

SAP on Oracle

Development Update

June 2012

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DB Platforms Oracle & Informix

OS Platform Solaris

SAP AG



DOAG
SIG Oracle & SAP



Agenda

Oracle 10g @ SAP

Oracle 11g @ SAP

Operating System Update

DBA Tools



Oracle 10g @ SAP



SAP on Oracle 10g Supported Releases



Patch Sets <= 10.2.0.4

No longer supported!



- Grace Period 10.2.0.4 ended July 31st, 2011
- You need to upgrade to 10.2.0.5 to be eligible for Extended Support

Patch Set 10.2.0.5

Extended Support available
on all OS platforms



- 10.2.0.5 General Availability since March 2011
- June 2012 SBP contains PSU 7 for 10.2.0.5 (10.2.0.5.7)

SAP on Oracle 10g

Extended Support



Support Fees

Non-extra charged support for Oracle 10.2 expired on July 31st, 2011

You are now being extra-charged for Oracle 10.2 Extended Support

- **Except:** All platforms where Oracle 11g is not available, i.e.
Windows IA64, Linux IA64,
Linux on Power
- For these, Oracle 10.2 Extended Support is free

Pricing similar to Oracle 9.2 Extended Support

Availability

Extended Support is available for patch set 10.2.0.5 only

Support until July 31st, 2013

- both charged and free

Detailed Info

See SAP Note [1110995](#)

SAP on Oracle 10g Extended Support



SAP Bundle Patches

Starting 1 December, 2011 the following Oracle patch policy is effective:

A valid Oracle 10g Extended Support contract is required for

- downloading
- applying

any related Oracle 10g patch software from SMP:

- SAP Bundle Patches (SBPs)
- Patch Set Updates (PSUs)
- Critical Patch Updates (CPUs)
- ...

Caution!

SBPs etc. for Oracle 10g are visible on SAP Marketplace for all customers. However:



Downloading or applying this software is prohibited without a valid Oracle 10g Extended Support contract!

Detailed Info

See SAP Hot News Note [1654734](#)



Oracle 11g @ SAP



Certification Complete – June 2010

Oracle Database 11.2 Release 2 (11.2) only

- See SAP note [1398634](#) note for details
- No limitations for HP-UX on Itanium (see SAP note [1575609](#))

Certified SAP Products

SAP products on 640_EX2 kernel
and later only

- Restricted to products which are in SAP Extended Maintenance at least until end of 2010

OS Platforms

SAP 11.2 certification available on all platforms

- **Except:** Windows IA64, Linux IA64, Linux on Power
- These are not planned by Oracle

Oracle 11.2 Instant Client

SAP-certified since February 2011

Do not forget to update the client from 10.2 to 11.2 to get out of Oracle 10.2 Extended Support obligation!

Patch Set 11.2.0.1

Oracle 11.2 Base Release
Released in March 2010

- No more individual CPUs and PSUs (July 2011 was last)
- 10 November, 2011 SBP was last

Patch Set 11.2.0.2

1st Patch Set for Oracle 11.2
Released 10 November, 2010

- General Availability since mid January 2011
- Windows available since 10 May, 2011
- June 2012 SAP Bundle Patch contains PSU 6 for 11.2.0.2 (11.2.0.2.6)

Patch Set 11.2.0.3

2nd Patch Set for Oracle 11.2
Released 12 December, 2011

- **NEW!** HP-UX PA-RISC available since June 2012
- Windows available since 14 February, 2012
- June 2012 SAP Bundle Patch contains PSU 2 for 11.2.0.3 (11.2.0.3.2)

New SAP projects should start on 11.2.0.3 or higher

SAP on Oracle 11g

Notes & Documentation (I)



Entry Notes

- [1398634](#) Oracle Database 11g: Integration in SAP Environment
- [1434131](#) Release of Oracle 11.2 for older SAP Releases
- [1431800](#) Oracle 11.2.0: Central Technical Note
- [1431799](#) Oracle 11.2.0: Current Patch Set

Regularly Updated

on 10th of every month

- [1631931](#) Oracle 11.2.0: Patches/Patch Collections for 11.2.0.3
- [1503709](#) Oracle 11.2.0: Patches/Patch Collections for 11.2.0.2
- [1431798](#) Oracle 11.2.0: Database Parameter Settings

