Agenda

- Preparation
- Installation
- Upgrade
- News and Task List
- Diagnostics & Tuning
- Performance Testing
- Best Practices
Lifetime Support Policy

Premier Support:
- July 2007 to July 2008
- January 2009 to January 2012

Extended Support:
- July 2008 to July 2010

Sustaining Support:
- July 2010 to January 2012
- January 2012 to January 2015
- January 2015 to January 2016
- January 2016 to January 2018

Today:
- January 2015 to January 2016
- January 2016 to January 2017
- January 2017 to January 2018
Releases – Support-SRs

Mix of Service Requests for RDBMS

© 2010 Oracle Corporation
Upgrade to Oracle Database 11g

- Oracle 7.3
  - ≥ 7.3.4

- Oracle 8
  - ≥ 8.0.6
  - ≥ 8.1.7.4

- Oracle 9i
  - ≥ 9.0.1.4

- Oracle 10g
  - ≥ 10.2.0.2
  - ≥ 10.1.0.5

- Oracle 11g R2
  - ≥ 9.2.0.4

"Empty" arrows mean: no specific patch release required
Oracle Certification

- Please see Note:964664.1 for explanations on products and product group assignments and Note:431578.1 on Middleware, Application Server
Oracle Certification

[Diagram showing Oracle Certification interface with various menus and options for selecting products like Oracle Database, Embedded Database, Oracle Audit Vault, and more.]

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## Oracle Certification

### Find Certifications

#### Refine Results
- **Product**
  - All Products
  - Oracle Database
  - Oracle Certification
- **Release/Version**
  - 11gR1 (Oracle Server - Enterprise Edition) (38)
  - 11gR1 RAC (Oracle Server - Enterprise Edition) (47)
  - 11gR2 (Oracle Server - Enterprise Edition) (63)
  - 11gR2 RAC (Oracle Server - Enterprise Edition) (63)
  - 11gR1 (Oracle Server - Enterprise Edition) (34)
  - 11gR1 RAC (Oracle Server - Enterprise Edition) (32)
- **Platform/Version**
  - Apple Mac OS X (Intel) (2)
  - Fujitsu BS2000/OSD (S series) (10)

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Display of results is limited to 200 rows. Please refine results further or use the Search feature.

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## Oracle Certification

**Find Certifications**

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Upgrade Length

• How long will the upgrade take to complete?
  • **Independent** of:
    • Size of the database
    • Used datatypes
  • **Dependent** mainly on:
    • The number of installed components and options
    • Valid and non-stale data dictionary statistics
    • Number of synonyms – they'll get recompiled (upgrade from 9i)
    • Number of objects in XDB
    • At a very low rate, if `COMPATIBLE` is increased:
      • Number of datafiles
      • Size of redo logs
Upgrade Length

- Speed up your upgrade performance by:
  - Truncating the auditing table SYS.AUD$
    SQL> truncate SYS.AUD$;
  - Possibly switch off archiving
    - Make sure this is not against your business rules
  - Creating dictionary statistics right before the upgrade
    - Oracle 9i:
      SQL> exec DBMS_STATS.GATHER_SCHEMA_STATS
               ('SYS', options => 'GATHER', estimate_percent =>
               DBMS_STATS.AUTO_SAMPLE_SIZE, method_opt => 'FOR
               ALL COLUMNS SIZE AUTO', cascade => TRUE);
    - Oracle 10g/11g:
      SQL> exec DBMS_STATS.GATHER_DICTIONARY_STATS;
Upgrade is easier!

- The upgrade to Oracle Database 11g is much easier than any upgrades to earlier Oracle releases

- Size of Upgrade guides:
  - 8.1.7 - 512 pages
  - 9.0.1 - 484 pages – 111 steps for an RDBMS with 9 components
  - 9.2.0 - 344 pages
  - 10.1.0 - 170 pages
  - 10.2.0 - 140 pages
  - 11.1.0 - 186 pages
  - 11.2.0 - 178 pages
Documentation

• Note:601807.1 Upgrade Companion 11g

Oracle Database 11gR1 Upgrade Companion
Version 1.40
April 14, 2009

Welcome to the Oracle Database 11gR1 Upgrade Companion. This Upgrade Companion helps you to upgrade from either Oracle9i Release 2 (9.2) or Oracle Database 10g to Oracle Database 11g Release 1, and includes pre-upgrade, upgrade, and post-upgrade guidance. Oracle continually updates this document as new information becomes available. Please check this document prior to performing any upgrade.

