

Oracle® Database

Release Notes

10g Release 2 (10.2) for Microsoft Windows (32-Bit)

B14264-12

August 2008

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.

This document 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 Oracle Technology Network Web site:

<http://www.oracle.com/technology/documentation/>

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

Note: The Database Quick Installation Guides are no longer available in printed format. These documents are available with the media in the same location as the software and on Oracle Technology Network.

This document contains the following topics:

- [Certification Information](#)
- [Unsupported Products](#)
- [Preinstallation Requirements](#)
- [Installation, Configuration, and Upgrade Issues](#)
- [Known Issues on Windows Vista and Windows Server 2008](#)
- [Other Known Issues](#)
- [Documentation Corrections and Additions](#)
- [Documentation Accessibility](#)

1 Certification Information

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

<https://metalink.oracle.com>

Oracle Database 10g Release 2 Certification

Oracle Database 10g Release 2 (10.2.0.3 or later) is certified on Windows Vista. Windows Server 2008 (all editions) is supported for 10.2.0.4 or later. The specific

operating system components that are not supported are Windows Server 2008 Hyper-V and Server Core.

32-bit Oracle Database Client (10.2.0.4) is supported on Windows Server 2008 x64 and Windows Vista x64.

JDK Version on Windows Server 2008

JDK 1.4.2 is used in Oracle Database 10g Release 2.

Microsoft Internet Explorer Support

Microsoft Internet Explorer 7 is supported for Oracle Enterprise Manager Database Control.

Oracle Services for Microsoft Transaction Server Support on Windows Vista and Windows Server 2008

Microsoft introduced Agile Recovery for distributed transactions in Windows Vista and Windows Server 2008. Starting with Oracle Database 10g Release 2 (10.2.0.4), Oracle Services for Microsoft Transaction Server supports Agile Recovery when the operating system is Windows Vista with Service Pack 1 or Windows Server 2008.

Agile recovery permits "in-doubt" Microsoft Distributed Transaction Coordinator (MSDTC) transaction outcomes on one node of a mid-tier Windows cluster to be queried through the MSDTCs on other participating cluster nodes. It only applies to Windows machines in a mid-tier clustered environment.

Oracle Database Lite Support on Windows Vista and Windows Server 2008

Oracle Database Lite 10.3.0.1.0 and higher versions are supported on Windows Vista. Windows Server 2008 supports Oracle Database Lite 10.3.0.2.0 and higher versions.

2 Unsupported Products

Oracle Real Application Clusters and Oracle Clusterware are not supported on Windows Vista. See the "Components Supported on Windows XP and Windows Vista" section in *Oracle Database Installation Guide for Microsoft Windows (32-Bit)* for the complete list of unsupported Oracle Database and Client products on Windows Vista.

This media pack includes several additional CDs and DVDs. The following additional products are not supported on Windows Vista and Windows Server 2008 at the time of this publication:

- Oracle Enterprise Manager Grid Control Agent 10g Release 3 (10.2.0.3) is not supported on Windows Server 2008.
- Oracle Application Server
- Oracle Content Database
- Oracle Enterprise Integration Gateways, which include the following:
 - Oracle Procedural Gateway for APPC
 - Oracle Transparent Gateway for IBM DRDA
- Oracle HTTP Server
- Oracle Migration Workbench
- Oracle Open Gateways, which include the following:

- Oracle Transparent Gateway for Sybase
- Oracle Transparent Gateway for Teradata
- Oracle Transparent Gateway for Microsoft SQL Server
- Oracle Records Database
- Oracle Secure Backup
- Oracle Warehouse Builder
- Oracle Warehouse Builder options for Advanced ETL and Data Quality
- Oracle Warehouse Builder Connectors for:
 - SAP
 - PeopleSoft
 - Oracle e-Business Suite
- Oracle Fail Safe is not supported on Windows Vista.
- Oracle Fail Safe Manager Console is not supported on Windows Vista.

Note: Oracle Fail Safe Server and Manager Console are supported on Windows Server 2008. You must apply the 3.4.1.1 patch set.

3 Preinstallation Requirements

Review the following sections before installing Oracle Database 10g Release 2.

- [Accessibility Software Recommendations](#)
- [Physical Memory Requirement on Windows Server 2008](#)

3.1 Accessibility Software Recommendations

Our goal is to make Oracle products, services, and supporting documentation accessible to the disabled community. Oracle Database 10g Release 2 (10.2) supports accessibility features. To make best use of these accessibility features, Oracle recommends the following software configuration:

- Windows 2000 with Service Pack 2 or later
- Sun Java Access Bridge 1.0.4 (included with the Oracle Database 10g Release 2 (10.2) media)
- JAWS screen reader 5.0
- Microsoft Internet Explorer 5.5 or later

Note: Sun Java Access Bridge and JAWS screen reader are not certified on Windows Vista and Windows Server 2008 at this time.

Additional accessibility information for Oracle products can be found at

<http://www.oracle.com/accessibility>

For the latest configuration information and for information about addressing accessibility and assistive technology issues, see the Oracle Accessibility FAQ at

<http://www.oracle.com/accessibility/faq.html>

3.2 Physical Memory Requirement on Windows Server 2008

The minimum physical memory (RAM) requirement on Windows Server 2008 is 512 MB.

4 Installation, Configuration, and Upgrade Issues

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

- [Latest Upgrade Information](#)
- [Installation Media for Windows Vista and Windows Server 2008](#)
- [Installing Oracle Database Client into an Existing Oracle Home](#)
- [Database Upgrade Using Database Upgrade Assistant](#)
- [Limitations with 32-Bit Windows](#)
- [Oracle RAC and ASM Interoperability With Oracle Database 10g Release 2](#)
- [Shutdown of Cluster Ready Services Stack May Leave Processes Running](#)
- [Remote Node Listener Resource Offline after 10.1.0.4 to 10.2 Cluster Ready Services Upgrade](#)
- [Modifying a Virtual IP Address Node Application](#)
- [10.2 Oracle RAC Installations on an Oracle Database Release 10.1.0.4 Cluster](#)
- [Error While Deleting a Remote Instance from an Oracle RAC-Shared Oracle Home Database](#)
- [Reading a Downgraded Oracle Cluster Registry with Database Management Tools](#)
- [Oracle Database 9.2 Startup Error with srvctl when the Global Services Daemon is Running in a 10.2 Home](#)
- [Oracle Database 9.2 Startup Error with srvctl when the Global Services Daemon is Running in an Oracle 10.2 Clusterware](#)
- [Deleting a Node from Oracle Clusterware](#)
- [Installing Enterprise Security Manager](#)
- [Configuring Raw Devices for Storage](#)
- [Central Configuration of Oracle Real Application Clusters Disabled on Windows](#)
- [Postinstallation Steps for Oracle Database Extensions for .NET](#)
- [ODBC Online Help in Japanese is Not Installed](#)
- [Re-Creating a Service on a Remote Node Throws Exception](#)
- [Oracle Universal Installer Help Files Incorrect for Oracle Database Companion CD](#)
- [Database Control Startup Not Timed Properly after Oracle RAC Database Creation](#)
- [Error Message in Cluster Verification Utility](#)

