Abbreviated Instructions for Installing and Configuring Oracle 9iAS for HP-UX 11 and SUN SPARC Solaris

Preparing to Install 9iAS
Installing 9iAS and Applying Patches
Configuring 9iAS
Migrating OAS 4.0.8.2 SSL Certificates to 9iAS

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Introduction

Overview

This document provides a roadmap for the OIIT-supported installation of Oracle 9iAS, version 1.0.2.2.x. The instructions here are concise and specific. References to more detailed explanations are available in supporting documentation. The complete installation guide for 9iAS can be found online at http://docs.oracle.com.

- For HPUX, review *Oracle9i Application Server Installation Guide for AIX-Based Systems, Compaq Tru64 UNIX, HP 9000 Series HPUX and Linux Intel*.
- For Solaris, review *Oracle9i Application Server Installation Guide for Sun SPARC Solaris*.

Oracle 9iAS provides internet support for Banner deployment and replaces the earlier version of Oracle Application Server (OAS).

You are installing the Enterprise Version that includes forms support and configuring Banner to work with this new installation.

Objective

These instructions guide you through installing Oracle 9iAS on an HPUX version 11.00 machine or a Solaris version 2.8 machine.

Target Audience

Institution DBA and/or system administrator (application administrator)

Document Organization

This document contains three primary sections:

- Preparing to Install 9iAS
- Installing 9iAS and Applying Patches
- Configuring 9iAS

This document defines steps required for both HPUX-11 and Solaris 2.8.

Graphics

Graphic cues assist with labeling of steps and items that are particularly important.

Steps for recovery or support.

For additional information, see references.

Exercise caution.

Warning: an error here is critical.

Steps are different for HPUX and Solaris.

Notes and tips to make the process easier.

On target: steps completed successfully.

Time estimate.

Code that is included in the text is shown in a different font than other text and looks like the following example:

```
find . -depth -print | cpio -pdmu /u04/stage/⇒
    ias1022/Disk1
```

⇒ code continues on next line

When a line of code is broken and continues on another line, an arrow ⇒ shows where the break occurs.

Example Assumptions

During the course of the documentation, example commands and values are given to clarify the instructions. Your install will have different values for some of these variables. During your install, substitute your values for these values as needed.

Variable	Example Value
Unix host name for 9iAS install	IAShostname.usg.edu
ORACLE_HOME for 9iAS install	/oracle/product/IAS1.0.2
Any password value	password
Banner Instance	BINST
Banner Instance connect string	BINST.usg.edu_ons
Database access Descriptor user (DAD)	DAD_USER
Port for 9iAS administration	7777
Port for Banner homepage	8500
9iAS Administrator's email address	adminperson@usg.edu
Banner file location on 9iAS server	/u01/app/sct/BINST
Required Group for modplsql	groupname
Modplsql user authorization file name	userfile
Modplsql group authorization file name	groupfile

Support

OIIT Customer Services

Report problems or request support by contacting OIIT Customer Services in one of the following ways:

- Web http://www.usg.edu/customer_services
- Toll-free phone 1-888-875-3697
- E-mail helpdesk@usg.edu

Preparing to Install

Overview of Steps

Steps in the set-up for the installation include the following:

- Checking pre-requisites
- Copying CDs
- Confirming space and resources

Expected Outcome

The media for the 9iAS install will be copied to disk on the Application Server machine.

Estimated time needed

The estimated time to prepare for the install is 30 minutes.

Checking Pre-requisites

1. Check hardware requirements

Check that your machine has the following minimum resources:

Memory:	256 MB
Swap space:	512MB (or twice the amount of Memory)
HP-UX disk space for 9iAS and patches:	7 GB
Solaris disk space for 9iAS and patches:	5 GB
Disk space to temporarily copy CDROM media:	2 GB
Temporary space for install:	500 MB

2. Check software requirements

No additional OS patches are required for either HP-UX 11.0 or Solaris 2.8.

Copying CDs

1. Mount CDs

The software is provided on 5 CDROMs.

Mount a CD with the following mount command:

```
HP-UX> /usr/sbin/pfs_mount /dev/cdrom /SD_CDROM
Solaris> mount -r -F hsfs device_name /cdrom
```

On Solaris systems with automounter running, the CD mounts automatically once it is inserted into the drive and the door is closed.

In order to use the HP-UX pfs_mount command, the pfs daemon must be running. The Oracle Installer for HP-UX requires that both the NFS Server and NFS Client daemons be running in order to access Oracle installer CDs properly. Due to the nature of NFS, Systems Administrators should always know when NFS services have been enabled on their systems. Therefore, the OIIT-TSS Release of HP-UX11 sets up the NFS Server, but does not enable this service. The Systems Administrator needs to enable the NFS Client and NFS Server before accessing the Oracle installer CDs.

2. Create area for disk contents

- Create a staging area for the contents of each CD. You'll need about 2GB of space for all the CD contents.
- Create a directory off a mount point named something like ias1022.
- Create directories under this directory named Disk1, Disk2, Disk3, Disk4, and Disk5.

