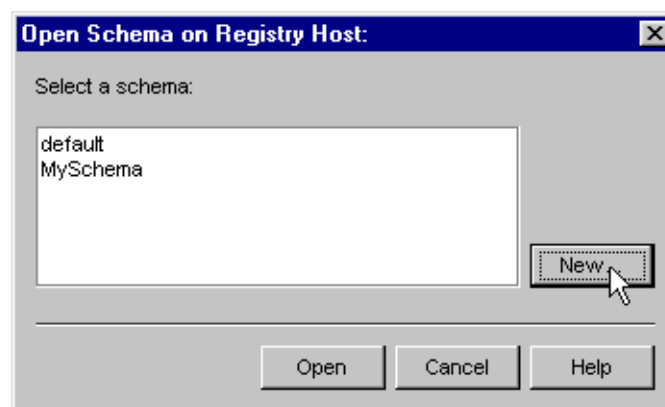
**Note:** *The Siebel EIM e\*Way must be properly installed on your system before you can run the sample schema.*

### 2.5.1 Installation Procedure

To load a sample schema:

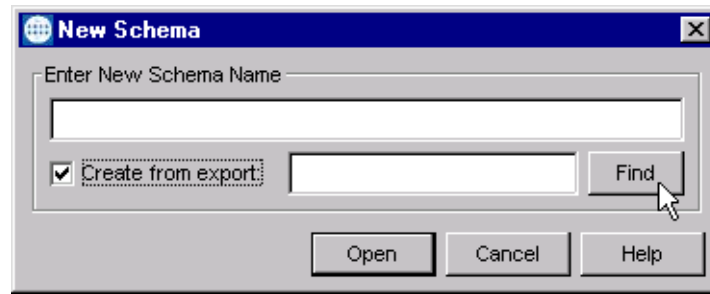
- 1 Invoke the **Open Schema** dialog box and select **New** (see Figure 7).

**Figure 7** Open Schema Dialog



- 2 Type the name you want to give to the schema (for example, **Post.Sample**)
- 3 Select **Create from export** and navigate to the directory containing the sample schema by clicking the **Find** button (see Figure 8).

**Figure 8** New Schema Dialog



- 4 Navigate to the desired archive file (\*.zip) and click **Open**.

**Note:** The schema installs with the host name **localhost** and control broker name **localhost\_cb**. If you want to assign your own names, copy the file \*.zip to a local directory and extract the files. Using a text editor, edit the file \*.exp, replacing all instances of the name **localhost** with your desired name. Add the edited .exp file back into the .zip file.

## 2.5.2 Subdirectories and Files

The preceding procedure creates the following subdirectories and installs the following files within the \eGate\Server\registry\repository\

### Siebel 99

**Table 7** Subdirectories and Files - Siebel EIM Extract

Subdirectories	Files
\	Siebel_EIM_Extract.ctl
\runtime\configs\stcewfile\	Siebel_EIM_Eater.cfg Siebel_EIM_Eater.sc
\runtime\configs\stcewgenericmonk\	Siebel_EIM_Extract.cfg Siebel_EIM_Extract.sc
\runtime\monk_scripts\common\	export_accounts.dsc export_cleanup.dsc export_ifb_gen.tsc from_s_account_if.dsc Monk_Function_Ret.ssc sap_data_contract.ssc Siebel_accounts.ssc Siebel_IFB.ssc

**Table 8** Subdirectories and Files - Siebel EIM Post

Subdirectories	Files
\	Siebel_EIM_Post.ctl
\runtime\configs\stcewfile\	Siebel_EIM_Eater_Error.cfg Siebel_EIM_Eater_Error.sc Siebel_EIM_Feeder.cfg Siebel_EIM_Feeder.sc Siebel_EIM_Feeder_Error.cfg Siebel_EIM_Feeder_Error.sc
\runtime\configs\stcewgenericmonk\	Siebel_EIM_Post.cfg Siebel_EIM_Post.sc Siebel_EIM_Post_Error.cfg Siebel_EIM_Post_Error.sc
\runtime\data\	sap_account_10.dat
\runtime\monk_scripts\common\	import_accounts.dsc import_accounts_error.dsc import_cleanup.dsc import_ifb_gen.tsc sap_data_contract.ssc Siebel_accounts.ssc Siebel_accounts_batch.ssc Siebel_IFB.ssc to_s_account_if.tsc to_s_account_if_error.tsc

## Siebel 2000

**Table 9** Subdirectories and Files - Siebel EIM Extract 2000

Subdirectories	Files
\	Siebel_EIM_Extract_2000.ctl
\runtime\configs\stcewfile\	Siebel_EIM_Eater.cfg Siebel_EIM_Eater.sc
\runtime\configs\stcewgenericmonk\	SiebelEim_Extract.cfg SiebelEim_Extract.sc
\runtime\monk_scripts\common\	export_accounts.dsc export_cleanup.dsc export_ifb_gen.tsc from_s_account_if.dsc Monk_Function_Ret.ssc sap_data_contract.ssc Siebel_accounts.ssc Siebel_IFB.ssc

**Table 10** Subdirectories and Files - Siebel EIM Post 2000

Subdirectories	Files
\	Siebel_EIM_Post_2000.ctl
\runtime\configs\stcewfile\	Siebel_EIM_Eater_Error.cfg Siebel_EIM_Eater_Error.sc Siebel_EIM_Feeder.cfg Siebel_EIM_Feeder.sc Siebel_EIM_Feeder_Error.cfg Siebel_EIM_Feeder_Error.sc
\runtime\configs\stcewgenericmonk\	Siebel_EIM_Post.cfg Siebel_EIM_Post.sc Siebel_EIM_Post_Error.cfg Siebel_EIM_Post_Error.sc SiebelEim.def SiebelEim_Post.cfg SiebelEim_Post.sc
\runtime\data\	sap_account_10.dat
\runtime\monk_scripts\common\	import_accounts.dsc import_accounts_error.dsc import_cleanup.dsc import_ifb_gen.tsc sap_data_contract.ssc Siebel_accounts.ssc Siebel_accounts_batch.ssc Siebel_IFB.ssc to_s_account_if.tsc to_s_account_if_error.tsc

## Siebel 7

**Table 11** Subdirectories and Files - Siebel7 EIM Extract

Subdirectories	Files
\	Siebel7_EIM_Extract.ctl
\runtime\configs\stcewfile\	Siebel_EIM_Eater.cfg Siebel_EIM_Eater.sc
\runtime\configs\stcewgenericmonk\	Siebel_EIM_Extract.cfg Siebel_EIM_Extract.sc
\runtime\monk_scripts\common\	export_accounts.dsc export_cleanup.dsc export_ifb_gen.tsc from_s_account_if.dsc Monk_Function_Ret.ssc sap_data_contract.ssc Siebel_accounts.ssc Siebel_IFB.ssc

**Table 12** Subdirectories and Files - Siebel7 EIM Post

Subdirectories	Files
\	Siebel7_EIM_Post.ctl
\runtime\configs\stcewfile\	Siebel_EIM_Eater_Error.cfg Siebel_EIM_Eater_Error.sc Siebel_EIM_Feeder.cfg Siebel_EIM_Feeder.sc Siebel_EIM_Feeder_Error.cfg Siebel_EIM_Feeder_Error.sc
\runtime\configs\stcewgenericmonk\	Siebel_EIM_Post.cfg Siebel_EIM_Post.sc Siebel_EIM_Post_Error.cfg Siebel_EIM_Post_Error.sc
\runtime\data\	sap_account_10.dat
\runtime\monk_scripts\common\	import_accounts.dsc import_accounts_error.dsc import_cleanup.dsc import_ifb_gen.tsc sap_data_contract.ssc Siebel_accounts.ssc Siebel_accounts_batch.ssc Siebel_IFB.ssc to_s_account_if.tsc to_s_account_if_error.tsc

# System Implementation

This chapter describes the procedure for creating a functional Siebel-e\*Gate system incorporating the Siebel EIM e\*Way. Refer to the *e\*Gate Integrator User's Guide* for additional information.

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## 3.1 Overview

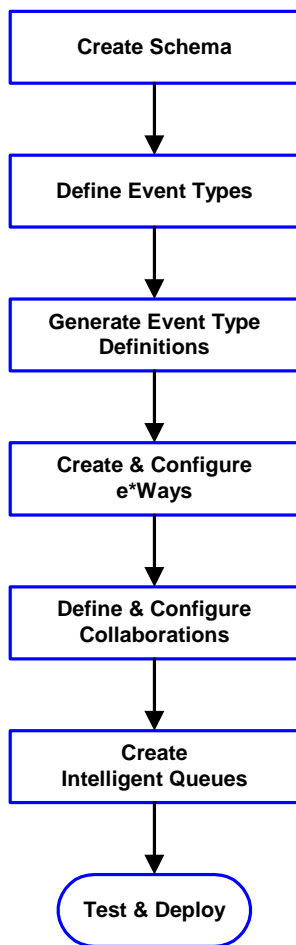
This e\*Way provides a specialized transport component for incorporation in an operational schema. The schema also contains Collaborations, linking different data or Event types, and Intelligent Queues. Typically, other e\*Way types also are used as components of the schema.

One or more sample schema, included in the software package, are described at the end of this chapter. These can be used to test your system following installation and, if appropriate, as a template that you can modify to produce your own schema.

This chapter includes the following topics:

- [Creating a Schema](#) on page 33
- [Creating Event Types](#) on page 34
- [Creating Event Type Definitions](#) on page 35
- [Defining Collaborations](#) on page 39
- [Creating Intelligent Queues](#) on page 40
- [Auditing](#) on page 41
- [Known Issues and Limitations](#) on page 42
- [Sample Schema](#) on page 42

### 3.1.1 Implementation Sequence



- 1 The first step is to create a new Schema—the subsequent steps apply only to this Schema (see [Creating a Schema](#) on page 33).
- 2 The second step is to define the Event Types you are transporting and processing within the Schema (see [Creating Event Types](#) on page 34).
- 3 Third, you need to associate the Event Types created in the previous step with Event Type Definitions (ETDs) derived from the applicable Business Rules (see [Creating Event Type Definitions](#) on page 35).
- 4 The fourth step is to create and configure the required e\*Ways (see [Chapter 4](#)).
- 5 Next is to define and configure the Collaborations linking the Event Types from step 2 (see [Defining Collaborations](#) on page 39).
- 6 Now you need to create Intelligent Queues to hold published Events (see [Creating Intelligent Queues](#) on page 40).
- 7 Finally, you must test your Schema. Once you have verified that it is working correctly, you may deploy it to your production environment.

### 3.1.2 Viewing e\*Gate Components

Use the Navigator and Editor panes of the e\*Gate Enterprise Manager to view the various e\*Gate components. Note that you may only view components of a single schema at one time, and that all operations apply only to the current schema. All procedures in this chapter should be performed while displaying the **Components** Navigator pane. See the *e\*Gate Integrator User's Guide* for a detailed description of the features and use of the Enterprise Manager.



## 3.2 Creating a Schema

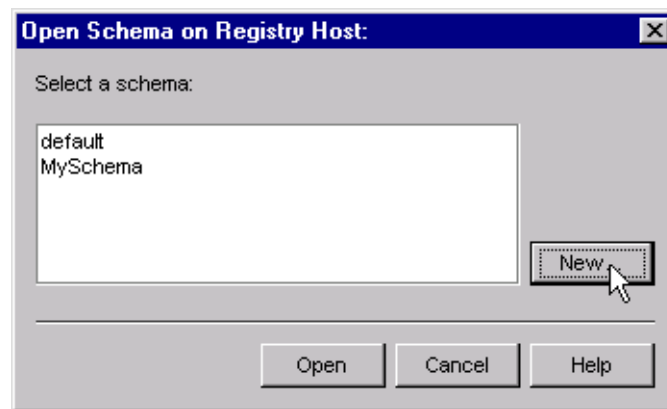
A schema is the structure that defines e\*Gate system parameters and the relationships between components within the e\*Gate system. Schemas can span multiple hosts.

Because all setup and configuration operations take place within an e\*Gate schema, a new schema must be created, or an existing one must be started before using the system. Schemas store all their configuration parameters in the e\*Gate Registry.

To select or create a schema

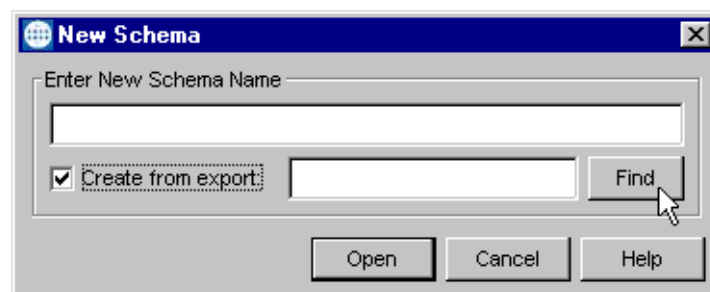
- 1 Invoke the **Open Schema** dialog box and **Open** an existing schema or click **New** to create a new schema.

**Figure 9** Open Schema Dialog



- 2 Clicking **New** invokes the **New Schema** dialog box (Figure 10).

**Figure 10** New Schema Dialog




- 3 Enter a new schema name and click **Open**.
- 4 The e\*Gate Enterprise Manager then opens under your new schema name.
- 5 From the **Options** menu, click on **Default Editor** and select **Monk**.
- 6 Select the **Components** tab, found at the bottom of the Navigator pane of the e\*Gate Enterprise Manager window.
- 7 You are now ready to begin creating the necessary components for this new schema.

---

## 3.3 Creating Event Types

Within e\*Gate, messages and/or packages of data are defined as Events. Each Event must be categorized into a specific Event Type within the schema.

### To define the Event Types

- 1 In the e\*Gate Enterprise Manager's Navigator pane, select the **Event Types** folder.
- 2 On the Palette, click the **New Event Type** button .
- 3 In the **New Event Type Component** box, enter the name for the input Event Type and click **Apply**. Use this method to create all required Event Types, for example:
  - ♦ **InboundEvent**
  - ♦ **ValidEvent**
  - ♦ **InvalidEvent**
- 4 After you have created the final Event Type, click **OK**.

## 3.4 Creating Event Type Definitions

Before e\*Gate can process any data to or from a Siebel system, you must create an Event Type Definition to package and route that data within the e\*Gate system. See the *e\*Gate Integrator User's Guide* for additional information about Event Type Definitions and the e\*Gate ETD Editor.

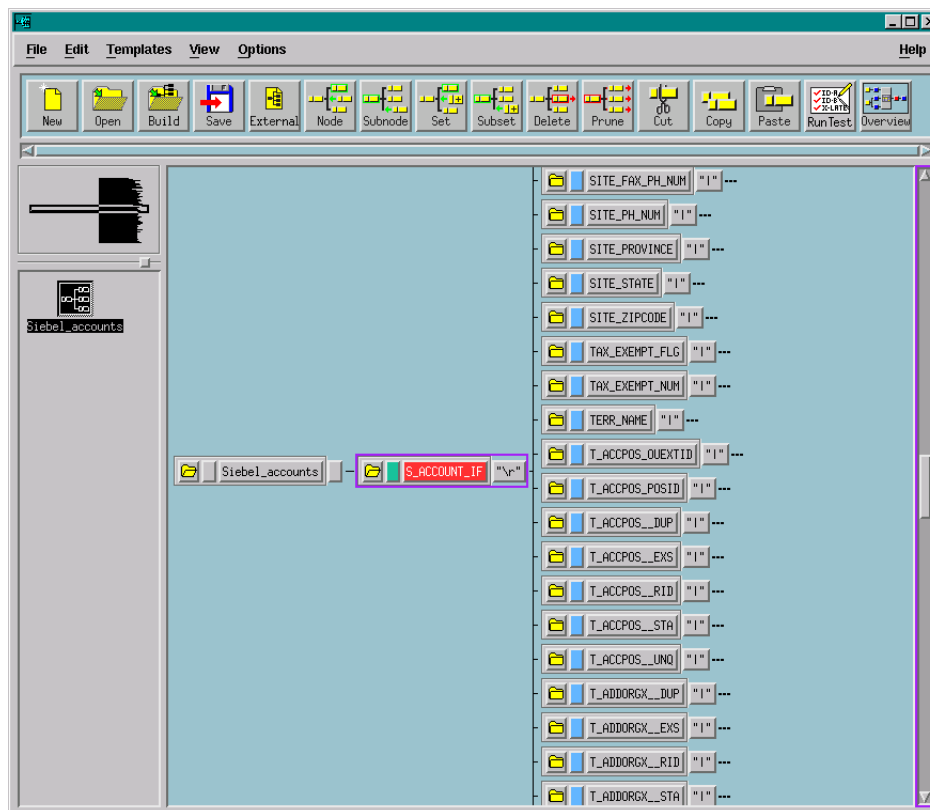
**Note:** ETDs are not interchangeable between Siebel 99/2000 and Siebel 7.

### 3.4.1 Obtaining the Siebel Data Structure

Once the functional needs of the interface have been defined, the input data must be mapped between e\*Gate and the interface tables. To accomplish this, custom structure metadata must first be imported from Siebel into e\*Gate. This process consists of importing the Interface Table data structure from Siebel into the e\*Way using the e\*Gate Event Type Definition Builder.

The e\*Gate ETD Builder automatically creates an Event Type Definition in e\*Gate that is used to create the mapping for the interface. The ETD Builder reads the data definition of from the Siebel Interface Tables and defines the column attributes, which are displayed in a graphical representation. An illustration of an interface table, S\_ACCOUNT\_IF, is depicted in Figure 11.

**Figure 11** Interface Table Structure Example



## Interface Table Names


The interface table names used in Siebel 7 are different from those used in Siebel 99 and 2000 (for example, `S_ACCOUNT_IF` becomes `EIM_ACCOUNT` in Siebel 7). To migrate e\*Gate from Siebel 99 or 2000 to Siebel 7, you must rebuild existing ETDs and recreate existing Collaborations.

### 3.4.2 Using the ETD Editor's Build Tool

The Event Type Definition Editor's Build tool automatically creates an Event Type Definition file based upon sample data. Use this procedure to create an Event Type Definition based upon the data your installation requires.

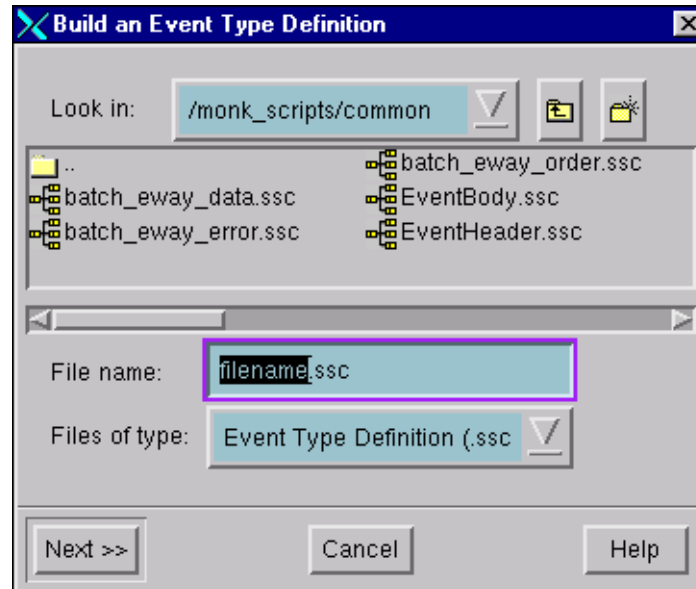
**Note:** Be sure to set the Default Editor to **Monk**, from the **Options** menu in the e\*Gate Enterprise Manager.

To create an Event Type Definition using the Build tool

- 1 Launch the ETD Editor by clicking  in the e\*Gate Enterprise Manager tool bar.
- 2 On the ETD Editor's tool bar, click **Build**.

The *Build an Event Type Definition* dialog box opens.

**Figure 12** Build Event Type Definition Dialog

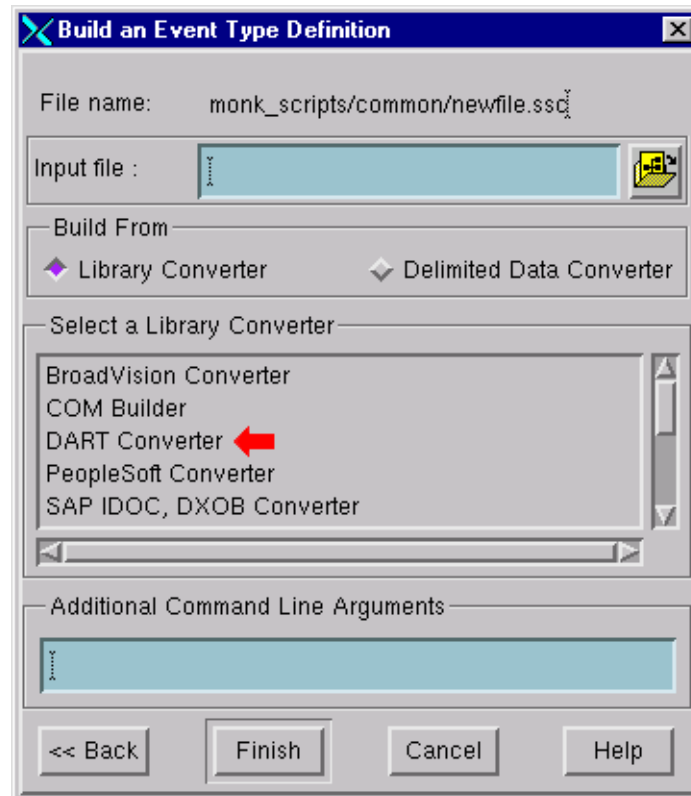


- 3 In the *File name* box, type the name of the ETD file you want to build.

**Note:** The Editor automatically supplies the `.ssc` extension.

- 4 Click **Next**. A new dialog box appears, as shown in Figure 13.

**Figure 13** Building the ETD




- 5 Under *Build From*, select **Library Converter**.
- 6 Under *Select a Library Converter*, select **DART Converter**.
- 7 In the *Additional Command Line Arguments* box, type any additional arguments, if desired.
- 8 Click **Finish**.
- 9 The DART Converter Wizard automatically builds the ETD file.

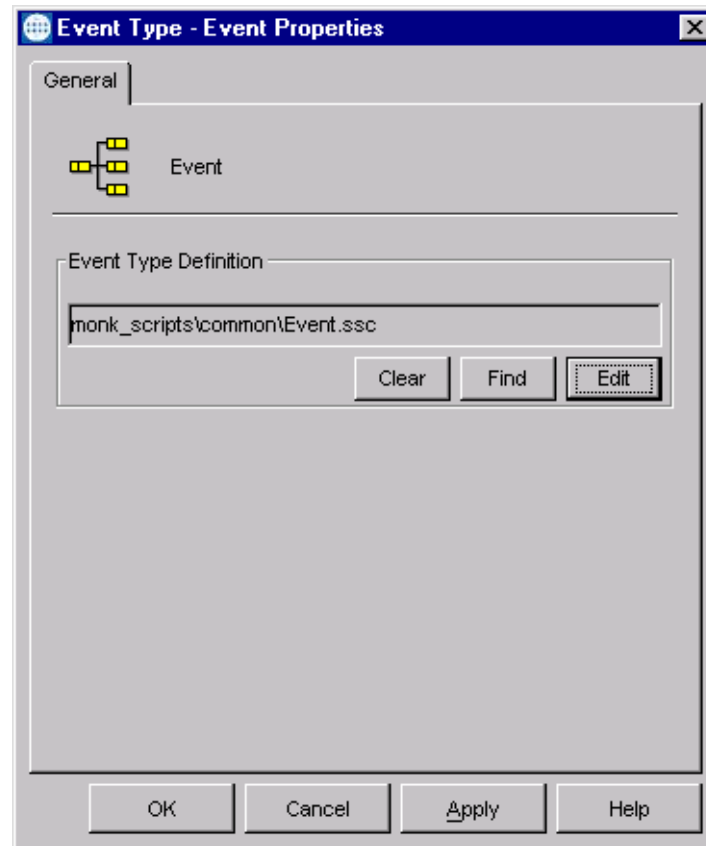
### 3.4.3 Assigning ETDs to Event Types

After you have created the e\*Gate system's ETD files, you can assign them to Event Types you have already created.

#### To assign ETDs to Event Types

- 1 In the Enterprise Manager window, select the **Event Types** folder in the Navigator/Components pane.
- 2 In the Editor pane, select one of the Event Types you created.
- 3 Right-click on the Event Type and select **Properties** (or click  in the toolbar).  
The Event Type Properties dialog box appears (see Figure 14).

**Figure 14** Event Type Properties Dialog Box



- 4 Under Event Type Definition, click **Find**, and the Event Type Definition Selection dialog box appears (it is similar to the Windows Open dialog box).
- 5 Open the **monk\_scripts\common** folder, then select the desired file name (\*.ssc).
- 6 Click **Select**. The file populates the Event Type Definition field.
- 7 To save any work in the properties dialog box, click **Apply** to enter it into the system.
- 8 When finished assigning ETDs to Event Types, click **OK** to close the properties dialog box and apply all the properties.

