

The logo consists of a horizontal bar. On the left, there is a dark blue square containing the word "SUNGARD" in white. To its right is a larger light blue rectangle containing the text "RELIUS ADMINISTRATION" and "Solutions for retirement services" in white. On the far right of the bar is a vertical stack of thin, multi-colored lines in shades of blue, green, and yellow.

SUNGARD

RELIUS ADMINISTRATION
Solutions for retirement services

Relius Administration
Oracle 11.2.0.1 single-user (stand-alone)
installation and upgrade instructions

January 31, 2013

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Attention Technology Consultants!

If you have never installed Relius Administration or are unfamiliar with the end-user specific Relius implementation and environment, please contact Relius Technology at (800) 326-7235, Option 3, before proceeding. Relius Technology can arrange a brief conference call to provide important details regarding each user's unique operational environment and details regarding the Relius installation and upgrade process. This will help ensure your deployment efforts are successful and efficient. We can also schedule priority telephone support during or after business hours to maximize the time you spend on any Relius project. It is important to note that failure to fully meet the prescribed hardware requirements, deployment methods, or closely follow the installation documents and upgrade steps could result in installation problems, unnecessary downtime, and possible end-user data loss.

1 Overview

Please read the entire document before beginning. **This document covers the installation of Personal Oracle 11g Database for Relius Administration 18.0 and higher.** If you are unclear about this installation, please contact Support at 1-800-326-7235, option 3. Instructions for other types of installations are also located on our web site.

This installation will take a minimum of 45 minutes to over an hour. Although the process is lengthy, it is necessary to allow it to run to completion. Failure to finish the entire installation will result in corruption of your data. Please plan accordingly.

- 1.1 Priority installation support (as well as weekend/after-hours/holiday weekend support) can be obtained through the SunGard Relius web site. Log on to the support web site (<https://www.relius.net/support/Login.aspx>), click the “Technology” link on the left side of the page, and then click “Request priority or after-hours (evening or weekend) telephone support.” Direct link is here: <http://www.relius.net/Support/RADRequestSupport.aspx?Support=Weekend>.
- 1.2 This installation is generic in nature, meaning that it will install the Personal Edition of Oracle Database to Windows XP, Windows Vista, Windows 7, and Windows 8. Systems that already have an earlier version of Oracle Database (i.e., 10.2.0.1 or 10.2.0.4) will be updated to the most recent versions (11.2.0.1). These instructions are designed for all types of standalone installations. Any information that is specific to one type of installation or another will be prefaced with the appropriate key (i.e., “New,” “Upgrade,” etc.).
- 1.3 “Personal” and “Stand-alone” databases are often used interchangeably. For the sake of consistency, these instructions will use “Stand-alone” wherever possible.
- 1.4 64-Bit Platforms

Relius Administration 16.0 (and higher) is supported on x64 systems for workstations, Terminal Servers, Web systems, and agent machines. Voice Response is not supported. Oracle Database Servers at version 10.2.0.4 are currently supported on x64 systems on a case-by-case basis. Oracle Database Servers at version 11.2.0.1 are now available for 64-bit Windows Server 2008 and 2008R2 systems.

1.5 This installation will only work on the supported operating systems listed below. All other operating systems are not supported.

- Windows XP (SP3 or higher)
- Windows Vista (SP2 or higher)
- Windows 7
- Windows 8

1.6 Exporting Existing Oracle Databases

During the installation, your database will be exported automatically to the `\Oracle\Backup` folder on your local hard drive and then copied to `\QtTemp\Backup` for safekeeping while Oracle is upgraded. However, you should consider running your own export before beginning.

1.7 Running Programs

Because Oracle program files will be updated, it is important that all programs that may access your Oracle database be shut down. This includes services, such as SuiteManager, Relius Administration Agent programs, and any other item that access any part of Oracle. Failure to close all programs before beginning may result in a failed installation.

1.8 Windows Update

SunGard Relius encourages the use of Windows Update. However, Windows Update can interfere with the installation process, such as requiring a reboot in the middle of an installation that has not yet completed. Users should run all Windows Updates marked as “Important” before beginning this process.

1.9 Virus Scanning

SunGard Relius does not support, endorse, or recommend any particular edition of software used to scan for viruses. However, SunGard Relius does recommend that users conscientiously install, update, and use their virus scanning software to keep their systems running optimally. Unfortunately, workstations running real-time virus scanning will be excruciatingly slow while installing Oracle. **Users should temporarily disable virus scanning during the installation process.** When the installation is finished, users can re-start virus scanning.

Some editions of Norton Internet Security have generated “False Positive” results when installing Relius Administration products. If you are running Norton Internet Security, it is imperative that you temporarily disable it while running Relius installations.

1.10 Scheduled Weekend, Holiday, or Priority Support

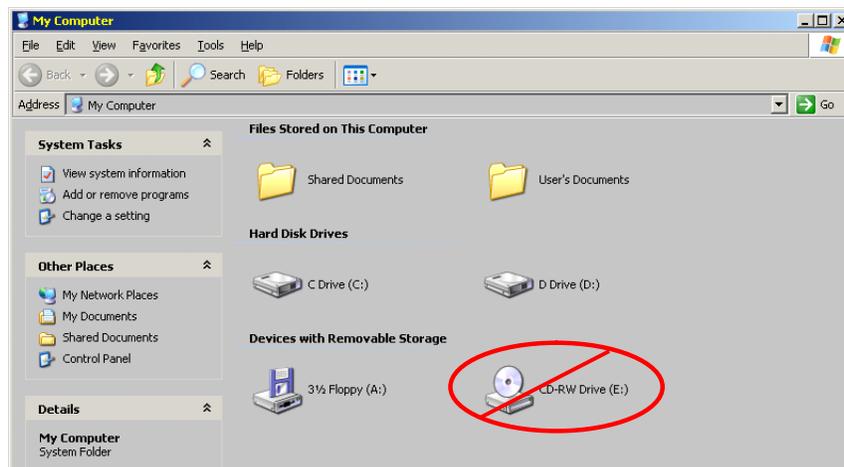
Please call Relius Administration Technology Support (1-800-326-7235, Option 3) at least one week before beginning your migration if you wish to schedule priority support.

1.11 DVD Drives

Because of the limitations of space on data CDs, the Relius Administration Oracle Database Installation is now delivered on a data DVD. If your optical drive only has the CD logos on it, you may not have a DVD drive available on your system.



Another way to verify is by opening Windows Explorer and checking the type of optical drive you have (eject whatever disk may be loaded). If “DVD” is not specifically in the name of the drive, you may not have a DVD drive. The picture below indicates a CD drive, not a DVD drive.



1.12 Available Drive Space

Your workstation must have at least 6 GB of space available on a local disk drive. The amount of space taken up in the existing Oracle directory is taken into account during the installation. For example, existing systems to be upgraded that have 4.5 GB free, and the Oracle directory currently occupies 2 GB, allows for 6.5 GB of total available space.

1.13 Windows Firewall

Microsoft Windows has advanced firewall systems embedded with the operating system. Because of this, some applications are denied access to the Internet. Oracle 10g includes some files (such as JavaW.exe) that may cause the Windows Security Alert to launch. If this happens, click *Allow* or *Unblock*, and the installation will proceed. To prevent this, temporarily disable the firewall service during installation.



- 1.14 **Special Note for Windows 8 Systems:** Microsoft .Net 3.5 SP1 cannot be installed with the standalone product included in the Component Installation. Windows 8 will use Control Panel, but will require internet access to download and install the required portions of .Net 3.5 SP1. This is a restriction placed by Microsoft, and there is no known workaround. Plan accordingly.

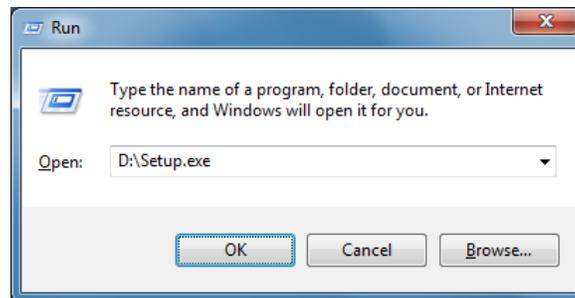
If you are unable to install .Net 3.5 to Windows 8 using the internet connection, place the Windows 8 DVD into your drive and enter the following command **as administrator** (assuming F: is your DVD drive):

```
Dism.exe /online /enable-feature /featurename:NetFX3 /Source:F:\Sources\sxs
```

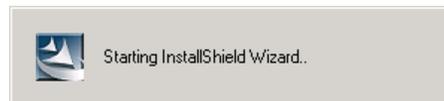
2 New Installation

Remember that this installation can take a minimum of 45 minutes to one full hour.

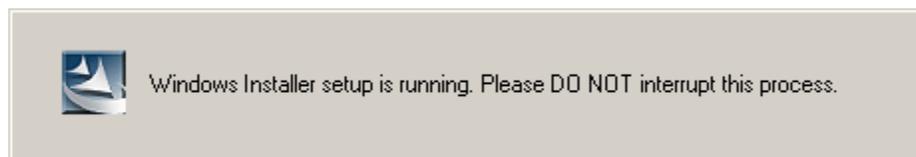
- 2.1 Temporarily disable virus scanning and Windows Firewall services.
- 2.1 Re-start the workstation to “flush” any running programs from memory.
- 2.2 Log on as the System Administrator or a user with full, local System Administrator privileges. Ensure the system is connected to your network.
- 2.3 Ensure that all products that access your database are shut off, including SuiteManager, Relius Administration, and Agent Manager, as well as Windows services such as “hot” backup programs and SuiteManager services.
- 2.4 Insert the **Relius Administration Oracle 11g Database Install** DVD into the DVD drive.
- 2.5 If the installation does not automatically start, click *Start / Run* and type in **<DVD Drive>:\Setup.exe**, substituting <DVD Drive> with the drive letter of your DVD-ROM or DVD-R drive. Click *OK*.



