

Oracle CPU patch October 2005 installation instructions

- Note the CPU Oct05 patch needs to be applied to the DB Oracle Home and OEM agent home. The following describes the steps for DB patching. OEM agent patching can be done after the DB has been successfully patched.
- Optional: create tar copy of ORACLE_HOME and orainvetry (to force a patch rollback if needed)
- copy Patch and OPatch to server

```
mv $ORACLE_HOME/OPatch $ORACLE_HOME/OPatch.old
cp -r CPU_Oct05/OPatch $ORACLE_HOME/
```

10g RAC

- shutdown with srvctl: db instance, asm instance, listener

```
srvctl stop instance -d DBNAME -i INST -o transactional # wait end of transactions before k
srvctl stop asm -n `hostname -s` # `hostname -s` returns local hostn
srvctl stop nodeapps -n `hostname -s`
```

- check existance of shrept.lst

```
ls $ORACLE_HOME/network/admin/shrept.lst
```

- create g++ link

```
sudo ln -s /usr/bin/g++296 /usr/bin/g++
```

- use new optach to install patch

```
cd CPU_Oct05/4567866
$ORACLE_HOME/OPatch/patch apply -local
* Note: might appear error on pre-patch script, just say to continue installation
```

- Send email to **computer.operations@cern.ch** warning the reboot of nodes

- Prepare kernel upgrade

- ◆ login as **root**

```
rm /etc/nospma # enable SPMA to update RPMs
spma_wrapper.sh # upgrade RPMs
ncm-ncd --co grub fmonagent # update grub and monitoring configuration
check-this-host # run all monitoring checks; should (at least) give "Operatin
```

- reboot the node (shutdown -r now), it should be back in a few minutes
- check errors

```
check-this-host # the OperatingSystem" warning should have disapeared
```

```
The following warnings may persist yet for 5-10 minutes and then should disappear:
crond
atd
MSAd
SureHeartbeat
```

- Database should be up and available

```
crs_stat -t
```

- If needed startup the crs components/db instance manually

```
srvctl start nodeapps -n `hostname -s`  
srvctl stop asm -n `hostname -s`  
srvctl start instance -d DBNAME -i INST
```

- Proceed to next node of the cluster
-

- After patch all nodes of cluster, compile objects

```
cd $ORACLE_HOME/cpu/CPUOct2005  
sqlplus "/ as sysdba" @catcpu.sql  
cd $ORACLE_HOME/rdbms/admin  
sqlplus "/ as sysdba" @utlrp.sql
```

- Check all objects are valid

```
select OBJECT_NAME from DBA_OBJECTS where status= 'INVALID';
```

10g single instance database

- Do the OS security upgrade. Send email to **computer.operations@cern.ch** warning the reboot of nodes

- Prepare kernel upgrade

- ◆ login as **root**

```
rm /etc/nospma # enable SPMA to update RPMs  
spma_wrapper.sh # upgrade RPMs  
ncm-ncd --co grub fmonagent # update grub and monitoring configuration  
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The following warnings may persist yet for 5-10 minutes and then should disappear:

```
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- Check existance of shrept.lst

```
ls $ORACLE_HOME/network/admin/shrept.lst
```

- Create g++ link

```
sudo ln -s /usr/bin/g++296 /usr/bin/g++
```

- Check if the following executables are present in the \$PATH: make, ar, ld, and nm.

- 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. By default, "opatch" uses the executables from these locations. If not, invoke the "opatch apply" command with the -jdk flag, specifying the full path to the JDK to be used.

