

SAP on Oracle

Development Update July 2011

DOAG Meeting, St. Leon Rot, July 4th 2011

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DB Platforms Oracle & Informix
OS Platform Solaris
SAP AG



Agenda



Oracle 10g @SAP

Oracle 11g Certification @ SAP

Oracle RAC @ SAP

Oracle Linux Support

DBA Tools

Oracle 10g @SAP

Oracle 11g Certification @ SAP

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SAP on Oracle 10g: Supported Releases



Patchset **10.2.0.4** is supported on ALL OS platforms

- Non extra charged Oracle Extended Support ends on July 31st, 2011 !!

Patchset **10.2.0.5** was released on Nov 10th for major OS platforms

- June 10th SAP Patch Bundle includes third PSU of 10.2.0.5 (10.2.0.5.3)
- PSU 4 is planned for August 10th Bundle Patch
- Linux IA64/Power: Was released in June 2011
- Windows IA64 planned for Q3CY2011

Oracle 10.2 adoption rate: ~ 90 % of SAP/Oracle customers are on 10g

Oracle 10g Extended Support



In May 2009 Oracle announced that [Extended Support fees for Oracle version 10.2](#) are waived for first year

No extra charged support for Oracle 10.2 [until end July 2011](#)

Extended Support will be available for [version 10.2.0.5 only](#) until mid 2013

- Grace Period: 10.2.0.4 receives support until end of July 2011
- For detailed info about 10.2 Extended Support please see SAP note 1110995
 - Conditions are similar to Oracle 9.2 Extended Support

Agenda



Oracle 10g @SAP

Oracle 11g Certification @ SAP

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DBA Tools

SAP certification of Oracle Database 11g Release 2 is completed

- For details see SAP note 1398634
- SAP support for release 11.2 only
- No limitations for HP-UX on Itanium (see SAP note 1575609)

Only SAP products based on 6.40_EX2 kernel and later got certified with 11.2

- 11.2 support only for SAP products which are in SAP Extended Maintenance at least until the end of 2010

SAP 11.2 certification available on all platforms except

- Linux IA64 (not planned by Oracle)
- Linux Power (not planned by Oracle)
- Windows IA64 (not planned by Oracle)

11.2 Instant Clients certified as well since February 2011

- Do not forget to update client side from 10.2 clients to 11.2 clients to get out of extended support obligation for version 10.2.

11.2 Patchset / PSU Schedule by SAP

- 11.2.0.2 (first 11.2 patchset) was released on November 10th via SAP Patch Bundle
 - General Availability since mid January 2011
 - Windows available since May 10th 2011
 - New SAP projects should start with 11.2.0.2 only
 - June 2011 SAP Bundle Patch for Oracle contains PSU 2 for 11.2.0.2 -> 11.2.0.2.2

1398634:	Oracle Database 11g: Integration in SAP environment	}	Entry notes
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	}	Note update on the 10 th of every month
1431795	Oracle 11.2.0: Patches/PatchCollections for 11.2.0		
1431798	Oracle 11.2.0: Database Parameter Settings		
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	}	Tools relevant for Oracle 11.2
1430669	BR*Tools support for Oracle 11g		
1027012	MOPatch - Install Multiple Oracle Patches in one run		
1436352	Oracle 11g Advanced Compression for SAP Systems	}	New Oracle 11.2 features
1426979	Oracle 11g: SecureFiles - The new way to store LOB data		
1416773	Oracle Direct NFS		

Oracle 11.2 database upgrade guides: <http://service.sap.com/instguides> -> Database Upgrades -> Oracle

11g News for SAP

Oracle Feature Availability (with 11.2 SAP GA) – Space (I)



Advanced Compression

- OLTP compression
- Securefile compression
- RMAN Backup compression
- Data Guard Network compression
- Data Pump Export compression
- License for ACO required
 - SAP ASFU license includes ACO

Index Compression

- Already supported by SAP (since version 10g)
- No additional license required

11g News for SAP

Oracle Feature Availability (with 11.2 SAP GA) – 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 as 60-70% of all tables, lobs, indexes 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, lobs, indexes and partitions are dramatically faster

11g News for SAP

Oracle Feature Availability (with 11.2 SAP GA) – Space (III)

