Governance, Risk, and Compliance Controls Suite

Upgrade Guide

Software Version 7.1 to Version 7.2.2.2

ORACLE®

Governance, Risk, and Compliance Controls Suite Upgrade Guide

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Contents

Preface

Upgrading GRC Controls Suite

Oracle Governance, Risk, and Compliance Controls Suite implements business controls, enabling users to demonstrate regulatory compliance and to promote operational efficiency. Three GRC Controls Suite applications — Application Access Controls Governor, Transaction Controls Governor, and Preventive Controls Governor — run both in a common platform and in "Embedded Agents" that enable the platform to apply controls in the Oracle E-Business Suite. GRC Controls Suite may connect to multiple instances of Oracle E-Busines Suite, each running its own instance of the Embedded Agents.

The common platform also incorporates Business Objects Enterprise XI R2, a third-party software package that provides its reporting capability. An implementation also requires installation of the Tomcat application server.

The Embedded Agents are developed from an earlier set of applications known collectively as AppsRules, and the GRC Controls Suite is developed from applications known collectively as ACTIVE Governance. An upgrade from version 7.1 of AppsRules and ACTIVE Governance to version 7.2.2.2 of the Embedded Agents and GRC Controls Suite is a two-phase process:

- First, for each instance of Oracle E-Business Suite that is to be subject to control by GRC Controls Suite, upgrade AppsRules version 7.1 to Embedded Agents version 7.2.2.2. Book 1 of this upgrade guide provides detailed procedures for doing so; it begins on page 3.

  Each instance of AppsRules/Embedded Agents has its own database — typically, a distinct schema in the Oracle database used by the companion Oracle

E-Business Suite instance. To upgrade from AppsRules to Embedded Agents, you effectively install the 7.2.2.2 version, but in addition run upgrade scripts to enable your 7.1 database to work with the 7.2.2.2 version.

- Second, upgrade ACTIVE Governance 7.1 to GRC Controls Suite 7.2.2.2, and upgrade Business Objects as well. Book 2 of this upgrade guide provides detailed procedures for doing so; it begins on page 35.

  The GRC Controls Suite and Business Objects each requires its own Oracle database. In version 7.1, the ACTIVE Governance database had to be Oracle, but the Business Objects database could be either Oracle or MySQL. In version 7.2.2.2, MySQL is no longer supported. Moreover, while version 7.1 of ACTIVE Governance worked with Business Objects Enterprise XI Release 1, GRC Controls Suite version 7.2.2.2 works with Release 2.

  Therefore, if you used MySQL for your Business Objects database in version 7.1, the upgrade involves replacing this database with Oracle. In any case, the upgrade involves installing a new version of Business Objects, and migrating version 7.1 report history to the 7.2.2.2 instance. It also involves installing upgraded GRC Controls Suite and Business Objects program files, and using Business Objects tools on a Windows client to deploy reports.

A fourth GRC Controls Suite application — Configuration Controls Governor — runs independently of the other three. For information on its installation or upgrade, see the *Configuration Controls Governor Installation Guide*.

This guide is intended for readers qualified to perform system-administration operations such as configuration change at the operating-system level, the creation of users, the granting of permissions to users and directories, or the installation of operating system patches on the machines that host GRC Controls Suite and the Embedded Agents.

Book 1

Embedded Agents Upgrade

Chapter 1

Embedded Agents Upgrade Overview

Embedded Agents are applications that run within the Oracle E-Business Suite environment in support of GRC Controls Suite. They were developed from applications known collectively as AppsRules, and to upgrade from version 7.1 to version 7.2.2.2 is to replace AppsRules applications with corresponding Embedded Agents.

One of these agents serves as an engine for Application Access Controls Governor, and would not be used directly. The remainder are components of Preventive Controls Governor:

- A Change Control application applies change-control rules to Oracle EBS fields. It can monitor change, require a reason for a change, or require approval for a change.
- A Form Rules application modifies the security, navigation, field, and data properties of Oracle EBS forms.
- A Flow Rules application works with Oracle Workflows to define and implement business processes.
- An Audit Rules application tracks changes to the values of fields in database tables and displays reports that present information about changes to each field.

These applications reside on the database and forms servers on which Oracle EBS runs. An instance implements the following architecture:

- Database Schema: As you upgrade to version 7.2.2.2, use the database schema created for your earlier AppsRules version 7.1 installation. Known as the "GRC Controls schema," its recommended user name is XXLAAPPS.

- Tablespace: The instance requires a tablespace for indexes used by Embedded Agents database objects. As you upgrade to version 7.22.2, use the tablespace created for AppsRules version 7.1.
- Database Objects: Embedded Agents make use of database tables, packages, sequences, and workflows, which are placed in the XXLAAPPS schema. All Embedded Agents table names begin with the prefix *LA*.
- Application Server Objects: Embedded Agents use custom forms, which are installed on the application server. Custom forms are located in the $XXLAAPPS_TOP/forms/US directory.
- Program Executables: Embedded Agents use program executables to report on, migrate, and compile business rules. Reports, programs, and Java files are installed on the concurrent manager server (typically the database server). Custom programs are located in the $XXLAAPPS_TOP/forms/US directory; some executable programs may also reside in the $XXLAAPPS_TOP/bin directory.

Two comprehensive Installer programs upgrade the Embedded Agents on the database and forms servers. (They also upgrade a rules engine that provides functionality to the applications.) Each Installer can run in any of three modes:

- GUI: The Installer programs present windows that prompt for upgrade information. Each window also provides access to a help window. As you work through the windows, you can return to windows you had completed earlier, to review or change the entries in them. (The Installers retain entries you don't change, even if you return to a step earlier than the one in which an entry was made.)
- Console: The Installer programs present a series of prompts in a command console, in response to which you provide information necessary for the upgrade. Console mode prompts for the same information as GUI mode, but does not enable you to return to earlier prompts and does not provide help screens.
- Silent: The Installer programs read parameters from properties files, and then run without user interaction.

To run each Installer program, you would type its name — ladbinstall.bin or lafrminstall.bin — at the command prompt. The name alone launches GUI mode if no properties files are present, or silent mode if properties files are present; the name along with the argument *–i console* launches the console mode.

Preparatory Procedures

Although the following preparatory procedures were most likely completed when version 7.1 was installed, you may wish to confirm that they have been completed as you upgrade to version 7.2.2.2:

- Grant the following APPS schema objects the execute privilege to the GRC Controls schema:
  - FND_FILE — Package Spec and Body
  - FND_PROFILE — Package Spec and Body

- Confirm that Java is in your path. Type the following at the command prompt:

  ```
  which java
  ```

- Verify that you use Java version 1.3 or higher. Type the following at the command prompt:

  ```
  java -version
  ```

  If more than one copy of Java exists on your system, verify the version of the copy in the opt directory (for example, /usr/opt1.3/bin/java).

- Ensure that the Oracle Advanced Security product is installed. (DBMS_Obfuscation is used for encrypting the password.) Type the following at the command prompt:

  ```
  adapters
  ```

  Look for Oracle Security Server Authentication Adapter among the return values.

- Each of your database server, forms server, and concurrent manager server may run on its own host machine. If so, complete the following tasks to confirm that the host machines communicate properly:
  - Send a file via FTP from the database server to the concurrent manager server, and from the concurrent manager server to the forms server.
  - Perform a remote execution of the shell file, by any of the following methods: Enable rsh (remote shell), enable ssh (secured shell), have a common mount point, manual.

Sizing Considerations

Ensure that your forms server has 100 megabytes (MB) of disk space for Embedded Agents files, and that the database server has 100 MB of disk space for Embedded Agents executable files.

Moreover, the GRC Controls schema requires the following amounts of disk space:

- 100 MB for most Embedded Agents database tables.
- An additional 1 gigabyte (GB) for two temp tables used in Audit Rules processing — LAAD_AUDIT_KEYS and LAAD_AUDIT_VALUES.
- An additional amount for two tables that hold Access Governor "user conflicts." The space requirement varies according to the number of conflicts a system may generate. The first table, LAA_USER_CONFLICT_ENTITIES, holds the most recent "snapshot," or set of conflicts; the other, LAA_USER_CONFLICT_ENTITIES_H, is a history table that holds archived snapshots. So one would, in effect, want to allow for double the number of conflicts that may be generated. The largest clients generate approximately 5,000,000 conflicts and so need to allow for 10,000,000, and 2 GB of disk space meets this requirement.

The GRC Controls schema (XXLAAPPS or user-specified) requires space to encompass shadow tables used by Audit Rules — one-third of the space taken by each audited table.

Software Requirements

Each instance of the Embedded Agents runs with an instance of Oracle E-Business Suite. Versions 11.5.9 and 11.5.10 of Oracle are preferred, but versions 11.5.7 (FND patch H) and 11.5.8 are also supported. For version 7.2.2 and above, Oracle version 12 is also supported.

The following operating systems are preferred for version 7.2.2.2 of the Embedded Agents:

- Red Hat Linux AS/ES 3.0
- Red Hat Linux AS/ES 4.0
- Solaris 8/9/10

The following operating systems are also supported:

- Suse Linux Enterprise Server 9.0
- AIX
- HP-UX

Each instance of the Embedded Agents requires an Oracle 9i (or later) database.

Obtaining Installation and Upgrade Files

In your Oracle media pack, locate the Governance, Risk, and Compliance Controls Suite Disk 1. In its dist directory, locate the following files and copy them to a temporary directory on your local system:

- ag_7222_oracle_ebs_agent_*os*.zip, in which the placeholder *os* is replaced by the name of the operating system on which you are upgrading. From it, extract the two files — ladbinstall.bin and lafrminstall.bin — you will run for database and forms installation. If you intend to use the silent installation mode, also extract the two files from which the Installers will read parameters — ladbinstall.properties and lafrminstall.properties.
- ag_oracle_ebs_agent_migration_710_to_7222.zip. From this file, extract the following three files: la_ae_conv_pkg_spec.sql, la_ae_conv_pkg_body.sql, and LAA_SIM_ MIGRATION_72.sql.

Preparing Properties Files

If you intend to run the Installer programs in silent mode, you need first to edit the two properties files you extracted from ag_7222_oracle_ebs_agent_*os*..zip, inserting information specific to your installation. (If you intend to use GUI or console mode, you don't need the properties files, and you can ignore this section.)

To insert values in the files, use a text editor such as vi. Each file consists of a series of name-value statements, each of which sets a parameter name equal to a value and

each of which is preceded by an explanatory comment. (Each comment begins with a # symbol.) In each statement, edit information to the right of an equals sign; do not (with one exception, discussed below) modify text to the left of the equals sign.

You insert into the files exactly the same information as you would supply in response to prompts if you were to run the Installers in GUI mode. For detailed descriptions of that information, see Chapter 2, "Upgrading Embedded Agents."

The two properties files — ladbinstall.properties (database) and lafrminstall.properties (forms) — share many parameters, which correspond as follows to the GUI prompts discussed in Chapter 2:

- CUST_NAME and LICENSE_KEY: Prompts in the License Key window, step 1 on page 12 (database), or step 1 on page 16 (forms).
- #STAGE_DIR: Prompt in the Staging window, step 2 on page 13 (database), or step 2 on page 17 (forms).

  This statement is the exception, noted above, to the rule that you should leave parameter names (to the left of the equals sign) intact. In the assumption you will want the Installers to set default staging directories, this statement is commented out in the properties file. To use the statement, you must not only supply a staging directory path to the right of the equals sign, but also delete the # symbol at the beginning of the statement.
- DB_HOST_NAME, DB_SID, and DB_PORT: Prompts in the Database Host window, step 3 on page 13 (database), or step 3 on page 17 (forms).
- DB_XXLAAPPS_SCHEMA_NAME, DB_XXLAAPPS_PASS, DB_APPS_SCHEMA_NAME, and DB_APPS_PASS: Prompts in the Database Schema window, step 4 on page 14 (database), or step 4 on page 17 (forms).

  Another exception: The database-installation window does not prompt for the Oracle Applications schema name, although the forms-installation window does. Both properties files require it (typically APPS) as the value for the DB_APPS_SCHEMA_NAME parameter.
- XXLAAPPS_SHORT_NAME and APPL_TOP: Prompts in the Application TOP window, step 5 on page 14 (database), or step 5 on page 17 (forms).
- ENVFILE and ADOVARS: Prompts in the Environment window, step 6 on page 15 (database), or step 6 on page 18 (forms).

The ladbinstall.properties file contains one parameter — INDEX_TABLESPACE — that does not appear in lafrminstall.properties. This parameter corresponds to the Index Table Space prompt in step 4 on page 14.

The lafrminstall.properties file contains two parameters that do not appear in the ladbinstall.properties file. These two parameters correspond as follows to the GUI prompts discussed in Chapter 2:

- APPSORA: The final prompt in the Environment window, step 6 on page 18.
- CUSTOM_CHOICE: The prompt in the CUSTOM.pll window, step 7 on page 18. In the properties file, any value other than No (case-sensitive) is equivalent to Yes.

Finally, both files contain a parameter that does not correspond to any GUI prompt. For you to run the Installers in silent mode, an INSTALLER_UI parameter must be set to the value silent. This is the default; don't change it.

Chapter 2

Upgrading Embedded Agents

In broad terms, the Embedded Agents upgrade involves five steps:

1. Determine the names of the tablespace for Embedded Agents indexes, the Embedded Agents database user/schema, and the database password established for version 7.1. (Conventionally, the database user name is XXLAAPPS.) You will need to supply these as you upgrade to version 7.2.2.2.
2. Run the Installer that places Embedded Agent components on the database server. The database server installation must precede the forms server installation.
3. Run the Installer program that places Embedded Agent forms on the forms server.
4. Run a remote compilation feature, which makes libraries resident on the concurrent sever available to the forms server.
5. Run database upgrade scripts.

Upgrading Database Server Components

To upgrade database server components, run the file ladbinstall.bin:

1. Transfer the ladbinstall.bin file to the database server, via FTP in binary mode. Use the applmgr account.
2. Use applmgr to log in to the database server. Ensure that the user (login ID) has write and read privileges on $APPL_TOP.
3. Execute the environment file, if it is not included in the profile:

```
$. $APPL_TOP/$APPLFENV
```

4 Set the execute permission on ladbinstall:

```
$ chmod +x ladbinstall.bin
```

5 Execute ladbinstall.bin:

- To run in GUI or console mode, ensure that ladbinstall.properties is absent from the directory where ladbinstall.bin resides. To run in silent mode, be sure that both files are in the same directory.
- Use the name *ladbinstall.bin* as the command to run in GUI or silent mode. Add the argument *–i console* to run in console mode.

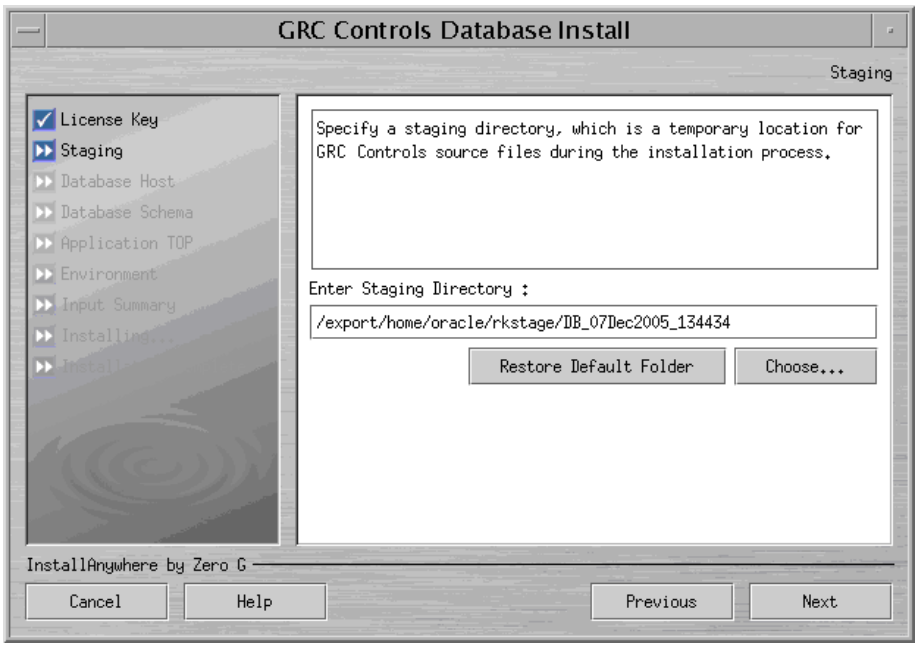
All three Installer modes require the same information; GUI and console prompt for it, and silent reads it from files. If you choose GUI mode (as shown in the following procedure), you can perform these operations in each of the windows:

- Review a brief description of the information you need to provide.
- Click on the Help button to open a window that provides a more expansive description of the information you need to provide. (After you review this information, click on the Close button to exit the Help window.)
- Type installation information in the labeled text boxes (or accept default values).
- When you complete one window, click on the Next button to move from it to the next window.
- Click the Previous button if you wish to return to a window you completed earlier.
- Note that titles of windows you have completed appear in black along the left of each window; those yet to be completed are shown in grey.

To complete the database server installation:

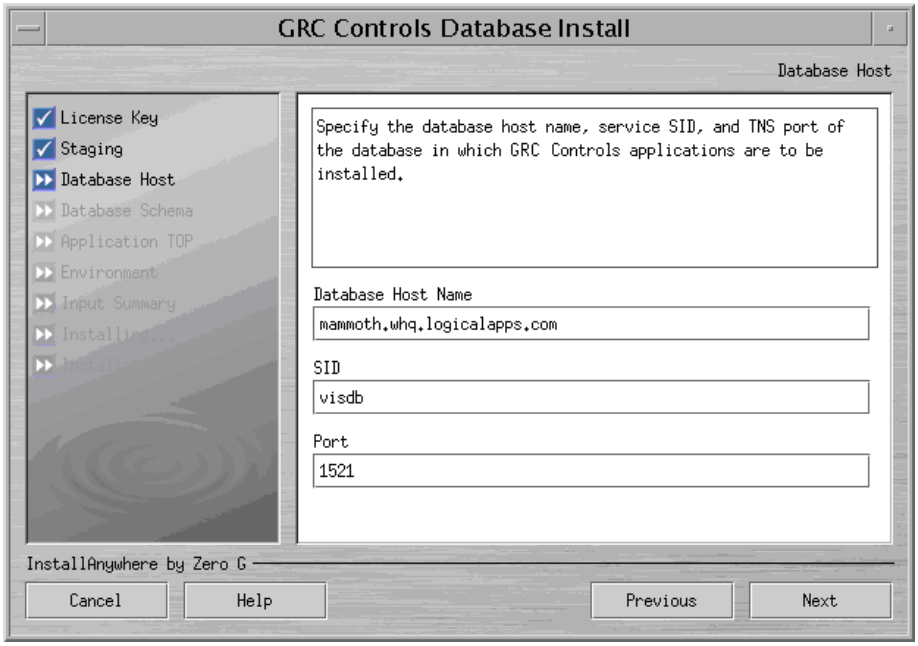
1 In the License Key window, enter *Oracle* as the Customer Name and the following case-sensitive value as License Key: 6MR6457YE5RJO1C8T3JhY2xl. A message displays the applications you can install; click the OK button to clear it.

2 Specify a staging directory — a temporary location for source files:

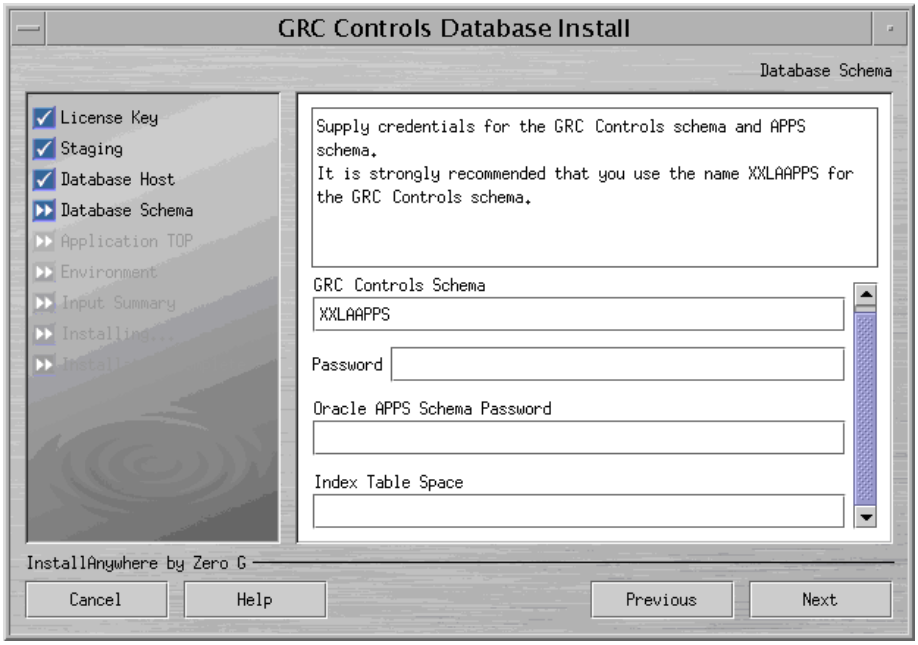


The Installer suggests a default directory; its name is a timestamp for the moment you perform the upgrade, with *DB* (for database). You may select another directory: Click the Choose button and, in a Select a Folder window, navigate to the directory you want. If you specify a nonexistent directory, the Installer creates it. To return to the default directory, click on the Restore Default Folder button.

3 Verify the default values for the host name, SID (service identifier), and network port of the Oracle E-Business Suite database server, which the Installer takes from the shell environment. If the defaults are not correct, enter correct values.



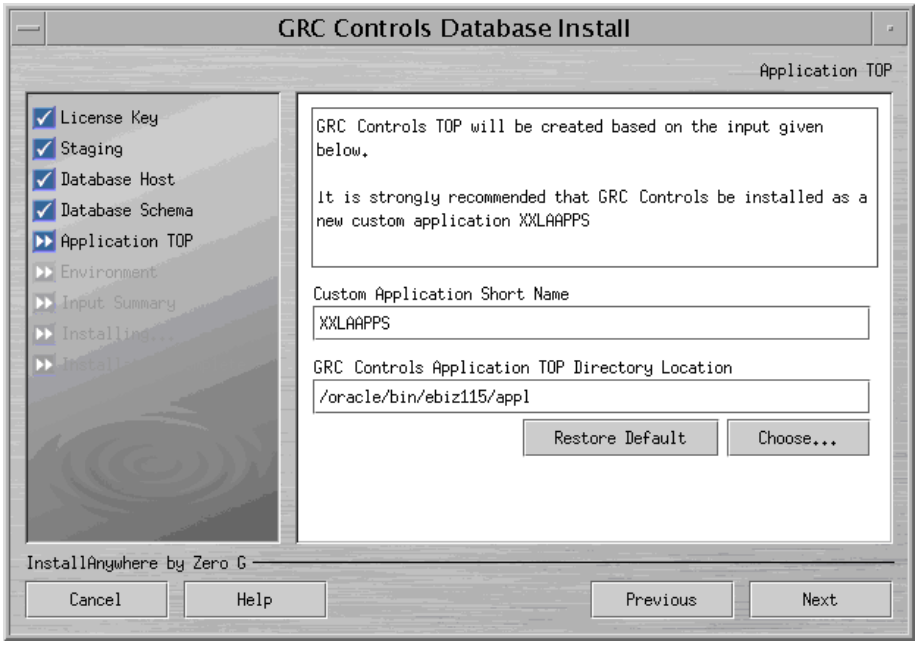
4 Supply log-on values for the GRC Controls and Oracle (APPS) schemas:



In the GRC Controls Schema, Password, and Index Table Space fields, you must enter the values established originally for the AppsRules database in version 7.1. Also enter the password for the Oracle APPS schema in its field.

5 Establish the GRC Controls TOP — the high-level directory for Embedded Agents files. You must enter values set during installation of AppsRules version 7.1.

