

Dell™ PowerEdge™ Systems
Oracle® Database on
Microsoft®
Windows Server® x64

Troubleshooting Guide Version 4.4



Notes and Cautions



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

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Overview

This document applies to:

- Oracle® Database 10g R2 Enterprise Edition on Microsoft® Windows Server® 2003 R2 SP2 Enterprise/Standard x64 Edition or Windows Server 2008 SP2 Enterprise/Standard x64 Edition.
- Oracle Database 10g R2 Standard Edition on Windows Server 2003 R2 SP2 Standard x64 Edition or Windows Server 2008 SP2 Standard x64 Edition.

Required Documentation for Deploying the Dell|Oracle Database

The required documents for installing the Dell|Oracle Database are:

- *Oracle Database on Microsoft Windows Server x64 Operating System and Hardware Installation Guide* – Describes the required minimum hardware and software versions, how to install and configure the operating system, how to verify the hardware and software configurations, and how to obtain open source files.
- *Oracle Database on Microsoft Windows Server x64 Storage and Networking Guide* – Describes how to install and configure the network and the storage solutions.
- *Oracle Database on Microsoft Windows Server x64 Oracle Database Setup and Installation Guide* – Describes how to install and configure the Oracle database.
- *Oracle Database on Microsoft Windows Server x64 Troubleshooting Guide* – Describes how to troubleshoot and resolve errors encountered during the installation procedures described in the previous modules.



NOTE: All modules provide information on how to receive technical assistance from Dell.

Terminology Used in This Document

Throughout this document, the terms logical unit number (LUN) and virtual disk are used synonymously. The term LUN is commonly used in a Dell/EMC Fibre Channel storage system environment. The term virtual disk is commonly used in a Dell™ PowerVault™ SAS (Dell MD3000 and Dell MD3000i with MD1000 expansion) storage environment.

Getting Help

This section provides information on contacting Dell or Oracle for training, technical support, white papers, supported configurations, and general information.

Dell Support

- For detailed information on using your system, see the documentation that shipped with your system components.
- For white papers, Dell-supported configurations, and general information, see dell.com/oracle.
- For Dell technical support for your hardware and operating system software and to download the latest updates for your system, do one of the following:
 - See support.dell.com.
 - Contact Dell technical support.



NOTE: For information on contacting Dell, see the *Installation and Troubleshooting Guide* that was shipped with the system components.

- For information on Dell Enterprise Training and Certification, see dell.com/training.



NOTE: This training service may not be offered in all locations.

Oracle Support

- For information about Oracle software, application clusterware training, and contacting Oracle, see **oracle.com** or the Oracle documentation that shipped with the system components.
- For information on technical support, downloads, and, other technical information, see **metalink.oracle.com**.

Troubleshooting

This section contains information about Oracle Clusterware installation, resolutions, and workarounds with Windows Server 2008 SP2 x64 Edition on your Dell system.

Oracle[®] Clusterware Configuration Assistant Fails

The installation of Oracle Clusterware Configuration Assistant fails in the **Configuration Assistants** window. To resolve the issue:

- 1 Open the file:
`%ORA_CLUSTERWARE_HOME%\cfgtoollogs\configToolFailedCommands`
where `%ORA_CLUSTERWARE_HOME%` is the Cluster Ready Service (CRS) home directory that you created using procedures available in the *Oracle Database on Microsoft Windows Server x64 Oracle Database Setup and Installation Guide*.
- 2 Copy and run the first three commands (with the parameters) listed in the file from the command prompt.
- 3 To fix the failed Virtual Private IP Configuration Assistant (VIPCA), follow the steps in "VIPCA Fails" on page 10.

VIPCA Fails

If the VIPCA fails during the installation of Oracle Clusterware, the following error message is displayed:

Virtual Private IP Configuration Assistant failed

To work around the issue:

- 1 Click **Start** and select **Run**.
- 2 In the **Run** field, type the following and click **OK**:

```
%SystemDrive%\Oracle\product\<Oracle_DB_Ver>\crs\  
bin\vipca
```

where %SystemDrive% is your local drive and <Oracle_DB_Ver> is your Oracle Database version that is either 10.2.0 for Oracle 10g or 11.1.0 for Oracle 11g.

- 3 Follow the steps in VIPCA by selecting the appropriate public interface, and specifying the correct Virtual IP (VIP) address to be used.
- 4 Click **Finish**.



NOTE: This generally occurs if the Public interface is configured with an IP address in the networks 10.0.0.0/8, 172.16.0.0/16, or 192.168.1.0/24. For more information, see the Metalink note ID 338924.1 at metalink.oracle.com.