3. Copy disk contents to correct directory

- Copy the contents of Disk 1 to the …/ias1022/Disk1 directory. To copy the contents, use the following cpio command from the CD-ROM drive:

```
find . -depth -print | cpio -pdmu /u04/stage/ias1022/Disk1
```

- Unmount the CD when the copy is complete, using the appropriate command for your operating system.
- Repeat the mount step and the copy step for all five disks.

If your network connection to the patch server is slow, you might want to begin downloading the patch files to the staging area before you do the 9iAS install. See instructions that follow.

Setting up Environment Variables

1. Set ORACLE_HOME

Choose a directory where software will be installed. In this document, the ORACLE_HOME is /oracle/product/IAS1.0.2.

2. Set ORACLE_TERM

Set a terminal value appropriate for your terminal. If Oracle Term is not set, then the value of the TERM environment variable is used.

3. Set DISPLAY and start xterm session

The Oracle installer runs in an X terminal mode. You can run the install from your PC if you have X terminal emulation software (Hummingbird Exceed, WRQ Reflection, StarNet XWin32) installed.

The HP-UX default path for X terminal software is /usr/bin/X11.

The Solaris default path for X terminal software is /usr/openwin/bin.

In order for the Oracle installer to display output to your PC, the DISPLAY environment variable must be set in your Unix environment to send terminal output to the Xserver program running on your PC, using your PC's IP address. For example, if your PC has an IP of 10.11.12.13 (found by typing "ipconfig" at a DOS command prompt on your PC), set the DISPLAY environment variable in your Unix environment to a value of 10.11.12.13:0.0 prior to starting the Oracle installer

See *Oracle9i Application Server Installation Guide*, Chapter 2, Display Variable.

Some X terminal installations have experienced problems with Reflection and XWin32. Exceed seems to be the most reliable.

During testing, Exceed failed to display some of the Oracle installer buttons properly. Eliminate this problem by setting your Exceed software to load fonts from the server:

- Start >>Programs>>Hummingbird >>Exceed>>Xconfig
- Double click on "Fonts" and click the "Font Database" button, and click Add.
- When the "Add Font Directory" window is displayed, ensure that the "Load" radio button is selected for "State," then click the "Server" radio button.
- When the "Add Font Server" window is displayed, enter the fully qualified domain name of the server to which you plan to connect for installation of Oracle products, click OK twice, click "Close" and then exit the Xconfig program.

4. Set the Oracle Library Path

- For HP-UX, set an environment variable named SHLIB_PATH.
- For Solaris, set an environment variable named LD_LIBRARY_PATH.
- Assuming an Oracle Home of /oracle/product/IAS1.0.2, add these directories, separated by colons, to the library path variable:
  - /oracle/product/IAS1.0.2/lib
  - /oracle/product/IAS1.0.2/network/lib

Before installation, you should have completed the following steps:

- Installation media content copied to the Unix machine disks
- Machine meets minimum requirements for software and hardware
- Location determined for the 9iAS installation
- Environment settings established
- X terminal session can be initiated

Installing 9iAS and Applying Patches

Overview of Steps

This section provides the steps to install 9iAS and apply patches for both HP-UX and Solaris. Steps in the installation include the following:

- Installing the software using the Oracle Universal Installer
- Applying patches

Expected Outcome

Upon completion of this section, the installation will be complete, but the environment will not be configured.

Estimated Time

Up to 3 hours

Installing the Software with the Oracle Universal Installer

Section Overview

The Oracle Universal Installer runs in an X terminal window and performs the installation of Oracle 9iAS.

This section provides the answers to each screen after the installer begins.

See *Oracle9i Application Server Installation Guide*, Chapter 6, Enterprise Edition, for a listing of screens and choices.

1. Invoke Installer

Navigate to the location where you copied the contents of the first disk. In the example, the location is:

```
/u04/stage/ias1022/Disk1
```

Execute runInstaller from an X terminal session.

2. Read Welcome

Welcome Screen

Click Next.

3. Establish File Locations

File Locations Screen

Source: Accept the current value. For example,

```
/u04/stage/ias1022/Disk1/stage/products.jar
```

Destination: Accept the value if it equals the desired Oracle Home location.

```
/oracle/product/IAS1.0.2
```

The Oracle Home directory location for 9iAS is not the same as another Oracle software install location. Use a separate Oracle Home for the 9iAS install.

Confirm that the entire path is correct because the installer may retain an earlier path from a previous install.

4. Enter Unix Group Name

Unix Group Name Screen

Enter the unix group name 'dba'.

If you have already run the Installer, the Unix Group name will not appear. This screen may not be displayed if you have another Oracle Home already installed.

5. Choose Installation Type

Installation Type Screen

Choose the "Enterprise Install." Enterprise Installation is required to run Internet Native Banner.

6. Read Installation Overview

Installation Overview Screen

Choose "Next."