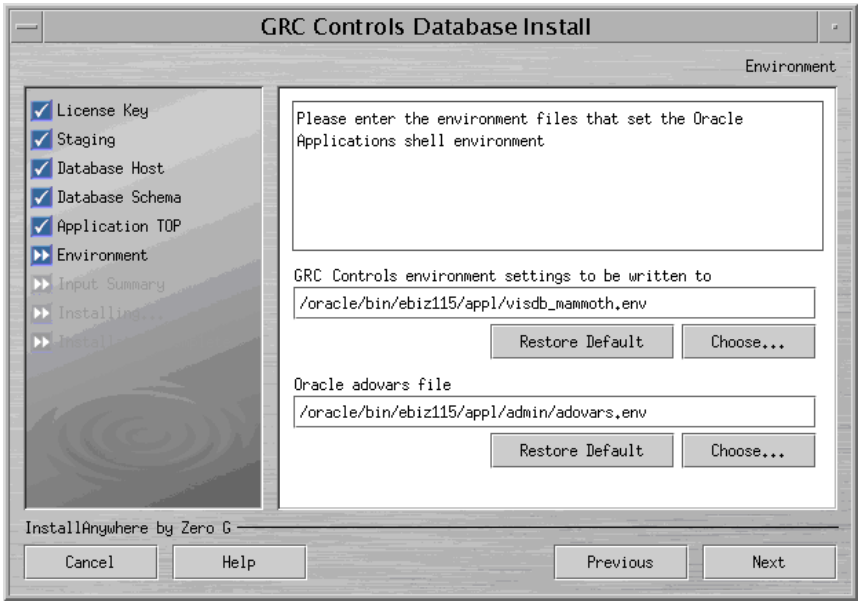
- In the GRC Controls Application TOP Directory Location field, specify a directory that is the parent of the GRC Controls TOP.
- In the Custom Application Short Name field, specify a short name that is appended to the parent directory to form the GRC Controls TOP directory.



If you need to select a parent directory other than the default, click on the Choose button and, in a Select a Folder window, navigate to the directory you want. To return to the default directory, click the Restore Default button.

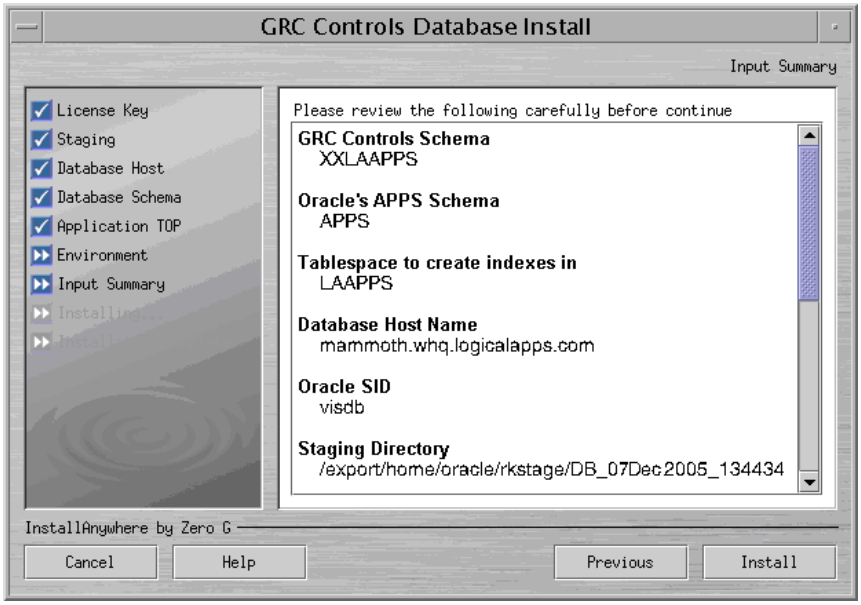
Because you are selecting an application short name that is already in use, the Installer displays a warning message when you click the Next button. You are presented with three options: Enter Again, Continue, and Abort. Select Continue.

6 Specify paths to files that contain environment variables for the Oracle EBS shell. (The installation adds Embedded Agent-specific entries to these files.)



Accept the defaults, or click a Choose button and, in a Select a Folder window, navigate to a directory you want. To return to a default directory, click the Restore Default button.

7 Review your selections in the Input Summary form:



If you determine that any entry is inappropriate, you can click on the Previous button until you reach the form in which you selected the entry, and change it. (The Installer retains any entries you don't change, even if you pass by them as you return to an earlier step in the installation process.)

8 In the Input Summary form, the label for the button at the lower right has changed from *Next* to *Install*. When you are satisfied with your selections in earlier forms, click on the Install button to complete the database server installation.

The Installer displays error messages (if warranted) upon completing the upgrade of each Embedded Agents application, and overall status upon completing the upgrade of all products. If the overall status is Success, the upgrade has finished with no errors.

Errors or overall status may be classified as Warning, Nonfatal, or Fatal. The Installer recovers (restores the system to its state prior to the upgrade) only for Fatal errors. For details about errors and the upgrade process, navigate to the directory from which the Installer ran and review two log files: LADB_LOG_*timestamp*.log and LADB_ERROR_*timestamp*.log, where *timestamp* is the date and time at which the Installer ran.

Upgrading Forms Server Components

To upgrade forms server components, run the file lafrminstall.bin:

1 If the database and forms servers run on the same host, re-source the environment by opening a new shell.

2 Transfer the lafrminstall.bin file to the forms server, via FTP in binary mode. Use the applmgr account.

3 Use applmgr to log in to the forms server. Ensure that the user (login ID) has write and read privileges on $APPL_TOP.

4 Execute the environment file, if it is not included in the profile:

```
$. $APPL_TOP/$APPLFENV
```

5 Set the execute permission on lafrminstall:

```
$ chmod +x lafrminstall.bin
```

6 Execute lafrminstall.bin:

- To run in GUI or console mode, ensure that lafrminstall.properties is absent from the directory where lafrminstall.bin resides. To run in silent mode, be sure both files are in the same directory.
- Use the name *lafrminstall.bin* as the command to run in GUI or silent mode. Add the argument *–i console* to run in console mode.

Most windows (or console prompts) for the forms installation are identical to those for the database installation. If you select GUI mode, each window enables you to perform the same operations as you could in the database-server Installer (see page 11).

To complete the forms server installation:

1 In the License Key window, enter *Oracle* as the Customer Name and the following case-sensitive value as License Key: 6MR6457YE5RJO1C8T3JhY2xl. (These

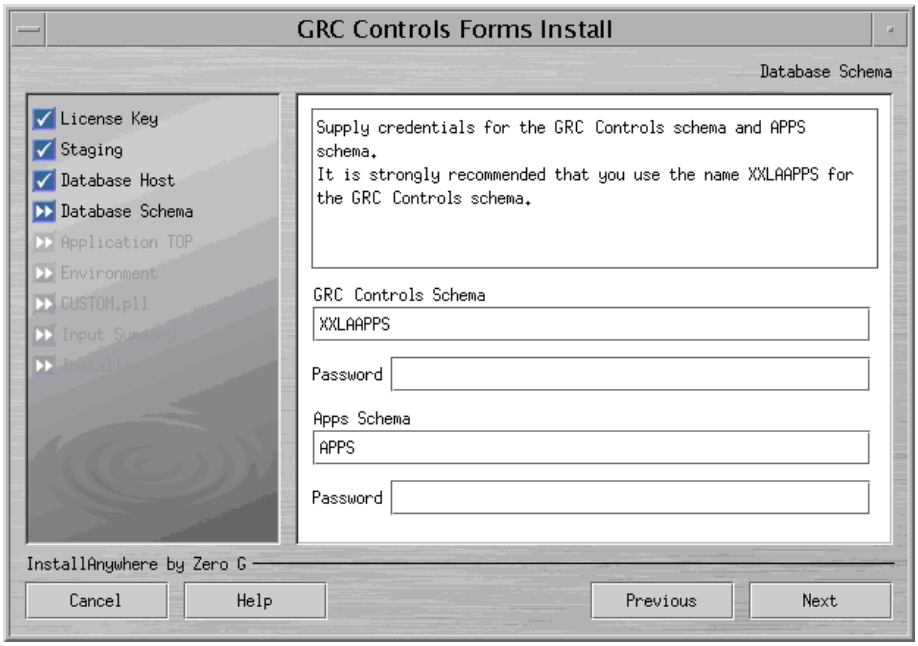
are the same as the values for database-server installation.) A message displays the applications you can install; click the OK button to clear it.

2. In the Staging form, once again select a directory for the temporary placement of source files. The Installer once again suggests a default — its name a timestamp for the moment you perform the installation, along with *FRM* (for forms).

   If you wish to select another directory, click on the Choose button. In a Select a Folder window, navigate to the directory you want. If you specify a nonexistent directory, the Installer creates that directory. If you navigate away from the default directory and want to return to it, click on the Restore Default Folder button.

3. In the Database Host form, select the database host name used where the database installation has been run, and the appropriate SID and port values.

4. In the Database Schema window, there is no longer an Index Table Space field (as it would be inapplicable to forms installation), but where the database-server Installer requested only a password for the Oracle EBS schema, the forms-server Installer asks for a name as well:



   For the Apps Schema field, accept the default value, APPS. (This needs to match the database-server value, which is hard-coded.) For each of the remaining fields, enter the same value as you entered for the database installation. Once again, for the GRC Controls Schema and Password fields, these must be the values established for the AppsRules database in version 7.1.

5. In the Application TOP form, establish the GRC Controls TOP for the forms server — the highest-level directory for Embedded Agents files. Again, you must enter values set during installation of AppsRules version 7.1.

   - In the GRC Controls Application TOP Directory Location field, specify a directory that is the parent of the GRC Controls TOP.

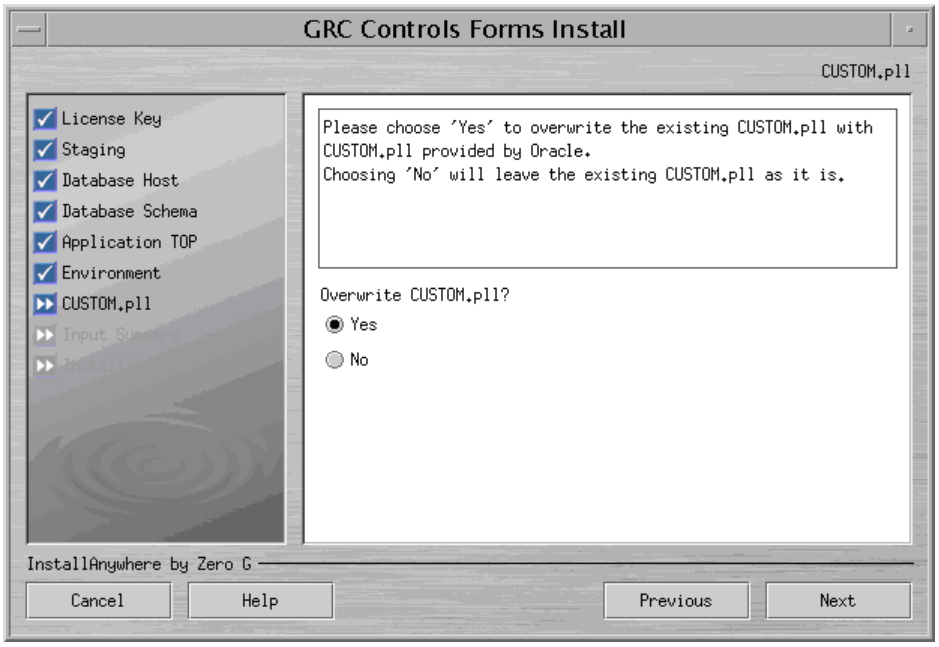
- In the Custom Application Short Name field, specify a short name that is appended to the parent directory to form the GRC Controls TOP directory. The short name for the forms server must be the same as the short name for the database server.

If you need to select a parent directory other than the default, click on the Choose button and, in a Select a Folder window, navigate to the directory you want. To return to the default directory, click the Restore Default button.

Because you are selecting an application short name that is already in use, the Installer displays a warning message when you click the Next button. You are presented with three options: Enter Again, Continue, and Abort. Select Continue.

6 In the Environment form, specify paths to files that contain environment variables for the Oracle EBS shell (the first two prompts) and for forms paths (the APPSORA prompt). Accept the defaults, or click a Choose button and, in a Select a Folder window, navigate to a directory you want. To return to the default directory, click the Restore Default button. In any case select values that are appropriate for the forms server.

7 When you complete the Environment form, the forms server Installer presents a CUSTOM.pll form:



Forms server installation requires that an existing CUSTOM.pll file be modified so that it can link to an LACUSTOM.pll file. If you select Yes, the Installer backs up your existing CUSTOM.pll, and then overwrites the original with a modified copy that contains the necessary links to LACUSTOM.pll. (The backup copy has a timestamp appended to the .pll file extension.) If your existing CUSTOM.pll contained any customization, a Yes selection in this form would require you to copy your customizations manually from the backup file to the new version of CUSTOM.pll.

If you select No, the Installer retains your existing CUSTOM.pll. In this case, you need to edit the file to insert links to LACUSTOM.pll (see below).

8 In the Input Summary form, review the selections you have made. If you determine that any entry is inappropriate, you can click on the Previous button until you reach the form in which you selected the entry, and change it. (The Installer retains any entries you don't change, even if you pass by them as you return to an earlier step in the installation process.)

9 When you are satisfied with the selections you have made in preceding forms, click on the Install button in the Input Summary form to complete the forms server installation.

The Installer displays error messages (if any are warranted) upon completing the upgrade of each Embedded Agents application, and overall status upon completing the upgrade of all products. If the overall status is Success, the upgrade has finished with no errors.

Errors or overall status may be classified as Warning, Nonfatal, or Fatal. The Installer recovers (restores the system to its state prior to the upgrade) only for Fatal errors. For details about errors and the upgrade process, navigate to the directory from which the Installer ran and review two log files: LAFRM_LOG_*timestamp*.log and LAFRM_ERROR_*timestamp*.log, where *timestamp* is the date and time at which the Installer ran.

CUSTOM.pll Modifications

If you chose (in step 7) not to overwrite your CUSTOM.pll file, edit the new CUSTOM.pll file. (If you selected Yes in step 7, ignore this section and skip ahead to "Servlet Mode.")

1 In place of the existing code for *Procedure Event(event_name varchar2)*, substitute the following:

```
PROCEDURE event(event_name varchar2) is

  form_name     varchar2(30) := name_in('system.current_form');
  block_name    varchar2(30) := name_in('system.cursor_block');
  field_name    varchar2(30) := name_in('system.current_item');
  function_name varchar2(30);
  parameters    varchar2(2000);

begin
  if (event_name = 'ZOOM') then
    la_enhncmtmgr_pkg.la_zooms(form_name,block_name,
        function_name,parameters);
      if function_name is not NULL
      then
        if parameters is null then
          fnd_function.execute(function_name,'Y','N');
        elsif 'ZOOMSPECIAL' = substr(parameters,1,11) then
          lacustom.event('ZOOMSPECIAL'); -----new code 081903
      else
        parameters := lazoom.zoom_event(parameters);
        fnd_function.execute(function_name,'Y','N',parameters);
      end if;
  end if;
```

```
-----------------------------------WNF
  elsif (event_name='WHEN-NEW-FORM-INSTANCE') then
   lacustom.event('WNF');
--------------------------WNB
  elsif (event_name = 'WHEN-NEW-BLOCK-INSTANCE') then
   lacustom.event('WNB');
----------------------------WNI
  elsif (event_name = 'WHEN-NEW-ITEM-INSTANCE') then
   lacustom.event('WNI');
-----------------------WNR
  elsif (event_name = 'WHEN-NEW-RECORD-INSTANCE') then
   lacustom.event('WNR');
---------------------WNV
  elsif (event_name = 'WHEN-VALIDATE-RECORD') then
   lacustom.event('WVR');
-----------------------
  elsif (substr(event_name,1,7) = 'SPECIAL') then
   execute_menu(event_name);
-----------------------------------------
   else lacustom.event(event_name);   --put other events here
   end if;
end event;
```

2 In place of the code for *Function zoom_available*, substitute the following:

```
FUNCTION zoom_available return boolean is
    v_enabled  varchar2(20);
  begin   --x
    v_enabled := lazoom.zoom_enabled;
    IF v_enabled = 'TRUE' THEN
      return TRUE;
    else
      return FALSE;
    end if;
  RETURN NULL;
  end zoom_available;
```

3 Attach the following libraries. (Remove the path when attaching the libraries.)

- LACUSTOM.pll
- LABRSQL.pll

4 Compile the file and ensure there are no compilation errors.

Servlet Mode

If the forms server runs in servlet mode, confirm that a file has been edited to enable Oracle to recognize the GRC Controls TOP you selected during the upgrade (see step 5 on page 17).

To determine whether the forms server runs in servlet mode, identify the file set by the Oracle environment variable $FORMS60_WEB_CONFIG_FILE. Open that file and search for its serverURL entry. If that entry is set to the value */forms/formservlet*, the forms server runs in servlet mode. If the entry is blank, the forms server runs in socket mode, in which case you need not complete the following procedure.

If the forms server runs in servlet mode:

1. Using a text editor, open a file called formservlet.ini. The file is located either in $APACHE_TOP/Jserv/etc or in $IAS_ORACLE_HOME/Apache/Jserv/etc.
2. In the formservlet.ini file, look for a block of entries bounded by the lines *#Begin Customization* and *#End Customization*.
3. Add the following entry anywhere between the Begin and End Customization lines:

   ```
   XXLAAPPS_TOP=$APPL_TOP/xxlaapps/11.5.0
   ```

   Note, however, that the value *XXLAAPPS* is correct in this entry only if you have accepted the default application short name during installation. If not, then in each of the two places that the value *XXLAAPPS* appears in this entry (whether in upper or lower case), substitute the short name you created in step 5 on page 17.
4. Save and close the file.

Configuring the Remote Compilation

To finish the installation, you must configure a remote compilation feature, which makes libraries resident on the concurrent sever available to the forms server.

1. Log on to the database server.
2. Source out the Oracle EBS shell environment.
3. Navigate to the $XXLAAPPS_TOP/bin directory (a subdirectory, called bin, of the GRC Controls TOP directory, which you established in step 5 of the database installation process).
4. Grant the execute permission on a file called laconfig.sh:

   ```
   $ chmod +x laconfig.sh
   ```
5. Run the laconfig.sh file:

   ```
   $ laconfig.sh
   ```

Running the laconfig.sh file produces a series of command-line prompts. Respond to them as follows:

1. You are prompted to enter the GRC Controls application short name. If that name is other than XXLAAPPS, type it and press the Enter key. (Case is not significant.) If the short name is XXLAAPPS, press the enter key in response to the prompt.
2. A prompt displays a path to a Java executable; you must confirm that this is the path to the Java executable used by Oracle EBS. It is, if you sourced out the Oracle EBS shell environment before running the laconfig.sh file (no matter how many Java executables reside on your system). It may not be, if you did not source out the Oracle EBS shell environment and have more than one Java executable on your system.

   If the prompt displays the path to the Oracle EBS Java executable, type *Y* (for yes) and press the Enter key. If not, type *N* (for no) and press the Enter key,

then type the full path to the Java executable used by Oracle EBS and press the Enter key again.

3. A prompt displays a path for a file that sets the Oracle EBS environment; confirm that it is correct. The default value is taken from the shell as $APPL_TOP/$APPLFENV, and this selection is always safe; to accept it, press *Y* (for yes) and press the Enter key. But what's really at issue is the file that sets the GRC Controls TOP, which is a subsidiary file of $APPLFENV. You may wish to specify it instead; if so, type *N* (for no), then type the full path to the appropriate file and press the Enter key.

4. The following prompt appears:

```
Choose your node configuration from below:
1.  All servers (CM/Forms) share the same application top
    directory
2.  Forms server has different application top file system
    than concurrent managers
3.  Exit Program
```

   Enter 1 if all database, forms, and concurrent servers exist under a single application TOP, or 2 if each exists under its own application TOP (regardless of whether they reside on a single machine or more than one).

5. You are prompted to enter the number of distinct application TOPs used by forms servers. Type the number and press the Enter key.

6. For each of the application TOPs you include in the count in step 5, you are prompted to select a method for transferring files to the application TOP directory. Enter one of the following and press the Enter key:

   - 1 for secured shell (ssh)
   - 2 for remote execution (rexec)
   - 3 for telnet
   - 4 for local file system (copy)
   - 5 for manual

7. For each application TOP, you are prompted for supporting information if you have selected any of the first four access methods. (Method 5, manual, requires no supporting information.)

   - Server host name if you selected option 1, 2, 3, or 4
   - Full path to Embedded Agents binary files if you selected option 1, 2, 3, or 4
   - User ID if you selected option 1, 2, or 3
   - Password if you selected option 3

   Entries are validated, so that if you enter incorrect supporting information you are prompted to try again.

Once you have finished executing the laconfig.sh file, verify that the following files exist:

- Database server (under $XXLAAPPS_TOP/bin): LAGENLIB.prog, LAMIGRATE.prog, LAIMPORT.prog
- Forms server: LAFORMSGEN.prog

Finally, if you want to enable migration (the ability to port Embedded Agents configurations from one instance to another) with password security:

1. Navigate to \\System Administrator Responsibility\Profile\System.
2. Query for the LAAPPS: Enable Migration Security profile option.
3. Set the value to Yes at site level. (This can be controlled further at the responsibility and user levels.)

Upgrading the 7.1 Database

Run the three upgrade scripts that you extracted from the ag_oracle_ebs_agent_migration_710_to_7222.zip file (see page 8). Log on to any SQL editor as the APPS user and run the following:

- la_ae_conv_pkg_spec.sql
- la_ae_conv_pkg_body.sql
- LAA_SIM_MIGRATION_72.sql

Bouncing the Servers

When you finish the remote compilation and run the upgrade scripts, bounce both the forms server and the concurrent manager server.

Postinstallation Tasks

Once you've run the Installers, the remote compilation, and the upgrade scripts, you must perform additional tasks. Some are required in any case, and others if you run particular versions of Oracle EBS or if other special circumstances apply.

SQL Rule Compilation

From within Embedded Agents, you must run an option to compile SQL rules:

1. Log on to the GRC Controls responsibility in Oracle E-Business Suite. In that responsibility, select Form Rules.
2. A GRC Controls—Oracle Rules form opens. Ensure that its Form Rules tab is selected.
3. Click on Tools in the menu bar, and then Oracle Form Rules Compile All Active SQL Rules in the Tools menu.
4. A pop-up message informs you of an ID number for the concurrent request that executes the SQL rule compilation. Make a note of the number, and then click on the OK button to close the message.
5. Optionally, verify that the request has been completed successfully.
   a. Click on View in the menu bar, then on Requests in the View menu.

b A Find Requests form opens. In it, click on the Specific Request radio button. Type the ID number of your concurrent request in the Request ID field, and click on the Find button.

c A Requests form opens. In the row displaying information about your request, ensure that the entry in the Phase field is *Completed* (you may need to click the Refresh Data button), and the entry in the Status field is *Normal*.

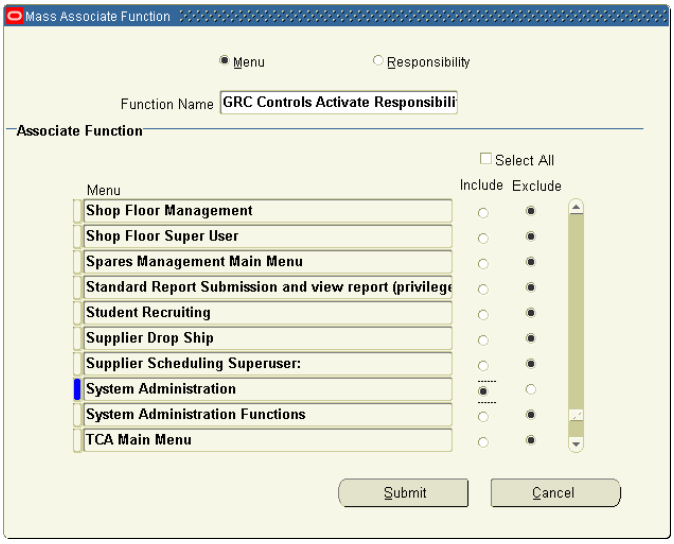
d Close the Requests form: click on the × symbol in its upper right corner.

Associate a GRC Controls Function

Application Access Controls Governor inserts an Activate Responsibilities option in the Actions menu of the Oracle Users form. (This option permits SOD rules to be evaluated when a user's responsibilities are modified in the Users form.) To activate this menu option, associate a function called GRC Controls Activate Responsibilities with either responsibilities or menus from which administrators open the Users form:

1 In the GRC Controls —Oracle Rules form, select the Form Rules or Flow Rules tab.

2 Click on GRC Controls Utilities in the menu bar, and then on Mass Associate Function in the Utilities menu. A Mass Associate Function form appears.



3 Click on the Menu or Responsibility radio button (to determine which type of item you will associate with the function).

