



SAP on Oracle

Development Update

Dr. Christian Graf, SAP SE
Jan Klokkers, Oracle Corporation

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CUSTOMER



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Agenda

Infrastructure as a Service

IaaS Update

SAP on Oracle Database 12c

SAP on Oracle Database 12c

Oracle Multitenant

SAP NW Business Intelligence

Flat InfoCubes

Engineered Systems Update

Miscellaneous Topics

Infrastructure as a Service

IaaS Update



Oracle Cloud Infrastructure

Certification

Supported with SAP as follows:

- Oracle Database 11.2.0.4 and 12.1.0.2¹
- All features/options² supported for SAP on premise are available with Oracle Cloud Infrastructure
- Oracle Linux 6 or 7³

Supported SAP products:

- SAP NetWeaver 7.X and products based hereupon
- Unicode only

For details see

- SAP Notes 2474949 and 2520061
- Oracle white paper in SAP Community

SUPPORTED ORACLE CLOUD INFRASTRUCTURE BARE METAL INSTANCES⁴

Shape	OCPU	Memory	Database Storage	SAPS
BM.HighIO1.36	36	512 GB	12.8 TB NVMe	59,520
BM.DenseIO1.36	36	512 GB	28.8 TB NVMe	59,520

¹ Minimum SAP Bundle Patch August 2017 ² except RAC and ASM ³ both UEKR3 and UEKR4

⁴ No Support for any virtualization technology on Oracle Cloud Infrastructure Compute instances

IaaS Update

Microsoft Azure

Certification

Supported with SAP as follows:

- Oracle Database 11.2.0.4 and 12.1.0.2
- Single Instance only (no RAC)

Supported Operating System versions:

- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2012 R2 Service Pack 1
- Oracle Linux 7

For details see

- SAP Notes 1928533 and 2039619

IaaS Update

Amazon Web Services

Certification

Supported with SAP as follows:

- Oracle Database 11.2.0.4 and 12.1.0.2
- Oracle Linux 6.4 or higher¹
- Amazon Web Services (AWS) EC2 only
 - No support for AWS RDS
- Single Instance only (no RAC)

For details see

- SAP Notes 2358420 and 1656099

¹ Amazon Machine Image (AMI) must be based on Oracle Linux 6.4 or later

SAP on Oracle Database 12c



SAP on Oracle Database 12c

Certification

Oracle Database 12c Release 1 (12.1.0.2)

Certified for Business Suite based on SAP NetWeaver starting 31 March 2015

- Including:
 - Oracle Database 12c
 - Oracle Grid Infrastructure 12c¹
 - Oracle Real Application Clusters (RAC) 12c

Minimum Requirements

- Oracle Database 12c Release 1 with initial SAP Bundle Patch (12.1.0.2.2)
- SAP Kernels 7.21_EXT or 7.4

For details see

- SAP Notes 2133079 and 1914631

¹ Support for both RDBMS 11.2.0.4 and 12.1.0.2, see SAP Note 1677978

SAP on Oracle Database 12c

Supported Releases | Timeline

Releases

Support for Oracle Database 12.1.0.2

- 1st and final patch set for Oracle 12.1
- August 2017 SBP is most recent
 - contains PSU 170718 for 12.1.0.2¹

For details see

- SAP Note 1915313

Timeline

Oracle Database 12.1

Premier Support

Start	March 31, 2015
End	July 31, 2018

Extended Support

Start	August 1, 2018
Add' fees waived until	July 31, 2019
End	July 31, 2021

¹ cmp. SAP Note 2275604 for the recent changes in Oracle patch numbering

SAP on Oracle Database 12c

Products Support

The following SAP products are certified with Oracle Database 12.1:¹

See the SAP Product Availability Matrix (PAM) for product versions released with Oracle 12c

SAP NetWeaver 7.0, 7.1, 7.3, 7.4, 7.5

SAP BW 7.0/7.0X, 7.1X, 7.20, 7.3X, 7.4, 7.5

SAP ERP 6.0

SAP CRM 7.0

SAP SCM 7.0

SAP SRM 7.0

Banking Services from SAP 6.0, 7.0, 8.0, 9.0

SAP Solution Manager 7.1, 7.2

SAP NW CE 7.1, 7.20

SAP NW PI 7.1

SAP LVM 2.1 and higher

SAP MDM 7.1 SP15

¹ including all corresponding EhPs

SAP on Oracle Database 12c Release 2 Certification

Oracle Database 12c Release 2 (12.2.0.1)