- [OracleCRService Fails on Computer Restart](#)
- [oraxml10.dll Error](#)
- [Oracle Instance Startup Error with Database Upgrade Assistant](#)
- [Oracle Home Inaccessibility on Remote Nodes with Windows Server 2008](#)

4.1 Latest Upgrade Information

For late-breaking updates and best practices about preupgrade, postupgrade, compatibility, and interoperability discussions, review Note 466181.1 on *OracleMetaLink* (<https://metalink.oracle.com/>) that links to "10g Upgrade Companion" page.

4.2 Installation Media for Windows Vista and Windows Server 2008

Oracle Database is supported on Windows Vista with the 10.2.0.3 release. If you used the *Oracle Database 10g Release 2 (10.2.0.3.0) for Microsoft Windows Vista* media, then Oracle recommends that you install the 10.2.0.4 patch set. You do not need to use the *Oracle Database 10g Release 2 (10.2.0.3.0) for Microsoft Windows Vista and Microsoft Windows Server 2008* media.

Oracle Database is supported on Windows Server 2008 with the 10.2.0.4 release.

For new installations on Windows Vista or Windows Server 2008, use the *Oracle Database 10g Release 2 (10.2.0.3.0) for Microsoft Windows Vista and Microsoft Windows Server 2008* media. This new software is available in the updated media pack and is also available on the Oracle Technology Network site. Use the installation instructions in this section to complete the installation.

Do not install Oracle Database on Windows Vista or Windows Server 2008 using the media for *Oracle Database 10g Release 2 (10.2) for Microsoft Windows*. Do not use the *Oracle Database 10g Release 2 (10.2.0.3.0) for Microsoft Windows Vista* or the *Oracle Database 10g Release 2 (10.2.0.3.0) for Microsoft Windows Vista and Microsoft Windows Server 2008* media to install on operating systems other than Windows Vista or Windows Server 2008.

Note: The 10.2.0.4 patch set is available on *OracleMetaLink*. Search for patch 6810189. Note that all 32-bit operating systems, including Windows Vista and Windows Server 2008, are supported with this patch set.

For new installs, complete the steps for the following installations:

- [Installing Oracle Database on Windows Vista and Windows Server 2008](#)
- [Installing Oracle Database Client on Windows Vista and Windows Server 2008](#)
- [Installing Oracle RAC Database on Windows Server 2008](#)

4.2.1 Installing Oracle Database on Windows Vista and Windows Server 2008

To install a single instance Oracle Database:

1. Install Oracle Database using the 10.2.0.3 media.

2. To install Oracle Data Provider for .NET Framework 2.0 or Oracle Database Extensions for .NET Framework 2.0 on Windows Server 2008, install the 10.2.0.2.21 Oracle Data Access Components. This software can be downloaded from <http://www.oracle.com/technology/software/tech/windows/odpnet/index.html>
3. Install the 10.2.0.4 patch set.
4. Run Database Upgrade Assistant to upgrade the database.

See Also:

- *Oracle Database Installation Guide for Microsoft Windows (32-Bit)* for more information about the installation steps
- 10.2.0.4 patch set notes for more information about applying the patch set

You can avoid the upgrade process by following these steps:

1. Use the software only installation option on the 10.2.0.3 media.
2. Install the 10.2.0.4 patch set.
3. Run Net Configuration Assistant and Database Configuration Assistant to create a listener and a database.

4.2.2 Installing Oracle Database Client on Windows Vista and Windows Server 2008

To install a single instance Oracle Database Client:

Note: 32-bit Oracle Database Client (10.2.0.4) is supported on Windows Server 2008 x64 and Windows Vista x64.

1. Install Oracle Database Client using the 10.2.0.3 media.
2. Use the installer that is installed from step 1 to install Oracle Data Access Components (10.2.0.2.21). Oracle Data Access Components (10.2.0.2.21) can be downloaded from Oracle Technology Network:

Run `setup.exe use_prereq_checker=false` from `ORACLE_HOME\oui\bin`.

3. Install the 10.2.0.4 patch set.

See Also:

- *Oracle Database Client Installation Guide for Microsoft Windows (32-Bit)* for more information about the installation steps
- 10.2.0.4 patch set notes for more information about applying the patch set

4.2.3 Installing Oracle RAC Database on Windows Server 2008

To install an Oracle RAC Database:

1. Install Oracle Clusterware using the 10.2.0.3 media.
2. Install Oracle RAC using the 10.2.0.3 media.

3. Install the 10.2.0.4 patch set.
4. Run Database Upgrade Assistant to upgrade the database.

See Also:

- *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide for Microsoft Windows* for more information about the installation steps
- 10.2.0.4 patch set notes for more information about applying the patch set

You can avoid the upgrade process by following these steps:

1. Install Oracle Clusterware using the 10.2.0.3 media.
2. Install the 10.2.0.3 software only Oracle RAC Database.
3. Stop OracleRemExecService on all the nodes.
4. Install the 10.2.0.4 patch set.
5. Run Net Configuration Assistant and Database Configuration Assistant to create a listener and a database.

4.3 Installing Oracle Database Client into an Existing Oracle Home

Oracle Database Client can be installed in the same Oracle Database home if both products are at the same release level. For example, you can install Oracle Database Client 10g Release 2 (10.2) into an existing Oracle Database 10g Release 2 (10.2) home. If you apply a patch set before installing the client, then you must apply the patch set again.