4 In the Function Name field, select GRC Controls Activate Responsibilities.

5 Select the Include radio button for each menu or responsibility you want to associate with the function you've selected. By default, the Include radio button is selected for all items in the Associate Function list. You can:

- Deselect or select all menus or responsibilities. Click on the Select All check box so that it changes to read "Deselect All." Then click on it again; this selects all the Exclude radio buttons and clears all the Include radio buttons, and it changes the check box label back to "Select All." Click on it once

again; this selects all the Include radio buttons and clears all the Exclude radio buttons, and it changes the check box label back to "Deselect All."

- Deselect individual included menus or responsibilities by clicking on the Exclude radio button for each.
- Select individual excluded menus or responsibilities by clicking on the Include radio button for each.

6. When you are satisfied with your selection, click on the Submit button.

Preventive Controls Governor

In Preventive Controls Governor, a Change Control Wizard enables users to write rules that impose change control on Oracle E-Business Suite fields. In order for the Wizard to be used, you must run a Create Audit Rules Objects option:

1. In the GRC Controls—Oracle Rules form, ensure that either the Form Rules or Audit Rules tab is selected.
2. Click on GRC Controls Utilities in the menu bar, and then Create Audit Rules Objects in the GRC Controls Utilities menu.
3. A pop-up message indicates that a concurrent request has been run. Make a note of its number, and then click on the OK button to close the message.
4. Optionally, verify that the request has been completed successfully. (See step 5 on page 23.)

Oracle E-Business Suite Version 11.5.8

If you run Oracle E-Business Suite version 11.5.8, you may regularly run a concurrent program called "Synchronize WF LOCAL Tables" to coordinate aspects of the Oracle workflow. If this is the case, you are advised to run this concurrent program immediately after upgrading Embedded Agents so that the Flow Rules application is properly synchronized with Oracle workflow.

This applies only to version 11.5.8 of Oracle EBS at certain patch levels; other versions are able to perform this synchronization automatically. If your Oracle configuration does not require you to run the Synchronize WF LOCAL Tables program regularly, then omit this step as you upgrade the Embedded Agents.

Oracle E-Business Suite Version 11.5.10.2

If you run Oracle E-Business Suite version 11.5.10.2, you need to edit an .xml file known as a "context file" in order for Oracle EBS to source the Embedded Agents environment correctly. (This sourcing is done through the use of a .env file, and the context file serves as a template for the generation of the .env file. In earlier versions, a shell script served as the template; the Embedded Agents installer was able to work with the shell script to set values automatically. Thus, complete the following procedure if you run Oracle EBS 11.5.10.2 or later; omit it if you run an earlier version.)

1. Using an xml editor, open the file $APPL_TOP/admin/*sid_host*.xml. In this file name, replace *sid* with the system identifier for the APPS database and *host* with the host name of the machine on which the APPS database resides.
2. In the file, search for the value *ZX_TOP*.
3. Confirm that this line exists immediately beneath the ZX_TOP row (or, if not, add it).

   ```
   <XXLAAPPS_TOP oa_var="s_xxlaappstop" oa_type="PROD_TOP"
   oa_enabled="FALSE">$APPL_TOP/xxlaapps/11.5.0</XXLAAPPS_TOP>
   ```

   Note the following:

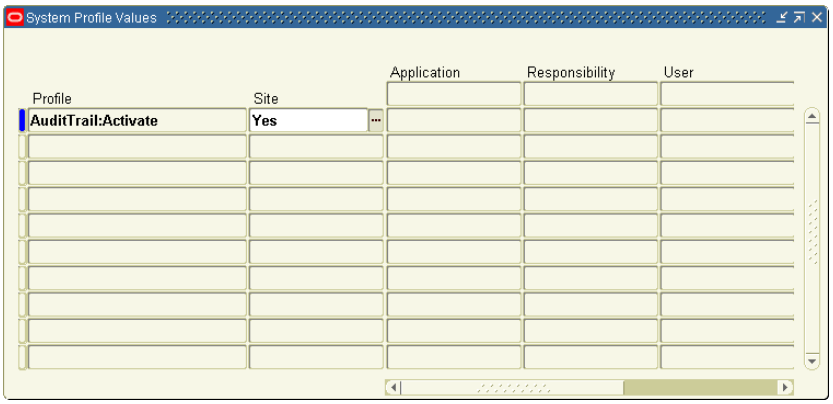
   - The value *XXLAAPPS* is correct in this line only if you accepted the default GRC Controls application short name during installation. If not, then in each of the four places that the value *XXLAAPPS* appears in this line (whether in upper or lower case), substitute the short name you created in step 5 on page 14.
   - In place of the value *$APPL_TOP*, supply the actual full path to the Oracle Applications TOP directory.
4. Save the file.

Audit Rules

Audit Rules provides database-auditing capability not only directly to users, but also to other applications that depend upon it. These include Preventive Controls Governor, which provides Oracle field-level change control, and Access Monitoring, which audits the activities of users granted temporary access to duties they do not ordinarily fulfill. To prepare the auditing functionality for use, complete the following tasks.

First, set the AuditTrail:Activate profile option to Yes:

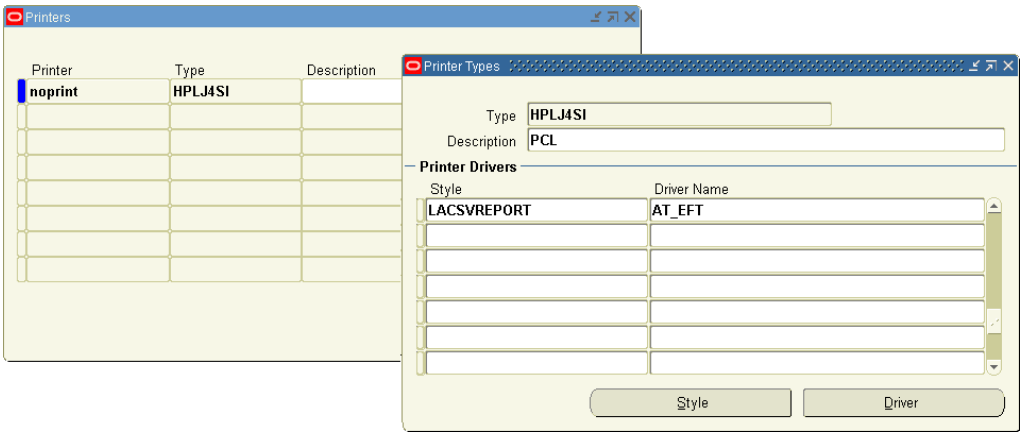
1. Log on to the System Administrator responsibility in Oracle E-Business Suite.
2. In the Navigator, select Profile, then System.
3. In the Find System Profile Values form, select AuditTrail:Activate in the Profile list of values. Then click on the Find button.
4. Ensure that the AuditTrail:Activate option is set to Yes at the Site level:



Second, add the LACSVREPORT style to the printer you will use for Audit Rules:

1. In the System Administrator responsibility, select Install, then Printer, then Register.

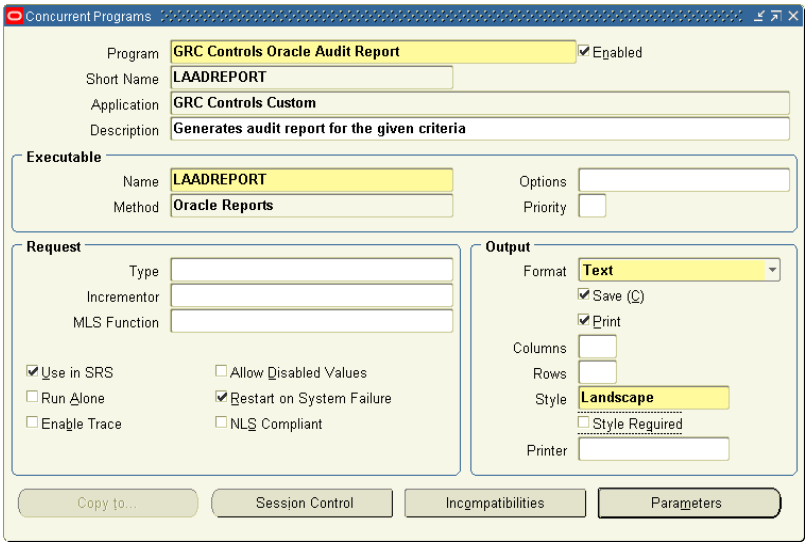
2. A Printers form appears. In its Printer list of values, select the printer you wish to use with Audit Rules. Note the value that appears in the Type field when you select the printer, and then click on the Printer Types button.
3. A Printer Types form appears. In its Type field, query for the Type you noted in step 2. (Press the F11 key; enter the Type value in the Type field; press Ctrl+F11.)
4. In the Style list of values, select LACSVREPORT; the software automatically supplies an associated value under Driver Name.



5. Click on File in the menu bar, then on Save in the File menu.

Third, confirm that the report style has been appropriately modified:

1. As System Administrator, select Concurrent, then Program, then Define.
2. A Concurrent Programs form appears. In its Program field, query for GRC Controls Oracle Audit Report. (Press the F11 key; select *GRC Controls Oracle Audit Report* in the Program field; press Ctrl+F11.)
3. The Style field displays the value *Landwide*. Change this to *Landscape*.



4. Click on File in the menu bar, then on Save in the File menu.

Last, schedule a concurrent-request program called Audit: Dequeue Process to be run periodically. This enables reports for the Audit Rules, Preventive Controls Governor (change control), and Access Monitoring applications to display current data, so the

period at which you schedule the running of this concurrent program depends upon the frequency with which you expect to run these reports.

1. Switch to the GRC Controls responsibility. (Use the Switch Responsibility icon, sixth from the left on the tool bar.)
2. In the Navigator, select Requests: Run under the Administration heading.
3. In the Submit a New Request form, select Single Request and click the OK button.
4. In the Submit Request form, select Audit: Dequeue Process in the Name field (the program takes no parameters). Then click on the Schedule button.
5. In the Schedule form, select the Periodically radio button. In related fields, select values appropriate for the schedule you want to set. Click on the OK button.
6. In the Submit Request form, click on the Submit button.

Different Hosts

If the database server and concurrent manager server are on different hosts, make the following changes to the Tkprof script (LATKPROF.prog), which is located in the Embedded Agents binary directory on the concurrent manager server. (The changed lines are shown in boldface.) The value <db_login> is the database server name, and the value <db_hostname> is the user name to log on to the database server.

```
#!/bin/sh
oracle_login=$1
tempfile=$$latkprof.txt
temptrc=$$latkprof.trc
echo Temp file $tempfile
echo tkprof directory "$5"
pwd
tkfiles='ssh <db_login>@<db_hostname> ls $5'
for i in $tkfiles
do
echo processing $i
scp <db_login>@<db_hostname>:$i /tmp/$temptrc
tkprof /tmp/$temptrc /tmp/$tempfile explain=$1
cat /tmp/$tempfile
rm /tmp/$tempfile
rm /tmp/$temptrc
done
```

If you have multiple APPS schemas, the LA_ENHNCMTMGR_PKG must be created as a synonym under each schema. To perform this operation, run the following command:

```
create synonym LA_ENHNCMTMGR_PKG for apps.LA_ENHNCMTMGR_PKG
```

If this is not set, the following error message appears when a user attempts to log on to a read-only or MRC (multiple reporting currency) responsibility:

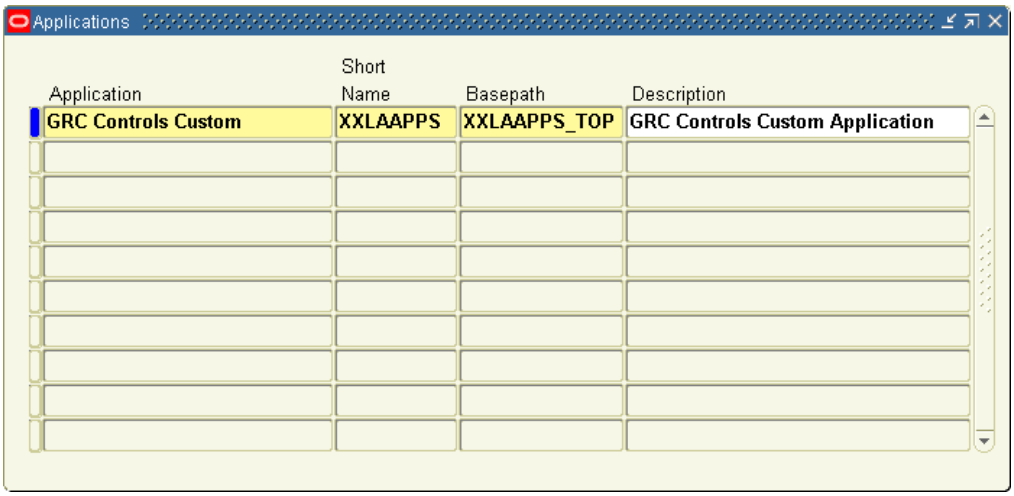
```
la_enhncmtmgr_pkg not declared
```

Chapter 3

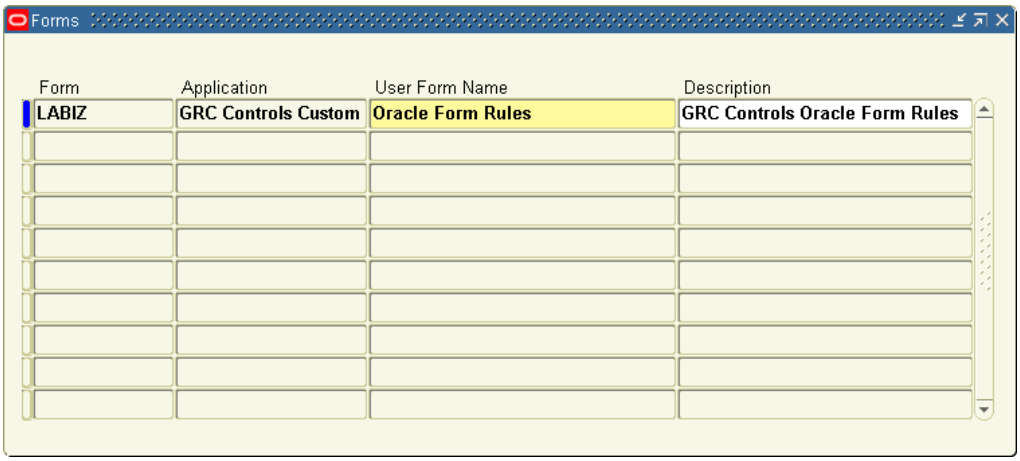
Validation

As a part of the upagrade process, the Installer programs complete several "behind-the-scenes" tasks. Open Oracle E-Business Suite forms to confirm that these tasks have been completed. (As you perform these validation steps, you may be instructed to "query for" a value. If so, press the F11 key, type the specified value in a specified field, and then press Ctrl+F11.)

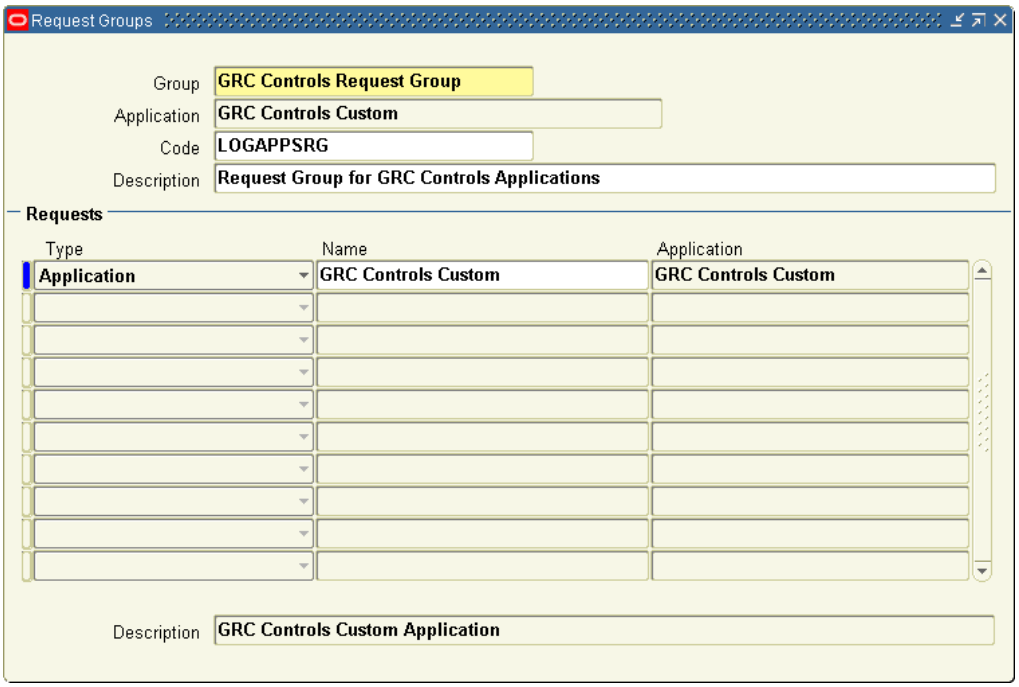
1. Log on to the System Administrator responsibility in Oracle E-Business Suite.
2. Select Application, then Register.
3. In the Application field, query for GRC Controls Custom. The form should contain the following values:



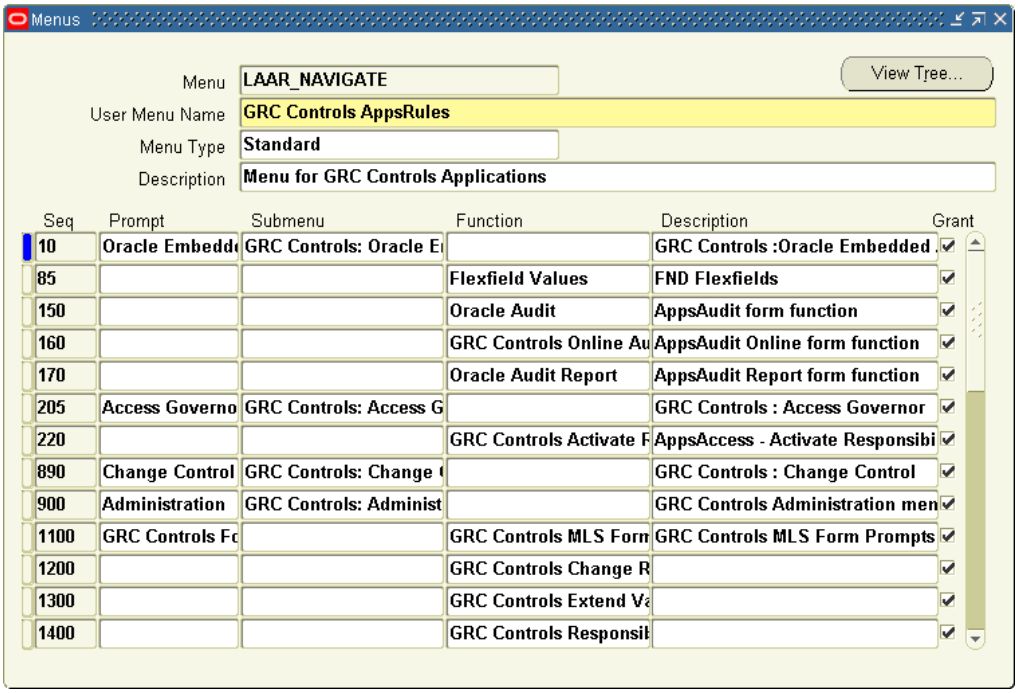
4 Switch to the Application Developer responsibility. (Select File in the menu bar, then Switch Responsibility in the File menu. A Responsibilities list appears; in it, select Application Developer.) In the Application Developer Navigator, double-click on Application, then Form. In the Form field, query on LABIZ. The form should contain the following values:



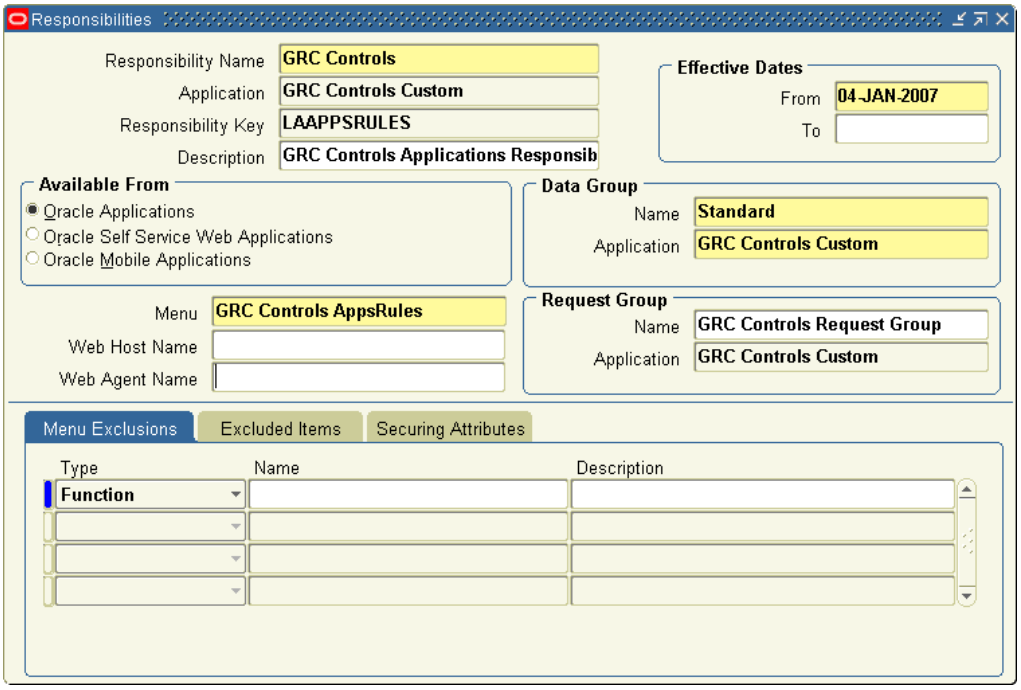
5 Switch back to the System Administrator responsibility. In its Navigator, select Security, then Responsibility, then Request. In the Request Groups form, query for GRC Controls Request Group. The form should contain the following values:



6 Still in the System Administrator responsibility, select Application, then Menu in the Navigator. In the Menus form, query for LAAR_NAVIGATE and confirm the values shown in the following illustration. (The illustration is a composite, showing all the entries in the Menus form. Use the scroll bar to view the last few.)

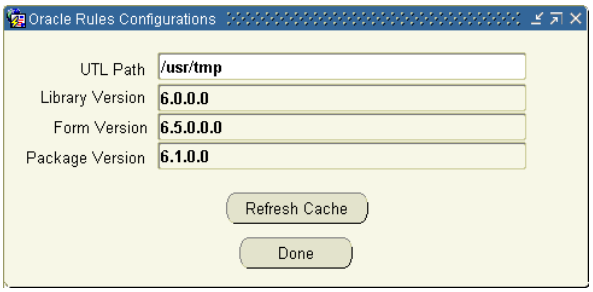


7 In the System Administrator Navigator, select Security, then Responsibility, then Define. In the Responsibilities form, query for GRC Controls. (This is the responsibility you would assign to Oracle E-Business Suite users so that they can use Embedded Agents applications.)