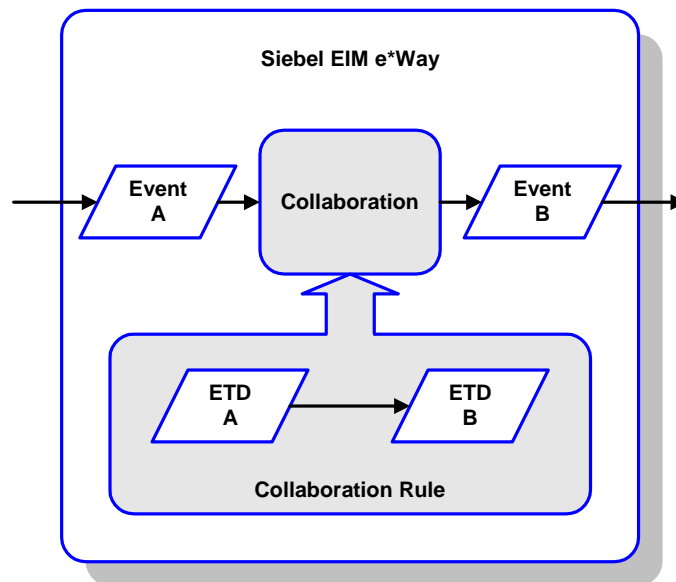
Each Event Type is now associated with the specified Event Type Definition.

## 3.5 Defining Collaborations

After you have created the required Event Type Definitions, you must define a Collaboration to transform the incoming Event into the desired outgoing Event.

Collaborations are e\*Way components that receive and process Event Types, then forward the output to other e\*Gate components. Collaborations consist of the Subscriber, which “listens” for Events of a known type or from a given source, and the Publisher, which distributes the transformed Event to a specified recipient. The same Collaboration cannot be assigned to more than one e\*Gate component.

**Figure 15** Collaborations



The Collaboration is driven by a Collaboration Rule, which defines the relationship between the incoming and outgoing ETDs. You can use an existing Collaboration Rule, or use the Monk programming language to write a new Collaboration Rule script. Once you have written and successfully tested a script, you can then add it to the system’s run-time operation.

Collaborations are defined using the e\*Gate Monk Collaboration Rules Editor. See the *e\*Gate Integrator User’s Guide* for instructions on using this Editor. The file extension for Monk Collaboration Rules is **.tsc**.

Examples of Collaborations for the Siebel EIM e\*Way can be found in [Sample Schema](#) on page 42.

### 3.5.1 Using the Collaboration Rules Editor

**Figure 16** The Collaboration Rules Editor

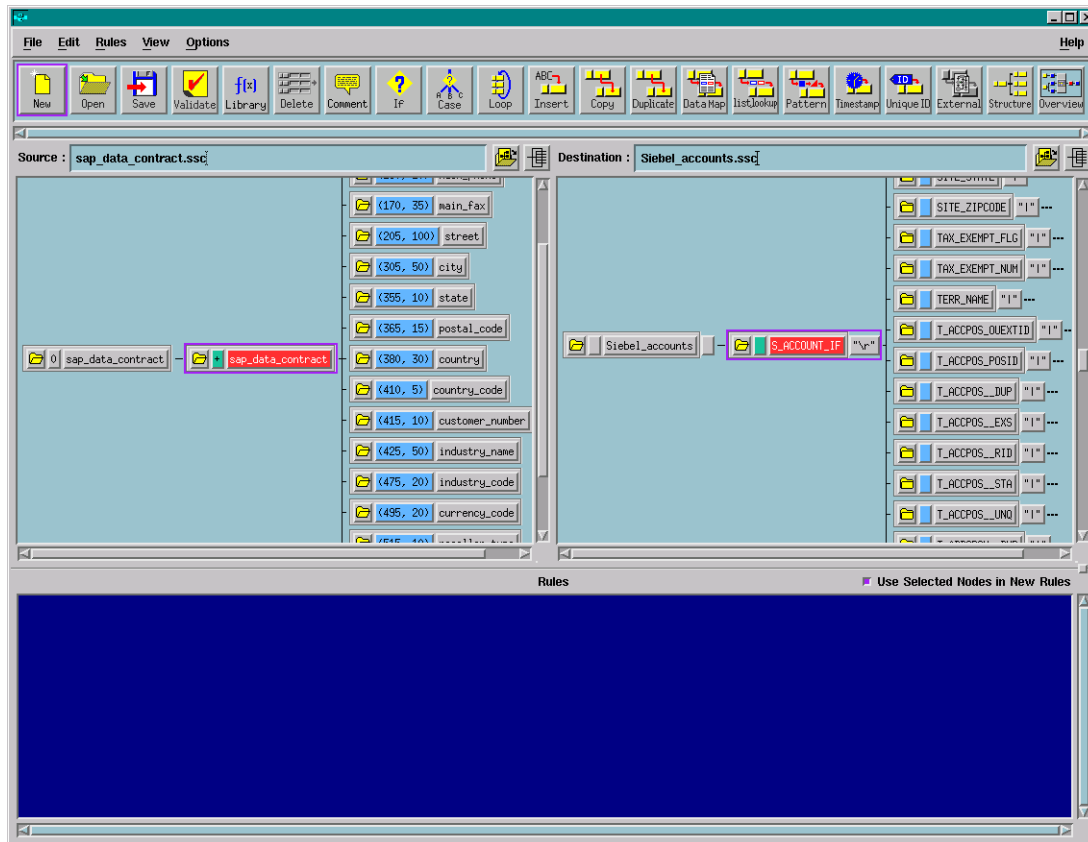


Figure 16 illustrates a Collaboration that maps an incoming flat file to the S\_ACCOUNT\_IF interface table, another flat file. This is the simplest method of moving data into a Siebel interface table. The source and destination ETDs are shown in the left and right panes, respectively.

## 3.6 Creating Intelligent Queues

The final step is to create and associate an IQ for the Siebel EIM e\*Way. IQs manage the exchange of information between components within the e\*Gate system, providing non-volatile storage for data as it passes from one component to another. IQs use IQ Services to transport data. IQ Services provide the mechanism for moving Events between IQs, handling the low-level implementation of data exchange (such as system calls to initialize or reorganize a database). See the *e\*Gate Integrator User's Guide* for complete information on queuing options and procedures for creating IQs.



---

## 3.7 Auditing

Error counts and totals are returned to the e\*Way through variables. When a non-zero return code is given, these errors are written to the standard e\*Way error logs.

### 3.7.1 Error logging—Inbound to Siebel

Errors are logged in the Siebel interface tables, a custom file is created by the Siebel EIM e\*Way, and the standard error logs are supplied by the e\*Gate components. The Siebel EIM e\*Way monitors the status of EIM by capturing the task state for the initiated interface. The state changes to **Completed**, thus signaling the end of the EIM process.

The Siebel EIM e\*Way interrogates the status of the `IF_ROW_STAT` column in the interface table where the batch number equals the records just loaded. The Siebel EIM e\*Way extracts all records from the interface tables where the `IF_ROW_STAT` does not equal **Imported**, and sends an alert to the Administrator that manual intervention is required.

*Note:* If you are using a non-English version of Siebel, you need to modify the Monk function `siebel-eim-run-eim.monk`. See [Siebel IFB Functions](#) on page 111.

### 3.7.2 Error logging—Outbound from Siebel

Although Siebel lacks an alert notification facility to notify administrators, it does log the success or failure of each row during the export process. If the exported data cannot be extracted from the database, a message is recorded in the e\*Way log and a Notification is sent to the e\*Gate Monitor.

### 3.7.3 Journaling

Errors encountered during normal e\*Gate processing are addressed by normal functionality. Each Logical Unit of Work (LUW) that encounters errors during translation is placed into a journal for later viewing, correction and reprocessing.

---

## 3.8 Known Issues and Limitations

When using `s_account_if` with EIM you may run into this error:

```
"Warning: Bounded picklist value S_ORG_EXT.CUST_STAT_CD failed 11".
```

This issue has been logged with Siebel Support and can be found by searching Siebel for the topic *Changing IFMGR use of Bounded PickList Values*. We recommend contacting your Siebel Technical Account Manager to resolve this issue on your system.

Below are several alternative workarounds that can be implemented by those technically well-versed with Siebel.

- 1 Add an extension column to the interface table and use this column to directly import the picklist data to the base table.
- 2 Turn off bounded picklist behavior on the interface table.
- 3 Import the values into the List Of Values table before importing the data using EIM. Following is an example query that can be used to populate the `S_LST_OF_VAL_IF` table with Account Status data:

```
Insert S_LST_OF_VAL_IF
(IF_ROW_STAT, ROW_ID, IF_ROW_BATCH_NUM, TYPE, VAL, NAME, LAND_CD)
select distinct 'X', rownum, 1, 'cust_stat_code', version,
       version, 'ENU'
FROM S_PROD_INT_IF
where IF_ROW_BATCH_NUM = 2;
```

- 4 Use the SeeBeyond Siebel EIM e\*Way.
- 5 Insert only those columns needed into the EIM interface table. For example,

```
ONLY_BASE_COLUMNS=S_ORG_EXT.NAME,S_ORG_EXT.LOC,
                  S_ORG_EXT.MAIN_FAX_PH_NUM,
                  S_ORG_EXT.MAIN_PH_NUM
```

---

## 3.9 Sample Schema

Sample implementations are available in the `\samples\ewsiebeleim\` directory of the e\*Gate CD-ROM.

- `Siebel_EIM_Extract` - Siebel-outbound schema example for Siebel 99
- `Siebel_EIM_Extract_2000` - Siebel-outbound schema example for Siebel 2000
- `Siebel7_EIM_Extract` - Siebel-outbound schema example for Siebel 7
- `Siebel_EIM_Post` - Siebel-inbound schema example for Siebel 99
- `Siebel_EIM_Post_2000` - Siebel-inbound schema example for Siebel 2000
- `Siebel7_EIM_Post` - Siebel-inbound schema example for Siebel 7

These samples can be used to test your system following installation and, if appropriate, as templates you can modify to produce your own schema.

See [Optional Example Files](#) on page 26 for installation instructions.

### 3.9.1 Siebel\_EIM\_Extract

The following description is valid for all Siebel versions.

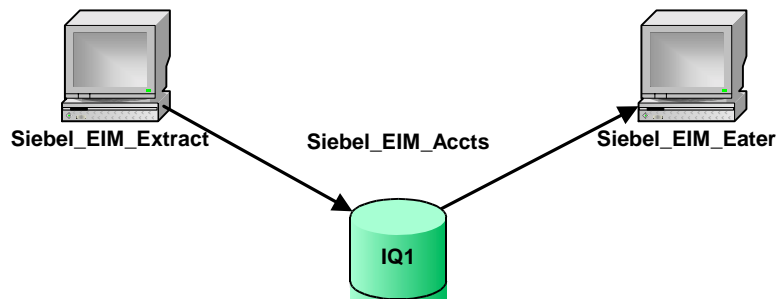
#### Components

The Siebel-to-e\*Gate example, **Siebel\_EIM\_Extract**, sets up a single instance of the Siebel EIM e\*Way and also of the File e\*Way, having the logical names shown in the following table.

e*Way Type	Logical Name
Siebel EIM e*Way	Siebel_EIM_Extract
File e*Way	Siebel_EIM_Eater

It also sets up an Intelligent Queue, with the logical name **Siebel\_EIM\_Extract\_IQ**.

**Figure 17** Siebel\_EIM\_Extract Components

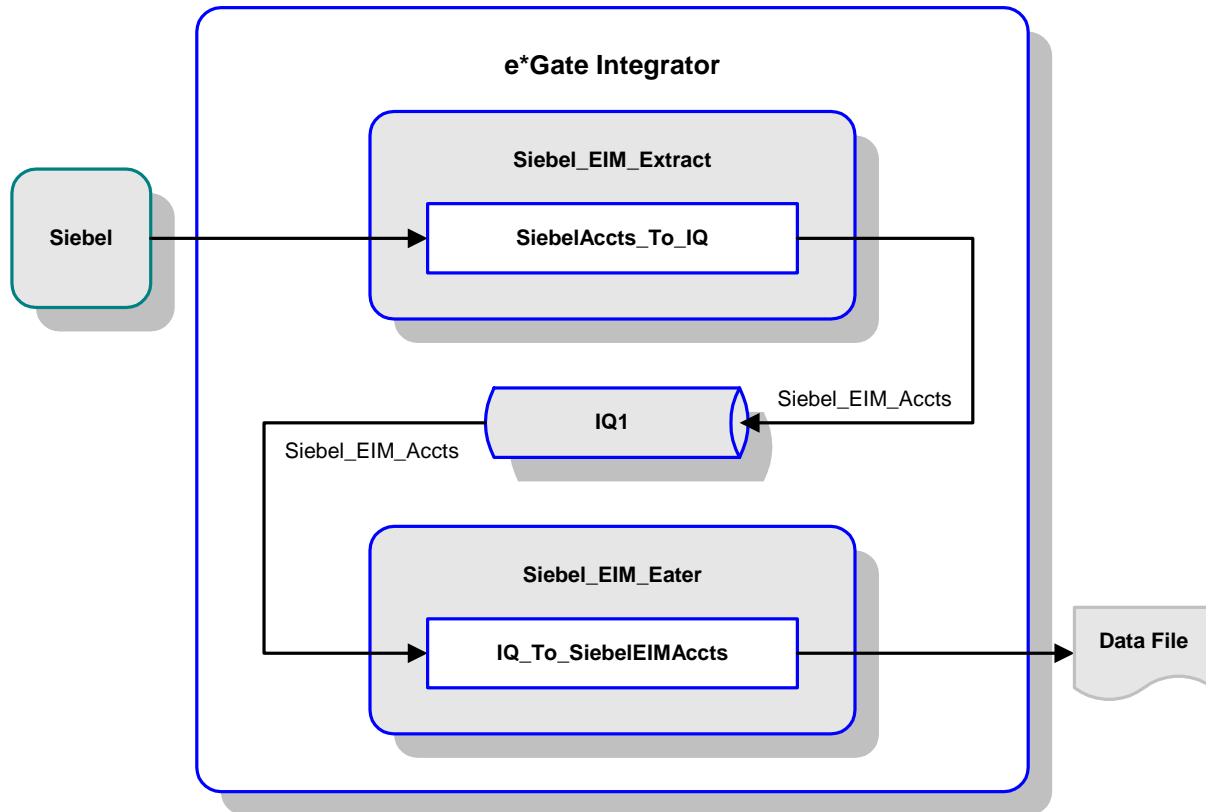


#### Event Types

There is a single Event type, **Siebel\_EIM\_Accts**, representing incoming data from a Siebel system. This Event type is passed from one component to another following two Collaborations, as outlined below and diagrammed in Figure 18.

## Collaborations (Siebel Extract)

Figure 18 Siebel\_EIM\_Extract Schema



### SiebelAccts\_To\_IQ

This Collaboration, performed by the e\*Way **Siebel\_EIM\_Extract**, subscribes to data from the Siebel system and publishes it to the IQ. The data extraction is performed by the internal database-access Collaboration **Account Extract**.

### IQ\_To\_SiebelEIMAccts

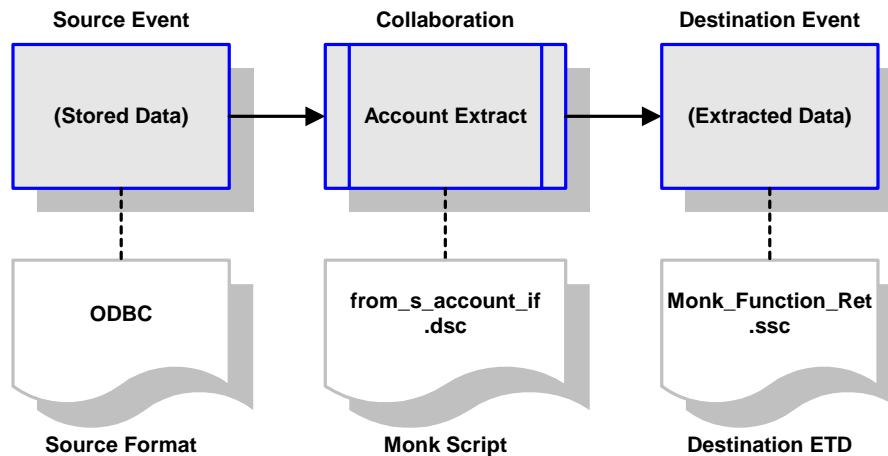
This Collaboration, performed by the e\*Way **Siebel\_EIM\_Eater**, subscribes to the Collaboration **SiebelAccts\_To\_IQ** and publishes the Event as a data file.

## Collaborations (Database Access)

### Account Extract

This master Collaboration extracts data from the Siebel database using elements of the ODBC e\*Way and calls the preceding Collaborations to process and route the data. It is based on the Monk script **from\_s\_account\_if.dsc**.

**Figure 19** Account Extract Collaboration

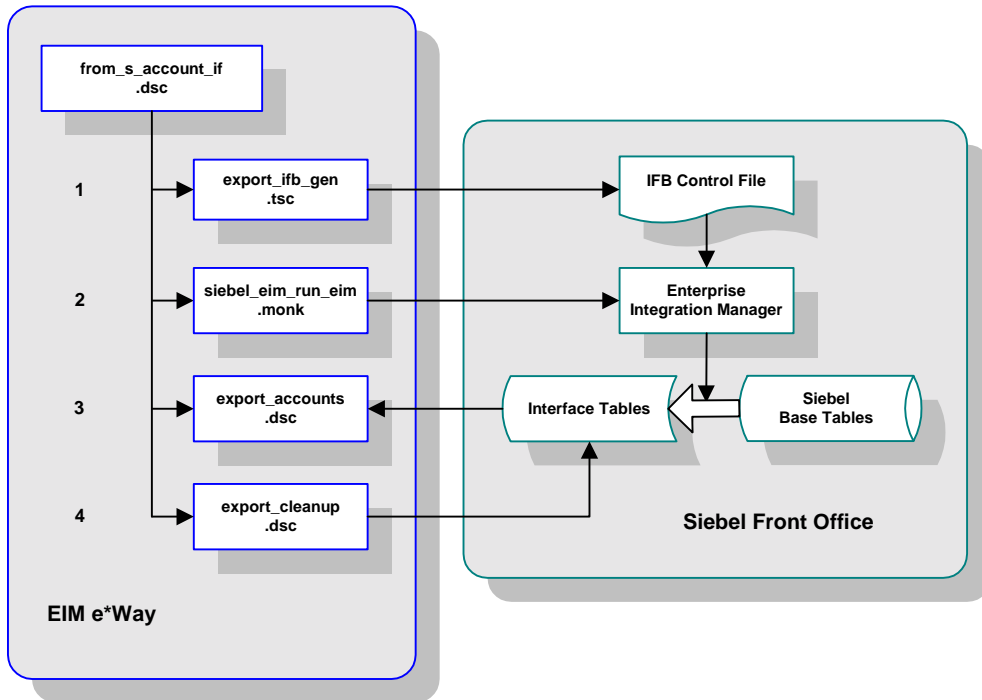


The source Event is data conforming to ODBC. The destination ETD, **Monk\_Function\_Ret.ssc**, represents the structure desired for subsequent data processing.

In response to this Collaboration, the Siebel EIM e\*Way functions as shown in Figure 20. In this scenario, the e\*Way is instantiated as **Siebel\_EIM\_Extract**. After initially checking the Siebel State File, the e\*Way creates and sends the IFB Control File **export\_ifb\_gen.tsc** to Siebel. It then invokes the EIM using the Monk function **siebel\_eim\_run\_eim**, which transfers the data from the Siebel Base Tables to the Interface Tables.

Once the tables have been loaded by the EIM, the e\*Way extracts the data from the Siebel Interface Tables following the database-access script **export\_accounts.dsc**. Using the database-access script **export\_cleanup.dsc**, the data is then deleted from the Interface Tables.

Figure 20 Account Extract Functionality



### 3.9.2 Siebel\_EIM\_Post

The following description is valid for all Siebel versions.

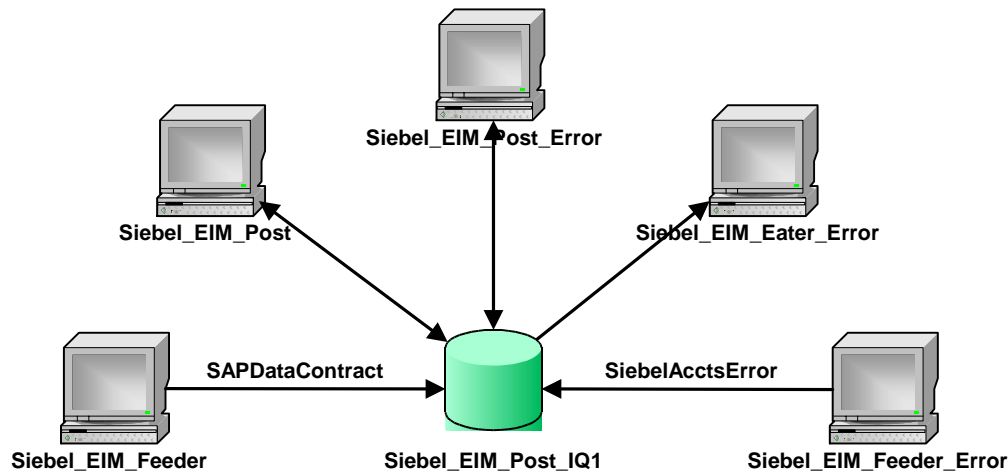
#### Components

The e\*Gate-to-Siebel example, **Siebel\_EIM\_Post**, sets up two instances of the Siebel EIM e\*Way and three instances of the File e\*Way, having the logical names shown in the following table.

e*Way Type	Logical Name
Siebel EIM e*Way	Siebel_EIM_Post
	Siebel_EIM_Post_Error
File e*Way	Siebel_EIM_Eater_Error
	Siebel_EIM_Feeder
	Siebel_EIM_Feeder_Error

It also sets up an Intelligent Queue, with the logical name **Siebel\_EIM\_Post\_IQ1**.

**Figure 21** Siebel\_EIM\_Post Components

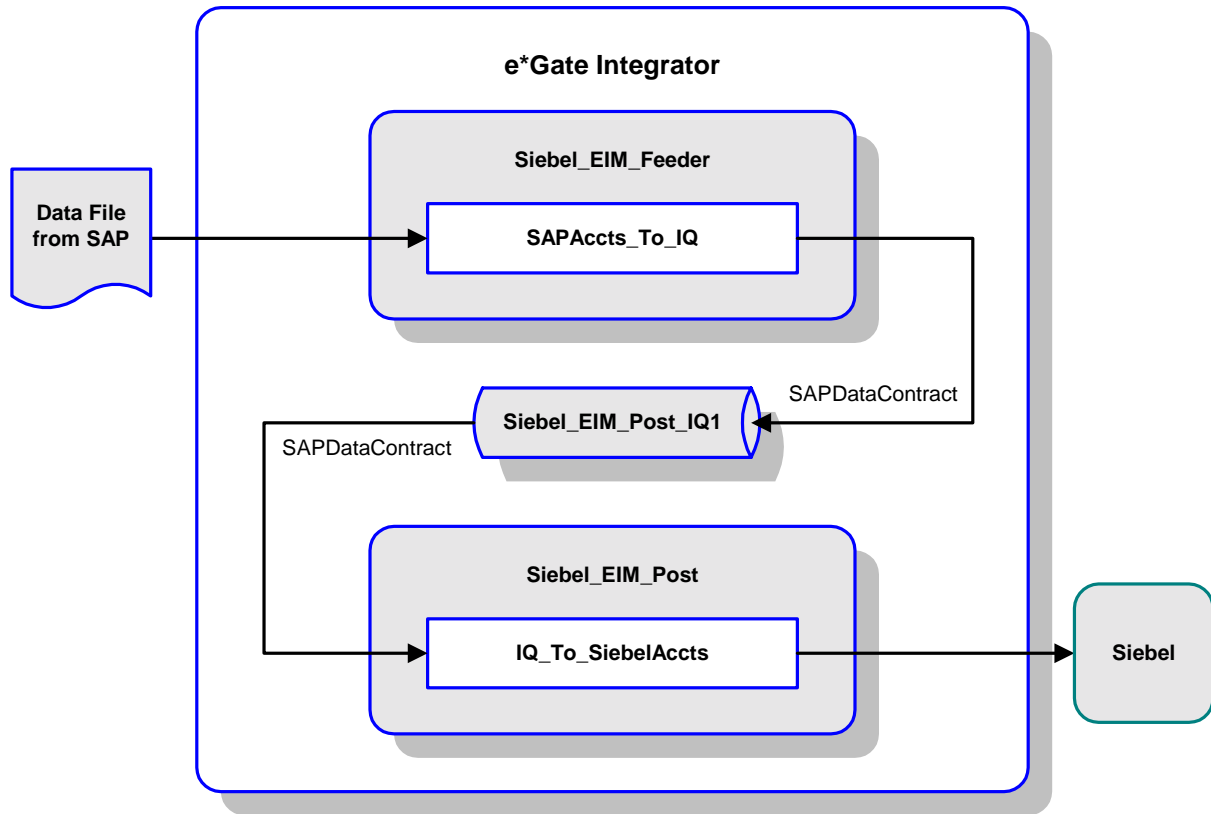


#### Event Types

There are two Event types, **SAPDataContract** and **SiebelAcctsError**, respectively representing incoming data from an SAP application, and erroneous data returned from Siebel. These Event types are passed from one component to another following several Collaborations, as outlined below.