4.4 Database Upgrade Using Database Upgrade Assistant

If the database version does not match the Oracle release version, Database Upgrade Assistant displays a warning message. The warning message incorrectly instructs you to run `catpatch.sql` from the Oracle Database 10g release 1 home. Do not do this.

Workaround:

Run `catpatch.sql` from the `rdbms\admin` directory of the source Oracle home from which you are upgrading.

The issue is tracked with Oracle bug 4551401. This issue is fixed in the 10.2.0.2 patch set.

4.5 Undefined ORACLE_SID After Database Upgrade

After upgrading the database from 10.1 to 10.2 release, the `ORACLE_SID` parameter is not defined in the Windows registry.

Workaround:

1. Set `ORACLE_SID=Oracle_sid` at the command prompt *before* you use SQL*Plus.
2. Set the `ORACLE_SID` parameter in the registry (`My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\KEY_10.2UpgradeHome\ORACLE_SID`).

This issue is tracked with Oracle bug 4534421.

4.6 Limitations with 32-Bit Windows

If you do not have sufficient address space to allocate PGA memory, you can run into ORA-04030 errors or system commands can fail with OS error 1450 or 997. The following solutions are suggested:

- Run a smaller work load and use less users.
- Run with the /3GB option and use Windows Enterprise Edition. Note that the /3GB option has the potential to deprive the operating system of necessary kernel resources, which can lead to Oracle instance failures. See the Oracle *MetaLink* technical note at <http://metalink.oracle.com> entitled Note 297498.1: Resolving Instance Evictions on Windows Platforms Due to OS 10055 Errors (OS-1540).

Aside from not using the /3GB option, you can tune the amount of RAM that is available to the kernel by using the /USERVA parameter. Visit the following URL for details:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;810371>

Determining the correct value is a trial and error process, but 2048 has worked for some users.

Oracle can support Physical Addressing Extensions/Address Windowing Extensions. This is another way in which you can get the Oracle instance to use large amounts of RAM (64G on 32-bit Windows).

- Use VLM with a small window so that address space is allocated for PGA.
- Reduce the per thread stack space usage using `orastack`.

This issue is tracked with Oracle bugs 4552171, 4552150, and 4552097.

4.7 Oracle RAC and ASM Interoperability With Oracle Database 10g Release 2

10.1.0.2 or 10.1.0.3 Oracle RAC or Automatic Storage Management, instances do not interoperate with 10.2 Cluster Synchronization Service on Windows. The following error may appear on the top of the stack:

```
/_propropen+2162      CALLrel  _proprutidtoname/
```

Workaround:

Apply the patch for bug 3843632 to the 10.1.0.2 or 10.1.0.3 Oracle home.

This issue is tracked with Oracle bug 3843632.

4.8 Shutdown of Cluster Ready Services Stack May Leave Processes Running

After shutting down the Cluster Ready Services (CRS) stack on a given node using the following command:

```
CRSCTL.EXE stop crs
```

the `OracleEVMService` or `OracleCRService` may not be listed in the STOPPED state. Furthermore, you may notice the existence of `CRSD.EXE` or `EVMD.EXE` in the

Task Manager list of running processes. To stop these processes, issue the following commands from the operating system command prompt:

```
net stop OracleCRService
net stop OracleEVMService
```

4.9 Remote Node Listener Resource Offline after 10.1.0.4 to 10.2 Cluster Ready Services Upgrade

After upgrading 10.1 Cluster Ready Services (CRS) to 10.2 CRS, you may notice that some remote listener CRS resources are offline.

Workaround:

1. Run the following command and check the output to see if the state of any CRS resources for LISTENER (* .lsnr) are identified as OFFLINE.

```
CRS Home/bin/crs_stat
```

2. List all CRS listener resources identified as offline in step 1.
3. Run the following command for each CRS listener resource identified in step 2.

```
crs_stat -p CRS_listener_resource
```

4. Check if the ACTION_SCRIPT attribute points to racgwrap.bat in the CRS Home\bin directory.
5. If yes, run the following commands. Otherwise, return to step 2.

```
CRS Home/bin/crs_register CRS_listener_resource -update -a Oracle RAC
Home/bin/racgwrap.bat
```

```
CRS Home/bin/crs_start CRS_listener_resource
```

This issue is tracked with Oracle bug 4575086.

4.10 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 `srvctl modify nodeapps` command 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.

4.11 10.2 Oracle RAC Installations on an Oracle Database Release 10.1.0.4 Cluster

When Oracle Universal Installer is performing an Oracle RAC 10g Release 2 installation on a cluster that already has Oracle Database release 10.1.0.4, Oracle Universal Installer gives you an option of performing an upgrade on any databases running on the system.

If you select this option to upgrade, Oracle Universal Installer starts Database Upgrade Assistant to perform the upgrade. As part of the database upgrade, Enterprise Manager Database Control is also upgraded. This does not impact the upgrade itself. The impact is that if the preupgrade version of the database is 10.1.0.4, Database

Control may not start on one or more nodes after the upgrade. As a result, if you run the following command on that node:

```
emctl status dbconsole
```

it reports that Enterprise Manager Database Console is not running. Logging in through the browser also fails. This bug is intermittently observed.

Workaround:

1. Go to the node where the Enterprise Manager Database Console is not running.
2. End the `emagent.exe` process from the Task Manager.
3. Restart the `OracleDBConsoleSID` service.

This issue is tracked with Oracle bug 4550226.

4.12 Error While Deleting a Remote Instance from an Oracle RAC-Shared Oracle Home Database

During a delete instance operation on a cluster database using a shared Oracle home, you can encounter the following error message if the database has been configured for Enterprise Manager Database Control:

```
Error updating EM configuration for node node name
```

As a result, the Enterprise Manager configuration is not completely removed from the node where the deleted instance was running. However, this does not have any adverse effects. You can click **OK**, ignore the error, and proceed.

This issue is tracked with Oracle bug 4547265.

4.13 Reading a Downgraded Oracle Cluster Registry with Database Management Tools

Oracle Database 9.2 management tools (such as `srvctl`) encounter errors when attempting to read an Oracle Cluster Registry (OCR) that was downgraded from 10.2 to 9.2 on Windows.

