

Oracle CPU patch January 2006 installation instructions

This Wiki page has the scope of documenting the installation steps for the Oracle security patch CPUJAN2006 for the database servers at PSS.

Database Oracle Homes needs to be patched (all versions) as documented in **Metalink's Note 343382.1** . A third-party link with a description of the vulnerabilities:

http://www.red-database-security.com/advisory/oracle_cpu_jan_2006.html

The following Oracle home types are not affected by this CPU patched:

- Oracle CRS
- Oracle Agent
- Oracle Client (there are 3 vulnerabilities for Oracle clients, but not relevant for our environment)

Note: Since Jan 20th the patchinstallation guide reports that CPU Jan06 patch is rolling installable for 10.1.0.4 and 10.2.0.1. The instructions here below refer to the previous indication were the patch was marked as non-rolling installable. Minor changes are needed for the rolling installation procedure.

Additional configurations steps are documented below. These steps require instance shutdown and therefore have been 'queued in' this maintenance window for CPUJAN06.

Patching schedule and DB List: ScheduleCPUJan2006

RAC 10gR1 (10.1.0.4)

Note: These are pre-install steps that should be done just before the maintenance window starts

- If you want to copy-paste commands from this manual set properly the following environment variables (on both nodes):

```
export RAC_DB_NAME=<name_of_the_database> (e.g. int2r)
export RAC_INST_1=<first_RAC_instance> (e.g. int2r1)
export RAC_INST_2=<second_RAC_instance> (e.g. int2r2)
export RAC_NODE_1=<first_RAC_node> (e.g. itrac05)
export RAC_NODE_2=<second_RAC_node> (e.g. itrac06)
```

- Copy the patch to all cluster nodes:

```
cd $HOME/oracle_binaries
scp oracle@itrac05:~/oracle_binaries/p4751928_10104_LINUX.zip .
$ORACLE_HOME/bin/unzip ./p4751928_10104_LINUX.zip
```

- Copy the new version of OPatch to all cluster nodes and use it to replace the old OPatch:

```
scp oracle@itrac05:~/oracle_binaries/p2617419_10102_GENERIC.zip .

$ORACLE_HOME/bin/unzip ./p2617419_10102_GENERIC.zip
cd $ORACLE_HOME
tar cvvf OPatch.tar OPatch
rm -rf OPatch
mv $HOME/oracle_binaries/OPatch .
$ORACLE_HOME/OPatch/opatch lsinventory
```

Note: command above should complete successfully and it should show that OPatch version 10.0.0.0.54 is being used.

Additional configuration steps

- From one of the cluster nodes connect to the database and change value of the `CLUSTER_DATABASE_INSTANCES` parameter:

```
sqlsys_DB
SQL> ALTER SYSTEM SET CLUSTER_DATABASE_INSTANCES=4 SCOPE=spfile SID='*';
SQL> exit
```

```
sqlsys_ASM
SQL> ALTER SYSTEM SET CLUSTER_DATABASE_INSTANCES=4 SCOPE=spfile SID='*';
SQL> exit
```

- Change the `audit_file_destination` to the `/ORA/dbs00` filesystem:

```
mkdir /ORA/dbs00/oracle/admin/$RAC_DB_NAME/adump
(REPEAT for both RAC nodes)
```

```
sqlsys_DB
SQL> ALTER SYSTEM SET audit_file_dest='/ORA/dbs00/oracle/admin/EDIT_THIS_PART/adump'
SQL> exit
NOTE: change audit_file_dest only for the db instance, NOT the asm instance
```

- Configure the dump directories to use the correct filesystem (`/ORA/dbs00`) when not already so. (Check the DB and the ASM instances).

Sample code:

```
mkdir /ORA/dbs00/oracle/admin/DBNAMEHERE/bdump
alter system set background_dump_dest='/ORA/dbs00/oracle/admin/DBNAMEHERE/bdump' scope=spfile;
mv /ORA/dbs01/oracle/admin/DBNAMEHERE/bdump /ORA/dbs01/oracle/admin/DBNAMEHERE/OLD_bdump
```

```
mkdir /ORA/dbs00/oracle/admin/DBNAMEHERE/udump
alter system set user_dump_dest='/ORA/dbs00/oracle/admin/DBNAMEHERE/udump' scope=spfile;
mv /ORA/dbs01/oracle/admin/DBNAMEHERE/udump /ORA/dbs01/oracle/admin/DBNAMEHERE/OLD_udump
```

```
mkdir /ORA/dbs00/oracle/admin/DBNAMEHERE/cdump
alter system set core_dump_dest='/ORA/dbs00/oracle/admin/DBNAMEHERE/cdump' scope=spfile;
mv /ORA/dbs01/oracle/admin/DBNAMEHERE/cdump /ORA/dbs01/oracle/admin/DBNAMEHERE/OLD_cdump
```

```
mkdir /ORA/dbs00/oracle/admin/DBNAMEHERE/adump
alter system set audit_file_dest='/ORA/dbs00/oracle/admin/DBNAMEHERE/adump' scope=spfile;
mv /ORA/dbs01/oracle/admin/DBNAMEHERE/adump /ORA/dbs01/oracle/admin/DBNAMEHERE/OLD_adump
```

