Oracle® Database

Release Notes

10*g* Release 2 (10.2) for Linux x86

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This document contains important information that was not included in the platform-specific or product-specific documentation for this release. This document supplements *Oracle Database Readme* and may be updated after it is released.

To check for updates to this document and to view other Oracle documentation, refer to the Documentation section on the Oracle Technology Network (OTN) Web site:

`http://www.oracle.com/technology/documentation/`

For additional information about this release, refer to the readme files located in the `$ORACLE_HOME/relnotes` directory.

This document contains the following topics:

1 Certification Information

The latest certification information for Oracle Database 10*g* release 2 (10.2) is available on Oracle*MetaLink* at:

`http://metalink.oracle.com`

2 Unsupported Products

The following products are not supported with Oracle Database 10*g* release 2 (10.2):

- Grid Control Support

  Oracle Database 10*g* release 2 (10.2) can be managed as a target by Grid Control 10.1.0.4. However, Oracle Database 10*g* release 2 is not supported by Grid Control 10.1.0.4 as a repository.

3 Preinstallation Requirements

You must review the following sections before installing Oracle Database 10g release 2:

- Install libaio Before Installing or Upgrading
- Install oracleasm-support to use ASMLib
- Oracle HTTP Server on Red Hat Enterprise Linux 4.0
- Configuring Kernel Parameters

3.1 Install libaio Before Installing or Upgrading

Before upgrading to or installing Oracle Database 10*g* release 2, install the `libaio` package.

3.2 Install oracleasm-support to use ASMLib

Install `oracleasm-support` package version 2.0.0.1 or higher to use ASMLib on Red Hat Enterprise Linux 4.0 Advanced Server or SUSE Linux Enterprise Server 9. At the time of this publication, the ASMLib user space tools and kernel module packages are not yet available for SUSE Linux Enterprise Server 10.

3.3 Oracle HTTP Server on Red Hat Enterprise Linux 4.0

If you intend to use Oracle HTTP server, which is included in Companion CD of Oracle Database 10*g* Release 2 (10.2) Media pack, refer to the *MetaLink* note 317085.1 for more information on using Oracle HTTP server on Red Hat Enterprise Linux 4.0.

3.4 Configuring Kernel Parameters

After updating the values of kernel parameters in the `/etc/sysctl.conf` file, ensure that you either reboot the computer or run the `sysctl -p` command to make the changes of the `/etc/sysctl.conf` file available in the active kernel memory.

On SUSE Linux Enterprise Server 9.0, ensure that you set the following kernel parameter:

```
disable_cap_mlock = 1
```

On SUSE Linux Enterprise Server 10, ensure that you set the `hugetlb_shm_group` kernel parameter to the gid of the group used as the `dba` group. For example, on a system using a group named `dba` with the following entry in the `/etc/group` file:

```
dba:!:104:oracle
```

The kernel parameter should be set to:

```
hugetlb_shm_group = 104
```

4 Documentation Corrections and Additions

This section lists the following corrections to the installation guides for Linux x86.

The "Extracting the Installation Files" section in chapter 3 of the installation guides, lists the steps for extracting files form a `gz` archive. However, the installation files available on the Oracle Technology Network are in the `zip` archive format.

To extract files from the `zip` archive, use the following command:

```
$ unzip filename.zip
```

5 Installation, Configuration, and Upgrade Issues

Review the following sections for information about issues that affect Oracle Database installation, configuration, and upgrade:

5.1 Upgrading Oracle Real Application Clusters Release 9.2

If you are upgrading a 9.2 RAC environment to Oracle Database 10*g* release 2 on Red Hat Linux 3.0, then you must apply a patch to `GLIBC` before proceeding with the Oracle Clusterware installation. Follow the instructions documented in Oracle*MetaLink* note 284535.1.

This issue is tracked with Oracle bug 3006854.

5.2 Oracle Universal Installer Operating System Prerequisite Check on SUSE Linux Enterprise Server 10

If you are installing Oracle database 10*g* on SUSE Linux Enterprise Server 10, the current version of the Oracle Universal Installer does not recognized SLES10 as a supported operating system and does not perform the installation.

Workaround #1: Run the Oracle Universal Installer using the `ignoreSysPrereqs` flag which causes the installer to skip the operating system check and continue with the installation:

```
./runinstaller -ignoreSysPrereqs
```

As a side effect, the installer also skips other checks during the installation.