Oracle Clusterware Installation Procedure Fails or the Configuration Assistant Fails to Install

If the Oracle Clusterware installation procedure fails or the Configuration Assistant fails to install, you must uninstall Oracle Clusterware.



NOTE: Copy the GUI0raObjman folder to a different location before uninstalling Clusterware. You can use the utilities in this folder to clean the share disks later.

To uninstall Oracle Clusterware, use the following methods:

- "Running Oracle Universal Installer (OUI)" on page 11
- "Deleting Oracle Services" on page 11
- "Cleaning the Storage Devices" on page 12

Running Oracle Universal Installer (OUI)

- 1 On node 1, open Windows Explorer and navigate to the following directory:
`%SystemDrive%\Oracle\product\<Oracle_DB_Ver>\crs\oui\bin\`
where `%SystemDrive%` is your local drive and `<Oracle_DB_Ver>` is your Oracle Database version that is either 10.2.0 for Oracle 10g or 11.1.0 for Oracle 11g.
- 2 Double-click `setup.exe` to launch the OUI.
- 3 In the **Welcome** window, click **Deinstall Products**.
- 4 In the **Inventory** window, select `OraCrs10g_home` or `OraCrs11g_home` based on your Oracle Database version and click **Remove**.
- 5 In the **Confirmation** window, click **Yes**.
If an error message is displayed, click **Cancel**.
- 6 In the **Welcome** window, click **Cancel**.
- 7 When prompted, click **Cancel**, and then, **Yes**.
The CRS install locations and different files associated with it are deleted.

Deleting Oracle Services

- 1 On node 1, launch the **Services** console.
 - a Click **Start** and select **Run**.
 - b In the **Run** field, type the following:
`services.msc`
 - c Click **OK**.
The **Services** window is displayed.
- 2 Identify and delete any remaining Oracle services.
To delete a service:
 - a Click **Start** and select **Run**.
 - b In the **Run** field, type `cmd` and click **OK**.
A command prompt window is displayed.

- c Type the following, and press <Enter>:
`sc delete <oracle_service_name>`
 - d Repeat step c for each additional service that you need to remove.
- 3 Restart node 1 and log in as the administrator.
 - 4 Restart each of the other nodes and log in as the administrator.
 The Oracle services are deleted.

Cleaning the Storage Devices

- 1 Clean the partitions that will be configured for the OCR registry (OCRCFG, OCRMIRRORCFG) and the voting disks, Votedsk1, Votedsk2, and Votedsk3.
 - a Click **Start** and select **Run**.
 - b In the **Run** field, type `cmd` and click **OK**.
 A command prompt window is displayed.
 - c Type the following and press <Enter>:
`%SystemDrive%\Oracle\product\<Oracle_DB_Ver>\crs\bin\ExportSYMLinks`

 where `%SystemDrive%` is your local drive and `<Oracle_DB_Ver>` is your Oracle Database version that is either 10.2.0 for Oracle 10g or 11.1.0 for Oracle 11g.

 The Oracle Symbolic Link Exporter (ExportSYMLinks) imports the symbolic links to the `SYMMAPTBL` file to your current directory.
 - d At the command prompt, type the following and press <Enter>:
`notepad SYMMAP.TBL`
- 2 Ensure that OCRCFG, OCRMIRRORCFG, Votedsk1, Votedsk2, and Votedsk3 are displayed in the file.
 If OCRCFG, OCRMIRRORCFG, Votedsk1, Votedsk2, and Votedsk3 are not displayed in the file, assign OCRCFG, OCRMIRRORCFG, Votedsk1, Votedsk2, and Votedsk3 to the appropriate disk and save the file.

Use the Oracle Symbolic Link Importer (ImportSYMLinks) to import the symbolic links into the assigned storage disks (**OCRCFG**, **OCRMIRRORCFG**, **Votedsk1**, **Votedsk2**, and **Votedsk3**).

At the command prompt, type the following and press <Enter>:

```
%SystemDrive%\Oracle\product\<>Oracle_DB_Ver>\crs\  
bin\ImportSYMLinks
```

where %SystemDrive% is your local drive and <Oracle_DB_Ver> is your Oracle Database version that is either 10.2.0 for Oracle 10g or 11.1.0 for Oracle 11g.

- 3** Using the Oracle Logical Partition Formatter (LogPartFormat), format the **OCRCFG**, **OCRMIRRORCFG**, **Votedsk1**, **Votedsk2**, and **Votedsk3** partitions on both nodes.

