Retek® Integration Bus 10.2

Installation Guide

Retek

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Chapter 1 – Introduction

This manual details the installation of the Retek Integration Bus (RIB). An overview of this process is as follows:

1 The SeeBeyond e*Gate Integrator product is installed. This involves installing the registry host and all participating host software, plus Graphical User Interface hosts for development and system monitoring. See Chapter 2 for details.

2 The RIB schema is imported into the e*Gate Integrator product. This is explained in Chapter 3.

3 Update the database connection points, JMS queues, and CLASSPATH configuration values. Also, delete unused adapters. This is explained in Chapter 4.

Chapter 2 – Install SeeBeyond e*Gate integrator

The Retek Integration Bus (RIB) leverages SeeBeyond's e*Gate Integrator for supplying the needed messaging facilities for integrating applications. The e*Gate product needs to be installed on three different types of hosts:

- One or more Registry Host(s) that will contain the central database of the message formats, as well as publication, subscription and transformation logic.
- Participating hosts that implement the publishers, subscribers, and transformations.
- GUI hosts that are used to monitor the operation of the system and to extend or further develop the system's capabilities.
- Be sure to install the e*Gate add-ons – see e*Gate documentation installation instructions.

Notes:

- All three types of hosts can be present on the same physical machine. However, GUI hosts must execute on a Microsoft Windows platform.
- e*Gate requires a Java Runtime Environment (JRE) version 1.3.1. This is bundled with the e*Gate install.
- e*Gate Monitor and e*Gate Enterprise Manager applications use the Exceed X-windows application. If a version of Exceed exists on a GUI host, then one must install the e*Gate version into a different directory. The e*Gate version is *not* a full installation of Exceed.

The instructions for installing the SeeBeyond e*Gate Integrator system is documented in the *e*Gate Integrator Installation Guide.* This document is found on Disk #1 of the SeeBeyond installation disk set.

Chapter 3 – RIB schema

Import

The RIB software is distributed in a single messaging schema. This schema contains all of the RIB's publishing and subscribing e*Ways (adapters) and Connection Points. It also contains a single JMS Intelligent Queue Manager.

Once the RIB schema has been imported, a system administrator must configure the connection points. Additional configuration modifications may also be needed, such as e*Way CLASSPATH and Java Native Interface library specification. These types of changes are detailed in Chapter 4.

The final modifications to the system are due to the site-specific deployment of the system. These changes include distributed components to different hosts, creating fail-over hosts, developing additional event types, adapters, connection points and collaborations for integrating an enterprise's non-Retek applications to the RIB. It also includes creating security roles and privileges. These activities are not considered part of the installation and are not documented in this manual. For more information on these activities, see the SeeBeyond *e*Gate Users Guide*.

Preliminary steps

To create and import the RIB schema, take the following preliminary steps:

1. For security reasons, create an "egate" user that will own the e*Gate files and execute the software.
2. Log onto the Unix system using this account.
3. Copy the file rib<app>_102_en_ga.tar (where the application is either RDM, RCOM, RMS, or RDC) from the installation CD to the location where you are planning to install the RIB software. This location will be known as the RETEK_HOME in the remainder of this section.
4. Once you have copied the file, extract its contents.
5. Edit the file egate_profile. This file is located at RETEK_HOME/RIB102. Make sure the settings for the following variables are correct for your environment.
   - EHOME – The directory where SeeBeyond e*Gate was installed.
   - RETEK_INSTALL_DIR – The directory that served as RETEK_HOME in step 3 above.
   - EGATE_SERVER_NAME – The name or IP of the server you are installing the RIB software on.
   - EGATE_SERVER_PORT – The port the above named server is running on.

In egate_profile, there are three sets of variable settings (Solaris, AIX, and HP). You will need to uncomment the section that is applicable to your operating system and ensure that the other 2 sections are commented out.

6 Add a line to the "egate" user's .profile, sourcing this profile and start a new Unix session before continuing.

7 If there was an earlier attempt at installing the RIB version 10.2:

   a Make sure that all e*Ways, the control broker, and the registry are shut down. On Unix, the following command will show the active processes:

   ```
   > ps -ef | grep stc | grep -v grep
   ```

   b Delete the $EHOME/server/registry/RIB102.rdb file.

   c Recursively delete the $EHOME/server/registry/repository/RIB102 directory.

8 Start the e*Gate registry – the following manual command can be used, or you can use the start_egate script provide at $RETEK_HOME/RIB102/Rib_Support.

   ```
   > $EHOME/server/bin/stcregd -ln $EGATE_SERVER_NAME -bd
   $EHOME/server -pr $EGATE_SERVER_PORT -pc 23002 -mc 1024
   -ss
   ```

Now you are ready to begin the import process. The RIB schema is imported through a three-step process. The first step involves creating a new schema. This new schema is empty and does not contain any RIB modules.

Create a new schema

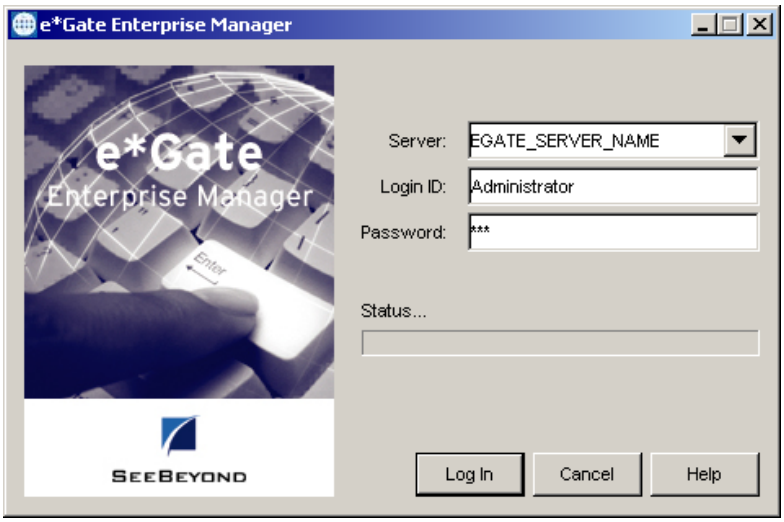
1 Log in to your schema using the e*Gate Enterprise Manager GUI tool. Log in as Administrator, using the password that was set during the installation of e*Gate.

Note: This step must be done before proceeding.

2 Make sure that your schema is available as a login schema and ensure that you can connect to the schema.

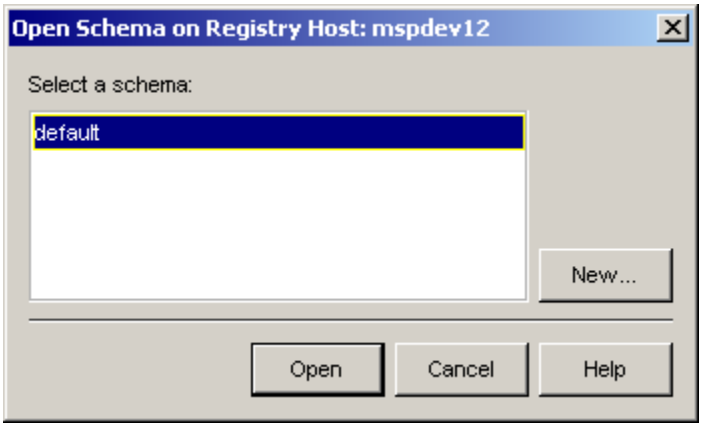
3 Log in, using the server name for your installation.