New Oracle 11.2 Features

- [1436352](#) Oracle 11g Advanced Compression for SAP Systems
- [1426979](#) Oracle 11g: SecureFiles – The New Way to Store LOB Data
- [1416773](#) Oracle Direct NFS
- [1550133](#) Oracle Automatic Storage Management (ASM)

SAP on Oracle 11g

Notes & Documentation (II)

Installation and Upgrade

- [1431797](#) Oracle 11.2.0: Troubleshooting the Database Upgrade
- [1431796](#) Oracle 11.2.0: Troubleshooting the Software Installation
- [1431794](#) Oracle 11.2.0: Instant Client
- [1431793](#) Oracle 11.2.0: Upgrade Scripts

Upgrade Guides

Oracle 11.2 Database Upgrade



<http://service.sap.com/instguides>

→ Database Upgrades

→ Oracle

Tools relevant for Oracle 11.2

- [1430669](#) BR*Tools Support for Oracle 11g
- [1027012](#) MOPatch – Install Multiple Oracle Patches in One Run

Advanced Compression

OLTP compression

SecureFile compression

RMAN Backup compression

Data Guard Network compression

Data Pump Export compression

License for Advanced Compression Option (ACO) required

- SAP ASFU license includes ACO

Index Compression

- Already supported by SAP (since version 10g)

No additional license required

Dictionary-Only Add Column

Very common operation within SAP BW application and SAP upgrades

Factor 10–20 performance improvement for SAP BW during add column processes

Saves large amount of disk space

Deferred Segment Creation

Empty database objects will not consume any disk space

Very important for SAP environments:

60–70% of all tables, indexes, LOBs and partitions in an SAP installation are empty!

- Saves disk space
- Improves query response times on space objects in Oracle Data Dictionary
- Makes database install part for SAP a lot faster (creation of empty tables, indexes, LOBs and partitions are dramatically faster)

Overview Space Savings
with ACO on customer databases

	Without Compression [GB]	With Compression¹⁾ [GB]	Space Savings [Factor]
Database ²⁾			
ECC 6.0	4,782	1,976	2.4
BI 7.0	1,413	543	2.6
CRM 7.0	950	334	2.8
RMAN Backup ³⁾	2,817	667	4.2
Export Data Pump	973	156	6.2

1) incl. other space optimizations 2) fully reorganized 3) for compressed database

Implementation Guidelines for compression technologies in SAP environments

1 ▶

Start with Index Compression

- Improves R/3 performance the most as all database access in R/3 environments is index-based, especially index range scans
- Up to 20% disc space reduction for complete database

2 ▶

Implement OLTP Table Compression

- No real query performance benefit in R/3 environments
- Provides very good disc space savings

3 ▶

Implement SecureFiles Compression

- Very important for SAP applications like CRM or XI/PI that store large (uncompressed) amounts of data

4 ▶

RMAN Backup Compression

- Additional disk space savings (even if database tables and indexes are already compressed)

Features

Tablespace encryption

SecureFile encryption

RMAN Backup encryption

EXPDP encryption

Data Guard Secure Redo Transport

All encryption functionality requires license
for Advanced Security Option (ASO)

- ASO license is included in SAP ASFU license scope

Oracle 11g

ASM Support for SAP

OS Platforms

ASM/ACFS available on all platforms

- Unix/Linux since beginning of February 2011
- Windows from end of September 2011

Requirements

- Oracle 11.2.0.2, or higher
- Oracle Grid 11.2.0.2, or higher
- SAP kernel 6.40 or higher based SAP releases

Instances and Clustering

Single instance and RAC Support

- ACFS required for RAC installations with ASM (not available on HP-UX)

Tools

BR*Tools ASM Support is complete

- Available as of BR*Tools 7.20 Patch 18

Installation

Direct SAP installation support with ASM is planned for Q3 2012

- SAP 7.X based installations

Documentation

For more information see

- Oracle ASM whitepapers on SDN
- SAP note [1550133](#)

Oracle 11g

Exadata and Exalogic

Oracle Exadata X2/Database Machine

Supported for SAP since June 10th, 2011

Oracle Exadata License required

- x86-64 hardware only
- Oracle Linux OR
- Solaris 11
- Oracle 11.2.0.2 or later required
- Supported for NW 7.0 or higher based SAP products, Unicode only

For details see SAP note [1590515](#)

Oracle Exalogic X2

Supported for SAP since August 16th, 2011

In combination with Exadata only!