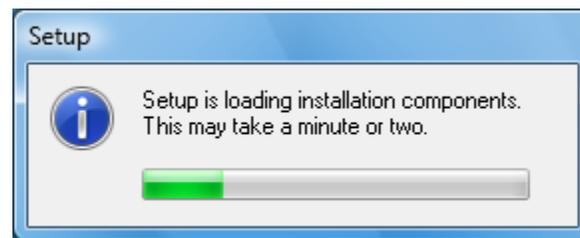
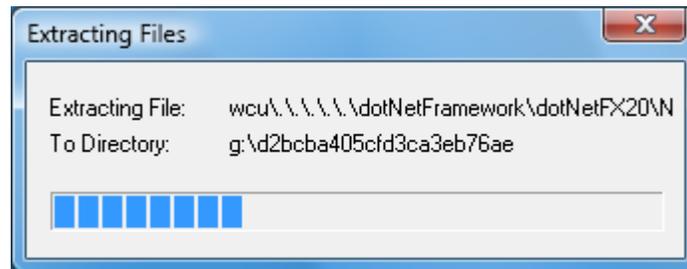
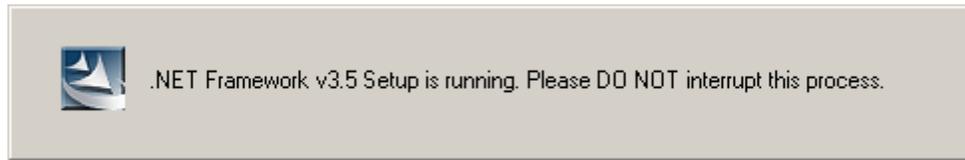
- 2.6 The installation program will extract the necessary files.



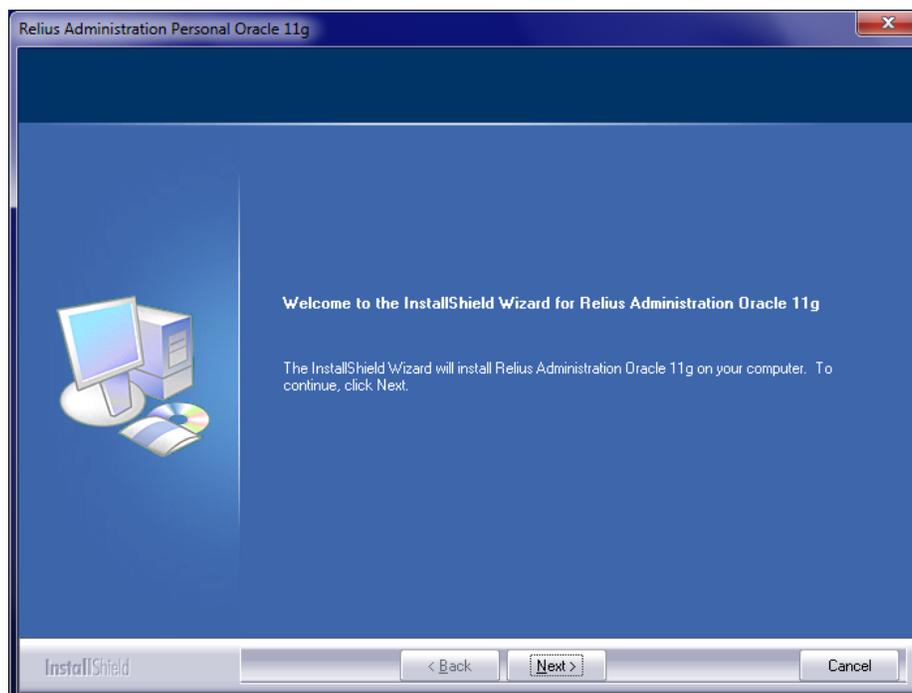
- 2.7 Prior to checking for many installation prerequisites, Windows Installer and Microsoft .NET 3.5 SP1 must be installed and configured. If your system does not have Windows Installer 4.5 already configured, it will begin as the first component.



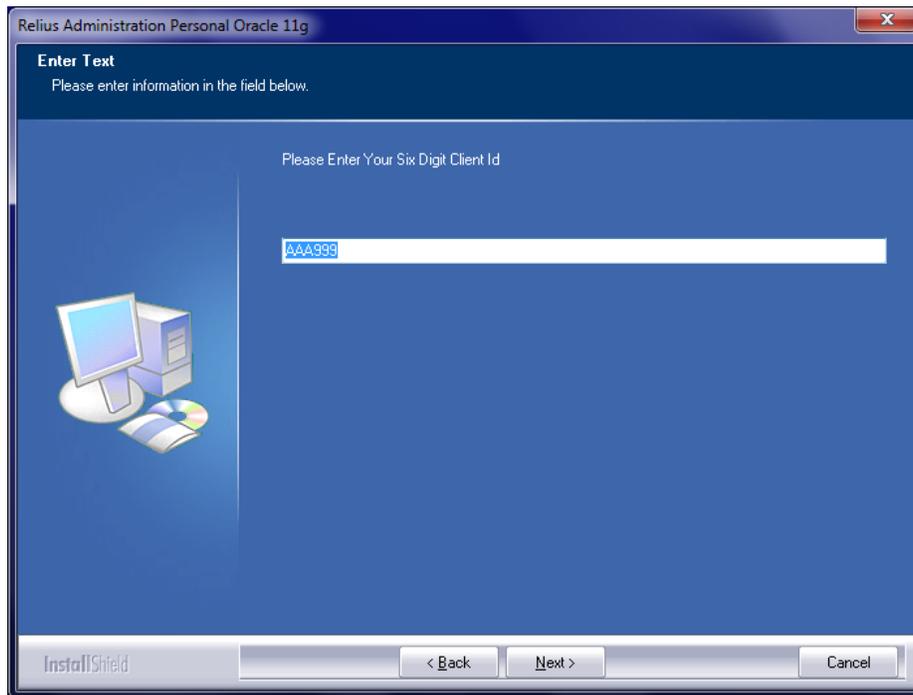
- 2.8 Next Microsoft .NET 3.5 SP1 will install if not already present. Windows 8 systems will need .Net installed through Control Panel. See Step 1.14.



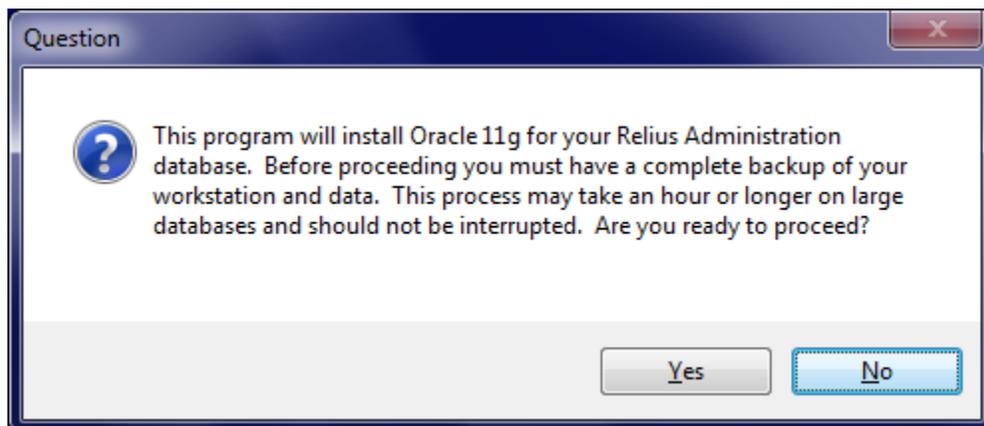
- 2.9 At the Welcome Screen, click *Next*.



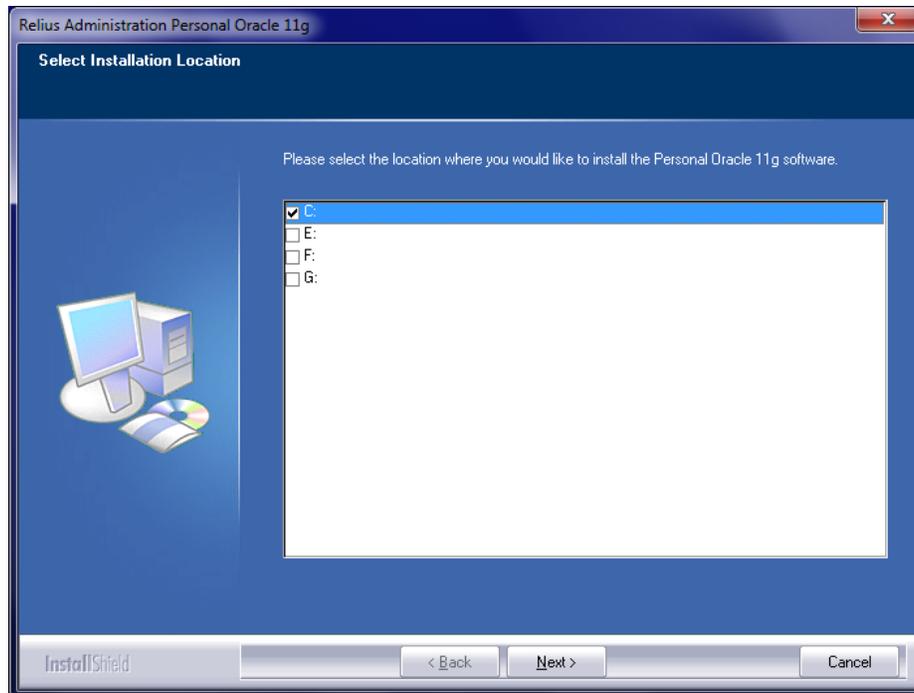
- 2.10 You will be prompted for your six-character ClientID. Enter the correct ClientID and click the *Next* button.



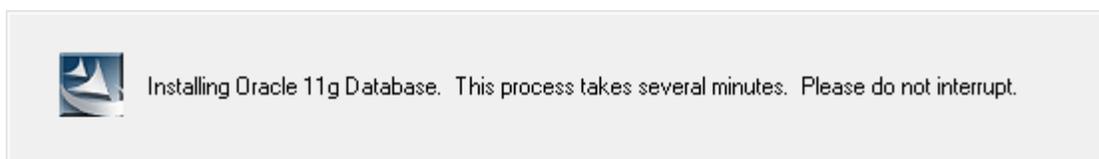
- 2.11 You will be prompted to continue the installation, as it takes a considerable amount of time to complete, and it must be uninterrupted. Click *Yes* to continue.



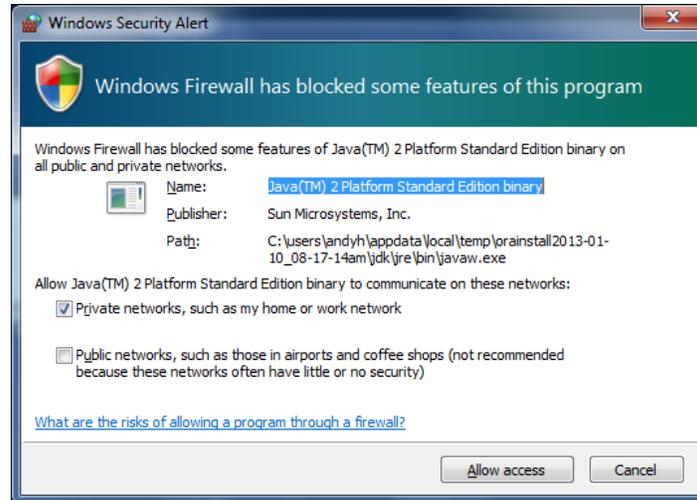
- 2.12 You will be prompted to select where the Oracle 11g **Software** will be installed. This screen will only appear on systems with more than one local drive with enough available space. Single-drive systems (or systems with only one drive with enough available space) will not see this screen.