Note: Do not use the environment variable here; use the actual name of your host.



*e*Gate Enterprise Manager dialog box*

The Open Schema dialog box is displayed.



Open Schema dialog box

4 Click **New** to create a new schema. The New Schema dialog box is displayed.

5 In the Enter New Schema Name field, enter RIB102.

6 Click **Open**.

You have now successfully created an empty schema named RIB102.

Import RIB modules

The third step of the importing process is required to import the RIB modules into the 'RIB102' base schema.

Load RIB Components -Automated Instructions

A script to register your new Schema and insert all of the registry modules can be found in the following directory:

```
$RETEK_HOME/RIB102/Migration_Scripts
```

1 From this directory, run the "install" script:

Notes:

- If your RIB102 schema has a password for the Administrator user that is different than the default of "STC" you will need to edit the install script and replace the two occurrences of STC with your password (case sensitive).
- Your PATH variable must include the unzip and zip utilities for the importeways script to work. Additionally, a working version of perl must be installed on your machine with the perl executable in your PATH variable. You will also need to set your DISPLAY variable to the IP address of the machine you are installing from. **If these requirements aren't met, you will need to use the manual method to import the RIB modules.**
- If all RIB 10.2 components are not being installed 'file does not exist' messages will be displayed for those component not being installed. If this is the case please ignore these messages and continue.

2 Once the script has completed, use Enterprise Manager to check to ensure each module was successfully loaded into the schema.

3 Following the schema import, start the control broker in order to ensure that the schema is functioning properly.

Note: The RIB schema will not function properly until the system has been completely configured.

To start the control broker:

a Change to the $EHOME directory.

b Run the "start_cb" script.

Load RIB Components - Manual Instructions

These instructions are provided in case you wish to individually load modules into the schema.

Each RIB module can be loaded into the RIB102 schema manually, if necessary, by running the "Import Definitions from File" feature of the e*Gate Enterprise Manager GUI.

1 From a Windows PC, which has the e*Gate GUI installed, put the MODULE.zip file(s) you wish to load on an accessible drive.

2 Start the e*Gate Enterprise Manager.

3 Log in to the RIB102 schema.

4 Select File > Import Definitions from File. The Import Wizard is displayed.

5 Click **Next**. The Step 1 page is displayed.

6 Select the "Module" radio button. Click **Next**. The Step 2 page is displayed.

7 Locate/select the MODULE.zip file that you wish to import into the RIB102 schema. Click **Next**.

8 Click **Finish**. The Import Component dialog box is displayed, asking you to confirm which Participating Host/Control Broker pair you wish to import into. Click **OK**.

Repeat the above steps for each MODULE.zip file that you wish to import.

Create Error Hospital database tables

One feature of the RIB is the Error Hospital subsystem used to store and retry messages that have processing problems by a subscribing application. This facility allows for non-dependent messages to continue to be processed by the application until the failure has been resolved and the message successfully consumed.

There may be multiple instances of an Error Hospital within an enterprise. It is possible for multiple e*Ways to share a single set of Error Hospital database tables or each individual e*Way can have its own Error Hospital. The location and number of Error Hospitals a site should use is dependent on various factors, including security concerns, application support roles, network topology, and database access. An Error Hospital may be installed under the same database schema as a Retek application, under a different database schema, or in a separate database instance. As a result of e*Ways being grouped by Retek Applications, there will typically be one Error Hospital for each application installed.

For each Error Hospital, verify that the three hospital tables exist. The three tables necessary are: rib_message, rib_message_failure, and rib_message_routing_info. These tables were created during the database portion of the RCOM, RDM, or RMS 10 installations. The DDL to create these tables can be found on these products' installation CDs.

RIB schema configuration

After the RIB schema has been imported, one must configure the schema for the site-specific environment. This section details the minimum configuration changes needed to get the RIB schema into an operational state. It assumes that all schema components will run on a single host and that all databases referenced are accessible from this host.

This chapter details the minimum changes needed for the RIB to run. It assumes that the RIB is deployed on a single host and that only a single JMS IQ Manager is needed. This deployment configuration is *not* appropriate for all RIB installations. Production environment deployments may choose to distribute different specific e*Ways and JMS queues among multiple hosts. This production deployment is not covered in this manual.

The following steps are required to configure the RIB schema:

1 Modify the main Participating Host and Control Broker configuration.

2 Delete unused e*Ways.

3 Add/Copy e*Ways for additional components.

4 Modify the JMS IQ Manager configuration.

5 Modify Connection Point configurations.

6 Edit the rib.properties file to correspond to the installed system.

7 Create/modify startup scripts.

Step 1: Modify the main Participating Host and Control Broker configuration

The first step in the RIB messaging schema configuration is to modify the main participating host and control broker's configuration. The RIB102 schema includes a single participating host and control broker that contains all of the messaging e*Ways and associated components. If these are not modified, then the configuration will need to resolve host names as specified by the supplied configuration.

Alternatively, you can change the configuration of the participating host and its supplied control broker.

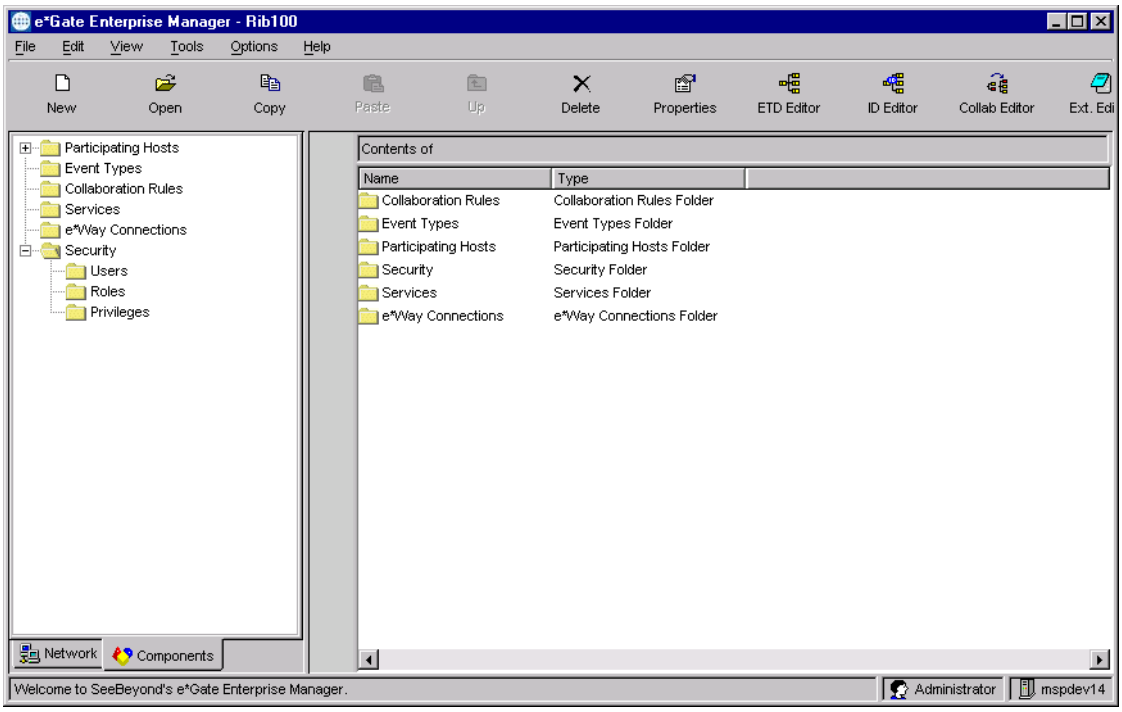
Changing these configurations is a manual process performed with the e*Gate Enterprise Manager application. This application must be installed on a Microsoft Windows 2000 or Microsoft Windows NT platform. Specific platform requirements are detailed in the SeeBeyond *e*Gate Integrator Installation Guide.*