7. Assign Component Locations

Component Locations Screen

If during the install, a component does not have sufficient disk space, this optional screen shows those component items in red. Free up disk space as needed.

8. Correct Swap Space Problem (if needed)

Insufficient Swap Space Screen

This optional screen indicates that the swap space is insufficient for the install. Correct the swap space problem and click Next.

If swap space is not a problem, you will not see this screen.

See *Oracle9i Application Server Installation Guide*, Chapter 6, for details on remedies.

9. Set Destination Oracle Home for 8.0.6 RSF

Destination Oracle Home for 8.0.6 RSF Screen

Choose default by selecting "Next."

10. Deselect Components

Component Configuration and Startup Screen

Deselect all components. You'll save time by configuring necessary components later manually using these instructions. To deselect components, use either a control-click or shift-click combination. Choose "Next."

11. Skip Individual Setting Selections

The settings don't matter for the following screens, because you previously chose not to configure these components individually when you selected "Enterprise Installation."

Choose "Next" for each of these screens that display (some may not appear):

- **Apache Listener Configuration for Oracle 9iAS Portal, DAD for Oracle 9iAS Portal**
- **Apache Listener Configuration for Oracle 9iAS Portal, DAD for the Login Server**

After the Apache Listener Configuration screens, the HP-UX installation asks for the location of the java home.

Enter /opt/java1.2. (If the Java software on your server is installed in a different location, substitute that location here)

- **Wireless Edition Repository Information**
- **Wireless Edition Schema Information**
- **Please Enter System Password for Wireless Edition**
- **Summary Screen**

Make sure to check for errors on any of these screens.

12. Execute Installation

Install Screen

When you select "Next" on the Summary Screen, the install progress screen will display the progress of the installation.

Go get some lunch – it'll be a while.

If the changing disk dialog appears, then the contents of the CDROM media were not correctly copied. Try to supply the media location on disk for the next CDROM. Otherwise restart the install with the media correctly copied to disk exactly as described earlier.

While linking the 9iAS Application Server on an HP-UX server, you'll see the following error:

"Error in invoking target install of make file …/ins_icache.mk"

Choose "Ignore."

13. Run root.sh

Setup Privileges Dialog box

- Connect as root in another terminal session and run the script specified on the screen named root.sh in the Oracle Home location.

  Note: On Solaris, an error states that libdcf.so does not exist. This library is needed for Discoverer, which is not needed for supported campus installs for Banner environments. Disregard this error.

- After running root.sh, choose "Next."

14. Verify Configuration Tools

Configuration Tools Screen

The Configuration Assistant assists during the install with the configuration of 9iAS components. Since you chose not to configure any components with the Configuration Assistant, the components have been marked with a red X. These components have been successfully installed but are not yet configured.

Choose "Next."

15. Finish Install

End of Installation Screen

If no errors appear and this screen is presented, you have successfully installed Oracle 9iAS.

Choose "Exit."

Applying Patchset 10

Overview

Oracle 9iAS version 1.0.2.2.2 requires a patch set to fix bugs with the base installation. To apply this patch, download the patch from the OIIT Oracle patch server and apply the patch according to these instructions.

For the complete details for applying this patch set, read the README.txt file contained in the downloaded patch file.

1. Set your Oracle Home

When you installed Oracle 9iAS, you actually created two Oracle homes: one for Oracle 9iAS and one for the Oracle 6i server. When applying this patch, you must set all your Oracle Home values to the 6iserver home. For example, set your ORACLE_HOME variable to

```
/oracle/product/IAS1.0.2/6iserver
```

- Be sure to set your LD_LIBRARY_PATH (Solaris) or SHLIB_PATH (HP-UX) so that

  ```
  /oracle/product/IAS1.0.2/6iserver/lib
  ```

  is at the beginning of the list of values.

- Be sure to set your PATH variable such that

  ```
  /oracle/product/IAS1.0.2/6iserver/bin
  ```

  is at the beginning of the path.

2. Download the patch files

- Start the ftp session from your staging area.
- Connect to ftp.usg.edu using your institution's ID and password.
- For HP-UX, navigate to the banner/prod/oracle/hpux11/9iAS directory. Download the following two files:
  - p2356680_patchset10_hpux11.zip
  - p2424256_1319_HPUX11.zip (You need this file for the next patch task, but you can get it now.)

- For Solaris, navigate to the banner/prod/oracle/sol26/9iAS directory. Download the following two files:
  - solaris_9ias_patchset10.zip
  - p2424256_1319_SOLARIS.zip (You need this file for the next patch task, but you can get it now.)
- At the conclusion of the download, both zip patch files should reside in the staging area.

---

3. Unzip the files

- If your machine does not have an unzip utility, download it from Oracle via an Oracle metalink account. Get the file http://updates.oracle.com/unzips/unzips.html. Use your metalink account to download the unzip utility.
- Move the file from the staging area to the /oracle/product/IAS1.0.2/6iserver directory
- Unzip the patchset 10 file with unzip. The file should be located in your 9iAS ORACLE_HOME..