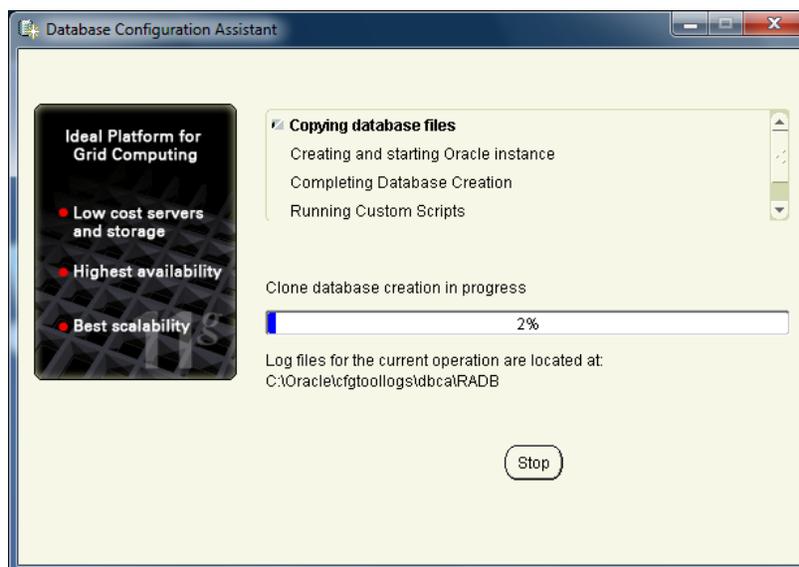
- 2.13 The Oracle Installer will launch automatically. You may be prompted with a Security Warning. Click *Run*. **Due to the extensive nature of Oracle, this process may take several minutes, and there will be no window to indicate installation status.** This is expected. Do not interrupt.



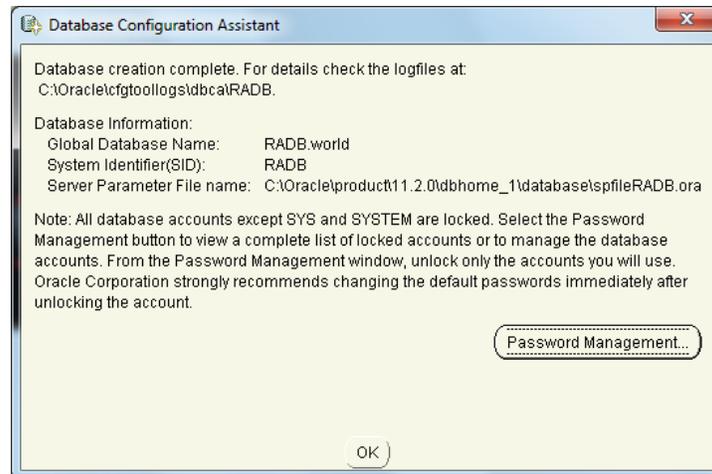
- 2.14 You may receive a Windows Security Alert. It will usually hide in the background. Click its associated item on the task bar or use the <Alt> + <Tab> keyboard combination to switch to it. When it is in the foreground, click “Allow” or “Unblock.” The warning will then close.



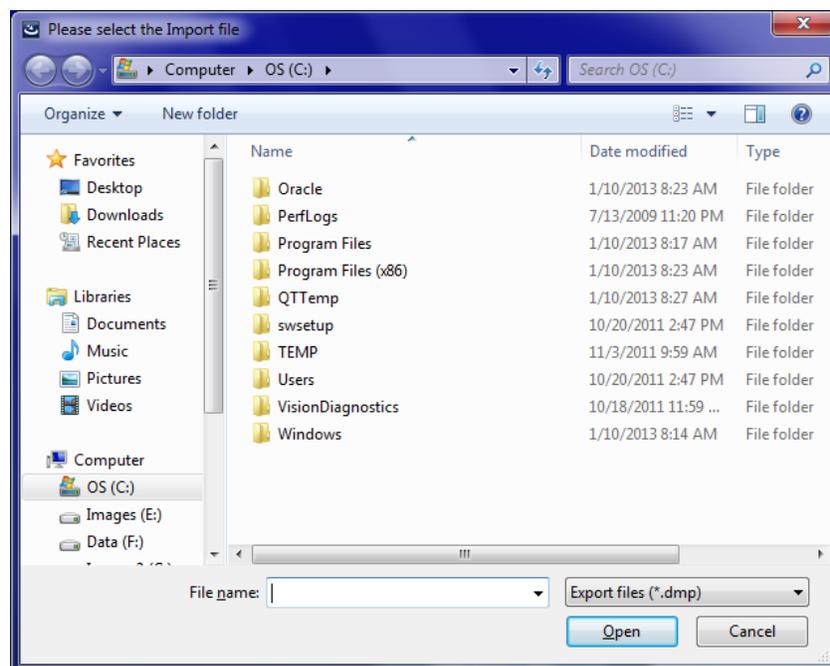
- 2.15 Your Relius Administration database (RADB) will begin building. Depending on your system’s performance, this may take several minutes. Do not interrupt the process.



- 2.16 When the database has finished building, the “Database Configuration Assistant” window will appear. By default, your database passwords have been set for you. Click *OK*. Do not click the “*Password Management*” button. If you wish to change the passwords on your database system, this task can be performed after the installation has completed.



- 2.17 You will be prompted for the location of your database export. Upgraded systems will automatically point to \QtTemp\Backup. Browse to the file and click *OK*. (Note: if there were multiple exports in your backup folder, all of the earlier exports will also be listed in \QtTemp\Backup. Choose your most recent export by looking at the date-time stamp embedded in the file name. For example: An export on October 15 at 12:23 p.m. may be named like `radb-101520101223.dmp`.) Clicking *Cancel* will not harm the system, but you will have to import your database export at a later time. See Section 4 (Database Utility) for more information.



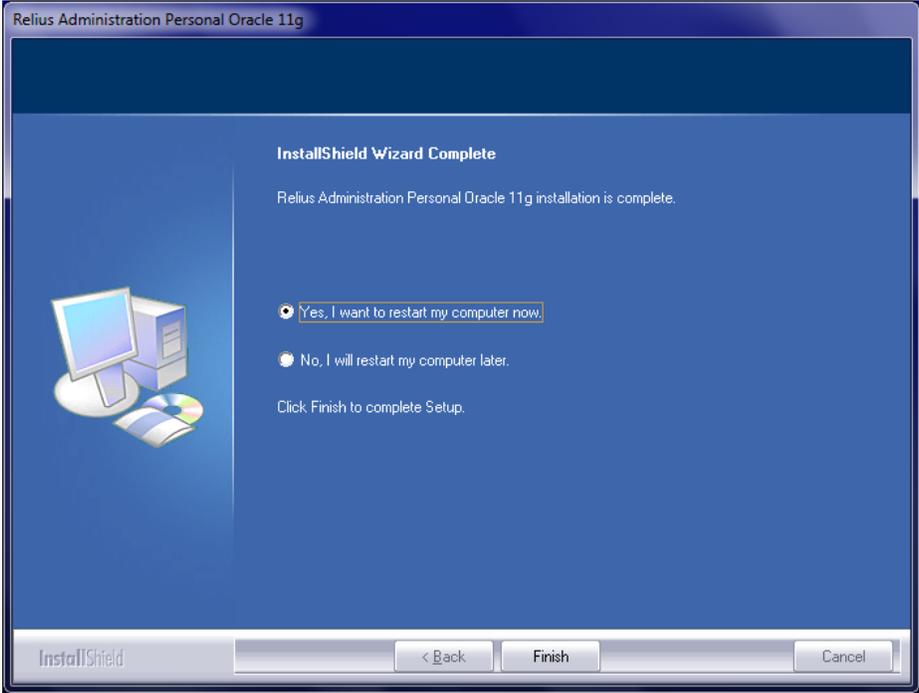


```
C:\Oracle\product\11.2.0\dbhome_1\bin\imp.exe

Import: Release 11.2.0.1.0 - Production on Thu Jan 10 08:28:07 2013
Copyright (c) 1982, 2009, Oracle and/or its affiliates. All rights reserved.

Connected to: Personal Oracle Database 11g Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Export file created by EXPORT:U11.02.00 via conventional path
Warning: the objects were exported by SYSADM, not by you
import done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set
. importing SYSADM's objects into SYSADM_
```

2.18 The final screen is shown below. Be sure *“Yes, I want to restart my computer now...”* is selected before you click *Finish*.



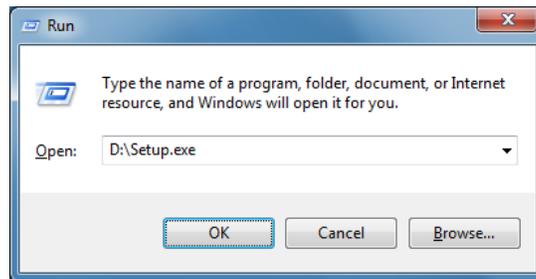
3 Upgrade Installations

Remember that this installation will take a minimum of 45 minutes to over an hour. Please plan accordingly.

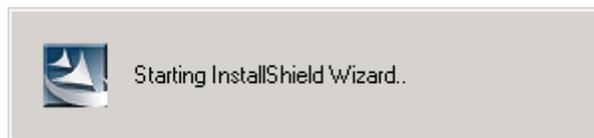
- 3.1 Re-start the workstation to “flush” any running programs from memory.
- 3.2 Temporarily disable virus scanning and Windows Firewall services.
- 3.3 Log on as the System Administrator or a user with full, local System Administrator privileges. **Ensure the system is connected to your network and that your database is on-line.**
- 3.4 Ensure that all products that access your database are shut off, including SuiteManager, Relius Administration, and Agent Manager, as well as Windows services such as “hot” backup programs and SuiteManager services.

3.5 It is vital to ensure that any database system slated for upgrade be properly backed up before proceeding. SunGard Relius cannot be held responsible for lost or corrupted data.

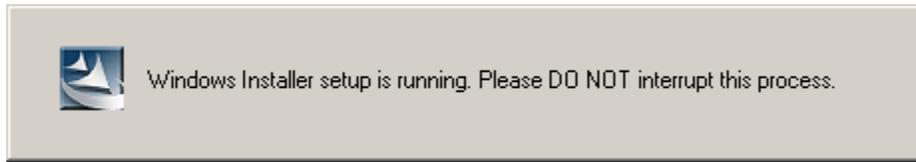
- 3.6 Insert the **Relius Administration Oracle 11g Database Install** DVD into the DVD drive. If the installation does not automatically start, click *Start / Run* and type in **<DVD Drive>:\Setup.exe**, substituting <DVD Drive> with the drive letter of your DVD-ROM or DVD-R drive. Click *OK*.