Overview space savings with ACO on customer production databases

	Without Compression	With compression and other space optimizations	FACTOR Space Savings
Database (fully reorganized)			
ECC 6.0	4,782 GB	1,976 GB	2.4
BI 7.0	1,413 GB	543 GB	2.6
CRM 7.0	950 GB	334 GB	2.8
RMAN Backup (for compressed database)	2,817 GB	667 GB	4.2
Export Data Pump	973 GB	156 GB	6.2

11g News for SAP

Oracle Feature Availability (with 11.2 SAP GA) – Space (IV)

Performance Impact when using ACO on production database

- Measured through Capture Replay Functionality of Real Application Testing Option
- Production workload was captured for more than 2 days
 - No impact on production database during capture

Results:

- Factor 2.2 Space Savings
- 60% less physical reads
- 5% less physical writes
- 10% better database cache hit rate
- 30% higher redo rate
- No overhead in CPU consumption

ORACLE[®] **11g**
DATABASE

11g News for SAP

Oracle Feature Availability (with 11.2 SAP GA) – Space (V)

Implementation Guidelines for Compression Technologies in SAP Environments

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% disk space reduction for complete database

Implement OLTP Table Compression

No real query performance benefit in R/3 environments

Provides very good disk space savings

Implement SecureFiles Compression

Very important for SAP Applications like CRM or XI who store large (uncompressed) amount of data in LOBs.

RMAN Backup Compression

Additional disk space savings (even if database tables and i compressed)



11g News for SAP

Oracle Feature Availability (with 11.2 SAP GA) – Security



■ Encryption

- Tablespace Encryption
- Securefile Encryption
- RMAN Backup Encryption
- Expdp Encryption
- Data Guard Secure Redo Transport

All encryption functionality requires license for Advanced Security Option

ASO license is included in SAP ASFU license scope

11g News for SAP - Oracle Database Vault Update



Released for all customers in Controlled Availability Mode

Interested customers need to open SAP support message to use Database Vault
(under component BC-DB-ORA-DV)

Minimum Requirements (if starting now)

Oracle 11.2.0.2

SAP 700 based kernels i.e. ECC6.0, BI 7.0, CRM 5.0, ...

Detailed SAP specific documentation

[White Paper on SDN and OTN](#)

SAP Notes

[1355140](#): Oracle 10.2.0: Oracle Database Vault

[1358126](#): Oracle 10.2.0: Patches for Oracle Database Vault

[1358277](#): Oracle 10.2.0: Configuration Scripts for Database Vault

Pricing

Different pricing models for SAP customers depending on Oracle database licensing model (ASFU or Oracle Full-Use license)

ASM & ACFS is supported for Unix/Linux OS platforms with Oracle version 11.2.0.2 ff since CW5/2011

- Windows support planned during Q3/2011
- ASM & ACFS support is provided for SAP releases that are supported with Oracle version 11.2.0.2 or higher (SAP Kernel 6.40 or higher)
- Oracle Grid release 11.2.0.2 or higher required
- Single Instance and RAC support
- ACFS required for RAC installations with ASM (not available on HP-UX)
- BR*Tools support is not yet complete
 - Minimum BR*Tools 7.20 PL 12 required (see SAP note 1428529)
 - Backup/Restore available in ‚pilot mode‘
 - ‚brspace‘ support planned until end of July 2011
- Direct SAP installation support with ASM is not yet available. An Oracle tools based migration of an existing system to ASM is required.
- For more details (White Papers, etc.) please see SAP note 1550133

Oracle Exadata Machine Support



Oracle Exadata X2 / Database Machine is supported for SAP since June 10th, 2011

- Linux x64 & Solaris 11 Express
- For Linux Oracle Linux (OL) mandatory for Exadata X2
- Oracle 11.2.0.2 ff required
- Supported for NW 7.0 or higher based SAP products
- For details see SAP note 1590515

Agenda



Oracle 10g @SAP

Oracle 11g Roadmap @ SAP

Oracle RAC @ SAP

Oracle Linux Support

DBA Tools

General Availability (GA) for RAC was announced by SAP in early January 2009

- No SAP/Oracle approval process for RAC projects required anymore
- GA is valid for Oracle versions 10.2.0.4 and higher
- **Configuration requirements** as defined in SAP note [527843](#) still stay in place

RAC is certified for all SAP Products based on 4.6D_EXT ff.

