Information and Digital Technologies March 6, 2008

Oracle Upgrade and Patch Installation Process

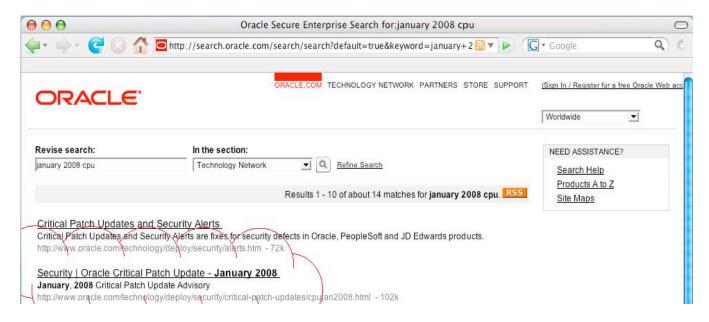
(Note: The images on this page display better when the zoom option is set to 125%.)

1. Open a browser window and type in the URL Address line:

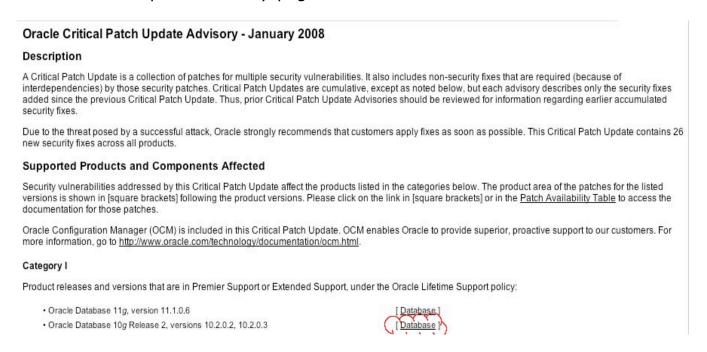
http://www.oracle.com/technology/index.html



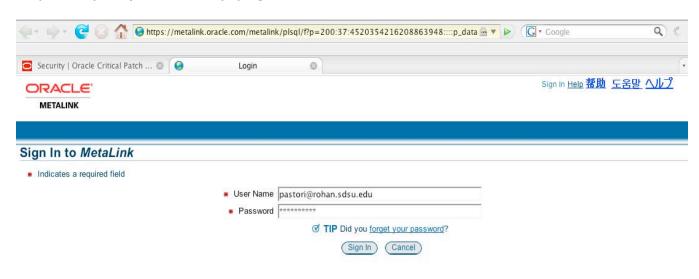
2. In the text box above indicated by the blue line, type the month (Months are usually January, April, July and October), the year and the letters **cpu** in the and click on the **magnifying glass** button to search for the page below:



3. Clicking the link (shown highlighted by the red cloud above) will call the *Oracle Critical Patch Update Advisory* page below:

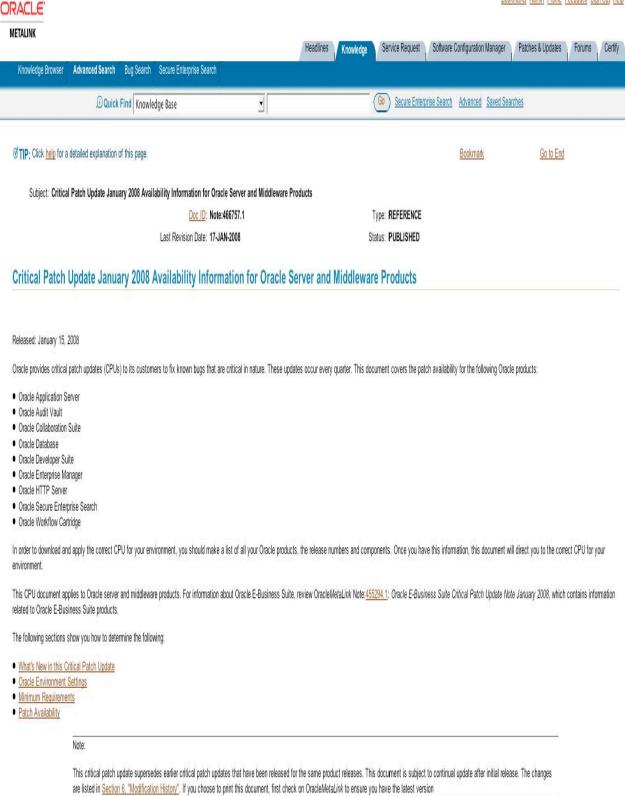


4. Clicking on the **Database** link (shown above with the red cloud) will call the *Login to Metalink* page (shown below). Type your <u>User Name and Password</u> (see Carol Phillips for password) and click on the **Sign In** button to get to the *Critical Patch Update (CPU) Availability* page:



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5. Scroll down the above page until you see **Table 8 Patch Availability for Oracle Database.** Then to get the patch number, you look for Linux x86/10.2.0.3 or the current installed OS version we are using.

4.1 Patch Download Procedure

The patches can be downloaded from OracleMetaLink as follows:

- 1. Select the Patches and Updates tab after logging in to OracleMetaLink.
- 2. Click Simple Search.
- 3. In the Search By field, select Patch Number from the list.
- 4. Enter the patch number. The patch number may be different for different product releases and platforms.
- 5. Select the platform.
- 6. Click Go.
- 7. Click Download to download the patch.

Note:

Patches that are indicated for Extended Support (ES) customers only require a password to download them. If you are an Extended Support customer, contact Oracle Support.

4.2 Oracle Database Patch Availability

For information about conflicts when installing patches, see Section 4.10, "CPU Patch Conflict Resolution".

If you are looking for database patches for your Oracle Application Server Infrastructure installation, see Table 12.

Table shows the patches available for Oracle Database, based on release and platform.

Table 8 Patch Availability for Oracle Database

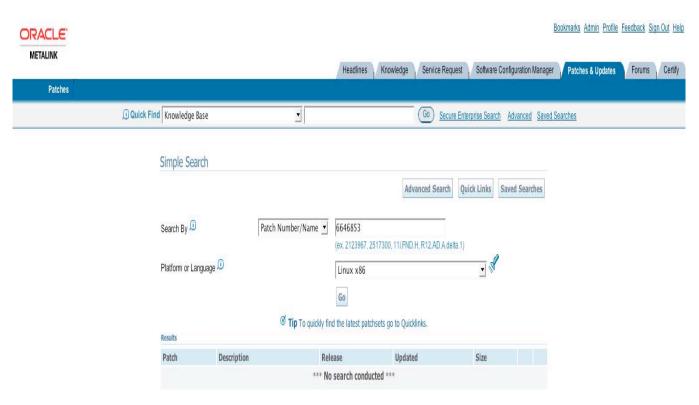
Foot 3

Platform	9.2.0.8	9.2.0.8 DVFoot 1 Foot 2	10.1.0.5 Foot 3	10.2.0.2	10.2.0.3	11.1.0.6
AIX 5L	6646842	6646846	6647005	25-JAN-2008	6646853	NA
IP Itanium	6646842	NA	6647005	25-JAN-2008	6646853	NA
IP-UX	6646842	6646846	6647005	25-JAN-2008	6646853	NA
BM Linux S/390	NA	NA	NA NA	NA	NA	NA
BM zLinux	NA	NA	OR	25-JAN-2008	6646853	NA
3M z/OS 390 (Server)	6646842	NA	OR	NA	6646861	NA
inux Itanium	6646842	NA	6647005	25-JAN-2008	6646853	NA
inux on Power	NA	NA	OR	31-JAN-2008	6646853	NA
inux x86	6646842	NA	6647005	NA	6646853	6646866
inux x86-64	6646842	6646846	6647005	25-JAN-2008	6646853	NA
Aac OS	NA	NA	OR	NA	NA	NA
Golaris	6646842	6646846	NA NA	NA	NA	NA
olaris 64-bit	6646842	6646846	6647005	NA	6646853	NA
olaris AMD64	NA	NA	NA	25-JAN-2008	6646853	NA
Golaris x86	NA	NA	6647005	25-JAN-2008	NA	NA
ru64	6646842	NA	6647005	31-JAN-2008	6646853	NA
MS	6646842	NA	NA NA	25-JAN-2008	NA	NA
MS Itanium	NA	NA	NA	25-JAN-2008	NA	NA
Vindows 32-bit	6637265	NA	6637274	NA	6637237	NA
Vindows 64-bit	6637266	NA	6637275	NA	6637238	NA
Vindows AMD 64	NA	NA	NA	NA	6637239	NA

