Oracle® Database

Release Notes

10*g* Release 1 (10.1.0.3.0) for Linux x86

Part No. B14145-03

April 2005

This document contains important information that was not included in the platform-specific or product-specific documentation for this release.

It contains the following topics:

This document may be updated after release. To check for updates to this document and to view other product-specific release notes, see the Documentation section on the OTN Web site:

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

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

Product Issues

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

Oracle Database Installation, Configuration, and Upgrade Issues

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

ORACLE

Upgrading a Database

If you choose the Custom installation path and have previous versions of Oracle databases installed, then the Oracle Universal Installer gives you the option of upgrading the existing databases. If you choose to upgrade an existing database, the Oracle Universal Installer displays another screen asking whether you want to create a starter database.

If you choose to create a starter database, the DBCA upgrades the older version of the database to Oracle Database 10*g* release 1 (10.1), but does not create a starter database.

Upgrading an Oracle9*i* Database to Oracle Database 10*g*

If you upgrade an Oracle9*i* database to Oracle Database 10*g* release 1, Oracle Flashback features using a timestamp may fail. To work around this problem, enter the following SQL script from the Oracle Database 10*g* database:

```
SQL> DELETE FROM smon_scn_time WHERE orig_thread <> 0;
SQL> COMMIT;
```

This issue is tracked with Oracle bug 3994270.

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`.

Enabling Automated Backups

While installing Oracle Database, the Specify Backup and Recovery Options screen may appear truncated if your system does not have the required fonts installed. If your system has only fixed-width fonts, you may not be able to fully specify the required information in the Backup Job Credentials area of the screen. To work around this issue, do not select **Enable Automated Backups** on this screen. After the installation is complete, use the Oracle Enterprise Manager 10*g* Database Control to enable automated backups.

Oracle Real Application Clusters Issues

Review the following sections for information about issues that affect Oracle Real Application Clusters:

ASM Instance Clean Up Procedures for Node Deletion

To remove the ASM instances, the delete node procedure requires the following additional steps on UNIX-based systems:

1. If this is the Oracle home from which the per-node listener named `LISTENER_nodename` runs, then use NetCA to remove this listener and its CRS resources. If necessary, re-create this listener in another Oracle home.
2. If this is the Oracle home from which the ASM instance runs, then enter the following commands to remove the ASM configuration:

```
$ srvctl stop asm -n node
$ srvctl remove asm -n node
```

3. If you are using a cluster file system for your ASM Oracle home, then run the following commands on the local node:

```
$ rm -r $ORACLE_BASE/admin/+ASM
$ rm -f $ORACLE_HOME/dbs/*ASM*
```

4. If you are not using a cluster file system for your ASM Oracle home, then run the `rm` commands listed in the previous step on each node on which the Oracle home exists.
5. Remove `oratab` entries beginning with `+ASM`.

De-Installing Oracle RAC Software

After you de-install CRS, enter the following command to delete the CRS scripts from /etc system runlevel directories:

To de-install Oracle RAC software in Oracle homes and Oracle CRS homes as described in the *Oracle Real Application Clusters Installation and Configuration Guide*, you must run the Installer on the node from which you performed the installation.

After you de-install CRS, enter the following command to delete the CRS scripts:

```
$ $ rm -rf /etc/rc.d/rc*.d/*96init.crs
```

Oracle CRS Installation Errors Caused by stty Commands

During an Oracle CRS installation, the Installer uses SSH (if available) to run commands and copy files to the other nodes. During the installation, you might see errors similar to the following if a "dot" file on the system (for example, `.bashrc` or `.cshrc`) contains `stty` commands:

```
stty: standard input: Invalid argument
stty: standard input: Invalid argument
```

To avoid this problem, Oracle recommends that you modify these files to suppress all output on STDERR, as follows:

- Bourne, Bash, or Korn shell:

```
if [ -t 0 ]; then
   stty intr ^C
fi
```

- C shell:

```
test -t 0
if ($status == 0) then
   stty intr ^C
endif
```

Note: When SSH is not available, the Installer uses the `rsh` and `rcp` commands instead of `ssh` and `scp`. If there are "dot" files that contain `stty` commands that are loaded by the remote shell, this error can also occur.

