

# Oracle® Database

Release Notes

10g Release 2 (10.2) for Solaris Operating System (x86)

**B15696-08**

April 2010

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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.

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 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.

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**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.

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This document contains the following topics:

- [Certification Information](#)
- [Unsupported Products](#)
- [Preinstallation Requirements](#)
- [Installation, Configuration, and Upgrade Issues](#)
- [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 My Oracle Support (formerly OracleMetaLink) at:

<https://support.oracle.com>

## 2 Unsupported Products

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

- Grid Control Support  
Oracle Database 10g release 2 (10.2) can be managed as a target by Grid Control 10.1.0.4. However, Oracle Database 10g release 2 is not supported by Grid Control 10.1.0.4 as a repository.
- Pro\*COBOL
- JDBC 1.2 driver  
JDBC 1.2 driver is not supported on Solaris 10
- Radius with the CHAP protocol
- Sun Cluster 3.1 is not certified on Solaris 10
- Verity  
Verity filters used for Oracle Text are not supported on Solaris 10.

### 3 Preinstallation Requirements

Refer to the installation guides for the preinstallation requirements. However, the following section contains additional preinstallation requirement:

- [Displaying and Modifying Resource Control Settings on Solaris 10](#)
- [Configure Shell Limits](#)

#### 3.1 Displaying and Modifying Resource Control Settings on Solaris 10

On Solaris 10, use the following procedure to display the current value specified for resource controls, and to change them if necessary:

1. To display the current values of the resource control, enter the following commands:

```
$ id -p // to verify the project id
uid=100(oracle) gid=100(dba) projid=1 (group.dba)
$ prctl -n project.max-shm-memory -i project group.dba
$ prctl -n project.max-sem-ids -i project group.dba
```

2. If you must change any of the current values, then:

- a. To modify the value of max-shm-memory to 6 GB:

```
# prctl -n project.max-shm-memory -v 6gb -r -i project group.dba
```

- b. To modify the value of max-sem-ids to 256:

```
# prctl -n project.max-sem-ids -v 256 -r -i project group.dba
```

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**Note:** When you use the `prctl` command (Resource Control) to change system parameters, you do not need to restart the system for these parameter changes to take effect. However, the changed parameters do not persist after a system restart.

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Use the following procedure to modify the resource control project settings, so that they persist after a system restart:

1. By default, Oracle instances are run as the `oracle` user of the `dba` group. A project with the name `group.dba` is created to serve as the default project for the `oracle` user. Run the command `id` to verify the default project for the `oracle` user:

```
# su - oracle
$ id -p
uid=100(oracle) gid=100(dba) projid=100(group.dba)
$ exit
```

2. To set the maximum shared memory size to 2 GB, run the `projmod` command:

```
# projmod -sK "project.max-shm-memory=(privileged,2G,deny)" group.dba
```

Alternatively, add the resource control value `project.max-shm-memory=(privileged,2147483648,deny)` to the last field of the project entries for the Oracle project.

3. After these steps are complete, check the values for the `/etc/project` file using the following command:

```
# cat /etc/project
```

The output should be similar to the following:

```
system:0::::
user.root:1::::
noproject:2::::
default:3::::
group.staff:10::::
group.dba:100:Oracle default
project:::project.max-shmmemory=(privileged,2147483648,deny)
```

4. To verify that the resource control is active, check process ownership, and run the commands `id` and `prctl`, as in the following example:

```
# su - oracle
$ id -p
uid=100(oracle) gid=100(dba) projid=100(group.dba)
$ prctl -n project.max-shm-memory -i process $$
process: 5754: -bash
NAME                                PRIVILEGE    VALUE    FLAG    ACTION    RECIPIENT
project.max-shm-memory              privileged   2.00GB   -       deny
```

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**Note:** The value for the maximum shared memory depends on the SGA requirements and should be set to a value greater than the SGA size.

For additional information, refer to the Solaris Tunable Parameters Reference Manual.

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## 3.2 Configure Shell Limits

Oracle recommends that you set shell limits and system configuration parameters as described in this section.

The `ulimit` settings determine process memory related resource limits. Verify that the shell limits displayed in the following table are set to the values shown:

Shell Limit	Recommended Value
TIME	-1 (Unlimited)
FILE	-1 (Unlimited)
DATA	Minium value: 1048576
STACK	Minium value: 32768
NOFILES	Minium value: 4096
VMEMORY	Minium value: 4194304

To display the current value specified for these shell limits enter the following commands:

```
ulimit -t  
ulimit -f  
ulimit -d  
ulimit -s  
ulimit -n  
ulimit -v
```

## 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](#)
- [Determining Size of Configured Swap Space](#)
- [Oracle Storage Compatibility Program Obsolete](#)
- [Installing Enterprise Security Manager](#)
- [Installing Oracle Database on a Computer That has an Automatic Storage Management Instance](#)
- [extjob Executable Required Directory Permissions](#)
- [Modifying a Virtual IP Address Node Application](#)
- [Installing Oracle Database Client into an Existing Oracle Home](#)
- [Database Installation Types](#)

### 4.1 Latest Upgrade Information

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

### 4.2 Determining Size of Configured Swap Space

To determine the size of the configured swap space, enter the following command:

```
# /usr/sbin/swap -l
```

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**Note:** The output of this command shows the total/available swap blocks, where each block is equal to 512 bytes and not 1 KB.