## Collaborations (Original Post)

Figure 22 Siebel\_EIM\_Post Schema (Original Post)



### SAPAccts\_To\_IQ

The e\*Way **Siebel\_EIM\_Feeder** uses this Collaboration to subscribe to SAP account data and publish the Event **SAPDataContract** to the IQ.

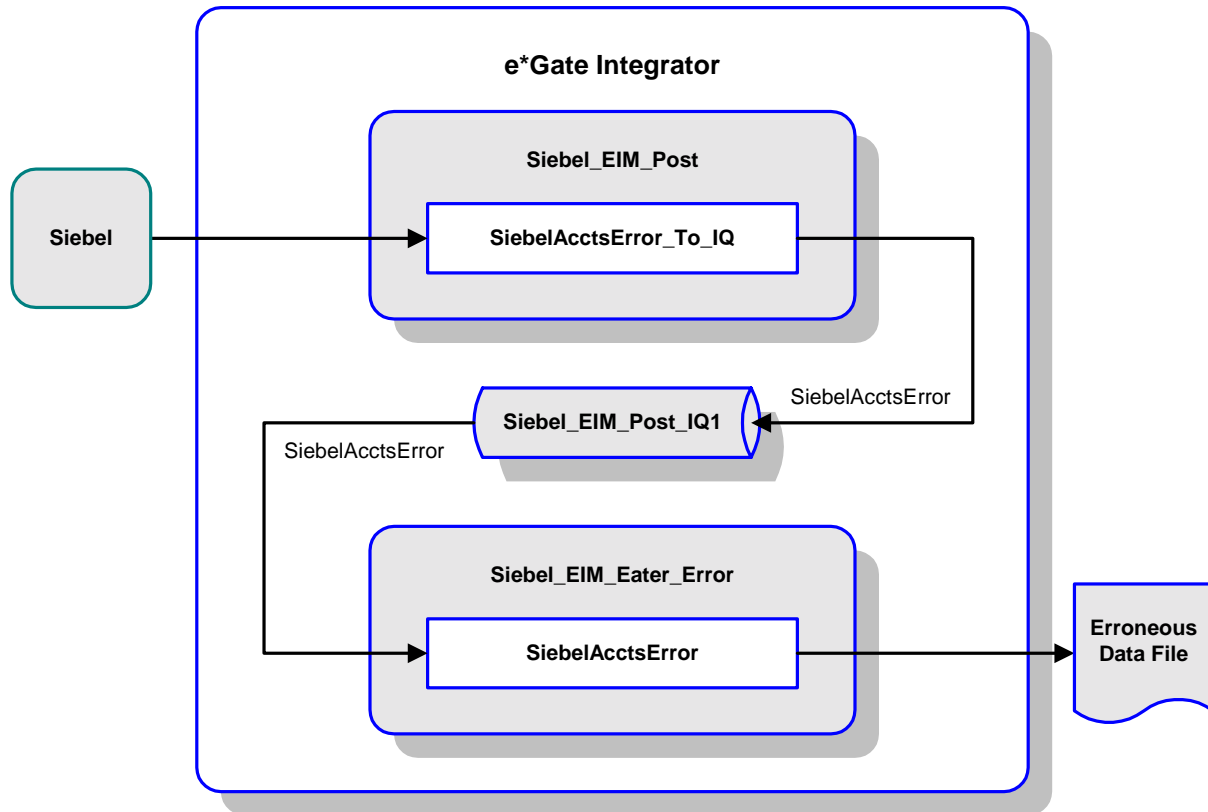
### IQ\_To\_SiebelAccts

The e\*Way **Siebel\_EIM\_Post** uses this Collaboration to subscribe to the Collaboration **SAPAccts\_To\_IQ** and publish the Event **SAPDataContract** to the Siebel system.



## Collaborations (Error Returned)

Figure 23 Siebel\_EIM\_Post Schema (Error Returned)



### SiebelAcctsError\_To\_IQ

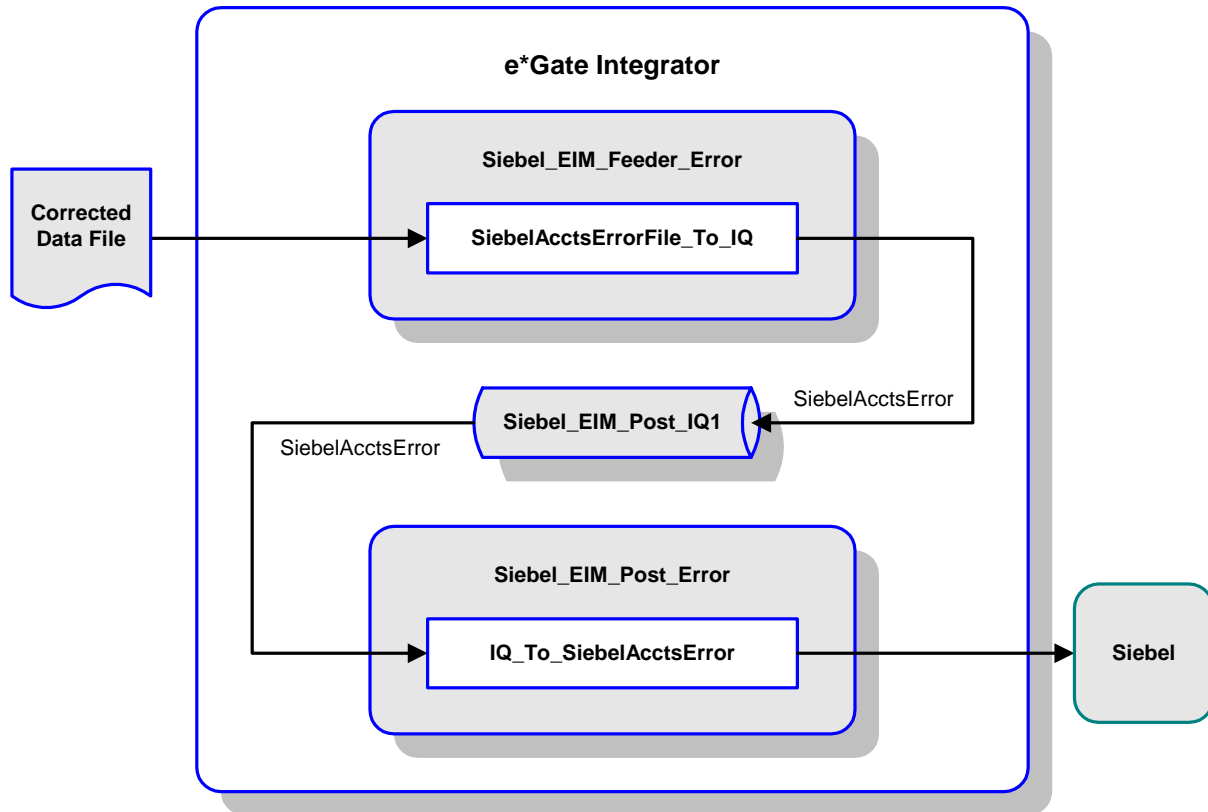
If an error occurs, the e\*Way **Siebel\_EIM\_Post** uses this Collaboration to return the erroneous data from Siebel, as Event type **SiebelAcctsError**, and publish it to the IQ.

### IQ\_To\_SiebelAcctsErrorFile

The e\*Way **Siebel\_EIM\_Eater\_Error** uses this Collaboration to subscribe to the Collaboration **SiebelAcctsError\_To\_IQ** and publish the Event type **SiebelAcctsError** as a file for correction by the user.

## Collaborations (Post Corrected Error)

**Figure 24** Siebel\_EIM\_Post Schema (Post Corrected Error)



### SiebelAcctsErrorFile\_To\_IQ

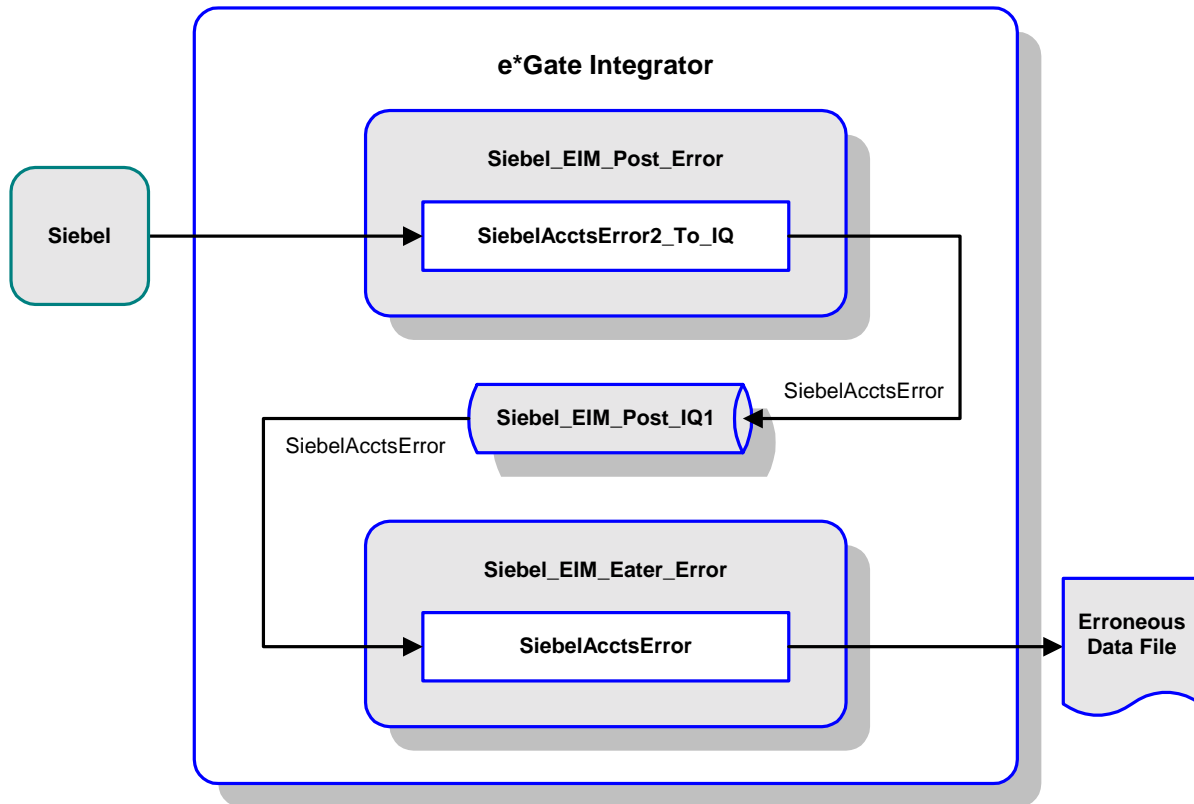
Following correction by the user, the e\*Way **Siebel\_EIM\_Feeder\_Error** uses this Collaboration to retrieve the corrected data file as Event type **SiebelAcctsError** and publish it to the IQ.

### IQ\_To\_SiebelAcctsError

The e\*Way **Siebel\_EIM\_Post\_Error** uses this Collaboration to subscribe to the Collaboration **SiebelAcctsErrorFile\_To\_IQ** and publish the corrected data to the Siebel system as Event type **SiebelAcctsError**.

## Collaborations (Error Returned Again)

Figure 25 Siebel\_EIM\_Post Schema (Error Returned Again)



### SiebelAcctsError2\_To\_IQ

If further corrections are required, the e\*Way **Siebel\_EIM\_Post\_Error** uses this Collaboration to subscribe to a returning Event type **SiebelAcctsError**, and publish it to the IQ.

### IQ\_To\_SiebelAcctsErrorFile2

The e\*Way **Siebel\_EIM\_Eater\_Error** uses this Collaboration to subscribe to the Collaboration **SiebelAcctsError2\_To\_IQ** and publish the Event type **SiebelAcctsError** as a file for correction by the user.

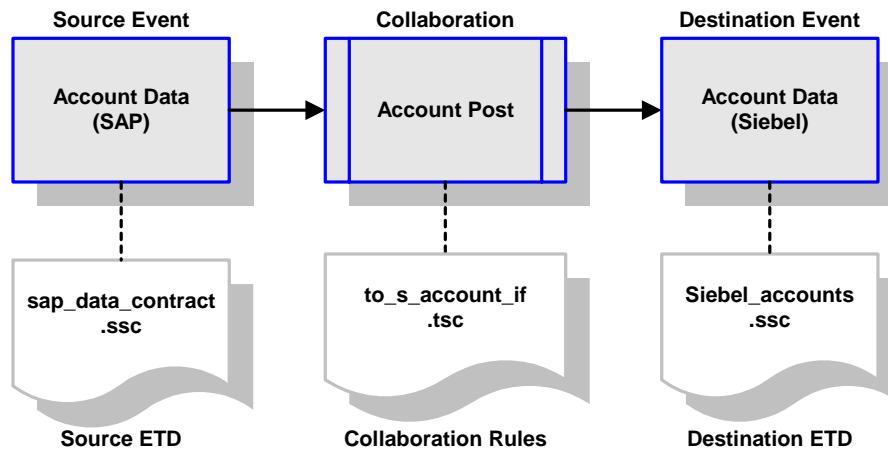
At this point, the process repeats as shown in Figure 24.

## Collaborations (Database Access)

### Account Post

This master Collaboration calls the preceding Collaborations, and posts data to the Siebel database using elements of the ODBC e\*Way. It is based on the Monk script `to_s_account_if.tsc`.

**Figure 26** Account Post Collaboration

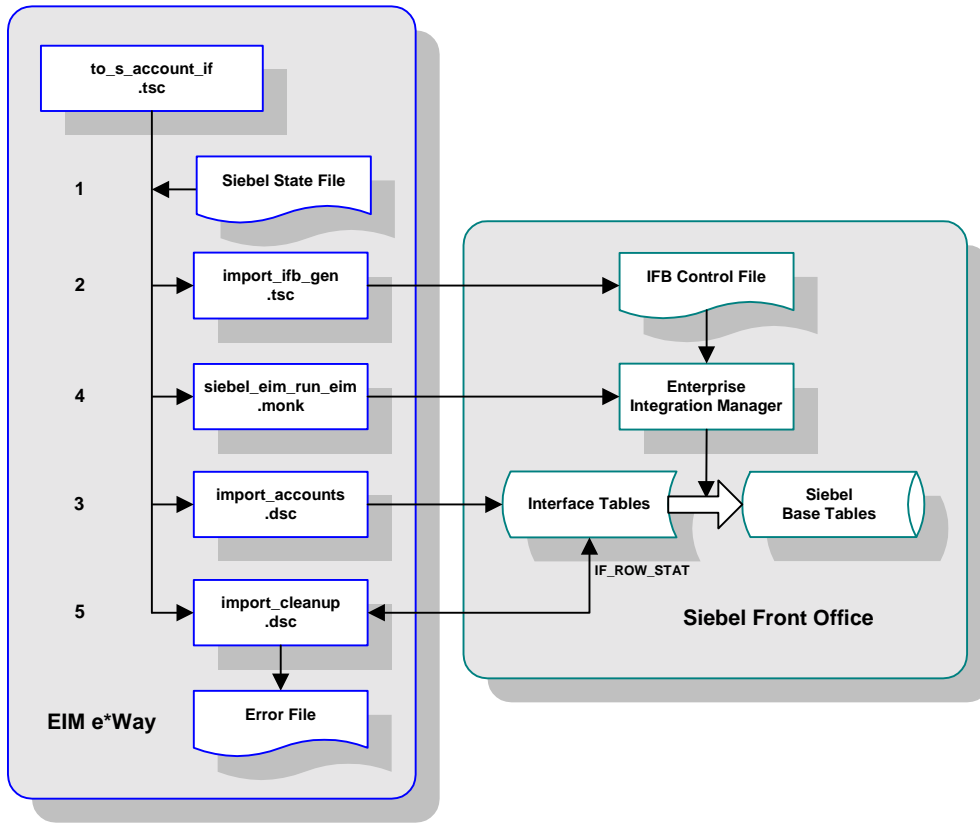


In this example, the input data from the IQ is interpreted as an Event containing the required data field values for a Siebel customer account. The source ETD, `sap_data_contract.ssc` represents the structure of data corresponding to an SAP R/3 system. The destination ETD, `Siebel_accounts.ssc`, represents the structure of data required by the Siebel system.

In response to this Collaboration, the Siebel EIM e\*Way functions as shown in Figure 27. In this scenario, the e\*Way is instantiated as `Siebel_EIM_Post`. After initially checking the Siebel State File, the e\*Way creates and sends the IFB Control File `import_ifb_gen.tsc` to Siebel. It then loads the incoming data into the Siebel Interface Tables following the database-access script `import_accounts.dsc`.

Once the tables have been loaded the e\*Way invokes the EIM using the Monk function `siebel_eim_run_eim`, which transfers the data from the Interface Tables to the Siebel Base Tables. It then checks the `IF_ROW_STAT` column in the Interface Tables using the database-access script `import_cleanup.dsc`. Data that has not been transferred successfully from the Interface Tables to the Base Tables is retrieved and written to an error file. Everything else is simply deleted from the Interface Tables.

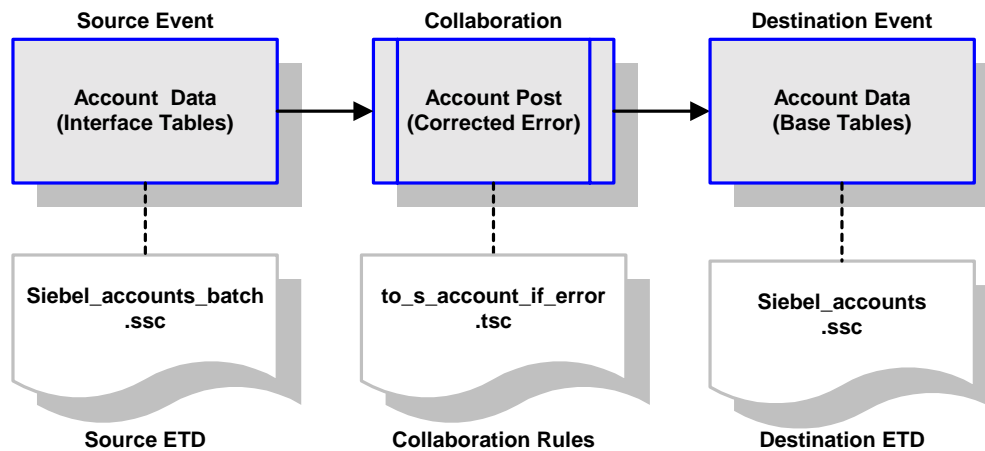
Figure 27 Account Post Functionality



## Account Post (Corrected Error)

The Collaboration script `to_s_account_if_error.tsc` works in the same manner as `to_s_account_if.tsc`, with the exception that it accepts input data formatted according to the Siebel Interface Table structure. The difference is most apparent in the [Database Interface Function](#).

**Figure 28** Account Post (Corrected Error) Collaboration

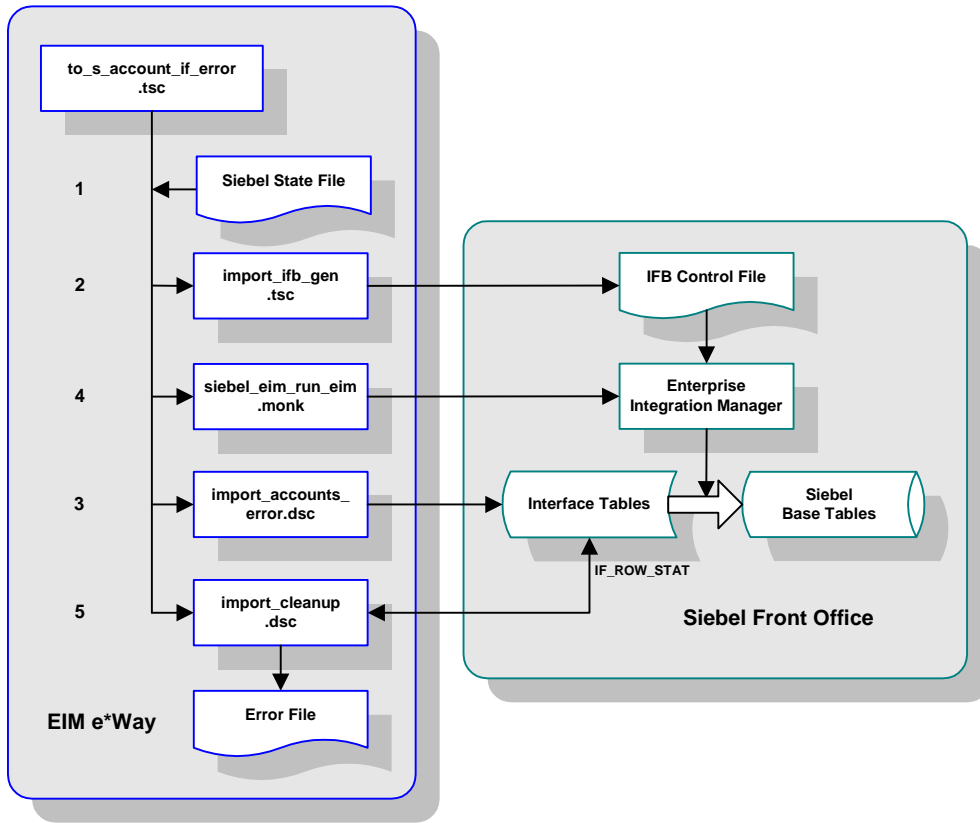


The source ETD, `Siebel_accounts_batch.ssc` represents the structure of data as it exists in the Siebel Interface Tables. As before, the destination ETD, `Siebel_accounts.ssc`, also represents the structure of data required by the Siebel system.

In response to this Collaboration, the Siebel EIM e\*Way functions as shown in Figure 29. In this scenario, the e\*Way is instantiated as `Siebel_EIM_Post_Error`. After initially checking the Siebel State File, the e\*Way creates and sends the IFB Control File `import_ifb_gen.tsc` to Siebel. It then loads the incoming data into the Siebel Interface Tables following the database-access script `import_accounts_error.dsc`.

Once the tables have been loaded the e\*Way invokes the EIM using the Monk function `siebel_eim_run_eim`, which transfers the data from the Interface Tables to the Siebel Base Tables. It then checks the `IF_ROW_STAT` column in the Interface Tables using the database-access script `import_cleanup.dsc`. Data that still has not been transferred successfully from the Interface Tables to the Base Tables is again retrieved and written to an error file. Successfully transferred records are simply deleted from the Interface Tables.

**Figure 29** Account Post (Corrected Error) Functionality







# Setup Procedures

This chapter describes the procedures for customizing the SeeBeyond e\*Way Intelligent Adapter for Siebel EIM to operate within your production system.

---

## 4.1 Overview

After creating a schema, you must instantiate and configure the Siebel EIM e\*Way to operate within the schema. A wide range of setup options allow the e\*Way to conform to your system's operational characteristics and your facility's operating procedures.

The topics discussed in this chapter include the following:

### Setting Up the e\*Way

[Creating the e\\*Way](#) on page 58

[Modifying e\\*Way Properties](#) on page 59

[Configuring the e\\*Way](#) on page 60

[Changing the User Name](#) on page 64

[Setting Startup Options or Schedules](#) on page 64

[Activating or Modifying Logging Options](#) on page 66

[Activating or Modifying Monitoring Thresholds](#) on page 67

### Troubleshooting the e\*Way

[Configuration Problems](#) on page 68

[System-related Problems](#) on page 69

## 4.2 Setting Up the e\*Way

**Note:** The e\*Gate Enterprise Manager GUI runs only on the Windows operating system.

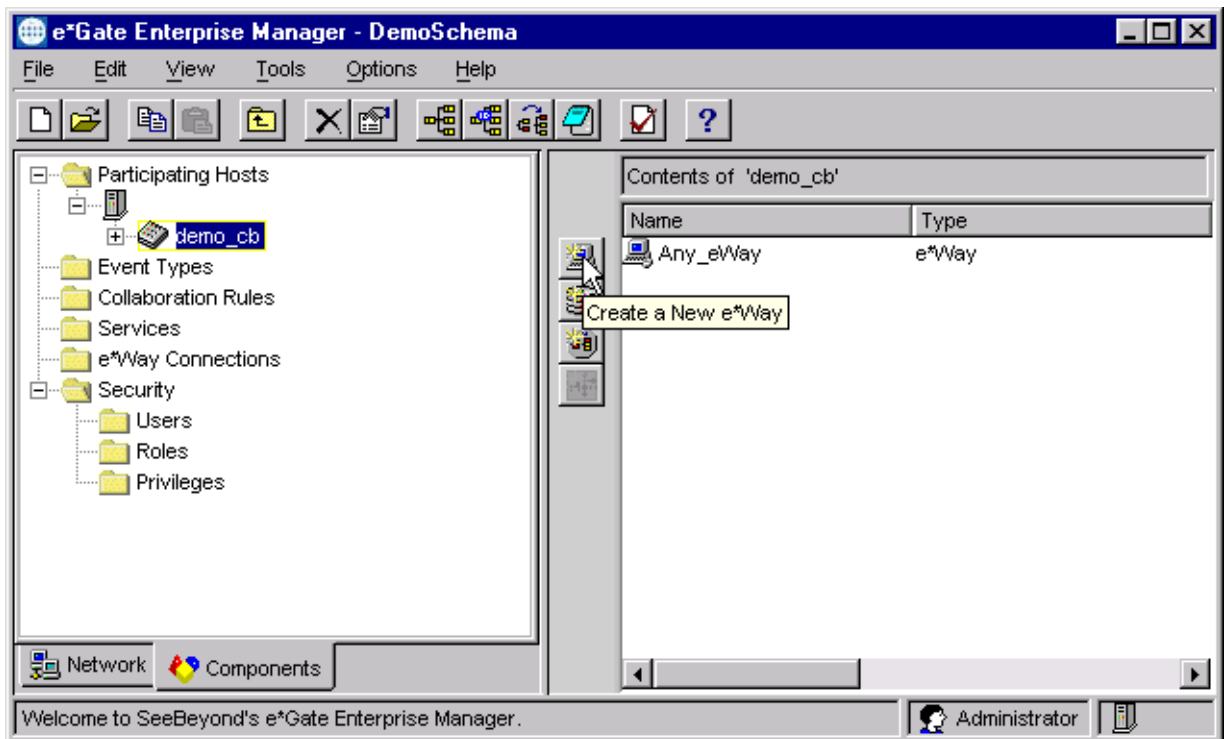
### 4.2.1 Creating the e\*Way

The first step in implementing an e\*Way is to define the e\*Way component using the e\*Gate Enterprise Manager.