Oracle CRS Silent Installation

If you perform a silent installation of Oracle CRS on multiple nodes, on a system that does not have other Oracle installations, the Installer does not set up the Oracle Inventory correctly.

In this case, after the installation is complete, follow these steps:

1. Run the `orainstRoot.sh` script on a local node.
2. Copy the `oraInventory` directory from the local node to each of the remote nodes.
3. Log in as the `root` user and run the following script on each remote node:

   ```
   oraInventory/orainstRoot.sh
   ```

Oracle CRS and RAC Installation Log File Messages

The installation log files for CRS and RAC installations might contain messages similar to the following:

```
/bin/tar: .../rootdeletenode: Cannot stat: No such file or directory
/bin/tar: .../rootdelete: Cannot stat: No such file or directory
/bin/tar: .../rootdeinstall: Cannot stat: No such file or directory
```

These messages do not indicate installation problems and can be ignored.

Creating a RAC Database on a NAS File System

To create a RAC database on a NAS file system, you must run DBCA in interactive mode. To run DBCA in interactive mode:

- Choose one of the following options when installing the software:
  - Choose the Enterprise Edition installation type, then choose the Advanced database configuration option
  - Choose the Custom installation type
- Run DBCA from the command line, after installing the software:

  ```
  $ $ORACLE_HOME/bin/dbca
  ```

When using DBCA to create the database, you must specify the value `directIO` for the FILESYSTEMIO_OPTIONS parameter, as follows:

1. When DBCA displays the Initialization Parameters screen, click **All Initialization Parameters**.
2. Click **Show Advanced Parameters**.
3. Specify the value `directIO` for the FILESYSTEMIO_OPTIONS parameter, then click **Close**.

Using Shared CRS Home or Oracle Home Directories

For this release, Oracle supports shared CRS home and Oracle home directories on Linux only if they are located on a certified NAS device. This configuration is supported only if you also use the NAS device to store the Oracle database files.

Note: Do not locate the CRS home or Oracle home directories on OCFS file system.

CRS Installation on SLES 8

While installing CRS on SLES 8 systems, you may receive the following error:

```
RKC-1038 : Error copying files listed in /tmp/OraInstall
date/installCopyFile.lst to node node_name
```

If you receive this error, install the `ncompress-4.2.4-24.i386.rpm` package.

This issue is tracked through Oracle bug 3433369.

Using Network Attached Storage for RAC Installations

On Linux, you can use an NFS file system on a certified NAS device for storing Oracle software or database files. The file system that you use must have the same mount point path on all cluster nodes. In addition, you must use the following mount options when mounting the NFS file systems:

- Use the `noac` option to disable attribute caching.
- Use the `tcp` option to specify the TCP protocol.
- Verify that the NFS file system and the correct mount options are specified in the `/etc/fstab` file on every node to ensure that the file system is mounted when each node boots.

For more information about using NAS devices and NFS file systems:

- See Oracle*Metalink* for information about certified NAS devices
- Contact your NAS vendor for specific recommendations about using the device with Oracle Real Application Clusters
- See Appendix C in the *Oracle Database Installation Guide for UNIX Systems* for general guidelines about using NAS devices for Oracle Database installations

Remote Undo Tablespaces Do Not Autoexetend in RAC Seed Databases

If you create a RAC database with two or more instances and you choose to create General Purpose, Transaction Processing, or Data Warehouse databases, and if you use a shared cluster file system or Automatic Storage Management (ASM) for database files, then the Database Configuration Assistant (DBCA) creates undo tablespace datafiles with an initial size of 25 MB and `AUTOEXTEND ON` for the local instance but `AUTOEXTEND OFF` for remote instances.