Oracle Clusterware solution SAPCTL for protecting SAP Enqueue Server

Overall we currently have ~200+ SAP customers successfully productive on RAC.

For details regarding RAC certification please see SAP note [527843](#)

New RAC 11.2 for SAP White Paper (updated March 2011) **available on SDN**

New SAPCTL Version 5.2 available to manage and control SAP critical resources through Oracle Clusterware

- Old SAPCTL versions 4.x will not work with Oracle Clusterware 11.2

RAC 11.2 available on all UNIX and Linux platforms (for all SAP 6.40_EX2 kernels and up)

- Supports the option to put OCR and voting disks on ASM
 - New RAC 11.2 installations only
- Upgrades from RAC 10.2 must still use shared filesystems for OCR and voting disks
- Oracle Clusterware 11.2 now installed locally per node
- Same supported technology stacks defined in SAP Note 527843 stay in place
- Cluster Filesystem, NAS NFS or ACFS (Oracle Cloud Filesystem) for
 - Shared Oracle_Homes
 - Database (data, control, redo, undo, archive, flashback)
 - /sapmnt
 - OCR and voting disks (upgrades from RAC 10.2 or not using ASM)
- Same versions for Clusterware and RDBMS software
- Different and improved network configuration required for Clusterware 11.2

Agenda



Oracle 10g @SAP

Oracle 11g Roadmap @ SAP

Oracle RAC @ SAP

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Oracle Linux Support

SAP products based on NetWeaver 7.x are certified and supported for Oracle Linux since April 2011

- Only Unicode character set supported
 - Valid for SAP Application & Database Servers

X86_64 platforms only

Minimum Oracle Database Version 11.2.0.2

Oracle Linux 5 Update 5 and Update 6 supported

- Both RHEL compatible and Unbreakable Enterprise Kernel (UEK)

Oracle Linux 6 support planned for Q3-Q4 CY2011

Agenda



Oracle 10g @SAP

Oracle 11g Roadmap @ SAP

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DBA Tools

Oracle Database Resource Manager for SAP

Goal:

- Assign higher database priority for a specific set of SAP dialog users/transactions.
- All other dialog transactions should run with default priority.

Prerequisites:

- Oracle 11.2.0.2 or higher
- SAP kernel version 7.10 or higher
- SAP Bundle Patch for Oracle 11.2.0.2 from April 2011 or later

How it works in brief:

- Workload Management uses the DBMS_RESOURCE_MANAGER package
- Workload Management is done via switching of Oracle sessions between predefined consumer groups, to which different levels of resources are assigned
- The switching relies on rules defined by the SET_CONSUMER_GROUP_MAPPING subprogram of the DBMS_RESOURCE_MANAGER.
- The SAP database shared library for Oracle (DBSL) sends the current SAP transaction details ('[client_info](#)', or '[application info](#)') to the database.

Oracle Database Resource Manager for SAP

Conditions

- (1) Performance impact: Less than 5%
- (2) Priority switch decision happens with standard priority
- (3) Currently as of SAP kernel release 7.10
- (4) Only for dialog processes (not valid for BATCH processes, not for RFC)
- (5) No JDBC / Java connection support

New Oracle 11g Features supported by BR*Tools 7.20 (1)

Online conversion to new SecureFile Lobs

Implemented as new action 'lob2lob' within BRSPACE reorganization
Lob compression can be activated with the same action
Can be done only 'online' (by redefinition), not offline (by move/alter)

Support for the new table compression 'FOR OLTP'

The feature can be activated during table reorganization by BRSPACE
Table and Lob compression can be enabled at the same time

Support for the new features of Oracle 11g Data Pump

Complete compression of the data in export dump files
Complete encryption of the data in export dump files
Export of individual tables from different schemas

Tablespace compression and encryption

Allows to set compression and encryption attributes at tablespace level

New Oracle 11g Features supported by BR*Tools 7.20 (2)

New features in the area of data encryption (TDE)

Changing the Wallet password using 'orapki' utility
Opening the Oracle Wallet in the database mount status
Password protection for closing the Oracle Wallet