These instructions modify both the names and IP address of the participating host and command broker. The name of the control broker must match any start-up scripts used.

Modify the configuration

1 Open the e*Gate Enterprise Manager.

2 Connect the e*Gate Enterprise Manager to the RIB102 schema. The following window is displayed:

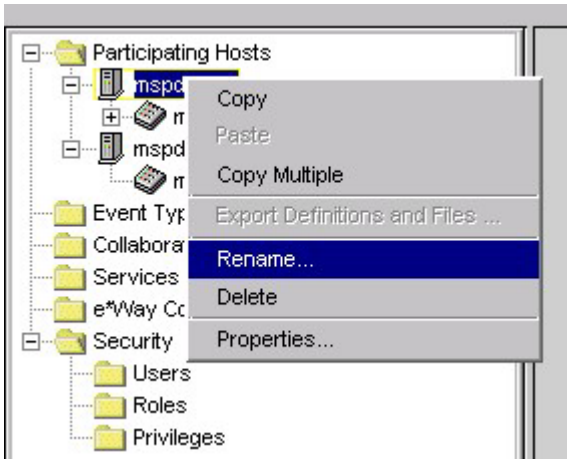


*The main e*Gate Enterprise Manager window*

3 Right-click on the first active participating host displayed.

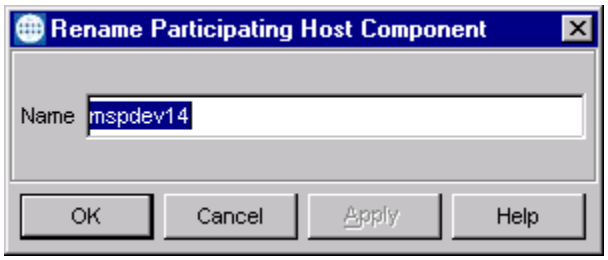
An active participating host is one *without* the string "(inactive)" as part of its name. If there is *not* a participating host *without* the "(inactive)" string, refer to the SeeBeyond System Administrator's Guide for instructions on how to activate the correct participating host.

A command list is displayed.



Rename command list for a Participating Host

4 Select **Rename…**.The Rename Participating Host Component dialog box is displayed.



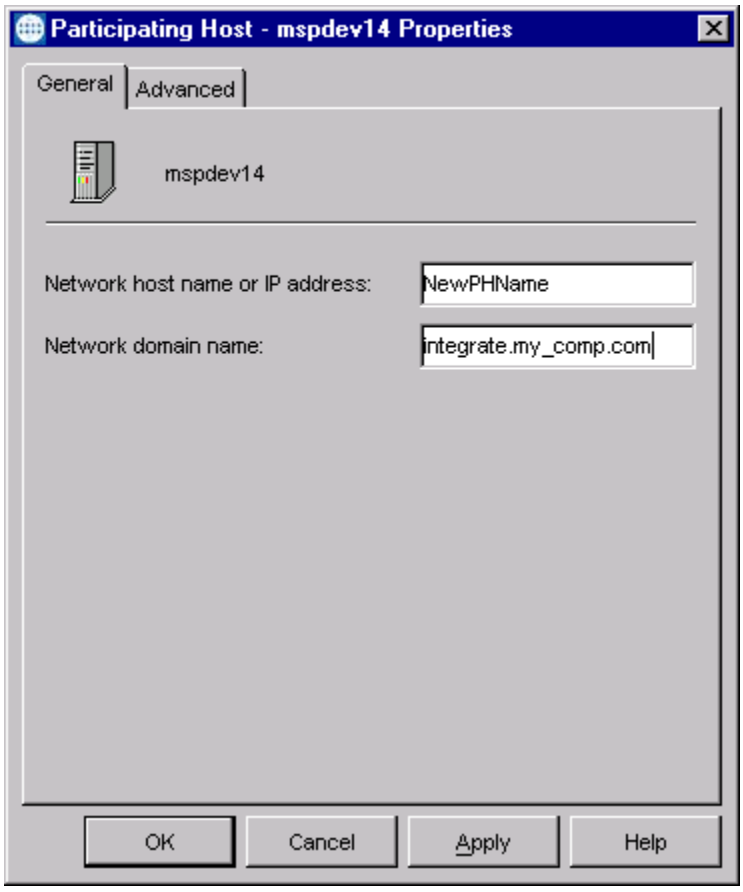
Rename Participating Host pop-up window

Note: The actual name highlighted may be different.

5 In the Name field, ensure that the name of the server where the e*Gate participating host was installed is displayed.

6 Click **OK**.

7 Right-click on the same participating host again, and select **Properties…**. The Participating Host Properties dialog box is displayed.



Participating Host Properties window

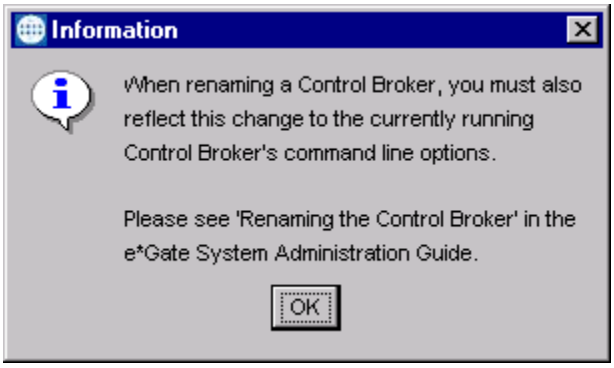
8 In the Network host name or IP address field, enter the e*Gate server name.

9 In the Network domain name field, enter the correct value for your environment.

10 If necessary, also re-name the control broker's name to identify the Participating Host it runs under. The suggested naming convention is <hostName>_cb. In example 5-4, this would be NewPHName_cb.

To change the control_broker's name:

a Right-click on the control broker and select **Rename…**. The Information dialog box is displayed.