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### 4.3 Oracle Storage Compatibility Program Obsolete

Oracle Storage Compatibility Program (OSCP) is no longer valid. Disregard the OSCP content in the section C.1, "General Configuration Guidelines for NAS Devices" of Appendix C, "Using NAS Devices" in *Oracle Database Installation Guide for Solaris Operating System (SPARC 64-Bit)*.

### 4.4 Installing Enterprise Security Manager

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

### 4.5 Installing Oracle Database on a Computer That has an Automatic Storage Management Instance

Oracle Universal Installer displays an error message that reads 0. This message is displayed after you specify the database home and path in the Specify Home Details screen and click Next. Ignore the error message whenever it is displayed, and continue the installation.

### 4.6 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`.

### 4.7 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.

### 4.8 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.

### 4.9 Database Installation Types

If you perform a Custom installation, then ensure that you install only the components covered by your license. You can not install Standard Edition using Custom installation.

## 5 Other Known Issues

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

- [Materialized View and Partition Change Tracking Rewrite](#)
- [Host-Based Mirroring](#)
- [Importing a User Certificate Into Oracle Wallet Using Oracle Wallet Manager](#)
- [Removing Metrics for Wait Classes Removes Them Permanently](#)
- [Preventing Loss of Quorum](#)
- [Solaris the SMF Boot Archive Service](#)
- [Increasing the CSS misscount Parameter](#)
- [Node Names do not Reflect in the Specify Cluster Nodes to Add to Installation Dialog Box](#)
- [Invalid Link to Monitor in Memory Access Mode Feature](#)
- [Database Upgrade Fails](#)
- [Error Message While Installing HTML DB](#)
- [Oracle Notification Server Issue in Shared Oracle Clusterware Home](#)
- [Solaris 10 Resource Control and Parameter Settings](#)
- [Oracle Clusterware Private IP Addresses with Sun Cluster](#)
- [Vendor Clusterware Restrictions for Node Names](#)

### 5.1 Materialized View and Partition Change Tracking Rewrite

When the query has single column in-lists, the materialized view has ranges, and partition change tracking rewrite is used, you might get stale results with Query Rewrite. Turn off the fresh partition containment rewrite to avoid this problem by using the following command:

```
SQL> alter session set "_query_rewrite_fpc" = false;
```

### 5.2 Host-Based Mirroring

The host-based mirroring is not supported with ASM. Note that there is no issue with resilvering for storage based mirroring.

**Workaround:** Use ASM redundancy.

This issue is tracked with Oracle bug 4466206.

### 5.3 Importing a User Certificate Into Oracle Wallet Using Oracle Wallet Manager

Oracle Wallet Manager will fail to recognize the user certificate as valid if you capture the user certificate contents from the Oracle Certificate Authority site and save this as a flat file. This is because when saving as a flat file, all the lines of the user certificate are run together with no line breaks.

**Workaround:** Edit the user certificate. Insert a new line after  
-----BEGIN CERTIFICATE----- and a new line before  
-----END CERTIFICATE-----.

## 5.4 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.

## 5.5 Preventing Loss of Quorum

If a storage area network (SAN) device is used to provide access to a shared storage and IO Multi-pathing (MPxIO) is enabled, then you must install the following patches on all the nodes of the cluster.

- 119374-13
- 119715-10
- 119375-13
- 119716-10

Without these patches, a node can lose access to the shared storage being accessed through the physical link that gets disconnected or fails.

## 5.6 Solaris the SMF Boot Archive Service

In Solaris 10 update 1, the boot archive service is introduced. The main purpose of this service is to reduce the boot time and simplify the boot loader. Due to an aggressive shutdown, the boot archive verification service may require manual intervention during boot.

During a patch installation or software upgrade, if you do not shutdown the computer properly, then kernel modules are reported to be out of sync. In such a case, start the computer to the fail-safe menu entry, follow the prompts to re-sync the archive, and then reboot. If you do not want the manual intervention, you can disable the check by running the following commands:

```
# svcprop -p start/exec boot-archive:true  
# svcadm refresh boot-archive
```

However, if the kernel modules are not reported to be out of sync, then you can clear the check by logging into the single user shell and running the following command:

```
# svcadm clear boot-archive
```

It is possible to disable the boot archive check on production computer to avoid manual intervention during aggressive reboots. To do so, the patch application and installation of driver or kernel software must be followed by a boot archive update. The kernel software includes the non-Solaris kernel modules.