Note 1: Similar settings for the ASM instance (`audit_file_dest` ONLY on the DB instance)

Note 2: Directory and filesystem changes have to be applied to all RAC nodes

- ASM instance memory allocation

```
sqlsys_ASM
SQL> alter system set shared_pool_size=64m scope=spfile sid='*';
SQL> alter system set large_pool_size=40m scope=spfile sid='*';
SQL> exit
```

- ASM instance memory (**other option**, as they are dynamic). From **each** instance:

```
sqlsys_ASM
SQL> alter system set shared_pool_size=64m scope=both sid='+ASM1';
SQL> alter system set large_pool_size=40m scope=both sid='+ASM1';
SQL> exit
```

- ATLAS ONLY: set the service_names parameter to null (it's supposed to be handled dynamically by CRS):

```
sqlsys_DB
SQL> alter system reset service_names scope=spfile sid='*';
SQL> exit
```

NOTE: Service downtime starts here

- From one of the cluster nodes shutdown the database, ASM instances and node applications:

```
srvctl stop database -d $RAC_DB_NAME
srvctl stop asm -n $RAC_NODE_1
srvctl stop asm -n $RAC_NODE_2
srvctl stop nodeapps -n $RAC_NODE_1
srvctl stop nodeapps -n $RAC_NODE_2
```

- Check whether everything is really stopped:

```
crsstat.sh
```

- Go to each node of the cluster and apply the patch:

```
cd $HOME/oracle_binaries/4751928
$ORACLE_HOME/OPatch/opatch apply -local
```

(Note a message asking to rollback Patch 4567866 will appear, answer Y)

- Once the OPatch succeeds on both nodes startup node applications, ASM instance and DB instance on one of the cluster nodes and from this node execute patch post-installation steps:

```
srvctl start nodeapps -n $RAC_NODE_1
srvctl start asm -n $RAC_NODE_1
srvctl start instance -d $RAC_DB_NAME -i $RAC_INST_1

crsstat.sh

cd $ORACLE_HOME/cpu/CPUJan2006
sqlsys_DB
SQL> select count(*) from dba_objects where status='INVALID';
SQL> @catcpu.sql
SQL> @?/rdbms/admin/utlrlp.sql
SQL> select count(*) from dba_objects where status='INVALID';
SQL> exit
```

- Review the log created in the \$ORACLE_HOME/cpu/CPUJan2006 directory

- Startup the rest of the RAC:

```
srvctl start nodeapps -n $RAC_NODE_2
srvctl start asm -n $RAC_NODE_2
srvctl start instance -d $RAC_DB_NAME -i $RAC_INST_2

crsstat.sh

srvctl start service -d $RAC_DB_NAME

crsstat.sh
```

RAC 10gR2 addendum (10.2.0.1)

Same patch installation instructions as for 10gR1 apply here with the additions:

- the patchset is rolling (tested successfully, but only on a test DB with no users)
- 10.2.0.1-specific binaries are required both for the patchset and the opatch utility (see metalink for details)
 - ◆ CPUpatch: 4751931 (version from 20th Jan)
 - ◆ Opatch version: 10.2.0.1.1

Note: on January 20th Oracle released a 2nd version of this patch. Oracle homes patched with the previous version need to be repatched.

10g (10.1.0.4)

Note: These are pre-install steps that should be done just before the maintenance window starts

- Make sure you have Perl 5.00503 (or later)

```
perl -v
```

- You must use OPatch version 1.0.0.0.54 or later.

Check the current version:

```
$ORACLE_HOME/OPatch/opatch version
```

If not, install it. To the \$ORACLE_HOME directory copy the p2617419_10102_GENERIC.zip and unzip it:

```
cp p2617419_10102_GENERIC.zip $ORACLE_HOME/
mv $ORACLE_HOME/OPatch/ $ORACLE_HOME/OPatch.bak
cd $ORACLE_HOME
unzip p2617419_10102_GENERIC.zip
```

Check again the current version and if it works:

```
$ORACLE_HOME/OPatch/opatch lsinventory
```

- Before starting the installation check whether "java" and "jar" executables are present in your Oracle Home. In a standard Oracle installation, "java" is available in \$ORACLE_HOME/jre/bin directory

and "jar" is available in \$ORACLE_HOME/jdk/bin directory.

```
ls -l $ORACLE_HOME/jre/<JDKversion>/bin
ls -l $ORACLE_HOME/jdk/bin
```

If you don't have a standard installation and these commands are not present, then invoke the "opatch apply" command with the -jdk flag, specifying the full path to the JDK to be used.