• Note:785351.1 Upgrade Companion 11g Release 2

Oracle Database 11gR2 Upgrade Companion
Version 2.30
September 30, 2009

Welcome to the Oracle Database 11gR2 Upgrade Companion. This Upgrade Companion helps you to upgrade from either Oracle9i Release 2 (9.2) or Oracle Database 10g to Oracle Database 11g Release 2, and includes pre-upgrade, upgrade, and post-upgrade guidance. Oracle continually updates this document as new information becomes available. Please check this document prior to performing any upgrade.

NOTE: The Upgrade Companion is an instructional document that serves as a companion to the Oracle Database documentation set. The Upgrade Companion:
Documentation

• **Note:785351.1 Upgrade Companion 11g Release 2**

**Introduction**

The Best Practices section is not a replacement for the Oracle Database Upgrade Guide but rather a companion document that emphasizes and elaborates on database upgrade recommendations and requirements. The Best Practices are derived by Oracle technical staff and offer an accumulation of real-world knowledge and experience obtained while working with our customers.

**Usage**

The Best Practices tab is organized by the following major steps in the Upgrade Methodology:

- **Upgrade Planning**: Important information related to planning the DB configuration, and testing
- **Prepare and Preserve**: Information related to preserving and preparing the source environment for the Oracle Database 11g Upgrade
- **Upgrade**: Final reminders and information required for the actual upgrade
- **Post Upgrade**: Testing and analysis which should be performed after upgrading your test and production databases to Oracle Database 11g
Behavior Changes

This section documents important changes in behavior between Oracle9i Release 2 (9.2)/Oracle Database 10g and Oracle Database 11g. This section focuses on behavior changes that require a DBA to make an informed decision to minimize the risks that may be introduced by the changes. This section does not describe all changed behavior or new features in Oracle Database 11g. For a complete list of all new features introduced in Oracle Database 11g, see the Oracle Database New Features Guide 11g.

This page is an accumulation of real-world knowledge and experience obtained from Support and Development engineers and working with Oracle customers on different upgrade scenarios. Pay careful attention to these Behavior Changes to avoid the most common issues when upgrading from Oracle9i Release 2/Oracle Database 10g to Oracle Database 11g.

- Architecture
- Optimizer
- Initialization Parameters
- Performance and Monitoring
- Administration
- Streams
- Security
Documentation

• Upgrade Guide
  • Oracle® Database
    Upgrade Guide
    11g Release 2 (11.2)
    E10819-02

  http://download.oracle.com/docs/cd/E11882_01/server.112/e10819/toc.htm

• Important Notes

  • Note: 837570.1
    Complete Checklist for Manual Upgrades to 11g Release 2

  • Note: 421191.1
    Complete checklist for manual upgrades from X to Y

  • Upgrading from 9i to 10g: What to expect from the Optimizer

  • Upgrading from 10g to 11g: What to expect from the Optimizer

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OTN Upgrade Page

OTN Upgrade Page


- Grid Consolidation on Private Clouds
  - Register for Live webcast on July 14
  - Email

- Oracle Database
  - WHY ORACLE?
    - The innovation continues with Oracle Database 11g Release 2 to lower IT costs and deliver a higher quality of service by:
      - Consolidating business applications onto fast, reliable and scalable database grids
      - Maximizing availability and eliminating idle data center redundancy
      - Compressing data onto low cost storage partitions for faster performance
      - Securely protecting information and enabling compliance
      - Doubling DBA productivity and reducing the risk of change

- ORACLE IS THE DATABASE LEADER
  - Oracle Exadata V2: The world’s first OLTP database machine
  - Gartner: Oracle is #1 Database
  - IDC: Oracle is #1 in Data Warehousing
  - Edison: Oracle is easier to manage than DB2 and SQL Server
  - Gartner: Oracle RAC Moved to Mainstream Use
  - IDC: Cost-Effective Data Leak Prevention Starts at the Source
  - Benchmarks: World record performance and price/performance

- Oracle Database 11g
  - Upgrading to Oracle Database 11g
  - Migrating to Oracle Database
OTN Upgrade Page

• http://www.oracle.com/technetwork/database/upgrade/index.html

Oracle Database Upgrade
Upgrading to Oracle Database 11g Release 2 provides the latest in efficient, reliable, secure data management for mission-critical on-line transaction processing applications, query-intensive data warehouses, and content management and Web 2.0 applications. The right planning, preparation, and upgrade steps will make the upgrade process simpler, faster, and more predictable from start to finish.