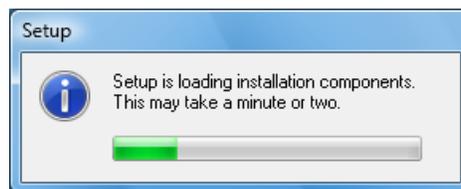
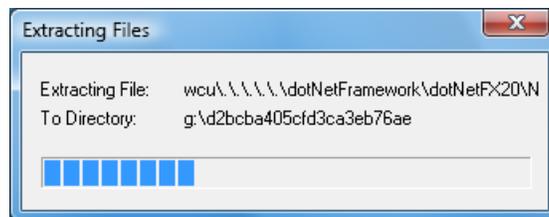
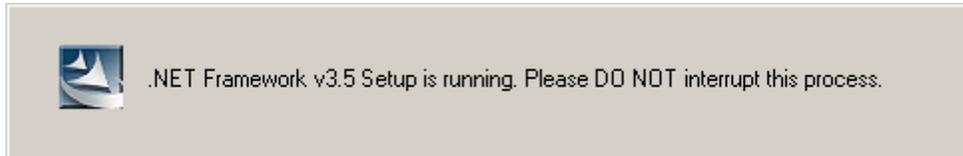
- 3.7 The installation program will extract the files necessary.



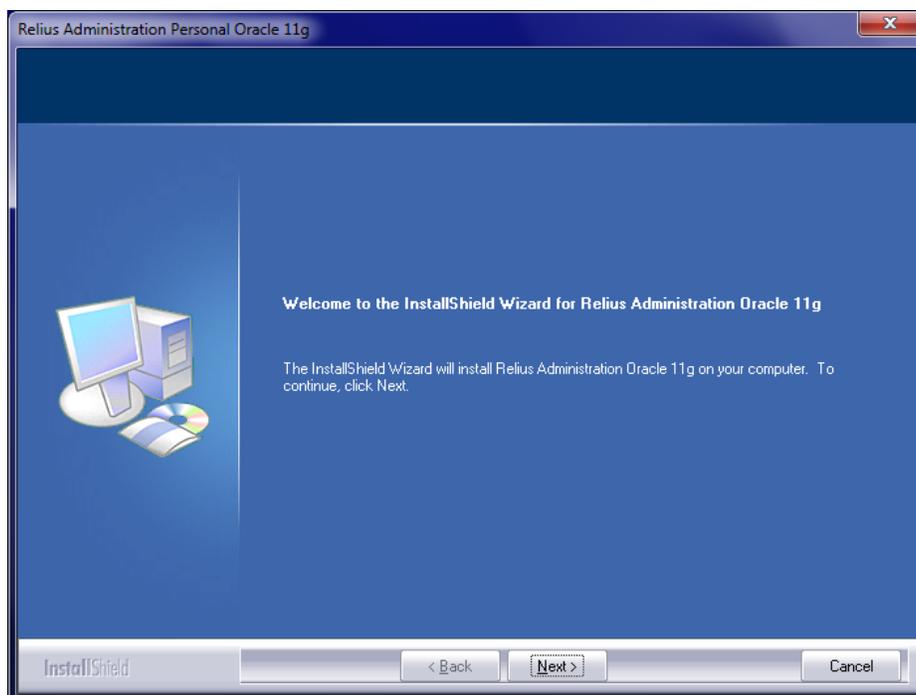
- 3.8 Prior to checking for many installation prerequisites, Windows Installer and Microsoft .NET 3.5 SP1 must be installed and configured. If your system does not have Windows Installer 4.5 already configured, it will begin as the first component.



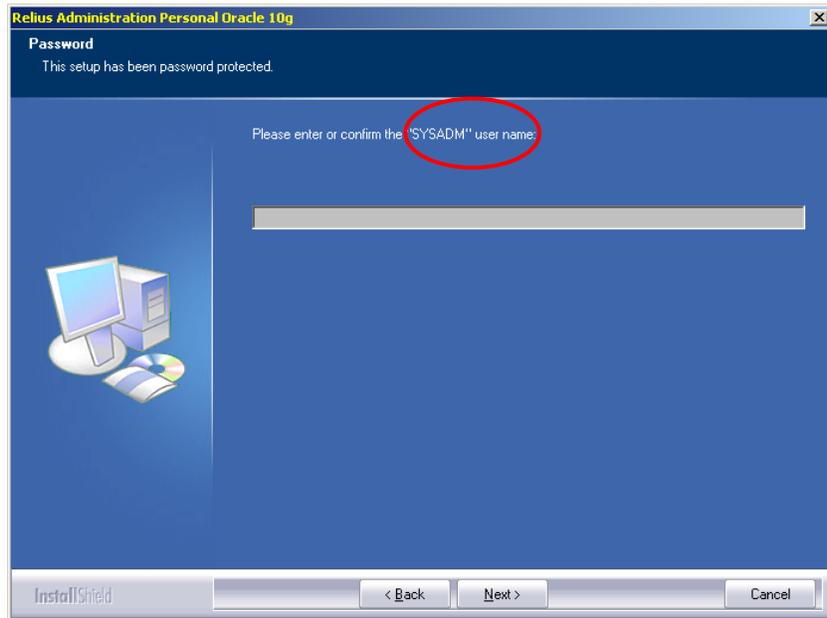
- 3.9 Next Microsoft .NET 3.5 SP1 will install if not already present.



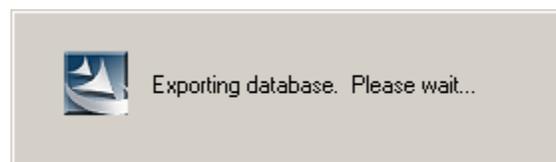
- 3.10 At the Welcome Screen, click *Next*.



- 3.11 If your database connection information has changed, you will be prompted for the user names and passwords for the Relius Admin account (usually SYSADM) and the system account (usually SYS). Pay careful attention to the on-screen instructions, as these queries can appear repetitive. If you are certain that your user names and passwords have been entered correctly, your database may be offline. To start the database, click *Start / Programs / Relius / Admin / Start Database*.



- 3.12 The installation will export the database automatically to the `\Oracle\Backup` folder and then move it to `\QtTemp\Backup` for safekeeping when Oracle is migrated.