Certification planned for End of November 2017

- All platforms:
 - Oracle Cloud Infrastructure
 - On-Premise platforms¹
 - Oracle Engineered Systems²
- Single Instance and Oracle RAC²

Minimum Requirements

- Oracle Database 12c Release 2 with initial SAP Bundle Patch³
- Oracle Client 12.1 on Application Servers and Database Server
- SAP Kernels 7.21_EXT or 7.4/5

SUPPORT TIMELINE ORACLE 12.2.0.1

Type		Date ⁴
Premier Support	Start	March 1, 2017
———— ” ————	End	TBD
Extended Support	Start	TBD
———— ” ————	End	TBD

¹ AIX, HP-UX, Linux, Solaris, Windows ² GI 12.2 with RDBMS 11.2.0.4, 12.1.0.2, 12.2.0.1 ³ November 2017 SBP ⁴ Status as of September 19, 2017

SAP on Oracle Database 12c Release 2

Features

DATA GUARD

- Fast Start Failover Max Protection
- DG Database Compare `dbms_dbcomp.dbcomp`
- DG `DATA_GUARD_SYNC_LATENCY` parameter

SECURITY/ENCRYPTION

- Fully Encrypted Database
- TDE Tablespace Live/Offline Conversion

MISCELLANEOUS

- Online Table Move
- Online Conversion Non-Partitioned Tables
- Restart Online Definition
- ILM/ADO Support with Multitenant
- Advanced Index Compression High
- RAC Multi Instance Redo Apply

and much more...

SAP on Oracle Database

New Oracle Release Strategy

Oracle is switching to yearly release cycle

One major database release per year

- Feature Releases
- Version naming based on release year
- Oracle 12.2.0.1 is last conventionally named release

Database Bundle Patches to become “Release Updates”

Patch Delivery in “Release Updates (RUs)” and “Release Update Revisions (RURs)”

- For fixes only
- All new features to ship in major releases

Cloud First

On-Premise release some months later

SAP on Oracle Database 12c

Oracle **Multitenant**



Oracle Multitenant Prerequisites

Oracle Multitenant

Certified for SAP since February 2017

Minimum Requirements:

- Oracle Database 12c Release 12.1.0.2¹
- SAP NetWeaver 7.40 with kernel 7.45² patch 210
- SWPM 1.0 SP19, SUM 1.0 SP19³
- BR*Tools 7.40 Patch 30
- SAP notes to apply

For details see

- SAP Note 2336881

Required licenses:

- Oracle Multitenant comes at a cost for both Oracle direct and SAP ASFU customers
- Oracle Full Use customers need to purchase:
 - Oracle Multitenant Option
- SAP ASFU customers need to purchase:
 - SAP “Oracle Multitenant License Package”

¹ plus specific SAP Database Bundle Patch ² Unicode only ³ Contained in Software Logistics (SL) Tool Set 1.0 SP19

Oracle Multitenant Restrictions

Oracle Multitenant with SAP

is subject to the following restrictions:

- Unix: User concept “Oracle Standard” only
- No mix of OLTP and OLAP PDBs in same CDB

For details see

- SAP Note 2336881

Restrictions planned to be lifted in Q4/2017:

- No RAC support. SI/FS and SI/ASM only
- Limited support for Engineered Systems:
 - SI/ASM only
- No support for
 - Windows Cluster
 - Transparent Data Encryption (TDE)
- Limitations regarding SAP Host Agent