Latest (October 2009)

Is your Database Ready for an Upgrade?
Oracle Database Pre-Upgrade Script (My Oracle Support)

Technical Information
Methods for Upgrading to Oracle Database 11g Release 2
Checklist for Manual Upgrades - 11g Release 2 (My Oracle Support)
Checklist for Upgrades to 11g Release 2 using DBUA (My Oracle Support)
Database Server Upgrade/Downgrade Compatibility Matrix (My Oracle Support)

Database to Oracle Database 11g Upgrade Oracle 9i->11g: A Customer Experience (November 2008)

Database Upgrade Services
The Database Upgrade Partner Program includes Oracle partners who offer Oracle Database 11g Upgrade Services to customers who might not have the time, resources, or expertise to perform their own database upgrades. These partners have vast upgrade experience and use best practices for upgrading...
OTN Upgrade Forum

• [Link](http://forums.oracle.com/forums/forum.jspa?forumID=583&start=0)
Upcoming Upgrade Workshops in Tampa, Atlanta, Montreal - and together with Tom Kyte in Denver and Salt Lake City

By Mike Dietrich on August 27, 2010 11:10 AM

Roy is looking forward to meet you there ;-) So don’t wait to long and SIGN UP TODAY:

- **Tampa, FL, Sept 15, 2010**
  The Intercontinental Tampa - 4860 West Kennedy Blvd. - Tampa, FL 33609

- **Atlanta, GA, Sept 16, 2010**
  The Mansion in Buckhead - 3376 Peachtree Road NE - Atlanta, GA 30326

- **Montreal, Oct 15, 2010**
  Hyatt Regency Montreal - 1255 Rue Jeanne-Mance - Montreal, QC H5B 1E5

And we’d like to announce also these workshops together with Tom Kyte:

- **Denver, CO, Sept 8, 2010**
  Westin Tabor Centre - 1672 Lawrence St - Denver, CO

- **Salt Lake City, UT, Sept 9, 2010**
  Salt Lake City Marriott Downtown - 75 S West Temple - Salt Lake City, UT 84101

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Last updated: 04-AUG-2010
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Taobao.com Runs China's Busiest Data Warehouse on 20 Node Database Cluster

“Oracle Real Application Clusters supports large-scale data processing and can scale to meet our rapidly growing requirements. It provides a powerful and reliable platform on which to run our Oracle data warehouse.” — Wang Hai, Senior Supervisor, Taobao.com

Founded in 2003 by Alibaba.com, Taobao.com is Asia’s largest online shopping Web site. The company engages in consumer-to-consumer (C2C) and business-to-consumer (B2C) trading and has a 70% share of the online market in China. More than 110 million registered members purchased goods and services worth US$14.7 billion (RMB 99.96 billion) in 2008. More than 10 million cell phones and over 140 million items of clothing were sold through the site in that year alone.

Taobao.com has used Oracle Database and clusterware products since 2004, building an enterprise data warehouse to process and analyze business and customer data.

The company recently upgraded from Oracle Database 10g with Real Application Clusters to Oracle Database 11g with Real Application Clusters. As part of the upgrade, Taobao.com deployed a 20-node database cluster to improve data processing speed. This has enabled the company to cut the time required to
Sanity Operations

- Always check for INVALID objects:
  
  SQL> SELECT UNIQUE object_name, object_type, owner
       FROM dba_objects WHERE status='INVALID';

- Fix all INVALID objects BEFORE the upgrade!!!!!!

