# **SAP on Oracle**

**Development Update** 

June 2012

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DB Platforms Oracle & Informix

OS Platform Solaris

SAP AG





### 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!



Extended Support available on <u>all</u> OS platforms

Patch Set 10.2.0.5

- 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)

- 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



### SAP on Oracle 10g

### **Extended Support**



#### **Support Fees**

Non-extra charged support for Oracle 10.2 expired on July 31<sup>st</sup>, 2011

You are now being <u>extra-charged</u> 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 <u>free</u>

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 <u>required</u> 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 <u>prohibited</u> without a valid Oracle 10g Extended Support contract!

#### **Detailed Info**

See SAP Hot News Note 1654734



# Oracle 11g @ SAP







# SAP on Oracle 11g Certification

### DRACLE 118

### **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 <u>all</u> 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 <u>update</u> the client from 10.2 to 11.2 to get out of Oracle 10.2 Extended Support obligation!

### SAP on Oracle 11g

### Oracle 11.2 Patch Set/PSU Schedule by SAP



#### 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

2<sup>nd</sup> 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

### **Oracle Feature Availability – Space (I)**



#### **Advanced Compression**

**OLTP** compression

SecureFile compression

RMAN Backup compression

**Data Guard Network compression** 

**Data Pump Export compression** 

License for Advanced Compression Option (ACO) <u>required</u>

SAP ASFU license includes ACO

### **Index Compression**

Already supported by SAP (since version 10g)

No additional license required

### **Oracle Feature Availability – Space (II)**



#### **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 <u>empty!</u>

- 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)

### **Oracle Feature Availability – Space (III)**



### **Overview Space Savings**

with ACO on customer databases

	Without Compression	With Compression <sup>1)</sup>	Space Savings
	[GB]	[GB]	[Factor]
Database <sup>2)</sup>			
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 <sup>3)</sup>	2,817	667	4.2
Export Data Pump	973	156	6.2

<sup>1)</sup> incl. other space optimizations 2) fully reorganized 3) for compressed database

### **Oracle Feature Availability – Space (IV)**



#### 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 <u>20%</u> 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)

### **Oracle Feature Availability – Encryption**



#### **Features**

Tablespace encryption

SecureFile encryption

RMAN Backup encryption

**EXPDP** encryption

Data Guard Secure Redo Transport

All encryption functionality requires <u>license</u> 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 <u>18</u>

#### 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 10<sup>th</sup>, 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, <u>Unicode</u> only

For details see SAP note 1590515

#### **Oracle Exalogic X2**

Supported for SAP since August 16<sup>th</sup>, 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, <u>Unicode</u> 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









### **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

### **Oracle Linux**

#### Certification

Certified for SAP products based on SAP NetWeaver

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

se servers)	Oracle Linux 5 <sup>1)</sup>		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	

<sup>1)</sup> updates supported as of update 5 (OL 5.5)

### **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**







### Security

### **ABAP Secure Store**

#### **Motivation**

OPS\$ connect vulnerable to attack

 For recommendations on how to secure OPS\$ mechanism against potential attack see SAP Note 157499

#### **ABAP Secure Store**

To strengthen database security

- Database password encrypted in file system
- Makes OPS\$ connect <u>obsolete</u>
- Allows remote\_os\_authent=false

#### **Availability**

Available for all 7.X kernel-based SAP versions

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

#### **Notes**

1623922 Connect to Oracle Database
1622837 New Connect Method of AS ABAP to Oracle via SSFS
157499 OPS\$ 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**

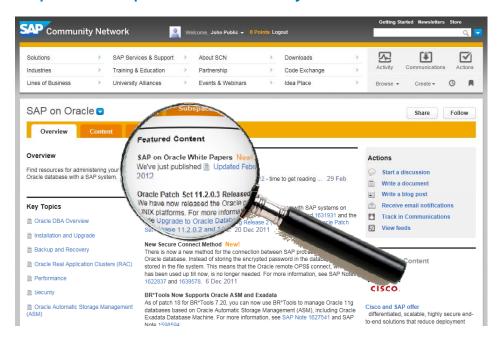
1430669	BR*Tools Support for Oracle 11g
1431296	LOB Conversion and Table Compression with BRSPACE 7.20
1428529	Corrections in BR*Tools Version 7.20
1598594	Configuration of BR*Tools for SAP Installations on User 'oracle'
1627541	BR*Tools Support for Oracle ASM

### SAP on Oracle

### **SAP Community Network**

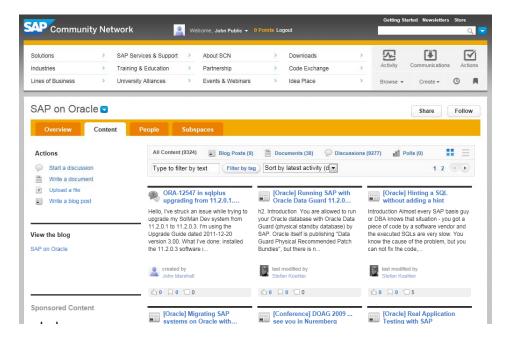
#### **Content Page**

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



#### **Forum**

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

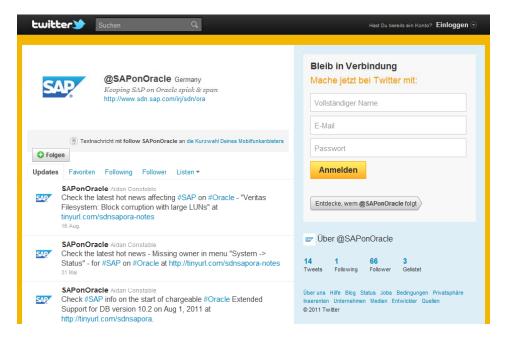


### SAP on Oracle

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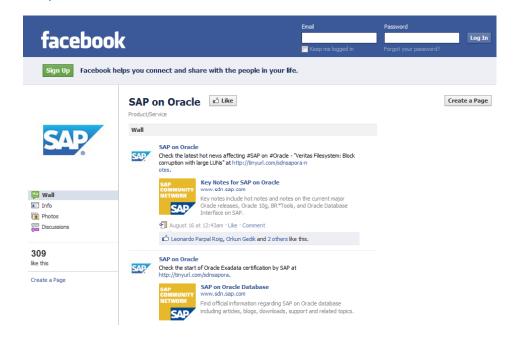
#### **Twitter**

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



#### **Facebook**

http://www.facebook.com/SAPonOracle





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