To create an e\*Way

- 1 Open the schema in which the e\*Way is to operate.
- 2 Select the e\*Gate Enterprise Manager Navigator's **Components** tab.
- 3 Open the host on which you want to create the e\*Way.
- 4 Select the Control Broker you want to manage the new e\*Way.

**Figure 30** e\*Gate Enterprise Manager Window (Components View)



- 5 On the Palette, click **Create a New e\*Way**.
- 6 Enter the name of the new e\*Way, then click **OK**.
- 7 All further actions are performed in the e\*Gate Enterprise Manager Navigator's **Components** tab.

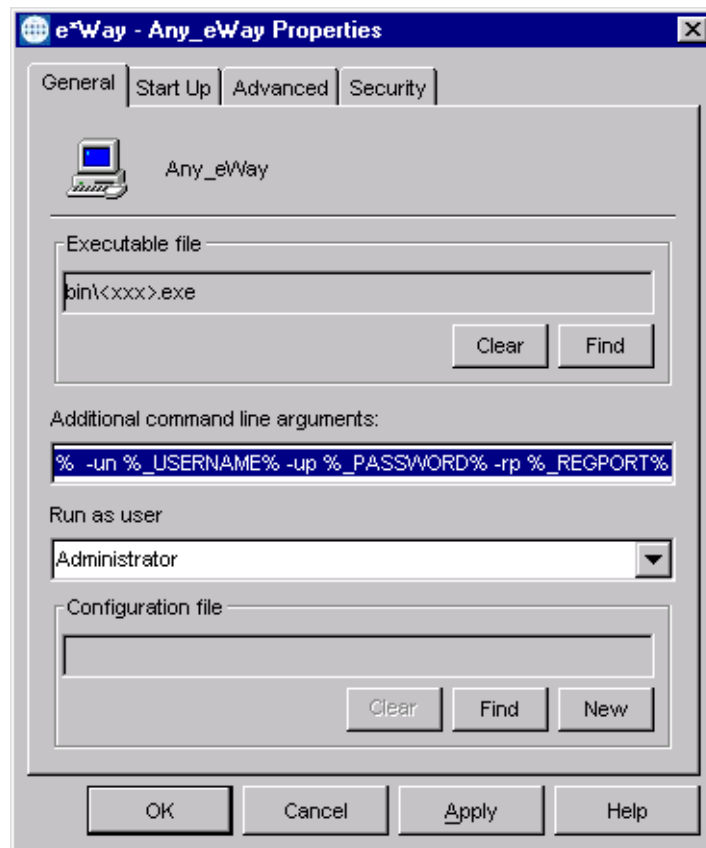
## 4.2.2 Modifying e\*Way Properties

To modify any e\*Way properties

- 1 Right-click on the desired e\*Way and select **Properties** to edit the e\*Way's properties. The properties dialog opens to the **General** tab (shown in Figure 31).

**Note:** The executable and default configuration files used by this e\*Way are listed in **e\*Way Components** on page 17.

**Figure 31** e\*Way Properties (General Tab)



- 2 Make the desired modifications, then click **OK**.

### 4.2.3 Configuring the e\*Way

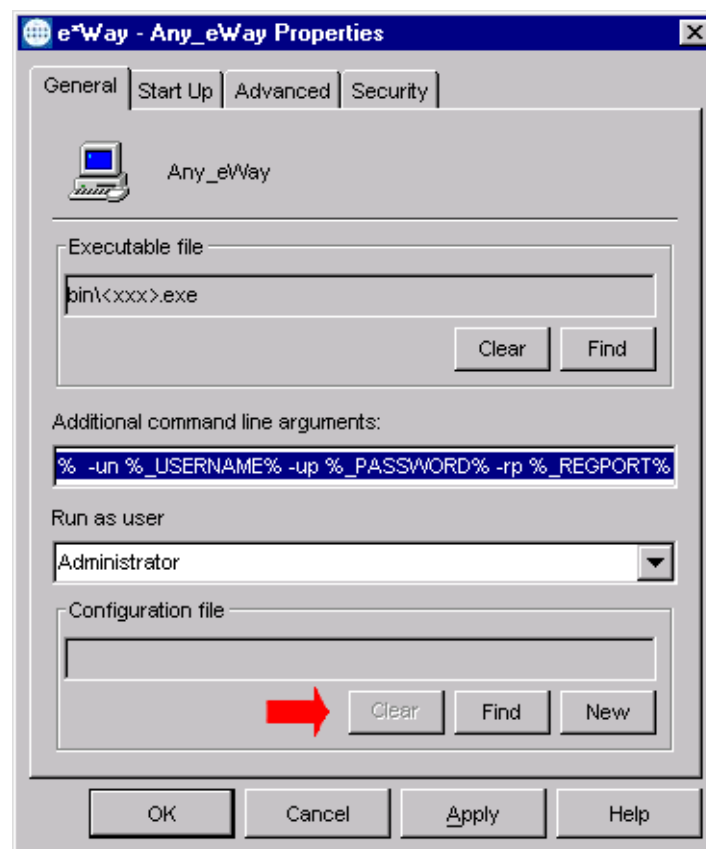
The e\*Way's default configuration parameters are stored in an ASCII text file with a .def extension. The e\*Way Editor provides a simple graphical interface for viewing and changing those parameters to create a working configuration (.cfg) file.

To change e\*Way configuration parameters

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

**Note:** The executable and default configuration files used by this e\*Way are listed in [e\\*Way Components](#) on page 17.

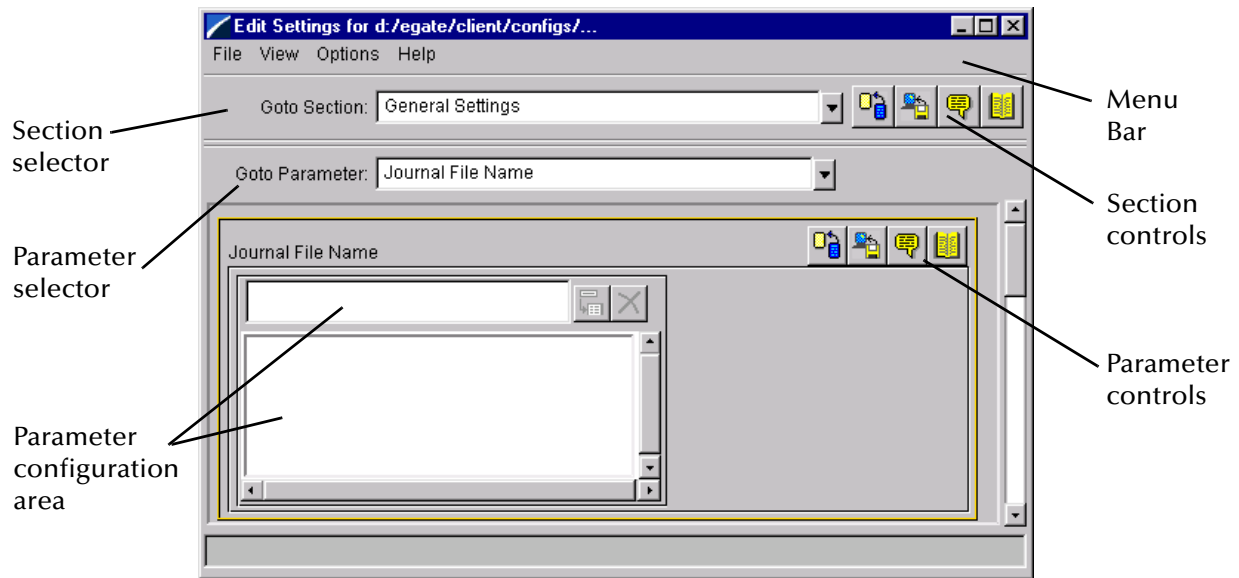
**Figure 32** e\*Way Properties - General Tab



- 2 Under **Configuration File**, click **New** to create a new file or **Find** to select an existing configuration file. If you select an existing file, an **Edit** button appears; click the button to edit the currently selected file.
- 3 You now are in the e\*Way Configuration Editor.

## Using the e\*Way Editor

Figure 33 The e\*Way Configuration Editor







The e\*Way Editor controls fall into one of six categories:

- The **Menu bar** allows access to basic operations (e.g., saving the configuration file, viewing a summary of all parameter settings, and launching the Help system)
- The **Section selector** at the top of the Editor window enables you to select the category of the parameters you wish to edit
- **Section controls** enable you to restore the default settings, restore the last saved settings, display tips, or enter comments for the currently selected section
- The **Parameter selector** allows you to jump to a specific parameter within the section, rather than scrolling
- **Parameter controls** enable you to restore the default settings, restore the last saved settings, display tips, or enter comments for the currently selected parameter
- **Parameter configuration controls** enable you to set the e\*Way's various operating parameters

## Section and Parameter Controls

The section and parameter controls are shown in Table 13 below.

**Table 13** Parameter and Section Controls

Button	Name	Function
	<b>Restore Default</b>	Restores default values
	<b>Restore Value</b>	Restores saved values
	<b>Tips</b>	Displays tips
	<b>User Notes</b>	Enters user notes



*Note: The section controls affect all parameters in the selected section, whereas the parameter controls affect only the selected parameter.*

## Parameter Configuration Controls

Parameter configuration controls fall into one of two categories:

- Option buttons
- Selection lists, which have controls as described in Table 14

**Table 14** Selection List Controls

Button	Name	Function
	<b>Add to List</b>	Adds the value in the text box to the list of available values.
	<b>Delete Items</b>	Displays a “delete items” dialog box, used to delete items from the list.

---

## Command-line Configuration

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.

---

## Getting Help

To launch the e\*Way Editor's Help system

From the **Help** menu, select **Help** topics.

To display tips regarding the general operation of the e\*Way

From the **File** menu, select **Tips**.

To display tips regarding the selected Configuration Section

In the **Section Control** group, click .

To display tips regarding the selected Configuration Parameter

In the **Parameter Control** group, click .

**Note:** *“Tips” are displayed and managed separately from the Help system that launches from the Toolbar's Help menu. You cannot search for Tips within the Help system, or view Help system topics by requesting Tips.*

For detailed descriptions and procedures for using the e\*Way Configuration Editor, see the *e\*Gate Integrator User's Guide*.

## 4.2.4 Changing the User Name

Like all e\*Gate executable components, e\*Ways run under an e\*Gate user name. By default, all e\*Ways run under the **Administrator** user name. You can change this if your site's security procedures so require.

To change the user name

- 1 Display the e\*Way's properties dialog.
- 2 On the **General** tab, use the **Run as user** list to select the e\*Gate user under whose name this component is to run.

See the *e\*Gate Integrator System Administration and Operations Guide* for more information on the e\*Gate security system.

## 4.2.5 Setting Startup Options or Schedules

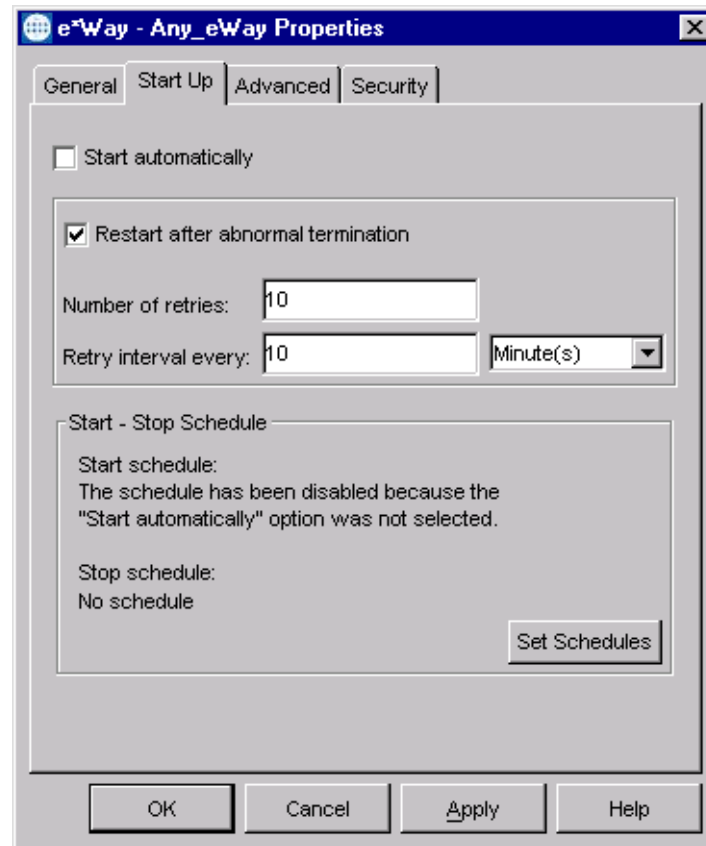
SeeBeyond e\*Ways can be started or stopped by any of the following methods:

- The Control Broker can start the e\*Way automatically whenever the Control Broker starts.
- The Control Broker can start the e\*Way automatically whenever it detects that the e\*Way terminated execution abnormally.
- The Control Broker can start or stop the e\*Way on a schedule that you specify.
- Users can start or stop the e\*Way manually using an interactive monitor.

You determine how the Control Broker starts or shuts down an e\*Way using options on the e\*Way properties **Start Up** tab (see Figure 34). See the *e\*Gate Integrator System Administration and Operations Guide* for more information about how interactive monitors can start or shut down components.



**Figure 34** e\*Way Properties (Start-Up Tab)



**To set the e\*Way's startup properties**

- 1 Display the e\*Way's properties dialog.
- 2 Select the **Start Up** tab.
- 3 To have the e\*Way start automatically when the Control Broker starts, select the **Start automatically** check box.
- 4 To have the e\*Way start manually, clear the **Start automatically** check box.
- 5 To have the e\*Way restart automatically after an abnormal termination:
  - A Select **Restart after abnormal termination**.
  - B Set the desired number of retries and retry interval.
- 6 To prevent the e\*Way from restarting automatically after an abnormal termination, clear the **Restart after abnormal termination** check box.
- 7 Click **OK**.

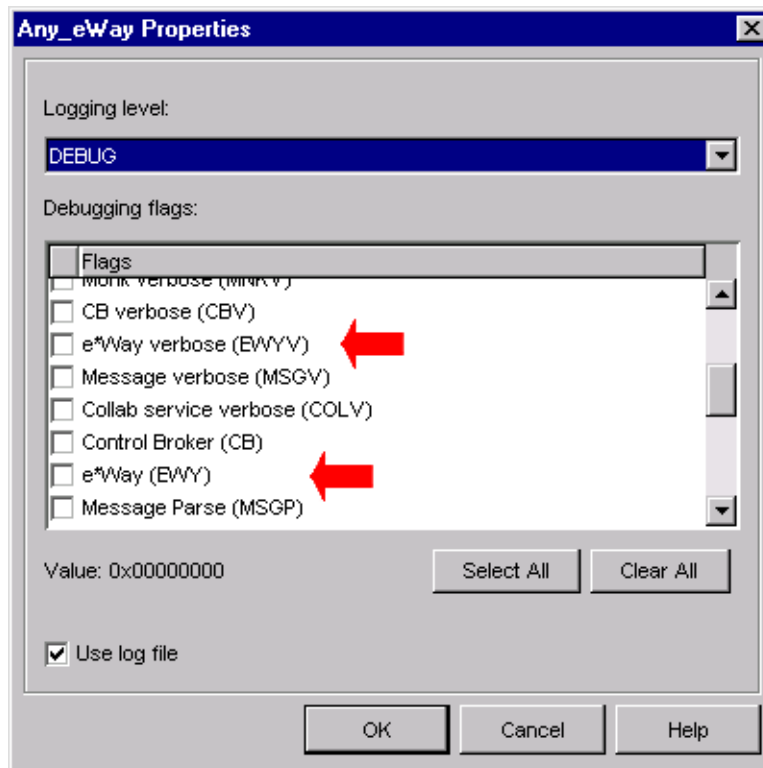
## 4.2.6 Activating or Modifying Logging Options

Logging options enable you to troubleshoot problems with the e\*Way and other e\*Gate components.

To set the e\*Way debug level and flag

- 1 Display the e\*Way's Properties dialog.
- 2 Select the **Advanced** tab.
- 3 Click **Log**. The dialog window appears (see Figure 35).

**Figure 35** e\*Way Properties (Advanced Tab - Log Option)



- 4 Select **DEBUG** for the **Logging level**.
- 5 Select either **e\*Way (EWY)** or **e\*Way Verbose (EWYV)** for the **Debugging flag**. Note that the latter has a significant negative impact on system performance.
- 6 Click **OK**.

The other options apply to other e\*Gate components and are activated in the same manner. See the *e\*Gate Integrator Alert and Log File Reference* for additional information concerning log files, logging options, logging levels, and debug flags.

## 4.2.7 Activating or Modifying Monitoring Thresholds

Monitoring thresholds enable you to monitor the throughput of the e\*Way. When the monitoring thresholds are exceeded, the e\*Way sends a Monitoring Event to the Control Broker, which routes it to the e\*Gate Monitor and any other configured destinations.

- 1 Display the e\*Way's properties dialog.
- 2 Select the **Advanced** tab.
- 3 Click **Thresholds**.
- 4 Select the desired threshold options and click **OK**.

See the *e\*Gate Integrator Alert and Log File Reference* for more information concerning threshold monitoring, routing specific notifications to specific recipients, or for general information about e\*Gate's monitoring and notification system.

## 4.3 Troubleshooting the e\*Way

In the initial stages of developing your e\*Gate Integrator system administration system, most problems with e\*Ways can be traced to configuration.

### 4.3.1 Configuration Problems

#### In the Enterprise Manager

- Does the e\*Way have the correct Collaborations assigned?
- Do those Collaborations use the correct Collaboration Services?
- Is the logic correct within any Collaboration Rules script employed by this e\*Way's Collaborations?
- Do those Collaborations subscribe to and publish Events appropriately?
- Are all the components that provide information to this e\*Way properly configured, and are they sending the appropriate Events correctly?
- Are all the components to which this e\*Way sends information properly configured, and are they subscribing to the appropriate Events correctly?

#### In the e\*Way Editor

- Check that all configuration options are set appropriately.
- Check that all settings you changed are set correctly.
- Check all required changes to ensure they have not been overlooked.
- Check the defaults to ensure they are acceptable for your installation.

#### On the e\*Way's Participating Host

- Check that the Participating Host is operating properly, and that it has sufficient disk space to hold the IQ data that this e\*Way's Collaborations publish.
- Check that the *path* environmental variable includes the location of the Siebel EIM dynamically-loaded libraries. The name of this variable on the different operating systems is:
  - ♦ PATH (Windows)
  - ♦ LD\_LIBRARY\_PATH (Solaris)
  - ♦ LIBPATH (AIX)

#### In the Siebel Application

- Check that the application is configured correctly, is operating properly, and is sending or receiving the correct data appropriately.

**Note:** *If you are using a non-English version of Siebel, you need to modify the Monk function `siebel-eim-run-eim.monk`. See [Siebel IFB Functions](#) on page 111.*

## 4.3.2 System-related Problems

- Check that the connection between the external application and the e\*Way is functioning appropriately.
- Once the e\*Way is up and running properly, operational problems can be due to:
  - ♦ External influences (network or other connectivity problems).
  - ♦ Problems in the operating environment (low disk space or system errors)
  - ♦ Problems or changes in the data the e\*Way is processing.
  - ♦ Corrections required to Collaboration Rules scripts that become evident in the course of normal operations.

One of the most important tools in the troubleshooter's arsenal is the e\*Way log file. See the *e\*Gate Integrator Alert and Log File Reference Guide* for an extensive explanation of log files, debugging options, and using the e\*Gate monitoring system to monitor operations and performance.

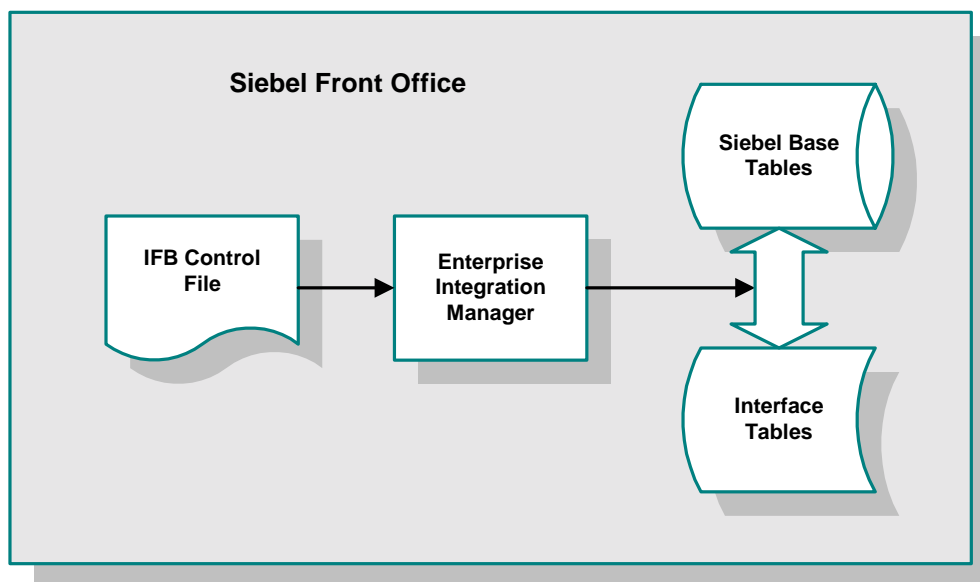
# Operational Overview

This chapter presents a brief overview of Siebel EIM, the Siebel-e\*Way interface, and the architecture and basic internal processes of the Siebel EIM e\*Way.

## 5.1 Siebel EIM

The Siebel Enterprise Integration Manager is the first step in exporting, and the last step in importing, data. The database consists of two main groups of tables, interface tables and base tables. The Siebel client application communicates directly with the highly normalized base tables. The interface tables are used as a staging area for importing, exporting, deleting and merging logical groups of data. Each interface table represents a subset of the data in a specific base table.

**Figure 36** Siebel Enterprise Integration Manager



When run, EIM coordinates the transfer of data between the base and interface tables. In addition, EIM creates and writes codes and row IDs to the base tables that directly correspond to the complex set of business rules used by the Siebel client application to display data. The EIM process must run on the server also running the Transaction Processor.

Typically, files to be imported have a predecessor-successor relationship, because Siebel requires files to be loaded in a certain manner. Thus any file depends on the completion of the preceding file. For example, if a project were receiving accounts, contacts and opportunities from an external source, they would receive either of the following:

- Three files from the external source
- One large file containing all of the pertinent information within one record

In scenario one, the three files would be Accounts, Contacts, and Opportunities, and Siebel requires the files be loaded in that order. Once EIM has completed interfacing Accounts, and the Accounts are loaded into the base tables, Contacts are loaded and an association is linked between the two entities. Opportunities follow the same logic.

In scenario two, the file is translated within e\*Gate to appear as if three files were loaded into the correct interface tables. Both Scenario one and scenario two have the same predecessor-successor relationship that is inherent in Siebel. To load contacts successfully, the account that the contact belongs to must be loaded first.

See the *Siebel Administration Guide* for more details regarding Siebel EIM.

## 5.2 IFB Control File

A control file (\*.ifb) is used to determine what data types are loaded and how. The control file follows a certain format—it tells the interface how to log into the database and what process to run. It also lists the columns that the interface does *not* populate (in Siebel-inbound mode), thus preventing erroneous error messages. The IFB control file can be generated automatically by the e\*Way or created manually, as configured by the user.