Workaround:

1. Dump the contents of the 10.2 OCR before downgrading by using the `ocrdump` tool. Identify the set of 9.2 configured databases. The database configuration resides under the `DATABASE.DATABASES` key.
2. Follow the downgrade procedure as documented.
3. Identify the location of the 9.2 OCR. It is either `\\.\srvcfg` or the file pointed to by registry value `CfsOcrRoot` under `HKEY_LOCAL_MACHINE\SYSTEM\SOFTWARE\Oracle\osd9i\ocr`.
4. Clear the contents of the 9.2 OCR.
5. Run the following command from the 9.2 Oracle home:

```
srvconfig -init -f
```
6. Configure the 9.2 cluster databases identified in Step 1:

```
srvctl add database
```

This issue is tracked with Oracle bug 4507090.

4.14 Oracle Database 9.2 Startup Error with srvctl when the Global Services Daemon is Running in a 10.2 Home

The `srvctl` tool fails with the following errors when starting Oracle9i databases after Oracle 10g Release 2 Clusterware is installed and the Global Services Daemon (GSD) is started from the Oracle Clusterware home:

```
/ORA-01005: null password given; logon denied /  
/ORA-01031: insufficient privileges /  
/ORA-01005: null password given; logon denied" /
```

Workaround:

1. Run the following command to get the list of nodes in the Oracle Clusterware:

```
CRS home/bin/olsnodes
```

where *home* is the Oracle Clusterware home.

2. Run the following command on one node.

```
CRS home/bin/crsuser add Oracle_user*
```

This command creates the service on all other nodes.

3. Run the following commands for each node identified in Step 1:

```
CRS home/bin/crs_stop ora.node_name.gsd  
CRS home/bin/crs_setperm ora.node_name.gsd -o Oracle_user  
CRS home/bin/crs_start ora.node_name.gsd
```

This issue is tracked with Oracle bug 4523043.

4.15 Oracle Database 9.2 Startup Error with srvctl when the Global Services Daemon is Running in an Oracle 10.2 Clusterware

Starting Oracle Database release 9.2 with `srvctl` fails when the Global Services Daemon (GSD) is running from Oracle 10.2 Clusterware. A dialog window displays the following error message:

```
The instruction at hex_address referenced memeory at hex_address. The memory could  
not be read
```

Workaround:

1. Copy `srvctl.bat` to `srvctl.orig.bat` in the 9.2 *Oracle_Home*\bin directory.
2. Edit the 9.2 *Oracle_Home*\bin\`srvctl.bat` file to add the following *before* `-classpath`.

```
-DTRACING.ENABLED=true -DTRACING.LEVEL=2
```
3. Save the *Oracle_Home*\bin\`srvctl.bat` file and reissue the same command with `srvctl` that previously failed.

This issue is tracked with Oracle bug 4571520.

4.16 Deleting a Node from Oracle Clusterware

If the `ORA.ORA_SID.DB` resource is `ONLINE` on a node that you want to delete from Oracle Clusterware, the delete node procedure displays the following errors while running `crssetup`:

```
prompt> crssetup del -nn node_name
Step 1:  shutting down node apps
         :node_name ora.rac1.db in ONLINE state
         . . .
please manually stop dependent CRS resource before continuing
```

Workaround:

For the database resource (`ora.*.db`) mentioned in the error as being `ONLINE`, perform a relocation of that resource to any other node that is a part of the cluster. Run the `crs_relocate` command as shown below to perform the relocation:

```
crs_relocate name_of_the_db_resource -c cluster_node
```

This issue is tracked with Oracle bug 4564000. This issue is fixed in the 10.2.0.2 patch set.

4.17 Installing Enterprise Security Manager

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

4.18 Configuring Raw Devices for Storage

While Oracle Database 10g supports raw devices, tools such as Database Configuration Assistant do not support the configuration of raw devices for single instances. Instead, use Automatic Storage Management (ASM) or the file system to store database files.

For Oracle Real Application Clusters (Oracle RAC) installations, configure raw device shared storage by stamping disks with Oracle Object Link Manager. You can also use your own scripts to configure raw devices.

See Also:

- *Oracle Database Installation Guide for Microsoft Windows (32-Bit)* - for single-instance database installations
- *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide for Microsoft Windows*

This issue is tracked with Oracle bug 4554058.

4.19 Central Configuration of Oracle Real Application Clusters Disabled on Windows

The option for configuring central management of your database by Enterprise Manager 10g Grid Control is not available during Oracle RAC installation on Windows. Also not supported on Windows is the use of standalone Enterprise Manager Configuration Assistant or Database Configuration Assistant to configure central management for Oracle RAC.

If you want central management for the installed Oracle RAC database, then you will have to discover the Oracle RAC database target manually from Grid Control after the installation.

4.20 Postinstallation Steps for Oracle Database Extensions for .NET

Perform the following steps after installing Oracle Database Extensions for .NET.

1. Manually start the Multithreaded Agent Service
`OracleOracleHomeNameClrAgnt` using the services management console. This service starts automatically after you restart your computer.
2. If you had selected the General Purpose Database template using Database Configuration Assistant, manually deploy the `DBMSCLR` package. Log in using `SYSDBA` privileges and run the `DBMSCLR.PLB` package available in the `Oracle_Home\rdbms\admin` directory.
3. To configure the Multithreaded Agent Service
`OracleOracleHomeNameClrAgnt` configuration parameters for better performance, use the Windows Registry Editor to modify the `ImagePath` entry value under the `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\OracleOracleHomeNameClrAgent` key. Oracle recommends that you set the following values:
 - `max_dispatchers` to 2
 - `max_task_threads` to 6
 - `max_sessions` to 25

This issue is tracked with Oracle bug 4579472.

4.21 ODBC Online Help in Japanese is Not Installed

If you select **Start > Programs > Oracle - HOME_NAME > Application Development > Oracle ODBC**, the online help displays in English instead of Japanese.

This issue is tracked with Oracle bug 4490895.

4.22 Re-Creating a Service on a Remote Node Throws Exception

During installation of Oracle Database 10g Release 2 on a pre-existing Oracle RAC cluster, you may receive the following error message:

```
CreateServiceMarkedForDeleteException_desc
```

```
Click 'Help' for more information.
```

```
Click 'Retry' to try again.
```

```
Click 'Continue' to use the default value and go on.
```

```
Click 'Cancel' to stop this installation.
```

```
[Help] [Retry] [Continue] [Cancel]
```

Workaround:

Click **Retry** to enable this operation to proceed. If the retry fails, try again until the operation completes. Afterwards, the service should be created successfully.