- For HP-UX, unzip p2356680_patchset10_hpux11.zip file with unzip.
- For Solaris, unzip solaris_9ias_patchset10.zip file with unzip.
- Unzipping the file creates a directory named developer6i_patch10 within your 6iserver ORACLE_HOME with all the code needed to apply this patch.

---

4. Run the patch script

- Navigate to the $ORACLE_HOME/developer6i_patch10 directory and read the file named README_dev6i.p10 to verify that your environment has been set up properly.

  Full instructions for this patch are located in the README_dev6i.p10 file.
- Apply the patch by running patch_install.sh.
- Capture the output of the script to a log file using the tee command. You can execute the patch script in either Korn shell:

```
./patch_install.sh 2>&1 | tee patch_install_p10.log
```

Alternatively, you can execute the script in C shell:

```
./patch_install.sh |& tee patch_install_p10.log
```

- Review the log file named patch_install_p10.log for errors.
- An unsuccessful execution will be noted at the end with errors and instructions to rerun the script.

If you encounter errors when applying this patch set, confirm that you have your Oracle Home, Library Path, and Path variables set to the correct 6i server ORACLE HOME

5. Relink patched components

Relink the Procedure Builder, Forms, Reports and Graphic to pick up the changes. Use the commands shown to capture the output of the link commands to a file for review if needed. Use these commands in C shell to relink:

```
cd $ORACLE_HOME/procbuilder60/lib;

make -f ins_procbuilder.mk install |& tee /tmp/⇒
     procbuilder60.log

cd $ORACLE_HOME/forms60/lib;

make -f ins_forms60w.mk install |& tee /tmp/forms60.log

cd $ORACLE_HOME/reports60/lib;

make -f ins_reports60w.mk install |& tee /tmp/⇒
     reports60.log

cd $ORACLE_HOME/graphics60/lib;

make -f ins_graphics60w.mk install |& tee /tmp/⇒
     graphics60.log
```

⇒ code continues on next line

Applying Security Patch 2424256

Overview

Oracle 9iAS version 1.0.2.2.2 requires a security patch to the Apache configuration file. This patch simply replaces the httpd file with a new file. When you unzip the patch file, review the README.txt file.

1. Set your Oracle Home

- Set your Oracle Home to the 9iAS Oracle Home

```
ORACLE_HOME = /oracle/product/IAS1.0.2
```

- For HP-UX, be sure to set your SHLIB_PATH so that /oracle/product/IAS1.0.2/lib is at the beginning of the list of values.
- For Solaris, be sure to set your LD_LIBRARY_PATH so that /oracle/product/IAS1.0.2/lib is at the beginning of the list of values.
- Be sure to set your PATH variable such that /oracle/product/IAS1.0.2/bin is at the beginning of the path.

2. Shutdown the Oracle HTTP Server

Run this command to stop the HTTP server:

```
$ORACLE_HOME/Apache/Apache/bin/apachectl stop
```

The HTTP server is probably not started yet anyway.

3. Backup the HTTP file

Copy the $ORACLE_HOME/Apache/Apache/bin/httpd to a backup location.

4. Unzip the files

Position yourself in the staging area where you downloaded the patch file. Create a patches directory under the IAS home and move the file to this new directory with this command:

```
mv*.zip /oracle/product/IAS1.0.2/patches
```

- For HP-UX, unzip the p2424256_1319_HPUX.zip file that you downloaded earlier that contains the new httpd file.
- For Solaris, unzip the p2424256_1319_SOLARIS.zip file.

5. Copy the new httpd file

Copy the new httpd file to the $ORACLE_HOME/Apache/Apache/bin directory.

Installation of Oracle 9iAS is complete. You have installed Oracle 9iAS version 1.0.2.2.2 in an Oracle Home of your choice (preferably /oracle/product/IAS1.0.2.

The following steps have been completed:

- Installation of the Enterprise Edition of Oracle 9iAS
- Application of Patch set 10 for Oracle 9iAS
- Application of Security Patch 2424256

Configuring 9iAS

Overview of Steps

Now that you have Oracle 9iAS installed, you must configure the application server to work with the Banner application and your Banner database. This configuration consists of four main parts:

- Preparing the environment for Banner
- Configuring the Banner database
- Configuring 9iAS to connect to the Banner database
- Configuring Apache on the application server machine

These configuration steps take place on the database server and on the application server machine (assuming that the database runs on a different machine than the application server).

Expected Outcome

After these tasks are complete, you'll be able to log in to Banner on you newly installed 9iAS server.

Estimated Time to Complete Task

This task will take 30 minutes to complete.

Preparing the Environment for Banner

Overview

These instructions for preparation of the environment for Banner are based on SCT FAQs 1360 and 4870.

Use the same instructions for both HP-UX-11 and Sun SPARC Solaris, with the exception of Preparation Step 1.

Step 1 for HP-UX-11: Establish path

On the application server machine, log on as unix user oracle. The oracle user will run the 9iAS application server.