At the command prompt, type the following commands and press <Enter> after each command:

```
%SystemDrive%\Oracle\product\<>Oracle_DB_Ver>\crs\  
bin\LogPartFormat\.\Votedsk1
```

```
%SystemDrive%\Oracle\product\<>Oracle_DB_Ver>\crs\  
bin\LogPartFormat \.\Votedsk1
```

where %SystemDrive% is your local drive and <Oracle_DB_Ver> is your Oracle Database version that is either 10.2.0 for Oracle 10g or 11.1.0 for Oracle 11g.

The following message is displayed:

```
Are you sure you want to continue...(Y/N)?
```

- 4** Type **y** and press <Enter>, and then launch **Oracle GUI Object Manager**.

At the command prompt, type the following and press <Enter>:

```
%SystemDrive%\Oracle\product\<>Oracle_DB_Ver>\crs\  
bin\GUIOracleOBJManager.exe
```

where %SystemDrive% is your local drive and <Oracle_DB_Ver> is your Oracle Database version that is either 10.2.0 for Oracle 10g or 11.1.0 for Oracle 11g.

The **Oracle Object Manager** window is displayed.

- 5** Delete the symlinks for the OCR (OCRCFG and OCRMIRRORCFG) and the voting disks (Votedsk1, Votedsk2, and Votedsk3).
 - a** Select **OCRCFG**, **OCRMIRRORCFG**, **Votedsk1**, **Votedsk2**, and **Votedsk3**.
 - b** Click **Options** and select **Commit**.
If successful, the **OCRCFG**, **OCRMIRRORCFG**, **Votedsk1**, **Votedsk2**, and **Votedsk3** entries disappear.
 - c** Click **Options** and select **Exit** to close the **Oracle Object Manager**.
- 6** Launch the **Computer Management Console**.
 - a** On the Windows® desktop, click **Start** and select **Run**.
 - b** In the **Run** field, type the following and press <Enter>:

```
compmgmt .msc
```


The **Computer Management Console** window is displayed.
- 7** Delete the ASM or OCFS partitions.
 - a** In the **Computer Management Console** window, click **Storage** and select **Disk Management**.
 - b** Right-click the first partition and select **Delete Logical Drive**.
 - c** When prompted, click **Yes**.
 - d** Repeat step b and step c for each remaining partition until all partitions, including the original extended partition, have been deleted.
- 8** Restart node 1 and log in as administrator.
- 9** After you are logged in as administrator on node 1, restart each of the remaining nodes and log in as administrator.
- 10** Follow the steps in the "Preparing the Disks for Oracle Clusterware" and "Removing the Assigned Drive Letters" sections in the *Oracle Database on Microsoft Windows Server x64 Storage and Networking Guide* to re-create the logical partitions.

Follow the steps in the "Installing Oracle RAC 10g R2 Using OCFS" or "Installing Oracle RAC 10g R2 Using ASM" sections in the *Oracle Database on Microsoft Windows Server x64 Oracle Database Setup and Installation Guide*.

Oracle 10g R2 10.2.0.4 Installation Issue on Microsoft Windows Server 2008

When installing Oracle Cluster Ready Services on Windows Server 2008 x64, the prerequisite check fails and the following message is displayed:

```
Security certificates for OCFS and Orafence drivers on  
Windows Server 2008 have expired.
```

To resolve the issue, download and install the latest drivers from patch 7320726 available at metalink.oracle.com.

To install the new drivers:

- 1 Replace %SystemDrive%\system32\drivers\ocfs.sys with the ocfs.sys file from patch 7320726.
- 2 Replace %SystemDrive%\system32\drivers\orafencedrv.sys with the orafencedrv.sys file from patch 7320726.
- 3 Reboot the system for ocfs and fence drivers to take effect.

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Additional Troubleshooting Issues

Table 3-1 provides resolution for problems that you may encounter while deploying and using your Microsoft® Windows Server® 2003 or 2008 operating system and Oracle® database software.

Table 3-1. Additional Troubleshooting Issues and Resolutions

Category	Problem/Symptom	Cause	Resolution
EMC® PowerPath® installation	PowerPath installation fails.	Unknown installation error.	Reboot the system on which the PowerPath installation fails.
NIC Teaming	One of the BroadCom® NICs that was used in the NIC teaming fails or is disabled.	Due to the availability of the second NIC, the private network is still active on the node through the second NIC.	If this issue is caused by a Spanning Tree Protocol on your switch, perform one of the following procedures: <ul style="list-style-type: none">• Turn off Spanning Tree on the switch.• Enable Port Fast Learning (or equivalent, which may be called something different depending on the brand of switch) on the ports of the switch to which your teamed NICs are attached.• Use Broadcom's LiveLink feature by right-clicking the team, choosing Enable LiveLink, and following the instructions displayed in the window.