Switch to the GRC Controls responsibility and, in its Navigator, select Oracle Embedded Agent, and then Form Rules. Then do the following:

1. Select Tools in the menu bar, then Oracle Rules Configurations in the Tools menu.
2. An Oracle Rules Configuration form appears. Confirm that a value is displayed in the UTL Path field:

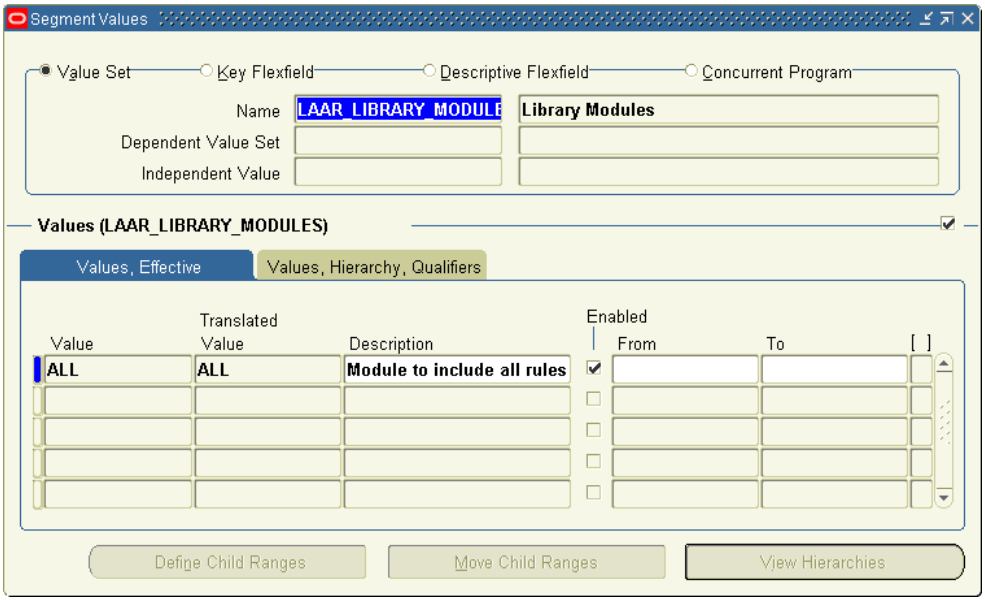


3. The UTL Path field value should match the name of one of the directories set for UTL PATH in your environment. To confirm that it does, run the following SQL Query to generate a list of those directories:

```
select value from gv$parameter where name='utl_file_dir'
```

Finally, confirm that appropriate values have been set for GRC Controls libraries:

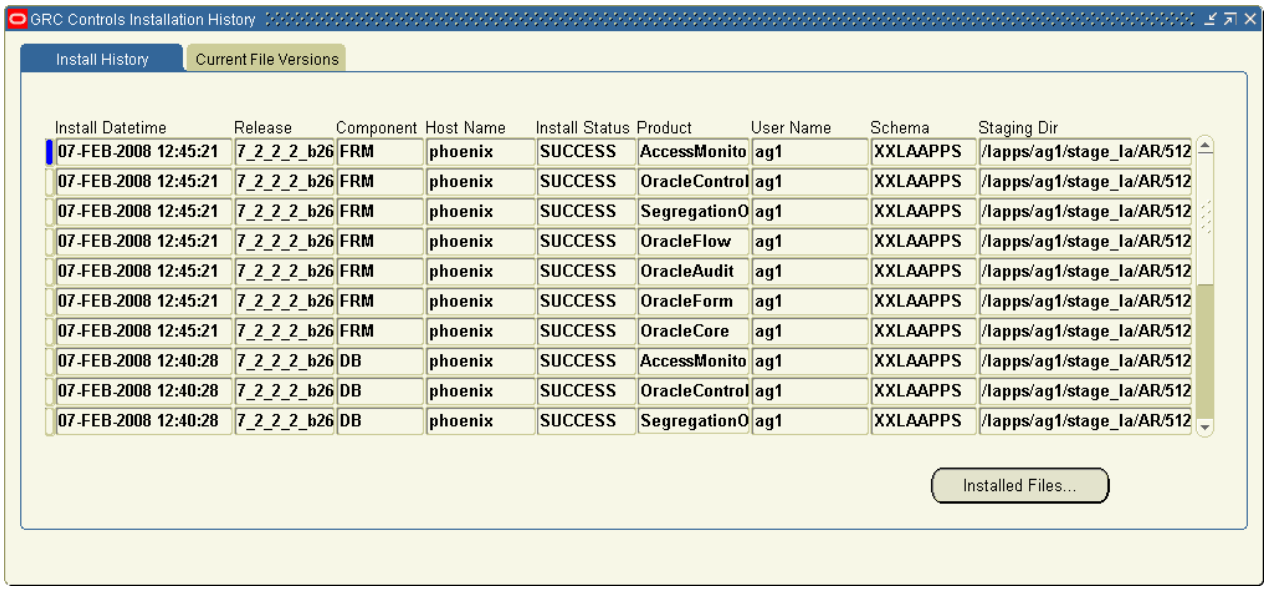
1. With Form Rules open, click on GRC Controls Utilities in the menu bar, then on Oracle Rules Library in the GRC Controls Utilities menu.
2. With a GRC Controls Libraries form open, click on Tools in the menu bar, then on Value Sets in the Tools menu.
3. In the Name field of the Find Value Set form, enter the value *LA%* and click on the Find button.
4. Select (one at a time) the LAAC_CATEGORY, LAAR_LIBRARY_MODULES, and LAAR_LIBRARY_ THEME entries. For each, confirm that a Segment Values form displays *ALL* in the Values field for the Values, Effective tab. For example:



Installation History

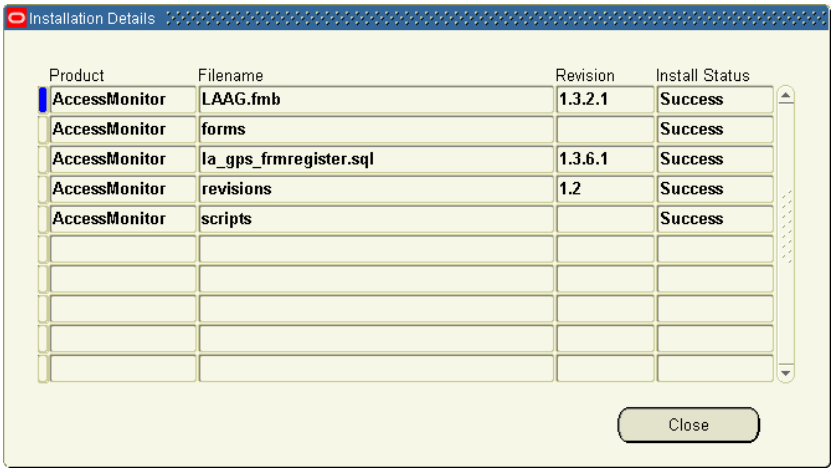
You can review information about the installation of files for your Embedded Agents implementation. To do so:

1. Log on to the GRC Controls responsibility in Oracle E-Business Suite.
2. In the Navigator, select Administration, and then Install History. The Installation History form appears:



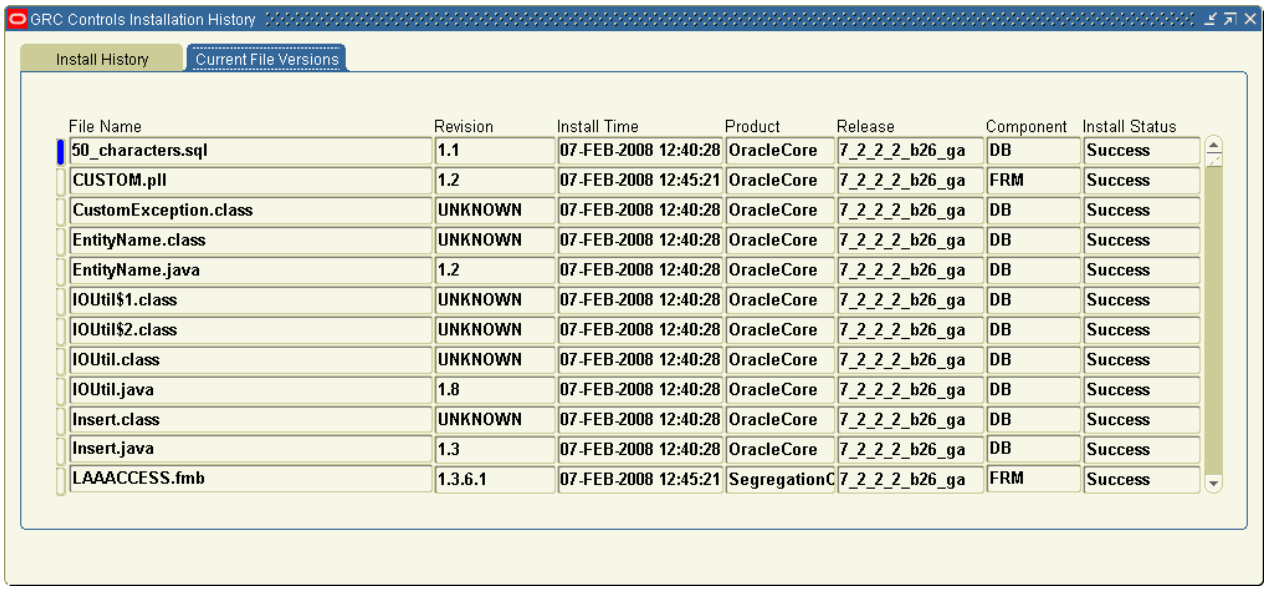
Each row provides information about the installation of a program element — for example, the top row in this illustration shows that the Access Monitoring element for version 7.2.2.2 of the forms server was successfully installed. Because there are several elements for each of the forms and database servers, a single installation fills multiple rows in the grid— for example, the top seven rows in this figure pertain to an installation performed on February 5.

3. To view a list of the files installed for a given element, click on the row for that element and then on the Installed Files button. The following form appears:



Click on the Close button to clear this form.

4 Finally, to review information about all currently installed files (regardless of whether they were added in the most recent installation), click on the Current File Versions tab:



File Name	Revision	Install Time	Product	Release	Component	Install Status
50_characters.sql	1.1	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
CUSTOM.pll	1.2	07-FEB-2008 12:45:21	OracleCore	7_2_2_2_b26_ga	FRM	Success
CustomException.class	UNKNOWN	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
EntityName.class	UNKNOWN	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
EntityName.java	1.2	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
IOUtil$1.class	UNKNOWN	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
IOUtil$2.class	UNKNOWN	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
IOUtil.class	UNKNOWN	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
IOUtil.java	1.8	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
Insert.class	UNKNOWN	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
Insert.java	1.3	07-FEB-2008 12:40:28	OracleCore	7_2_2_2_b26_ga	DB	Success
LAAACCESS.fmb	1.3.6.1	07-FEB-2008 12:45:21	SegregationC	7_2_2_2_b26_ga	FRM	Success

5 To close the Installation History form, click on its × symbol.

Book 2

GRC Controls Suite Platform Upgrade

Chapter 4

GRC Controls Suite Upgrade Overview

You may have installed ACTIVE Governance 7.1 on a Linux, UNIX, or Windows server. The procedure for upgrading to GRC Controls Suite version 7.2.2.2 varies somewhat depending upon the operating system you chose.

You begin by preparing your system for the upgrade, loading files to a staging directory, and completing tasks on the server — migrating 7.1 report history to the 7.2.2.2 instance and upgrading Business Objects, Tomcat application server, and GRC Controls Suite components. If you use Linux or UNIX, follow directions in Chapter 5 to complete these tasks, and skip Chapter 6. If you use Windows, follow directions in Chapter 6 and skip Chapter 5.

No matter what operating system you use, you continue the upgrade by "publishing" reports; see Chapter 7. The upgraded instance of GRC Controls Suite inherits configuration settings from the prior instance, but you may wish to modify them; if so, see Chapter 8.

Supported Operating Systems

GRC Controls Suite can run under any of the following operating systems:

Windows 2000 Server with Service Pack 4.

Windows 2003 Server with Service Pack 1.

Red Hat Enterprise Linux 4.0. Minimum operating system installation.

Red Hat Advanced Server 4.0. Minimum operating system installation.

SUSE Linux Enterprise Server 9.0. Minimum operating system installation plus XFree86-4.3.99.902-43.22.i586.rpm, XFree86-libs-4.3.99.902-43.22.i586.rpm. Higher patches are supported.

Solaris 8. Minimum operating system installation plus the following packages:

- SUNWgzip
- SUNWzlib
- SUNWscpu
- SUNWbash
- SUNWbcp
- SUNWxcu4 (XCU4 Utilities)
- SUNWxwfnt
- SUNWxwplt
- SUNWlibC
- SUNWeuluf (UTF-8 L10N For Language Environment User Files)
- SUNWuiu8 (Iconv modules for UTF-8 Locale)
- SUNWulcf (UTF-8 Locale Environment Common Files)
- SUNWmfrun
- SUNWxwice
- Solaris 8 Recommended Patch Cluster including:
  - kernel patch, 108528-24 or higher
  - C++ run-time, 108434-13 or higher
  - linker patch, 109147-26 or higher
  - Misc loc have errors in CTYPE and lv colln monetary, 109778-13 or higher
  - gzip patch, 112668-01 or higher
  - libz patch, 112611-02 or higher
  - tar patch, 110951-04 or higher
  - sh family patch, 109324-05 or higher
  - en_UTF-8 patch, 114059-02 or higher
- Additionally, thread, c and other library patch, 108993-32 or higher. Note that patch 108993-32 require the following to be installed first:
  - mntfs patch 111023-03
  - init patch 111317-05
  - mount patch 113648-03
  - netstrategy patch 115827-01
  - uadmin patch 116602-01

Solaris 9. Minimum operating system installation plus the following packages:

- SUNWgzip
- SUNWzlib
- SUNWscpu
- SUNWbash
- SUNWbcp
- SUNWxcu4(XCU4 Utilities)
- SUNWxwfnt
- SUNWxwplt
- SUNWlibC
- SUNWeu8os (American English/UTF-8 L10N For OS User Files)
- SUNWeuluf (UTF-8 L10N For Language Environment User Files)
- SUNWuiu8 (Iconv modules for UTF-8 Locale)
- SUNWulcf (UTF-8 Locale Environment Common Files)
- SUNWmfrun
- SUNWxwice
- Solaris 9 Recommended Patch Cluster including:
  - kernel patch, 112233-11 or higher
  - libc, 112874-16 or higher
  - C++ run-time, 111711-06 or higher
  - linker patch, 112963-10 or higher
  - zlib patch, 115754-02 or higher
  - Higher patches are supported.
  - November 2003 C++ Runtime PTF => xlC.aix50.rte 6.0.0.10 (Note that this PTF requires Runtime of Level 6.0.0.0 to be installed prior to installing the PTF)
  - Higher patches are supported

Solaris 10. Minimum operating system installation plus the following packages. (Higher patches are also supported.)

- SUNWgzip
- SUNWzlib
- SUNWscpu
- SUNWbash
- SUNWbcp
- SUNWxcu4 XCU4 Utilities
- SUNWxwfnt

- SUNWxwplt
- SUNWlibC
- SUNWeu8os American English/UTF-8 L10N For OS Environment User Files
- SUNWeuluf UTF-8 L10N For Language Environment User Files
- SUNWuiu8 Iconv modules for UTF-8 Locale
- SUNWulcf UTF-8 Locale Environment Common Files
- SUNWmfrun
- SUNWxwice

Hardware Requirements

A Solaris, Linux, or Windows server should meet the following requirements to run GRC Controls Suite and Business Objects:

- Random-access memory (RAM): 3 gigabytes (GB)
- Hard-disk space: For a single-node installation, 40 GB of space on mirrored SCSI disks — 8 GB for a staging directory, 4 GB for a platform web tier, 26 GB for a Business Objects reports tier, and 2 GB for database metadata.

If you use Red Hat Enterprise Linux 4.0 or SUSE Linux Enterprise Server 9.0, your system must have at least Dual CPU (Xeon preferred), 2.5 GHz or faster.

If you use Solaris 8, 9, or 10, your system must have at least SPARC v8plus.

Requirements for the application server and database include:

- Database: At least 1.5 GB of storage for tables for the GRC Controls platform schema.
- 2 GB of disk space reserved for temporary data generated by segregation-of-duties analytics. (This is in addition to the 40 GB of space noted above. It is space shared by all databases that run on a server, so you may already have allowed for it.)

Software Requirements

Version 7.2.2.2 of Governance, Risk, and Compliance Controls Suite supports Oracle E-Business Suite Release 12, releases 11.5.9 and 11.5.10 (preferred), and 11.5.7 (FND Patch H) and 11.5.8 (also supported).

Oracle Client version 9.2.0.1 or greater is required for connectivity among various Oracle databases.

Each of the GRC Controls Suite platform and Business Objects requires an Oracle 9i (or later) database.

Apache Tomcat 5.0 is the only supported application server. It is bundled with the Business Objects installation.

Internet Explorer 5.5, 6.0, or 7.0 can display the GRC Controls Suite platform.

Chapter 5

Upgrading Linux/UNIX Server Components

If you are upgrading the Governance, Risk, and Compliance Controls Suite platform on a Linux or UNIX server, complete the procedures in this chapter, and omit Chapter 6. (If you are upgrading on Windows, omit this chapter and skip ahead to Chapter 6.) Once server components are upgraded, proceed to Chapter 7.

Ensure that the Embedded Agents are upgraded in at least one instance of Oracle E-Business Suite. Then, begin to upgrade the platform:

- Complete preparatory steps, then load upgrade files to a staging directory.
- Back up Business Objects report history for version 7.1.
- Use the upgrade files to install "infrastructure," which consists of Business Objects components and the Tomcat application server.
- Migrate the Business Objects 7.1 report history from your backup location to your 7.2.2.2 instance.
- Configure the Business Objects server.
- Upgrade the GRC Controls Suite platform program files and schema.

Preparing to Upgrade

Before upgrading, complete the following steps:

1 For the GRC Controls Suite platform, you will use the Oracle database created for version 7.1, for which the recommended database user name is XXLAAPPS_AG.

For Business Objects, ensure that an Oracle database exists and create a database user for it. Even if you used Oracle for version 7.1, you cannot use the same schema for 7.2.2.2, so if you have used the recommended user name, XXLAAPPS_BO, you will need to use a variant of this, such as XXLAAPPS_BOR2. Ensure that both database users have the CONNECT and RESOURCE roles, and that these roles are set to DEFAULT. Ensure also that the XXLAAPPS_AG user has access privileges to the v$instance table.

2. Determine the following values, which you will need during the upgrade:
   - The host name of the SMTP server your company uses for sending email.
   - The host name, port number, SID, user (schema) name, and password each of three databases: those supporting the platform, the 7.2.2.2 installation of Business Objects, and an Oracle E-Business Suite instance in which the version 7.2.2.2 Embedded Agents have been installed to run.
   - Logon information for your 7.1 Business Objects database. For Oracle, this includes tnsname, user name, and password; for MySQL, the MySQL port (3306 by default), database name, user name, and password.
3. Oracle Client 9.2.0.1 or greater must be installed on the server that hosts the GRC Controls Suite platform; you are assumed to have completed this installation, as it was needed for version 7.1 as well. The file ORACLE_HOME/network/admin/tnsnames.ora contains an entry for each of the GRC Controls Suite platform, Embedded Agent, and Business Objects databases, specifying the host, dbport, and dbsid. Edit the entry for the Business Objects database to provide correct values for its 7.2.2.2 instance, and confirm that other entries remain correct.
4. Ensure that a GRC Controls Suite user exists on the host Linux or UNIX operating system. (This user should have been created as a "LogicalApps user" during version 7.1 installation.) The recommended name is lapps. The user need not belong to any group. To perform the upgrade procedures described in this chapter, log on as this user.
5. For the version 7.1 installation, certain standard directories were created. Of them, reuse the following for version 7.2.2.2:
   - A base directory. In this document, $LAPPS_BASE represents the full path to this directory (for example, /opt/lapps7).
   - A home directory, which is an immediate subdirectory of $LAPPS_BASE. In this document, $LAPPS_AG_HOME represents the full path to this directory (for example, /opt/lapps7/ag).
   - Temporary directories: $LAPPS_BASE/tmp and $LAPPS_BASE/tmpdir. These could be links to any designated temporary directory on the host.

   Create a new version of a staging directory, which should be an immediate subdirectory of $LAPPS_BASE. In this document, $LAPPS_STAGE represents the full path to this directory (for example, /opt/lapps7/stage72).

Loading Files in the Staging Directory

To prepare the files you will use to upgrade the GRC Controls Suite platform:

1. Locate the Governance, Risk, and Compliance Controls Suite Disk 1 in your Oracle media pack. In its dist directory, locate the file ag_7222_server.zip, copy the file to your $LAPPS_STAGE directory, and extract its contents there. (This creates several subdirectories of $LAPPS_STAGE, among them lib_stage and ags_infrastructure/bobje.)
2. Locate the Governance, Risk, and Compliance Controls Suite Disk 3 in your Oracle media pack. Copy its contents — two zip files — to your $LAPPS_STAGE/ags_ infrastructure/bobje directory, and extract their contents there. This creates four subdirectories of $LAPPS_STAGE/ags_ infrastructure/bobje — DISK_1, DISK_2, DISK_3, and cd — and populates them with files.
3. Certain open-architecture files are required. To acquire them, download files from the following sites to the lib_stage subdirectory of your version 7.2.2.2 $LAPPS_STAGE directory.

   ```
   http://downloads.sourceforge.net/hibernate/hibernate-3.0.5.zip
   ?modtime=1117034763&big mirror=1
   http://team.andromda.org/maven2/org/jbpm/jbpm/3.0/jbpm-3.0.jar
   http://team.andromda.org/maven2/org/jbpm/jbpm-identity/3.0/
   jbpm-identity-3.0.jar
   http://downloads.sourceforge.net/junit/junit3.8.1.zip?modtime=
   1031097600&big mirror=0
   http://www.ibiblio.org/maven/mule/dependencies/xpp3/1.1.3.4d_
   b4_min/xpp3-1.1.3.4d_b4_min.jar
   ```

4. After downloading these files, run the script preinstall.sh from your version 7.2.2.2 $LAPPS_STAGE directory.

Backing Up Version 7.1 Report History

To back up the history of reports generated in version 7.1, complete the following steps. (You will use the backups to migrate report history to the 7.2.2.2 instance.)

1. It is assumed that during 7.1 installation, an ag.env file was edited so that entries defined environment variables for your 7.1 directories. Navigate to the version 7.1 $LAPPS_AG_HOME directory and run the file:

   ```
   . ag.env
   ```

2. Disable and stop all Business Objects Enterprise XI Release 1 servers, and stop the Tomcat application server. Execute the following commands:

   ```
   cd $LAPPS_AG_HOME/bobje/
   ./ccm.sh -disable all
   ./ccm.sh -stop all
   ./tomcatshutdown.sh
   ```

3. Ensure that the database hosting the Business Objects Release 1 schema is running.

4. Navigate to your version *7.2.2.2* $LAPPS_STAGE directory and use the mkdir command to create a subdirectory called bo_backups.
5. Back up the root directories of the Business Objects Release 1 input and output repository servers. In the following commands, you may use the $LAPPS_AG_HOME environment variable (as it correctly points to the 7.1 home directory), but replace the $LAPPS_STAGE environment variable with the actual path to your version 7.2.2.2 staging directory:

```
cd $LAPPS_AG_HOME/bobje/data/
tar cvf $LAPPS_STAGE/bo_backups/frsinput.tar frsinput
tar cvf $LAPPS_STAGE/bo_backups/frsoutput.tar frsoutput
```

Sourcing the Environment for Version 7.2

When version 7.1 was installed, an environment file, ag.env, was edited and copied to the $LAPPS_AG_HOME directory. Re-edit the file so that one of its entires points to the newly created staging directory for version 7.2.2.2 of GRC Controls Suite, and then run the file:

1. Navigate to home directory:

   ```
   cd $LAPPS_AG_HOME
   ```

2. Using a text editor, open ag.env. In it, locate the LAPPS_ STAGE entry and set it to the full path to the newly created staging directory for version 7.2.2.2. The path ends in a semicolon, which is followed by a phrase consisting of the word *export*, the environment-variable name, and another semicolon. Be sure to retain these elements. For example, if the staging directory is /opt/lapps7/stage72, the staging directory entriy in the ag.env file would read:

   ```
   LAPPS_STAGE=/opt/lapps7/stage72; export LAPPS_STAGE;
   ```

   You may wish to confirm that entries for LAPPS_BASE and LAPPS_HOME point correctly to the base and home directories, and that an ORACLE_HOME entry points to the directory in which Oracle Client is installed. Because these entries carry over from ACTIVE Governance 7.1, they should not need to be changed.
3. Locate two entries that begin ". $BOBJEDIR." Comment out these entries (type a # symbol, followed by a space, at the beginning of each).
4. Locate two entries that set aliases; one begins "alias start" and the other "alias stop." Ensure that these entries are commented out as well. (This should have been done for version 7.1.)
5. Save and close the file.
6. Run the file:

   ```
   . ag.env
   ```

Upgrading Infrastructure

Upgrading "infrastructure" involves placing Business Objects and Tomcat files on the server, configured so that they will connect to databases and other components.

1. Navigate to the following directory and run the installation program:

   ```
   chmod -R +x .
   cd $LAPPS_STAGE/ags_infrastructure/bobje/DISK_1
   ./install.sh
   ```

2. A language-selection screen appears. Choose the language in which you want to work. (English is the default.) Press Enter.

3. An Install Type screen appears. Press Enter to accept the default, New Installation.

4. A license-agreement screen appears. Press *Y* to accept its terms.

5. When prompted for an installation directory, enter the full actual path to the $LAPPS_AG_HOME directory.

6. Press Enter to accept the default installation type, User.

7. Press Enter to accept the default installation type, New.

8. A database-selection prompt appears. Choose 1 (Use an existing database). A list of databases then appears; select 2 (Oracle).

   New prompts appear; at them, provide the host name, port number, SID, database user name, and password for the Oracle database used by Business Objects. (The user is the one you created in step 1 on page 41.) Press Enter.