This issue is tracked with Oracle bug 4508168.

4.23 Oracle Universal Installer Help Files Incorrect for Oracle Database Companion CD

The Oracle Universal Installer online help files for Oracle Database Companion CD are not specific to the Oracle Database Companion CD installation.

Workaround:

Refer to Chapter 3, "Installing the Oracle Database Companion CD Software," in *Oracle Database Companion CD Installation Guide for Microsoft Windows (32-Bit)* for detailed information about the installation process.

This issue is tracked with Oracle bug 4604992.

4.24 Database Control Startup Not Timed Properly after Oracle RAC Database Creation

When a new Oracle RAC database is created either during installation or using Database Control Configuration Assistant, the Database Control console may start before the new database instance has been registered with the listener. When this happens, in some conditions, some metrics will not be monitored. The following error in the Database Control console will appear:

```
java.lang.Exception: Can't get query descriptor or execution descriptor
```

Workaround:

Stop and restart the Database Control console. From the **Start** menu, select **Programs**, then **Oracle - HOME_NAME**, then **Database Control**.

This issue is tracked with Oracle bug 4591002.

4.25 Error Message in Cluster Verification Utility

If you run the Cluster Verification Utility (CVU) from the runcluvfy.bat script prior to installing Oracle Clusterware, the first line of output may contain the following error message:

```
The system cannot find the file specified.
```

This is a benign message which you can ignore. CVU should continue processing normally and provide the required output a short time later.

This issue is tracked with Oracle bug 5369224.

4.26 OracleCRService Fails on Computer Restart

If different user IDs are used for installing Oracle Database 10g and Oracle Clusterware, then restarting the system will result in OCR errors. See [OracleMetaLink](#) note 551478.1 for more information.

Workaround:

Oracle recommends that you apply the patch set 10.2.0.3 or higher to your Oracle Clusterware install before you patch Oracle Database.

This issue is tracked with Oracle bug 4748946.

4.27 oraxml10.dll Error

The file `oraxml10.dll` gets copied to the system directory on a computer with previously installed Oracle Access Manager. This interferes with the installation of other Oracle products even after Oracle Access Manager is uninstalled, giving the following pop-up error:

The procedure entry point `xqcGetXQXDOM` could not be located in the dynamic link library `oraxml10.dll`.

Workaround:

Remove `oraxml10.dll` file from the system directory after uninstalling Oracle Access Manager.

This issue is tracked with Oracle bug 6852359.

4.28 Oracle Instance Startup Error with Database Upgrade Assistant

Oracle instance does not start when Database Upgrade Assistant is started.

Workaround:

Run `SRVCTL` with `MOUNT` option from the Oracle home of any node:

```
ORACLE_BASE\ORACLE_HOME\bin\srvctl start database -d dbName -o mount
```

This issue is tracked with Oracle bug 5533745.

4.29 Oracle Home Inaccessibility on Remote Nodes with Windows Server 2008

Oracle users are unable to access Oracle software after installing the 10.2.0.4 patch set on Windows Server 2008.

Workaround:

Perform the following steps as an Administrator:

1. Log in to the remote node.
2. Open Windows Explorer, and navigate to the Oracle home directory.
3. Right-click and select **Properties** to grant access to the required users.

This issue is tracked with Oracle bug 6969070.

5 Known Issues on Windows Vista and Windows Server 2008

The following are the sections covering known issues on Windows Vista and windows Server 2008:

- [Grid Control Support on Windows Vista](#)
- [Compiler Support on Windows Vista](#)
- [Managing User Accounts with User Account Control on Windows Vista and Windows Server 2008](#)
- [Help Files Issue in Microsoft Windows Vista](#)
- [Automatic Storage Management Tool Displays Error Messages on Windows Vista](#)

- [Stamping Issue on Windows Vista](#)
- [Support for Microsoft Active Directory for Net Naming on Windows Vista](#)
- [Shared Oracle Home Shortcuts Do Not Work on Windows Server 2008](#)
- [Incorrect Operating System Appears on Windows Server 2008 Hosts](#)
- [Oracle ODBC Help Shortcut Does Not Work on Windows Server 2008](#)
- [Oracle Listener Issue on Windows Server 2008](#)

5.1 Grid Control Support on Windows Vista

Oracle Enterprise Manager Grid Control, and Grid Control packs and connectors are supported on Windows Vista Business, Enterprise, and Ultimate editions.

5.2 Compiler Support on Windows Vista

The following compilers are not supported on Windows Vista:

- GCC
- Micro Focus Net Express 4.0
- Pro*COBOL will be supported when Micro Focus Net Express is available on Windows Vista

5.3 Managing User Accounts with User Account Control on Windows Vista and Windows Server 2008

To ensure that only trusted applications run on your computer, Windows Vista and Windows Server 2008 provide User Account Control. If you have enabled this security feature, then, depending on how you have configured it, Oracle Universal Installer prompts you for either your consent or your credentials when installing Oracle Database. Provide either the consent or your Windows Administrator credentials as appropriate.

You must have Administrator privileges to run some Oracle tools, such as Oracle Universal Installer, Database Configuration Assistant, Net Configuration Assistant, and OPatch, or to run any tool or application that writes to any directory within the Oracle home. If User Account Control is enabled, and you are logged in as the local Administrator, then you can successfully run each of these commands in the usual way. However, if you are logged in as "a member of the Administrator group," then you must explicitly start these tasks with Windows Administrator privileges. Refer to "Starting Database Tools on Windows Vista" in *Oracle Database Platform Guide for Microsoft Windows (32-Bit)* for more information.

All executables in the Oracle Clusterware Home should be run with administrative privileges.

To run a Windows shortcut with Windows Administrator privileges:

1. Click the **Start** menu button.
2. Navigate to Programs, then to Oracle - *HOME_NAME*.
3. Right-click the name of the command or application you want to run, then select **Run as administrator**.

Note: Many Oracle Start menu shortcuts are coded to run as administrator. When prompted, select to trust the application or grant your permission to continue.