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

```
lsnrctl stop
sqlplus "/ as sysdba";
shutdown immediate;
```

- Use new optach to install patch

```
cd CPU_Oct05/4567866
$ORACLE_HOME/OPatch/opatch apply
* Note: some errors might appear - please check the metalink document 333956.1
```

- Start up the database instance running out of the ORACLE_HOME being patched and run catcpu.sql as follows:

```
cd $ORACLE_HOME/cpu/CPUOct2005
sqlplus "/ as sysdba";
startup;
@catcpu.sql;
exit;
* Note: some errors might appear - please check the metalink document 333956.1
```

- Compile objects

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

- Check all objects are valid

```
select OBJECT_NAME from DBA_OBJECTS where status = 'INVALID';
```

9i single instance

- Disable Asynchronous IO

```
SQL> alter system set disk_asynch_io=false scope=spfile;
SQL> shutdown immediate;
```

```
$ cd $ORACLE_HOME/rdbms/lib
$ make -f ins_rdbms.mk async_off
$ make -f ins_rdbms.mk ioracle
```

- Apply Oracle OS-level patch 3006854 and fulfill prerequisites described on metalink in the note 252217.1

```
$ sudo mv /usr/bin/gcc /usr/bin/gcc32
$ sudo ln -sf /usr/bin/gcc296 /usr/bin/gcc
$ sudo ln -sf /usr/bin/g++296 /usr/bin/g++
$ cd 3006854
```

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```
$ sudo ./rhel3_pre_install.sh
$ sudo cp /etc/libcwait.so /lib/libcwait.so
$ sudo chmod u+w /etc/ld.so.preload
```

In the /etc/ld.so.preload file change /etc/libcwait.so to /lib/libcwait.so

```
$ sudo rm /etc/libcwait.so
```

- Upgrade OS as described in **10g single instance database** section
- Upgrade OPatch to version 1.0.0.0.53
- Stop Oracle database and the listener and apply the patch

```
$ lsnrctl stop
SQL> shutdown immediate
$ cd 4567854
$ $ORACLE_HOME/OPatch/patch apply -jdk $ORACLE_HOME/jdk
```

- Startup the database, the listener and patch the database

```
$ cd $ORACLE_HOME/cpu/CPUOct2005
$ sqlplus "/ as sysdba"
SQL> STARTUP
SQL> @catcpu.sql
$ lsnrctl start
```

- Compile objects

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

- Check all objects are valid

```
select OBJECT_NAME from DBA_OBJECTS where status = 'INVALID';
```

- Extra steps added to the CPU maintenance. Change (if needed) the following init parameters:

```
control_files=... (multiplex to 2 different file systems + change the parameter value accordingly)
db_block_checksum = true
parallel_max_servers = 0 (we discussed this in an earlier meeting)
```

To change the control_files location do:

```
Create pfile from spfile:
create pfile='/tmp/init.ora' from spfile;
Shutdown the database
Copy one of the control files from /ORA/dbs03/oradata/SID directory to /ORA/dbs01/oracle/
(if they are on the same filesystem, choose a location in a different filesystem):
cp /ORA/dbs03/oradata/COPVSS10/COPVSS10_control01.ctl /ORA/dbs01/oracle/admin/COPVSS10/
Edit the /tmp/init.ora and set the control_files value to the 2 new control file location
*.control_files='/ORA/dbs03/oradata/COPVSS10/COPVSS10_control01.ctl','/ORA/dbs01/oracle/
admin/COPVSS10/COPVSS10_control02.ctl'
Startup the database with the init.ora pfile:
```

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```
startup pfile='/tmp/init.ora'  
Create spfile from the corrected pfile:  
create spfile from pfile='/tmp/init.ora'  
Restart the database and check the control_files parameter:  
shutdown immediate;  
startup;  
show parameter control_files;
```

- For compass change the soft file limit in /etc/security/limits.conf from 1024 to 2048 (optional, this is to fix an issue seen by Miguel)
- If any filesystem, such as /ORA/dbs03 or other is ext2, change it to ext3

1. shutdown database
2. cd /
3. sudo bash (become root)
4. mount - (get mounted fs info - filesystems, devices, ext...)
5. Check processes running in the filesystem to be changed, kill if something exists:
sudo /usr/sbin/lsof | grep -i /ORA/dbs0...
6. umount /ORA/dbs0...
7. tune2fs -j /dev/sd... (should be in /sbin directory; /dev/sd... is the device for /ORA/d...)
8. Edit /etc/fstab and correct ext2 to ext3 for /ORA/dbs0... which has been changed
9. mount /ORA/dbs0...
10. You can check the changes doing "mount" command

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