The boot archive update can be achieved by applying a graceful reboot or an explicit re-sync of the boot archive by running the following command:

```
bootadm update-archive
```

Oracle recommends that you remove the node from the cluster before patch installation and software installation or upgrade. When using CRS this can be done by completing the following steps:

1. Stop the CRS service by using the following command:

```
$CRS_HOME/bin/crsctl stop crs
```

2. Disable the CRS service by using the following command:

```
$CRS_HOME/bin/crsctl disable crs
```

3. Install or upgrade the required patch or software

4. Reboot or re-sync the boot archive

5. Enable the CRS service by using the following command:

```
$CRS_HOME/bin/crsctl enable crs
```

6. Start the CRS service by using the following command:

```
$CRS_HOME/bin/crsctl start crs
```

Complete the following steps to remove the node from the cluster if you are using Sun Cluster:

1. Reboot the node in the maintenance mode

**See Also:** *Sun Cluster documentation* for details on rebooting a node in maintenance mode

2. Install or upgrade the required patch or software

3. Reboot the node in the cluster mode

A fix for the boot archive service will be integrated in a future Solaris 10 update. After this fix is in place there will be no need to disable the check or to provide manual intervention during a reboot. The boot archive check can be re-enabled by running the following commands:

```
# svccfg -s boot-archive setprop start/exec=/lib/svc/method/boot-archive
# svcadm refresh boot-archive
```

## 5.7 Increasing the CSS misscount Parameter

When the Solaris fiber channel port driver senses that a link is down, it gives two minutes timeout period before offlining the LUN path associated with the port. The purpose of this delay is to prevent a premature fail over in as a result of a transient link failure. If there are alternate active paths to the LUNs and SCSI reservations are not active, then within this timeout MPxIO automatically reconfigures to use the alternate path.

However, during this timeout period the port failure is not perceived by CRS because the path is not offlined. If the node is evicted during this timeout period, the CRS daemons fail to reboot the node and services will not fail over to other nodes. In this case, the node will reboot only until the link is up again. After the reboot, all services belonging to the node will be up.

To avoid this problem the `misscount` parameter must be set to a value greater than 120 seconds. As a result, the eviction and reboot process is not affected by the Solaris

timeout period. The node is evicted, it reboots and its services fail over to other nodes as expected.

After CRS installation is complete, you can change the `misscount` parameter by completing the following steps:

1. On any node run the `$CRS_HOME/bin/crsctl set css misscount 130` command.
2. On all nodes run the `$CRS_HOME/bin/crsctl stop crs` command.
3. On all nodes run the `$CRS_HOME/bin/crsctl start crs` command.

The default value for the `misscount` parameter is 27. Increasing the value of this parameter increases the time the node takes to fail over. Therefore, the service level of the cluster reduces for a longer period of time. It is up to the user to decide if a longer fail over time is acceptable. Solaris has a mechanism in place to allow applications to be notified immediately of a link down.

In this release, Oracle is not using this mechanism but work is in progress to make use of this mechanism. In a future Oracle release this workaround will no longer be needed.

## 5.8 Node Names do not Reflect in the Specify Cluster Nodes to Add to Installation Dialog Box

In the Specify Cluster Nodes to Add to Installation dialog box, an intermittent timing issue is observed. This dialog box prompts you to enter Public Node Names, Private Node Names, and Virtual Node Names for the new nodes to be added. Even after entering the node names, the configuration specified does not reflect in the install area. To avoid this issue, you need to press **Tab** after the last input to this dialog box.

## 5.9 Invalid Link to Monitor in Memory Access Mode Feature

Do not click the link to the Monitor in Memory Access Mode feature in the database screen. This feature is not available in Enterprise Manager Database Control 10.2.0.2 release. Clicking this link may stop an agent from responding.

This issue is tracked with Oracle bug 4866231.

## 5.10 Database Upgrade Fails

When using Database Upgrade Assistant to upgrade a database from 10.1.0.5 to 10.2.0.2, the following error is displayed after 75-80% completion of the upgrade process:

```
ERROR:
ORA-24344: success with compilation error
ORA-06512: at line 38
```

**Workaround:** Click **Ignore** to continue the process. After the first error, the following error is displayed:

```
ORA-20421: ERROR: The job type Backup references the following invalid
```

Click **Ignore** to complete the upgrade process.

This issue is tracked with Oracle bug 5351602.

## 5.11 Error Message While Installing HTML DB

During HTML DB installation, the `java.io.FileNotFoundException` message is displayed, but the installation is successful.

**Workaround:** Ignore this error.

This issue is tracked with Oracle bug 5335632.