Workaround #2: Alter the `/etc/SuSE-release` file. The file normally contains the following text:

```
SUSE Linux Enterprise Server 10 (x86)
VERSION = 10
```

This should be altered by changing the 10s to 9s as follows:

```
SUSE Linux Enterprise Server 9 (x86)
VERSION = 9
```

This causes the installer to consider the system to be running SUSE Linux Enterprise Server 9 and the operating system check passes. The changes to the `/etc/SuSE-release` file should be reverted after the installation of all Oracle software is complete as some `YaST` tools require the original content.

5.3 Installing Oracle Cluster Ready Services on SUSE Linux Enterprise Server 10

Near the end of the installation of Oracle Cluster Ready Services, Oracle Universal Installer prompts for the `$CRS_HOME/root.sh` script to be run on all of the nodes in the cluster. When the `root.sh` script is run on the last node in the cluster, the script calls the VIPCA utility, which will fails. refer to the section for more details.

Workaround: Before running the `root.sh` script on the last node in the cluster, alter the `$CRS_HOME/bin/vipca` script commenting out lines 119 through 123:

```
       arch='uname -m'
#       if [ "$arch" = "i686" -o "$arch" = "ia64" -o "$arch" = "x86_64" ]
#       then
#            LD_ASSUME_KERNEL=2.4.19
#            export LD_ASSUME_KERNEL
#       fi
```

With the lines commented out, `root.sh` should be able to call VIPCA successfully. Ensure that you do not comment out line 118 which sets the arch variable as that is needed by the script.

5.4 Adding a Node to a Shared Oracle Clusterware Configuration

Before running `root.sh` in the first node of a shared Oracle Clusterware home, add the following line in the `$ORA_CRS_HOME/opmn/conf/ons.config` file:

```
usesharedinstall=true
```

This issue is tracked with Oracle bug 4454562.

5.5 Installing Enterprise Security Manager

To install Oracle Security Manager, install Oracle Client and then select the Administrator installation type.

5.6 Upgrading Oracle Clusterware 10.1.*x* to Oracle Clusterware 10.2

When upgrading from 10.1.*x* to 10.2, if the host name directory under the `/etc/oracle/scls_scr` directory includes the domain name, then the

following error message is displayed when you run the `rootupgrade.sh` script and the Oracle Clusterware stack does not start:

```
A file or directory in the path name does not exist.
/etc/init.cssd[509]: /etc/oracle/scls_scr/host_name/root/cssrun: 0403-005
Cannot create the specified file.
```

Workaround: Move the `/etc/oracle/scls_scr/`*`hostname.domain_name`* directory to `/etc/oracle/scls_scr/`*`hostname`* and rerun the `rootupgrade.sh` script.

This issue is tracked with Oracle bug 4472284.

5.7 extjob Executable Required Directory Permissions

To enable the `extjob` executable to locate required libraries, the `$ORACLE_HOME/lib` directory and all of its parent directories must have execute permissions for `group` and `other`.

5.8 Modifying a Virtual IP Address Node Application

When modifying the name, IP address, or netmask of an existing virtual IP address (VIP) resource, use the following command:

```
srvctl modify nodeapps
```

and include the existing interfaces for the VIP in the `-A` argument. For example:

```
srvctl modify nodeapps -n mynode1 -A 100.200.300.40/255.255.255.0/eth0
```

This issue is tracked with Oracle bug 4500688.

5.9 Raw Devices on Red Hat Enterprise Linux 4.0

When you restart a Red Hat Enterprise Linux 4.0 system, raw devices revert to their original owners and permissions by default. If you are using raw devices with this operating system for your Oracle files, for example, for ASM storage or Oracle Clusterware files, you need to override this default behavior. To do this, add an entry to the `/etc/rc.d/rc.local` file for each raw device containing the `chmod` and `chown` commands required to reset them to the required values.