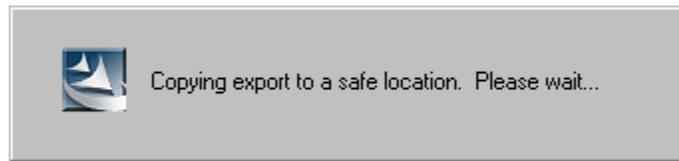


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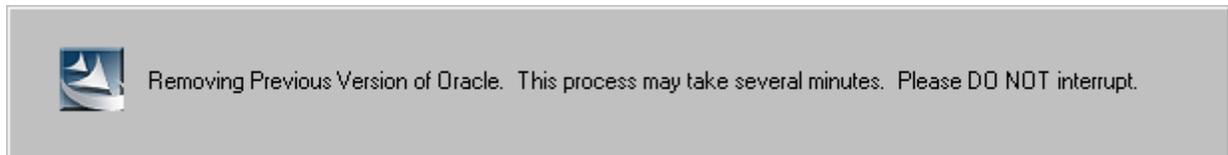
C:\Oracle\product\10.2.0\db_1\bin\exp.exe
- . exporting table          ELEM          1140 rows exported
- . exporting table          ELIGHISTI    21681 rows exported
- . exporting table          ELIGHISTMULT 55 rows exported
- . exporting table          EMAILGRPDEI 0 rows exported
- . exporting table          EMAILGRPMSTR 0 rows exported
- . exporting table          EMPLOYER    52 rows exported
- . exporting table          ERADDRESS   32 rows exported
- . exporting table          ERAUDIT     0 rows exported
- . exporting table          ERDER       50 rows exported
- . exporting table          ERINTERNET  9 rows exported
- . exporting table          ERPAVDATES 6068 rows exported
- . exporting table          ERPAVDIU    98 rows exported
- . exporting table          ERPAYNOTIFICATION 0 rows exported
- . exporting table          ERPAVSCHEDULE 76 rows exported
- . exporting table          ERPHONE     33 rows exported
- . exporting table          ERSTATEEIN  0 rows exported
- . exporting table          EUENDORFILE 0 rows exported
- . exporting table          EUENDORFILEMAP 15 rows exported
- . exporting table          EXCLPLANDIU 0 rows exported
- . exporting table          EXPECTEDPAY 0 rows exported
- . exporting table          FIELDS     1055 rows exported
- . exporting table          FUND       207 rows exported
- . exporting table          FUNDFAM    65 rows exported
- . exporting table          FUNDHIST   117425 rows exported
- . exporting table          FUNDHISTLOC

```

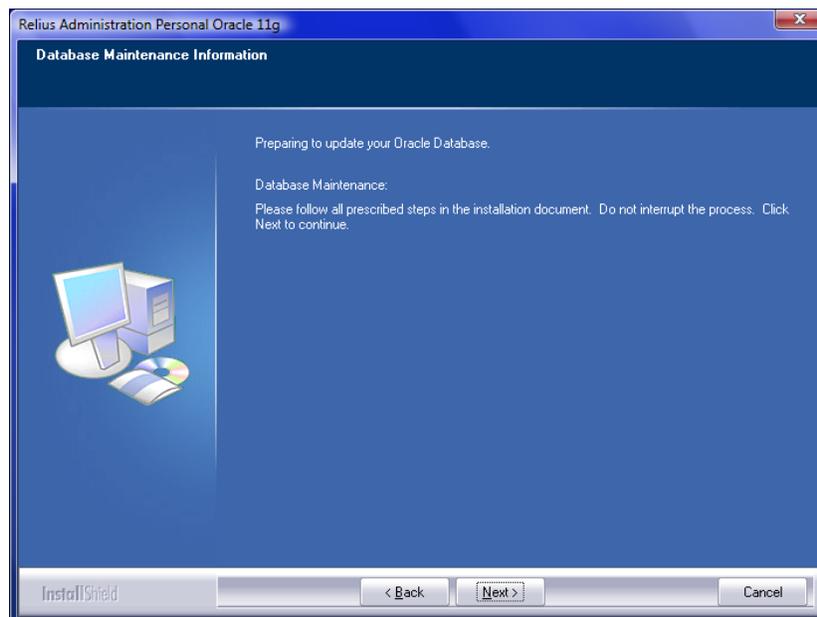
3.13 Your export will be copied to \QtTemp\Backup for safekeeping while Oracle is migrated.



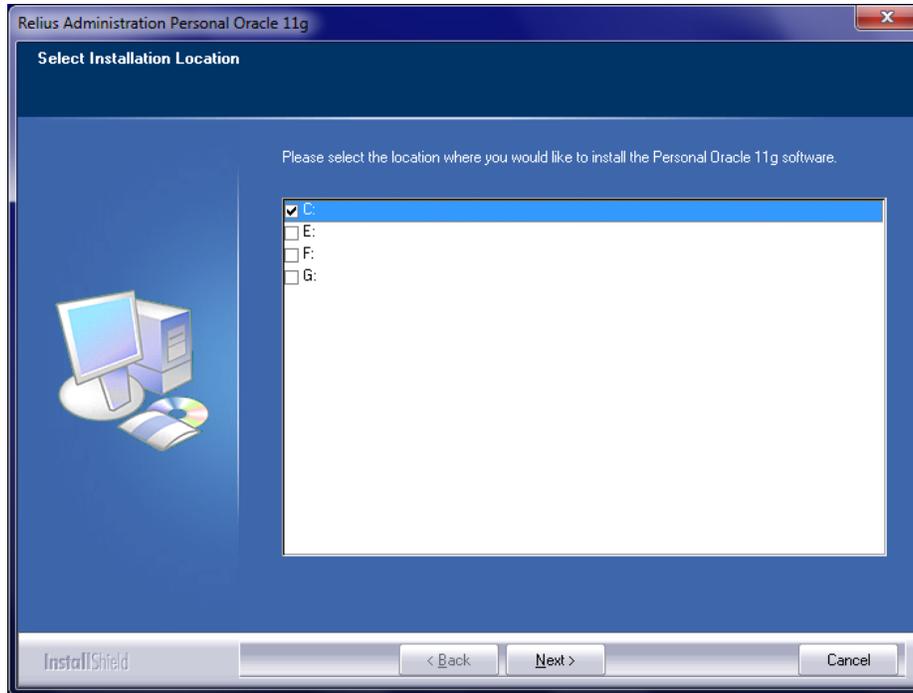
3.14 The previous edition of Oracle will be removed.



3.15 Before the Oracle installation takes place, you will be reminded about the length of time it will take to perform this upgrade. Please use patience when running this installation, as it will take at least 45 minutes to over an hour. Remember that all programs that access the Oracle databases and software (such as Relius Administration, SuiteManager, Agents and SQLPlus.exe) must be closed at this time. Failure to do so will result in errors during the installation. Click *Next* when ready.



- 3.16 You will be prompted to select where the Oracle 11g **Software** will be installed. This screen will only appear on systems with more than one local drive with enough available space. Single-drive systems (or systems with only one drive with enough available space) will not see this screen.

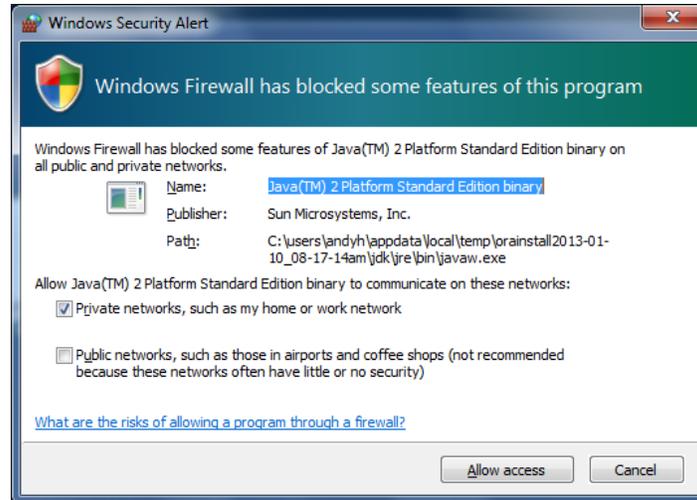


- 3.17 The Oracle Installer will launch automatically. You may be prompted with a Security Warning. Click *Run*. **Due to the extensive nature of Oracle, this process may take several minutes, and there will be no window to indicate installation status.** This is expected. Do not interrupt.

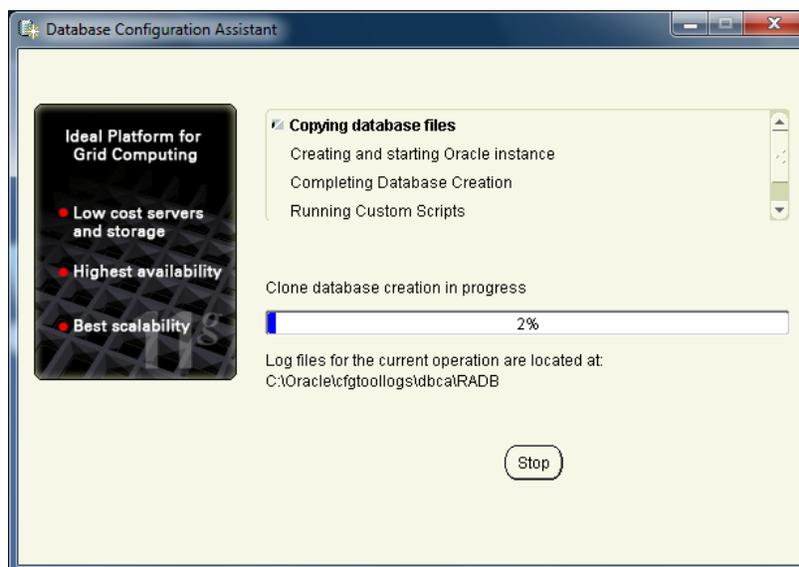


Installing Oracle 11g Database. This process takes several minutes. Please do not interrupt.

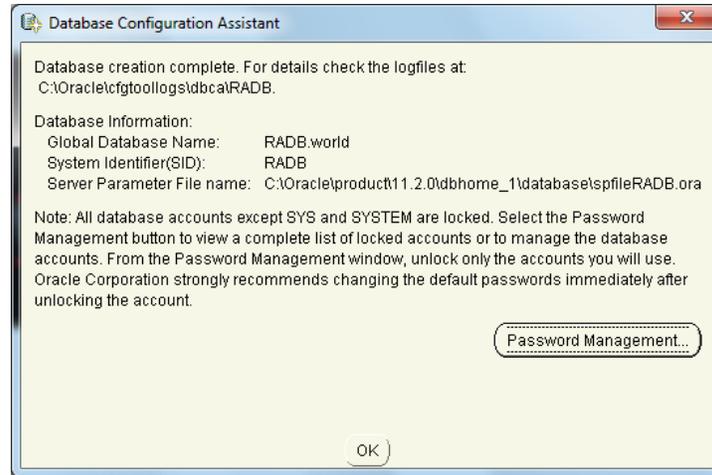
- 3.18 You may receive a Windows Security Alert. It will usually hide in the background. Click its associated item on the task bar or use the <Alt> + <Tab> keyboard combination to switch to it. When it is in the foreground, click “Allow” or “Unblock.” The warning will then close.



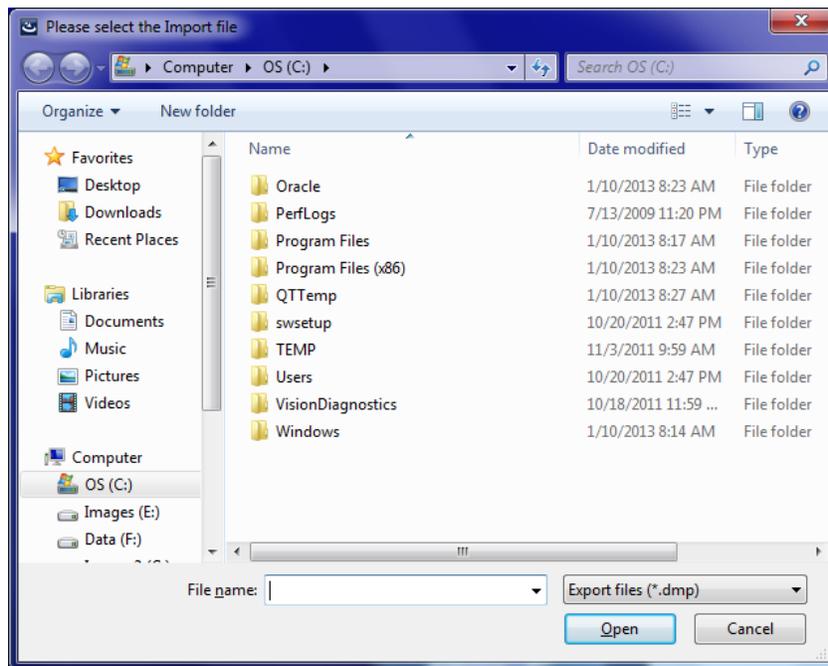
- 3.19 Your Relius Administration database (RADB) will begin building. Depending on your system’s performance, this may take several minutes. Do not interrupt the process.



- 3.20 When the database has finished building, the “Database Configuration Assistant” window will appear. By default, your database passwords have been set for you. Click *OK*. Do not click the “*Password Management*” button. If you wish to change the passwords on your database system, this task can be performed after the installation has completed.



- 3.21 You will be prompted for the location of your database export. Upgraded systems will automatically point to \QtTemp\Backup. Browse to the newest file (it will have a date and time stamp in the name, such as expradb-12172012105539.dmp – exported December 17, 2012, at 10:55 a.m.) and click *OK*. Clicking *Cancel* will not harm the system, but you will have to import your database export at a later time. See Section 4 (Database Utility) for more information.



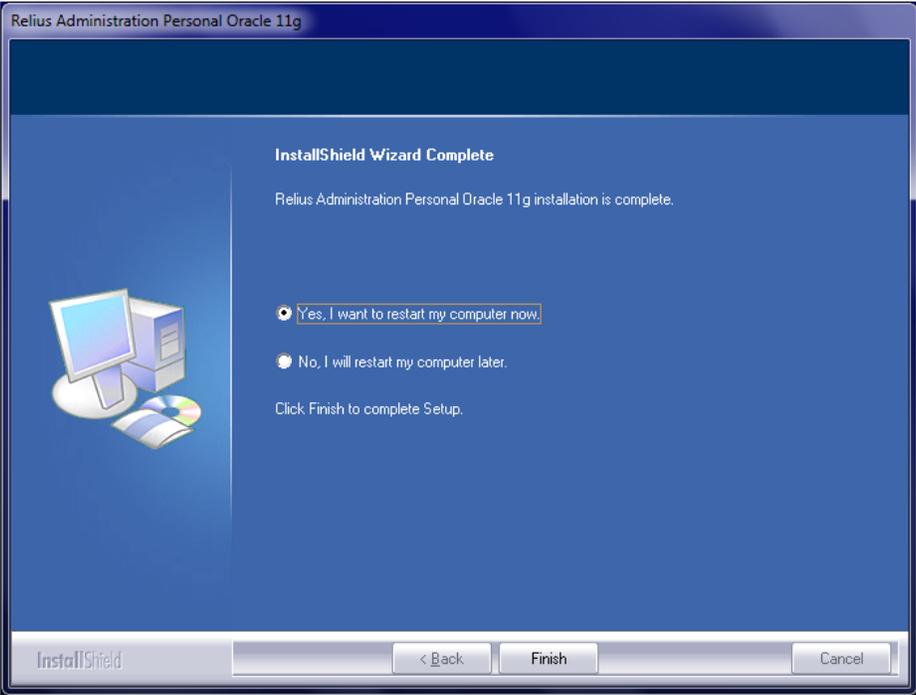


```
C:\Oracle\product\11.2.0\dbhome_1\bin\imp.exe

Import: Release 11.2.0.1.0 - Production on Thu Jan 10 08:28:07 2013
Copyright (c) 1982, 2009, Oracle and/or its affiliates. All rights reserved.