- There should be no invalid objects in SYS and SYSTEM user schema
  
  - Recompile invalid objects with utlrp.sql before the upgrade
  - Compare invalid objects from before and after the upgrade
    - Beginning with 11.1.0.7 the comparison has been made easier
    - Run the pre-upgrade check script utlu112i.sql
    - Afterwards find invalid objects in registry$sys_inv_objs and registry$nonsys_inv_objs
  - Compare after the upgrade with: utluiobj.sql
  - The view DBA_INVALID_OBJECTS contains a list of invalid objects after the upgrade
Sanity Operations

- If upgrading from 10g or 11g, purge the recyclebin

```
SQL> purge DBA_RECYCLEBIN;
```
Sanity Operations

• Remove "old" parameters, underscores and events from your init.ora/spfile
  • Examples:

```sql
init.ora:
<...>
_always_semi_join=off
_unnest_subquery=false
<...>
optimizer_features_enable=9.0.1
<...>
event = "10061 trace name context forever, level 10"
<...>
```
Preparation

• Preserve performance statistics
  • Get accurate performance statistics
    • Comparison: before ↔ after
    • Time specific queries and batches
• Test upgrade of the database
  • Functional tests
  • Performance tests with real life loads!!!
    • Real Application Testing
      • SQL Performance Analyzer
      • Database Replay
Preparation

• Collecting sufficient performance data prior to the upgrade is of vital importance
  • Sufficient means: Starting at least 4 weeks before the upgrade
  • Gather accurate performance statistics
  • In Oracle 8i/9i:
    • Use STATSPACK
      • Export the PERFSTAT user right before the upgrade
      • Note: 466350.1 STATSPACK before/after upgrade
  • In Oracle 10g/11g:
    • Use AWR
      • Take snapshots every 30-60 minutes – retention: >30 days
      • Extract the AWR with: SQL> @/?/rdbms/admin/awrext.sql
      • => For 10.1 only use: DBMS_SWRF_INTERNAL.EXTRACT_AWR
      • Use AWR DIFF reports to compare before & after upgrade performance:
        DBMS_WORKLOAD_REPOSITORY.AWR_DIFF_REPORT_HTML
Agenda

Preparation

Installation

Upgrade

News and Task List

Diagnostics & Tuning

Performance Testing

Best Practices

Installation Overview

Oracle Clusterware & ASM
installation
Patches
Time Zone
Unattended
Installation

• How to access the software?
  • http://edelivery.oracle.com/
  • Download from OTN:
    http://otn.oracle.com/software/index.html
Installation overview

1. Oracle Clusterware
2. Oracle ASM
3. Oracle Database

≤ 11.1.0.7

$ORACLE_BASE

Inventory, ADR etc.

ORA_CRS_HOME

$ORACLE_HOME - for ASM

$ORACLE_HOME - for Database

≥ 11.2.0.1

$ORACLE_BASE

Inventory, ADR etc.

GRID_HOME

Grid Infrastructure

$ORACLE_BASE

$ORACLE_HOME - for ASM

$ORACLE_HOME - for Database

$ORACLE_HOME - for Database

same owner
Agenda

1. Preparation
2. Installation
   - Installation Overview
   - Oracle Clusterware & ASM
     - Installation
     - Patches
     - Time Zone
     - Unattended
3. Upgrade
4. News and Task List
5. Diagnostics & Tuning
6. Performance Testing
7. Best Practices
Oracle Clusterware Upgrade 11g and 11.2

- Always upgrade Oracle Clusterware first!!!
- Upgrading to Oracle Clusterware 11g:
  - Install new software into the existing Clusterware home
  - In-place software upgrade
- Upgrading to Oracle Clusterware 11g Release 2:
  - Install new software into new Grid Infrastructure home
  - Out-of-place software upgrade
  - Grid Infrastructure home is owned by 'root'
    http://download.oracle.com/docs/cd/E11882_01/install.112/e10812/prelinux.htm
- On 32-bit Windows there'll be no 32-bit Grid Infrastructure and ASM available!
Oracle Clusterware Upgrade 11g Release 2

- No ASM, no Oracle Clusterware
- Clusterware & ASM: 10.1.0.5
- Clusterware & ASM: ≥ 10.2.0.3
- Clusterware & ASM: rolling upgrade

=> Unset ORACLE_HOME, ORACLE_BASE and ORA_CRS_HOME
Clusterware - ASM - DB Compatibility

Note: 337737.1

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a) The Matrix is valid after the (rolling) upgrade has been completed. During the upgrade you may use an older ASM version.
b) Linux specific: see Note 781628.1
c) The ASM version needs to be at least 10.1.0.3
Agenda