Improvement in database reset/PIT recovery using flashback

Increases the reliability of the determination of archivelog files needed

Cleaning up new Oracle 11g trace files in diagnostic directories

Based on new Oracle 11g parameter 'diagnostic_dest'
Aware of new Oracle 11g trace file types, e.g. incident files

For more info see:

SAP note [1430669](#) - BR*Tools support for Oracle 11g

SAP note [1431296](#) - LOB conversion and table compression with BRSPACE 7.20

SAP note [1428529](#) - Corrections in BR*Tools Version 7.20

SAP on Oracle live in SDN



SAP on Oracle forum:

<https://www.sdn.sap.com/irj/sdn/collaboration>

-> Database & OS Platforms -> SAP on Oracle

SAP on Oracle content page:

<https://www.sdn.sap.com/irj/sdn/ora>

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SAP ON ORACLE



ASM and ACFS now certified for SAP **New!**

As of Oracle Grid 11.2.0.2 and Oracle RDBMS 11.2.0.2, both Automatic Storage Management (ASM) and Automatic Storage Management Cluster File System (ACFS) are now certified for SAP kernels 6.40_EX2 and higher on all

UNIX and Linux platforms.

This certification applies both to Oracle Single Instance and Oracle Real Application Clusters (RAC).

For more information, see SAP Note [1550133](#) and the [ASM white papers](#) (see also the link below on this page: [SAP ON ORACLE KNOWLEDGE CENTER -> Key Topics -> Automatic Storage Management \(ASM\)](#)). 02 Feb 2011



SAP Bundle Patches for UNIX

Starting with release Oracle 10.2.0.4, SAP and Oracle are providing cumulative database patches for UNIX platforms in the form of SAP Bundle Patches (SBPs). These consist of the newest Patch Set Update (PSU) plus SAP-specific single and merge patches. Patching on Windows remains unaltered.

We will release SBPs once a month on SAP Service Marketplace. You can install them using MOPatch. With the introduction of SBPs, Critical Patch Updates (CPUs) are discontinued and no longer certified for UNIX platforms. For more information on SBPs, see SAP Note [1027012](#). 27 Oct 2010



Oracle 11g Release 2 Now Certified for SAP

Oracle 11g Release 2 (Oracle 11.2) database is now certified for use in an SAP environment on Unix, Linux, and Windows platforms. Only SAP products using kernels 640_EX2 and higher are certified with Oracle 11.2.

SAP now also supports and certifies direct installation and system copy based on database release Oracle 11g (Oracle 11.2). Direct installation support is currently available for SAP products based on SAP NetWeaver 04 (Web AS 6.40) / SAP NetWeaver 7.00 & SAP NetWeaver 7.01. For more information about supported product releases, required media (installation masters), and installation procedures, see SAP Notes [1478350](#), [1478351](#), [1478060](#), [1478059](#), & [1499877](#).

SAPCTL V5 now available for RAC 11.2 to protect SAP resources (details in SAP note [1496927](#)).

For key information on the status of Oracle 11.2 database, **make sure that you read** SAP Notes [1398634](#) and [1434131](#). For information on BR*Tools support for Oracle 11.2 database, see SAP Note [1430669](#). 10 Jun 2010



New BR*Tools Functionality

We're pleased to announce the following new functionality for

BR*Tools (SMP login required to view SAP Notes) to administer your SAP on Oracle database:

* Release of BR*Tools 7.20, the recommended version for Oracle 11g - SAP Note [1428529](#)



SAP on Oracle Presentations **New!**

Here are some recent presentations for SAP on Oracle database:

- [High Security for SAP Data](#)
- [SQL Commands for Lock, Fragmentation & Index Compression](#)
- [SAPinst and Oracle 11.2: Compression, ASM, SMIGR, CREATE DDL](#)

10 Dec 2010

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SAP TECHED LECTURE OF THE WEEK

View the Schedule

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DOWNLOADS

- [SAP Software Distribution Center](#) (SMP login required)
- [Oracle Database Patches](#) (SMP login required)
- [SAP BR*Tools Studio 7.10 \(2\)](#)

SUPPORT

- [Key SAP Notes](#) (SMP login required)