Connected to: Personal Oracle Database 11g Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Export file created by EXPORT:U11.02.00 via conventional path
Warning: the objects were exported by SYSADM, not by you
import done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set
. importing SYSADM's objects into SYSADM_
```

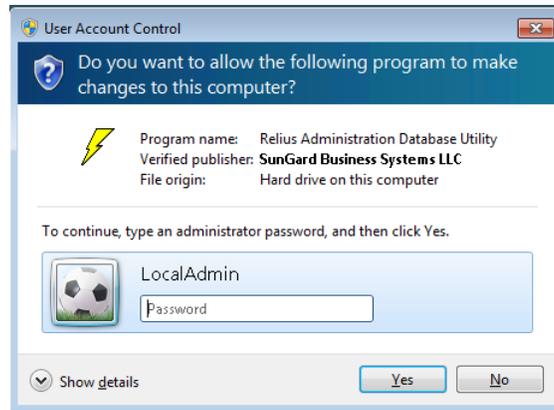
3.22 The final screen is shown below. Be sure *“Yes, I want to restart my computer now...”* is selected before you click *Finish*.



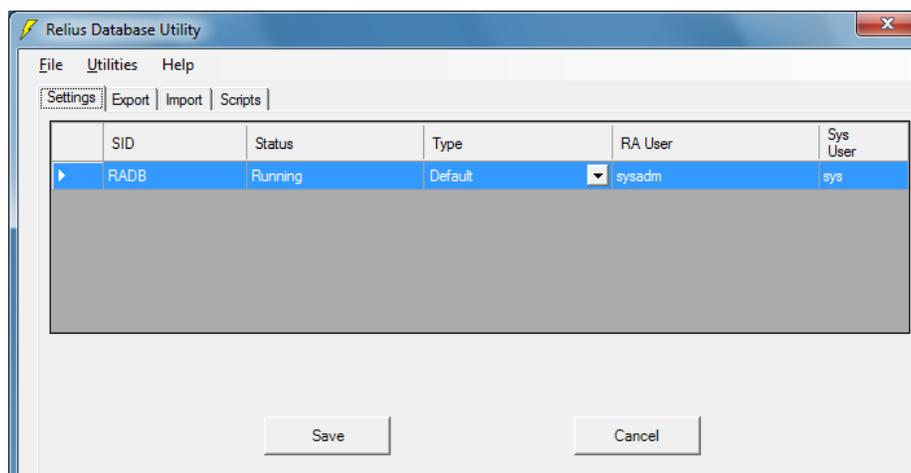
4 DBUtil

A new Database Utility has been provided for you to accommodate simple import and export requirements. The utility also runs specific Relius provided scripts against your database and tests connectivity to ensure a database is on-line.

- 4.1 Open the program by clicking *Start / Programs / Relius / Admin / Database Utilities*. If you are logged on as a user without local administrative privileges, you will be prompted for elevated privileges.

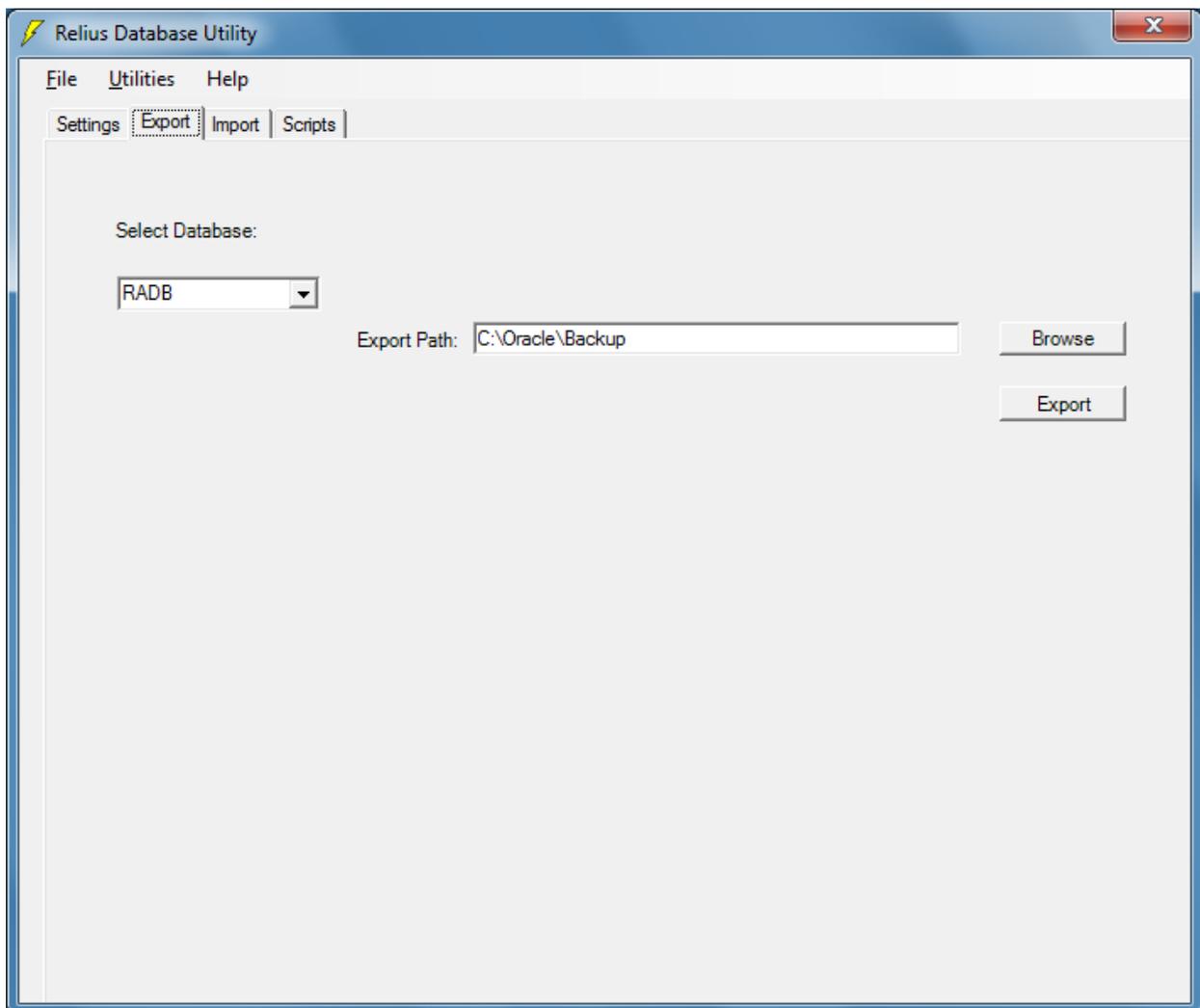


- 4.2 As changes are made, you can save them by clicking *File / Save* or using the **<Ctrl>+<S>** keyboard shortcut.
- 4.3 A grid will display in the **Settings** tab. In this grid is your RADB database. Ideally, the SID would be RADB, the Status should be "Up," and the Type is set to "Default." You can right-click any item on the grid to add or delete a database entry, test the connection, or refresh the grid. (Please note that adding or deleting an entry in Database Utilities does not create or remove the actual Oracle database.)



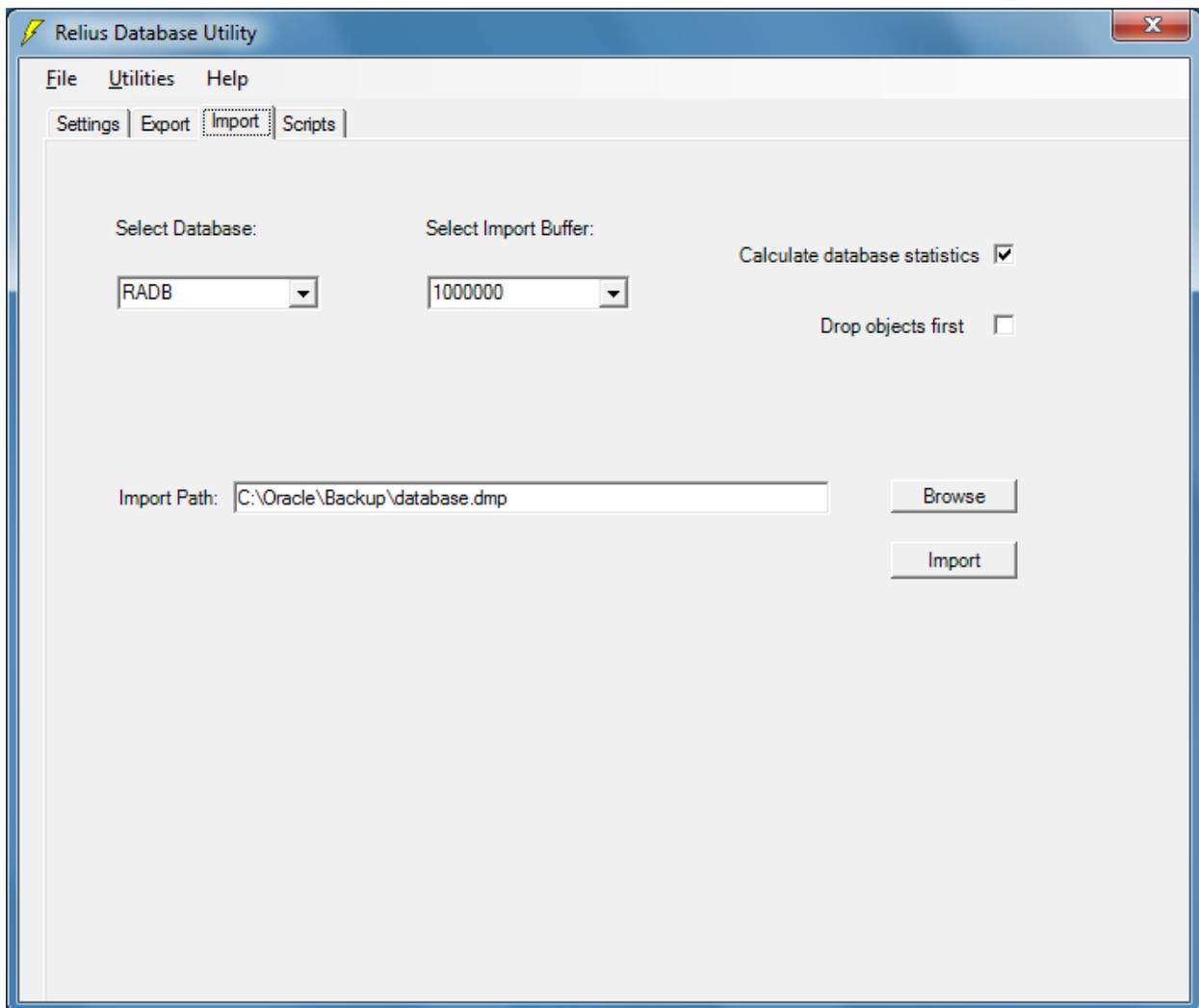
4.4 The **Export** tab has three components: database, path, and execution. From the drop-down list, choose which database you wish to export. Either type your export path into the field or click the *Browse* button to find the location. Once those are set, simply click *Export*. Your exported database export file and corresponding log file will be named after the database instance and a date/time stamp. For example, if you exported RADB on February 27, 2009, at 9:08 a.m, the files would be named RADB-2009-02-27_09-08-00-AM.dmp and .log.

Users are cautioned to keep a close watch on available disk space if the Database Utility is used as a regular means of exporting data. With each export, a new export file is generated. This will cause your available drive space to diminish quickly if not properly maintained. If this utility is used for the regular backup regimen, you must ensure that your available drive space is maintained by backing up and manually removing older exports. For the purposes of a nightly automated backup the long-standing RABCKEXP.BAT process is still available and a better choice.

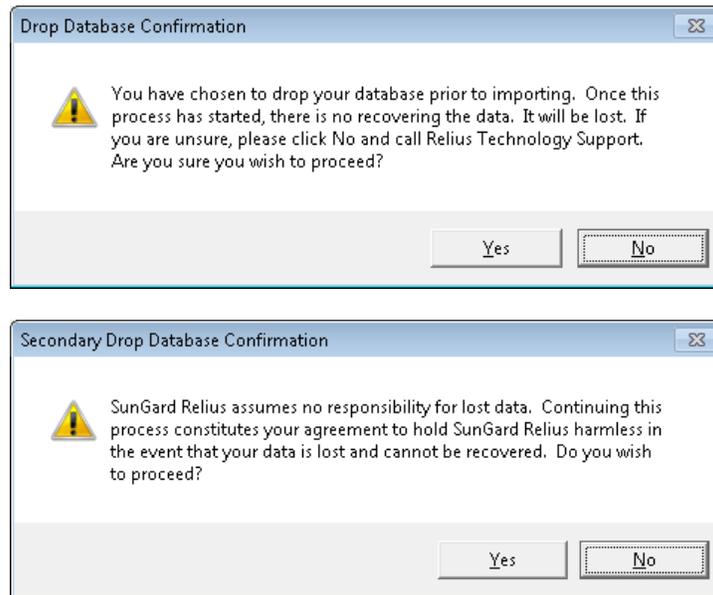


4.5 The **Import** tab has four components: database, options (which include buffer, statistics calculations, and dropping of previous objects), path/file, and execution. From the “Select Database” drop-down list, choose which database you wish to import. From the “Select Import Buffer” drop-down list, choose your buffer size (default is 61440). Either type your database export file name into the field or click the *Browse* button to find the file. Once those are set, simply click *Import*. Your import log file will be named after the database instance and a date/time stamp. For example, if you imported into RADB on February 28, 2009, at 12:15 p.m, the file would be named `impRADB-2009-02-28_12-15-00-AM.log` (notice the “imp” at the beginning of the file name).

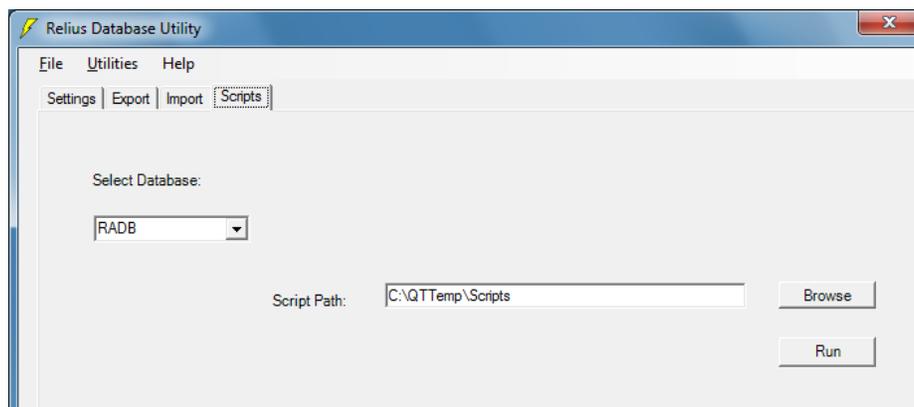
Note: if your database export is larger than 60 GB, call Relius Technology Support to check for the need to add data files to your system before the import begins.



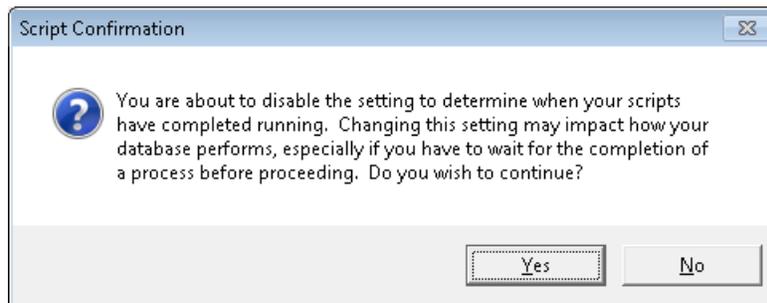
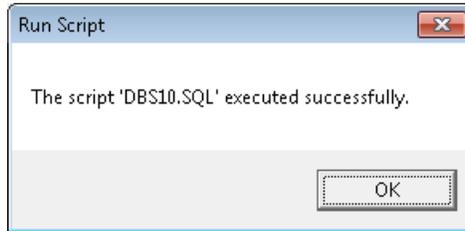
- 4.6 Please note that if you choose “Drop objects first” before importing your database (either through standard or data pump import), your existing data will be permanently removed. Before that happens, you will receive two warnings. Once this process begins, your existing data is lost. Use the “Drop objects first” feature with caution, as SunGard cannot recover your data, **neither can the import file you have chosen be guaranteed by SunGard to be valid.**



- 4.7 Running scripts against your databases is now much easier through this interface. Click the **Scripts** tab. Choose the database, as well as the path and file name of the script. When executing the script, you will be advised that the script must have an “EXIT” command. Without the command, the Database Utility will appear to lock up when the script has finished executing. **Users are cautioned about running scripts that were not provided by SunGard Relius and at the behest of a qualified Relius Administration Support Technician.** Extra care should be taken as some scripts can be destructive.



- 4.8 When a script has been run, a notice of completion will appear. However, if you do not want to receive these notices, you can shut them off, you can click *Utilities / Confirmation* to remove the check mark. You will be prompted to verify that you want the setting turned off. When finished, click *File / Save*.



- 4.9 To launch an automated export, first run an export manually through the Export tab. Once the export has completed successfully, save your changes and exit the program. Create a Windows Scheduled Task (*Start / Programs / Accessories / System Tools / Scheduled Tasks*). The command line for the task (including quotation marks) is:

`"C:\Program Files (x86)\Relius\AdminDB\DBUtil.exe" /export`

The database that will be exported is the one marked as "Default" in the Settings tab in DBUtil.

- 4.10 For further information about this utility, please call Relius Technology Support.

5 Database Maintenance

Table Maintenance

Clearing the temporary and report tables should be performed on a regular basis. The interval chosen by the client greatly depends on the amount of data in the database and the number of users running reports. As a minimum, this procedure should be performed no less than weekly. There are two ways to clear the temporary and report tables:

- From the main menu within Relius Administration, click Utilities | System Administration | Temporary Table Maintenance. You must be in Relius Administration as the System Administrator (not a regular user). This manual process is redundant if running the automated process.
- From the database server, open a Windows Command Prompt and type `C:\Oracle\product\11.2.0\dbhome_1\BIN\RARPTTRN.BAT <Enter>`. This procedure can be automated as part of an unattended backup routine. You can schedule this to run through Windows Scheduled Tasks.

Important Note: Clients often report large volumes of space consumed in the QTUSER_1 tablespace due to irregular database maintenance. To help alleviate this situation SunGard Relius has scheduled an automatic “Temporary Table Maintenance” operation (sometimes known as QTClean) to occur at 9:00 p.m. each Friday night by default. For most clients, this will help maintain a cleaner environment as well as reduce export size. Some clients may desire to disable this operation due to the use of Straight Through Processing or a desire to prepare data once but print many reports from the same data. If you wish to disable the job, you will need to run a SQL script. To download the script, contact Relius Technology to download the script.

If clearing the temporary and report tables automatically, the manual process is unnecessary. However, there is no harm in running both. At times, a user may have to manually clear these tables if they become filled (e.g., from a heavy day of creating reports) before the scheduled process.

Starting & Stopping the Database

Starting and stopping the databases can be performed three ways: Command Prompt, Services, or Relius Shortcut. A simple method of restarting all databases and services is to re-boot the database server. The Oracle databases are designed to start automatically without logging on to the server.

- From a Windows **Command Prompt**, type the following commands to perform their tasks:
 - RADBUP (Starts the RADB Instance)
