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:

- Certification Information
- Unsupported Products
- Preinstallation Requirements
- Documentation Corrections and Additions
- Installation, Configuration, and Upgrade Issues
- Other Known Issues
- Documentation Accessibility

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.

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3 Preinstallation Requirements

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

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
dba:!:104:oracle entry in the `/etc/group` file, the `hugetlb_shm_group` kernel
parameter should be set to the following value:

```
hugetlb_shm_group = 104
```

4 Documentation Corrections and Additions

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

4.1 Extracting Installation Files

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

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

```
$ unzip filename.zip
```

4.2 Incorrect CRS Home Example

In *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide*, Chapter 2, "Preinstallation," in the section "Oracle Clusterware Home Directory," it incorrectly lists the path `/u01/app/oracle/product/crs` as a possible Oracle Clusterware home (or CRS home) path. This is incorrect. A default Oracle base path is `/u01/app/oracle`, and the Oracle Clusterware home must never be a subdirectory of the Oracle base directory.

A possible CRS home directory is in a path outside of the Oracle base directory. for example, if the Oracle base directory is `u01/app/oracle`, then the CRS home can be an option similar to one of the following:

```
u01/crs/
/u01/crs/oracle/product/10/crs
/crs/home
```

This issue is tracked with Oracle bug 5843155.

4.3 List of Packages for Red Hat Enterprise Linux 4.0

In the "Software Requirements" section of quick installation guides and Chapter 2 of installation guides, the following should be the list of packages for Red Hat Enterprise Linux 4.0:

```
binutils-2.15.92.0.2-13.EL4
compat-db-4.1.25-9
compat-libstdc++-296-2.96-132.7.2
control-center-2.8.0-12
gcc-3.4.3-22.1.EL4
gcc-c++-3.4.3-22.1.EL44
glibc-2.3.4-2.9
glibc-common-2.3.4-2.9
gnome-libs-1.4.1.2.90-44.1
libstdc++-3.4.3-22.1
libstdc++-devel-3.4.3-22.1
libaio-0.3.96-3
make-3.80-5
pdksh-5.2.14-30
sysstat-5.0.5-1
```

5 Installation, Configuration, and Upgrade Issues

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

- Upgrading Oracle Real Application Clusters Release 9.2
- Oracle Universal Installer Operating System Prerequisite Check on SUSE Linux Enterprise Server 10
- Installing Oracle Cluster Ready Services on SUSE Linux Enterprise Server 10
- Adding a Node to a Shared Oracle Clusterware Configuration
- Installing Enterprise Security Manager
- Upgrading Oracle Clusterware 10.1.x to Oracle Clusterware 10.2
- extjob Executable Required Directory Permissions
- Modifying a Virtual IP Address Node Application
- Raw Devices on Red Hat Enterprise Linux 4.0

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 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: The installation will pass the operating system prerequisite checks if you change each 10 to 9 in the /etc/SuSE-release file. Ensure that you replace the original values in the /etc/SuSE-release file after the Oracle installation is complete.

Original Value	Changed Value
SUSE Linux Enterprise Server 10 (x86_64)	SUSE Linux Enterprise Server 9 (x86_64)
VERSION = 10	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 fails. Refer to the "SRVCTL and VIPCA Utilities Set the LD_ASSUME_KERNEL Parameter" 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 `root.sh` 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, Oracle Clusterware will not start if the host name directory under the `/etc/oracle/scls_scr` directory includes the domain name. The following error message is displayed when you run the `rootupgrade.sh` script.

```
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

Use the `srvctl modify nodeapps` command to modify the name, IP address, or netmask of an existing virtual IP address (VIP) resource. Use the `-A` argument to include the existing interfaces for the VIP:

```
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

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 Assistant.

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/rawn` 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/rawn` 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/rawn` 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 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).

6.7 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 displayed:

```
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.

6.8 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.

6.9 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
```

6.10 Mapping of 127.0.0.2 to the Local Hostname

By default, the hostname of a machine is mapped to the IP address 127.0.0.2 through an entry in the /etc/hosts similar to the following on SUSE Linux Enterprise Server 10:

```
127.0.0.2       test test.example.com
```

YaST does this to provide compatibility with earlier versions of the applications that had problems running on desktops with dynamically assigned hostnames from DHCP. This mapping may cause certain Oracle networking libraries to encounter errors when they attempt to resolve the hostname of the machine. To avoid these problems, the entry should be removed from the /etc/hosts file. Note that several network related YaST utilities may add this entry back to the file.

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