You can set `AUTOEXTEND ON` for undo tablespace datafiles for remote instances after creating a RAC database as follows:

1. Connect to the database instance on the node from which you ran DBCA:

   ```
   $ sqlplus "/ AS SYSDBA"
   ```

2. Enter the following command to find the datafile names for UNDOTBS tablespaces for remote instances:

```
SQL> SELECT file_name FROM SYS.DBA_DATA_FILES
     WHERE tablespace_name LIKE 'UNDOTBS%' AND AUTOEXTENSIBLE='NO';
```

3. Set AUTOEXTEND ON for the datafiles that you found in the previous step:

```
SQL> ALTER DATABASE DATAFILE datafile_name AUTOEXTEND ON;
```

OCFS on SUSE Linux Enterprise Server 9

OCFS is not currently supported on SUSE Linux Enterprise Server 9.

Upgrading OPS Release 8.1.7 to Oracle RAC 10*g*

To upgrade Oracle Parallel Server (OPS) release 8.1.7 to Oracle RAC 10*g*:

1. Upgrade the OPS release 8.1.7 database to Oracle9*i* RAC release 2 (9.2).
2. Upgrade the Oracle9*i* RAC database to Oracle RAC 10*g*.

Note: You cannot use the DBCA to upgrade an OPS release 8.1.7 database to Oracle RAC 10*g*.

See Also: For information on upgrading an Oracle database, see the *Oracle Database Upgrade Guide*.

Running Oracle9*i* RAC with Oracle RAC 10*g*

If you are running Oracle9*i* RAC on the same cluster nodes as Oracle RAC 10*g*, complete the following steps:

Note: These steps are required only if you installed Oracle RAC 10*g* on the same cluster nodes as Oracle9*i* RAC. If you upgraded from Oracle9*i* RAC to Oracle RAC 10*g*, do not complete these steps.

1. Create the following directory:

```
$ mkdir -p /etc/ORCLcluster/oracm/lib
```

2. Change directory to this directory:

```
$ cd /etc/ORCLcluster/oracm/lib
```

3. Copy the */oracle9i_home*/lib/libcmdll.so file to the current directory:

```
$ cp /oracle9i_home/lib/libcmdll.so .
```

4. Enter the following command:

```
# ln -s ./libcmdll.so ./libskgxn2.so
```

5. On any cluster node, enter commands similar to the following to restart the node applications on all cluster nodes:

```
$ORACLE_HOME/bin/svrctl stop nodeapps -n nodename
$ORACLE_HOME/bin/svrctl start nodeapps -n nodename
```

In this example, `$ORACLE_HOME` is the Oracle RAC 10*g* Oracle home and *nodename* is the name of the node. Repeat the commands for each node in the cluster.

Red Hat Enterprise Linux 4 Certification Update

Oracle Database 10*g* release 1 (10.1.0.3) is certified on Red Hat Enterprise Linux 4. Review the following sections if you are installing Oracle Database 10*g* release 1 (10.1.0.3) on a Red Hat Enterprise Linux 4 system:

- Additional Required Pre-installation Steps
- Using hugetlbfs on Red Hat Enterprise Linux AS 2.1 (Itanium), SUSE Linux Enterprise Server 9, or Red Hat Enterprise Linux 4
- Red Hat Enterprise Linux 4 Only: Using hugetlbfs or Accommodating the VLM Window Size
- OCCI Support
- OCFS Not Supported
- XDK Not Supported
- ASMlib Not Supported
- Modifying the Pro*C/C++ Configuration File

Additional Required Pre-installation Steps

Before installing Oracle Database 10*g* release 10.1.0.3 on Red Hat 4, you must perform the following steps:

1. Log on to Oracle*Metalink*:

   `http://metalink.oracle.com`

2. Click **Patches** on the side of the Oracle*Metalink* page.
3. Click **Simple Search** on the Select a Patch Search Area page.
4. Select Patch Number(s) in the **Search By** field.
5. Enter 4153257 in the **Search By Patch Number(s)** field.
6. Select Linux x86 in the **Platform or Language** field, then click Go.
7. On the patch download page, click **Download**.
8. Unzip the `p4153257_10103_LINUX.zip` file to a directory on your system.