 - RADBDOWN (Stops the RADB Instance)

- From Control Panel, double click **Services** and scroll down to OracleServiceRADB to stop or start the database.
- To use the **shortcuts** provided, click *Start / Programs / Relius / Administration / Start (Stop) DB Instance*.

Manual Database Exports

A manual export is an additional method of backing up data. If a tape backup should fail, users can recover their data by importing the most recent export file into their database. Backing up the export file to tape, burning it to CD, or copying it to another server after the export finishes is recommended. **Do not export across the network; export locally, then copy.**

Executing C:\Oracle\product\11.2.0\dbhome_1\RABCKEXP.BAT will run an unattended export. This method will generate two files, the export file and a corresponding log file. The way the files are named depends on how many unattended exports have been run (see table below). This method can be scheduled to run automatically through Windows Scheduled Tasks.

1st Export	D:\BACKUP\RADBA.DMP & RADBA.LOG
2nd Export	D:\BACKUP\RADBB.DMP & RADBB.LOG
3rd Export	D:\BACKUP\RADBC.DMP & RADBC.LOG
4th Export	Starts over again with D:\BACKUP\RADBA.DMP & RADBA.LOG, overwriting the earlier one.

Additional Backup Notes

Any method of backing up data requires a test to see if restoring the system from a simulated disaster will work.

There are three basic methods of backing up the Oracle database server. The preferred method will be outlined in detail in this Section. The unsupported methods are discussed briefly.

Third-Party Backup (Unsupported)

The use of a third-party backup program is permitted, but not supported by Sungard Relius. The two most prominent solutions are CA ArcServeIT and Backup Exec by Veritas. (Please note: Identifying these products does not constitute endorsement or support of these products by Sungard Relius.) Both products sell a “backup agent” for use with Oracle databases, which, if configured correctly, will back up the database while it is on-line. If on-line backups are used, archiving must be turned on.

Use of these backup agents does not guarantee restorability and integrity of your data. These tools should be carefully considered (by advanced users only) before implementing them. Third-party backup programs that have a scheduler built into the program can use some of the batch files provided by SunGard Relius to perform certain functions -- such as database shutdown and startup -- before and after the backup.

Oracle Backup Tools (Unsupported)

Oracle provides certain tools to backup and restore data to a tape drive or other form of backup media. However, this method only backs up snapshots of the data files. Other essential files, such as Oracle configuration files, Windows files, and registry entries, are ignored. This method is not recommended or supported by SunGard Relius. For help on Oracle's Backup Tools, consult the Oracle documentation available at <http://www.oracle.com>.

Cold Backup (Preferred by SunGard Relius and Oracle)

The preferred method for backing up the Oracle database involves the steps listed below. This method provides the most reliable method of backing up your data with the least amount of risk.

It is very important to understand that, unless an Oracle-aware backup agent is used, the RADB instance must be shut down before performing the backup. When the database instance is open and running, the Oracle tablespaces are locked and cannot be backed up to tape without the Oracle-aware backup agent.

- From a workstation running Relius Administration, clear report and temporary tables (*Utilities / System Administration / Temporary Table Maintenance*).
- Export the database.
- Shut down the database.
- Back up C:\Oracle\Relius\Admin\RADB and all its directories and files (substitute C: where your database files reside) to tape or other form of backup media. Additionally, back up your entire C: drive, including Operating System, configuration files, and Registry. Procedures will vary, depending on the tape backup software being used.
- Restart the database.

Manual Backups

Although DBUtil, described at the beginning of this Section, is recommended, some clients wish to use traditional batch files. Below is a list of each file necessary (and already included in your Oracle installation) with the purpose and function. Remember that each client's environment is unique, and these batch files are provided as a general-purpose guide to establishing your own method of maintaining your backups.

The batch files may need adjustment to suit your specific needs. SunGard Relius cannot be held liable for the use of these files once they are edited. Clients are urged to test the process before relying on them.

Batch File	Description
CALL C:\Oracle\product\11.2.0\dbhome_1\BIN\RABCKFIL.BAT.	(Master command file)*
CALL C:\Oracle\product\11.2.0\dbhome_1\BIN\RARPTTRN.BAT	(Performs report table purge)
CALL C:\Oracle\product\11.2.0\dbhome_1\BIN\RABCKEXP.BAT	(Performs database export)
CALL C:\Oracle\product\11.2.0\dbhome_1\BIN\RADBDOWN.BAT	(Shuts down database instance)
CALL C:\Oracle\product\11.2.0\dbhome_1\BIN\RAFIL.BAT	(Performs NT tape backup)
CALL C:\Oracle\product\11.2.0\dbhome_1\BIN\RADBUP.BAT	(Restarts instance)

*This file launches other batch files that will perform sundry tasks available to you. These files can and should be adjusted to suit your individual needs, based on location of export files, whether to use the native Windows backup program, and varying drive mapping configurations.

Note: These files are provided as a toolkit only. Clients should comply with specific backup and recovery methods mandated by corporate standards as long as those standards of recovery work in a tested recovery and they do not cause the performance of the Oracle database system to degrade.

To use Windows Backup in the automated process, **you must edit RAFIL.BAT**. The command line refers to a file, C:\Oracle\product\11.2.0\dbhome_1\RELIUSBACKUP.BKS. Ensure that the file is present and referred to correctly in RAFIL.BAT. When you open the RELIUSBACKUP.BKS, you will notice that only two directories are backed up by default: D:\RELIUS and D:\BACKUP. If you wish to back up more than that, you will need to add the appropriate entries into this file and save your changes. These automated backup procedures are intended to write to a brand new tape that is in the tape drive. Rotate tapes accordingly.

To use a third-party backup program, remove RAFIL.BAT from your batch process and insert whatever commands necessary to launch your third-party software. You will need to review which batch files to use, so the third-party backup program will run while the database is still down.

The best test of a backup procedure is a manual test. First, launch the appropriate batch files to see if the database will purge (RARPTTRN.BAT) and export (RABCKEXP.BAT), then verify that the database services have stopped (RADBDOWN.BAT). At that point, the Windows Backup should begin (RAFIL.BAT). When it has finished, the database should restart (RADBUP.BAT). Verify connection from a workstation, the presence of a valid export in D:\BACKUP, and the presence of files backed up to tape.

If all these functions performed correctly, attempt a scheduled backup. Use the Windows Task Scheduler to create the scheduled backup. Make certain that you use a local administrator's account and password when prompted.

Automated Procedures

Windows Scheduler is recommended when scheduling and launching the batch process of automatically backing up the Oracle database server. Other scheduling programs can be used, as long as it does not interfere with the proper functioning of the database or the server. Third-party scheduling programs, as well as "live" backups using Oracle "agents," are not supported or endorsed by SunGard Relius.

Batch Process

If you still plan to use batch files for exporting your database instead of the new DBUtil program (see details above), you may need to make certain adjustments. Conducting a full export will possibly yield results that may appear problematic. Errors like the ones outlined below may appear in your export logs.