- Preparation
- Installation
  - Installation Overview
  - Oracle Clusterware & ASM
- Upgrade
  - Patches
  - Time Zone
  - Unattended
- News and Task List
- Diagnostics & Tuning
- Performance Testing
- Best Practices
Installation Database Home

1. Install software into a new Oracle home
2. Apply newest available PATCH SET to this $OH
3. Apply newest available patch set update (PSU)
4. Apply recommended patches
5. Apply patches for known issues
6. Now: Start the database upgrade!!!
Installation 11g Release 2
Installation 11g Release 2

This will configure OCM (Oracle Configuration Manager)
Installation 11g Release 2

Disrecommended:
First patch your Oracle home, then start the upgrade
Installation 11g Release 2

Select the type of database installation you want to perform.

- Single instance database installation
- Real Application Clusters database installation
Installation 11g Release 2

Which database edition do you want to install?

- **Enterprise Edition (3.95GB)**
  Oracle Database 11g Enterprise Edition is a self-managing database that has the scalability, performance, high availability, and security features required to run the most demanding, mission-critical applications.

- **Standard Edition (3.88GB)**
  Oracle Database 11g Standard Edition is ideal for work groups, departments, and small to medium-sized businesses looking for lower-cost solutions.

- **Standard Edition One (3.88GB)**
  Oracle Database 11g Standard Edition One is ideal for work groups, departments, and small to medium-sized businesses looking for lower-cost solutions.

Select Options...
Installation 11g Release 2

Select Database Edition

Which database edition do you want to install?
- Enterprise Edition (3.95GB)

Choose Components

- Oracle Partitioning
- Oracle OLAP
- Oracle Label Security
- Oracle Data Mining RDMS Files
- Oracle Database Vault option
- Oracle Real Application Testing

Options:
- Reset Defaults
- Select All
- De-Select All
- OK
- Cancel

Select Options...
Installation 11g Release 2

Oracle Database 11g Release 2 Installer - Installing database - Step 6 of 11

Specify Installation Location

Specify an Oracle base path to place all Oracle software and configuration-related files. This location is the Oracle base directory.

Oracle Base: /u01/app/oracle

Specify a location for storing Oracle software.

Software Location: /sw/app/track/product/112.0/dbhome1

Oracle Base and Software Location should be in different paths!!!
Installation 11g Release 2

Perform Prerequisite Checks

Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.

<table>
<thead>
<tr>
<th>Checks</th>
<th>Status</th>
<th>Fixable</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS Kernel Parameters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- OS Kernel Parameter: file-max</td>
<td>Failed</td>
<td>Yes</td>
</tr>
<tr>
<td>- OS Kernel Parameter: ip_local_port_range</td>
<td>Failed</td>
<td>Yes</td>
</tr>
</tbody>
</table>

This is a prerequisite condition to test whether the OS kernel parameter "file-max" is properly set. [more details]

Expected Value: 6815744
Actual Value: 6553600
Installation 11g Release 2

Perform Prerequisite Checks

Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.

Check Again  Fix & Check Again  Show Failed

Execute Fixup Scripts

Some of the prerequisites have failed on following nodes. Installer has generated a fixup script that can be run outside the installer to fix the issues. The following fixup script needs to be executed as the "root" user on the given nodes:

Script: /tmp/CVU_11.2.0.1.0 Dublin/rdofxup.sh
Nodes: stadd57

To execute the fixup scripts:
1. Open a terminal window
2. Login as "root"
3. Run the scripts
4. Return to this window and click "OK" to continue

OK  Cancel
Installation 11g Release 2

Extracting files to '/u01/app/oracle/product/11.2.0/dbhome1'.

- Oracle Database installation: In Progress
- Prepare: Succeeded
- Copy files: In Progress
- Link binaries: Pending
- Setup files: Pending
- Execute Root Scripts for Oracle Database installation: Pending
Installation 11g Release 2

The following configuration scripts need to be executed as the "root" user.