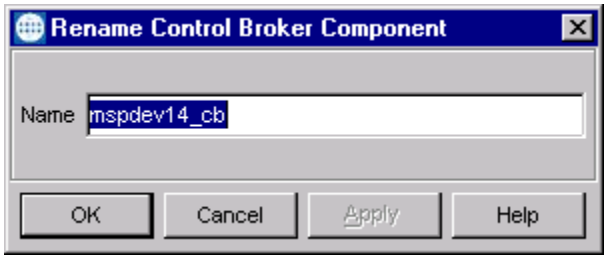
Control broker rename information window.

This dialog box is displayed to warn that there is a dependency on the start-up script used to start the control broker and the name of the control broker. The control broker is typically started on Unix systems via a script executing during system boot. This script must contain a version of the **stccb** command for all control brokers it starts.

Note: The **stcregd** must also be executed before the stcccb command.

Details of starting and stopping the system are detailed in the *Retek Integration Bus Operations Guide.*

b Click **OK**. The Rename Control Broker Component dialog box is displayed.



Rename Control Broker window.

c In the Name field, enter the new control broker name, reflecting the new host it runs on. The naming convention is <HOSTNAME>_cb.

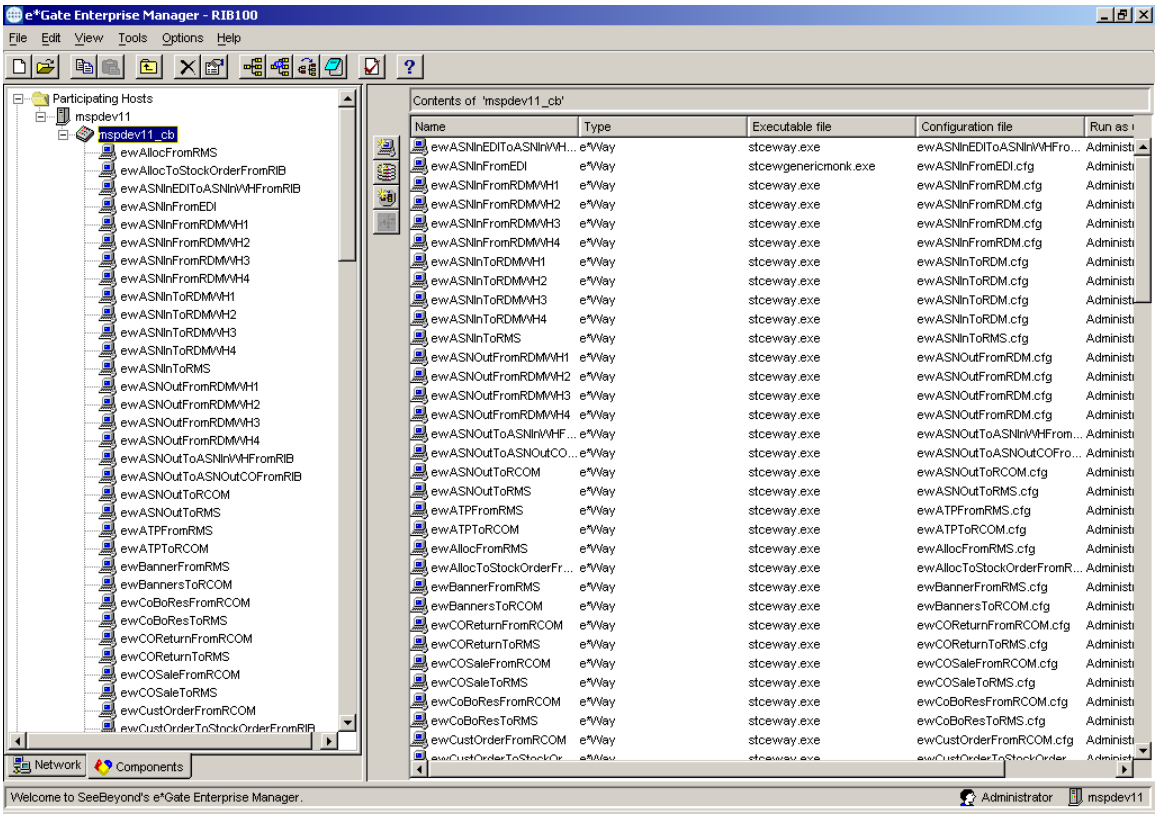
Step 2: Delete unused e*Ways

If the entire suite of RIB supported applications are not available or are not used, then delete the e*Ways associated with these applications. For messages that are directed to multiple applications or application instances, the presence of an e*Way will cause the JMS queue to store messages until all subscribers have received them. If a subscriber exists and never starts nor successfully consumes a message, then the JMS queue will never delete its copy of the message. Eventually, the JMS queue will exceed its configured message storage limits and message publication will halt.

1 From the main e*Gate Enterprise Manager window, click on the Components tab in the lower left corner of the screen.

2 Expand the Participating Hosts folder in the right hand side frame, if not already expanded.

3 Expand the first control broker so that the list of e*Ways is presented.

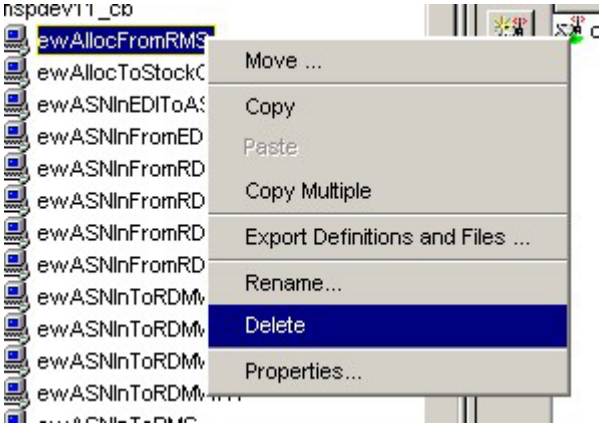


Expanded control broker

The e*Way name determines which one to delete. Most e*Ways (except some test e*Ways) have the name of the application(s) they interface with as part of their name. For example, the e*Way ewASNOutToRCOM subscribes to messages for the RCOM application and the e*Way ewAllocFromRMS publishes messages from the RMS application.

Some e*Ways perform Translation Address Filtering/Routing (TAFR) functionality. These TAFR e*Ways have the string "RIB" as part of their names.