```
EXP-00008: ORACLE error 6550 encountered
ORA-06550: line 1, column 18:
PLS-00201: identifier 'SYS.DBMS_DEFER_IMPORT_INTERNAL' must be declared
ORA-06550: line 1, column 7:
PL/SQL: Statement ignored
ORA-06512: at "SYS.DBMS_SYS_SQL", line 1204
ORA-06512: at "SYS.DBMS_SQL", line 323
ORA-06512: at "SYS.DBMS_EXPORT_EXTENSION", line 97
ORA-06512: at "SYS.DBMS_EXPORT_EXTENSION", line 126
ORA-06512: at line 1
```

To fix this while still using the export batch files, you can adjust your export parameter file (Oracle\Product\11.2.0\dbhome_1\bin\RAEXP.PAR). Change the following lines:

Old setting:

```
FULL=Y
```

New setting:

```
FULL=N
```

Add this line directly below:

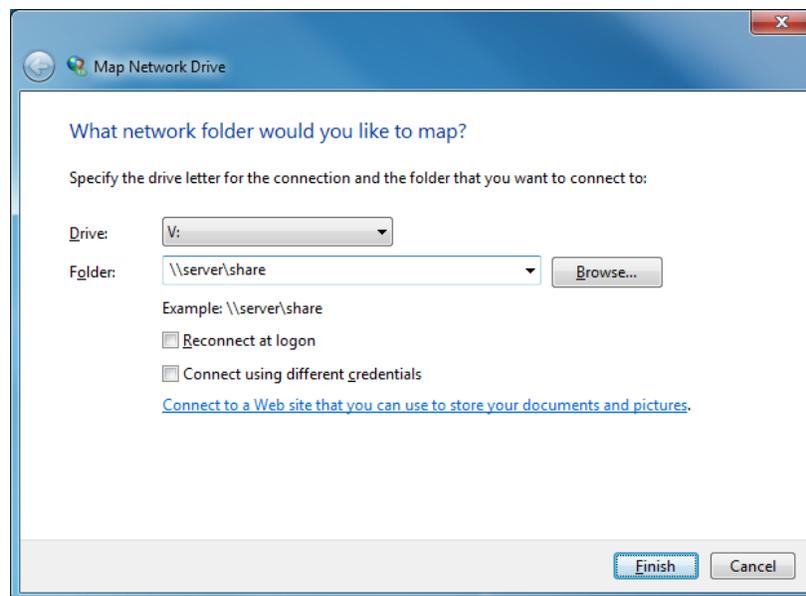
```
OWNER=SYSADM
```

Save your changes and test a new export.

Appendix A Installing from a Network Resource

The Relius Administration Oracle Database DVD can now be installed from a network resource. Due to the size of the component installation, and the possible lack of DVD drives on existing systems, SunGard Relius recognizes the need to install from a shared network drive. However, the following steps must be taken to ensure a smooth installation.

- A.1 Copy the entire DVD to a separate folder on your file server (e.g., OracleDatabase).
- A.2 On the file server, create a share and allow the necessary users to access the folder and all its files. Rights to “Write” and “Full Control” are not necessary.
- A.3 From the workstation within Windows Explorer, click *Tools / Map Network Drive*. Enter the information accordingly. Be sure the user has the ability to reconnect whenever logging back on. This share **must** be map-rooted (setup.exe at the “root” of the network drive letter), or the installation will fail.



- A.4 Run the installation from the newly mapped drive as if it were a DVD drive. Note: If the installation is not run via “map root,” it will fail with the message below.



- A.5 When the installation is complete and all necessary database files and components are installed, the mapped drive can be disconnected.

Appendix B Migrating Your Oracle Database

Many clients will decide to purchase new workstations to accommodate the ongoing changes and increasing demands placed on technology. The purpose of this Appendix is to provide a general overview of moving the Oracle Database from one workstation or server to another.

- B.1 From the original workstation, export the database using Database Utilities. See Section 4.
- B.2 Copy the exported database to the new workstation. You may need to use a network resource or compression utility if the file is too large to copy to a portable device or DVD. The best location for the file on the new workstation or server is a temporary folder that will not be impacted by the installation. For example C:\Temp or D:\Backup. Note: Do not put the file on your desktop or in a folder where the path contains spaces or apostrophes. This will cause the import to fail once Oracle is installed.
- B.3 Run the installation according to Section 2.
- B.4 When the installation prompts for a location of the database export, choose the path and file accordingly.

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