Make additions to your $PATH and $SHLIB_PATH environment settings.

Where ORACLE_HOME is referenced, use the entire path for your IAS Oracle Home, not the ORACLE_HOME variable.

To the PATH variable ($PATH), be sure that these directories are included:

```
$ORACLE_HOME/bin
$ORACLE_HOME/Apache/Apache/bin
```

To the library path variable ($SHLIB_PATH), be sure that these directories are included:

```
$ORACLE_HOME/lib
```

Step 1 for Sun SPARC Solaris: Establish path

On the application server machine, log on as unix user oracle. The oracle user will run the 9iAS application server.

Make additions to your $PATH and $LD_LIBRARY_PATH environment settings.

Where ORACLE_HOME is referenced, use the entire path for your IAS Oracle Home, not the ORACLE_HOME variable.

To the path variable ($PATH), be sure that these directories are included:

```
$ORACLE_HOME/bin
$ORACLE_HOME/Apache/Apache/bin
```

To the library path variable ($LD_LIBRARY_PATH), be sure that these directories are included:

```
$ORACLE_HOME/lib
```

Following completion of the first step, all instructions for Sun SPARC Solaris and HP-UX-11 are the same.

2. Test HTTP server

Test the HTTP server:

$ORACLE_HOME/Apache/Apache/bin

- To start, enter: apachectl start
- To stop, enter: apachectl stop

3. Secure gateway.htm page (Authentication files)

WARNING: Steps three and four are critical to prevent unauthorized access.

When you install IAS and create your gateway.htm page, it is not secure. Anyone can get in and edit your DAD settings as long as they know the URL. To prevent this, create a user file and a group file so that only authenticated users can modify the PL/SQL gateway page. This procedure requires that you create two authentication files and then modify the gateway configuration file to use those two files.

- Create a userfile and groupfile using the htpasswd utility in the same directory as the file you just edited.

  For example, to create a password file ‘userfile’ with ‘bryon’ as the initial ID, enter htpasswd -c userfile bryon.

- You are prompted for the password and can add usernames to the user file.

- To modify the password file 'userflle' with the username 'scott' added to the list, enter htpasswd userfile scott.

- You’ve created a file named userfile with two users specified.

- To create the groupfile, create a blank text document called ‘groupfile’ and add users.

- For example, use vi and create a file named groupfile whose contents look like this:

```
groupname: bryon scott
```

Remember that the groupname, userfile, and groupfile names can be changed to whatever you prefer.

4. Secure gateway.htm page (Configuration files)

Now that you’ve created the authentication files, modify the gateway configuration file to use those two files.

Make a backup copy of your PL/SQL module configuration file in /oracle/product/IAS1.0.2/Apache/modplsql/cfg/plsql.conf.

- Edit your plsql.conf file to add the following lines to point the PL/SQL modifications to a group file and a user authentication file. After the <Location /pls> section of the file, add the following lines of code below </Location>:

```
<LocationMatch "/pls(.*)admin_">
   AuthType Basic
   AuthName "Restricted Access"
   AuthUserFile /oracle/product/IAS1.0.2/Apache/⇒
      modplsql/cfg/userfile
   AuthGroupFile/oracle/product/IAS1.0.2/Apache/⇒
      modplsql/cfg/groupfile
  require group groupname
</LocationMatch>
```

⇒ code continues on next line

- Edit the /oracle/product/IAS1.0.2/Apache/modplsql/cfg/ wdbsvr.app file. Place a semicolon before admindad as shown:

```
;admindad
```

- Stop the HTTP server and then start the server again with the following commands:

  o `apachectl stop`

  o `apachectl start`

  Anyone accessing the gateway.htm page is prompted for a username and password.

5. Connect

In your Web Browser, check that a browser can connect to the 9iAS installation.

For example, point your browser to

http://IAShostname.usg.edu:7777

7777 is the default port number for 9iAS. You can use 7777 or choose your own port number.

If you are having a problem connecting, verify your connect information in $ORACLE_HOME/Apache/Apache/conf/httpd.conf

If you receive a “Service Temporarily Unavailable” verify that you edited the wdbsvr.app file as specified above.

When you click on the link named “Mod_plsql Configuration Menu,” you should be asked for an ID and a password. Use a password you created in the userfile in Step 3 above.

Configuring the Banner Database for 9iAS

Overview

These steps detail the actions you take to configure your current Banner database to work with the new 9iAS install. These steps are SQL commands run from SQL*Plus using scripts on either the 9iAS application server or on the Banner database server (if the machines are different).

Instructions for configuration for HP-UX-11 and Sun SPARC Solaris are the same.

1. Verify UTL_RAW package

From the application server host, verify that SYS.UTL_RAW package exists and is valid on the database where you run *Banner Web For…* products.

To check validity, connect as system in SQL*Plus with the following commands:

```
SQL> connect system/password@BINST.usg.edu_ons

SQL> select object_name, owner, status
 2    from dba_objects
 3    where object_name like 'UTL_RAW%';
```

Three packages should exist and be valid.