Following is an example of the control file format:

```
[Siebel Interface Manager]
  USER NAME = "SADMIN"
  PASSWORD = "SADMIN"
  TABLEOWNER = "SIEBEL"
  PROCESS = Import Both
```

This group of processes provides samples for import data through all the interface tables, broken up into logical groups. Note that the order of import is often significant.

```
[Import Both]
TYPE = SHELL
INCLUDE = "Import Accounts"
INCLUDE = "Import Accounts wo SalesRep"
```

```
[Import Accounts]
TYPE = IMPORT
BATCH = 0111
TABLE = S_ACCOUNT_IF
ONLY BASE TABLES = S_ORG_EXT, S_ADDR_ORG, S_ORG_INDUST,
S_ACCNT_POSTN
INSERT ROWS = TRUE
UPDATE ROWS = TRUE
IGNORE BASE COLUMNS = S_ORG_EXT.PAYMENT_TERM_ID,
S_ORG_EXT.PAR_OU_ID,
S_ORG_EXT.PR_BL_ADDR_ID,
S_ORG_EXT.PR_SHIP_ADDR_ID
```

```
[Import Accounts wo SalesRep]
TYPE = IMPORT
BATCH = 0115
TABLE = S_ACCOUNT_IF
ONLY BASE TABLES = S_ORG_EXT, S_ADDR_ORG, S_ORG_INDUST
INSERT ROWS = TRUE
UPDATE ROWS = TRUE
IGNORE BASE COLUMNS = S_ORG_EXT.PAYMENT_TERM_ID,
S_ORG_EXT.PAR_OU_ID,
S_ORG_EXT.PR_BL_ADDR_ID,
S_ORG_EXT.PR_SHIP_ADDR_ID
```

The IFB Control File is generated automatically by the **IFB Generation Function**, when the **Auto-Generate IFB File** parameter is selected. Otherwise, the **IFB Filename** indicated in the configuration file for the e\*Way is used to process the data.



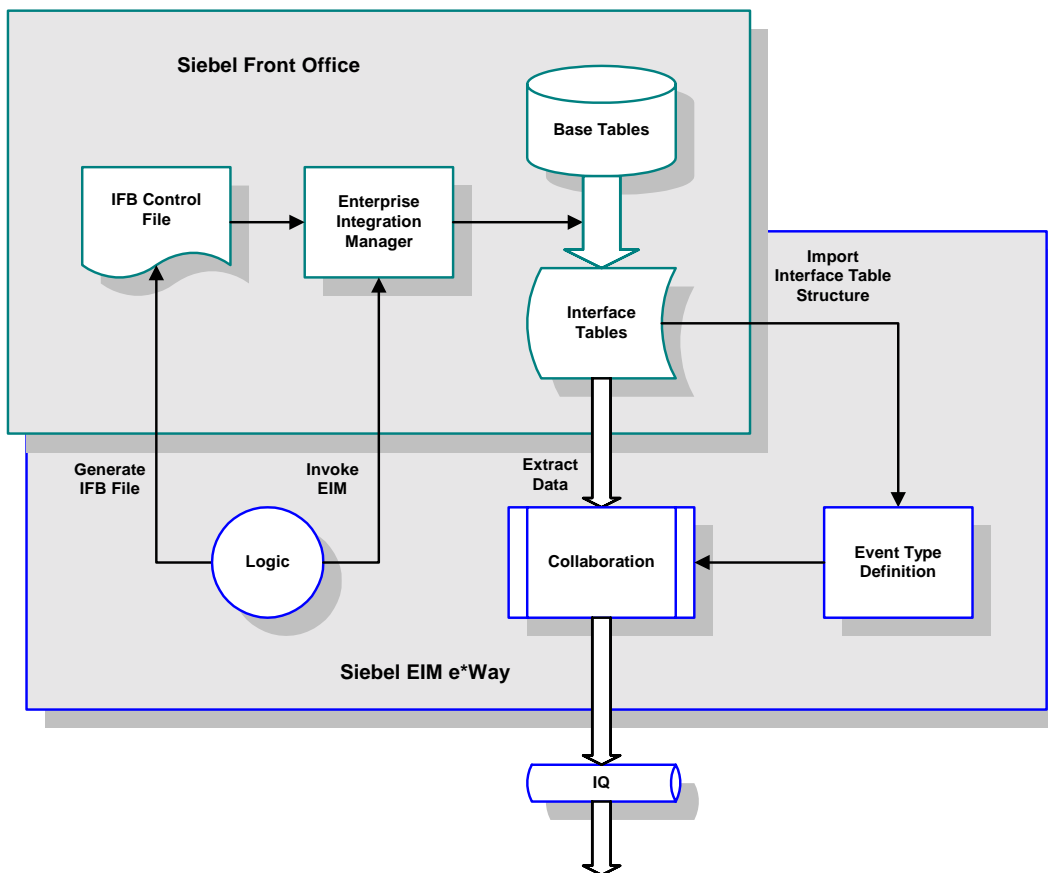
## 5.3 e\*Way-Siebel Interaction

The Siebel-to-e\*Gate operation is dealt with first, since it is less complex than the e\*Gate-to-Siebel case.

### 5.3.1 Siebel to e\*Gate

#### Process Flow

Figure 37 Siebel-to-e\*Gate Process Flow

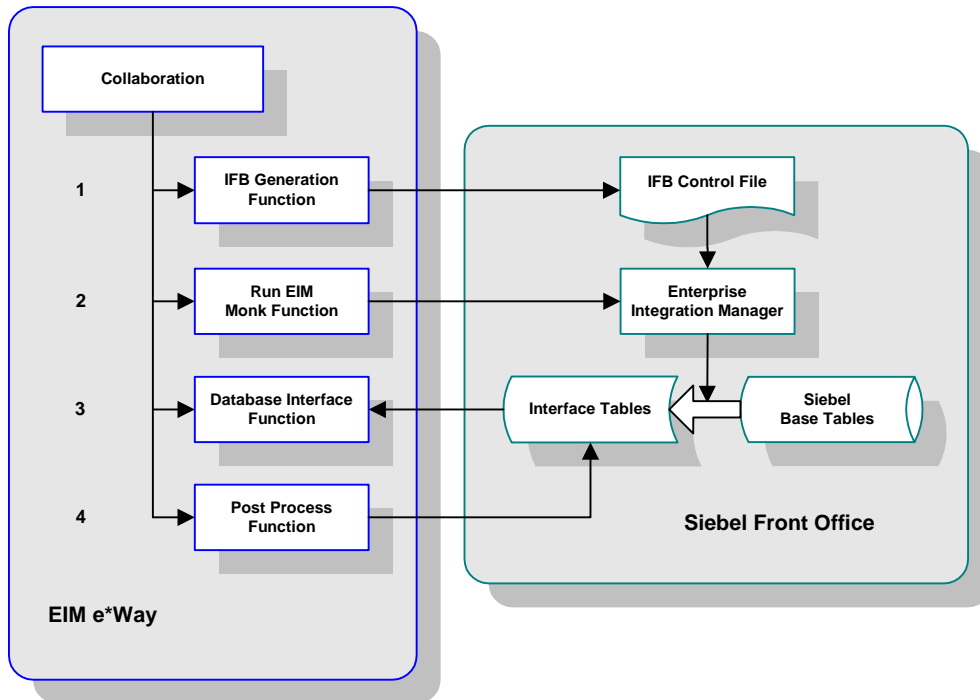


- 1 Following a prescribed schedule, the Siebel EIM e\*Way either generates or retrieves an IFB Control File, and sends it to Siebel.
- 2 The e\*Way then invokes the Siebel EIM process.
- 3 EIM then copies data from the Siebel Base Tables into the Interface Tables, as prescribed by the IFB Control File.
- 4 The Siebel EIM e\*Way extracts the data from the interface tables and maps it into the correct Event Type Definition, following a pre-defined Collaboration.

- The data is then passed to other e\*Gate components for further processing (if required) and routing to the target application.

## Processing Logic

**Figure 38** Siebel-to-e\*Gate Event Processing



### Creating the IFB Control File

If in the configuration file you have selected to **Auto-Generate IFB File**, then the IFB file is created based on the **IFB Generation Function**. Otherwise, the script uses the **IFB Filename** indicated in the configuration file for the e\*Way to process the data. As part of generating the IFB file, the script determines if an export has been done previously (as stored in the **Last Time of Export File**. If no previous time is found, then the previous time of export is set to 01/01/1900.

### Transferring the Data using Siebel EIM

Following the IFB creation step, the script proceeds to invoke Siebel EIM, which replicates the Base Table data in the Interface Tables following the IFB Control File.

### Extracting the Data from the Interface Tables

The data is extracted from the Interface Tables using the **Database Interface Function**.

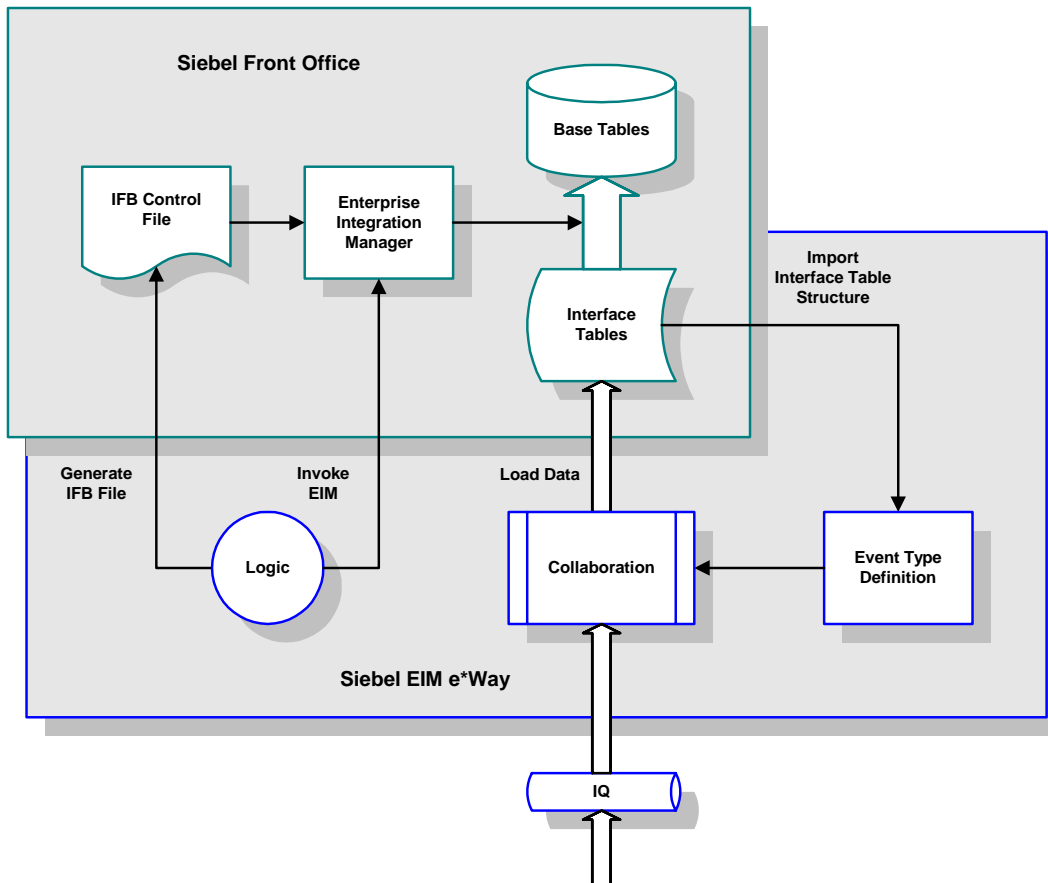
### Running the Post-Process Function

The script then invokes the **Post-Process Function**, which deletes all successfully-extracted records from the Interface Tables.

## 5.3.2 e\*Gate to Siebel

### Process Flow

Figure 39 e\*Gate-to-Siebel Process Flow



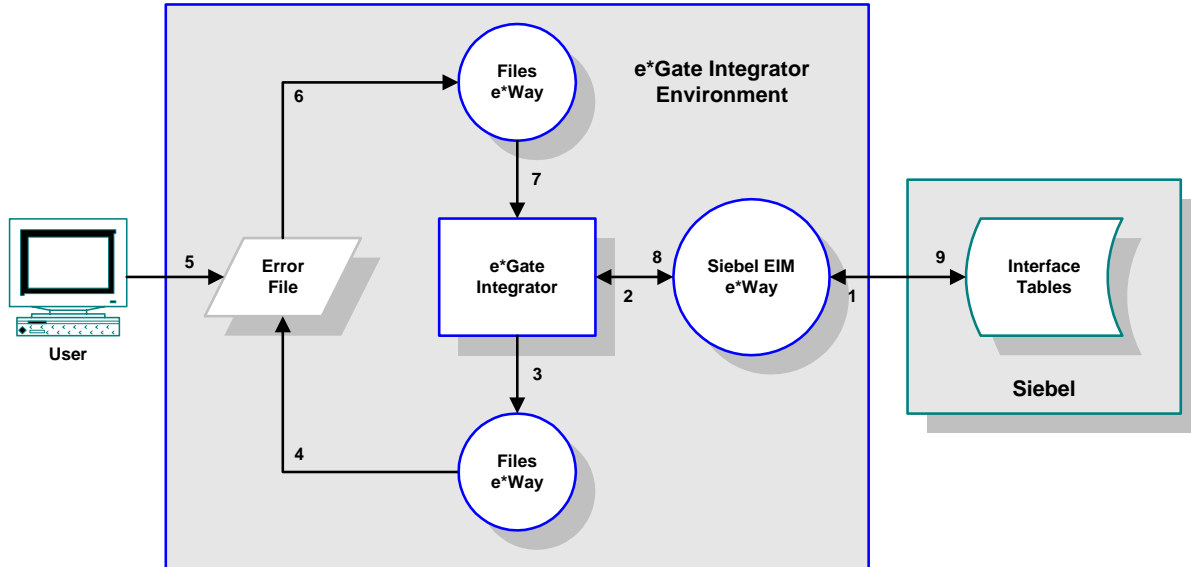
- 1 The Siebel EIM e\*Way extracts data from an Intelligent Queue for processing.
- 2 The e\*Way processes the information following a Collaboration previously created using structural information extracted from Siebel, and inserts validated rows into the Siebel Interface Tables.

**Note:** e\*Gate allows the population of *ROW\_ID*, *IF\_ROW\_BATCH\_NUM*, and *IF\_ROW\_STAT*, according to the chosen naming standards during the insert statement.

- 3 An IFB control file is built (or retrieved) and sent to the Siebel system for use by the EIM in populating the Base Tables with data from the Interface Tables.
- 4 The e\*Way initiates the Siebel Enterprise Integration Manager (EIM) to load the data from the Interface Tables into the appropriate Siebel Base Tables.

- 5 Upon completion of the EIM process, e\*Gate interrogates the IF\_ROW\_STAT column in the Siebel Interface Tables to verify the correct transfer of data to the Base Tables. All records transferred successfully are deleted from the Interface Tables.

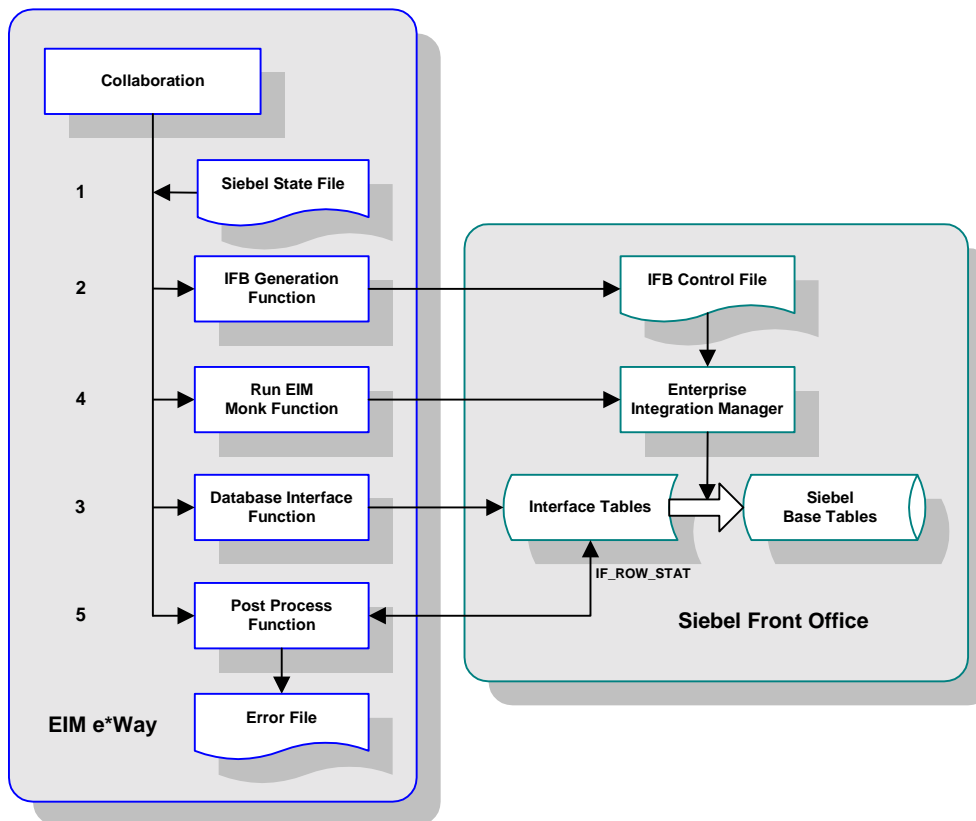
**Figure 40** e\*Gate-to-Siebel Error Processing



- 6 If any errors have occurred, the rejected records are pulled back into e\*Gate by the EIM e\*Way, placed in a error log file, and deleted from the Interface Tables.
- 7 User intervention is required to analyze and correct the data, and submit the records for reprocessing.

## Processing Logic

**Figure 41** e\*Gate-to-Siebel Event Processing



### Checking the Event State

Upon start-up the Siebel e\*Way checks the **Siebel State File** to determine the state of the inbound Event at the end of the last run. If no file is found the state is initialized to **MSG\_ACKED**. There are three possible states:

- **State 0 - MSG\_ACKED** - This is the initial state used for a new incoming Event. It also represents the final state in which the data has been inserted into the interface table, processed by the Enterprise Integration Manager, and an acknowledgment has been sent to e\*Gate.
- **State 1 - MSG\_INSERTED** - In this state the data has been inserted into the interface tables but no acknowledgment has been sent to e\*Gate.
- **State 2 - MSG\_PROCESSED** - In this state the data has been inserted into the interface table and processed by the Enterprise Interface Manager, but no acknowledgment has been sent to e\*Gate.

### Creating the IFB Control File

If you have selected **Auto-Generate IFB File** in the configuration file, then the IFB file is created based on the **IFB Generation Function**. Otherwise, the script uses the **IFB Filename** indicated in the configuration file for the e\*Way to process the data.

### Inserting the Data into the Interface Tables

If the state of the Event is `MSG_ACKED`, then the script proceeds to replicate the data in the Interface Tables using the **Database Interface Function**. If the state is other than `MSG_ACKED` it is set to `MONK_SKIP`, which instructs the script to skip this step. Once the records are successfully inserted into the Base Tables and committed, the state is changed to `MSG_INSERTED`.

### Transferring the Data using Siebel EIM

If the state of the Event is `MSG_INSERTED`, then the script proceeds to process the data using Siebel EIM. If the state is other than `MSG_ACKED` it is set to `MONK_SKIP`, which instructs the script to skip this step. Once the records are successfully transferred by EIM, the state is changed to `MSG_PROCESSED`.

### Running the Post-Process Function

The script then invokes the **Post-Process Function**, which extracts all records that were *not* successfully imported for this batch, and deletes *all* records from the table. When the Post-Process Function has completed successfully, the state is changed to `MSG_ACKED`.

### Error Correction

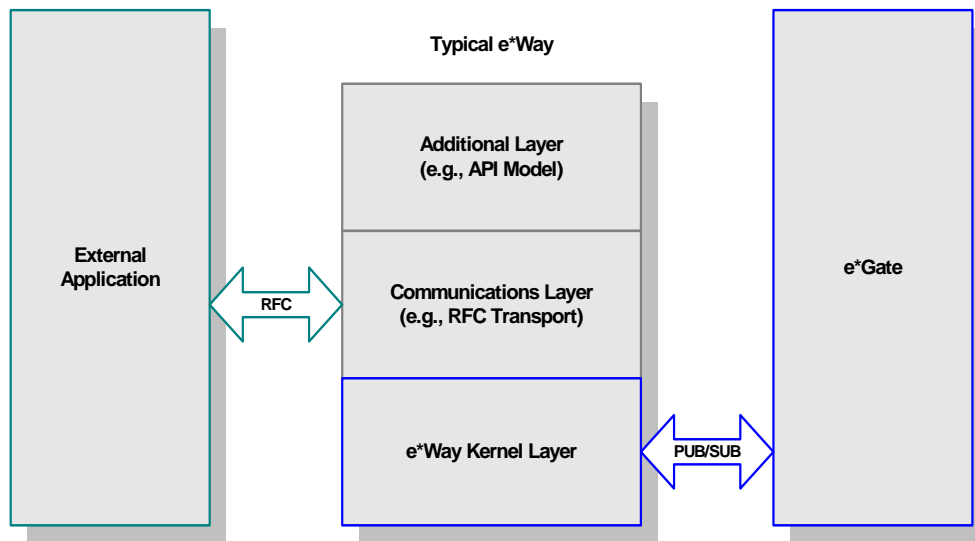
The script used to process the corrected error file works the same way as the one used originally, with the exception that it is expecting data in the Siebel IF Table format rather than the original input format. The difference is most apparent in the **Database Interface Function**.

**Note:** For descriptions of all Siebel functions, see [Chapter 7](#).

## 5.4 e\*Way Architecture

Conceptually, an e\*Way can be viewed as a multi-layered structure, consisting of one or more layers (see Figure 42). Each layer contains Monk scripts and/or functions, and makes use of lower-level Monk functions residing in the layer beneath. You, as user, primarily use the highest-level functions, which reside in the upper layer(s).

**Figure 42** Typical e\*Way Architecture

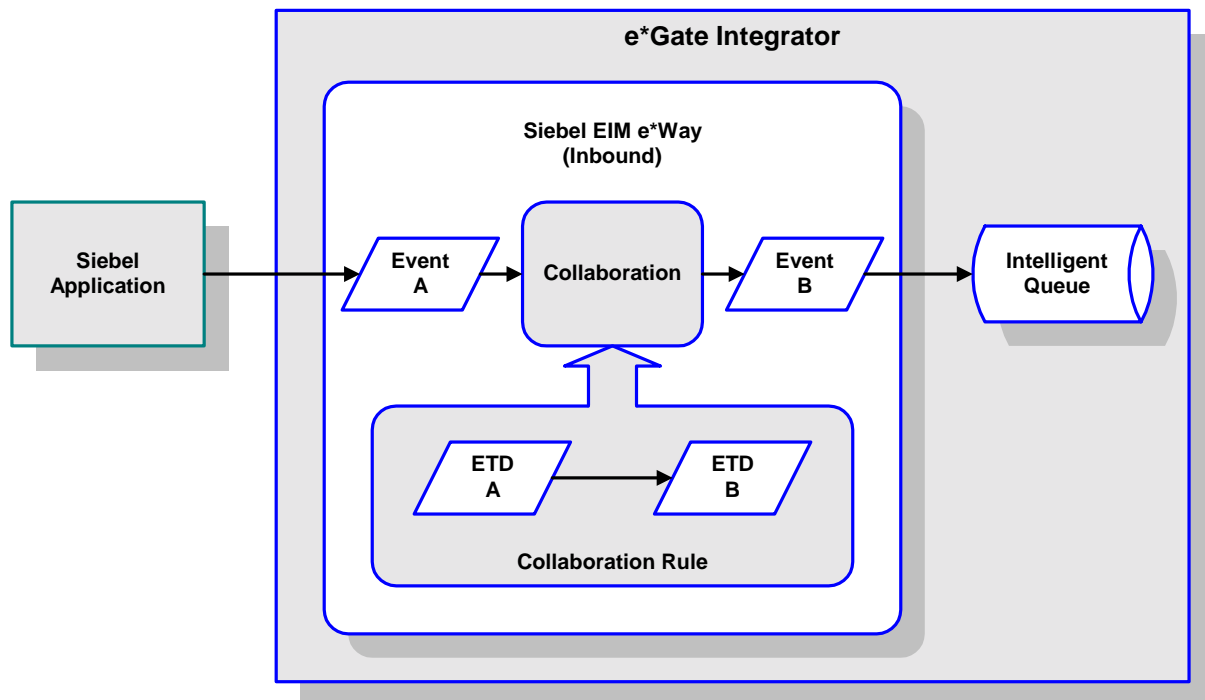


The upper layers of the e\*Way use Monk functions to perform Business Process modeling and ETD mapping, package data as e\*Gate *Events*, send those Events to Collaborations, and manage interaction with the external system. These layers are built upon an e\*Way Kernel layer that manages the basic operations of the e\*Way, data processing, and communication with other e\*Gate components.

The communication layers of the e\*Way are single-threaded. Functions run serially, and only one function can be executed at a time. Processing layers are multi-threaded, with one executable thread for each Collaboration. Each thread maintains its own Monk environment; therefore, information such as variables, functions, path information, and so on cannot be shared between threads.

Collaborations execute the business logic that enable the e\*Way to do its intended work. In turn, each Collaboration executes a Collaboration Rule, containing the actual instructions to execute the business logic. Each Collaboration that publishes its processed Events internally (within e\*Gate Integrator) requires one or more IQs to receive the Events, as shown in Figure 43. Any Collaboration that publishes its processed Events only to an external system does *not* require *any* IQs.

**Figure 43** Collaborations and IQs



Configuration options that control the Monk environment and define the Monk functions used to perform various e\*Way operations are discussed in [Chapter 6](#). You can create and modify these functions using the SeeBeyond Collaboration Rules Editor or a text editor (such as *Microsoft Word* or *Notepad*, or UNIX *vi*). The available set of e\*Way API functions is described in [Chapter 7](#). Generally, e\*Way Kernel Monk functions should be called directly only when there is a specific need not addressed by higher-level Monk functions, and should be used only by experienced developers.