To start a command prompt window with Windows Administrator privileges:

1. On your Windows Vista or Windows Server 2008 Desktop, create a shortcut for the command prompt window. An icon for that shortcut appears on the Desktop.
2. Right click the icon for the newly created shortcut, and specify "Run as administrator."

When you open this window, the title bar reads Administrator: Command Prompt. Commands run from within this window are run with Administrator privileges.

5.4 Help Files Issue in Microsoft Windows Vista

Help files, such as Oracle Objects for OLE Class Library Help and Oracle Objects for OLE Help, are not accessible from the start menu. To view these help files, refer to Microsoft Knowledge Base Article number 917607 available at the following link:

<http://support.microsoft.com/kb/917607>

5.5 Automatic Storage Management Tool Displays Error Messages on Windows Vista

If you configure Automatic Storage Management, the Automatic Storage Management tool displays the following error messages:

- OS Error: (OS 5) Access is denied
- OS Error: (OS 21) The device is not ready

5.5.1 OS Error: (OS 5) Access is denied

Workaround:

Complete the following steps to resolve this issue:

1. Create a Desktop shortcut for Windows command window.
2. Right-click the Desktop shortcut icon.
3. From the shortcut menu, select **Run as administrator**.
4. Run the **asmtool.exe** or **asmtoolg.exe** command in the command window.

This issue is tracked with Oracle bug 5873952.

5.5.2 OS Error: (OS 21) The device is not ready

Workaround:

Use the `diskpart.exe` command to create a raw partition and raw logical drive on the basic disk. You can also use the Disk Management MMC snap-in to create a raw partition or raw logical drive. However, you need to assign a drive letter to it when using the Disk Management MMC snap-in. Remove the drive letter after the partition or the drive is created. You enable automount before you create raw devices.

This issue is tracked with Oracle bug 5873952.

5.6 Stamping Issue on Windows Vista

The stamped disks are not displayed in Oracle Database Configuration Assistant on Windows Vista.

Workaround:

Complete the following steps to resolve this issue:

1. Click **Stamp Disk**.
2. Delete the labels.
3. Click **Stamp Disk**.
4. Stamp the disks again.

This issue is tracked with Oracle bug 5944993.

5.7 Support for Microsoft Active Directory for Net Naming on Windows Vista

Oracle Net Directory Naming and Oracle Directory Objects are not supported with Active Directory from Windows Vista clients.

This issue is tracked with Oracle bug 5943019. This issue is fixed in the 10.2.0.4 patch set.

5.8 Shared Oracle Home Shortcuts Do Not Work on Windows Server 2008

Starting Net Configuration Assistant or Database Configuration Assistant from shared Oracle home shortcut gives the following error:

```
Missing shortcut: windows is searching launch.exe
```

The shortcuts exit following the error.

Workaround:

Start the tools from the command prompt.

This issue is tracked with Oracle bug 6791055.

5.9 Incorrect Operating System Appears on Windows Server 2008 Hosts

On Windows Server 2008 hosts, the operating system that appears on the Host home page and the Host Configuration page is Microsoft Windows NT Server 6.0 Service Pack 1 (32-bit).

This issue is tracked with Oracle bug 7110300.

5.10 Oracle ODBC Help Shortcut Does Not Work on Windows Server 2008

You must run Oracle ODBC Help shortcut as administrator on Windows Server 2008. Following are the steps:

1. Click the **Start** menu button.
2. From the **Programs** menu, select **Oracle - HOME_NAME, Application Development**, and then **Oracle ODBC Help**.
3. Right-click Oracle ODBC Help, then select **Run as administrator**.

5.11 Oracle Listener Issue on Windows Server 2008

Oracle Cluster File System is not supported in a shared Oracle home on Windows Server 2008. Oracle listener does not start in this environment.

This issue is tracked with Oracle bug 7151667.

6 Other Known Issues

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

- [Readme Text Files](#)
- [NTS Authentication Failure with .NET Remote Objects](#)
- [Windows Firewall Configuration](#)
- [Local Oracle Database Client Connections](#)
- [Untranslated Start Menu Item for Oracle Workflow](#)
- [Transportable Tablespaces feature in Enterprise Manager Database Console](#)
- [Enterprise Manager Database Control Exception Error To Ignore](#)
- [Remote Users Not Being Added to ORA_DBA Group in Cluster Installations](#)
- [Removing Metrics for Wait Classes Removes Them Permanently](#)
- [Port-Specific Limitation for UTL_FILE](#)
- [MAX_IDLE_BLOCKER_TIME Does Not Work in Oracle RAC Environment](#)
- [Database Control Does Not Display the Listener Details](#)
- [Unmounted Diskgroup After Restart](#)
- [Oracle Process Management Services Not Created after Node Addition](#)

6.1 Readme Text Files

Some Readme text files contain UNIX line breaks. If you double-click these files, they open in Notepad by default, but Notepad does not recognize UNIX line breaks. Use WordPad (`write.exe`) or `edit.com` instead.

6.2 NTS Authentication Failure with .NET Remote Objects

If NTS authentication is used with an Oracle client as a .NET remote object impersonating a user credential, then NTS authentication fails with the error `ora-12638 Credential Retrieval Failed`. This happens due to the failure of the Windows API `AcquireCredentialsHandle()` in the NTS adapter inside the .NET remote object. Refer to *OracleMetalink* for more details.

6.3 Windows Firewall Configuration

Windows 2003 Service Pack 1 and Windows XP Service Pack 2 changes the security of WebDAV configurations. The following access error message may display when computers with Windows XP Service Pack 2 attempt to access an Oracle XML DB repository using the HTTP/Web Distributed Authoring and Versioning (WebDAV) protocol from Windows Explorer or other tools:

The folder you entered does not appear to be valid. Please choose another.