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
NIC Teaming	When the first NIC is still down or disabled, the second NIC in the teaming also fails or is disabled.	This failure causes the private network to go down completely on this node. The private IP address on this node cannot be pinged.	NOTE: Though the suggested solutions may fix the issue, a few implications or issues may arise from enabling Port Fast Learning or turning off Spanning Tree on your switches.
NIC Teaming	When the second NIC that failed or was disabled becomes enabled, the private network of this node remains inactive.	A private network becomes inactive only if the failed second NIC becomes enabled. If the first failed NIC becomes enabled, the private network becomes active.	

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
Installing Oracle Clusterware	During Clusterware installation the following error message is displayed: The specified nodes are not clusterable.	The administrative account or the account used to install Oracle has a blank password associated with it.	Perform the following steps: 1 Right-click My Computer and select Manage . 2 In the Computer Management Window in the left pane, expand System Tools and Local Users , and then expand Groups . 3 Click Users in the left pane. 4 In the right pane, right-click the administrative account being used to install Oracle and select Set Password . A warning window is displayed. 5 Ignore the message and click Proceed . 6 In the Set Password window, enter the password and click OK . 7 Log off the machine and log in using the new password. 8 Restart the Clusterware installation.
Installing Oracle Clusterware	The Oracle Clusterware installation fails. The Configuration Assistant fails to install.	The symlinks for OCRCFG and/or Votedsk1 are unavailable. One or more storage devices is not formatted correctly.	Perform the following steps: 1 Uninstall Oracle Clusterware using Oracle Universal Installer (OUI). 2 Uninstall any remaining Oracle services. 3 Clean the storage devices. For more information, see "Oracle Clusterware Installation Procedure Fails or the Configuration Assistant Fails to Install" on page 10.

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
Oracle Clusterware	The cluster node restarts with a blue screen.	The cluster node cannot communicate with the storage disks.	Perform the following steps: 1 Restart the cluster node. 2 During POST, press <F8>. 3 In the Windows Advanced Options Menu window, select Safe Mode . 4 Select the appropriate operating system. 5 Log on to the system. 6 In the Desktop window, click OK . 7 On the Windows desktop, right-click My Computer and select Manage . 8 In the Computer Management window, expand Services and Applications . 9 Click Services . 10 Right-click the first Oracle service and select Properties . 11 Click the Startup drop-down menu and record the default startup type for this service.

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom Cause	Resolution
		12 In the Startup drop-down menu, select Disabled .
		13 Repeat step 10 through step 12 for all the remaining Oracle services.
		14 Verify the following:
		<ul style="list-style-type: none">• The storage system is functioning properly.• All fiber-optic cables are connected and secure.• The cluster node can access the shared storage disks.
		See the "Installing the Host-Based Software Needed for Storage" and "Verifying Multi-Path Driver Functionality" sections in the <i>Oracle Database on Microsoft Windows Server x64 Storage and Networking Guide</i> .
		15 Repeat step 1 through step 14 and reset each Oracle service back to its original setting.

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
System blue screen	The cluster nodes generate a blue screen.	The cluster nodes cannot access the voting disk.	<p>1 Ensure that the HBA connection mode firmware settings are configured properly for your storage configuration.</p> <p>If your cluster nodes and storage system are configured in a direct-attached configuration, configure the Connection mode as: 0-loop only.</p> <p>If your cluster nodes and storage system are connected to each other through a Fibre Channel switch, configure the Connection mode as 2-loop preferred, otherwise point-to-point.</p> <p>2 If the problem persists, increase the CSS miscount to a value greater than 120.</p> <p>3 Perform the following:</p> <ul style="list-style-type: none">a Shut down all nodes except node 1.b On node 1, open a command prompt window.

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom Cause	Resolution
		<p>c Type the following, and press <Enter>:</p> <pre>%ORA_CLUSTERWAR E_HOME%\bin</pre> <p>where %ORA_CLUSTERWARE _HOME% is the CRS home directory that you created using procedures found in the <i>Oracle Database on Microsoft Windows Server x64 Oracle Database Setup and Installation Guide</i>.</p> <p>d Type the following and press <Enter>:</p> <pre>crsctl set css misscount n</pre> <p>where n is a value greater than 120.</p> <p>4 Restart node 1 and log on as administrator.</p> <p>5 Restart each of the other nodes and log on as administrator.</p>

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
Storage	<ul style="list-style-type: none"> • Disks appear as unreachable. • On the Windows desktop, when you right-click My Computer, select Computer Management, and then click Disk Management, the disks appear unreachable. 	The LUNs are not assigned to the cluster nodes.	Ensure that the storage LUNs are assigned to both cluster nodes.
		Improper cabling.	Ensure that the fiber-optic cables connected to the cluster nodes and storage system are installed correctly.
		The HBA drivers are not installed on the cluster node(s).	For more information, see the "Cabling Your Dell/EMC Fibre Channel Storage" section in the <i>Oracle Database on Microsoft Windows Server x64 Storage and Networking Guide</i> .