4 Right-click on the e*Way to delete.



e*Way command drop-down menu

5 Choose **Delete** to delete the e*Way. A confirmation dialog box is displayed.

6 Repeat this process to delete all e*Ways associated with those applications that are not installed or available.

Step 3: Add/Copy e*Ways for additional components

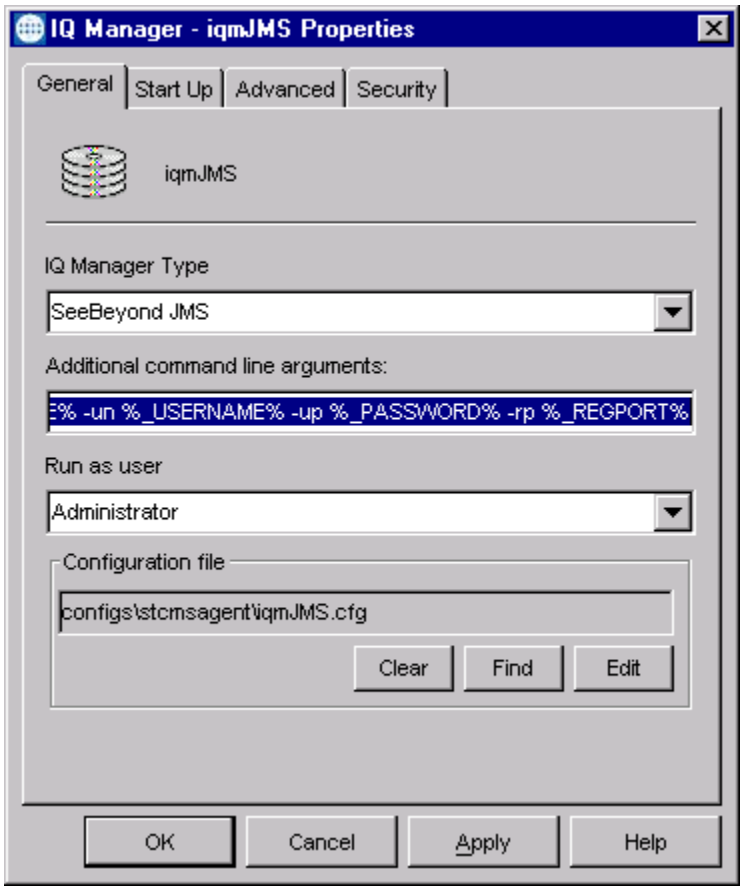
Occasionally, there will be a need to add additional e*Ways to the imported schema. Often times, it is possible to copy an existing e*Way, reconfigure the various pieces that make up the e*Way, and continue from there. If it is necessary to add/copy e*Ways, please refer to the SeeBeyond e*Gate Users Guide for the correct procedures.

Step 4: Modify the JMS IQ Manager configuration

The JMS IQ Manager is initially configured to use the TCP/IP port number of **24053** for all e*Gate publishers and subscribers to connect to. If this port is used by other applications, then the JMS IQ Manager will not be able to be started. This step is only to be used if port 24053 is **NOT** available.

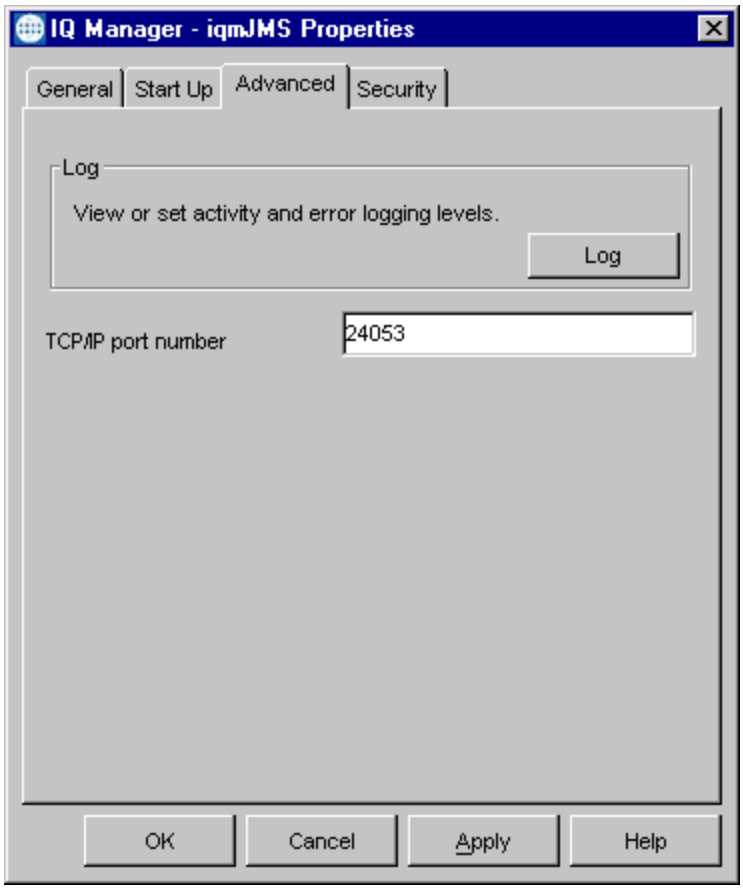
1 In the main e*Gate Enterprise Manager window, right-click on the **iqmJMS** queue manager. (The iqmJMS queue manager is towards the bottom of the Components frame, below all of the e*Ways.)

2 Select **Properties…**. The IQ Manager Properties dialog box is displayed.



IQ Manager Properties dialog box for iqmJMS

3 Click on the Advanced tab at the top of the window.



Advance IQ Manager Properties window

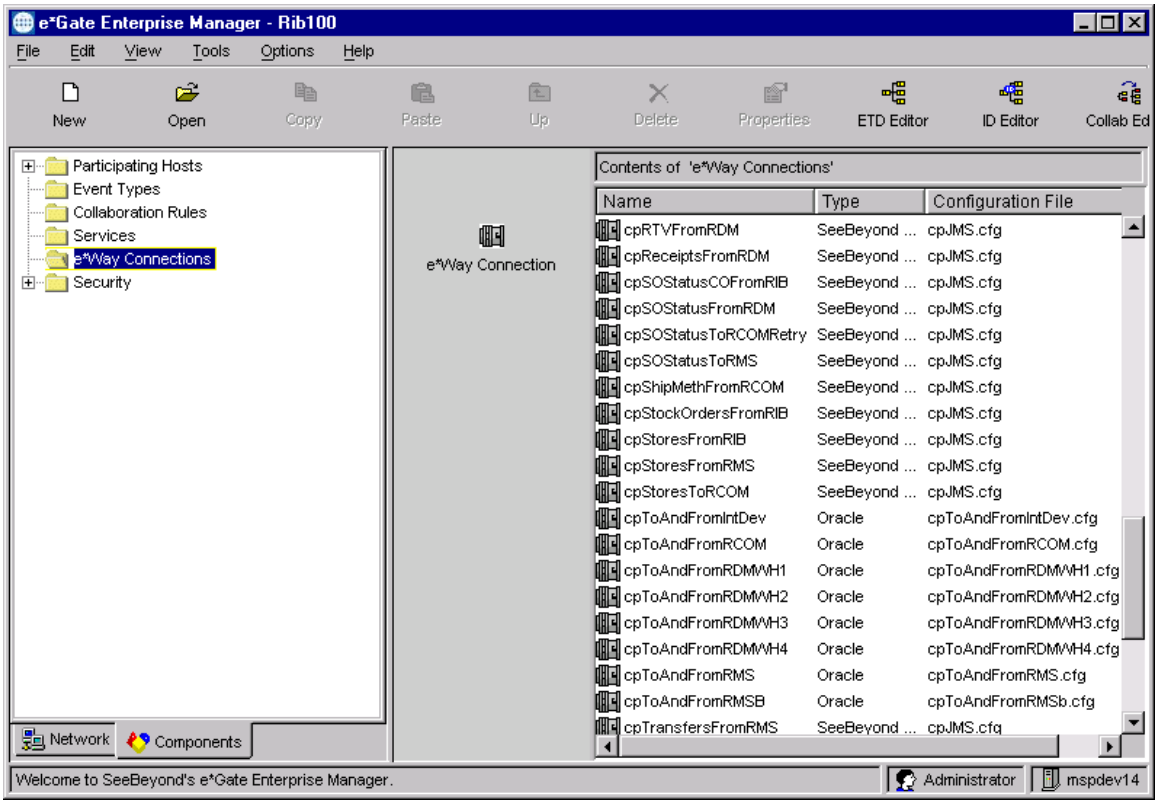
4 In the TCP/IP port number field, change the port number to an available port.