- x86-64 hardware only
- Oracle Linux OR
- Solaris 11
- Oracle 11.2.0.2 or later required on Exadata
- Supported for NW 7.0 or higher based SAP products, Unicode only

For details see SAP note [1617188](#)

Oracle 11g SPARC SuperCluster

Oracle SPARC SuperCluster

NEW! Supported for SAP since end of April, 2012

- T4-4 SPARC hardware
- Solaris 11 required
- Oracle 11.2.0.3 or later required
- Supported for NW 6.40 or higher based SAP products running on ABAP or Java stack
- Only 640_EX2 and 720_EXT are supported

For details see SAP note [1693680](#)



Operating System Update



Operating System Update

Solaris 11

Certification

Certified for SAP products based on SAP NetWeaver 2004s and 7.X

- SPARC and x86-64 platforms only
- See SAP note [1669684](#) for details

Solaris 11



Release State	NEW! released mid May 2012
SAP Kernel Versions	640_EX2, 7.20_EXT
Minimum Oracle Version	11.2.0.3

Operating System Update

Oracle Linux

Certification

Certified for SAP products based on SAP NetWeaver

- x86-64 platforms only
- Unicode only (both SAP application and database servers)

	Oracle Linux 5 ¹⁾		Oracle Linux 6	
	RHEL Compatible	Unbreakable Enterprise Kernel	RHEL Compatible	Unbreakable Enterprise Kernel
Release State	released		NEW! released end of April 12	
SAP Kernel Versions	640_EX2, 7.0X, 7.1X, 7.20		7.X	
Minimum Oracle Version	11.2.0.2		11.2.0.3	

1) updates supported as of update 5 (OL 5.5)

Operating System Update

Red Hat Enterprise Linux

Certification

Certified for SAP products based on SAP NetWeaver 2004s and 7.X

- x86-64 platforms only

Red Hat Enterprise Linux 6



Release State	NEW! released mid April 2012
SAP Kernel Versions	640_EX2, 7.X
Minimum Oracle Version	11.2.0.3



DBA Tools



ABAP Secure Store

Motivation

OPSS connect vulnerable to attack

- For recommendations on how to secure OPSS mechanism against potential attack see SAP Note [157499](#)

ABAP Secure Store

To strengthen database security

- Database password encrypted in file system
- Makes OPSS connect obsolete
- Allows `remote_os_authent=false`

Availability

Available for all 7.X kernel-based SAP versions

- Optional but recommended for Oracle 10 and 11, mandatory for upcoming Oracle 12
- SAP Kernel 7.20 Patch 100 required
- Available throughout 7.X via 7.20 downwards-compatible kernel (DCK) in Q4/2011

Notes

[1623922](#) Connect to Oracle Database

[1622837](#) New Connect Method of AS ABAP to Oracle via SSFS

[157499](#) OPSS Connect and Security Aspects

New Oracle 11.2 Features in BR*Tools 7.20

Automatic Storage Management

Support for Automatic Storage Management (ASM)

As of BR*Tools 7.20 Patch 18

- RMAN-based backup strategies only
- Uses Oracle Managed Files (OMF)
- See SAP Note [1627541](#)

Configuration Changes!

Closely follow new BR*Tools configuration requirements (SAP note [1598594](#))

- Adapt to OS user 'oracle'
- New file permissions and SAP directory structures (sapprof, ...)