9. In an application-server screen, press Enter to install Tomcat. (This is the default; Tomcat is the only supported application server.)

10. Review default port assignments for Tomcat. These should match the following values; change only those (if any) already used by other applications. (These are, however, the same port values as those used by the Business Objects instance installed for version 7.1. This presents no conflict, and you can accept the defaults as long as no *other* applications use these ports.)

    - CMS_PORT, 6400
    - TOMCAT_PORT, 8080
    - TOMCAT_REDIRECT_PORT, 8443
    - TOMCAT_SHUTDOWN_PORT, 8005

11. Press Enter to complete the installation.

12. Stop the servers and update Business Objects with a required patch. To do so, enter the following commands. (The servers restart when the patch is installed.)

    ```
    cd $LAPPS_AG_HOME/bobje
    ./ccm.sh -stop all
    ./tomcatshutdown.sh
    cd $LAPPS_STAGE/ags_infrastructure/bobje/cd/DISK_1
    ./install.sh -i $LAPPS_AG_HOME/bobje -g en
    ```

Setting the Business Objects Rowcount

As users run GRC Controls Suite reports, they may select parameters to focus the report results. The maximum number of parameters that Business Objects displays by default may be insufficient. Complete these steps to increase the value by setting a MaxRowcountRecords property to 100,000:

1. Copy a file called LOVKey.tar.gz from your staging directory to a Business Objects subdirectory:

   ```
   cp $LAPPS_STAGE/ags_infrastructure/post-install/LOVKey.tar.gz
   $LAPPS_AG_HOME/bobje/data/.bobj/registry/software/business objects/
   suite 11.5/
   ```

2. Navigate to the directory into which you've copied the LOVKey.tar.gz file.

3. Untar the file:

   ```
   tar -xvfz LOVKey.tar.gz
   ```

Checking the Business Objects Servers

With infrastructure upgraded, use the Business Objects Central Management Console (CMC) to ensure that Business Objects servers run properly:

1. Open a web browser and enter the following URL:

   `http://host:8080/businessobjects/enterprise115/admin/en/admin.cwr`

   Replace *host* with the name of the host on which you installed the GRC Controls Suite infrastructure. If you chose a substitute for port 8080, change the value *8080* in the URL to the port number you selected for TOMCAT_PORT.

2. A log-in form appears. Type *Administrator* in the User Name field. During version 7.1 installation, you set a password for the Administrator user, and the new Business Objects instance recognizes this password; type it in the Password field. (A read-only System field is set to the host name you specified in step 1. Accept the default value, *Enterprise*, for Authentication Type.) Click the Log On button.

3. In an Organize section on the Home panel, click Servers. A Servers panel opens:

4 In the list of servers, see whether any icon shows a red, downward-pointing arrow. If so, close the CMC. Navigate to $LAPPS_AG_HOME/ bobje/logging and check log files — boe-cmsd*.log and ccm*.log — for errors; call Customer Support. But if all display upward-pointing green arrows, proceed.

Migrating Version 7.1 Report History

You will use backup copies of version 7.1 report history files (see page 43) to migrate the report history to the version 7.2.2.2 instance. Complete the following steps:

1 Stop Business Objects servers and the Tomcat application server. Enter these commands in the shell in which you sourced the GRC Controls Suite 7.2.2.2 environment:

```
cd $LAPPS_AG_HOME/bobje
./ccm.sh -stop all
./tomcatshutdown.sh
```

2 Run a Business Objects migration script. Still at the command prompt for the $LAPPS_AG_HOME/bobje directory, enter the following command:

```
./cmsdbsetup.sh
```

At this point, the console displays a series of prompts. Respond to them as follows:

1 You are prompted to enter the "friendly name of the CMS." This is the host name of the server on which you are installing, followed by the extension *.cms*. This should be the default, and typically you need only press the Enter key.

2 You are prompted to select among six options for the action you want to perform. Select 4 (copy data from another data source).

3 You are asked whether you want to continue. Select 3 (yes).

4 You are prompted to select the Business Objects version from which you want to migrate. Select 4 (version 11.0).

5 You are asked whether you want to use the current CMS data source as the destination database. Select 3 (yes).

6 You are prompted to select the type of the source database. Choose 5 (Oracle) or 2 (mySQL), whichever is appropriate for your Business Objects Release 1 instance.

7 Subsequent prompts ask you to specify connection information for the source database.

- If you selected Oracle in step 6, supply values for tnsname (the name of the entry for the database configured in the tnsnames file for Oracle Client), the database user name (created in step 1 on page 41), and the password.
- If you selected MySQL in step 6, supply the MySQL port (conventionally 3306), the database name, the user name, and the password.

The script copies files and prompts you when it is complete.

After running the Business Objects migration script, complete the following steps:

1. Rename the root directories for the Business Objects Release 2 input and output repository servers. Execute the following commands:

```
cd $LAPPS_AG_HOME/bobje/data
mv frsinput frsinputR2
mv frsoutput frsoutputR2
```

2. Restore the root directories of the Business Objects Release 1 input and output repository servers in the Release 2 instance. Still at the command prompt for the $LAPPS_AG_HOME/bobje/data directory, execute the following commands:

```
tar xvf $LAPPS_STAGE/bo_backups/frsinput.tar
tar xvf $LAPPS_STAGE/bo_backups/frsoutput.tar
```

3. Start the Tomcat application server:

```
cd $LAPPS_AG_HOME/bobje/
./tomcatstartup.sh
```

4. Start the Release 2 central management server (CMS) and input and output repository servers. Still at the command prompt for the $LAPPS_AG_HOME/bobje directory, execute the following commands:

```
./ccm.sh -start cms
./ccm.sh -start input
./ccm.sh -start output
```

5. Enable the Release 2 input and output repository servers. In the console window in which the command prompt is set to the $LAPPS_AG_HOME/bobje directory, execute the following commands:

```
./ccm.sh -enable input
./ccm.sh -enable output
```

6. Verify that the root directories of the input and output repository servers are set:

   a. Go to the Servers panel of the CMC (see "Checking the Business Objects Servers" on page 46).

   b. Click on the server named Input.*hostname*, in which *hostname* is the name of the host system to which you've logged on. A File Repository Server panel opens; in its Properties tab, verify that the entry in a Root Directory field is $LAPPS_AG_HOME/bobje/data/frsinput (in which the actual path to your home directory replaces the environment variable).

   c. Return to the Servers panel (click on *Servers* in the light blue band above the Properties and other tabs), and click the server named Output.*hostname*. In the Properties tab of its File Repository Server panel, verify that the Root Directory field entry is $LAPPS_AG_HOME/bobje/data/frsoutput (in which, again, the actual path to your home directory replaces the environment variable).

7. Update the objects in the Business Objects Release 2 schema. Then start all Business Objects Release 2 servers. In the console window in which the command prompt is set to the $LAPPS_AG_HOME/bobje directory, execute the commands displayed at the top of the next page:

```
./ccm.sh -updateobjects
./ccm.sh -start all
./ccm.sh -enable all
```

8 Go to the Servers panel of the CMC to verify that all servers are running. (See "Checking the Business Objects Servers" on page 46.)

Finally, use the CMC to rename the existing Report Center folder:

1 Go to the Home panel of the Central Management Console. (Assuming you are at its Servers panel, click on *Home* in the light blue band above the list of servers.)

2 In the Home panel, in a section labeled Organize, click on Folders.

3 A Top Level Folders panel appears. Click on its entry for Report Center. A Report Center panel opens; click on its Properties tab.

4 A Folder Name field contains the entry "Report Center." Edit this to read "7.1 Report Center History."

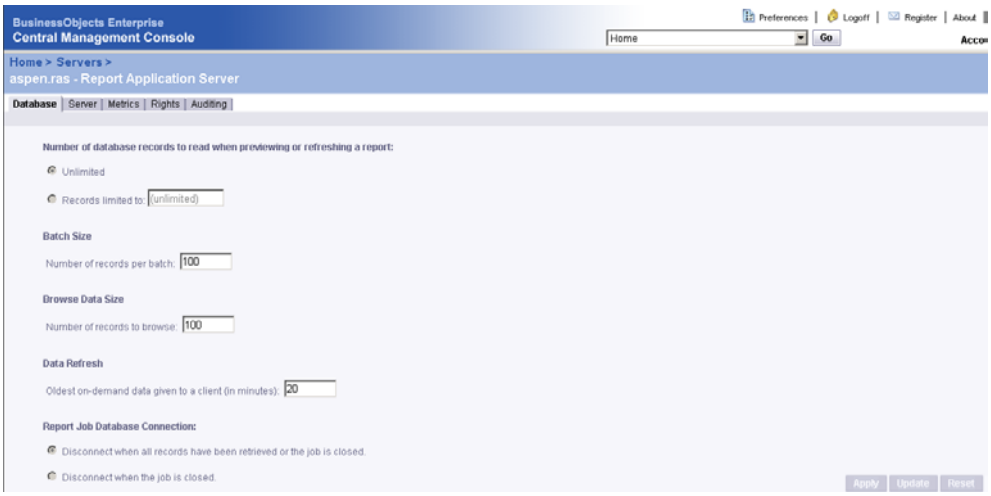
5 Click on the Update button.

Configuring the Business Objects Server

Continue to use the Central Management Console to configure the Business Objects components you've installed. (The assumption is that after completing the preceding section, you are already logged on to the CMC. If not, see "Checking the Business Objects Servers" on page 46.)

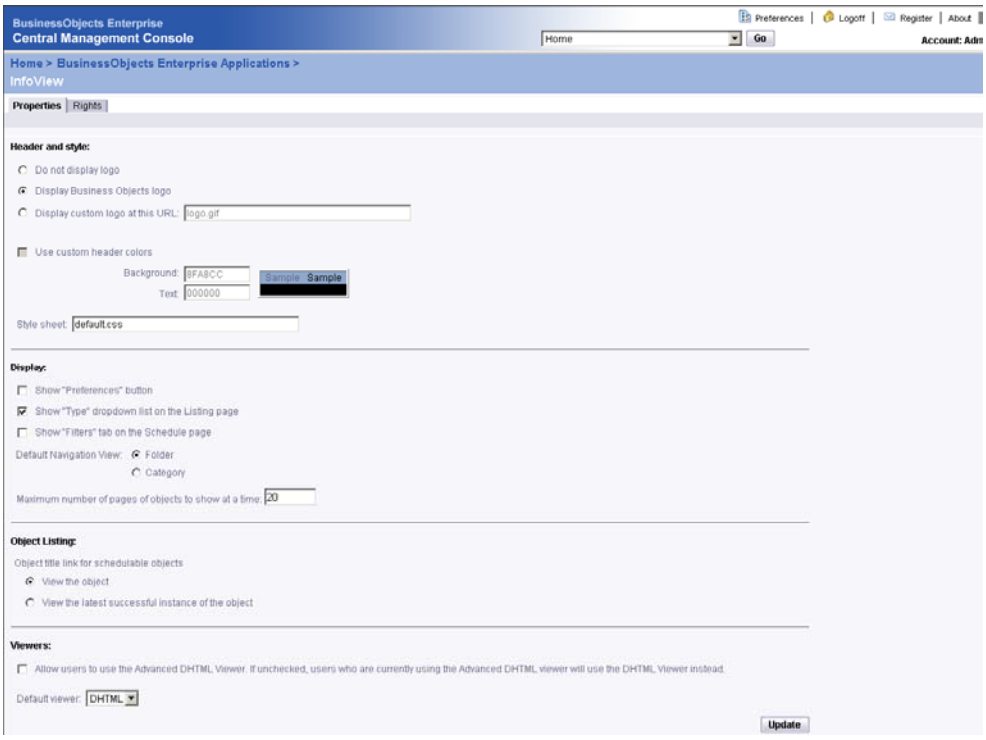
1 In the Servers panel, locate the server named *hostname*.ras, in which *hostname* is the name of the host system to which you've logged on. Single-click on the name.

2 A Report Application Server panel opens for the server you've selected, with a Database tab active. Under the heading "Number of database records to read when previewing or refreshing a report," select the Unlimited radio button. Accept default values for the remaining fields. Click on the Update button.



3 In the "breadcrumb trail" (*Home* > *Servers* > in the preceding figure), click on *Home*. In the Home panel, click on Business Objects Enterprise Applications in

the Manage section. In a list of applications, click on InfoView. The following panel opens:



4 In the Viewers section, ensure that the check box labeled "Allow users to use the Advanced DHTML Viewer…." is cleared. Then, in the Default Viewer list box, select DHTML.

In the Display section, clear the check boxes labeled "Show 'Preferences' button" and "Show 'Filters' tab on the Schedule page."

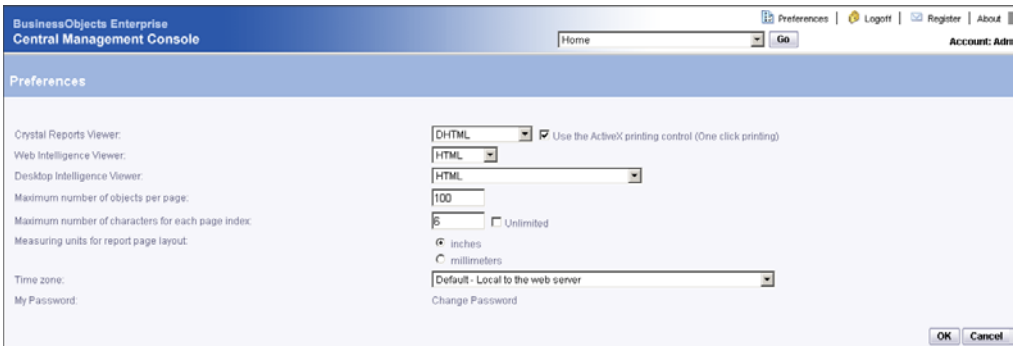
Accept default values for the remaining fields and click on the Update button.

5 Click on BusinessObjects Enterprise Applications in the breadcrumbs trail and then, in the list of applications, click on Central Management Console.

6 In a Central Management Console panel, click on the Rights tab. It presents a list of users. Locate the Everyone user and click on its Advanced entry.

7 An Advanced Rights panel opens. In it, select the Not Specified radio button for the "Log on to the CMC and view this object in the CMC" row. Then click on the OK button.

8 The Central Management Console panel returns. Click on Home in the bread-crumb trail, and then on Preferences in a line of links along the upper right edge of the CMC.

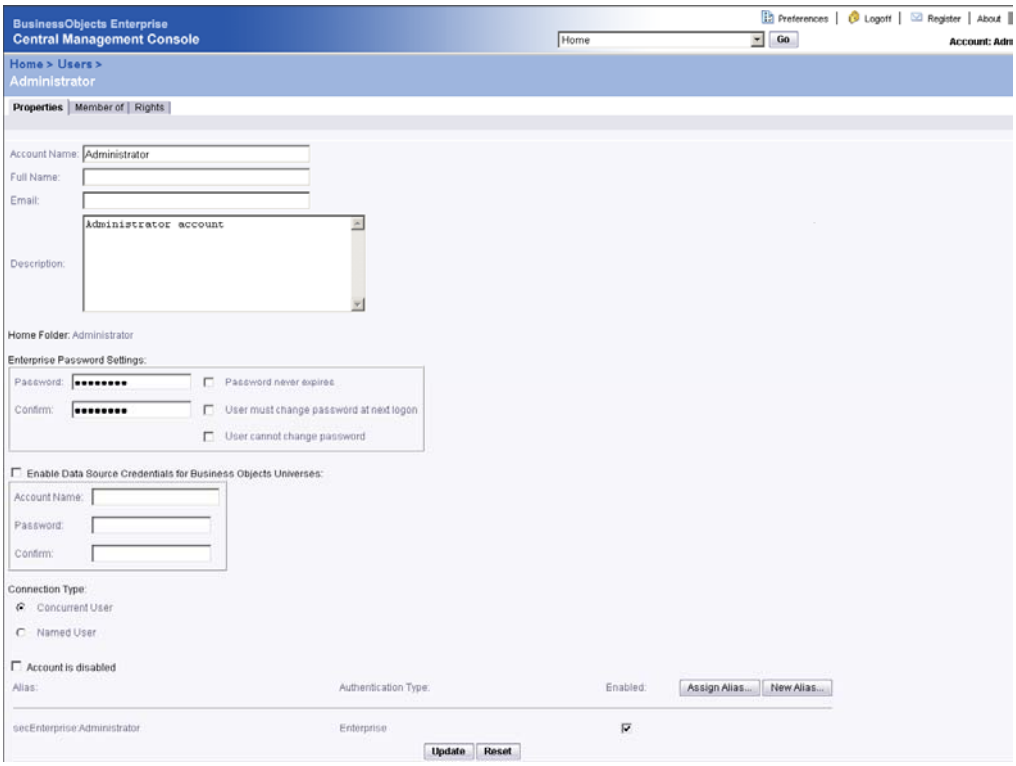


9 Make these edits:

- In the Crystal Reports Viewer list box, select DHTML.
- Select the check box labeled "Use the ActiveX printing control."

Accept default values for the remaining fields and click on the OK button. The CMC returns to its Home panel.

10 This instance of Business Objects recognizes the Administrator password set during installation of ACTIVE Governance version 7.1. It's recommended that you retain this password; if you choose to, skip ahead to step 12. If you prefer to change it, click on Users in the Organize section of the Home panel. An All Users panel presents a list of users; click on Administrator.



11 In the Enterprise Password Settings area, enter a new password in both the Password and Confirm fields, and click on the Update button. Later, you will also need to enter this password value as the setting for a businessObjects.password property in the GRC Controls Suite platform (see "Setting Properties" on page 84).

12 Click on the Logoff link along the upper right edge of the CMC.

13 To apply the updates, stop and then restart Business Objects services. To stop the services, execute the following commands on the host server:

```
$LAPPS_AG_HOME/bobje/tomcatshutdown.sh
$LAPPS_AG_HOME/bobje/stopservers
```

At this point, pause a few minutes to allow Business Objects services to stop. Then run the following command to ensure that they have:

```
ps –ef | grep bobje
```

The grep process should be the only one with "bobje" in it. If any other processes are returned, rerun the stopservers command, pause again, and rerun the ps command to ensure that servers have stopped.

To restart the services, execute the following commands:

```
$LAPPS_AG_HOME/bobje/startservers
$LAPPS_AG_HOME/bobje/tomcatstartup.sh
```

Accommodating Firewalls

If your company has a firewall that blocks internal traffic, complete these steps:

1 Open two new ports on the machine that hosts the GRC Controls Suite platform server. Typically these ports are dynamically assigned, but because the firewall blocks dynamically assigned ports, they must be assigned statically.

2 Shut down the services, using the shutdown procedure described in step 13 on this page, above.

3 Navigate to the bobje directory:

```
cd $LAPPS_AG_HOME/bobje
```

4 Using a text editor, open the file ccm.config. Perform the following edits:

- Locate the line that starts with the phrase *cmsLAUNCH*=. After the equals sign, insert the phrase *–requestport xxxx*, replacing the *xxxx* with one of the port numbers from step 1.
- Locate the line that starts with the phrase *inputLAUNCH*=. After the equals sign, insert the phrase *–requestport yyyy*, replacing the *yyyy* with the other of the port numbers from step 1. (This port number must differ from the cmsLAUNCH port.)

5 Save the file and exit from it.

6 Restart the services, using the startup procedure described in step 13 on this page, above.

Re-sourcing the Environment for Version 7.2

At this point, you must edit ag.env to set environment variables involving directories that did not exist before insfrastructure was installed.

1. Navigate to your home directory:

   ```
   cd $LAPPS_AG_HOME
   ```

2. The home directory contains the copy of ag.env that you previously edited for version 7.2.2.2. Use a text editor to open it.
3. Locate the two entries that begin ". $BOBJEDIR." Activate them by deleting from each the comment symbol (#) you added earlier (page 44).
4. Save and close the file.
5. Execute the following command:

   ```
   . ag.env
   ```

Upgrading the GRC Controls Suite Schema

To create schema objects and seeded data for the GRC Controls Suite platform, complete some additional Business Objects setup. Then copy and edit GRC Controls Suite files. Extract and configure schema-installation files for the GRC Controls Suite platform, and then actually execute the schema installation.

Setting Up Business Objects

To configure Business Objects setup properties:

1. Navigate to a bo_setup subdirectory of your staging directory:

   ```
   cd $LAPPS_STAGE/bo_setup
   ```

2. Using a text editor, open the file BusinessObjectsConfiguration.properties. The file contains the following prompts; set each to the indicated value.

   - businessObjects.server: Supply the host name for the GRC Controls Suite platform server.
   - businessObjects.serverPort: Use 6400 if you accepted default port values during installation. Otherwise, supply the value you set for CMS_PORT (page 45).
   - businessObjects.username: Always use the value *Administrator*.
   - businessObjects.password: Supply the password for the Business Objects Administrator user (see steps 10 and 11 on pages 51–52).
   - businessObjects.home: Supply the directory in which Business Objects is installed, which is $LAPPS_AG_HOME/bobje/enterprise115. As you enter this value, replace the environment variable with the full path to the directory you created as $LAPPS_AG_HOME (see page 42).
   - businessObjects.commit: For the time being, set this value to *false*.

   Save and close the file.

3 Set execution permissions on, and run, a removeAuthenticationRestrictions.sh file:

```
chmod +x removeAuthenticationRestrictions.sh
./removeAuthenticationRestrictions.sh
```

4 If there are no exceptions, reopen the BusinessObjectsConfiguration.properties file and reset the businessObjects.commit property to *true*. Save and close that file, and then rerun removeAuthenticationRestrictions.sh.

Copying and Editing GRC Controls Suite Files

Put GRC Controls Suite files in place and prepare them:

1 Shut down the Tomcat application server:

```
$LAPPS_AG_HOME/bobje/tomcatshutdown.sh
```

2 Copy files from subdirectories of the staging directory to subdirectories of the home directory. Execute the following commands. (In the second command, a .war file name contains italicized placeholders that stand for version, schema, and build numbers. Replace these with the actual numbers, which you can determine by viewing a directory listing for the staging directory.)

```
rm –rf $LAPPS_AG_HOME/bobje/tomcat/webapps/ags
cp $LAPPS_STAGE/ags_7_2_n_snn_bnn_ga.war
$LAPPS_AG_HOME/bobje/tomcat/webapps/ags.war
cp $LAPPS_STAGE/ags_infrastructure/post-install/ags.xml
$LAPPS_AG_HOME/bobje/tomcat/conf/Catalina/localhost
cp $LAPPS_STAGE/ags_infrastructure/post-install/*.jar
$LAPPS_AG_HOME/bobje/tomcat/common/lib/
cp $LAPPS_STAGE/ags_infrastructure/post-install/tomcats*.sh
$LAPPS_AG_HOME/bobje
```

3 Navigate to the directory containing the ags.xml file:

```
cd $LAPPS_AG_HOME/bobje/tomcat/conf/Catalina/localhost
```

4 Using an xml editor, open ags.xml and perform the following edits. Each entry goes between <value> and </value> tags corresponding to each parameter.

- Locate the section headed <ResourceParams name="mail/Session">. In it, locate the mail.smtp.host parameter and, for its value, insert the host name of the SMTP server your company uses for sending email.
- Locate the section headed <ResourceParams name="jdbc/onecenterDS">. In it, locate the following parameters and supply these values for them:

  driverClassName parameter. Insert the following string:
  `oracle.jdbc.driver.OracleDriver`

  url parameter. Insert the following string, with actual values for the GRC Controls Suite database in place of the *Hostname*, *Port*, and *SID* placeholders:
  `jdbc:oracle:thin:@`*`Hostname`*`:`*`Port`*`:`*`SID`*

  username parameter. Supply the user name for the GRC Controls Suite platform database. It must match the name you created in step step 1 on page 41.

  password parameter. Supply the password for the GRC Controls Suite platform database user identified by the username parameter.

- Locate the section headed <ResourceParams name="jdbc/appsaccessDS">. In it, locate the following parameters and supply these values for them:

  driverClassName parameter. Insert the following string:
  `oracle.jdbc.driver.OracleDriver`

  url parameter. Insert the following string. In place of the *Hostname*, *Port*, and *SID* placeholders, insert actual values for the database used by an Oracle EBS instance in which Embedded Agents have been installed to run:
  `jdbc:oracle:thin:@`*`Hostname`*`:`*`Port`*`:`*`SID`*

  username parameter. Supply the user name for the database used by the Oracle EBS instance in which Embedded Agents have been installed to run. (Conventionally, this is APPS.)

  password parameter. Supply the password for the database used by the Oracle EBS instance in which Embedded Agents have been installed to run.

Save and close the file.