5 Click **OK**. Note the port number for the next step.

Step 5: Modify Connection Point configurations

The next step is to modify the Connection Point configurations to reflect the JMS IQ Manager and Oracle databases used. This is performed in the e*Gate Enterprise Manager application.

- From the main window, click on the e*Way Connection folder. The window changes to reflect the available connections.



Connection Points

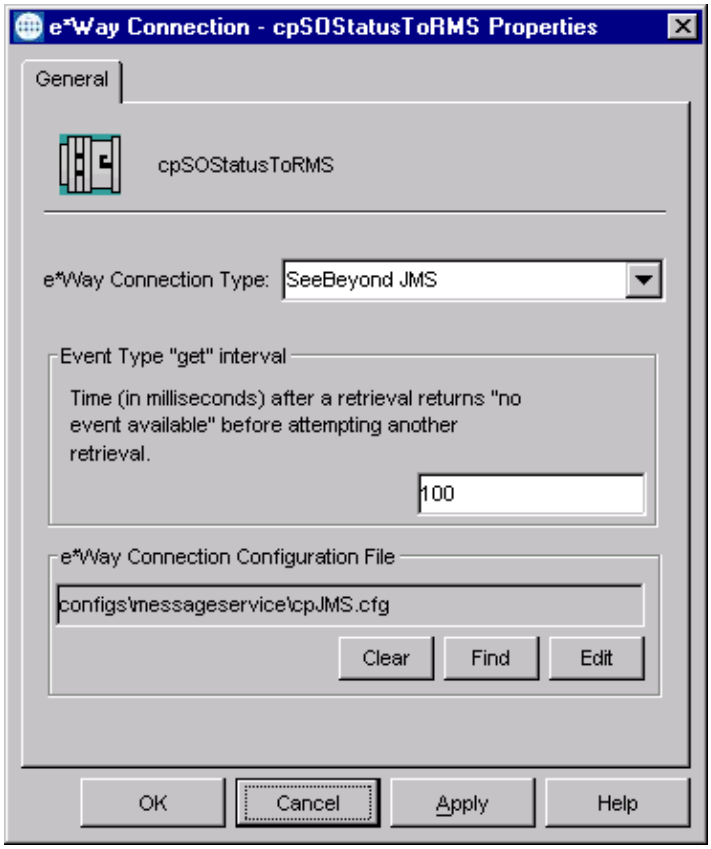
There are two types of connection points supplied with the RIB: SeeBeyond JMS and Oracle.

Change SeeBeyond JMS Connection Points

The SeeBeyond JMS connection points must connect to a known JMS IQ Manager. This requires knowledge of both the port number and host name. The host name is the name of the host used in step 1. The TCP/IP port number is initially set to 24053. Change the TCP/IP port number only if Step 3 changed the port number of the iqmJMS IQ Manager. Otherwise, leave the port number as 24053.

Ensure that the connection point connects to the correct JMS IQ Manager. Note that in the default installation, all SeeBeyond JMS Connection points share the same configuration file.

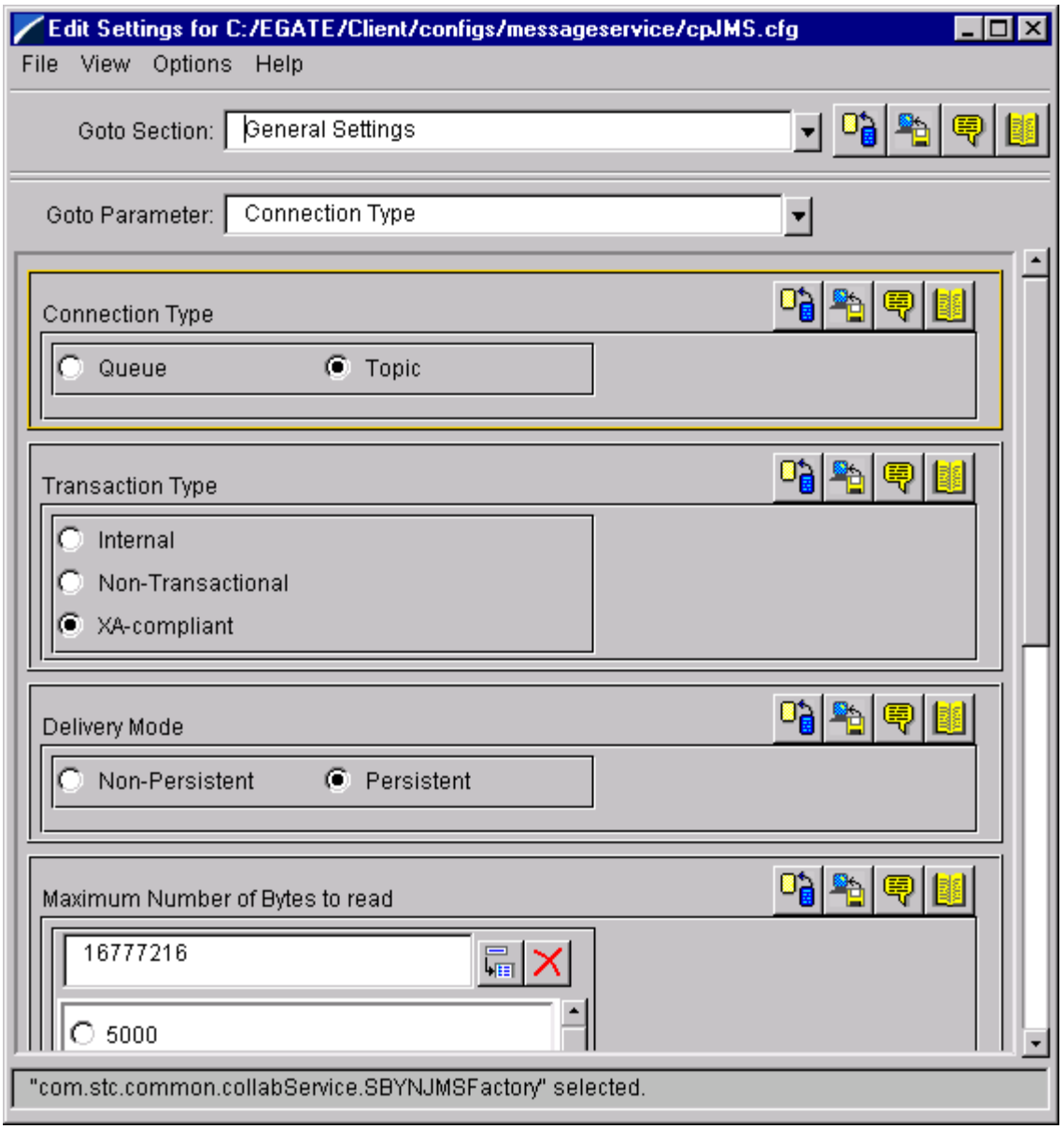
1 For each SeeBeyond JMS connection point, right click on it and select **Properties**. The e*Way Connection Properties dialog box is displayed.