For more information on defining Collaborations, defining IQs, assigning Collaborations to e\*Ways, or configuring Collaborations to publish Events, see the *e\*Gate Integrator User's Guide*.

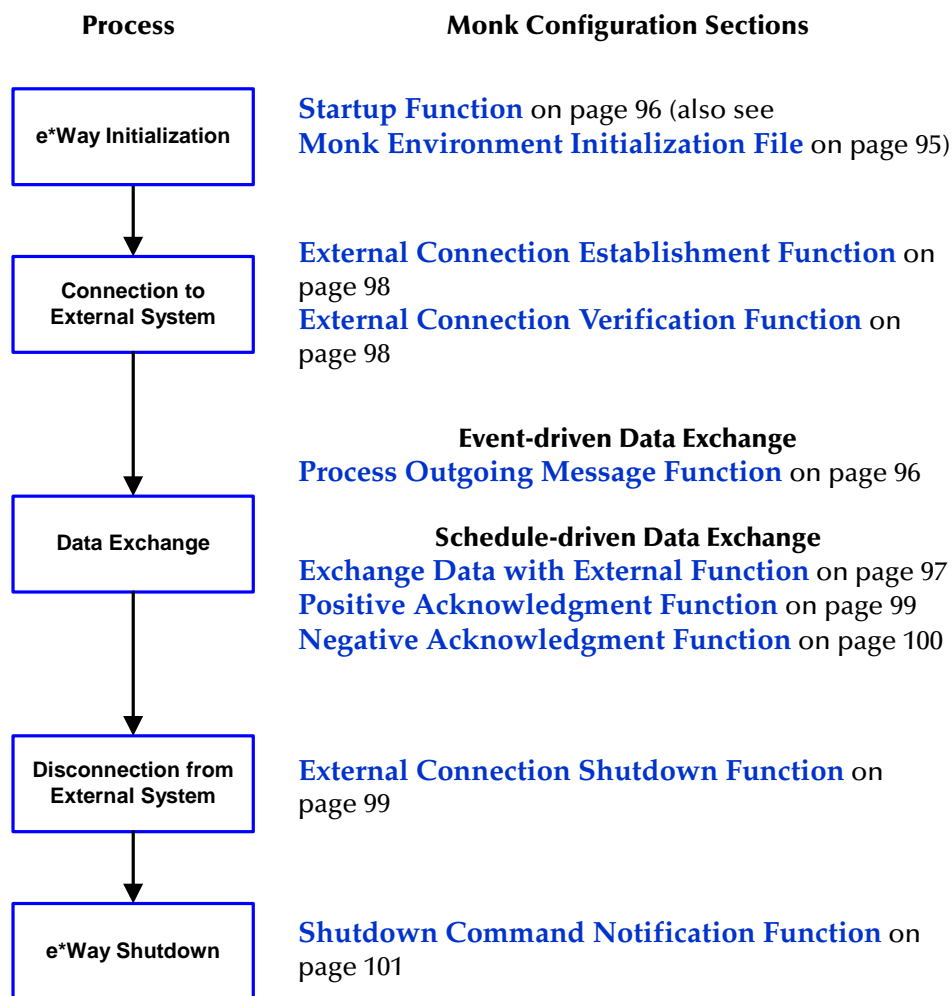


## 5.5 Basic e\*Way Processes

**Note:** This section describes the basic operation of a typical e\*Way based on the Generic e\*Way Kernel. Not all functionality described in this section is used routinely by the Siebel EIM e\*Way.

The most basic processes carried out by an e\*Way are listed in the following diagram. In e\*Ways based on the Generic Monk e\*Way Kernel (using `stcewgenericmonk.exe`), these processes are controlled by the listed Monk functions. Configuration of these functions is described in the referenced sections of this User's Guide.

**Table 15** Basic e\*Way Processes

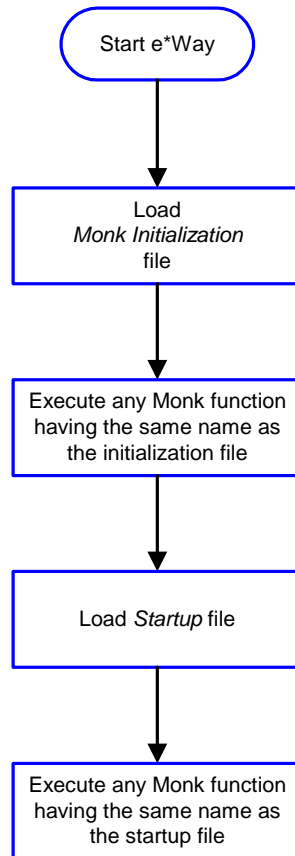


A series of diagrams on the next several pages illustrate the interaction and operation of these functions during the specified processes. Configuring the parameters associated with these functions is covered in [Chapter 6](#), while the functions themselves are described in [Chapter 7](#).

## Initialization Process

Figure 44 illustrates the e\*Way's initialization process, using the **Monk Environment Initialization File** and **Startup Function**.

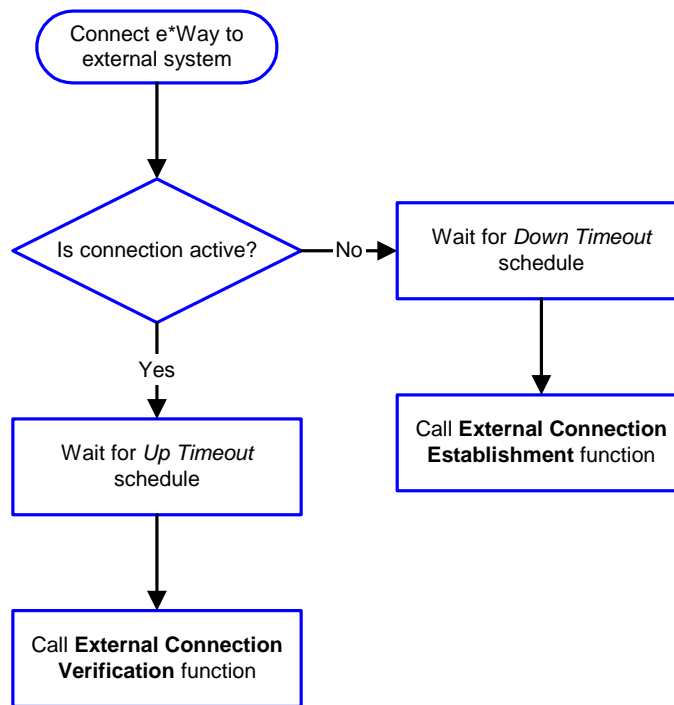
**Figure 44** Initialization Process



## Connect to External Process

Figure 45 illustrates how the e\*Way connects to the external system, using the **External Connection Establishment Function** and **External Connection Verification Function**.

**Figure 45** Connection Process



**Note:** The e\*Way selects the connection function based on an internal **up/down** flag rather than a poll to the external system. See [Figure 47 on page 85](#) and [Figure 46 on page 84](#) for examples of how different functions use this flag.

User functions can manually set this flag using Monk functions. See [send-external-up](#) on page 131 and [send-external-down](#) on page 131 for more information.

## Data Exchange Process

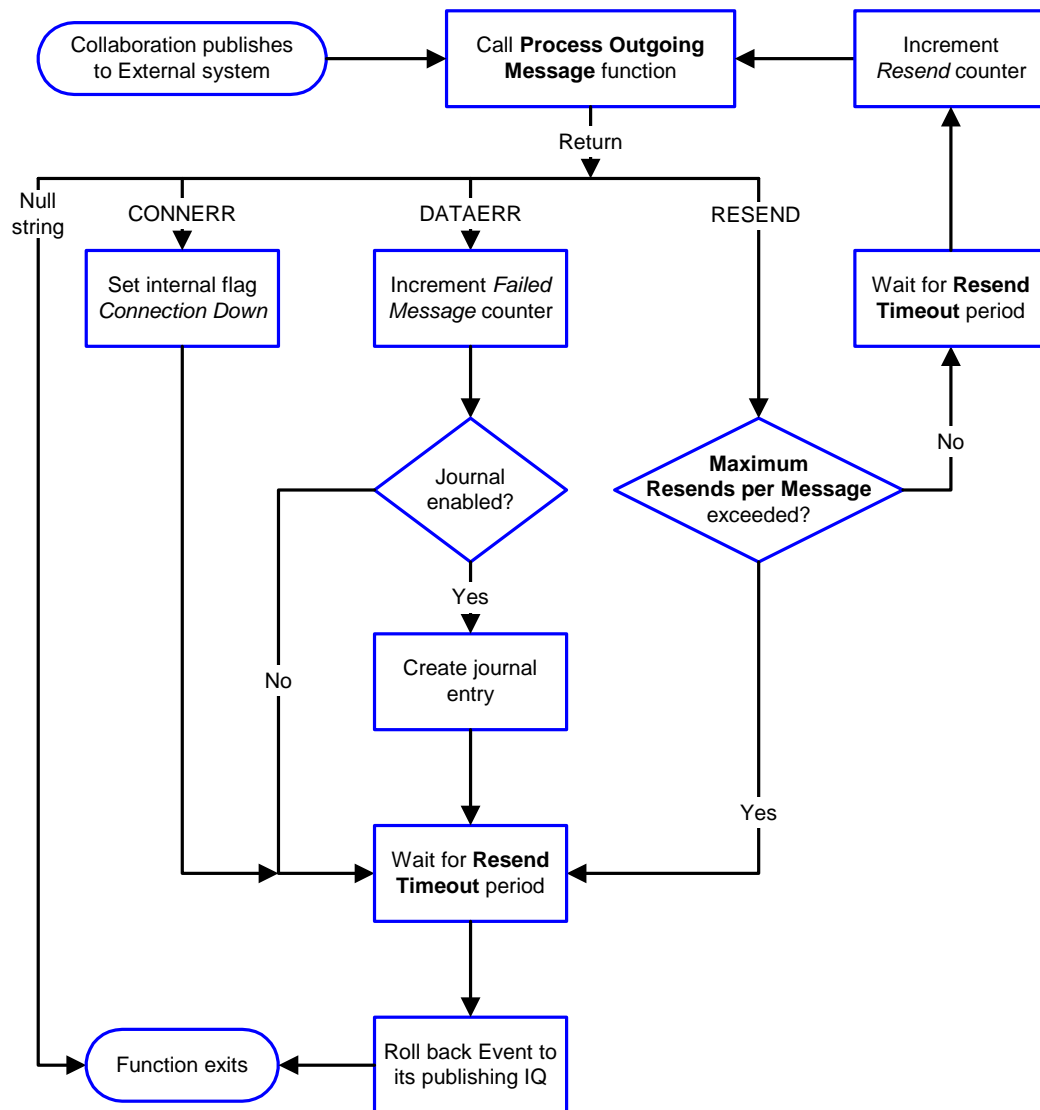
### Event-driven

Figure 46 illustrates how the e\*Way's event-driven data exchange process works, using the **Process Outgoing Message Function**.

The e\*Way periodically checks the *Failed Message* counter against the value specified by the **Max Failed Messages** parameter. When the *Failed Message* counter exceeds the specified maximum value, the e\*Way logs an error and shuts down.

After the function exits, the e\*Way waits for the next outgoing Event.

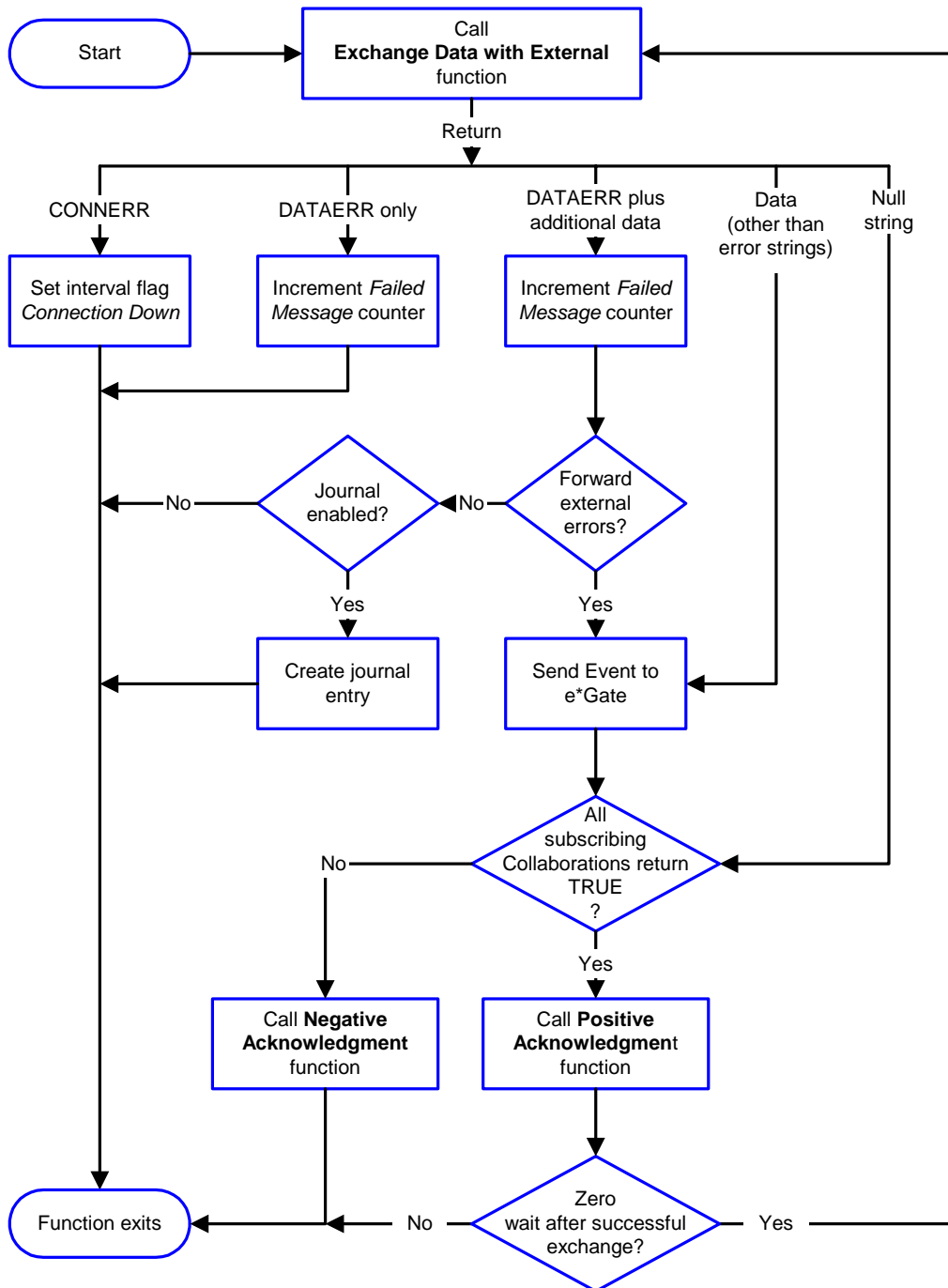
**Figure 46** Event-Driven Data Exchange Process



### Schedule-driven

Figure 47 illustrates how the e\*Way's schedule-driven data exchange process works for incoming data, using the **Exchange Data with External Function, Positive Acknowledgment Function**, and **Negative Acknowledgment Function**.

**Figure 47** Schedule-Driven Data Exchange Process



*Start* can occur in any of the following ways:

- *Start Data Exchange* time occurs
- Periodically during data-exchange schedule (after *Start Data Exchange* time, but before *Stop Data Exchange* time), as set by **Exchange Data Interval**
- The **start-schedule** Monk function is called

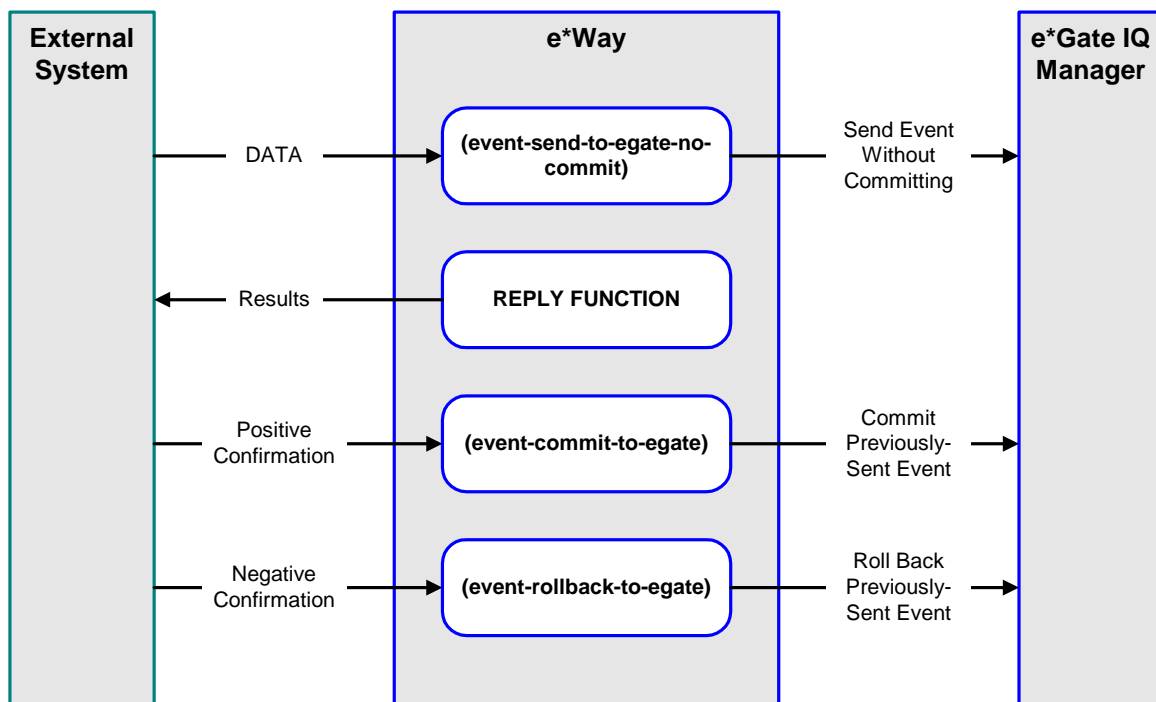
*Send Events to e\*Gate* can be implemented using any of the following Monk functions:

- **event-send-to-egate**
- **event-send-to-egate-ignore-shutdown**
- **event-send-to-egate-no-commit**

The last of these is used when confirmation of correct transmission is required from the external system. In this case, the e\*Way sends information back to the external system after receiving data. Depending upon whether the acknowledgment is positive or negative, you subsequently use one of the following functions to complete the process (see Figure 48):

- **event-commit-to-egate**
- **event-rollback-to-egate**

**Figure 48** Send Event to e\*Gate with Confirmation

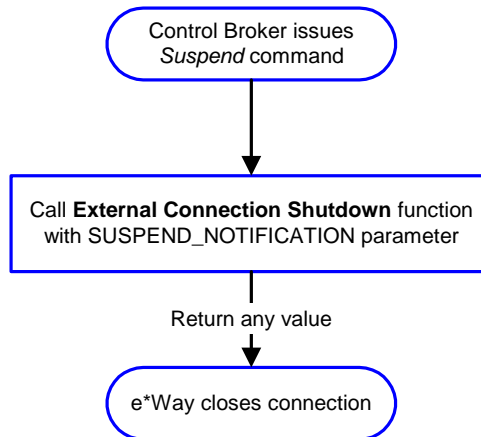


After the function exits, the e\*Way waits for the next *Start* time or command.

## Disconnect from External Process

Figure 49 illustrates how the e\*Way disconnects from the external system, using the **External Connection Shutdown Function**.

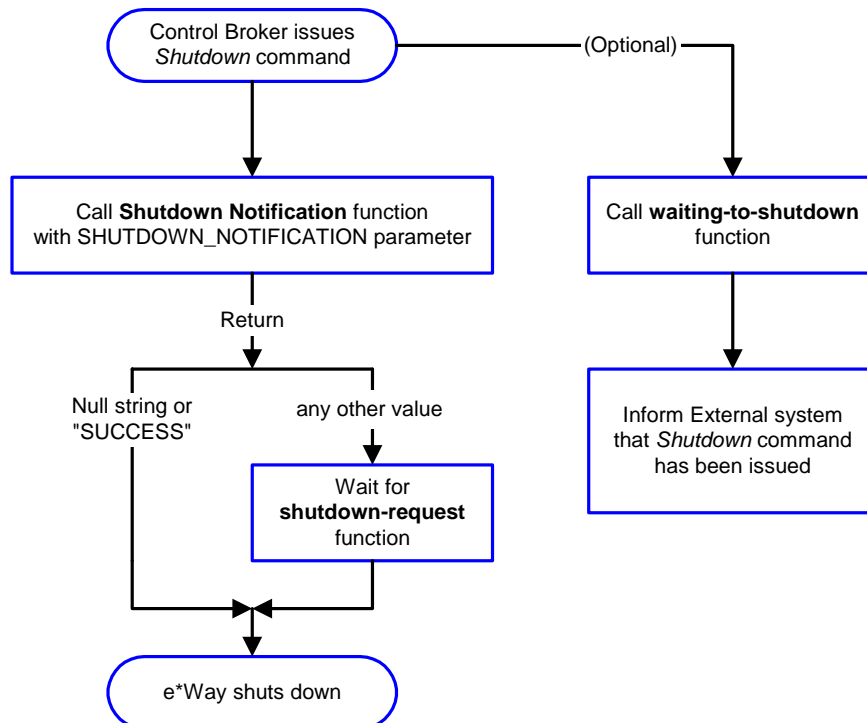
**Figure 49** Disconnect Process



## Shutdown Process

Figure 50 illustrates how the e\*Way shuts itself down, using the **Shutdown Command Notification Function**.

**Figure 50** Shutdown Process



# Configuration Parameters

This chapter describes the configuration parameters for the Siebel EIM e\*Way.

---

## 6.1 Overview

The e\*Way's configuration parameters are set using the e\*Way Editor; see [Configuring the e\\*Way](#) on page 60 for procedural information. The default configuration is provided in `SiebelEim.def`. The Siebel EIM e\*Way's configuration parameters are organized into the following sections:

[General Settings](#) on page 89

[Communication Setup](#) on page 91

[Monk Configuration](#) on page 94

[Siebel Server](#) on page 102

[Siebel System Functions](#) on page 105

[Siebel System Import](#) on page 107

[Siebel System Export](#) on page 109



---

## 6.2 General Settings

The General Settings control top level operational parameters.

---

### Journal File Name

#### Description

Specifies the name of the journal file.

#### Required Values

A valid filename, optionally including an absolute path (for example, `c:\temp\filename.txt`). If an absolute path is not specified, the file is stored in the e\*Gate SystemData directory. See the *e\*Gate Integrator System Administration and Operations Guide* for more information about file locations.

#### Additional Information

An Event is journaled for the following conditions:

- When the number of resends is exceeded (see [Max Resends Per Message](#), below)
  - When its receipt is due to an external error, but [Forward External Errors](#) is set to No
- 

### Max Resends Per Message

#### Description

Specifies the number of times the e\*Way attempts to resend a message (Event) to the external system after receiving an error. When this maximum is reached, the e\*Way waits for the number of seconds specified by the [Resend Timeout](#) parameter, and then rolls back the Event to its publishing IQ.

#### Required Values

An integer between 1 and 1,024. The default is 5.

---

### Max Failed Messages

#### Description

Specifies the maximum number of failed messages that the e\*Way allows. When the specified number of failed messages is reached, the e\*Way shuts down and exits.

#### Required Values

An integer between 1 and 1,024. The default is 3.

---

## Forward External Errors

### Description

Selects whether or not error messages received from the external system that begin with the string "DATAERR" are queued to the e\*Way's configured queue. See [Exchange Data with External Function](#) on page 97 for more information.

### Required Values

**Yes** or **No**. The default value, **No**, specifies that error messages are not to be forwarded. See [Data Exchange Process](#) on page 84 for more information about how the e\*Way uses this function.

---

## 6.3 Communication Setup

The Communication Setup parameters control the schedule by which the e\*Way obtains data from the external system.

***Note:** The schedule that you set using the e\*Way's properties in the e\*Gate Enterprise Manager controls when the e\*Way executable runs. The schedule that you set within the parameters discussed in this section (using the e\*Way Editor) determines when data are exchanged. Be sure that you set the "exchange data" schedule to fall within the "run the executable" schedule.*

---

### Start Exchange Data Schedule

#### Description

Establishes the schedule to invoke the e\*Way's **Exchange Data with External Function**.

#### Required Values

One of the following:

- One or more specific dates/times
- A single repeating interval (such as yearly, weekly, monthly, daily, or every *n* seconds)

**Also required:** If you set a schedule using this parameter, you must also define all three of the following:

- **Exchange Data with External Function**
- **Positive Acknowledgment Function**
- **Negative Acknowledgment Function**

If you do not do so, the e\*Way terminates execution when the schedule attempts to start.

#### Additional Information

When the schedule starts, the e\*Way determines whether or not it is waiting to send an ACK or NAK to the external system (using the **Positive Acknowledgment Function** and **Negative Acknowledgment Function**) and whether or not the connection to the external system is active. If no ACK/NAK is pending and the connection is active, the e\*Way immediately executes the **Exchange Data with External Function**. Thereafter, this latter function is called according to the **Exchange Data Interval** parameter until the **Stop Exchange Data Schedule** time is reached.