Preparing Schema Installation Files

To configure schema installation properties:

1. Navigate to an installation subdirectory of your $LAPPS_STAGE directory, and set permissions within it:

   ```
   cd $LAPPS_STAGE/ags_install
   chmod +x permissions.sh
   ./permissions.sh
   ```

2. Navigate to a configuration subdirectory of the installation directory. In it, create a copy of a generic properties file so that the copy can be customized. (In the second command, replace the value *host* with the host name for the server on which you are upgrading the GRC Controls Suite platform.)

   ```
   cd config
   cp filters-bundle-oracle.properties filters-host.properties
   ```

3. Using a text editor, open the filters-*host*.properties file and edit the following. (Accept default values for all properties not listed here.)

   - hibernate.connection.url: Supply the connect string that the GRC Controls Suite will use to connect to its database. Use the following, but provide actual values for the *Host*, *Port*, and *SID* placeholders.

     `jdbc:oracle:thin:@`*`Host:Port:SID`*

   - hibernate.connection.username: Supply the user name for the GRC Controls Suite database. It must match the name you created in step step 1 on page 41.

   - hibernate.connection.password: Supply the password for the GRC Controls Suite database.

   - businessObjects.server: Supply the host name of the GRC Controls Suite platform server.

- businessObjects.serverPort: Use 6400 if you accepted default port values during installation. Otherwise, supply the value you set for CMS_PORT (see page 45).
- businessObjects.username: Enter the value *Administrator*.
- businessObjects.password: Supply the password for the Business Objects Administrator user (see steps 10 and 11 on pages 51–52.)
- log4j.filepath: Supply the value *ags.log*, with no path. This is a log file that records errors in processing during the upgrade.
- appserver.hostname: Enter the host name and port number for the GRC Controls Suite platform server, separated by a colon. If you accepted default port values, this value is 8080; if not, use the value you set for TOMCAT_PORT (see page 45).
- callbackhost: Enter the following value. In place of the *host* and *port* placeholders, substitute the same host name and port values as you used for the appserver.hostname value:

  `http://host:port/ags`

Save and close the file.

4. Navigate back to the installation directory:

   ```
   cd $LAPPS_STAGE/ags_install
   ```

5. Using a text editor, open the build.properties file. In its first line — *config=bundle* — replace *bundle* with the same host name you used when you edited the filters-*host*.properties file (step 3). Save and close the file.
6. Navigate to a migration subdirectory of $LAPPS_STAGE:

   ```
   cd $LAPPS_STAGE/ags_migration
   ```

7. Using a text editor, open the file hibernate.cfg.xml and edit the following entries:
   - connection.url: Supply the connect string that the GRC Controls Suite platform will use to connect to its database. Use the following, but provide actual values for the *Host*, *Port*, and *SID* placeholders.

     `jdbc:oracle:thin:@Host:Port:SID`

   - connection.username: Supply the user name for the database that serves the GRC Controls Suite platform. It must match the name you created in step step 1 on page 41.
   - connection.password: Supply the password for the database that serves the GRC Controls Suite platform.

Completing the Schema Upgrade

To complete schema upgrade for the GRC Controls Suite platform:

1. If you have not yet shut down the Tomcat application server, do so:

   ```
   $LAPPS_AG_HOME/bobje/tomcatshutdown.sh
   ```

Even if you have, you should confirm that Tomcat is not running. Execute the following command; Tomcat is not running if it produces no results:

```
ps –ef | grep tomcat
```

2. Execute the schema upgrade script without COMMIT to uncover potential errors. Execute the following commands:

```
cd $LAPPS_STAGE/ags_migration
chmod +x run.sh
./run.sh | tee run.log
```

3. Review run.log for any errors. Assuming there are none, proceed to step 4.
4. Execute the schema upgrade script with COMMIT to upgrade the schema. Still at the $LAPPS_STAGE/ags_migration command prompt, execute the following commands:

```
./run.sh COMMIT | tee run_commit.log
```

5. Review run_commit.log for any errors. Assuming there are none, proceed to step 6.
6. Populate schema objects. Execute the following commands:

```
cd $LAPPS_STAGE/ags_install
./populateAccessObjects.sh
./populateEmailTemplate.sh
```

7. When the scripts finish running, restart the Tomcat application server. Execute the following command:

```
$LAPPS_AG_HOME/bobje/tomcatstartup.sh
```

Setting Up the GRC Controls Suite Log

Finally, create a log, maintained by Tomcat, that records errors in processing by the GRC Controls Suite platform:

1. Copy a logging properties file from your staging directory to a directory on your server. Execute this command:

```
cp $LAPPS_STAGE/ags_infrastructure/post-install/log4j.properties
$LAPPS_AG_HOME/bobje/tomcat/webapps/ags/WEB-INF/classes
```

2. Navigate to the directory containing the log4j.properties file:

```
cd $LAPPS_AG_HOME/bobje/tomcat/webapps/ags/WEB-INF/classes
```

3. Using a text editor, open log4j.properties. In it, locate a property called log4j.appender.file.File. Set it equal to the following path and file name:

```
$LAPPS_AG_HOME/bobje/tomcat/logs/ags.log
```

4. Optionally, also set a series of log4j.logger.com.logicalapps.onecenter properties to values that determine the level of detail in log entries. From least to greatest, options are ERROR, WARN, INFO, and DEBUG (the default).

At any time, you can execute the following command to look for errors in the ags.log file:

```
grep –i ERR $LAPPS_AG_HOME/bobje/tomcat/logs/ags.log
```

Chapter 6

Upgrading Windows Server Components

If you are upgrading the Governance, Risk, and Compliance Controls Suite platform on a Windows server, complete the procedures in this chapter and then proceed Chapter 7; you should have omitted Chapter 5. (If you are upgrading on Linux or UNIX, this chapter does not apply to you; see Chapter 5.)

Ensure that the Embedded Agents are upgraded in at least one instance of Oracle E-Business Suite. Then, begin to upgrade the platform:

- Complete preparatory steps and load files to a staging directory.
- Use the upgrade files to upgrade "infrastructure" — Business Objects components and the Tomcat application server — and to migrate Business Objects 7.1 report history to your 7.2 instance.
- Configure the Business Objects server.
- Upgrade the GRC Controls Suite platform program files and schema.

Preparing to Upgrade

Before upgrading, complete the following steps:

1. For the GRC Controls Suite platform, you will use the Oracle database created for version 7.1, for which the recommended database user name is XXLAAPPS_AG. For Business Objects, ensure that an Oracle database exists and create a database user for it. Even if you used Oracle for version 7.1, you cannot use the same schema for 7.2.2.2, so if you have used the recommended user name, XXLAAPPS_BO, you

will need to use a variant of this, such as XXLAAPPS_BOR2. Ensure that both database users have the CONNECT and RESOURCE roles, set to DEFAULT. Ensure also that the XXLAAPPS_AG user has access privileges to the v$instance table.

2. Determine the following values, which you will need during the upgrade:
   - The host name of the SMTP server your company uses for sending email.
   - The host name, port number, SID, user (schema) name, and password each of three databases: those supporting the platform, the 7.2.2.2 installation of Business Objects, and an Oracle E-Business Suite instance in which the version 7.2.2.2 Embedded Agents have been installed to run.
   - Logon information for your 7.1 Business Objects database. For Oracle, this includes tnsname, user name, and password; for MySQL, the MySQL port (3306 by default), database name, user name, and password.
3. Oracle Client 9.2.0.1 or greater is assumed to be installed on the GRC Controls Suite platform server, as it was needed for version 7.1. The file ORACLE_HOME\network\admin\tnsnames.ora contains an entry for each of the GRC Controls Suite platform, Embedded Agent, and Business Objects databases, specifying the host, dbport, and dbsid. Edit the entry for the Business Objects database to provide values for its 7.2.2.2 instance, and confirm that other entries remain correct.
4. Ensure that a GRC Controls Suite user exists on the host Windows operating system. (This user should have been created as a "LogicalApps user" during version 7.1 installation.) The recommended name is lapps. To perform the upgrade procedures described in this chapter, log on as this user.
5. For the version 7.1 installation, a home folder and a staging folder were created.
   - The version 7.2.2.2 upgrade reuses the home folder; platform and Business Objects files are installed in, and run from, this folder and subfolders of it. Determine the actual path to this folder. In command lines displayed in this chapter, the phrase *GrcHome* represents the path to the home folder.
   - For the version 7.2.2.2 upgrade, create a new instance of the staging folder, into which you will download files to be used in the upgrade. Specify (or create) any folder you wish. In command lines displayed in this chapter, *GrcStage72* stands for the actual path to your 7.2.2.2 staging folder.

Loading Files in the Staging Folder

To prepare the files you will use to upgrade to the GRC Controls Suite platform:

1. Locate the Governance, Risk, and Compliance Controls Suite Disk 1 in your Oracle media pack. In its dist folder, locate the file ag_7222_server.zip, copy the file to your staging folder, and extract its contents there. (This creates subdirectories of the staging folder, among them lib_stage and ags_infrastructure\bobje.)
2. Locate the Governance, Risk, and Compliance Controls Suite Disk 2 in your Oracle media pack. Copy its contents — two zip files — to the ags_infrastructure\bobje subfolder of your staging folder, and extract their contents there.

3 This creates four subfolders — DISK_1, DISK_2, DISK_3, and cd — and populates them with files. Copy the contents of DISK_2 and DISK_3 into DISK_1.

4 Certain open-architecture files are required. To acquire them, download files from the following sites to lib_stage subfolder of your staging folder.

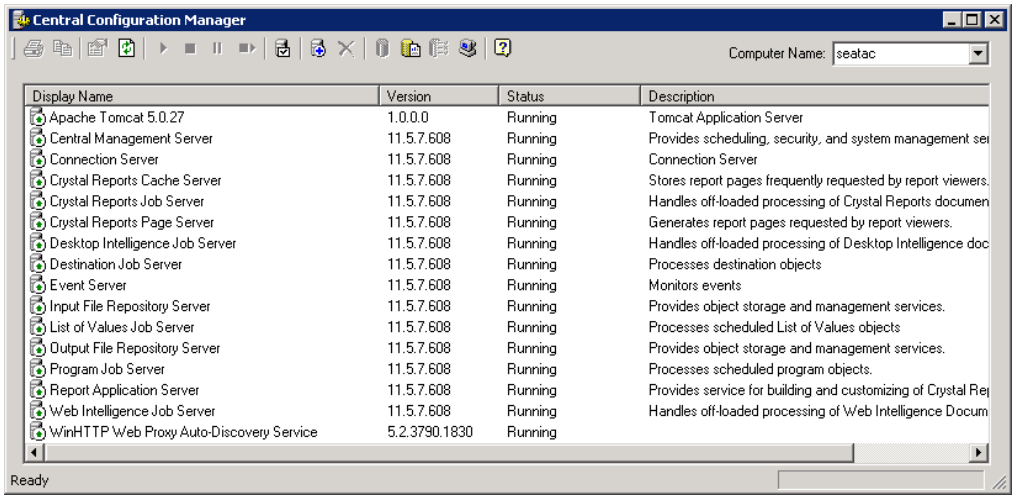
```
http://downloads.sourceforge.net/hibernate/hibernate-3.0.5.zip
?modtime=1117034763&big mirror=1
http://team.andromda.org/maven2/org/jbpm/jbpm/3.0/jbpm-3.0.jar
http://team.andromda.org/maven2/org/jbpm/jbpm-identity/3.0/
jbpm-identity-3.0.jar
http://downloads.sourceforge.net/junit/junit3.8.1.zip?modtime=
1031097600&big mirror=0
http://www.ibiblio.org/maven/mule/dependencies/xpp3/1.1.3.4d_
b4_min/xpp3-1.1.3.4d_b4_min.jar
```

5 After downloading these files, run the file preinstall.bat from your staging folder.

Stopping and Starting Servers

Before installing version 7.2.2.2 components, stop the servers used by Business Objects for your version-7.1 installation. To do so, use the Central Configuration Manager (CCM), which can be opened from the Business Objects folder on the Windows Start menu.

The CCM presents a list of servers, in which the entry for each server displays an icon. A server is running if its icon displays an upward-pointing green arrow, is stopped if its icon displays a downward-pointing red arrow, or is disabled (regardless of whether it is running or stopped) if its icon displays a red circle containing a white dash.



To stop servers:

1 Select all the servers whose icons display upward-pointing green arrows. Typically, all do, and to select them you click on the first, hold down the shift key, and click on the last.

2 Click on the stop icon, a square located sixth from the left in the tool bar near the top of the window. After a moment, all the servers stop — the arrows in the icons that accompany them turn red and point downward.

As you complete upgrade procedures, you will need to stop or start servers at several moments. At each such moment, use this procedure to stop them (you will by then have installed a Central Configuration Manager that controls version-7.2.2.2 servers).

To restart the servers, select them all again and then click on the start icon, a rightward-pointing triangle located fifth from the left in the tool bar. After a moment, all the services start running, and their icons once again display upward-pointing green arrows.

Installing Infrastructure

Installing "infrastructure" involves placing Business Objects and Tomcat files on the server, configured so that they will connect to databases and other components.

1 Navigate to the ags_infrastructure\bobje\DISK_1 subfolder of your staging folder. In it, run the Setup.exe file

2 A language-selection window appears. In its list box, choose the language in which you want to work. (English is the default.) Click on the OK button.

3 A Welcome window appears. Click on its Next button.

4 A license-agreement window appears. Click on its acceptance radio button, and then on the Next button.

5 A User Information window appears. Its Full Name and Organization fields display values for the user who is currently logged on — in this case, the lapps user. Leave the Install Performance Management check box cleared. Click the Next button.

6 An Upgrade Install window appears. In it, accept the default folder (which is the *GrcHome* folder).

7 A CMS Database Information window appears. Select the Oracle radio button. In the CMS Database column, set the following values for the Oracle database that will store Business Objects data for your 7.2.2. instance:

- In the Server field, enter the alias for the Business Objects database instance as it is configured in the tnsnames.ora file.
- In the Username and Password fields, enter the user name and password for the Business Objects database. (This is the user created in step 1 on page 59.)
- Make no entries in the Auditing Database column. Click on the Next button.

8 A Choose Web Component Adapter Type window appears. Select the check box labeled "Java application server," and beneath it select the radio button labeled "Install Tomcat application server." Ensure that the "IIS ASP.NET" check box is cleared. Click on the Next button.

9 A Configure Tomcat window appears:

- Review the default installation folder for the Java application server (a sub-folder, called Tomcat, of your *GrcHome* folder).
- Review default port assignments: 8080 for connection port, 8005 for shut-down port, and 8443 for redirect port. A CMS port, set in the background to 6400, cannot be changed here. Of the others, change only those (if any) already used by other applications. (These are, however, the same port values as those used by the Business Objects instance installed for version 7.1. This presents no conflict, and you can accept the defaults as long as no *other* applications use these ports.)
- Click on the Next button.

10 A Start Installation window appears. Click on its Next button. As files are installed, the window displays the status of the installation. When installation is complete, the window displays a Finish button. Click on it.

At this point, the Business Objects installer prompts you to migrate report history from the R1 instance (installed for version 7.1 of ACTIVE Governance) to the R2 instance (for version 7.2.2.2 of GRC Controls Suite):

1 A CMS Database Setup window appears. Select the "Copy data from another data source" option and click on the OK button.

2 A Specify Data Source dialog appears.

- In the field labeled "Source contains data from version," select Autodetect.
- Click on the Specify button next to the "Get data from" field. Subordinate dialog boxes open. In the first, select "Oracle native driver" and then click OK. In the second, in Server Name, Login ID, and Password fields, enter the following values for your Business Objects R1 database: its alias, ID, and password, all as configured in the tnsnames.ora file. Click on OK.
- Click on the Browse button next to the "Copy to the following data source" field, and provide the tnsnames alias, ID, and password for your Business Objects R2 database. Click on OK.
- Click the OK button in the Specify Data Source dialog.

3 A warning message informs you that all tables in the database to which you are migrating will be deleted. Click on Yes.

4 A SvcMgr dialog box notifies you when the database setup is complete. Click its OK button to clear it.

At this point, the *GrcHome* folder contains several subfolders. The following steps involve the use of two of these, which are named Business Objects Enterprise 11 and Business Objects Enterprise 11.5.

1 Copy the contents of the Business Objects Enterprise 11\FileStore\Input folder into the Business Objects Enterprise 11.5\FileStore\Input folder

2. Copy the contents of the Business Objects Enterprise 11\FileStore\Output folder into the Business Objects Enterprise 11.5\FileStore\Output folder.

3. Start the Central Configuration Manager, and locate the Central Management Server in the list of servers. Start the Central Management Server (see "Stopping and Starting Servers" on page 61).

4. Still in the Central Configuration Manager, locate the entry for the Tomcat application server and ensure that it is running. Leave the Central Configuration Manager running.

5. In a web browser, log on to the Central Management Console. Use this URL:

   `http://host:8080/businessobjects/enterprise115/admin/en/admin.cwr`

   Replace *host* with the name of the host on which you installed the infrastructure. If, during installation, you chose a substitute for port 8080, change the value *8080* in the URL to the correct number for your substitute port.

   A log-in form appears. Type *Administrator* in the User Name field. During version 7.1 installation, a password was set for the Administrator user, and the new Business Objects instance recognizes this password; type it in the Password field. (A read-only System field is set to the host name you specified in step 1. Accept the default value, *Enterprise*, for Authentication Type.) Then click on the Log On button.

6. In the Home panel, click on License Keys in the Manage section, and ensure that your Business Objects Enterprise license keys are entered correctly. Return to the Home panel (click on *Home* in the light blue band near the top of the screen) and allow the Central Management Console to remain running in your web browser.

7. Switch to the window displaying the Central Configuration Manager and select the entries for the Input File Repository Server and Output File Repository Server. Start them (see "Stopping and Starting Servers" on page 61).

   Then enable them: Click on the tool-bar icon with a check mark (ninth from the left). A log-on dialog appears; enter the same log-on information as you did for the Central Management Console in step 5. An Enable/Disable Servers window opens; in it, select the entries for the Input File Repository Server and Output File Repository Server and click on the OK button.

8. Switch to the window displaying the Central Management Console. In the Organize section of the Home panel, click Servers. Verify that both the Input and Output file repository servers are started and enabled (their icons display upward-pointing green arrows). Then verify that their root directories are set correctly:

   a. Click on the server named Input.*hostname*, in which *hostname* is the name of the host system to which you've logged on. A File Repository Server panel opens; in its Properties tab, verify that the entry in a Root Directory field is *GrcHome*/bobje/data/frsinput (in which the actual path to your home folder replaces *GrcHome*).

   b. Return to the Servers panel (click on *Servers* in the light blue band above the Properties and other tabs), and click the server named Output.*hostname*. In

the Properties tab of its File Repository Server panel, verify that the Root Directory field entry is *GrcHome*/bobje/data/frsoutput (in which, again, the actual path to your home folder replaces *GrcHome*).

9 Switch back to the window displaying the Central Configuration Manager. An Update Objects icon on the toolbar displays a flashing red exclamation point. Click on the icon. A log-on dialog appears; supply the same values as you did in steps 5 and 7. An Update Objects dialog appears, telling you the number of objects that rerquire updating; click on its Update button.

10 When the update operation is complete, stop all servers (see "Stopping and Starting Servers" on page 61) and then close the Central Configuration Manager and the Central Management Console.

Installing a Business Objects Patch

Update Business Objects with a required patch:

1 Navigate to the C:*LappsStage72*\ags_infrastructure\bobje\cd folder.

2 Run the Setup.exe file. Respond to its prompts.

The completion of this procedure installs the patch and restarts Business Objects services; on this occasion you do not need to restart them manually.

Modifying Tomcat Settings

Default memory allocations for the Tomcat application server on Windows are not adequate for reporting functions. To adjust these allocations:

1 From the Windows Start menu, click on Programs, then Tomcat, and then Tomcat Configuration.

2 An Apache Tomcat Properties window opens. In it, select the Java tab.

3 A Java Options field displays several lines of text that define parameters. Add the following three lines. (You may insert them anywhere among the lines that are already present.)

```
-XX:MaxPermSize=256m
-Xms512m
-Xmx1024m
```

4 Set the Initial Memory Pool field to 512.

5 Set the Maximum Memory Pool field to 1024.

6 Click on the OK button.

Setting the Business Objects Rowcount

As users run GRC Controls Suite reports, they may select parameters to focus the report results. The maximum number of parameters that Business Objects displays by

default may be insufficient. It's recommended that you reset this value to at least 100,000. To do so, create a registry key:

1. Click on the Start button, and then on Run in the Start menu. In the Run dialog, type *regedit* in the Open field, and click the OK button. The Registry Editor opens.
2. The left column of the Registry Editor displays a list of "keys," in a tree format. Here, you will create HKEY_LOCAL_MACHINE\SOFTWARE\Business Objects\Suite 11.5\Crystal Reports\DatabaseOptions\LOV.

   Elements of this key exist already on your system. Navigate along this path as far as it exists, and click on its last child object. Then create the remaining child keys: select Edit in the menu bar, then New in the Edit menu, and then Key in the New submenu. A write-enabled value, *New Key #1*, appears; overwrite this value with the name of the new key you want to create.

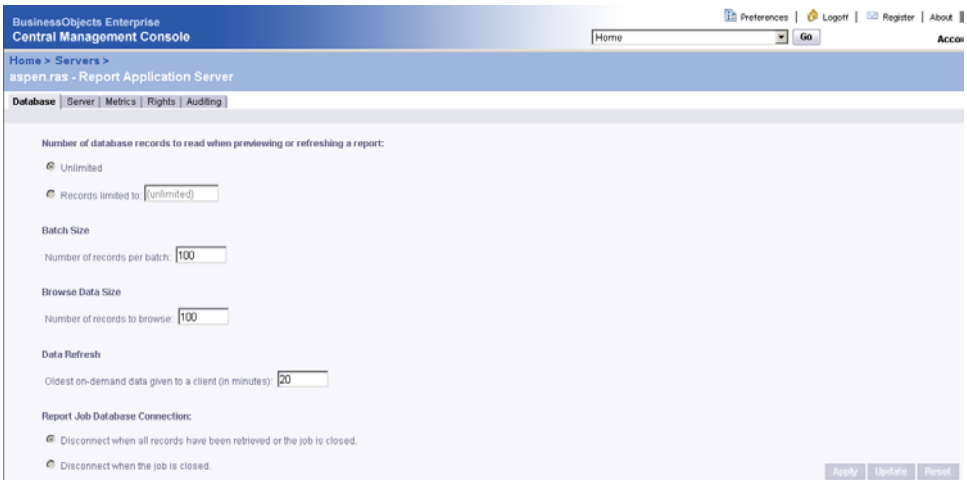
   Suppose, for example, that HKEY_LOCAL_MACHINE\SOFTWARE\Business Objects\Suite 11.5 exists. Click on the Suite 11.5 key and from it, create the Crystal Reports key; then click on the Crystal Reports key and from it, create the DatabaseOptions key; then click on the DatabaseOptions key and from it, create the LOV key.
3. Click on the LOV key. Then select Edit in the menu bar, New in the Edit menu, and String Value in the New submenu. A new field appears in the right panel of the Registry Editor, labeled *New Value #1*. This entry is write-enabled; change the name to *MaxRowsetRecords*.
4. Double-click on the MaxRowsetRecords entry. An Edit String dialog box appears. In its Value Data field, enter 100000 (or a larger value). Then close the dialog box; click on its OK button. The value you entered now appears in the Data column for the MaxRowsetRecords entry in the right panel of the Registry Editor.
5. Close the Registry Editor: Click on the × symbol in its upper right corner.