e*Way Connection Properties window

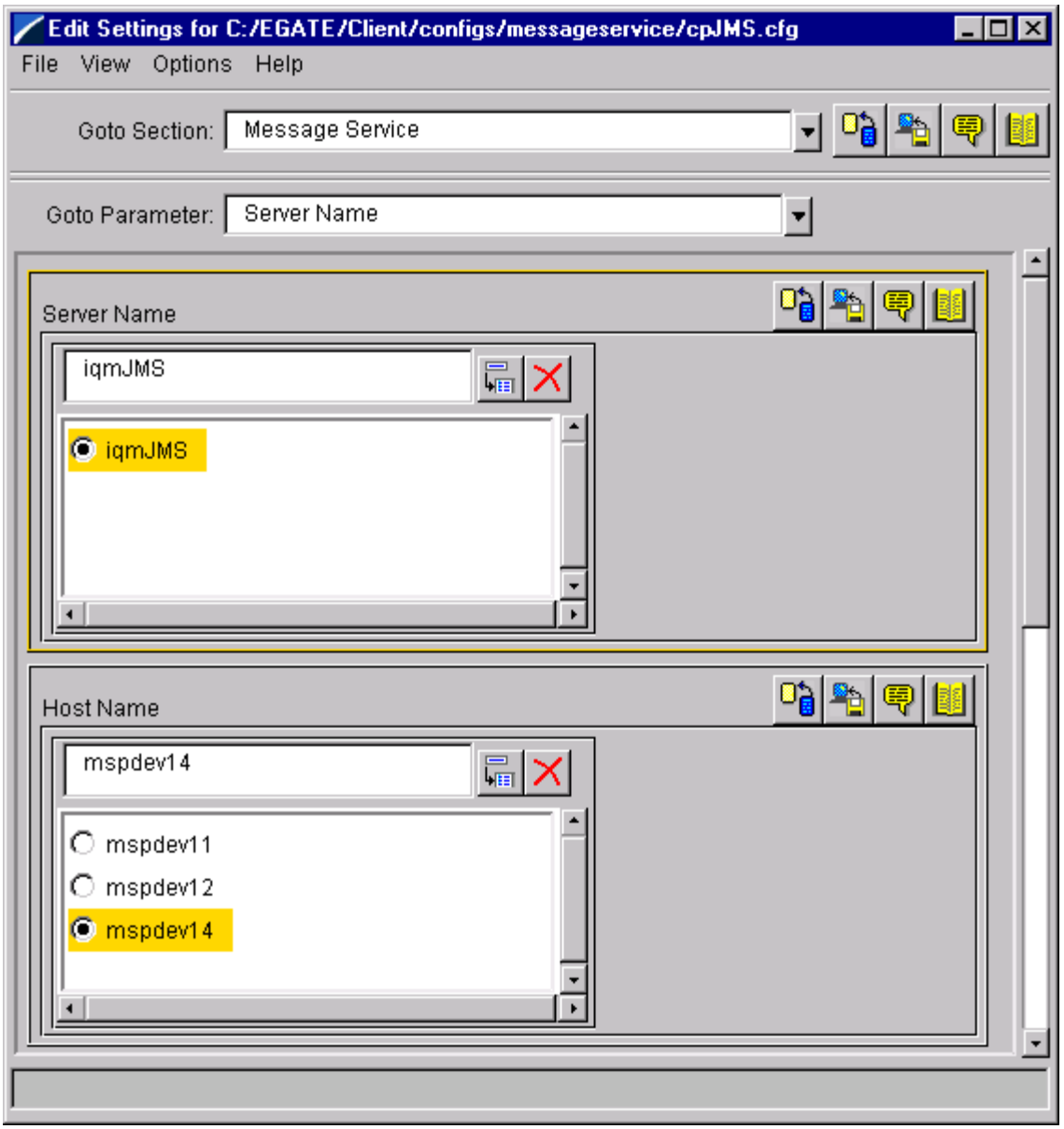
2 To change the address of the JMS IQ Manager the connection point connects to, edit the configuration file from *one* of the connection points using it. Multiple connection points may use the same connection point for sending messages to and from the JMS queue. The RIB schema initially uses only a single JMS queue for all messages.

3 Click **Edit** to change the address of the queue associated with the e*Way Connection Configuration File section of this properties window. The Connection Point configuration file edit dialog box is displayed.



Connection Point Configuration Edit window (General Settings Section)

4 In the GoTo Section field, select the **Message Service** section from the drop-down list.



Connection Point Configuration Edit (Message Service Section)

5 In the Host Name field, enter the name of the host on which the JMS IQ Manager resides. If all components are running on the same host, this is the same name as specified in Step 1.

6 If the JMS IQ Manager's TCP/IP Port number was changed in Step 3, then scroll down to the Port Number field and enter the number used in Step 3.