SAP NW Business Intelligence

Flat InfoCubes



SAP NW Business Intelligence

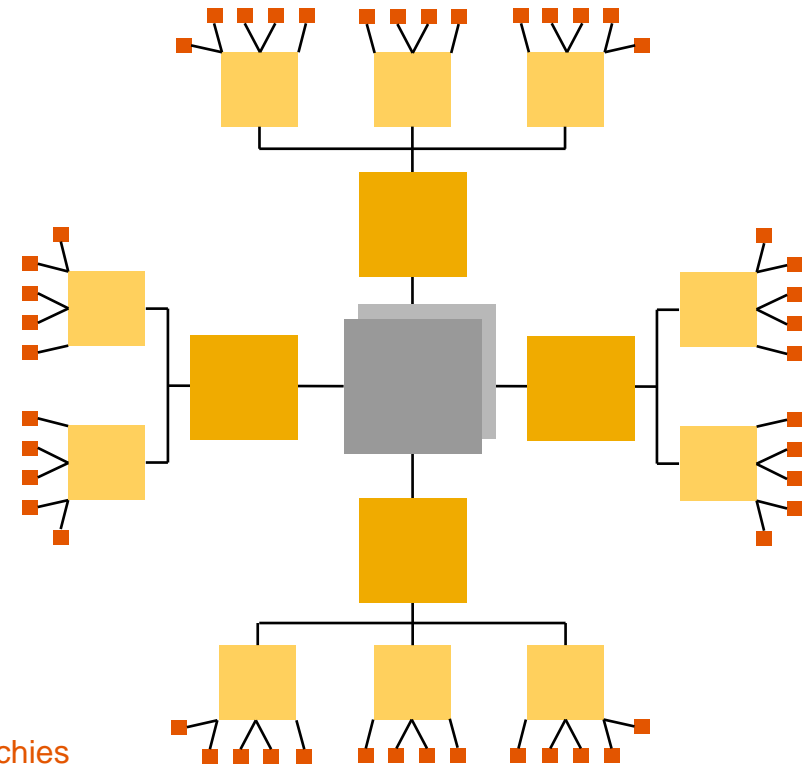
Classic InfoCubes

Classic InfoCubes follow SAP proprietary, extended Star schema

Optimized for row-based, classic RDBMS

- 2 fact tables
 - E fact table: Read-optimized partitioning
 - F fact table: Write/Delete-optimized partitioning
- Dimension tables
 - as grouping sets of characteristics
- Shared master tables

facts
dimensions
characteristics
attributes + hierarchies



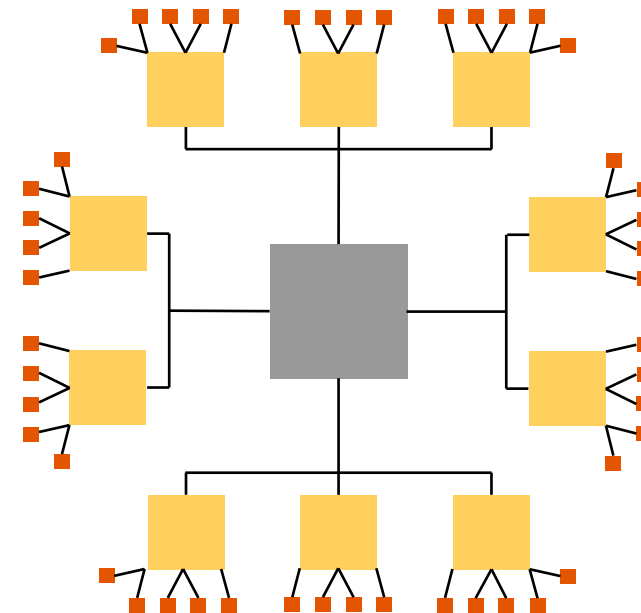
SAP NW Business Intelligence

Flat InfoCubes

Flat InfoCubes are simplification of classic schema

Optimized for columnar and hybrid RDBMS

- 1 fact table
 - Write/Delete no longer harms read performance
 - No separation into E and F fact tables
 - Two-dimensionally partitioned using sub-partitioning
- No dimension tables¹
 - Dimensions become pure meta data
 - Obsolete need to look-up/create DIMIDs strongly boosts update performance
- Much higher query and load performance
 - Due to In-Memory technology
 - Less joins; no indices on fact table



facts
characteristics
attributes + hierarchies

¹ SAP package dimension remains

SAP NW Business Intelligence

Flat InfoCubes with SAP on Oracle

Available from SAP NW Business Intelligence 7.40

Relies on Oracle Database In-Memory technology

- Released 30 June 2016
- Supported from:
 - SAP NW BI 7.40 SP15
 - SAP NW BI 7.50 SP04
- Oracle Database 12c Release 1 (12.1.0.2)¹ and higher
- Oracle Database In-Memory mandatory