6. Note the **Patch Number** in the above table on this page and click on the *Patches* and *Updates* tab at the top of this page. This will display the *Patch Search* page (shown below).



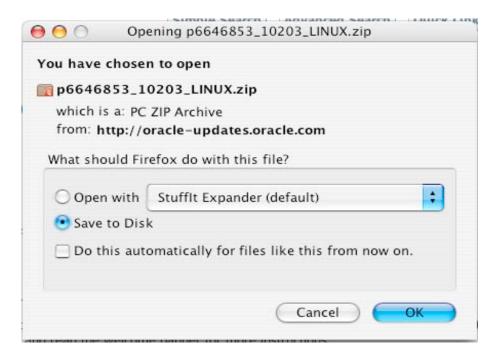
7. To choose the type of search, click on the **Simple Search** link (highlighted by the red cloud) to get to the *Simple Search* page (shown below). Enter the noted Patch Number in the text box next to the dropdown that displays **Patch Number/Name** for *Search By* criteria. Select **Linux X86** or the appropriate OS from the dropdown box labeled **Platform or Language**. Click the **Go** button to get to the *Patch Download* page





You may also download patches using any FTP client by connecting to updates.oracle.com. Connect with your Metalink username and password and read the welcome banner for more instructions. FTP feature is not extended to https://metalink3.oracle.com customers.

8. At the *Patch Download* page, click the **Download** button to get to the *Disk Save* dialog box:



- 9. Choose the directory where you want to save the patch.
- 10. Start the unix secure shell program and change the directory to where the patch was saved.

- 11. Then type: **unzip** followed by the patch file name (i.e. **unzip p6646853_10203_LINUX.zip**) at the command line and press **Enter**. The unzip utility will create a directory named for the patch (ex. 6646853/).
- 12. **Note:** Make sure everyone is logged out of all applications and that no data has been entered since the previous evenings backup.
- 13. Go to the InfoSys Operations Manual Technology Initiatives Procedures page (http://lfolks.sdsu.edu/PRODapps/idtops/indexti.cfm) for the Shut Down instructions link or type:

http://lfolks.sdsu.edu/ist/ops/OracleSysAdmProc1-2.html#PROC2

to find the instructions for shutting down all oracle instances, the oracle listeners and the management programs. Execute the indicated commands.

- 14. Change directory to the new patch directory. Open the **README.html** file in a browser for patch installation instructions.
- 15. **Note**: There may need to be pre-installation instructions in the **README.html** file that have to be followed before moving to step 16.
- 16. Update the oracle server system files using the following instructions and commands (from the vendor's **README.html** file and shown below):

Follow these steps:

- 1. Ensure that your Oracle Database installation is the same release for which you are applying this patch. In other words, only apply the Release 10.2.0.3 CPUJan2008 patch to an Oracle Database Release 10.2.0.3.
- 2. Review Section 4, "Known Issues" before proceeding with this installation.
- 3. Shut down all instances and listeners associated with the Oracle home that you are updating. For more information, see Oracle Database Administrator's Guide.
- 4. Ensure that the \$PATH has the following executables: make, ar, ld, and nm.