   This file contains the `oraparam.ini` file.
9. Follow the instructions in the *Oracle Database 10g Installation Guide* to install the Oracle Database 10*g* software.
10. When prompted by the installer, enter the directory that contains the `oraparam.ini` file.

Using hugetlbfs on Red Hat Enterprise Linux AS 2.1 (Itanium), SUSE Linux Enterprise Server 9, or Red Hat Enterprise Linux 4

The "Using hugetlbfs on Red Hat Enterprise Linux AS 2.1 (Itanium) or SUSE Linux Enterprise Server 9" section in the *Oracle Database 10g Release 10.1 Administrator's Reference* should read as follows:

To enable Oracle Database to use large pages (sometimes called huge pages) on Red Hat Enterprise Linux AS 2.1 (Itanium), SUSE Linux Enterprise Server 9, or Red Hat Enterprise Linux 4, set the value of the `vm.nr_hugepages` kernel parameter to specify the number of large pages that you want to reserve. You must specify a sufficient number of large pages to hold the entire SGA for the database instance. To determine the required parameter value, divide the SGA size for the instance by the size of a large page, then round the result up to the nearest integer.

To determine the default large page size, enter the following command:

```
# grep Hugepagesize /proc/meminfo
```

For example, if `/proc/meminfo` lists the large page size as 2 MB, and the total SGA size for the instance is 1.6 GB, then set the value for the `vm.nr_hugepages` kernel parameter to 820 (1.6 GB / 2 MB = 819.2).

Red Hat Enterprise Linux 4 Only: Using hugetlbfs or Accommodating the VLM Window Size

To use `hugetlbfs` or to accommodate the VLM window size on Red Hat Enterprise Linux 4, you must increase the default maximum size of the per-process locked memory. To increase the per-process memory, 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
```

OCCI Support

Oracle C++ Call Interface (OCCI) is currently supported only with GNU C++3.2. OCCI is not currently supported with GNU C++ 2.96 or GNU C++ 3.4 on Red Hat Enterprise Linux 4.

OCFS Not Supported

OCFS is not currently supported on Red Hat Enterprise Linux 4.

XDK Not Supported

XDK is not currently supported on Red Hat Enterprise Linux 4.

ASMlib Not Supported

ASMlib is not currently supported on Red Hat Enterprise Linux 4.

Modifying the Pro*C/C++ Configuration File

Before building Pro*C/C++ applications on Red Hat Enterprise Linux 4:

1. Open the `$ORACLE_HOME/precomp/admin/pcscfg.cfg` file in a text editor.

2. Replace the directory path in the `sys_include` parameter with the following path to specify correct GCC version:

   ```
   /usr/lib/gcc-lib/i386-redhat-linux/3.2.3/include
   ```

Other Product Issues

Review the following sections for information about issues that affect other Oracle products:

- Automatic Storage Management Library Driver
- Net Configuration Assistant Help
- Flashback Table or Flashback Analysis
- Oracle Internet Directory
- Error When Viewing Period SQL Execution Plan in Korean
- Quick Tour Not Available in Oracle Change Management Pack
- Grid Features
- Network Utilization Metrics Not Displayed
- Using the Intel C++ Compiler for PL/SQL Native Compilation
- Building Pro*C Applications if PostgreSQL is Installed
- Linking Applications With Oracle Client Libraries
- Sockets Direct Protocol
- XDK Demonstrations
- Pro*COBOL Precompiler Support
- Installing Enterprise Security Manager
- Full-Text Searching with Oracle Text
- XDK Error Messages
- Creating a socketpair for javassl
- Running Java Demonstrations

Automatic Storage Management Library Driver

On Linux Itanium systems, the ASM library driver (`asmlib`) is not currently supported on SUSE Linux Enterprise Server 9.

Net Configuration Assistant Help

In the Net Configuration Assistant (NetCA) help, the link to the Select Oracle Context help topic is broken. The text for this topic is as follows:

Directory Usage Configuration, Select Oracle Context

Oracle administrative content has been found in more than one location in the directory. Oracle administrative content is stored in an Oracle Context, a subtree in the directory that stores Oracle entries.

From the list, select or enter the location you want to use as the default Oracle Context location from which this computer will access Oracle entries, such as connect identifiers.

Flashback Table or Flashback Analysis

If a user invokes the Flashback Table or Flashback Analysis operation, and that user has FLASHBACK ANY TABLE privileges but does not have specific flashback privileges on the objects that flashback is invoked on and does not have DBA privileges, then the following errors may occur:

```
ORA-02002: error while writing to audit trail
ORA-00600: internal error code, arguments: [kzasps1], [4], [47], [],[],
```

To fix this problem, as SYSDBA, grant the user FLASHBACK privilege on the objects that are referred to in the FLASHBACK TABLE statement and then invoke the flashback operation. For example:

```
SQL> GRANT FLASHBACK ON SCOTT.EMP_1 TO user1;
```

This issue is tracked through Oracle bug 3403666.

Oracle Internet Directory

This release includes the Oracle Internet Directory (OID) client tools, but it does not include OID server components. OID server components are included with Oracle Application Server 10*g*. If you require the OID server tools for Oracle Database components, then run them from an Oracle Application Server 10*g* installation.

The OID client tools include:

- LDAP command-line tools
- Oracle Internet Directory SDK
- Oracle Directory Manager

The OID server components include the following servers and tools for starting and stopping them:

- Directory server
- Directory replication server
- Directory integration server

Error When Viewing Period SQL Execution Plan in Korean

Viewing the execution plan of a Period SQL in Korean causes an internal server error. This problem is unique to Korean; it does not reproduce in Japanese or Chinese. The only workaround currently available is to run the product in a language other than Korean when you need to view this page.

Quick Tour Not Available in Oracle Change Management Pack

Quick Tour is not available in Oracle Change Management Pack. If you try to run it, then an error results.

Grid Features

Oracle Database New Features for Oracle Database 10*g* release 1 (10.1) lists two Grid features that are not available in the first release of Oracle Database 10*g*; Resonance and Transparent Session Migration. These features will be available in a future release.

Network Utilization Metrics Not Displayed

The Oracle Enterprise Manager Grid Control or Database Control should display the following network utilization metrics for each network interface:

- Network Interface Combined Utilization (%)
- Network Interface Read Utilization (%)
- Network Interface Write Utilization (%)

If these metrics are not displayed for a particular network interface, create the `$ORACLE_HOME/sysman/config/network_speed` file and enter the network interface name and speed in the file as follows. In this example, *`interface`* is the network interface name and *`speed`* is the speed of the interface in megabits per second (Mbps):

```
interface_name speed
```

For example, if the `eth0` network interface does not display metrics, create the `$ORACLE_HOME/sysman/config/network_speed` file and enter the following, where `100` is the network speed in Mbps:

```
eth0 100
```

Using the Intel C++ Compiler for PL/SQL Native Compilation

By default, PL/SQL native compilation is configured to use the Gnu gcc compiler. To use the Intel C++ compiler (`icc`) instead of the `gcc` compiler, make the following changes in the `$ORACLE_HOME/plsql/spnc_commands` file:

- Comment out the command for `gcc`.
- Uncomment the command for `icc`.

Building Pro*C Applications if PostgreSQL is Installed

If the `postgresql-devel` package is installed on the system, 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, 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'
```

Linking Applications With Oracle Client Libraries

If your client application is compiled using a version of `glibc` other than version 2.2.4, you must link it with the client shared library. The use of the client static library is not supported.