As an example, here are sample entries in a `/etc/rc.d/rc.local` file that control the restart behavior of raw devices for two ASM disk files (`/dev/raw/raw6` and `/dev/raw/raw7`), two Oracle Cluster Registry files (`/dev/raw/raw1` and `/dev/raw/raw2`), and three Oracle Clusterware voting disks (`/dev/raw/raw3`, `/dev/raw/raw4`, and `/dev/raw/raw5`):

```
# ASM
chown oracle:dba /dev/raw/raw6
chown oracle:dba /dev/raw/raw7
chmod 660 /dev/raw/raw6
chmod 660 /dev/raw/raw7
# OCR
chown root:oinstall /dev/raw/raw1
chown root:oinstall /dev/raw/raw2
chmod 660 /dev/raw/raw1
chmod 660 /dev/raw/raw2
# Voting Disks
chown oracle:oinstall /dev/raw/raw3
```

```
chown oracle:oinstall /dev/raw/raw4
chown oracle:oinstall /dev/raw/raw5
chmod 644 /dev/raw/raw3
chmod 644 /dev/raw/raw4
chmod 644 /dev/raw/raw5
```

6 Other Known Issues

The following sections contain information about issues related to Oracle Database 10*g* and associated products:

- Building Pro*C Applications if PostgreSQL is Installed
- Encoding Information Not Present in Translated Help Files
- Oracle Clusterware Files Issues
- Cluster Verification Utility
- VLM Window Size on Red Hat Enterprise Linux 4.0
- Oracle C++ Call Interface Compiler Support
- Oracle XML Developer's Kit Compiler Support
- Link Error During genorasdksh on Red Hat Enterprise Linux 4.0
- Removing Metrics for Wait Classes Removes Them Permanently
- SRVCTL and VIPCA Utilities Set the LD_ASSUME_KERNEL Parameter

6.1 Building Pro*C Applications if PostgreSQL is Installed

If the `postgresql-devel` package is installed on the system, then you must add the following directory to the beginning of the `sys_include` parameter in the `$ORACLE_HOME/precomp/admin/pcscfg.cfg` file before building Pro*C applications:

```
$ORACLE_HOME/precomp/public
```

If you do not make this change, then you may encounter errors similar to the following when linking the applications:

```
/tmp/ccbXd7v6.o(.text+0xc0): In function `drop_tables':
: undefined reference to `sqlca'
```

This issue is tracked with Oracle bug 3933309.

6.2 Encoding Information Not Present in Translated Help Files

If the system uses a European language, you might see corrupted characters in Table of Contents of database tools, such as Database Configuration Assitant.

This issue is tracked with Oracle bug 3957096.

Workaround: If the system uses a European language, do not use the `.UTF-8` locale. For example, if the system uses German, set the `LANG` and `LC_ALL` environment variables to `de_DE` instead of `de_DE.UTF-8`.

6.3 Oracle Clusterware Files Issues

The following note applies if you are using Red Hat Enterprise Linux 4.0 or SUSE Linux Enterprise Server 10 and using raw devices to store the Oracle Cluster Registry (OCR) and the voting disk for Oracle Clusterware, or using raw devices for Automatic Storage Management (ASM) database files. For each raw device used for the purposes listed, you must add two entries in the `/etc/rc.d/rc.local` file on Red Hat Enterprise Linux 4.0 or the /etc/init.d/after.local file on SUSE Linux Enterprise Server 10 after running the `root.sh` script following the installation of Oracle Clusterware.

For each OCR file, the entries should look as follows, where `oinstall` is the Oracle install group and `/dev/raw/raw`*n* is an individual device file:

```
chown root:oinstall /dev/raw/rawn
chmod 640 /dev/raw/rawnmar
```

For each voting disk file, the entries should look as follows, where `oracle` is the Oracle user, `oinstall` is the Oracle install group, and `/dev/raw/raw`*n* is an individual device file:

```
chown oracle:oinstall /dev/raw/rawn
chmod 644 /dev/raw/rawnmar
```

For each ASM file, the entries should look as follows, where `oracle` is the Oracle user, `oinstall` is the Oracle install group, and `/dev/raw/raw`*n* is an individual device file:

```
chown oracle:oinstall /dev/raw/rawn
chmod 660 /dev/raw/rawnmar
```

6.4 Cluster Verification Utility

This section lists the issues with Cluster Verification Utility on Red Hat Enterprise Linux 4.0 and SUSE Linux Enterprise Server 9:

- Cluster Verification Utility (CVU) does not support shared checks for raw disks used for Oracle Cluster File System version 2 on Red Hat Enterprise Linux 4.0 and SUSE Linux Enterprise Server 9.
- The preinstallation stage verification checks for Oracle Clusterware and Oracle Real Applications Clusters and reports missing packages. Ignore the following missing packages and continue with the installation:

  ```
  compat-gcc-7.3-2.96.128
  compat-gcc-c++-7.3-2.96.128
  compat-libstdc++-7.3-2.96.128
  compat-libstdc++-devel-7.3-2.96.128
  ```

6.5 VLM Window Size on Red Hat Enterprise Linux 4.0

To use `hugepages` or to accommodate the VLM window size on Red Hat Enterprise Linux 4.0, you must increase the default maximum size of the per-process locked memory. To increase the per-process max locked memory limit, add the following lines to the `/etc/security/limits.conf file`, where `oracle` is the user that administers the database:

```
oracle soft memlock 3145728
oracle hard memlock 3145728
```

6.6 Oracle C++ Call Interface Compiler Support

On Red Hat Enterprise Linux 4.0, Oracle C++ Call Interface (OCCI) does not yet support GCC 3.4.3. The current GNU C++ compiler version that OCCI supports with Red Hat Enterprise Linux 4.0 is GCC 3.2.3.

Workaround: Install Red Hat Enterprise Linux 4 with GCC 3.2.3.

Note: For updates on GCC support, refer to the OCCI home page on OTN:

http://www.oracle.com/technology/tech/oci/occi/index.html

6.7 Oracle XML Developer's Kit Compiler Support

On Red Hat Enterprise Linux 4.0, Oracle XML Developer's Kit (XDK) is not supported with GCC. XDK is supported with Intel C++ compiler (ICC).

6.8 Link Error During genorasdksh on Red Hat Enterprise Linux 4.0

Installing Oracle Database 10g release 2 (10.2.0.1) on Red Hat Enterprise Linux 4.0 Update 1 (2.6.9-11.ELsmp) produces a link error during creation of `liborasdkbase.so.10.2`. The following error message is thrown:

```
INFO: gcc:
INFO: /usr/lib/libstdc++.so.5: No such file or directory
INFO:
INFO: $OH/bin/genorasdksh: Failed to link liborasdkbase.so.10.2
```

This is because Oracle Database 10g release 2 (10.2) requires Red Hat Enterprise Linux 3.0 libraries (`/usr/lib/libstdc++.so.5`).

Workaround: Install the compatible libraries as follows:

```
rpm -ql compat-libstdc++-33-3.2.3-47.3
```

This issue is tracked with Oracle bug 4605635.

6.9 Removing Metrics for Wait Classes Removes Them Permanently

Do not remove the key values for the wait class metrics. Doing so removes them permanently and currently there is no easy way to recover them.

This issue is tracked with Oracle bug 4602952.

6.10 SRVCTL and VIPCA Utilities Set the LD_ASSUME_KERNEL Parameter

The `SRVCTL` and `VIPCA` utilities shipped with Oracle Database 10*g* release 2 and Oracle Clusterware software set the environmental variable `LD_ASSUME_KERNEL`. On SUSE Linux Enterprise Server 10, because the older Linux threads API has been removed from `GLIBC`, setting this parameter causes the `SRVCTL` and `VIPCA` utilities to exit with the following error:

```
/opt/oracle/crs/jdk/jre/bin/java: error while loading shared libraries:
libpthread.so.0: cannot open shared object file: No such file or directory
```

Workaround: Comment out the lines that set the LD_ASSUME_KERNEL variable from the VIPCA and SRVCTL utilities. For the VIPCA utility alter the $CRS_HOME/bin/vipca script commenting out lines 119 through 123 as follows:

```
       arch='uname -m'
#       if [ "$arch" = "i686" -o "$arch" = "ia64" -o "$arch" = "x86_64" ]
#       then
#            LD_ASSUME_KERNEL=2.4.19
#            export LD_ASSUME_KERNEL
#       fi
```

With the lines commented out, root.sh should be able to call VIPCA successfully. Ensure that you do not to comment out line 118 which sets the arch variable as that is needed by the script.

For the SRVCTL utility alter the $CRS_HOME/bin/srvctl and the $ORACLE_HOME/bin/srvctl scripts commenting out lines 173 and 174 as follows:

```
#Remove this workaround when the bug 3937317 is fixed
#LD_ASSUME_KERNEL=2.4.19
#export LD_ASSUME_KERNEL
```

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