The location of these executables depends on your operating system. On many operating systems, they are located in /usr/ccs/bin, in which case you can set your PATH as follows:

export PATH=\$PATH:/usr/ccs/bin

5. Check whether the java and jar executables are present in your Oracle home.

In a standard Oracle installation, java is available in \$ORACLE_BASE/jre/JDK version/bin directory and jar is available in \$ORACLE_HOME/jdk/bin directory. By default, the OPatch utility uses the executables from these locations. However, if they are located elsewhere, you can use the opatch apply command with the -jdk flag, and then specify the full path to the JDK to be used. For more information, refer to OPatch User's Guide, which is available with the OPatch utility distribution.

- 6. If you have previously applied a 10.2.0.3 CPU, follow the steps in Section 3.3.1, "Pre Installation Instructions for non-RAC and RAC Environments".
- 7. Set your current directory to the directory where the patch is located and then run the OPatch utility by entering the following commands:

```
cd 6646853 opatch napply -skip_subset -skip_duplicate
```

Note: Should OPatch return conflicts or subsets, refer to Section 3.2.2, "Patch Conflict Checking" for additional options

Previously applied 10.2.0.3 CPU patches will not be rolled back, and only new molecules will be installed.

17. After completing the commands in item #7 (shown above), Go to the InfoSys Operations Manual - Technology Initiatives - Procedures page (http://lfolks.sdsu.edu/PRODapps/idtops/indexti.cfm) for the Start Up instructions link or type:

http://lfolks.sdsu.edu/ist/ops/OracleSysAdmProc1-2.html

to find the instructions for starting up all oracle instances, the oracle listeners and the management programs. Execute the indicated commands.

- 18. Type **setenv** (set environment variable values) and look for the ORACLE_SID parameter value (instance name), after the parameter list finishes displaying (usually toward the bottom of the list). This indicates the current instance. The setenv command can be used to change the current ORACLE_SID (i.e. **setenv ORACLE_SID devapps**), to each instance name that must be updated to complete the patch installation. The instance names are:
 - The development instance name is **devapps**.
 - The production instance name is **prodapps**.
 - The digital collections instance name is **luna**.
- 19. Update the instance files using the following instructions and commands (from the vendor' **README.html** file and shown below):

3.3.3.1 Loading Modified .sql Files into the Database

To load modified .sql files into the database, follow these steps:

- 1. Start all database instances running from the Oracle home that you are patching.
- 2. For each database instance running on the Oracle home being patched, connect to the database using SQL*Plus. Connect as SYSDBA and run the catcpu.sql script as follows:

cd \$ORACLE_HOME/cpu/CPUJan2008 sqlplus /nolog SQL> CONNECT / AS SYSDBA SQL> STARTUP

```
SQL> @catcpu.sql
SQL> QUIT
```

- 3. Check the log file for any errors. If there are errors, refer to Section 4, "Known Issues".
- 4. If catcpu.sql reports any Invalid Objects, run the following commands:

Note: For large numbers of objects, this compilation step can take some time. If you are applying this patch through the Enterprise Manager console, you will be prompted to run this compilation script.

cd \$ORACLE_HOME/rdbms/admin sqlplus /nolog SQL> CONNECT / AS SYSDBA SQL> STARTUP SQL> @utlrp.sql

You can check for any invalid objects by executing following statement:

SQL> SELECT OBJECT_NAME FROM DBA_OBJECTS WHERE STATUS= 'INVALID';

Note: For all Oracle Database releases, you must run the post-installation steps (that is, the catcpu.sql script) for any new database you create or database upgraded to this release since the CPUJan2008 patch was applied.

- 20. **Note**: There may be additional steps the vendor's **README.html** file that need to be followed at this point. If not, proceed to step 20.
- 21. Repeat steps 16 and 19 for each instance name.
- 22. Once all the instances have been updated, they are ready for use.