Configuring the Business Objects Server

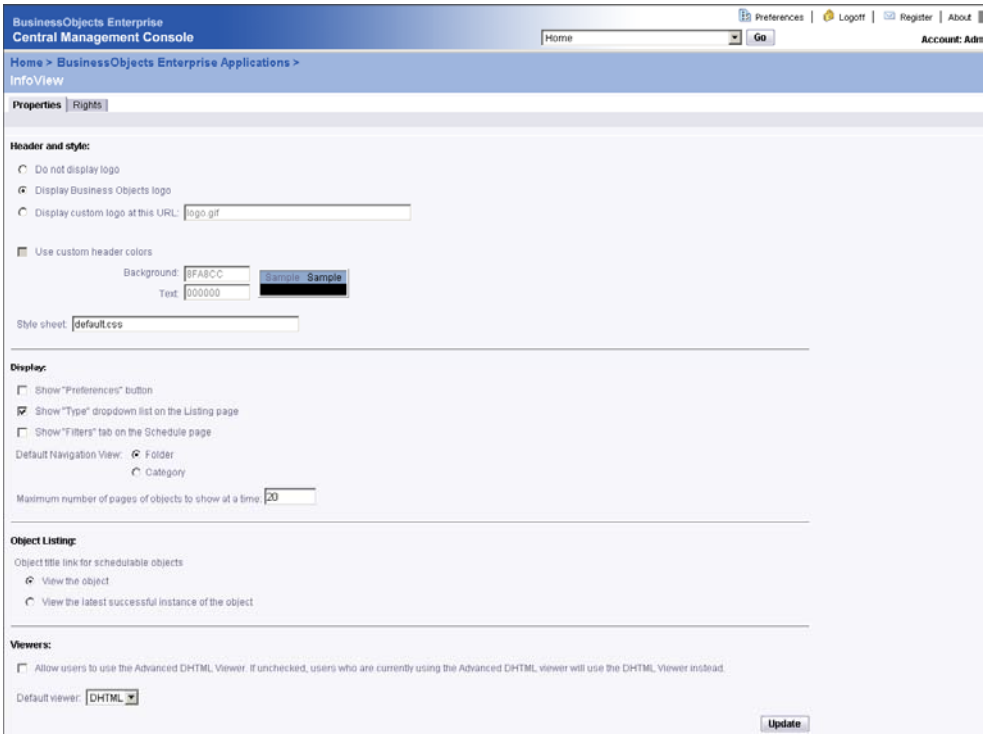
Use the Central Management Console (CMC) to configure Business Objects components. Log on, using the method described in step 5 on page 64. Then:

1. In the Home panel, click on Servers in the Organize section. A Servers panel opens:

2. In the list of servers, see whether any icon shows a red, downward-pointing arrow. If so, close the CMC. Navigate to *GrcHome*/ bobje/logging and check log files — boe-cmsd*.log and ccm*.log — for errors; call Customer Support. But if all display upward-pointing green arrows, proceed.
3. In the Servers panel, locate the server named *hostname*.ras, in which *hostname* is the name of the host system to which you've logged on. Single-click on the name.
4. A Report Application Server panel opens for the server you've selected, with a Database tab active. Under the heading "Number of database records to read when previewing or refreshing a report," select the Unlimited radio button. Accept default values for the remaining fields. Click on the Update button.



5. In the "breadcrumb trail" (*Home* > *Servers* > in the figure above), click on *Home*. In the Home panel, click on Business Objects Enterprise Applications in the Manage section. In a list of applications, click on InfoView. The following panel opens:



6 In the Viewers section, ensure that the check box labeled "Allow users to use the Advanced DHTML Viewer…." is cleared. Then, in the Default Viewer list box, select DHTML.

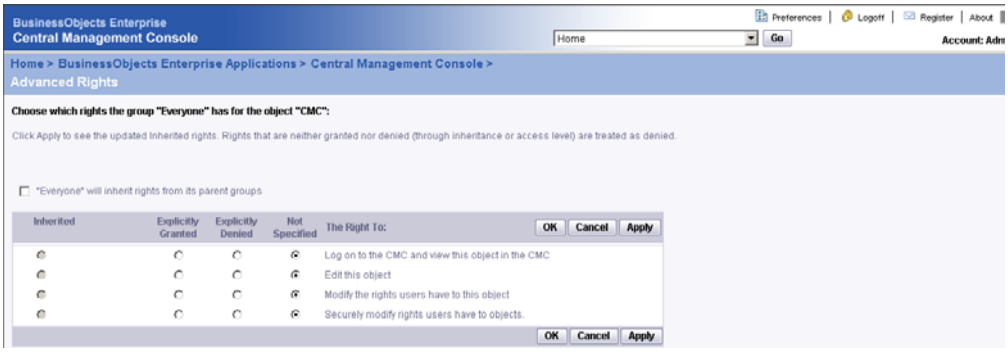
In the Display section, clear the check boxes labeled "Show 'Preferences' button" and "Show 'Filters' tab on the Schedule page."

Accept default values for the remaining fields and click on the Update button.

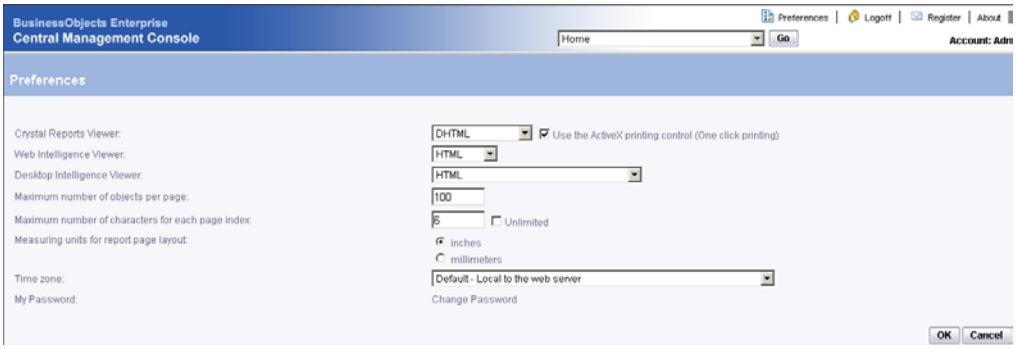
7 Click on BusinessObjects Enterprise Applications in the breadcrumbs trail and then, in the list of applications, click on Central Management Console.

8 In a Central Management Console panel, click on the Rights tab. It presents a list of users. Locate the Everyone user and click on its Advanced entry.

9 An Advanced Rights panel opens. In its "Log on to the CMC and view this object in the CMC" row, select the Not Specified radio button. Click on the OK button.



10 The Central Management Console panel returns. Click on Home in the bread-crumb trail, and then on Preferences in a line of links along the upper right edge of the CMC.



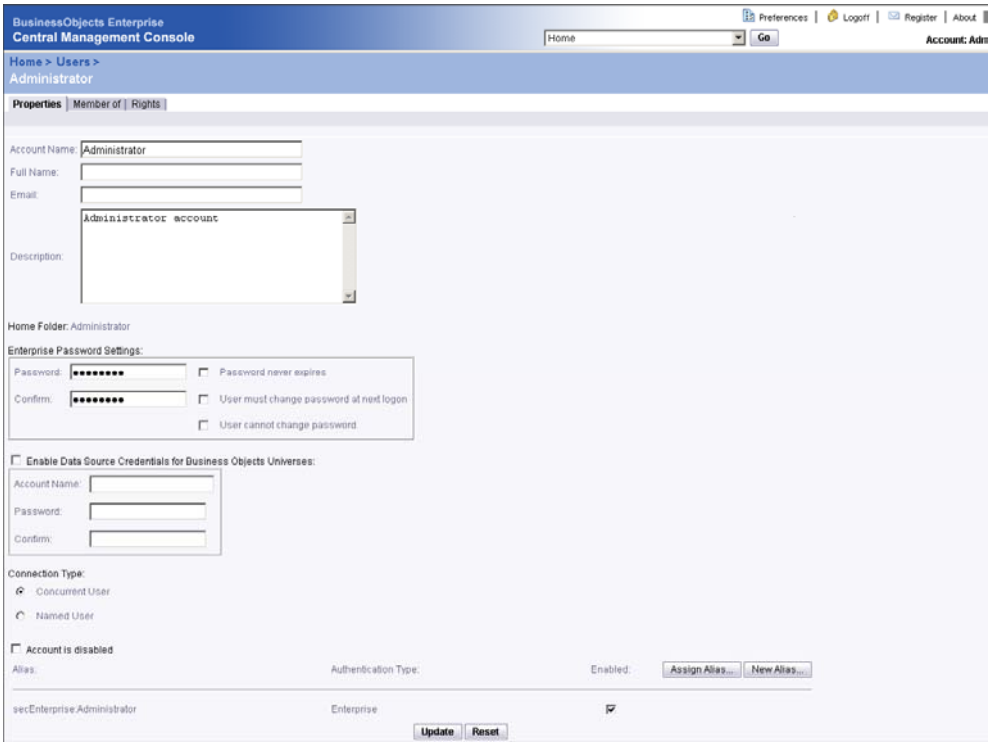
11 Make these edits:

- In the Crystal Reports Viewer list box, select DHTML.
- Select the check box labeled "Use the ActiveX printing control."

Accept default values for the remaining fields and click on the OK button. The CMC returns to its Home panel.

12 This instance of Business Objects recognizes the Administrator password set during installation of ACTIVE Governance version 7.1. It's recommended that you retain this password; if you choose to, skip ahead to step 14. If you prefer to change

it, click on Users in the Organize section of the Home panel. An All Users panel presents a list of users; click on Administrator.



13 In the Enterprise Password Settings area, enter a new password in both the Password and Confirm fields, and click on the Update button. Later, you will also need to enter this password value as the setting for a businessObjects.password property in the GRC Controls Suite platform (see "Setting Properties" on page 84).

14 Click on the Logoff link along the upper right edge of the CMC.

15 To apply these updates, stop and restart Business Objects servers (see page 61.)

Accommodating Firewalls

If your company has a firewall that blocks internal traffic, complete these steps:

1 Open two new ports on the machine that hosts the GRC Controls Suite platform server. Typically these ports are dynamically assigned, but because the firewall blocks dynamically assigned ports, they must be assigned statically.

2 Shut down the servers. (See page 61.)

3 Using a text editor such as Notepad, open the file ccm.config, which is located in the \bobje subfolder of your home folder. Make the following edits:

- Locate the line that starts with the phrase *cmsLAUNCH*=. After the equals sign, insert the phrase *–requestport xxxx*, replacing the *xxxx* with one of the port numbers from step 1.
- Locate the line that starts with the phrase *inputLAUNCH*=. After the equals sign, insert the phrase *–requestport yyyy*, replacing the *yyyy* with the other of the

port numbers from step 1. (This port number must differ from the cmsLAUNCH port.)

4. Save the file and exit from it.
5. Restart the servers. (See the procedure described on page 61.)

Upgrading the GRC Controls Suite Schema

To create schema objects and seeded data for the GRC Controls Suite platform, complete some additional Business Objects setup. Then copy and edit GRC Controls Suite files. Extract and configure schema-installation files, and then actually execute the schema installation. Note the following as you complete the next several sections:

- Replace the term *GrcHome* in commands with the full path to your GRC Controls home folder.
- Replace the term *GrcStage72* in commands with the full path to your GRC Controls Suite staging folder.
- Recognize that although commands are written to be executed in the Command Prompt window, you can use Windows Explorer instead to complete tasks.

Setting Up Business Objects

To configure Business Objects setup properties:

1. Navigate to a bo_setup subfolder of your staging folder:

   ```
   cd GrcStage72x/bo_setup
   ```

2. Using a text editor, open the file BusinessObjectsConfiguration.properties. The file contains the following prompts; set each to the indicated value.

   - businessObjects.server: Supply the host name for the GRC Controls Suite platform server.
   - businessObjects.serverPort: Assuming you have accepted default port values during installation, use 6400.
   - businessObjects.username: Use the value *Administrator*.
   - businessObjects.password: Supply the password for the Business Objects Administrator user (see steps 12 and 13 on pages 68–69).
   - businessObjects.home: Supply the folder in which Business Objects is installed, which is a \bobje\enterprise subfolder of your home folder. As you enter this value, supply the full path to the folder, and use two backslashes wherever a Windows path would ordinarily use one. For example:

     ```
     C:\\Program Files\\GrcControlsSuite\\bobje\\enterprise\\
     ```

   - businessObjects.commit: For the time being, set this value to *false*.

   Save and close the file.

3 From the \bo_setup subfolder of your staging folder, run a file called removeAuthenticationRestrictions.bat — type its name in the Command Prompt window and press the Enter key.

4 If there are no exceptions (if the Command Prompt window displays "Authentication restrictions removed"), reopen the BusinessObjectsConfiguration.properties file and reset the businessObjects.commit property to *true*. Save and close the file, and then rerun removeAuthenticationRestrictions.bat.

Copying and Editing GRC Controls Suite Files

Put GRC Controls Suite files in place and prepare them.

1 Shut down the Tomcat application server:

```
GrcHome\bobje\tomcat\bin\shutdown.bat
```

2 An ags subfolder may be located several levels below your GRC Controls Suite home folder. If so, remove it and its contents.

```
rmdir /s "GrcHome\bobje\tomcat\webapps\ags"
```

3 Copy files from subfolders of the staging folder to subfolders of the home folder.

```
copy GrcStage72\ags_7_2_n_snn_bnn_ga.war
GrcHome\bobje\tomcat\webapps\ags.war
copy GrcStage72\ags_infrastructure\post-install\ags.xml
GrcHome\bobje\tomcat\conf\Catalina\localhost
copy GrcStage72\ags_infrastructure\post-install\*.jar
GrcHome\bobje\tomcat\common\lib\
```

4 Navigate to the folder containing the ags.xml file:

```
cd GrcHome/bobje/tomcat/conf/Catalina/localhost
```

5 Using an xml editor, open ags.xml and perform the following edits. Each entry goes between <value> and </value> tags corresponding to each parameter.

- Locate the section headed <ResourceParams name="mail/Session">. In it, locate the mail.smtp.host parameter and, for its value, insert the host name of the SMTP server your company uses for sending email.
- Locate the section headed <ResourceParams name="jdbc/onecenterDS">. In it, locate the following parameters and supply these values for them:

  driverClassName parameter. Insert the following string:
  `oracle.jdbc.driver.OracleDriver`

  url parameter. Insert the following string. In place of *Hostname*, *Port*, and *SID*, insert actual values for the database used by the GRC Controls Suite platform.
  `jdbc:oracle:thin:@Hostname:Port:SID`

  username parameter. Supply the user name for the GRC Controls Suite platform database. It must match the name you created in step 1 on page 59.

  password parameter. Supply the password for the GRC Controls Suite platform database user identified by the username parameter.

- Locate the section headed <ResourceParams name="jdbc/appsaccessDS">. In it, locate the following parameters and supply these values for them:

  driverClassName parameter. Insert the following string:
  `oracle.jdbc.driver.OracleDriver`

  url parameter. Insert the following string. In place of the *Hostname*, *Port*, and *SID* placeholders, insert actual values for the database used by an Oracle EBS instance in which Embedded Agents have been installed to run:
  `jdbc:oracle:thin:@Hostname:Port:SID`

  username parameter. Supply the user name for the database used by the Oracle EBS instance in which Embedded Agents have been installed to run. (Conventionally, this is APPS.)

  password parameter. Supply the password for the database used by the Oracle EBS instance in which Embedded Agents have been installed to run.

Save and close the file.

Preparing Schema Installation Files

To configure schema installation properties:

1. Navigate to an installation configuration subfolder of your staging folder:

   `cd GrcStage72x\ags_install\config`

2. Make a copy of a generic properties file, called filters-bundle-oracle.properties. Call the copy filters-*host*.properties, replacing the value *host* with the host name for your GRC Controls Suite platform server.

3. Using a text editor, open the filters-*host*.properties file and edit the following. (Accept default values for all properties not listed here.)

   - hibernate.connection.url: Supply the connect string that the GRC Controls Suite platform will use to connect to its database. Use the following, but provide actual values for the *Host*, *Port*, and *SID* placeholders.

     `jdbc:oracle:thin:@Host:Port:SID`

   - hibernate.connection.username: Supply the user name for the GRC Controls Suite platform database. It must match the name created in step 1 on page 59

   - hibernate.connection.password: Supply the password for the GRC Controls Suite platform database.

   - businessObjects.server: Supply the host name of the GRC Controls Suite platform server.

   - businessObjects.serverPort: Assuming you have accepted default port values during installation, use 6400.

   - businessObjects.username: Always use the value *Administrator*.

   - businessObjects.password: Supply the password for the Business Objects Administrator user (see steps 12 and 13 on pages 68–69).

- log4j.filepath: Supply the value *ags.log*, with no path. This is a log file that records errors in processing during upgrade of the GRC Controls Suite schema.
- appserver.hostname: Enter the host name and port number for the GRC Controls Suite platform server, separated by a colon. If you accepted default port values during installation, the port value here is 8080; if not, supply the value you set for the connection port (see step 9 on page 63).
- callbackhost: Enter the following value. In place of the *host* and *port* placeholders, substitute the same host name and port values as you used for the appserver.hostname value:

  `http://host:port/ags`

Save and close the file.

4. Navigate back to the ags_install folder (the parent of the folder in which you are currently working):

   `cd..`

5. Using a text editor, open the build.properties file. In its first line — *config=bundle* — replace *bundle* with the same host name you used when you edited the filters-*host*.properties file (step 3). Save and close the file.

6. Navigate to a migration subdirectory of your staging directory.

   `cd C:\GrcStage72x\ags_migration`

7. Using a text editor, open the file hibernate.cfg.xml and edit the following entries:

   - connection.url: Supply the connect string that the GRC Control Suite platform will use to connect to its database. Use the following, but provide actual values for the *Host*, *Port*, and *SID* placeholders.

     `jdbc:oracle:thin:@Host:Port:SID`

   - connection.username: Supply the user name for the database that serves the GRC Controls Suite platform. It must match the name you created in step 1 on page 59.
   - connection.password: Supply the password for the database that serves the GRC Controls Suite platform.

   Save and close the file.

Completing the Schema Installation

To complete the schema-upgrade process:

1. If you have not yet shut down the Tomcat application server, do so:

   `GrcHome\bobje\tomcat\bin\shutdown.bat`

2. Execute the schema upgrade script without COMMIT to uncover potential errors. Use the Command Prompt window to execute the following command:

   `GrcStage72\ags_migration\run.bat`

3. Review text generated in the Command Prompt window for errors. Assuming there are none, proceed to step 4.
4. Execute the schema upgrade script with COMMIT to upgrade the schema. Use the Command Prompt window to execute the following command:

   ```
   GrcStage72\ags_migration\run.bat COMMIT
   ```

5. Review text generated in the Command Prompt window for errors. Assuming there are none, proceed to step 6.
6. Populate schema objects. Execute the following commands:

   ```
   cd GrcStage72/ags_install
   post-migrate.bat
   ```

7. When the batch files finish running, restart the Tomcat application server. Execute the following command:

   ```
   GrcHome\bobje\tomcat\bin\startup.bat
   ```

Setting Up the GRC Controls Suite Log

Finally, create a log, maintained by Tomcat, that records errors in processing by the GRC Controls Suite platform:

1. Copy a logging properties file from your staging directory to a directory on your server. Execute this command:

   ```
   copy GrcStage72\ags_infrastructure\post-install\log4j.properties
   GrcHome\bobje\tomcat\webapps\ags\WEB-INF\classes
   ```

2. Navigate to a folder containing the log4j.properties file:

   ```
   cd GrcHome\bobje\tomcat\webapps\ags\WEB-INF\classes
   ```

3. Using a text editor, open log4j.properties. In it, locate a log4j.appender.file.File property, and set it equal to the following path and file name. (Be sure to replace the term *GrcHome* with the full path to your home folder, and to include two backslashes wherever a Windows path would ordinarily require one.)

   ```
   GrcHome\\bobje\\tomcat\\logs\\ags.log
   ```

4. Optionally, also set a series of log4j.logger.com.logicalapps.onecenter properties to values that determine the level of detail in log entries. From least to greatest, options are ERROR, WARN, INFO, and DEBUG (the default).

At any time, you can open the ags.log file to look for errors or other information. The log is located at a path you established earlier:

```
GrcHome\bobje\tomcat\logs\ags.log
```

Chapter 7

Deploying Reports

To deploy GRC Controls Suite reports and "business views" that support them, use Business Objects tools run from a Windows client system.

Setting Up

Even if you installed Business Objects Release 1 components on a Windows client for ACTIVE Governance 7.1, install Release 2 components for this 7.2.2.2 upgrade:

1. Create a staging folder on the Windows client.
2. Obtain installation files. These are the same as the files one would use for Business Objects installation on a Windows server. Thus, as before, locate the Governance, Risk, and Compliance Controls Suite Disk 2 in your Oracle media pack. Copy its contents — two zip files — to your client staging folder.
3. This creates four subfolders — DISK_1, DISK_2, DISK_3, and cd — and populates them with files. Copy the contents of DISK_2 and DISK_3 into DISK_1
4. Navigate to the disk_1 subfolder of your staging folder and, in it, run the Setup.exe file.
5. A language-selection window appears. In its list box, choose the language in which you want to work. (English is the default.) Click on the OK button.
6. A Welcome window appears. Click on its Next button.
7. A license-agreement window appears. Click on its acceptance radio button, and then on the Next button.

8 A Select Client or Server Installation window appears. Select its Perform Client Installation radio button and click on the Next button.

9 Accept default values for all remaining issues.

10 Install a required Business Objects patch on the client system: Navigate to the cd subfolder of the client staging folder and, in it, run the Setup.exe file. Respond to its prompts.

In your Oracle media pack, locate the Governance, Risk, and Compliance Controls Suite Disk 1. From its dist directory, copy the file ag_7222_report_center.zip to your staging directory. Extract the contents of the file. This creates a Reports Center folder and, beneath it, a Business Views folder and other folders containing reports.

Finally, ensure that Oracle Client is installed on the Windows machine, and that aliases in the tnsnames.ora file for this instance of Oracle Client match those configured for the Oracle Client instance on the GRC Controls Suite server.

Importing Business Views

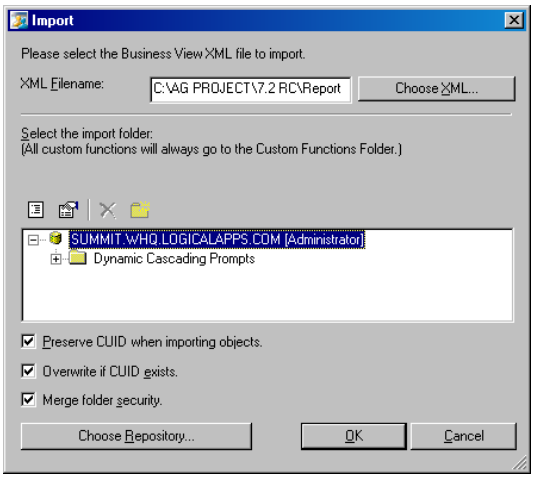
Use a Business View Manager to import "business views" — a set of .xml files:

1 Open Business View Manager from a Business Objects folder under Windows Start. As you log on, supply these values, and then click the OK button:

- System: The host name and CMS_PORT number of the GRC Controls Suite server, separated by a colon. Omit the port number (and delimiting colon) if you accepted the default value, 6400, for CMS_PORT (see page 45 or 63).
- User Name: The value *Administrator*.
- Password: The password for the Administrator user (see page 51 or 68).
- Authentication: The value *Enterprise*.

2 In the Repository Explorer pane, delete the existing Report Center folder.

3 Click on Tools in the Business View Manager menu bar, and then on Import in the Tools menu. The following Import dialog appears.



4 In the large white field, ensure that the line displaying the server host and domain name is selected.

5 Click on the Choose XML button. A navigation dialog opens; in it, navigate to the Report Center/Business Views subdirectory in your staging directory. Select any of the business views and click on the Open button in the navigation dialog. The path to the business-view xml file you selected should appear in the XML Filename field of the Import dialog.

6 Ensure that the three checkboxes near the bottom of the form are selected. These are labeled "Preserve CUID when importing objects," "Overwrite if CUID exists," and "Merge folder security."

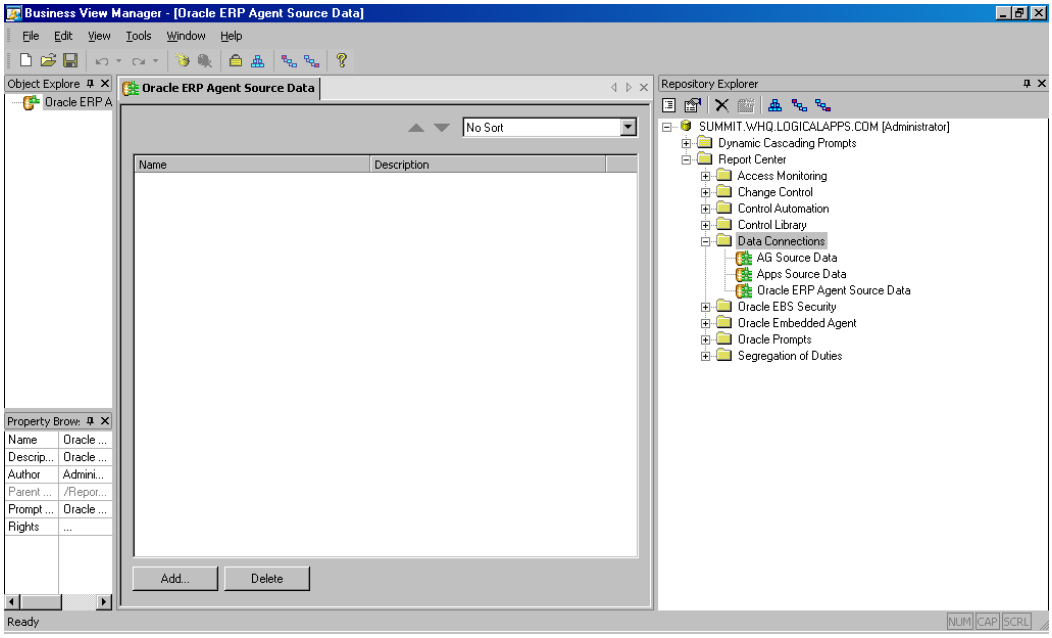
7 Click on the OK button. Choose to overwrite if there is any existing content. Business View Manager creates a Report Center directory, imports the business-view xml file into it, and displays the result in the large white field of the Import dialog.