Scripts to be executed:

<table>
<thead>
<tr>
<th>Number</th>
<th>Script Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>/u01/app/oracle/product/11.2.0/dbhome1/root.sh</td>
</tr>
</tbody>
</table>

To execute the configuration scripts:
1. Open a terminal window
2. Log in as "root"
3. Run the scripts
4. Return to this window and click "OK" to continue
The installation of Oracle Database was successful.
Agenda

1. Preparation
2. Installation
   - Installation Overview
   - Oracle Clusterware & ASM
   - Installation Patches
   - Time Zone
   - Unattended
3. Upgrade
4. News and Task List
5. Diagnostics & Tuning
6. Performance Testing
7. Best Practices
Patch Set Installation 11.2.0.2

- Starting with 11.2.0.2, patch sets will be complete kits
  - No need to install 11.2.0.1 as a prerequisite for 11.2.0.2
  - Out-of-place install is the default! If you specify an in-place patch upgrade from 11.2.0.1 to 11.2.0.2:
Recommended Patches

Introduction to Oracle Recommended Patches

What are Recommended Patches?

Oracle has introduced a set of Recommended Patches which make it easier for customers to obtain and deploy fixes for known critical issues encountered in targeted environments and configurations. As part of Oracle's overall maintenance strategy, these provide proactive patch recommendations to customers seeking to upgrade or to improve the stability of their current environments. Customers are advised to install Recommended Patches that apply to their environment.

Recommended Patches are available for products listed below. For details, please review the My Oracle Support notes.

<table>
<thead>
<tr>
<th>Product</th>
<th>My Oracle Support Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Database</td>
<td>Note 756671.1</td>
</tr>
<tr>
<td>Oracle Enterprise Manager</td>
<td>Note 822485.1</td>
</tr>
<tr>
<td>Oracle Fusion Middleware</td>
<td>Note 859115.1</td>
</tr>
</tbody>
</table>

This note will be updated as Oracle announces Recommended Patches for other Oracle products.
Recommended Patches

Oracle Recommended Patches -- Oracle Database

- Target Configurations
- Patch Availability
- Current Recommended Patches
  - 11.2.0.1 Current Recommended Patches
  - 11.1.0.7 Current Recommended Patches
  - 11.1.0.6 Current Recommended Patches
  - 10.2.0.4 Current Recommended Patches
  - 10.2.0.3 Current Recommended Patches
- Conflict Resolution
- On Request
- Known Issues
- References

Beginning with release 10.2.0.3, Oracle releases Recommended Patches for Oracle Database. For an introduction to Recommended Patches, see Note 756388.1.
Patch Set Update (PSU) Installation

• Install **PSUs** as well
  • **Note:854428.1**: Introduction to Database Patch Set Updates

• **Database PSUs** include:
  • Fixes for critical issues that may affect a large number of customers and that are already proven in the field
  • Critical Patch Update (CPU) fixes

• **Database PSUs** do not include:
  • Changes that require re-certification
  • Fixes that require configuration changes

• Typically **50-100 new bug fixes** – **usually** cumulative
• Guaranteed to be **RAC rolling installable**
• Will be released 4x per year on the same schedule as CPUs
Important Alerts?

- **Note 161818.1**

**Oracle Database Releases Status Summary**

<table>
<thead>
<tr>
<th>Release (Click to see Details)</th>
<th>Current Patch Set</th>
<th>Next Patch Set</th>
<th>Premier Support Ends</th>
<th>Extended Support Ends</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.2.0.x</td>
<td>11.2.0.1</td>
<td>11.2.0.2</td>
<td>Jan-2015</td>
<td>Jan-2018</td>
<td>Base release is 11.2.0.1</td>
</tr>
<tr>
<td>11.1.0.x</td>
<td>11.1.0.7</td>
<td>None</td>
<td>Aug-2012</td>
<td>Aug-2015</td>
<td>Base release is 11.1.0.6 , 11.1.0.7 is the terminal 11.1 Patch Set</td>
</tr>
<tr>
<td>10.2.0.x</td>
<td>10.2.0.5</td>
<td>None</td>
<td>Jul-2010</td>
<td></td>
<td>10.2.0.5 is the terminal 10.2 Patch Set. Upgrade to 10.2.0.5 is not required immediately upon start of Extended Support. The end patching dates for 10.2.0.4 can be found in Note 747060.1</td>
</tr>
<tr>
<td>10.1.0.x</td>
<td>10.1.0.5</td>
<td>None</td>
<td>Jan-2009</td>
<td>Jan-2012</td>
<td>10.1.0.5 is the terminal 10.1 Patch Set. 10.1 is now in Extended Support - see Note 761713.1</td>
</tr>
<tr>
<td>9.2.0.x</td>
<td>9.2.0.3</td>
<td>None</td>
<td>Jul-2007</td>
<td></td>
<td>9.2.0.3 is the terminal 9.2 Patch Set. The Free Extended Support period ended on 31-Jul-2008. See Note 302222.1</td>
</tr>
</tbody>
</table>

Key to coloring of above table:
- **Premier Support**
- **Extended Support**
Upgrade Information / Alerts

• **Note:880782.1**
  Support Status and Alerts for Oracle 11g Release 2 (11.2.0.X)

**Patch Sets**

This section gives a summary of the patch sets available for Oracle 11g Release 2. Note that the BASE release of Oracle 11g Release 2 is 11.2.0.1.