- Check if the following executables must be present in the \$PATH: make, ar, ld, and nm.
- Copy the p4751928_10104_LINUX.zip file to your oracle's home directory, unzip it there and go to the 4751928 subdirectory.

```
unzip p4751928_10104_LINUX.zip
cd ~/4751928
```

NOTE: Service downtime starts here

- Shutdown all instances and listeners associated to the ORACLE_HOME being updated:

```
lsnrctl stop
sqlplus "/ as sysdba";
SQL> shutdown immediate;
SQL> exit;
```

- Apply the CPU:

```
$ORACLE_HOME/OPatch/opatch apply
```

If you encounter any errors, please refer to the "Known issues" section of the 343384.1

- Start up all database instances running out of the ORACLE_HOME being patched and run a postinstallation script.

```
cd $ORACLE_HOME/cpu/CPUJan2006
sqlplus "/ as sysdba";
SQL> startup;
SQL> @catcpu.sql;
SQL> exit;
```

Examine the log file. If you encounter any errors, please refer to the "Known issues" section of the 343384.1 document.

- If catcpu.sql reports any Invalid Objects, compile the invalid objects using the following:

```
cd $ORACLE_HOME/rdbms/admin
sqlplus "/ as sysdba";
SQL> @utlrlp.sql
```

Check again if invalid objects exist:

```
SQL> select OBJECT_NAME from DBA_OBJECTS where status = 'INVALID';
SQL> exit;
```

- Start the listener:

```
lsnrctl start
```

9i (9.2.0.7)

Note: These are pre-install steps that should be done just before the maintenance window starts

- Make sure you have Perl 5.00503 (or later)

```
perl -v
```

- You must use OPatch version 1.0.0.0.54 or later.

Check the current version:

```
$ORACLE_HOME/OPatch/opatch version
```

If not, install it. To the \$ORACLE_HOME directory copy the p2617419_10102_GENERIC.zip and unzip it:

```
cp p2617419_10102_GENERIC.zip $ORACLE_HOME/  
mv $ORACLE_HOME/OPatch/ $ORACLE_HOME/OPatch.bak  
cd $ORACLE_HOME  
unzip p2617419_10102_GENERIC.zip
```

Check again the current version and if it works:

```
$ORACLE_HOME/OPatch/opatch lsinventory
```

- Before starting the installation check whether "java" and "jar" executables are present in your Oracle Home. In a standard Oracle installation, "java" is available in \$ORACLE_HOME/jre/bin directory and "jar" is available in \$ORACLE_HOME/jdk/bin directory.

```
ls -l $ORACLE_HOME/jre/<JDKversion>/bin  
ls -l $ORACLE_HOME/jdk/bin
```

If you don't have a standard installation and these commands are not present, then invoke the "opatch apply" command with the -jdk flag, specifying the full path to the JDK to be used.

- Check if the following executables must be present in the \$PATH: make, ar, ld, and nm.
- Copy the p4751923_92070_LINUX.zip file to your oracle's home directory, unzip it there and go to the 4751923 subdirectory.

```
unzip p4751923_92070_LINUX.zip  
cd ~/4751923
```

NOTE: Service downtime starts here

- Shutdown all instances and listeners associated to the ORACLE_HOME being updated:

```
lsnrctl stop
sqlplus "/ as sysdba";
SQL> shutdown immediate;
SQL> exit;
```

- Apply the CPU:

```
$ORACLE_HOME/OPatch/opatch apply
```

If you encounter any errors, please refer to the "Known issues" section of the 343384.1

- Start up all database instances running out of the ORACLE_HOME being patched and run a postinstallation script.

```
cd $ORACLE_HOME/cpu/CPUJan2006
sqlplus "/ as sysdba";
SQL> startup;
SQL> select OBJECT_NAME from DBA_OBJECTS where status = 'INVALID';
SQL> @catcpu.sql;
SQL> exit;
```

Examine the log file. If you encounter any errors, please refer to the "Known issues" section of the 343384.1 document.

- If catcpu.sql reports any Invalid Objects, compile the invalid objects using the following:

```
cd $ORACLE_HOME/rdbms/admin
sqlplus "/ as sysdba";
SQL> @utlrp.sql
```

Check again if invalid objects exist:

```
SQL> select OBJECT_NAME from DBA_OBJECTS where status = 'INVALID';
SQL> exit;
```

- Start the listener:

```
lsnrctl start
```

This topic: PSSGroup > CpuJanuary06
Topic revision: r16 - 2006-03-01 - LucaCanali



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