Since months do not all contain equal numbers of days, be sure not to provide boundaries that would cause an invalid date selection (i.e. the 30th of every month would not include February).

See also **Zero Wait Between Successful Exchanges** on page 93 for more information.

---

## Stop Exchange Data Schedule

### Description

Establishes the schedule to stop data exchange.

### Required Values

One of the following:

- One or more specific dates/times
- A single repeating interval (such as yearly, weekly, monthly, daily, or every *n* seconds)

Since months do not all contain equal numbers of days, be sure not to provide boundaries that would cause an invalid date selection (i.e. the 30th of every month would not include February).

---

## Exchange Data Interval

### Description

Specifies the number of seconds the e\*Way waits between calls to the [Exchange Data with External Function](#) during scheduled data exchanges.

### Required Values

An integer between 0 and 86,400. The default is 120.

### Additional Information

If [Zero Wait Between Successful Exchanges](#) is set to **Yes** and the [Exchange Data with External Function](#) returns data, the setting of this function is ignored and the e\*Way invokes the [Exchange Data with External Function](#) immediately.

If this parameter is set to zero, then **no** exchange data schedule is set and the [Exchange Data with External Function](#) is never called.

---

## Down Timeout

### Description

Specifies the number of seconds that the e\*Way waits between calls to the [External Connection Establishment Function](#).

### Required Values

An integer between 1 and 86,400. The default is 15.

---

## Up Timeout

### Description

Specifies the number of seconds the e\*Way waits between calls to the [External Connection Verification Function](#).

### Required Values

An integer between 1 and 86,400. The default is 15.

---

## Resend Timeout

### Description

Specifies the number of seconds the e\*Way waits between attempts to resend a message to the external system, after receiving an error message from the external system.

### Required Values

An integer between 1 and 86,400. The default is 15.

---

## Zero Wait Between Successful Exchanges

### Description

Selects whether to initiate data exchange after the [Exchange Data Interval](#) or immediately after a successful previous exchange.

### Required Values

Yes or No. The default is No.

If this parameter is set to **Yes**, the e\*Way immediately invokes the [Exchange Data with External Function](#) if the previous exchange function returned any data.

If this parameter is set to **No**, the e\*Way always waits the number of seconds specified by [Exchange Data Interval](#) between invocations of the [Exchange Data with External Function](#).

---

## 6.4 Monk Configuration

The parameters in this section help you set up the information required by the e\*Way to utilize Monk for communication with the external system.

### Specifying Function or File Names

Parameters that require the name of a Monk function accept either a function name (implied by the absence of a period <.>) or the name of a file (optionally including path information) containing a Monk function. If a file name is specified, the function invoked is given by the base name of the file (for example, for a file named **my-startup.monk**, the e\*Way would attempt to execute the function **my-startup**). If path information is specified, that path is appended to the **Load Path**.

If you specify a file name, be sure that the file has one of the following extensions:

- .monk
- .tsc
- .dsc

### Specifying Multiple Directories

To specify multiple directories, manually enter the directory names rather than selecting them with the **File Selection** button. Directory names must be separated with semicolons, and you can mix absolute paths with relative e\*Gate paths. For example:

```
monk_scripts\my_dir;c:\my_directory
```

The internal e\*Way function that loads this path information is called only once, when the e\*Way first starts up.

### Load Path

The Monk *load path* is the path Monk uses to locate files and data (set internally within Monk). The default load paths are determined by the **SharedExe** and **SystemData** settings in the **.egate.store** file. See the *e\*Gate Integrator System Administration and Operations Guide* for more information about this file.

---

## Additional Path

### Description

Specifies a path to be appended to the **Load Path**. A directory specified here is searched *after* searching the default load path.

### Required Values

A pathname, or a series of paths separated by semicolons. There is no default value for this parameter.

**Note:** *This parameter is optional and may be left blank.*

### Additional information

The internal e\*Way function that loads this path information is called only once, when the e\*Way first starts up.

---

## Auxiliary Library Directories

### Description

Specifies a path to auxiliary library directories. Any **.monk** files found within those directories are automatically loaded into the e\*Way's Monk environment.

### Required Values

A pathname, or a series of paths separated by semicolons. The default is **monk\_library/ewsiebeleim**.

*Note:* This parameter is optional and may be left blank.

---

## Monk Environment Initialization File

### Description

Specifies a file that contains environment initialization functions, which is loaded after the **Auxiliary Library Directories** are loaded. Any environment initialization functions called by this file accept no input, and must return a string.

### Required Values

A filename within the **Load Path**, or filename plus path information (relative or absolute). If path information is specified, that path is appended to the load path. The default is **siebel-eim-init**.

*Note:* This parameter is optional and may be left blank.

### Returns

The string **"FAILURE"** indicates that the function failed, and the e\*Way exits; any other string, including a *null string*, indicates success.

### Additional information

- Use this feature to initialize the e\*Way's Monk environment (for example, to define Monk variables that are used by the e\*Way's function scripts); it is good practice to initialize any global Monk variables that may be used by any other Monk Extension scripts
- The internal function that loads this file is called once when the e\*Way first starts up
- The e\*Way loads this file and try to invoke a function of the same base name as the file name

---

## Startup Function

### Description

Specifies a Monk function that the e\*Way loads and invokes upon startup or whenever the e\*Way's configuration is reloaded. It is called after the e\*Way loads the specified **Monk Environment Initialization File** and any files within the specified **Auxiliary Library Directories**. This function accepts no input, and must return a string.

This function should be used to initialize the external system before data exchange starts.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. The default value is **siebel-eim-startup**.

*Note:* This parameter is optional and may be left blank.

### Returns

The string "FAILURE" indicates that the function failed, and the e\*Way exits; any other string (including a *null string*) indicates success.

---

## Process Outgoing Message Function

### Description

Specifies the Monk function responsible for sending outgoing messages (Events) from the e\*Way to the external system. This function is event-driven, rather than schedule-driven). The function requires a non-null string as input (i.e., the outgoing Event to be sent), and must return a string.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. There is no default value for this parameter.

*Note:* This parameter is **required**, and must **not** be left blank.

### Returns

- A *null string* ("") indicates that the Event was published successfully to the external system
- A string beginning with **RESEND** indicates that the Event should be resent
- A string beginning with **CONNERR** indicates that there is a problem with the connection to the external system, and causes a rollback of the Event
- A string beginning with **DATAERR** indicates that there is a problem with the message (Event) data itself, and causes a rollback of the Event
- A string beginning with **SHUTDOWN** indicates that the e\*Way must exit immediately



- If any string other than one of the preceding is returned, the e\*Way creates an entry in the log file indicating that an attempt has been made to access an unsupported function

#### Additional Information

- The e\*Way invokes this function when one of its Collaborations publishes an Event to an *external* destination (as specified within the e\*Gate Enterprise Manager).
- Once this function has been called with a *non-null string*, the e\*Way does not process another Event until the current Event has been completely processed.

**Note:** *If you wish to use [event-send-to-egate](#) to enqueue failed Events in a separate IQ, the e\*Way must have an inbound Collaboration (with appropriate IQs) configured to process those Events.*

---

## Exchange Data with External Function

### Description

Specifies a Monk function that initiates the transmission of data from the external system to the e\*Gate system and forwards that data as an inbound Event to one or more e\*Gate Collaborations. This function is invoked automatically by the [Start Exchange Data Schedule](#) or manually by the [start-schedule](#) Monk function, and is responsible for either sending data to or receiving data from the external system. If this function returns data, it is queued to e\*Gate in an inbound Collaboration. The e\*Way must have at least one Collaboration configured suitably to process the inbound Event, as well as any required IQs.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. There is no default value for this parameter.

**Note:** *This parameter is **conditional** and must be supplied only if the [Exchange Data Interval](#) is set to a non-zero value.*

### Returns

- A *null string* ("" ) indicates that the data exchange was completed successfully, but with no resultant data sent back to the e\*Gate system
- A string beginning with **CONNERR** indicates that there is a problem with the connection to the external system
- A string beginning with **DATAERR** indicates that there is a problem with the message (Event) data itself. If the error string contains data beyond the keyword, the entire string is queued to e\*Gate if an inbound Collaboration is so configured and [Forward External Errors](#) is set to **Yes**. Queueing, however, is performed without the subsequent sending of a **ACK** or **NAK** to the external system.
- Any other string indicates that the contents of the string are packaged as an inbound Event

### Additional Information

- Data can be queued directly to e\*Gate by using the [event-send-to-egate](#) Monk function or, if a two-phase approach is required, by using [event-send-to-egate-no-commit](#) and then [event-commit-to-egate](#) or [event-rollback-to-egate](#) to commit or rollback the enqueued events, as appropriate

*Note:* Until an Event is committed, it is not revealed to subscribers of that Event.

---

## External Connection Establishment Function

### Description

Specifies a Monk function that the e\*Way calls (repeatedly) when it has determined that the connection to the external system is down. The function accepts no input and must return a string.

This function is executed according to the interval specified within the [Down Timeout](#) parameter, and is called *only* according to this schedule. Once the e\*Way has determined that its connection to the external system is up, it calls the [External Connection Verification Function](#) (see next).

### Required Values

The name of a Monk function or the name of a file containing a Monk function. The default value is [siebel-eim-external-connection-establishment](#).

*Note:* This parameter is **required**, and must **not** be left blank.

### Returns

- A string beginning with **SUCCESS** or **UP** indicates that the connection was established successfully
- A string beginning with **DOWN** indicates that the connection was not established successfully
- Any other string, including a *null string*, indicates that the attempt to establish the connection failed and the external state is unknown

---

## External Connection Verification Function

### Description

Specifies a Monk function that the e\*Way calls when its internal variables show that the connection to the external system is up. It is executed according to the interval specified within the [Up Timeout](#) parameter, and is called *only* according to this schedule. The function accepts no input and must return a string.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. The default value is [siebel-eim-verify-db-connect](#).

*Note:* This parameter is optional and may be left blank.

#### Returns

- “SUCCESS” or “UP” indicates that the connection was established successfully
- Any other string (including the null string) indicates that the attempt to establish the connection failed

#### Additional Information

If this function is not specified, the e\*Way executes the **External Connection Establishment Function** in its place. This latter function also is called when the e\*Way has determined that its connection to the external system is down.

---

## External Connection Shutdown Function

### Description

Specifies a Monk function that the e\*Way calls to shut down the connection to the external system. This function is invoked only when the e\*Way receives a *suspend* command from a Control Broker.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. The default is **siebel-eim-shutdown**.

*Note:* This parameter is **required**, and must **not** be left blank.

### Input

A string indicating the purpose for shutting down the connection.

- “SUSPEND\_NOTIFICATION” - the e\*Way is being suspended or shut down
- “RELOAD\_NOTIFICATION” - the e\*Way is being reconfigured

### Returns

A string, the value of which is ignored. Any return value indicates that the *suspend* command can proceed and that the connection to the external system can be broken immediately.

*Note:* Include in this function any required “clean up” operations that must be performed as part of the shutdown procedure, but before the e\*Way exits.

---

## Positive Acknowledgment Function

### Description

This function is loaded during the initialization process and is called when all data received from the external system has been processed and enqueued successfully.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. The default is **siebel-eim-ack**.

### Input

A string, the inbound Event to e\*Gate.

### Returns

- The string beginning with **CONNERR** indicates a problem with the connection to the external system; when the connection is re-established, the function is called again, with the same input data
- Any other string, including a *null string*, indicates that the acknowledgement has been sent to the external system successfully

### Additional Information

- After the **Exchange Data with External Function** returns a string that is transformed into an inbound Event, the Event is handed off to one or more Collaborations for further processing. The e\*Way executes this function only if the Event's processing is completed successfully by *all* the Collaborations to which it was sent; otherwise, the e\*Way executes the **Negative Acknowledgment Function**.
- This function can return data to be queued, but the e\*Way will *not* acknowledge the data with an **ACK** or **NAK**.

**Note:** *If you configure the acknowledgment function to return a non-null string, you must configure a Collaboration (with appropriate IQs) to process the returned Event.*

---

## Negative Acknowledgment Function

### Description

This function is loaded during the initialization process and is called when the e\*Way fails to process or enqueue data received from the external system successfully.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. The default is **siebel-eim-nack**.

### Input

A string, the inbound Event to e\*Gate.

### Returns

- The string beginning with **CONNERR** indicates a problem with the connection to the external system; when the connection is re-established, the function is called again, using the same input data
- Any other string, including a *null string*, indicates that the acknowledgement has been sent to the external system successfully

### Additional Information

- This function is called only during the processing of inbound Events. After the **Exchange Data with External Function** returns a string that is transformed into an inbound Event, the Event is handed off to one or more Collaborations for further processing. The e\*Way executes this function if the Event's processing is not completed successfully by *all* the Collaborations to which it was sent; otherwise, the e\*Way executes the **Positive Acknowledgment Function**.
- This function can return data to be queued, but the e\*Way will *not* acknowledge the data with an ACK or NAK.

**Note:** *If you configure the acknowledgment function to return a non-null string, you must configure a Collaboration (with appropriate IQs) to process the returned Event.*

---

## Shutdown Command Notification Function

### Description

The e\*Way calls this Monk function automatically to notify the external system that it is about to shut down. This function also can be used to shut down the connection with the external. The function accepts a string as input and must return a string.

### Required Values

The name of a Monk function or the name of a file containing a Monk function. There is no default value for this parameter.

**Note:** *This parameter is optional and may be left blank.*

### Input

When the Control Broker issues a shutdown command to the e\*Way, the e\*Way calls this function with the string "SHUTDOWN\_NOTIFICATION" passed as a parameter.

### Returns

- A *null string* or "SUCCESS" indicates that the shutdown can occur immediately
- Any other string indicates that shutdown must be postponed; once postponed, shutdown does not proceed until the Monk function **shutdown-request** is executed

### Additional Information

If you postpone a shutdown using this function, be sure to use the **shutdown-request** function to complete the process in a timely manner.

---

## 6.5 Siebel Server

The parameters in this section initialize the Siebel Server variables.

---

### Siebel Version

#### Description

Specifies the Siebel version used to connect with e\*Gate

#### Required Values

One of the following options:

- Siebel 2000
  - Siebel 7
  - Siebel 99
- 

### Database Client Connectivity

#### Description

Specifies the connection type version used to connect to the database.

#### Required Values

One of the following options:

- ODBC
- ORACLE7
- ORACLE8
- ORACLE8i
- SYBASE

The default is ODBC.

---

### Database Host Name

#### Description

Specifies the host machine where the Siebel database resides. If using ODBC, this is the data source name corresponding to the Siebel database.

#### Required Values

A string.

---

## Database Table Owner

### Description

Specifies the Siebel database logon name that owns the tables being operated on.

### Required Values

A string.

---

## Database User Name

### Description

Specifies the Siebel database logon ID.

### Required Values

A string.

---

## Database Password

### Description

Specifies the Siebel database password.

### Required Values

An encrypted string.

---

## Gateway Server

### Description

Specifies the address or name of the Gateway Server machine.

### Required Values

A string.

---

## Enterprise Server Name

### Description

Specifies the Enterprise Server name.

### Required Values

A string.

---

## Administrator User Name

### Description

Specifies the Administrator user name.

### Required Values

A string.

---

## Administrator Password

### Description

Specifies the Administrator password.

### Required Values

An encrypted string.

---

## Name

### Description

Specifies the name of the Siebel Server you are using.

### Required Values

A string.

---

## Path to Siebel Server

### Description

Specifies the fully qualified path to the home of the Siebel Server.

### Required Values

A pathname, for example: \\SiebelHost\Siebel\...



---

## 6.6 Siebel System Functions

The functions and parameters in this section are used in processing Siebel data.

---

### Batch Number

#### Description

Specifies the batch number to be used in the IFB file and with processing the data.

#### Required Values

A number.

---

### IFB Filename

#### Description

Specifies the name of the IFB file.

#### Required Values

A filename.

#### Additional Information

If your IFB file resides on the same host as the Siebel server, you can reference the filename either relative to the e\*Gate path on the Siebel server host, or use an absolute path with the drive letter.

If your IFB file does not reside on the same host as the Siebel server, you must give the Siebel server the fully-qualified path name of the directory and also share the directory so that the Siebel server host has access to it.

#### Example

If the Siebel server resides on a computer called **Sieb\_Box** and you want to store the IFB file (**s\_account\_if.ifb**) on another computer, **IFB\_Host**, in the directory path **C:\egate\client\ifb**, you must share this directory by giving read (or higher) permission to the Siebel server user.

For this configuration the IFB filename would be `\\IFB_Host\ifb\s_account_if.ifb`.

---

### Auto-Generate IFB File

#### Description

Specifies whether or not the e\*Way generates the IFB file based on the **IFB Generation Function**.

#### Required Values

Yes or No.

---

If **Yes** is selected, this e\*Way generates the IFB file based on the IFB Generation Function.

If **No** is selected, this e\*Way obtains the IFB file from the name given for the IFB Filename parameter.

---

## IFB Generation Function

### Description

Generates the IFB file. See [IFB Control File](#) on page 72 for more information.

### Required Values

A string.

---

## Database Interface Function

### Description

Used to interface with the database.

### Required Values

A string.

### Additional Information

A function to import data would involve inserting the data into the interface table, committing the data to the database, and then processing the data. A function to export data would involve fetching the data and sending the data to e\*Gate.

---

## Post-Process Function

### Description

Use of this function pertains to any cleanup work.

### Required Values

A string.

### Additional Information

For example, upon importing data the post-process function might delete all successfully imported records and retrieve all records not successfully imported.

---

## 6.7 Siebel System Import

The parameters in this section initialize the Siebel Server variables for Import only.

---

### Continue on Insert Error

#### Description

Specifies whether or not the e\*Way continues to insert the remaining records in the batch into the interface table upon a **db-struct-insert** error.

#### Required Values

**Yes or No.**

If **Yes** is selected, the e\*Way continues to insert the remaining records in the batch into the interface table upon a **db-struct-insert** error.

If **No** is selected, the e\*Way rolls back records already inserted into the interface table and return "FAILURE" to e\*Gate.

---

### Siebel State File

#### Description

Determines the state of the inbound message at the end of the last run.

#### Required Values

None.

#### Additional Information

Upon startup the Siebel e\*Way checks this file. If no file is found, the state is initialized to **MSG\_ACKED**. The Siebel State File accepts a relative path (e.g., **data\siebel.doc**) relative to **eGate\client**.

There are three possible states:

#### State 0 - MSG\_ACKED

This is the initial state used for new incoming messages. It also represents the final state in which the data has been inserted into the interface table, processed by the Enterprise Interface Manager and the next message is processed into the queue.

#### State 1 - MSG\_INSERTED

In this state the message has been inserted into the interface table but no acknowledgment has been sent to e\*Gate

#### State 2 - MSG\_PROCESSED

In this state the message has been inserted into the interface table and processed by the Enterprise Interface Manager, but no acknowledgment has been sent to e\*Gate.

**Note:** *The integrity of this file is crucial to maintaining the correct state of the import; therefore, editing of this file is not recommended.*

---

## 6.8 Siebel System Export

The parameters in this section initialize the Siebel Server parameters for Export only.

---

### Last Time of Export File

#### Description

Specifies the file that holds the time of when the last export was done.

#### Required Values

None.

#### Additional Information

The integrity of this file is crucial to maintaining the correct time of when the last export was done in the Siebel e\*Way; therefore, editing of this file is not recommended.

---

### Siebel State File

#### Description

Determines the state of the outbound Event at the end of the last run.

#### Required Values

None.

#### Additional Information

The Siebel State File accepts a relative path (e.g., `data\siebel.doc`) relative to `eGate\client`.

**Note:** *The integrity of this file is crucial to maintaining the correct state of the export; therefore, editing of this file is not recommended.*

# API Functions

This chapter describes the various Monk functions used by the SeeBeyond e\*Way Intelligent Adapter for Siebel EIM.

---

## 7.1 Overview

The Siebel EIM e\*Way's functions are categorized as follows:

[Siebel IFB Functions](#) on page 111

[Siebel Server Connection Functions](#) on page 113

[Siebel Utility Functions](#) on page 116

[e\\*Way Initialization Functions](#) on page 120

[Generic e\\*Way Functions](#) on page 127

## 7.2 Siebel IFB Functions

The following functions are used to create the IFB file for use by Siebel EIM, and to run EIM using the IFB file.

### siebel-eim-create-ifb

#### Description

Takes the IFB event-structure and creates the IFB file used by Siebel EIM.

#### Signature

```
(siebel-eim-create-ifb <event-structure>)
```

#### Parameters

Name	Type	Description
event-structure	string	Event-structure to be used to create the IFB file

#### Returns

Upon completion, the string "done\n".

#### Throws

None.

#### Location

siebel-eim-create-ifb.monk

### siebel-eim-create-ifb\_entry

#### Description

Called from within [siebel-eim-create-ifb](#) to format the file being created.

#### Signature

```
(siebel-eim-create-ifb_entry <event-structure>)
```

#### Parameters

Name	Type	Description
event-structure	string	Event-structure to be formatted to create the IFB file

#### Returns

None.

#### Throws

None.

### Location

siebel-eim-create-ifb.monk

---

## siebel-eim-run-eim

### Description

Runs the Siebel Enterprise Integration Manager using the appropriate configuration (IFB) file.

### Signature

```
(siebel-eim-run-eim)
```

### Parameters

None.

### Returns

Depends on status returned by EIM. The following string values are possibilities:

- "MONK\_FAILURE"
- "MONK\_SUCCESS"
- "MONK\_SHUTDOWN"

### Throws

None.

### Additional Information

If you are using a version of Siebel other than English or Japanese, you need to modify this function. The following statements should be changed to reflect the language-specific task states for your system:

```
(string=? "Error" task-state)  
(string=? "Completed" task-state)  
(string=? "Exited with error" task-state)
```

If the current task state is not equal to any of these strings then the function assumes the task is still running.

### Location

siebel-eim-run-eim.monk



---

## 7.3 Siebel Server Connection Functions

The following functions are used to connect with the Siebel server.

---

### siebel-eim-server-capture

#### Description

Runs `srvcmd` on the Siebel EIM using `svrMgr.exe`. The output generated by `svrMgr.exe` is captured and stored in the `svrOutput` Event Type Definition.

#### Signature

```
(siebel-eim-server-capture srvcmd svrOutput)
```

#### Parameters

Name	Type	Description
<code>srvcmd</code>	string	A command used to invoke EIM.
<code>svrOutput</code>	string	A string storing the information captured by <code>svrMgr.exe</code>

#### Returns

A **string** containing the information returned.

If there is a failure on the part of Siebel EIM, then a **-1** is stored in:

```
~svrOutput%Siebel_EIM_server_tasks.ErrorReturn.value
```

and an error string is stored in:

```
~svrOutput%Siebel_EIM_server_tasks.ErrorString.value.
```

#### Throws

None.

#### Location

`siebel-eim-server-capture.monk`

---

### siebel-eim-server-start-task

#### Description

Starts an EIM task using `ifbfile`.

#### Signature

```
(siebel-eim-server-start-task <ifbfile>)
```

### Parameter

Name	Type	Description
ifbfile	string	The IFB file used to start an EIM task.

### Returns

If successful, an integer representing the task number. If unsuccessful, the integer 0.

### Throws

None.

### Location

siebel-eim-server-capture.monk

## siebel-eim-server-task-state

### Description

Queries Siebel EIM and returns the task state for the specified **task-num**.

### Signature

(`siebel-eim-server-task-state <task-num>`)

### Parameters

Name	Type	Description
task-num	integer	Specifies the task number in question.

### Returns

If successful, a **string** representing the task state for the specified **task-num**. Upon failure, the string **"Error:"** followed by the reason.

### Throws

None.

### Location

siebel-eim-server-capture.monk

## siebel-eim-server-task-status

### Description

Queries Siebel EIM and returns the task status for the specified **task-num**.

### Signature

(`siebel-eim-server-task-status <task-num>`)

### Parameters

Name	Type	Description
task-num	integer	Specifies the task number in question.

### Returns

If successful, a **string** representing the task state for the specified **task-num**. Upon failure, the string **"Error:"** followed by the reason.

### Throws

None.

### Location

siebel-eim-server-capture.monk

## 7.4 Siebel Utility Functions

The following functions are used as utilities by the Siebel EIM e\*Way.

### stripout-string

#### Description

Returns the **string** with the **pattern** removed.

#### Signature

```
(stripout-string <pattern> <string>)
```

#### Parameters

Name	Type	Description
pattern	string	The pattern to be removed.
string	string	The string in which the pattern is to be removed.

#### Returns

Returns a **string** with the requested pattern removed.

#### Throws

None.

#### Location

siebel-eim-utils.monk

### db-system

#### Description

Queries the database for the current timestamp, for the given **connection-handle**.

#### Signature

```
(db-system <connection-handle>)
```

#### Parameters

Name	Type	Description
connection-handle	string	Specifies the connection-handle for which the timestamp from the database is requested

#### Returns

Returns the **timestamp** requested from the database.

**Throws**

None.

**Location**

siebel-eim-utils.monk

---

## siebel-eim-get-last-exported-time

**Description**

Returns the time found in the `siebel-eim-last-exported-time-file`.

**Signature**

(`siebel-eim-get-last-exported-time`)

**Parameters**

None.