2. Verify user

Verify that you have a user created for your database access descriptor (DAD) with connect privileges. OIIT uses DAD_USER.

If a DAD user does not exist, create one with this command:

Sqlplus system/<password>

SQL> Create user DAD_USER identified by <password> default tablespace TOOLS temporary tablespace TEMP;

Substitute another tablespace name for TOOLS if your database does not have a TOOLS tablespace.

```
SQL> GRANT CONNECT to DAD_USER;
```

3. De-install OAS toolkit

De-install the OAS toolkit by dropping OAS_PUBLIC and WEBSYS. Still logged in as system, use the following commands:

```
SQL> DROP USER OAS_PUBLIC CASCADE;

SQL> DROP USER WEBSYS CASCADE;

SQL> exit;
```

4. Install IAS PL/SQL toolkit

Install the IAS PL/SQL toolkit into your database.

- Position yourself in $ORACLE_HOME/Apache/modplsql/owa.directory.
- Log in to sqlplus as SYS and run a script named owaload.sql.

```
SQL> sqlplus sys/password@binst.usg.edu
SQL> Start owaload.sql
```

- When prompted for a spool file, "Enter a value for 1," answer with owaload.log.

  This process installs the PL/SQL packages needed to run the PL/SQL gateway.

- Review owaload.log for errors.

5. Run GURALTR to validate

After installing the IAS PL/SQL toolkit in the previous step, some of the Banner application packages will become invalid and need to be recompiled. Open a terminal session on the Banner database machine.

Connect in SQL*Plus as the Banner database system user and run the GURALTR script several times to validate the objects that have become INVALID. Be sure the ORACLE_SID or TWO_TASK variables have been set to point to the Banner database instance.

```
SQL> connect system/password
SQL> @guraltr
```

The guraltr.sql script asks you for the system password. Continue to execute this script until no packages compile or the ones that compile with errors can be accounted for.

6. Optional Step for Voice Response: Run gurvrgr in sqlplus

If your institution is using Voice Response, go to SECPATCH directory and run sqlplus baninst1/<password> @gurvrgr.

7. Edit files

You need to modify a Banner script file before running other Banner scripts.

Edit files named gurgrth.sql and gurgrtw.sql in the $BANNER_HOME/general/plus directory. Insert the DAD user and PL/SQL Toolkit schema owner.

For example:

```
SQL> grant execute on &&1 to SYS;
SQL> grant execute on &&1 to DAD_USER;
```

Run the following scripts in sqlplus as baninst1:

```
SQL> connect baninst1/password
SQL> grant execute on &&1 to DAD_USER;
```

All but one of these scripts prompt you for the baninst1 password.

Be sure to run each script from the location directory:

Script	Location
haludbpr.sql	If you are using the ALUMNI module
hgendbpr.sql	$BANNER_HOME/genweb/dbprocs
hcomdbpr.sql	$BANNER_HOME/scomweb/dbprocs
hpaydbpr.sql	If you are using Banner PAYWEB
hfacdbpr.sql	$BANNER_HOME/facweb/dbprocs
hstudbpr.sql	$BANNER_HOME/stuweb/dbprocs
twtldbpr.sql	$BANNER_HOME/wtlweb/dbprocs (This script runs as Web Tailor, so provide the Web Tailor password).

After these scripts have completed, run the guraltr.sql script to compile all objects again.

8. Optional Step to Verify or Migrate Banner Web Files

The Banner Web files must reside on the application server machine. If you do not have the Banner files on the same server as your iAS, place these Banner files on the application server with the tar utility. The following example uses the tar utiltity to place the files on the iAS server.

The Banner tree is the same format that OIIT used with the OAS installation.

- On the machine where Banner is currently installed, create a single file containing the entire $BANNER_HOME/webprocs directory tree.

  ```
  cd $BANNER_HOME
  tar cvf webprocs.tar webprocs
  ```

  If your Banner Web files are not stored in a directory named “webprocs”, substitute the name of the appropriate directory.

- On the application server, create a directory tree to store the Banner web files. For example, create a directory tree like the following:

```
mkdir /u01/app/sct/BINST
```

- Copy the tar file from the current Banner installation to the application server directory you just created using scp or ftp. Remove the tar file from the Banner installation after a successful copy.

- Untar the copied tar file, creating a webprocs directory tree on the application server. Remove the tar file after a successful "untar" extract.

```
cd /u01/app/sct/BINST

tar xvf webprocs.tar

rm webprocs.tar
```

- Make a "weblogs" directory to hold the application server log file. Change the permissions on this directory so that the group dba can write to the directory.

```
mkdir weblogs

chmod 760 weblogs
```

9. Edit home-page.htm

Edit the Banner home page in the "webprocs" directory so that Banner users point to the correct application server port and location. For example, edit the file with vi like this:

```
vi /u01/app/sct/BINST/webprocs/homepage.htm
```

The server name and port must be correct, along with database access descriptor name. If the port for the Banner homepage is 8500 on a server named IAShostname.usg.edu and a DAD name of BINST, then the line in the homepage should look like this:

⇒ code continues on next line

```
//IAShostname.usg.edu:8500/pls/⇒
   BINST/twbkwbis.P_GenMenu?name=homepage
```

You can find a port for the Banner pages using the netstat command. To check if port 8500 is currently used, try a command like this:

```
netstat -a | grep 8500
```

Configuring 9iAS to Connect to the Banner Database

Overview

These instructions set up the database access descriptor (DAD) for 9iAS connectivity.