<table>
<thead>
<tr>
<th>Release</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 11.2.0.1 | **Availability and Known issues for 11.2.0.1**  
  Note:880707.1 |
Upgrade Information / Alerts

• Note 880707.1 Known Issues specific to the 11.2.0.1 Base Release

Known Issues specific to the 11.2.0.1 Base Release

- See Note 880782.1 for Support Status and Alerts affecting 11.2.0 releases.

This note lists known issues specific to the 11.2.0.1 Base Release. This includes known install issues and alerts also significant bugs which are introduced in 11.2.0.1 for features which are also present in earlier releases. (Note this does not include bugs in 11.2 in new features introduced in this release).

11.2 Alerts / Issues

This section lists alerts and important issues relevant to 11.2.

General Alerts / Issues

- **Note:1066229.1** OERI[25027]/ OERI[4097]/ OERI[4000]/ ORA-1555 in plugged datafile after CREATE CONTROLFILE in 11g
- **Note 1078406.1** Corrupt blocks in 11.2 in table with unique key. OERI[kdBlkCheckError] by block check
- 9406095 ORA-371 from Database Upgrade Assistant (DBUA)

Upgrade Issues

- **9768907** STARTUP UPGRADE turns off RECYCLEBIN with SPFILE
- **9304342** Dump (qmxdGetMatchingChildren_int) on XDB upgrade to 11.2
- **8668823** OERI[kokeeix3] during database upgrade to 11g with XDB
Upgrade Information / Alerts

- **Note 880707.1.1** Known Issues specific to the 11.2.0.1 Base Release

## Current Recommended Patches

For information about Recommended Patches for the RDBMS see [Note 756671.1](#).

### Patch Set Updates

<table>
<thead>
<tr>
<th>Document</th>
<th>Description</th>
<th>Rolling RAC</th>
<th>Patch Download</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note 9654983.8</strong></td>
<td>11.2.0.1.2 Patch Set Update (PSU)</td>
<td>Yes</td>
<td><strong>Patch 9654983</strong></td>
</tr>
</tbody>
</table>

### Issues introduced in 11.2

This section lists bugs **introduced** in 11.2 (if any). As this is a base release only notable regressions in behaviour are listed.

<table>
<thead>
<tr>
<th>Bug Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note 1078406.1</strong></td>
<td>Corrupt blocks in 11.2 in table with unique key. OERI[kdlBlkCheckError] by block check</td>
</tr>
<tr>
<td><strong>9768907</strong></td>
<td>STARTUP UPGRADE turns off RECYCLEBIN with SPFILE</td>
</tr>
<tr>
<td><strong>9711859</strong></td>
<td>ORA-600 [ksptrn_fix-extmap] during extent allocation caused by bug 8198906</td>
</tr>
<tr>
<td><strong>9734300</strong></td>
<td>Dump under kxtiwt-&gt;kktget2 compiling PLSQL with DML and INSTEAD OF triggers</td>
</tr>
<tr>
<td><strong>9573054</strong></td>
<td>Dump (in kprccu) in Queue Monitor process</td>
</tr>
<tr>
<td><strong>9382101</strong></td>
<td>Unnecessary trigger traces &quot;Dumping Sorted Master Trigger List&quot;</td>
</tr>
<tr>
<td><strong>9217629</strong></td>
<td>Dump / wrong results with fix for bug 6467270 and encryption</td>
</tr>
<tr>
<td><strong>9202351</strong></td>
<td>ORA-904 from SQL involving CONNECT BY</td>
</tr>
<tr>
<td><strong>9119731</strong></td>
<td>OERI [510] [cache buffers chains] can occur during block recovery</td>
</tr>
<tr>
<td><strong>9052506</strong></td>
<td>Null-Aware Anti Join (NAAJ) is not used on DML</td>
</tr>
<tr>
<td><strong>8692170</strong></td>
<td>SubOptimal Execution Plan with Join Factorization enabled.</td>
</tr>
</tbody>
</table>