**Returns**

A **string** indicating the time (the filename is determined from the configuration file).  
Upon error, a Boolean false (`#f`).

**Throws**

None.

**Location**

siebel-eim-utils.monk

---

## siebel-eim-set-last-exported-time

**Description**

Updates both the `siebel-eim-import-state-file` and `siebel-eim-import-state` with the time of the last export of data.

**Signature**

(`siebel-eim-set-last-exported-time` `<timestring>`)

**Parameters**

Name	Type	Description
timestring	string	A string containing the time the last export was performed.

**Returns**

None.

**Throws**

None.

**Location**

siebel-eim-utils.monk

---

## siebel-eim-get-import-state

**Description**

Returns the state found in the `siebel-eim-import-state-file`. The filename is determined from the configuration file.

**Signature**

`(siebel-eim-get-import-state)`

**Parameters**

None.

**Returns**

A **string** indicating the state; for example, "Couldn't locate" or "OK, state will be set to 0 - MSG\_ACKED".

**Throws**

None.

**Location**

siebel-eim-utils.monk

---

## siebel-eim-set-import-state

**Description**

Updates both `siebel-eim-import-state-file` and `siebel-eim-import-state` with `statestring`.

**Signature**

`(siebel-eim-set-import-state <statestring>)`

**Parameters**

Name	Type	Description
statestring	string	A numeric value indicating the current state.

**Returns**

None.

**Throws**

None.

## Location

siebel-eim-utils.monk

---

## return-path

### Description

Returns the path name originating at a defined point.

### Signature

(return-path <string>)

### Parameters

Name	Type	Description
string	string	A string containing information allowing for retrieval of the table path.

### Returns

Upon success, a **string** representing everything following the backslash (\), in order to obtain the table path; upon failure, an **empty string**.

### Throws

None.

### Location

siebel-eim-utils.monk

---

## 7.5 e\*Way Initialization Functions

The following functions are used by the Siebel EIM e\*Way to perform the initialization process.

---

### siebel-eim

#### Description

Prepares the initialization process for the e\*Way by loading the `stc_monkutils.dll` file.

#### Signature

(`siebel-eim`)

#### Parameters

None.

#### Returns

If successful, a Boolean true (`#t`); otherwise, a Boolean false (`#f`) and the e\*Way shuts down.

#### Throws

None.

#### Location

`siebel-eim.monk`

---

### siebel-eim-init

#### Description

Begins the initialization process for the e\*Way. The function loads the file `stc_monksiebeleim.dll` and any additional dynamic load libraries specified.

#### Signature

(`siebel-eim-init`)

#### Parameters

None.

#### Returns

If successful, the string "SUCCESS"; otherwise, "FAILURE" and the e\*Way shuts down.

#### Throws

None.

#### Location

`siebel-eim-init.monk`



---

## siebel-eim-startup

### Description

A sample Monk function for e\*Way startup.

### Signature

```
(siebel-eim-startup)
```

### Parameters

None.

### Return Values

The string "SUCCESS".

### Throws

None.

### Location

---

## siebel-eim-shutdown

### Description

Called by the system to request that the external Siebel database connection shutdown. A return value of "SUCCESS" indicates that the shutdown can occur immediately, any other return value indicates that the shutdown event must be delayed. The user is then required to execute a [shutdown-request](#) call from within a monk function to allow the requested shutdown process to continue.

### Signature

```
(siebel-eim-shutdown <string>)
```

### Parameters

Name	Type	Description
string	string	When the e*Way calls this function, it passes the string "SUSPEND_NOTIFICATION" as the parameter.

### Returns

If successful, the string "SUCCESS", which allows an immediate shutdown to occur. Anything else delays shutdown until the [shutdown-request](#) is executed successfully.

### Throws

None.

### Location

siebel-eim-init.monk

---

## siebel-eim-external-db-connection

### Description

Logs into the external connection

### Signature

( siebel-eim-verify-db-connect )

### Parameters

None.

### Returns

If connection to the database is successful, the string "SUCCESS"; otherwise, "FAILURE".

### Throws

None.

### Location

siebel-eim-init.monk

---

## siebel-eim-verify-db-connect

### Description

Obtains the status of the external system connection.

### Signature

( siebel-eim-verify-db-connect )

### Parameters

None.

### Returns

If successful, the string "SUCCESS"; otherwise, "FAILURE".

### Throws

None.

### Location

siebel-eim-init.monk

---

## siebel-eim-check-connect

### Description

Determines whether the connection to the external database is UP or DOWN.

### Signature

( siebel-eim-check-connect )

### Parameters

None.

### Returns

If successful, a Boolean true (#t); otherwise, a Boolean false (#f) and the e\*Way shuts down.

### Throws

None.

### Location

siebel-eim-init.monk

## siebel-eim-external-connection-establishment

### Description

A sample Monk function for establishing a connection with the external system.

### Signature

( siebel-eim-external-connection-establishment )

### Parameters

None.

### Returns

Upon success, the string "UP"; upon failure, the string "DOWN".

### Throws

None.

### Location

siebel-eim-init.monk

## siebel-eim-ack

### Description

Used to send a positive acknowledgement to the external system, and for post processing after successfully sending data to e\*Gate.

### Signature

( siebel-eim-ack <message-string> )

### Parameters

Name	Type	Description
message-string	string	The Event for which a negative acknowledgment is sent.

### Returns

#### Success:

An empty string indicates a successful operation.

#### Failure:

The string “CONNERR” indicates a loss of connection with the external, and client moves to a down state and attempts to connect. On reconnect, the **pos-ack** function is re-executed.

### Throws

None.

### Location

siebel-eim-init.monk

## siebel-eim-nack

### Description

Used to send a negative acknowledgement to the external system, and for post processing after failing to send data to e\*Gate.

### Signature

(`siebel-eim-nack <message-string>`)

### Parameters

Name	Type	Description
message-string	string	The Event for which a negative acknowledgment is sent.

### Returns

#### Success:

An empty string indicates a successful operation.

#### Failure:

The string “CONNERR” indicates a loss of connection with the external, and client moves to a down state and attempts to connect. On reconnect, the **pos-ack** function is re-executed.

### Throws

None.

### Location

siebel-eim-init.monk

---

## siebel-eim-process-outgoing-message

### Description

A sample Monk function for event-driven data exchange.

### Signature

```
(siebel-eim-process-outgoing-message <message-string>)
```

### Parameters

Name	Type	Description
message-string	string	The message string from the IQ.

### Returns

An empty string ("").

### Throws

None.

### Location

siebel-eim-init.monk

---

## siebel-eim-exchange-data

### Description

A sample Monk function for schedule-driven data exchange.

### Signature

```
(siebel-eim-exchange-data)
```

### Parameters

None.

### Returns

An empty string ("").

### Throws

None.

### Location

siebel-eim-init.monk

---

## siebel-eim-return-empty-string

### Description

A sample Monk function for event-driven data exchange (obsolete).

### Signature

(`siebel-eim-return-empty-string` <message-string>)

### Parameters

Name	Type	Description
message-string	string	The message string from the IQ.

### Return Values

An empty string (`""`).

### Throws

None.

### Location

`siebel-eim-init.monk`

*Note:* This function is obsolete—use [siebel-eim-process-outgoing-message](#).

## 7.6 Generic e\*Way Functions

The functions described in this section are implemented in the e\*Way Kernel layer and control the e\*Way's most basic operations. They can be used only by the functions defined within the e\*Way's configuration file. None of these functions is available to Collaboration Rules scripts executed by the e\*Way. These functions are located in `stcewgenericmonk.exe`.

The current set of basic Monk functions is:

- [event-commit-to-egate](#) on page 127
- [event-rollback-to-egate](#) on page 128
- [event-send-to-egate](#) on page 128
- [event-send-to-egate-ignore-shutdown](#) on page 129
- [event-send-to-egate-no-commit](#) on page 129
- [get-logical-name](#) on page 130
- [insert-exchange-data-event](#) on page 130
- [send-external-up](#) on page 131
- [send-external-down](#) on page 131
- [shutdown-request](#) on page 132
- [start-schedule](#) on page 132
- [stop-schedule](#) on page 133
- [waiting-to-shutdown](#) on page 133

---

### event-commit-to-egate

#### Description

Commits the Event sent previously to the e\*Gate system using [event-send-to-egate-no-commit](#).

#### Signature

```
(event-commit-to-egate <string>)
```

#### Parameters

Name	Type	Description
string	string	The data to be sent to the e*Gate system.

#### Returns

Boolean true (**#t**) if the data is committed successfully; otherwise, false (**#f**).

### Throws

None.

## event-rollback-to-egate

### Description

Rolls back the Event sent previously to the e\*Gate system using [event-send-to-egate-no-commit](#), following receipt of a rollback command from the external system.

### Signature

(event-rollback-to-egate <string>)

### Parameters

Name	Type	Description
string	string	The data to be rolled back to the e*Gate system.

### Returns

Boolean true (#t) if the data is rolled back successfully; otherwise, false (#f).

### Throws

None.

## event-send-to-egate

### Description

Sends data that the e\*Way has already received from the external system into the e\*Gate system as an Event.

### Signature

(event-send-to-egate <string>)

### Parameters

Name	Type	Description
string	string	The data to be sent to the e*Gate system

### Returns

A Boolean true (#t) if the data is sent successfully; otherwise, a Boolean false (#f).

### Throws

None.



### Additional information

This function can be called by any e\*Way function when it is necessary to send data to the e\*Gate system in a blocking fashion.

### See also

[event-send-to-egate-ignore-shutdown](#) on page 129

[event-send-to-egate-no-commit](#) on page 129

## event-send-to-egate-ignore-shutdown

### Description

Sends data that the e\*Way has already received from the external system into the e\*Gate system as an Event—but ignores any pending shutdown issues.

### Signature

(event-send-to-egate-ignore-shutdown <string>)

### Parameters

Name	Type	Description
string	string	The data to be sent to the e*Gate system.

### Returns

Boolean true (**#t**) if the data is sent successfully; otherwise, false (**#f**).

### Throws

None.

### See also

[event-send-to-egate](#) on page 128

[event-send-to-egate-no-commit](#) on page 129

## event-send-to-egate-no-commit

### Description

Sends data that the e\*Way has received from the external system to the e\*Gate system as an Event—but without Committing, pending confirmation from the external system of correct transmission of the data.

### Signature

(event-send-to-egate-no-commit <string>)

## Parameters

Name	Type	Description
string	string	The data to be sent to the e*Gate system.

## Returns

Boolean true (#t) if the data is sent successfully; otherwise, false (#f).

## Throws

None.

## See also

[event-commit-to-egate](#) on page 127

[event-rollback-to-egate](#) on page 128

[event-send-to-egate](#) on page 128

[event-send-to-egate-ignore-shutdown](#) on page 129

---

## get-logical-name

### Description

Returns the logical name of the e\*Way.

### Signature

(get-logical-name)

### Parameters

None.

### Returns

The name of the e\*Way (as defined by the e\*Gate Enterprise Manager).

### Throws

None.

---

## insert-exchange-data-event

### Description

While the [Exchange Data with External Function](#) is still active, this function can be called to initiate a repeat call to it—whether or not data was queued to e\*Gate via the function's return mechanism following the initial call.

### Signature

(insert-exchange-data-event)

**Parameters**

None.

**Returns**

None.

**Throws**

None.

**See also**

[Exchange Data Interval](#) on page 92

[Zero Wait Between Successful Exchanges](#) on page 93

---

## send-external-up

**Description**

Informs the e\*Way that the connection to the external system is up.

**Signature**

(send-external-up)

**Parameters**

None.

**Returns**

None.

**Throws**

None.

---

## send-external-down

**Description**

Informs the e\*Way that the connection to the external system is down.

**Signature**

(send-external-down)

**Parameters**

None.

**Returns**

None.

**Throws**

None.

---

## shutdown-request

### Description

Completes the e\*Gate shutdown procedure that was initiated by the Control Broker but was interrupted by returning a non-null value within the **Shutdown Command Notification Function**. Once this function is called, shutdown proceeds immediately.

### Signature

( shutdown-request )

### Parameters

None.

### Returns

None.

### Throws

None.

### Additional Information

Once interrupted, the e\*Way's shutdown cannot proceed until this Monk function is called. If you do interrupt an e\*Way shutdown, we recommend that you complete the process in a timely fashion.

---

## start-schedule

### Description

Requests that the e\*Way execute the **Exchange Data with External Function** specified within the e\*Way's configuration file. Does not affect any defined schedules.

### Signature

( start-schedule )

### Parameters

None.

### Returns

None.

### Throws

None.

---

## stop-schedule

### Description

Requests that the e\*Way halt execution of the [Exchange Data with External Function](#) specified within the e\*Way's configuration file. Execution is stopped when the e\*Way concludes any open transaction. Does not effect any defined schedules, and does not halt the e\*Way process itself.

### Signature

(stop-schedule)

### Parameters

None.

### Returns

None.

### Throws

None.

---

## waiting-to-shutdown

### Description

Informs the external application that a shutdown command has been issued.

### Signature

(waiting-to-shutdown)

### Parameters

None.

### Returns

Boolean true (**#t**) if successful; otherwise, false (**#f**).

### Throws

None.

# Index

## A

Account Extract Collaboration 45  
 Account Post (Corrected Error) Collaboration 54  
 Account Post Collaboration 52  
 Additional Path parameter 94  
 Administrator Password parameter 104  
 Administrator User Name parameter 104  
 APIs - see Monk functions  
 Assigning ETDs to Event Types 37  
 Auditing 41  
 Auto-Generate IFB File parameter 105  
 Autorun 21  
 Auxiliary Library Directories parameter 95

## B

Base Tables 52, 73, 74, 75, 76  
 Batch Number parameter 105

## C

Changing the User Name 64  
 Collaboration 39, 40, 68, 73, 80
 

- Account Extract 45
- Account Post 52
- Account Post (Corrected Error) 54
- IQ\_To\_SiebelEIMAccts 44
- Rules 39, 68, 69, 80
- Rules Editor 80
- Service 68
- SiebelAccts\_To\_IQ 44

 components, e\*Way 17  
 configuration
 

- Communication Setup 91–93
- General Settings 89–90
- Monk Configuration 94–101
- Siebel Server 102–104
- Siebel System Export 109
- Siebel System Functions 105–106
- Siebel System Import 107–108

 configuration parameters
 

- Additional Path 94
- Administrator Password 104
- Administrator User Name 104

Auto-Generate IFB File 105  
 Auxiliary Library Directories 95  
 Batch Number 105  
 Continue on Insert Error 107  
 Database Client Connectivity 102  
 Database Host Name 102  
 Database Interface Function 106  
 Database Password 103  
 Database Table Owner 103  
 Database User Name 103  
 Down Timeout 92  
 Enterprise Server Name 103  
 Exchange Data Interval 92  
 Exchange Data with External Function 97  
 External Connection Establishment Function 98  
 External Connection Shutdown Function 99  
 External Connection Verification Function 98  
 Forward External Errors 90  
 Gateway Server 103  
 IFB Filename 105  
 IFB Generation Function 106  
 Journal File Name 89  
 Last Time of Export File 109  
 Max Failed Messages 89  
 Max Resends Per Message 89  
 Monk Environment Initialization File 95  
 Name 104  
 Negative Acknowledgment Function 100  
 Path to Siebel Server 104  
 Positive Acknowledgment Function 99  
 Post-Process Function 106  
 Process Outgoing Message Function 96  
 Resend Timeout 93  
 Shutdown Command Notification Function 101  
 Siebel State File 107, 109  
 Siebel Version 102  
 Start Exchange Data Schedule 91  
 Startup Function 96  
 Stop Exchange Data Schedule 92  
 Up Timeout 93  
 Zero Wait Between Successful Exchanges 93  
 configuration procedures 60  
 Continue on Insert Error parameter 107  
 conventions, writing 10  
 Creating a Schema 33

## D

data interface table 78  
 Database Client Connectivity parameter 102  
 Database Host Name parameter 102  
 Database Interface Function parameter 106  
 Database Password parameter 103  
 Database Table Owner parameter 103

Database User Name parameter 103  
 db-systemtime function 116  
 Down Timeout parameter 92

## E

e\*Way  
 Components 17  
 configuration 60  
 creating 58  
 Installation 21  
 Properties 59  
 Schedules 64  
 Startup Options 64  
 troubleshooting 68  
 e\*Way Initialization Functions 120–126  
 Editor  
 Collaboration Rules 80  
 ETD Build Tool 36  
 Enterprise Integration Manager (EIM) 14, 70, 75, 77  
 Enterprise Server Name parameter 103  
 Error Correction 78  
 Error logging  
 Inbound to Siebel 41  
 Outbound from Siebel 41  
 Event state 77  
 MSG\_ACKED 77  
 MSG\_INSERTED 77  
 MSG\_PROCESSED 77  
 Event Type 37  
 Event Type Definition (ETD) 35, 37, 73  
 Monk\_Function\_Ret.ssc 45  
 sap\_data\_contract.ssc 52  
 Siebel\_accounts.ssc 52, 54  
 Siebel\_accounts\_batch.ssc 54  
 event-commit-to-egate function 127  
 event-rollback-to-egate function 128  
 Events 79  
 event-send-to-egate function 128  
 event-send-to-egate-ignore-shutdown function 129  
 event-send-to-egate-no-commit function 129  
 Exchange Data Interval parameter 92  
 Exchange Data with External Function parameter 97  
 export\_accounts.dsc 45  
 export\_cleanup.dsc 45  
 export\_ifb\_gen.tsc 45  
 Exporting Data from Siebel EIM 74  
 External Connection Establishment Function  
 parameter 98  
 External Connection Shutdown Function parameter  
 99  
 External Connection Verification Function  
 parameter 98

## F

File e\*Way 43, 47  
 Forward External Errors parameter 90  
 from\_s\_account\_if.dsc 45  
 functions (see also Monk functions)  
 e\*Way Initialization 120–126  
 Generic 127–133  
 Siebel IFB 111–112  
 Siebel Server Connection 113–115  
 Siebel Utility 116–119

## G

Gateway Server parameter 103  
 Generic e\*Way Functions 127–133  
 get-logical-name function 130

## I

IF\_ROW\_STAT 52, 54, 76  
 IFB Control File 72, 74, 77  
 IFB Filename parameter 105  
 IFB Generation Function parameter 106  
 implementation 57  
 import\_accounts.dsc 52  
 import\_accounts\_error.dsc 54  
 import\_cleanup.dsc 52, 54  
 import\_ifb\_gen.tsc 52, 54  
 inbound process flow 16, 75  
 insert-exchange-data-event function 130  
 Installation Procedure  
 e\*Way (UNIX) 24  
 e\*Way (Windows) 21  
 sample schema 26  
 InstallShield 21  
 Intelligent Queue (IQ) 40, 68, 75  
 Interface Tables 35, 52, 73, 74, 75, 76  
 Inserting data into 78  
 IQ\_To\_SAPAccts 48  
 IQ\_To\_SiebelAccts 44  
 IQ\_To\_SiebelAcctsError 50  
 IQ\_To\_SiebelAcctsErrorFile 49  
 IQ\_To\_SiebelAcctsErrorFile2 51  
 IQ\_To\_SiebelEIMAcctsCollaboration 44  
 issues and limitations 42

## J

Journal File Name parameter 89  
 Journalling 41

## L

Last Time of Export File parameter 109  
 limitations, known 42  
 Load Path, Monk 94  
 logging options 66

## M

Max Failed Messages parameter 89  
 Max Resends Per Message parameter 89  
 monitoring thresholds 67  
 Monk Configuration
 

- Load Path 94
- Specifying File Names 94
- Specifying Function Names 94
- Specifying Multiple Directories 94

 Monk Environment Initialization File parameter 95  
 Monk functions
 

- db-system 116
- event-commit-to-egate 127
- event-rollback-to-egate 128
- event-send-to-egate 128
- event-send-to-egate-ignore-shutdown 129
- event-send-to-egate-no-commit 129
- get-logical-name 130
- insert-exchange-data-event 130
- return-path 119
- send-external down 131
- send-external-up 131
- shutdown-request 132
- siebel-eim 111, 112, 120
- siebel-eim-ack 123
- siebel-eim-check-connect 122
- siebel-eim-external-connection-establishment 123
- siebel-eim-external-db-connection 122
- siebel-eim-get-import-state 118
- siebel-eim-get-last-exported-time 117
- siebel-eim-init 120
- siebel-eim-nack 124
- siebel-eim-process-outgoing-message 125
- siebel-eim-return-empty-string 125
- siebel-eim-server-capture 113
- siebel-eim-server-start-task 113
- siebel-eim-server-task-state 114
- siebel-eim-server-task-status 114
- siebel-eim-set-import-state 118
- siebel-eim-set-last-exported-time 117
- siebel-eim-shutdown 121
- siebel-eim-startup 121
- siebel-eim-verify-db-connect 122
- siebel-eventdriven-exchange-data 125
- start-schedule 132

stop-schedule 133  
 stripout-string 116  
 waiting-to-shutdown 133  
 Monk scripts
 

- export\_accounts.dsc 45
- export\_ifb\_gen.tsc 45
- from\_s\_account\_if.dsc 45
- import\_accounts.dsc 52
- import\_accounts\_error.dsc 54
- import\_cleanup.dsc 52, 54
- import\_ifb\_gen.tsc 52, 54
- to\_s\_account\_if.tsc 52, 54
- to\_s\_account\_if\_error.tsc 54

 Monk\_Function\_Ret.ssc 45  
 MONK\_SKIP 78  
 MSG\_ACKED 78  
 MSG\_ACKED Event state 77  
 MSG\_INSERTED 78  
 MSG\_INSERTED Event state 77  
 MSG\_PROCESSED 78  
 MSG\_PROCESSED Event state 77

## N

Name parameter 104  
 Negative Acknowledgment Function parameter 100

## P

Participating Host 68  
 Path to Siebel Server parameter 104  
 Positive Acknowledgment Function parameter 99  
 Post-Process Function
 

- Export 74
- Import 78

 Post-Process Function parameter 106  
 problems
 

- known issues and limitations 42

 procedures
 

- configuration 60
- installation 21

 Process Outgoing Message Function parameter 96  
 Properties, e\*Way 59

## Q

Queues 40

## R

Resend Timeout parameter 93  
 return-path function 119



## S

sample schema  
 descriptions 42  
 installation 26  
 sap\_data\_contract.ssc 52  
 SAPAccts\_To\_IQ 48  
 SAPDataContract 47  
 Schedules 64  
 Schema, creating 33  
 send-external down function 131  
 send-external-up function 131  
 Setting Startup Options or Schedules 64  
 Shutdown Command Notification Function parameter 101  
 shutdown-request function 132  
 Siebel data structure 35  
 Siebel EIM 14  
 Siebel IFB Functions 111–112  
 Siebel Server Connection Functions 113–115  
 Siebel State File parameter 107, 109  
 Siebel Utility Functions 116–119  
 Siebel Version parameter 102  
 Siebel\_accounts.ssc 52, 54  
 Siebel\_accounts\_batch.ssc 54  
 Siebel\_EIM\_Accts 43  
 Siebel\_EIM\_Eater\_Error 49, 51  
 Siebel\_EIM\_Extract 26, 42, 43  
 Siebel\_EIM\_Extract\_IQ 43  
 Siebel\_EIM\_Feeder\_Error 50  
 Siebel\_EIM\_Post 26, 42, 47, 52  
 Siebel\_EIM\_Post\_Error 50, 51, 54  
 Siebel\_EIM\_Post\_IQ 47  
 siebel\_eim\_run\_eim 45, 52, 54  
 SiebelAccts\_To\_IQ 44  
 SiebelAccts\_To\_IQ Collaboration 44  
 SiebelAcctsError 47  
 SiebelAcctsError\_To\_IQ 49  
 SiebelAcctsError2\_To\_IQ 51  
 SiebelAcctsErrorFile\_To\_IQ 50  
 siebel-eim function 111, 112, 120  
 siebel-eim-ack function 123  
 siebel-eim-check-connect function 122  
 siebel-eim-external-connection-establishment function 123  
 siebel-eim-external-db-connection function 122  
 siebel-eim-get-import-state function 118  
 siebel-eim-get-last-exported-time function 117  
 siebel-eim-init function 120  
 siebel-eim-nack function 124  
 siebel-eim-process-outgoing-message function 125  
 siebel-eim-return-empty-string function 125  
 siebel-eim-server-capture function 113  
 siebel-eim-server-start-task function 113

siebel-eim-server-task-state function 114  
 siebel-eim-server-task-status function 114  
 siebel-eim-set-import-state function 118  
 siebel-eim-set-last-exported-time function 117  
 siebel-eim-shutdown function 121  
 siebel-eim-startup function 121  
 siebel-eim-verify-db-connect function 122  
 siebel-eventdriven-exchange-data function 125  
 Start Exchange Data Schedule parameter 91  
 start-schedule function 132  
 Startup Function parameter 96  
 Startup Options 64  
 Stop Exchange Data Schedule parameter 92  
 stop-schedule function 133  
 stripout-string function 116

## T

to\_s\_account\_if.tsc 52, 54  
 to\_s\_account\_if\_error.tsc 54  
 Transferring data  
 Import 78  
 troubleshooting the e\*Way 68

## U

UNIX installation procedure 24  
 Up Timeout parameter 93  
 User name 64

## W

waiting-to-shutdown function 133  
 Windows installation procedure 21  
 writing conventions 10

## Z

Zero Wait Between Successful Exchanges parameter 93