## 5.12 Oracle Notification Server Issue in Shared Oracle Clusterware Home

While upgrading Database from 10.1 to 10.2, Oracle Notification Server shuts down if the following conditions exist:

- Oracle Clusterware 10.1 is installed with shared Oracle home
- Oracle RAC 10.1 is installed with non-shared Oracle home

**Workaround:** Complete the following steps to resolve this issue:

1. Use the following commands to add the `usesharedinstall=true` entry to the `$CRS_HOME/opmn/conf/ons.config` file:

```
$ cd $CRS_HOME/opmn/conf
$ cat >> ons.config
usesharedinstall=true
```

2. Press **Ctrl** and **D** to exit the `cat` command.

3. Use the following commands to add the `usesharedinstall=true` entry to the `$ORACLE_HOME/opmn/conf/ons.config` file:

```
$ cd $ORACLE_HOME/opmn/conf
$ cat >> ons.config
usesharedinstall=true
```

4. Press **Ctrl** and **D** to exit the `cat` command.

5. Restart the Oracle Notification Server.

This issue is tracked with Oracle bug 5325892.

## 5.13 Solaris 10 Resource Control and Parameter Settings

Oracle recommends that you set both resource control and `/etc/system/` parameters listed in the Configuring Kernel Parameters section for Solaris 10 in the installation guides. Operating system parameters not replaced by resource controls continue to affect performance and security on Solaris 10 systems.

## 5.14 Oracle Clusterware Private IP Addresses with Sun Cluster

If you are using a Sun Cluster, then do not enter the private interconnect in the `/etc/hosts` file, but instead use `clusternodeX-priv` to indicate the private interconnect for Oracle Clusterware and Oracle RAC.

This issue is tracked with bug 6238217.

## 5.15 Vendor Clusterware Restrictions for Node Names

If you use a vendor clusterware with Oracle Clusterware and Oracle Real Application Clusters, then you must use the node names and host names registered with that vendor clusterware you have installed.

## 6 Documentation Corrections and Additions

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

- The table in the "Checking Software Requirements" section of Chapter 2 in instalation guides for Solaris Operating System (x86) displays Sun One Studio 10 (c and C++ 5.5) and gcc 3.4.2 as a requirement for PL/SQL native compilation, Pro\*C/C++, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK), GNU Compiler Collection (GCC). However, this row should be spilt into the following two rows:

Item	Requirement
PL/SQL native compilation	One of the following: <ul style="list-style-type: none"><li>■ Sun ONE Studio 10 (C and C++ 5.7)</li><li>■ gcc 3.4.2</li></ul>
Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK), GNU Compiler Collection (GCC)	Sun ONE Studio 10 (C and C++ 5.7)

- The "Checking Software Requirements" section of Chpter 2 in *Oracle Database Installation Guide for Solaris Operating System (x86)* does not specify the command to verify the update level of the operating system. You can use the following command to verify the update level of the operating system:

```
$ cat /etc/release
Solaris 9 4/03 s9s_u3wos_
```

In the output of the command, `_u3` refers to update 3 of Solaris 9.

- 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.

- 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.

- The section 1.3.1, "DB\_BLOCK\_SIZE Initialization Parameter" of Chapter 1, "Administering Oracle Database" in *Oracle Database Administrator's Reference for UNIX-Based Operating Systems* states an incorrect value (16 KB) for the DB\_BLOCK\_SIZE on Solaris. The correct value for this parameter on Solaris is 32 KB.
- Appendix H, "Database Limits" of *Oracle Database Administrator's Reference for UNIX-Based Operating Systems* states the incorrect maximum value (63) for the MAXINSTANCES variable. The correct maximum limit for the variable is 1055.
- In section 2.3.7, "Configuring SSH on All Cluster Nodes" in *Oracle Database Oracle Clusterware and Oracle Real Application Clusters Installation Guide 10g Release 2 (10.2) for Solaris Operating System*, the document says "You must configure SSH (or RSH) so that these commands do not prompt for a password." This is incorrect. You must have SSH configured for installation, or the installation user equivalence check fails.

This issue is tracked with Bug 7208052.

- In Oracle documentation, Oracle inventory group is represented as `oinstall`. However, it is not mandatory to use the same name, you can enter a different name for the group.
- Appendix H, "Database Limits" of *Oracle Database Administrator's Reference for UNIX-Based Operating Systems* guide states the incorrect value for control files as 20000 database blocks. The correct value is 25000 control file blocks with a block size of 4096 bytes.

This issue is tracked with Bug 9437136.

## 7 Documentation Accessibility

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<http://www.fcc.gov/cgb/consumerfacts/trs.html>, and a list of phone numbers is available at <http://www.fcc.gov/cgb/dro/trsphonebk.html>.

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B15696-08

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