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
	<ul style="list-style-type: none"> • SCSI disk devices are not displayed. • On the Windows desktop, when you right-click My Computer, select Computer Management, and then click Disk drivers, the SCSI disk devices are not displayed. 	<ul style="list-style-type: none"> • The LUNs are not assigned to the cluster nodes. • Improper cabling. • The HBA drivers are not installed on the cluster node(s). 	<p>Ensure that the storage LUNs are assigned to both cluster nodes.</p> <p>Perform the following steps.</p> <ol style="list-style-type: none"> 1 On the Windows desktop, right-click My Computer, and select Manage. 2 In the Manage window, expand Device Manager. 3 In the right-window pane, right-click the host computer name and select Scan for hardware changes. 4 Repeat step 3 until the disk devices are displayed. 5 Restart the system, if required. <p>Ensure that the fiber optic cables connected to the cluster nodes and storage system are installed correctly.</p> <p>For more information, see the "Cabling Your Dell/EMC Fibre Channel Storage" section in the <i>Oracle Database on Microsoft Windows Server x64 Storage and Networking Guide</i>.</p>

Table 3-1. Additional Troubleshooting Issues and Resolutions (continued)

Category	Problem/Symptom	Cause	Resolution
Virtual Private IP Configuration Assistant (VIPCA)	The VIPCA configuration fails.	The public network adapter interface (or the network interface assigned for Virtual IP (VIP) in case 4 network interfaces) name is not identical on both cluster nodes.	<p>Ensure that the public network adapter interface name is identical on both cluster nodes.</p> <p>To verify the public network adapter interface name:</p> <ol style="list-style-type: none"> 1 On node 1, click Start and select Settings→Control Panel→Network Connections. 2 In the Network Connections window, right-click the public network adapter that you want to rename and select Rename. 3 Repeat step 1 and step 2 on each of the remaining nodes.
Uninstall Oracle Clusterware	Configuration assistant fails to install repetitively.	<ul style="list-style-type: none"> • Unclean removal of previous installation. • Even though Oracle is uninstalled using the GUI, the empty directories in Oracle home and the Oracle folder under Program Files remain. 	Delete the empty directories manually.

Oracle Security Patches and Recommended Patches

Oracle® releases quarterly critical patch updates (CPUs) for fixing potential security vulnerabilities for Oracle products. These CPUs are required to be applied to the production systems.

Currently, the latest CPUs for the Microsoft® Windows® platform are:

- Oracle 11g R1 11.1.0.7 CPU patch: 8343070
- Oracle 10g R2 10.2.0.4 patches: see Metalink note #786800.1 at metalink.oracle.com.

Check the latest CPUs for Windows platform at metalink.oracle.com.

It is recommended that you apply the Oracle–recommended database patchsets for Microsoft platforms. For latest Oracle–recommended patches, see the Metalink note #161549.1 at metalink.oracle.com.

The following are the current patches recommended by Oracle:

- **Oracle 11g R1 11.1.0.7 on Windows x86 64-bit: 11.1.0.7.0 Patch 12: #8508247**
Fixed bugs: See Metalink note #560295.1 at metalink.oracle.com.
- **Oracle 10g R2: 10.2.0.4 on Windows x86 64-bit:** see Metalink note #161549.1 at metalink.oracle.com.

Obtaining and Using Open Source Files

The software contained on the deployment media is an aggregate of third-party programs as well as Dell programs. Use of the software is subject to designated license terms.

All software that is designated as under the terms of the GNU General Public License (GPL) may be copied, distributed, and/or modified in accordance with the terms and conditions of the GNU GPL, Version 2, June 1991.

All software that is designated as under the terms of the GNU Lesser GPL (LGPL) may be copied, distributed, and/or modified in accordance with the terms and conditions of the GNU Lesser General Public License, Version 2.1, February 1999.

Under these GNU licenses, you are also entitled to obtain the corresponding source files by contacting Dell at 1-800-WWW-DELL. You can also obtain the corresponding source files at dell.com/oracle.