Perform the following steps to access Oracle XML DB from a client computer using the WebDAV protocol:

1. Create the following registry key on the client machine and set it to a non-zero value:

```
HKEY_LOCAL_
MACHINE\SYSTEM\CurrentControlSet\Services\WebClient\Parameters\UseBasicAuth
(DWORD)
```

2. Restart the client computer or restart the WebClient service.

See Also:

- <http://www.microsoft.com/technet/prodtechnol/winxppro/maintain/sp2netwk.msp#XSLTsection129121120120> for more information about the WebDAV security changes in Service Pack 2
- "Postinstallation Configuration Tasks on Windows" in *Oracle Database Platform Guide for Microsoft Windows (32-Bit)* for more information about required Microsoft Firewall configuration tasks

6.4 Local Oracle Database Client Connections

If you plan to connect the Oracle Database to a release of Oracle Database Client that is earlier than 10g Release 2 (10.2), you cannot do so if all of the following conditions exist:

- Oracle Database Client is running on the same computer as Oracle Database 10g Release 2 (10.2).
- Microsoft Windows Terminal Services is not running on the same computer as Oracle Database Client. Typically, Terminal Services is installed and configured with Microsoft Windows 2003, but on Microsoft Windows 2000 or XP, it may not be installed or enabled.
- Oracle Database Client is version 9.0.x to 9.2.0.6 or 10.1 to 10.1.0.3.
- Oracle Database Client is not running as Administrator.

To remedy this problem, upgrade Oracle Database Client to release 9.2.0.7, or 10.1.0.4 or higher by downloading the Oracle Database Family patch set from *OracleMetalink* at:

<https://metalink.oracle.com/>

6.5 Untranslated Start Menu Item for Oracle Workflow

If you install Oracle Database 10g Products, which include Oracle Workflow server, in a language other than English, the installation adds a submenu named Configuration and Migration Tools in English to the Windows Start menu under the corresponding Oracle home. This submenu includes only one item: Workflow Configuration Assistant. Other Oracle Database tools still appear under a separate, properly translated Configuration and Migration Tools submenu.

This issue is tracked with Oracle bug 4551276.

6.6 Transportable Tablespaces feature in Enterprise Manager Database Console

The transportable tablespaces feature accessible from the **Maintenance** tab has some limitations when generating and integrating tablespaces in Automatic Storage Management (ASM). The limitations and workarounds are described below:

Limitation:

There is a limitation when generating the transportable tablespace set on databases using ASM as storage. On Page 4, Files Page, if you provide the disk group name in the dump file location, you receive the following error when you submit the job:

```
RMAN-00571: =====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====
RMAN-00571: =====
RMAN-03009: failure of backup command on ORA_DISK_1 channel at 08/22/2005
08:23:58
ORA-19504: failed to create file
"+DATA/naresh/testtablespace1.260.566954713"
ORA-17502: ksfcre:4 Failed to create file
+DATA/naresh/testtablespace1.260.566954713
ORA-15046: ASM file name '+DATA/naresh/testtablespace1.260.566954713' is not
in single-file creation form
```

Workaround:

On Page 4, Files Page, provide a file system location instead of the disk group name. Data files and dump files are generated on the file system location you provide.

Limitation:

There is a limitation when integrating the transportable tablespace set on databases using ASM as storage. On Page 2, Datafile Destination Page, if in the data files table you provide the same disk group name for all data files, you can receive the following error when you submit the job:

```
RMAN> 2> 3>
Starting backup at 22-AUG-05
allocated channel: ORA_DISK_1
channel ORA_DISK_1: sid=152 devtype=DISK
RMAN-00571: =====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS =====
RMAN-00571: =====
RMAN-03002: failure of backup command at 08/22/2005 09:08:36
ORA-15122: ASM file name '+MAKI/+MAKI/+MAKI/+MAKI/' contains an invalid file
number
```

Workaround:

On Page 2, Datafile Destination Page, provide a unique disk group name for each data file.

This issue is tracked with Oracle bug 4566250.

6.7 Enterprise Manager Database Control Exception Error To Ignore

Immediately after switching the Enterprise Manager Agent from nonsecure to secure mode, or vice versa, Enterprise Manager Database Control can show the following exceptions on the home page:

```
java.lang.Exception: Exception in sending Request :: null
java.lang.Exception: IOException in reading Response :: Connection reset
```

The home page is fully functional despite these exceptions, and they should go away within five minutes. Starting and stopping Enterprise Manager Database Control should also make these exceptions go away.

This issue is tracked with Oracle bug 4562655.

6.8 Remote Users Not Being Added to ORA_DBA Group in Cluster Installations

When you install Oracle Database on Microsoft Windows, Oracle Universal Installer creates a Windows local group called ORA_DBA, and then adds your Windows username to it. Members of ORA_DBA automatically receive the SYSDBA privilege. However, for cluster installations, Oracle Universal Installer does not add the user to ORA_DBA if they have performed the installation remotely. As a result, this user cannot log in to SQL*Plus using the SYSDBA role.

Workaround:

Manually add remote users to ORA_DBA.

See Also: *Oracle Database Platform Guide for Microsoft Windows (32-Bit)* for more information on ORA_DBA and instructions on manually granting administrator and operator privileges for an Oracle database

This issue is tracked with Oracle bug 4553355.

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 Port-Specific Limitation for UTL_FILE

The service account for OracleServiceSID, where SID represents the Oracle system identifier of the database instance, must be Local System, you can only use the UTL_FILE function for read and write operations on files that are stored on local file systems. In other words, due to this limitation, UTL_FILE cannot access remote or shared file systems.

This issue is tracked with Oracle bug 5591946.

6.11 MAX_IDLE_BLOCKER_TIME Does Not Work in Oracle RAC Environment

Setting a value for MAX_IDLE_BLOCKER_TIME feature of Resource manager does not work as expected in Oracle RAC environment.

Workaround:

Set a value for MAX_IDLE_TIME instead of setting a value for MAX_IDLE_BLOCKER_TIME.

This issue is tracked with Oracle bug 6114355.

6.12 Database Control Does Not Display the Listener Details

When you connect to the database using Database Control, the page does not display the listener details.

Workaround:

After installing Oracle Database 10g Release 2, you must shutdown the Database Control with the command `emctl stop dbconsole`. Modify the `targets.xml` file located in `ORACLE_BASE\ORACLE_HOME\hostname_SID\sysman\emd` directory so that the value of the `machinename` field is the same for listener and database. Restart Database Control with the command `emctl start dbconsole` to display the listener details.

This issue is tracked with Oracle bug 6743916.

6.13 Unmounted Diskgroup After Restart

The diskgroup does not get mounted after restarting the computer.

Workaround:

Change startup type of OracleASMSERVICE+ASMInstanceName into manual from the Services Control Panel and restart the node.