Last updated: 17-JUL-2010
Recommended OS patches

• Note:169706.1: OS Installation and Configuration

Oracle Database on Unix AIX, HP-UX, Linux, Mac OS X, Solaris, Tru64 Unix

Jump to:
AIX
HP-UX (PA-RISC and Itanium)
Linux x86
Linux x86-64
Linux Itanium
Linux on Power
Linux on zSeries
Mac OS X (PowerPC and x86-64)
Solaris (SPARC and x86-64)
Tru64
Pre-Installation Scripts
OPatch
Related Documents
OS Specific Commands
Change History
Note 43208.1 Certified Compilers
Note 223718.1 Oracle Server Availability and Certification MATRIX
@Linux Project Group - Browse The Contents of Linux Brands ISOs
Agenda

Preparation

Installation
- Installation Overview
  - Oracle Clusterware & ASM
  - Installation
  - Patches
  - Time Zone
  - Unattended

Upgrade

News and Task List

Diagnostics & Tuning

Performance Testing

Best Practices
Time Zone Patches

• Taken from an Oracle internal information email:

In the Know News for Oracle Employees

Take Note: Daylight Saving Time is Beginning and Ending in Several Countries

Approximately 80 countries observe some form of Daylight Saving Time, and many are moving their clocks backward or forward at this time of year. For example:

- **Brazil** Daylight Saving Time ended in most locations on **February 21, 2010** (clocks moved back one hour).
- **U.S. and Canada** Daylight Saving Time begins in most locations on **March 14, 2010** (clocks move forward one hour).
- In many **European countries**, Daylight Saving Time begins on **March 28, 2010** (clocks move forward one hour).
- **Australia** Daylight Saving Time ends in some locations on **April 4, 2010** (clocks will move back one hour).

China, India, and Japan are three of many countries that are not observing any form of Daylight Saving Time in 2010. For more details, [view global participation status](#).

Daylight Saving Time (or summertime as it is called in many countries) is a way of getting more light out of the day by advancing clocks by one hour during the summer.
Time Zone Patches

• Why DST Time Zone patches? (DST: Daylight Savings Time)
  • Since 2007 DST definitions and Time Zone names have been changed several times
  • Time Zone versions by release:
    • Oracle 9i: TZ V1
    • Oracle 10.1: TZ V2
    • Oracle 10.2.0.1/2: TZ V2
    • Oracle 10.2.0.3: TZ V3
    • Oracle 10.2.0.4: TZ V4
    • Oracle 11.1: TZ V4
      • Source release requires TZ V4 – otherwise no upgrade will be possible
    • Oracle 11.2.0.1: TZ V11
      • Source release does not have to be patched. Time Zone conversion will be done in 11.2
    • Current version: TZ V13…
Time Zone Patches - 11g Release 2

- Upgrade to Oracle Database 11g Release 2:
  - New 11.2-$OH has time zone V11
  - No need to patch the source $OH
  - Determine whether TimeZone updates are needed: Note: 815679.1
  - Oracle recommends that you adjust the time zone version whether or not you use the TIMESTAMP WITH TIME ZONE data type
    - This data type may be used in system tables
    - Conversion done after the upgrade
  - See Note: 977512.1
- Package DBMS_DST
  1. DBMS_DST.BEGIN_PREPARE(<tz-version>)
     DBMS_DST.FIND_AFFECTED_TABLES
     DBMS_DST.END_PREPARE
     => select * from DST$AFFECTED_TABLES;
  2. DBMS_DST.BEGIN_UPGRADE
     DBMS_DST.UPGRADE_DATABASE
     DBMS_DST.END_UPGRADE
Summary

• Upgrade to Oracle Database 11g Release 2 is easy
• Stable database release
• Great features
• Let's go ... :-)

• Any questions – would like to become an Oracle 11gr2 reference customer? Let us know about your upgrades ...
  • Roy.Swonger@oracle.com
  • Carol.Palmer@oracle.com

• Get the latest copy of the workshop slides at
  • http://blogs.oracle.com/UPGRADE