8 Repeat steps 5–7 for each of the .xml files remaining in the Report Center/ Business Views subdirectory of your staging directory.

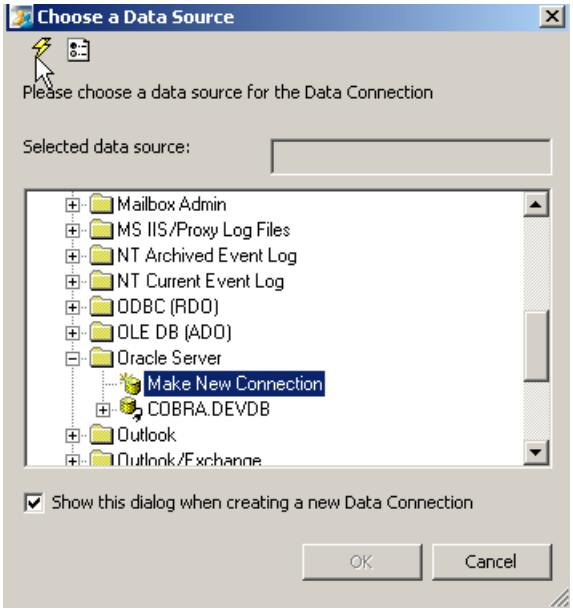
Establishing Data Connections

Next, set up static data connections to the databases for the GRC Controls Suite platform and for Embedded Agents instances, and then include each in one of two dynamic data connections.

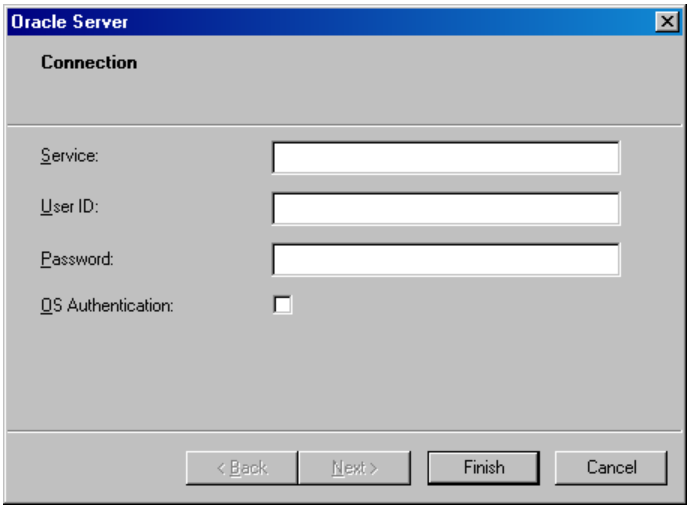
1 In the Repository Explorer, click on the Data Connections folder under Report Center. Descending from its entry, you should you should see dynamic data connections, among them AG Source Data and Oracle ERP Agent Source Data.



2 Click on File in the menu bar, then on New in the File menu, and then on Data Connection in the New submenu. A Choose a Data Source dialog opens:

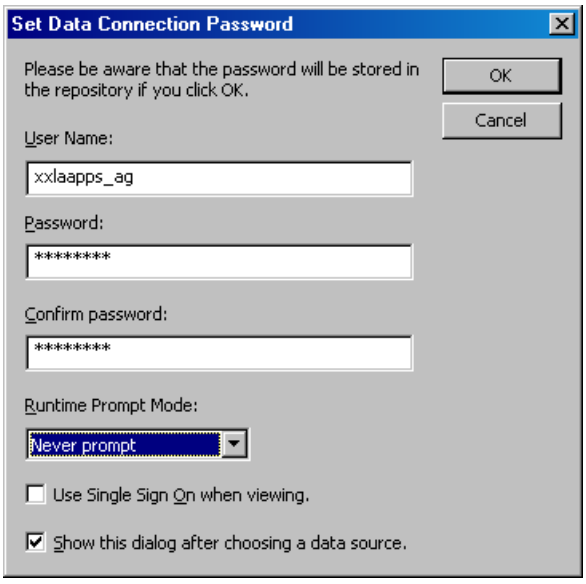


3 In its list, click on Oracle Server. If no data connections yet exist, a Connection dialog opens. If connections exist, they are listed beneath the Oracle Server entry, along with a Make New Connection option. Click on that option to open the Connection dialog.



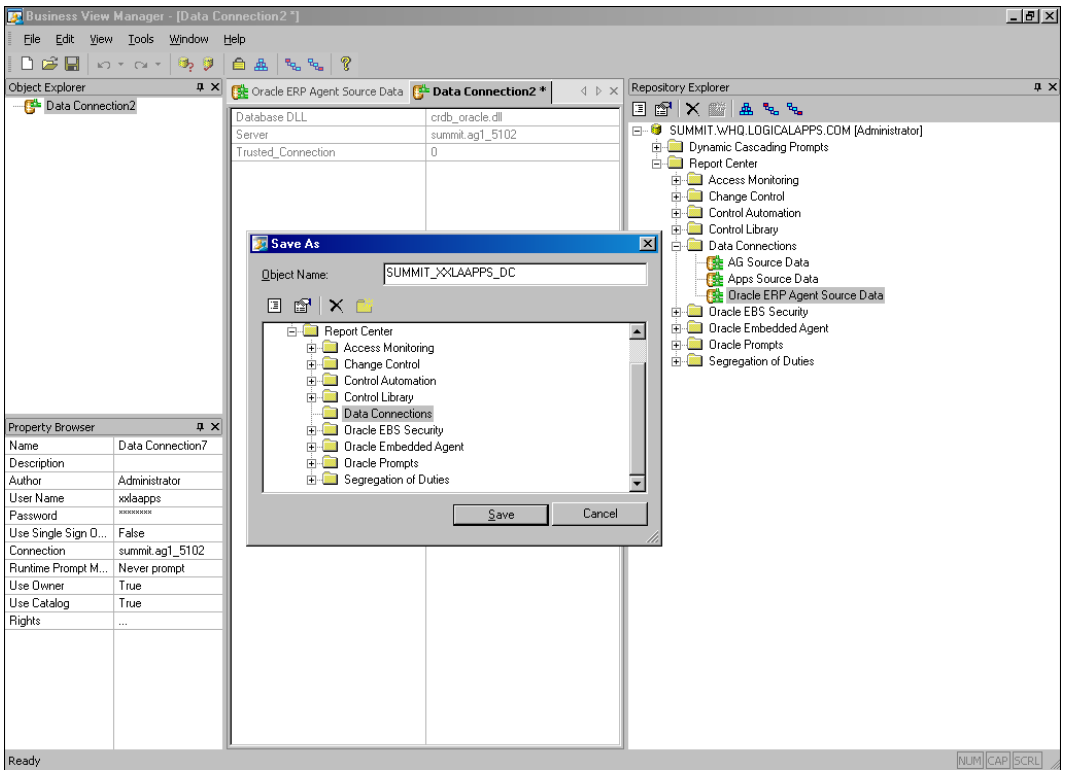
4 Fill in the Connection fields with values the database used by your GRC Controls Suite platform. For Service, supply the alias for the database instance as it is configured in the tnsnames.ora file. For User ID, supply the database user (schema) name; for Password, supply the database password. Leave the OS Authentication check box cleared.

5 Click on the Finish button. A Set Data Connection Password dialog opens:



6 In the User Name field, type the same database user (schema) name as you did in step 4; in the Password and Confirm Password fields, type the same password. In the Runtime Prompt Mode list box, select the value *Never Prompt*. Ensure that the "Use Single Sign On when viewing" check box is cleared. Click on the OK button.

7 The Business View Manager once again becomes active, displaying values you've set for the data connection both in the central panel and in Property Browser area along the left column.



8 Save the data connection: Click on File in the menu bar and then Save in the file menu. A Save As dialog appears. In it, enter a name for the data connection in the Object Name field, and in the larger white field click on the Data Connections folder beneath the Report Center folder. Click on the Save button.

The Repository Explorer displays an entry for the static data connection you've configured, descending from the Data Connections folder. (To distinguish a static connection from a dynamic one, look at their icons. One green pipe symbol indicates a static connection, and two indicate a dynamic connection.)

9 Repeat steps 2–8 to create static data connections for Embedded Agent data sources. There should be one connection for each of the Embedded Agent instances with which GRC Controls Suite is to work.

10 Associate the static data connections with the appropriate dynamic data connections.

Under Data Connections in the Repository Explorer, double click on the AG Source Data dynamic connection. A window for that connection opens in the central panel of the Business View Manager. Drag the data connection you configured for the GRC Controls Suite platform from the Repository Explorer to the central panel. Click on File in the menu bar and then on Save in the File menu.

Then, under Data Connections in the Repository Explorer, double click on the Oracle ERP Agent Source Data dynamic connection. A window for that connection opens in the central panel of the Business View Manager. Drag each of the Embedded Agents data connections you configured from the Repository Explorer to the central panel. Click on File in the menu bar and then on Save in the File menu.

Publishing Reports

To publish the version 7.2.2.2 reports, use a Publishing Wizard, which is accessible from the Business Objects folder under Windows Start.

1 From the initial Publishing Wizard screen, click on the Next button.

2 Enter the following logon values, then click on the OK button.

- System: The host name and CMS_PORT number of the GRC Controls Suite server, separated by a colon. Omit the port number (and delimiting colon) if you accepted the default value, 6400, for CMS_PORT (see page 45 or 63).
- User Name: The value *Administrator*.
- Password: The password for the Administrator user (see page 51 or 68).
- Authentication: The value *Enterprise*.

3 A Select Files panel of the Publishing Wizard opens. Click on its Add Folder button.

This opens a Browse for Folder dialog; in its "Choose folder…" field, navigate to and click on the Report Center directory, which is a subdirectory of your staging directory. Select the Include Subfolders check box (click on it so that a check

mark appears). Confirm that the list box near the bottom of the dialog displays the value *Report (*.rpt)*, which should be the default. Click on the OK button.

This closes the Browse for Folder dialog, and the Select Files panel once again becomes active, displaying a list of reports from the folders you've selected. Click on its Next button.

4. A Specify Location panel of the Publishing Wizard opens. In it, a large field displays the name of your GRC Controls Suite instance. (The Publishing Wizard uses the values you entered in step 2 to point to this instance.) Click on this value, and then on the New Folder icon (the leftmost of three above the large field; it looks like a folder). A New Folder entry appears, in editable mode, below the entry for your GRC Controls Suite instance; change its name to *Report Center*. Click on the Next button.
5. A Specify Folder Hierarchy panel of the Publishing Wizard opens. In it ensure that the radio button labeled *Duplicate the folder hierarchy* is selected. In the list box near the bottom of the panel, select the value *include none*. Click on the Next button.
6. A Confirm Location panel of the Publishing Wizard opens. It displays the file names below the folder in which they will be published. Confirm that the values are correct, and click on the Next button.
7. In the next several Publishing Wizard panels, you need do nothing. Click on the Next button in each until you reach the Specify Repository Refresh panel. That panel lists the reports you are publishing; in it, click on the Enable All button. Then click on the Next button.
8. In the next several Publishing Wizard panels, you need do nothing. Click on the Next button in each until you reach the Reading Files panel. When the Wizard finishes reading files, another panel lists the reports you are publishing. Click on the Next button. This commits the objects; finally, click on the Finish button.

Configuring Access to Reports

Each GRC Controls Suite user is assigned a "primary application role" and any number of "reporting roles." Each of the reporting roles specifies a selection of reports the user is able to open and review. After publishing a new set of reports, you must correlate each report to its reporting roles by completing the following steps on the server for the GRC Controls Suite platform:

1. If you have a Linux or UNIX server, source the GRC Controls Suite environment. Navigate to the home directory, which contains the ag.env file. Ensure the file has been edited correctly (see pages 44 and 53), and then run it. (If you have a Windows server, this step does not apply.)
2. Navigate to the bo_setup subdirectory of the staging directory on the server for the GRC Controls Suite platform.

3. Using a text editor, open the BusinessObjectsConfiguration.properties file. In it, ensure that the businessObjects.commit property is set to *true*. Save the file and close it.
4. Execute a file called loadAccessRights.sh (on a Linux or UNIX server) or loadAccessRights.bat (on a Windows server). The file is also located in the bo_setup subdirectory. If you have a Linux or UNIX server, first use the chmod command with the +x switch to set execute permissions on the file.

Restarting Services

To activate the newly installed GRC Controls Suite platform and Business Objects components, you must stop and then restart the services. Use the stop- and start-services procedures appropriate for your operating system. For Linux or UNIX, see page 52; for Windows, see page 61.

Chapter 8

Configuring the GRC Controls Suite Platform

Because you are performing an upgrade, your GRC Controls Suite 7.2.2.2 instance inherits most configuration settings from your 7.1 instance.

One exception is report schedules. If, in version 7.1, you set schedules on which reports would run, those schedules have been wiped out and must be reset.

A second potential exception: If you changed the Business Objects Administrator password, you must set a password property in the GRC Controls Suite platform (see page 84). If you retained the Administrator password set during the upgrade to GRC Controls Suite 7.2.2.2, the property is already set correctly.

Generally, however, the following procedures do *not* need to be performed as a part of your upgrade from version 7.1 to version 7.2.2.2. They are included here for reference, to allow for the possibility that you will want to change settings over time.

Configuring Licenses

To run GRC Controls Suite applications, you need to install license files. These include not only a licence for the GRC Controls Suite platform, but also licenses for Application Access Controls Governor, Transaction Controls Governor, and Preventive Controls Governor.

To implement these licenses:

1. Log on to the GRC Controls Suite platform. Use the following URL:

   `http://Host:Port/ags`

Replace *Host* with the host name of your GRC Controls Suite server. Replace *Port* with the value *8080* if you accepted default port values during installation. Otherwise, supply the value you set for TOMCAT_PORT on a Linux or UNIX server (page 45) or connection port on a Windows server (page 63).

2. Log on as a System Administrator, for which the user name and password are both *admin*.
3. Click on the Administration Tab and, in the Administration Home page, the Manage Licenses link.
4. In the Organization Name field, type *Oracle*.
5. In your Oracle media pack, locate the Governance, Risk, and Compliance Controls Suite Disk 1. Insert it in the drive of the computer from which you are working.
6. For each license you choose to implement, enter the path and name for the license file in the appropriate License Information field. License files are located in the licenses directory of the Governance, Risk, and Compliance Controls Suite disk. Their names are as follows:
   - platform.lic for the GRC Controls Suite platform
   - accessGovernor.lic for Application Access Controls Governor
   - dataGovernor.lic for Preventive Controls Governor
   - policyGovernor.lic for Transaction Controls Governor

   You can either type the path and name for each license file, or select the Browse button and navigate to the file.
7. Click on the Save button.

Setting Properties

From the Administration tab of the platform, you can also select a Manage Configuration Properties link to view or set properties for the application. Generally, you can accept default values, but you may choose to confirm that values are set correctly, or reset some values.

The first several properties are set automatically. You need not change them. These include the following:

- adminUser
- appserver.hostname
- businessObjects.enterpriseDirectoryName
- businessObjects.InfoViewPath
- businessObjects.reportSecurity
- businessObjects.server
- businessObjects.serverPort

- businessObjects.username
- callbackhost

The following properties can take the following values:

- businessObjects.password: This property defaults to the Business Objects Administrator password created during version 7.1 installation. If you retained that password (see page 51 or 68), do not change the setting of this property. If you changed the password, set this property to the new value.
- datasources.connection.pool.min.size and datasources.connection.pool.size: These two properties combine to designate the number of simultaneous connections that the platform opens to its database. The number of connections is always at least the number set by the "min.size" property. Additional connections open on demand, up to the number set by the "size" property (and so it must always be set to a larger number than the "min.size" value).

  In effect, these properties set the number of users who retrieve data from or save data at once to the database used by the platform, each using a connection only for the brief time required to complete one of those operations. The number of users employing connections at a given moment is much smaller than the number logged on to the platform. The default values — 3 for the "min.size" property and 10 for the "size" property —typically need not be changed.
- email.returnAddress: This sets the "from" address used in email messages sent by the GRC Controls Suite workflow system to users notifying them that approval tasks have been assigned to them.
- exception.link.show: This determines whether error messages contain a link that activates a display of detailed information about database errors. Valid values are *true* (the default) and *false*.
- Licensee: This must be set to the same value as the Organization Name field on the Manage Licenses panel. (See the preceding section, "Configuring Licenses.")
- pagination.show.all: The platform presents lists of items in grids, the footer row of which contains a Show Results list box that determines how many rows a grid displays at once. (The grid entries are divided into pages, each of which consists of the number of rows chosen for display.) In the Show Results list box, one can choose the value *All*. Because an attempt to display all records, no matter how many, in a single page can harm performance, the pagination.show.all parameter sets a limit on the number of records returned when a user selects the Show All Results option in a list. The default value is 1,000.
- suspect.query.timeout: This property sets the amount of time a control monitor may run before it times out. If control monitors fail to return suspects, try setting a larger value for suspect.query.timeout (its unit of measurement is seconds, and its default value is 3600).

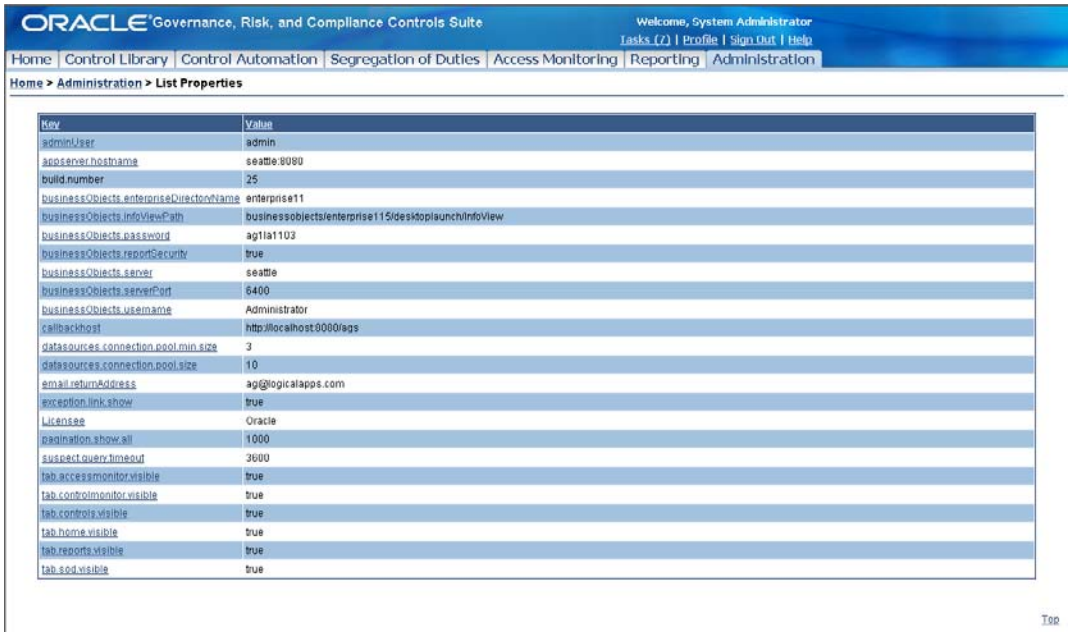
The platform contains tabs that activate panels in which one works with various features. The remaining properties determine which tabs are available for selection. Valid values are *true* (the default for each), which presents the tab to all users, and

false, which hides the tab from all users. Property names correspond to tab names as follows:

- tab.accessmonitor.visible: Access Monitoring
- tab.controlmonitor.visible: Control Automation
- tab.controls.visible: Control Library
- tab.home.visible: Home
- tab.reports.visible: Reporting
- tab.sod.visible: Segregation of Duties

To set properties:

1. In the GRC Controls Suite platform, click on the Administration tab.
2. In the Administration home, click on the Manage Configuration Properties link. A List Properties panel opens:



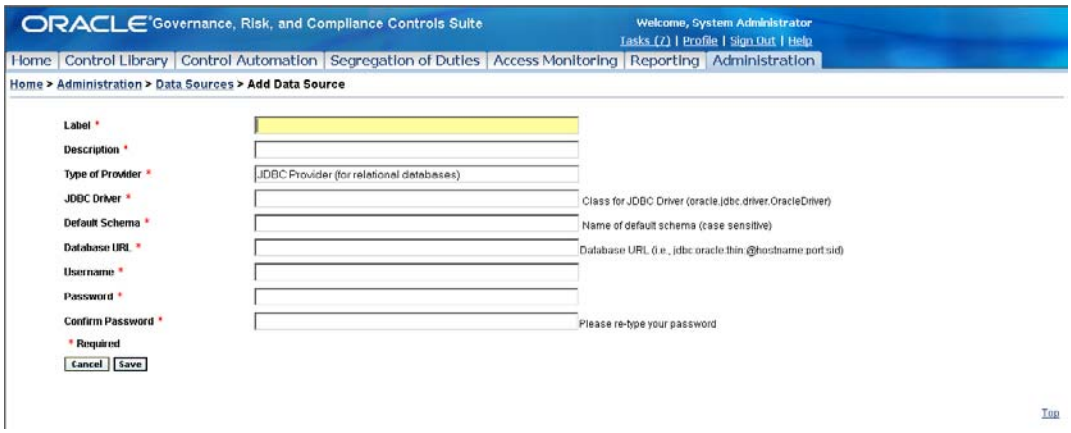
3. Locate the property you want to set, and click on its name in the Key column. An Edit Property panel opens.

4. Enter a new value in the Property Value field, and click on the Save button. The focus returns to the List Properties panel, with the new setting displayed.

Configuring Data Sources

During server upgrade, you supplied information required for the GRC Controls Suite platform to connect to an APPS database for an instance of Oracle E-Business Suite in which the Embedded Agents run. You need now to use a Data Sources feature of the platform to supply the information again. You can also use this feature to set up additional Oracle EBS/ Embedded Agents data sources. The information you enter in the Data Sources panels is used by the Segregation of Duties and Access Monitoring features.

1. In the platform, click on the Administration tab.
2. In the Administration home, click on the Manage Data Sources link.
3. A Data Sources panel opens. To create a new data source, click on the Add Data Source button; an Add Data Source panel (shown below) opens. To edit an existing data source, click on its name; a View Data Source panel opens, in which you would click on an Edit Data Source button. An Edit Data Source panel opens; it's identical to the Add Data Source panel, except that it displays current values for the selected data source.



4. Supply these values:
   - Label and Description. Provide entries that name and describe the data source. The label will appear in a list box from which users can select data sources when they use the Segregation of Duties and Access Monitoring features.
   - Type of Provider. Accept the default:

     `JDBC Provider (for relational databases)`
   - JDBC Driver. Always supply the following value:

     `oracle.jdbc.driver.OracleDriver`
   - Default Schema. Provide the schema name of the APPS database for the instance of Oracle EBS in which the Embedded Agents run. Because this would be an Oracle database, this value should be the same as the value you will supply in the Username field (see below), and is conventionally *APPS*.
   - Database URL. Provide the JDBC connect string that GRC Controls Suite will use to connect to the APPS database for an instance of Oracle EBS in

which the Embedded Agents run. This entry takes the following form, with actual values replacing the *Hostname*, *Port*, and *SID* placeholders:

`jdbc:oracle:thin:@`*`Hostname`*`:`*`Port`*`:`*`SID`*

- Username. Supply the user name for the APPS database cited in the Database URL field. Conventionally, this value is *APPS*.
- Password and Confirm Password. Supply the password configured for the database user identified by the Username entry.

5 Click on the Save button. The focus shifts to the View Data Source panel, which displays the values you've saved. In that panel, click on the Test Data Source button. A message either reports that the test is successful or reports errors; in the latter case, click on the Edit Data Source button to correct the errors.