This issue is tracked with Oracle bug 6688751.

6.14 Oracle Process Management Services Not Created after Node Addition

When a new node is added to a cluster after upgrading the database, Oracle Process Management Services do not get created automatically.

Workaround:

After completing the upgrade process, run the following command from the `CRS_home\bin` directory on each node:

```
opmd -install
```

This issue is tracked with Oracle bug 7045359.

7 Documentation Corrections and Additions

This section lists the following corrections to installation guides for Microsoft Windows (32-Bit)

- [Oracle Data Provider for .NET and Oracle RAC Issues](#)
- [Oracle Data Provider for .NET, InitialLOBFetchSize Issues](#)
- [Oracle Clusterware and Oracle RAC Virtual IP Address Status](#)
- [Use Cloning to Add a Third Node to a Two-Node Cluster](#)

7.1 Oracle Data Provider for .NET and Oracle RAC Issues

The Oracle Data Provider for .NET Dynamic Help differs slightly from the *Oracle Data Provider for .NET Developer's Guide* (in Acrobat PDF), due to terminology changes describing Real Application Clusters (Oracle RAC). These differences occur in the "Connection Pooling for Real Application Clusters (Oracle RAC)" section in Chapter 3 of the Oracle Data Provider for .NET Developer's Guide. The information in this guide is up to date. The main differences are as follows:

- The Dynamic Help refers to *Load Balancing* and the guide refers to *Runtime Connection Load Balancing* in several places. The Dynamic Help refers to a basis in *real-time workload metrics and distribution policy* and the guide refers to the *load balancing advisory and service goal* in several places.
- Only the Dynamic Help includes the following sentence (in the first paragraph of the first subheading of Chapter 3):

Furthermore, ODP.NET connection pool can be enabled to proactively free resources associated with connections that have been severed due to a down Oracle RAC service, service member, or node.

- The Dynamic Help references Oracle Real Application Clusters Quick Start and the guide references *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Administration and Deployment Guide* and *Oracle Database Net Services Administrator's Guide* in a See Also note. The Dynamic Help references the *Oracle Real Application Clusters Administrator's Guide* and the guide references *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Administration and Deployment Guide* in another See Also note.
- The guide includes the following note in the second subheading:

Note: The database service being connected to must be configured for AQ_HA_NOTIFICATIONS. For more details, see *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Administration and Deployment Guide*

- The guide includes the following paragraph in the sub-bullets:

In order to use Runtime Connection Load Balancing, specific Oracle RAC configurations must be set. For further information, see *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Administration and Deployment Guide*. Oracle Net Services should also be configured for load balancing. See *Oracle Database Net Services Administrator's Guide* for further details.

7.2 Oracle Data Provider for .NET, InitialLOBFetchSize Issues

In Chapter 5 of *Oracle Data Provider for .NET Developer's Guide*, under the section *InitialLOBFetchSize*, the following information appears incorrectly under the section "For releases prior to Oracle Database 10g release 2 (10.2)":

If the *InitialLOBFetchSize* is set to a nonzero value, *GetOracleBlob()* and *GetOracleClob* methods are disabled. BLOB and CLOB data are fetched by using *GetBytes* and *GetChars* methods, respectively.

This was corrected to appear as follows under: For Oracle Database 10g release 2 (10.2) and later:

Prior to Oracle Database 10g release 2 (10.2), if the `InitialLOBFetchSize` is set to a nonzero value, `GetOracleBlob` and `GetOracleClob` methods were disabled. BLOB and CLOB data was fetched by using `GetBytes` and `GetChars` methods, respectively. In Oracle Database 10g release 2 (10.2), this restriction no longer exists. `GetOracleBlob` and `GetOracleClob` methods can be used for any `InitialLOBFetchSize` value zero or greater.

7.3 Oracle Clusterware and Oracle RAC Virtual IP Address Status

The following text of the section 2.6.1, "IP Address Requirements," in Chapter 2, "Pre-Installation Tasks," of *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide* states that the virtual IP address (VIP) should respond to a ping command:

During installation, Oracle Universal Installer uses the ping command to ensure that the VIP is reachable.

The preceding statement is incorrect. Before installation, the VIP address should be configured in DHCP or `/etc/hosts`, or both, but it must not be assigned to a server that can respond to a ping command.

This issue is tracked with Oracle bug 6017001.

7.4 Use Cloning to Add a Third Node to a Two-Node Cluster

To add nodes to a two-node cluster on which the Oracle Database has been upgraded from release 1 (10.1) to release 2 (10.2), you must use the procedures described in *Oracle Universal Installer and OPatch User's Guide*. In this scenario, do not use the `addNode` procedure that is described in *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Administration and Deployment Guide*.

8 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. Accessibility 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 more information, visit the Oracle Accessibility Program Web site at <http://www.oracle.com/accessibility/>.

Accessibility of Code Examples in Documentation

Screen readers 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, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, 7 days a week. For TTY support, call 800.446.2398. Outside the United States, call +1.407.458.2479.

Oracle Database Release Notes, 10g Release 2 (10.2) for Microsoft Windows (32-Bit)
B14264-12

Copyright © 2006, 2008, Oracle. All rights reserved.

The Programs (which include both the software and documentation) contain proprietary information; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs, except to the extent required to obtain interoperability with other independently created software or as specified by law, is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. This document is not warranted to be error-free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose.

If the Programs are delivered to the United States Government or anyone licensing or using the Programs on behalf of the United States Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the Programs, including documentation and technical data, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement, and, to the extent applicable, the additional rights set forth in FAR 52.227-19, Commercial Computer Software—Restricted Rights (June 1987). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and we disclaim liability for any damages caused by such use of the Programs.

Oracle, JD Edwards, PeopleSoft, and Siebel are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

The Programs may provide links to Web sites and access to content, products, and services from third parties. Oracle is not responsible for the availability of, or any content provided on, third-party Web sites. You bear all risks associated with the use of such content. If you choose to purchase any products or services from a third party, the relationship is directly between you and the third party. Oracle is not responsible for: (a) the quality of third-party products or services; or (b) fulfilling any of the terms of the agreement with the third party, including delivery of products or services and warranty obligations related to purchased products or services. Oracle is not responsible for any loss or damage of any sort that you may incur from dealing with any third party.