1. Set up DAD

The DAD defines the values that specify how an application connects to an Oracle database to fulfill an HTTP request. The DAD is configured via a browser request.

- Open up the DAD configuration screen by pointing your browser to http://IAShostname.usg.edu:7777
- Select the "Mod_plsql Configuration Menu."
- Choose "Gateway Database Access Descriptor Settings."
- For a NEW DAD, choose "Add Default (blank configuration)."
- Fill in the fields on the screen as defined in the table below, assuming machine name and instance as described:

Field Name	Value
Database Access Descriptor Name	BINST
Oracle User Name	DAD_USER
Oracle Password	password
Oracle Connect String	BINST.usg.edu_ons

- Leave the Schema Name blank.
- Enter the name of your DAD for connecting to your Banner database.
- Leave other fields "as is" to accept the defaults.

Be sure to leave the Default (HOME) Page blank. If you specify the Banner homepage at this point in the DAD configuration, the connection fails. The homepage.htm is specified in the Banner configuration file as the Directory Index when you create your Virtual Host Container.

- Select "apply," which takes you to the edit screen. Select OK.

You should see the red success message, "The changes have been successfully made!" at the top of the page.

2. Verify DAD User

To verify the DAD_USER configuration, look at a file named wdbsvr.app on the application server machine.

- Use the "more" command on the wdbsvr.app file at $ORACLE_HOME/Apache/modplsql/cfg/wdbsvr.app
- Look for the DAD_USER section of the file. You should see the values listed above, among others (several values will be commented with semicolons):

```
[DAD_BINST]
connect_string = BINST.usg.edu_ons
username = DAD_USER
;default_page =
enablesso = No
```

Configuring Apache on the Application Server Machine

Overview

Configure the Apache Web to point to the Banner application.

1. Create Banner Configuration directory

The Apache server within the 9iAS includes a file that specifies the Banner configuration. Create a directory to hold your Banner configuration file or container.

For example, add a ban_conf directory named

```
mkdir $ORACLE_HOME/Apache/Apache/conf/ban_conf
```

2. Create Container File

In the ban_conf directory, create a file with the same name as your Banner instance.conf (for example, BINST.conf) to hold the Virtual Host Container. The Virtual Host Container holds the necessary Banner configuration information that the 9iAS needs to serve the *Banner Web For…* products.

Another important parameter in this container file is the email address of the administrator for the 9iAS installation. Create a file named BINST.conf in the ban_conf directory using an editor like vi. Add text to the file as shown in the example.

For example, if the port and the listen address have a value of 8500 and the administrator has an email address of adminperson@usg.edu, then the file entry should look like this for host IAShostname.usg.edu and the BINST instance:

```
Port 8500
Listen 8500
NameVirtualHost IAShostname.usg.edu:8500
<VirtualHost  IAShostname.usg.edu:8500>
   DirectoryIndex homepage.htm
   ServerAdmin adminperson@usg.edu
   DocumentRoot /u01/app/sct/BINST/webprocs
   ServerName IAShostname.usg.edu
   ErrorLog /u01/app/sct/BINST/weblogs/BINST.log
   CustomLog /u01/app/sct/BINST/weblogs/⇒
       BINST_custom.log common
   LogLevel Debug
</VirtualHost>
```

⇒ code continues on next line

Note that the port in the code above is the Banner port, not the 9iAS administration port in our example of 7777.

3. Edit the Apache Configuration File

The Apache configuration file must include the Banner configuration file you edited earlier. After you make a backup copy of your httpd.conf file, edit this file to include your configuration file:

```
vi $ORACLE_HOME/Apache/Apache/conf/httpd.conf
```

At the bottom of the file, add these lines to include the Banner configuration file:

```
#Include the Banner configuration file

include "/oracle/product/IAS1.0.2/Apache/Apache/⇒
conf/ban_conf/BINST.conf"
```

⇒ **code continues on next line**

4. Start 9iAS

Start the 9iAS.

To start, enter `apachectl start`.

You should be able to access your *Banner Web For...* pages.

When you start the Apache server, you may encounter an error if you mistyped something. Read the message and take the corrective action needed.

5. Open the Banner home page

Confirm that you can get to the Banner home page via the new 9iAS install. If you cannot locate the home page, recheck the changes you made to the configuration files. Also look at the web log files for information that might help you correct the errors.

6. Finding Help

To access help, enter `apachectl help`.