Major Affected Areas

Backup, Restore and Recovery

- RMAN-based combinations for parameters backup_dev_tape, [disk|tape_copy_cmd]

Tablespace and File Management

- Use ASM disk groups instead of file names to allow for Oracle Managed Files
- New behavior for data file rename and move, tablespace rename



New Oracle 11.2 Features in BR*Tools 7.20

Notes

SAP Notes

- [1430669](#) BR*Tools Support for Oracle 11g
- [1431296](#) LOB Conversion and Table Compression with BRSPACE 7.20
- [1428529](#) Corrections in BR*Tools Version 7.20

- [1598594](#) Configuration of BR*Tools for SAP Installations on User 'oracle'
- [1627541](#) BR*Tools Support for Oracle ASM

SAP on Oracle SAP Community Network

Content Page

<http://scn.sap.com/community/oracle>

The screenshot shows the SAP on Oracle Content Page. The page has a navigation menu at the top with categories like Solutions, SAP Services & Support, About SCN, Downloads, Industries, Training & Education, Partnership, Code Exchange, Lines of Business, University Alliances, Events & Webinars, and Idea Place. Below the navigation menu is a search bar and a 'Welcome, John Public' message. The main content area is titled 'SAP on Oracle' and has tabs for Overview, Content, People, and Subspaces. The 'Content' tab is selected, and the 'Featured Content' section is highlighted with a magnifying glass. The featured content includes an article titled 'SAP on Oracle White Papers' with a sub-headline 'We've just published' and a date 'Updated February 2012'. Below the featured content is an 'Actions' section with options like 'Start a discussion', 'Write a document', 'Write a blog post', 'Receive email notifications', 'Track in Communications', and 'View feeds'. The 'Key Topics' section on the left lists various topics like Oracle DBA Overview, Installation and Upgrade, Backup and Recovery, Oracle Real Application Clusters (RAC), Performance, Security, and Oracle Automatic Storage Management (ASM).

Forum

<http://scn.sap.com/community/oracle/content>

The screenshot shows the SAP on Oracle Forum page. The page has a navigation menu at the top with categories like Solutions, SAP Services & Support, About SCN, Downloads, Industries, Training & Education, Partnership, Code Exchange, Lines of Business, University Alliances, Events & Webinars, and Idea Place. Below the navigation menu is a search bar and a 'Welcome, John Public' message. The main content area is titled 'SAP on Oracle' and has tabs for Overview, Content, People, and Subspaces. The 'Content' tab is selected, and the 'Forum' section is highlighted. The forum listing includes a search bar, a filter by tag option, and a list of forum posts. The first post is titled 'ORA-12547 in sqlplus upgrading from 11.2.0.1...' and is created by John Marshall. The second post is titled '[Oracle] Running SAP with Oracle Data Guard 11.2.0...' and is last modified by Stefan Koehler. The third post is titled '[Oracle] Hinting a SQL without adding a hint' and is last modified by Stefan Koehler. The 'Sponsored Content' section at the bottom lists various sponsored articles like '[Oracle] Migrating SAP systems on Oracle with...' and '[Conference] DOAG 2009 ... see you in Nuremberg'.

SAP on Oracle Twitter and Facebook

Twitter

<http://twitter.com/#!/SAPonOracle>

The screenshot shows the Twitter profile for @SAPonOracle. The profile name is @SAPonOracle, located in Germany, with the bio "Keeping SAP on Oracle spick & span" and a link to <http://www.sdn.sap.com/irj/sdn/ora>. The page features a search bar at the top, a "Suchen" button, and a "Einloggen" button. Below the profile information, there is a "Bleib in Verbindung" section with a sign-up form for a full name, email, and password, and an "Anmelden" button. The main content area shows a list of tweets from @SAPonOracle, including updates about SAP on Oracle news, file system block corruption, and Oracle Extended Support for DB version 10.2.

Facebook

<http://www.facebook.com/SAPonOracle>

The screenshot shows the Facebook profile for SAP on Oracle. The page has a blue header with the Facebook logo and a "Sign Up" button. Below the header, there is a "facebook" logo and a "Sign Up" button. The main content area shows the profile name "SAP on Oracle" with a "Like" button and a "Create a Page" button. The profile picture is the SAP logo. The "Wall" section shows several posts from SAP on Oracle, including updates about SAP on Oracle news, file system block corruption, and Oracle Extended Support for DB version 10.2. The page also features a "Wall" section with a "Wall" button and a "309 like this" count.



Thank You!

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