Note: Do not use the `libc` stubs in the following file:

```
$ORACLE_HOME/lib/stubs
```

Sockets Direct Protocol

Oracle Net supports Sockets Direct protocol (SDP) over the InfiniBand network architecture on Red Hat Enterprise Linux AS 2.1 and 3 for Oracle Database 10*g* release 1. However, the `$ORACLE_HOME/bin/adapters` utility does not list SDP, even though it is supported.

> **See Also:** For more information about SDP support on Linux, see the *Oracle Database 10g Administrator's Guide*.

XDK Demonstrations

Before running the XDK demonstrations, make sure that the patch for bug 3821678 is installed.

Pro*COBOL Precompiler Support

The Pro*COBOL precompiler is supported only on Red Hat Enterprise Linux 2.1 and SUSE Linux Enterprise Server 8.

Installing Enterprise Security Manager

To install Enterprise Security Manager (ESM), install Oracle Client and choose the Administrator installation type.

Full-Text Searching with Oracle Text

For full-text searching with Oracle Text, you must create XML tables manually.

If you will need to use Oracle Text indexes for text-based `ora:contains` searches over a collection of XML elements, then do not use XML schema annotation `storeVarrayAsTable="true"`. This annotation causes element collections to be persisted as rows in an Index Organized Table (IOT). Oracle Text does not support IOTs.

To be able to use Oracle Text to search the contents of element collections, set parameter `genTables="false"` during schema registration. Then create the necessary tables manually, without using the clause `ORGANIZATION INDEX OVERFLOW`. The tables will then be heap-organized instead of index-organized (IOT), as shown in the following example:

```
CREATE TABLE PurchaseOrder of XMLTYPE
  XMLSCHEMA http://localhost:8080/home/SCOTT/poSource/xsd/purchaseOrder.xsd
  ELEMENT "PurchaseOrder"
  VARRAY "XMLDATA"."ACTIONS"."ACTION"
    STORE AS TABLE ACTION_TABLE ((PRIMARY KEY
       (NESTED_TABLE_ID, ARRAY_INDEX)))
  VARRAY "XMLDATA"."LINEITEMS"."LINEITEM"
     STORE AS TABLE LINEITEM_TABLE ((PRIMARY KEY
       (NESTED_TABLE_ID, ARRAY_INDEX)));
```

XDK Error Messages

XDK error messages are available at the XML Technology Center on the OTN Web site:

```
http://www.oracle.com/technology/tech/xml/doc/production10g/Javaerrormsgs.html
```

Document Update for Oracle Workflow

The following document updates apply to the *Oracle Workflow Installation Notes for Oracle Database*, part number B12169-01:

- On SUSE Linux Enterprise Server 8 and 9, before starting the Workflow Configuration Assistant as shown in the "Step 4. Run the Workflow Configuration Assistant" section, comment out the following line in `/etc/hosts` file:

  ```
  #  ::1 localhost ipv6-localhost ipv6-loopback
  ```

  After you run the Workflow Configuration Assistant, uncomment the line.

- In the "Step 12. Access Oracle Workflow Manager" section, add the following command line option to the Java commands shown in steps 1 and 2:

  ```
  -Djava.net.preferIPv4Stack=true
  ```

Creating a socketpair for javassl

If you use `javassl` in an Oracle application, the system might hang after you create a socketpair using the `createSocket()` method if:

- `String` is `localhost` in the constructor `createSocket (String host, int port, InetAddress localAddress, int localPort)`
- You use the constructor `createSocket (InetAddress1, int, InetAddress2, int)`

To work around this problem, use a fully qualified domain name, IP address, or `127.0.0.1` instead of localhost. This issue is tracked with Oracle bug 3939624.

Running Java Demonstrations

Before you run Java demonstrations, include the directory that contains the `classes.jar` file in the setting for the CLASSPATH environment variable (`/System/Library/Frameworks/JavaVM.framework/Versions/1.4.2/Classes`).

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

`http://www.oracle.com/accessibility/`

Accessibility of Code Examples in Documentation

JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.