You have successfully completed the Oracle 9iAS install and configuration and configured it to run against the Banner database:

By pointing your browser to the Banner home page, the Banner application should now be available.

Migrating OAS 4.0.8.2 SSL Certificates to 9iA

Overview

This section provides instructions on migrating an existing OAS 4.0.8.2 SSL private key to a 9iAS SSL private key and to configure Oracle9i Application Server (9iAS) 1.0.2.2.x with a level 3 SSL certificate.

Instructions for HP-UX-11 and Solaris are the same.

Assumptions

Your OAS SSL certificates are configured and working fine.

You will be using the same OAS 4.0.8.2 SSL certificates with 9iAS.

Estimated Time to Complete Task

30 minutes to 1 hour

Migrating your Certificates

Before you begin

Verify that the OAS is down.

```
owsctl stop
owsctl clean
```

Verify that Apache is down.

```
apachectl stop
```

1. Create directory

Create a new directory for storing SSL files for 9iAS.

For example:

```
/oracle/admin/certs/SID/ias_ssl
```

2. Copy pconvert utility

Copy the pconvert utility from your IAS_HOME/Apache/Apache/bin to the new directory that you just created.

3. Copy files

Copy the two .der files from your OAS certificates file directory to the new 9iAS certificates directory.

4. Run pconvert utility

Run pconvert utility with the following syntax:

```
pconvert -s privkey.der -d iaspriv.key
```

Running the pconvert utility creates a .cer(certificate) file and a privkey.key(key) file.

Rename the .cer file to .crt.

5. Make backup

Make a backup copy of the /oracle/product/IAS1.0.2.2/Apache/Apache/conf/httpd_conf file.

6. Edit httpd.conf

Edit the httpd.conf file

Add an include comment and line for the banner SSL conf file:

```
#Include the Banner configuration file.
include "/oracle/product/IAS1.0.2/Apache/⇒
Apache/conf/ban_conf/instancessl.conf"
```

⇒ **code continues on next line**

7. Comment out SSL Support

In the httpd.conf file, use the # comment identifier to comment out the following:

```
#<IfDefine SSL>
  #Port 7778  => COMMENT OUT
  #Listen 7790 => COMMENT OUT
  #Listen 443 => COMMENT OUT
#</IfDefine>
#<IfDefine SSL>
#1032  AddType application/x-x509-ca-cert.crt
#1033  AddType application/x-pkcs7-crl.crl
#1034  </IfDefine>
#<IfModule mod_ssl.c>
#SSLPassPhraseDialog  builtin
#SSLSessionCache dbm:/oracle/product/⇒
IAS1.0.2/Apache/Apache/logs/ssl_scache
#SSLSessionCacheTimeout 300
#SSLMutex file:/oracle/product/IAS1.0.2/⇒
Apache/Apache/logs/ssl_mutex
#SSLRandomSeed startup builtin
#SSLRandomSeed connect builtin
#SSLLog/oracle/product/IAS1.0.2/Apache/⇒
Apache/logs/ssl_engine_log
#SSLLogLevel warn
#<IfDefine SSL>
#<VirtualHost _default_:443>
#DocumentRoot "/oracle/product/IAS1.0.2/⇒
Apache/Apache/htdocs"
#ServerName myserver@myaddress.usg
```

⇒ **code continues on next line**

```
#ServerAdmin you@your.address

#ErrorLog /oracle/product/IAS1.0.2/Apache/⇒
Apache/logs/error_log

#TransferLog /oracle/product/IAS1.0.2/Apache/⇒
Apache/logs/access_log

#SSLEngine on

#SSLCertificateFile /oracle/product/IAS1.0.2/⇒
Apache/Apache/conf/ssl.crt/server.crt

#SSLCertificateKeyFile /oracle/product/⇒
IAS1.0.2/Apache/Apache/conf/ssl.key/server.key

#SSLOptions +StdEnvVars

#</Files>

#<Files ~ "\.(cgi|shtml)$">

#<Directory "/oracle/product/IAS1.0.2/⇒
Apache/Apache/cgi-bin">

#SSLOptions +StdEnvVars

#</Directory>

#SetEnvIf User-Agent ".*MSIE.*" nokeepalive ⇒
ssl-unclean shutdown
```

⇒ code continues on next line

8. Save file

Save the httpd.conf file

9. Edit Banner configuration file

Edit the ban_conf/dbname.conf file.

Add the following lines at the end of the file making sure you use the correct .crt and .key file names:

```
SSLEngine on

SSLCertificateFile/oracle/admin/certs/<SID>/⇒
ias_ssl/<SID>_cert.crt

SSLCertificateKeyFile /oracle/admin/certs/⇒
<SID>/ias_ssl/<SID>iasprivkey.key

SSLCACertificateFile /oracle/product/⇒
IAS1.0.2/Apache/Apache/conf/ssl.crt/⇒
ca-bundle.crt
```

⇒ code continues on next line

10. Start IAS with SSL

Start the IAS with SSL.

```
apachectl startssl
```