FORUMS

- [SAP on Oracle](#)

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- [SAP BR*Tools Studio for Oracle](#)
- [SAP NetWeaver Platform](#)
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Please use this forum for all questions related to Oracle as database for SAP products. [\[Wiki FAQ\]](#)

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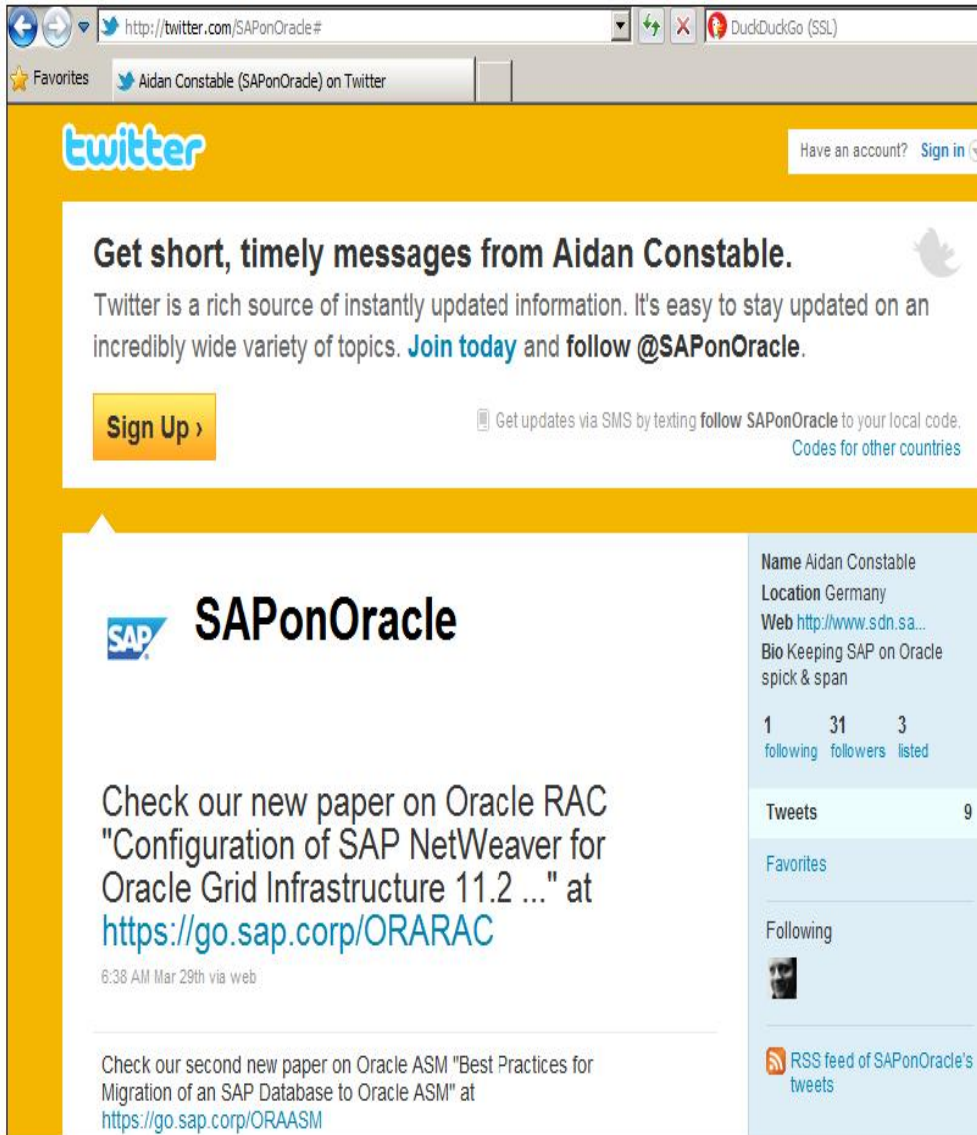
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Thread	Author	Views	Replies	Last Post
Oracle 10.2 Extended Support Free Until July 31, 2011	Aidan Constable	196	0	Jun 9, 2009 8:48 AM Last Post By: Aidan Constable »
2nd Patch of BR*Tools Studio and (14 May) New White Paper	Aidan Constable	443	0	May 14, 2009 3:01 PM Last Post By: Aidan Constable »
New feature on Oracle Critical Patch Updates (CPUs)	Aidan Constable	282	0	May 11, 2009 5:07 PM Last Post By: Aidan Constable »
SAP on Oracle Homepage in SDN	Aidan Constable	3,999	0	Jan 10, 2008 3:32 PM Last Post By: Aidan Constable »
Welcome and Rules of Engagement	Craig Cmehil	3,178	0	Nov 16, 2006 9:18 AM Last Post By: Craig Cmehil »
ERROR: incorrect format or option in .uti file (-p)	JaganMohan Chit...	51	9	Jul 9, 2009 4:21 PM Last Post By: Juan Reyes »
Creating Origlog files from Mirrlog	Gautam Poddar	99	13	Jul 9, 2009 4:16 PM Last Post By: Mike Fang »
DBMS_STATS.GATHER_SCHEMA_STATS	Moshe Freidman	75	9	Jul 9, 2009 4:13 PM Last Post By: Debdeep Ray »
support package	Vasugopalan	709	13	Jul 9, 2009 3:12 PM Last Post By: Witoon Dachapitak »
BRARCHIVE Double Save Option	Anil Verma B	136	8	Jul 9, 2009 2:17 PM Last Post By: Anil Verma B »
Job BI_PROCESS_ODSACTIVAT terminated	Holger Thomasson	33	3	Jul 9, 2009 2:14 PM Last Post By: Sushil Suryawan... »
DB time is very high	Shailesh Mamidwar	25	1	Jul 9, 2009 2:11 PM Last Post By: Surendrajain2003 »
BR0278E - Access denied in oracle backup and redolog backup	Vijay Kumar	232	16	Jul 9, 2009 2:07 PM Last Post By: Eric Brunelle »