7 Select File > Save to save the new configuration.

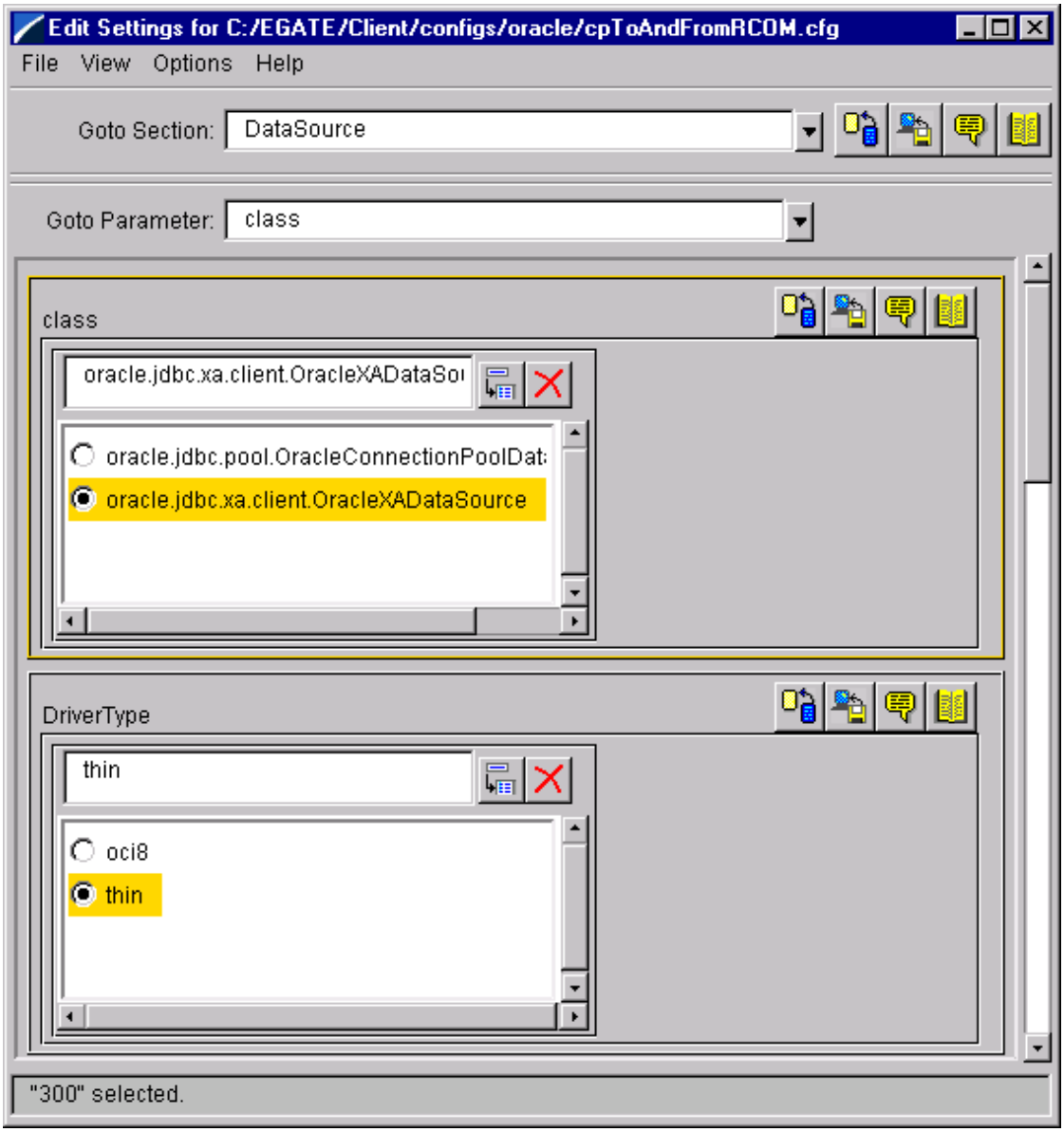
8 Select File > Promote To Runtime to make the configuration change take effect in the schema.

9 Select File > Close to exit the window.

Changing Oracle Database Connection points

All of the Oracle database Connection points must be altered to reflect the database instance and the user-ID/login for each of the applications.

1 Open the Connection Point Configuration window for the Oracle Connection Points, in the same manner as was done in the previous section for the SeeBeyond JMS Connection points.



Oracle Database Configuration Edit window (DataSource Section)

2 All configuration parameters of interest are found in the **DataSource** section.

3 The table below lists which parameters should be changed.

Parameter Name	Description
Class	Specifies the name of the Java class in the JDBC driver (Usually oracle.jdbc.xa.client.OracleXADataSource)
DriverType	This is the JDBC driver type (Usually thin)
ServerName	Name of server to connect to. Must have a valid Oracle listener.
PortNumber	Database connection port number. (Usually 1521.)
DatabaseName	Database System ID (SID).
user name	Login name to use
password	Login password to use. This is stored in an encrypted form and displayed as a series of asterisks.

4 Change all Oracle database connection points. There are two connection points for each database:

- One for the application database proper.
- One for the Error Hospital.

Each Error Hospital connection point configuration file initially uses the same database instance. However, during final deployment configuration, you may use separate Error Hospital instances for different applications or, as in the case for RDM, different application instances.

You can delete the connection points used by publishers and subscribers for applications not installed. However, there is no harm in leaving these connection points as is.

Step 6: Edit the rib.properties file

Next, edit the rib.properties file to reflect the site-specific mappings and properties. There are six types of properties in this file:

- Error Hospital specifics such as the max number of attempts to try for a failing message and the delay between each attempt.
- The Multi-channel indication for Purchase Orders.
- Facility ID mappings. These must correspond to codes in the RMS application for the correct routing of message to RDM instances.
- Log file specific settings.
- The “no event” sleep duration settings.
- retail.com settings.

1 Copy the file rib.properties file from $RETEK_HOME/RIB102/Rib_Support/src to the $EHOME/client/classes directory.

2 If the rib.properties in the $EHOME/client/classes directory is not to be used, then append the directory containing this file to the CLASSPATH Prepend parameter. Use a colon, ':', as the delimiter to separate entries.

See the Retek Integration Bus Operations Guide for more information on the values for the rib.properties file.

Step 7: Create/modify startup scripts

The final installation step is to create RIB startup scripts for Unix systems. These scripts start up the SeeBeyond e*Gate registry and the control broker for the RIB102 Schema.

The commands that implement this functionality are stcregd and stccb. When executed, they run as daemons. Depending on logging and other parameters, they may log items to their stderr or stdout files. Example scripts are provided for starting the registry service and the control broker in the $EHOME directory. Refer to the "start_egate" and a "start_cb" scripts.

These commands are detailed further in the following manuals:

- Retek Integration Bus Operations Guide
- SeeBeyond e*Gate Integrator User's Guide
- SeeBeyond e*Gate Integrator System Administration and Operations Guide

Step 8: Database Change script

In order to properly run the hospital functionality of the RIB, the rib_message table needs to be updated with new table changes by executing the 0001_rib_message.sql script. If the rib_message table contains data, the data should be exported before the script is run, and imported back into the table. NOTE: This script contains table changes that include the addition of a new NON nullable column 'custom_flag' (position 17) that should be defaulted to 'F' when importing data back into the table. All other new columns can be null.

Chapter 4 – Database triggers and Oracle dependencies

Database triggers

Once the RIB has been installed and configured, the publishing applications need to be told to begin to publish data. There are multiple ways to initiate the publishing process. Each product's operation guide contains this information.

Oracle dependencies

In order for the Retek 10.2 RIB to function correctly, *you must install Oracle's XML Developer's Kit for PL/SQL on your database server*. This can be downloaded from Oracle Technology Network. The version of XML Developer's Kit for PL/SQL *must be dated 3/28/2002 or later* – there is a bug in prior version that will prevent the RIB from working correctly.

Chapter 5 – Error Hospital GUI Applet installation

Install GUI files

1. Copy gui.war from the installation CD onto the hard drive of a Windows machine.
2. FTP the gui.war file to your Tomcat webserver, underneath the webapps directory.
3. Shutdown and restart the Tomcat server.
4. Verify that there is now a gui directory underneath the webapps directory.
5. Edit the web.xml file underneath the webapps\gui\WEB-INF directory. Change the context parameter values for “user”, “pwd”, “url”, and “driver” to contain the default login parameters for the Hospital applet.

Install JDK

1. The 1_4_0_01 JDK must be installed on the machine that will access the Error Hospital GUI through a browser. If you do not have the JDK installed an executable is provided within RIB10.2_Hospital_GUI.exe and extracted to C:\.
2. Double click C:\ j2sdk-1_4_0_01-win.exe and follow the installation wizard using the defaults.

Test Error Hospital GUI Applet

- To test the GUI, open your browser and enter in the following url:

  http:// {your-server-name}:{your-port-number}/gui/HospitalUIApplet.html