SAP on Oracle: Twitter and Facebook



The screenshot shows the Twitter profile for SAPonOracle. The browser address bar displays <http://twitter.com/SAPonOracle#>. The profile header includes the Twitter logo, a "Sign Up" button, and a message: "Get short, timely messages from Aidan Constable. Twitter is a rich source of instantly updated information. It's easy to stay updated on an incredibly wide variety of topics. Join today and follow @SAPonOracle." Below this is a "Sign Up" button and a note: "Get updates via SMS by texting follow SAPonOracle to your local code. Codes for other countries". The profile information for Aidan Constable is shown: Name: Aidan Constable, Location: Germany, Web: <http://www.sdn.sap.com>, Bio: Keeping SAP on Oracle spick & span. Statistics: 1 following, 31 followers, 3 listed. A tweet is visible: "Check our new paper on Oracle RAC 'Configuration of SAP NetWeaver for Oracle Grid Infrastructure 11.2 ...' at <https://go.sap.com/ORARAC>" posted at 6:38 AM Mar 29th via web. Another tweet snippet is visible: "Check our second new paper on Oracle ASM 'Best Practices for Migration of an SAP Database to Oracle ASM' at <https://go.sap.com/ORAAASM>".



The screenshot shows the Facebook page for SAP on Oracle. The browser address bar displays <http://www.facebook.com/SAPonOracle?v=wall>. The page header includes the Facebook logo, a "Sign Up" button, and the text: "Facebook helps you connect and share with the people in your life." The page name is "SAP on Oracle" with a "Like" button. The page is categorized as "Product/Service". The "Wall" section shows two posts. The first post is from SAP on Oracle: "We have 3 new Oracle white papers - 2 on Oracle ASM, 1 on Oracle RAC: Oracle ASM at <https://go.sap.com/oraasm> - Installation and Configuration Requirements for Oracle ASM with SAP - Best Practices for Migration of an SAP Database to Oracle ASM ... See More Tuesday at 7:48am · Like · Comment". The second post is also from SAP on Oracle: "Check the new functionality Automatic Storage Management (ASM) and Automatic Storage Management Cluster File System (ACFS) for Oracle 11g databases running SAP systems at <http://www.sdn.sap.com/irj/sdn/ora>" with a link to <http://www.sdn.sap.com/irj/sdn/ora> and a timestamp of February 2 at 7:36am · Like · Comment.



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