For details see

- SAP Note 2335159

¹ requires May 2016 SAP Bundle Patch (SAP12102P_1605) for Oracle Database, or higher

SAP NW Business Intelligence

Flat InfoCubes: Real Customer Scenario

Data Volume: **9,000,000** Rows

STAR SCHEMA

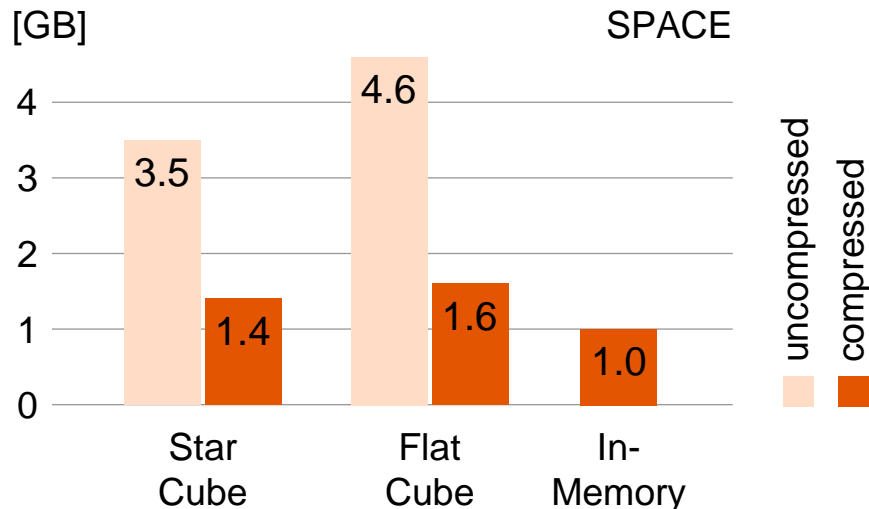
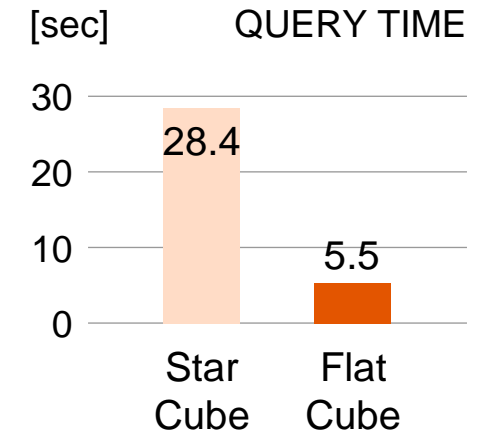
- 12** Dimensions
- 129** Measurements
- 11** Join Dimensions

FLAT SCHEMA

- 46** Key Values
- 129** Measurements
- 1** Join Dimension

Query:

- Many result columns
- 3 attribute tables



In-Memory Flat Cube

Query Characteristics:

- The more data,...
- The less number of result columns,...
- The more joins,...
- The more complex the predicates,...

...the higher the improvement!

Engineered Systems **Update**



Engineered Systems Update

Exadata & Exalogic

CLUSTERED DATABASE AND STORAGE SERVER

Oracle Exadata Database Machine X2–X6

Support for X2-2|8 through X6-2|8

- Exadata license required

For details see

- SAP Note 1590515
- Oracle Exadata white paper in SAP Community

CLUSTERED APPLICATION SERVER

Oracle Exalogic X2–X5

Support for X2-2 through X5-2

- Virtual Exalogic (using Oracle VM)
- Only in combination with Exadata

For details see

- SAP Note 1617188

Engineered Systems Update

SPARC Clusters

GENERAL PURPOSE ENGINEERED SYSTEM

Oracle SPARC SuperCluster

Support for T4-4, T5-8, M6-32 and M7

For details see

- SAP Note 1693680

SMALL-SCALE, GENERAL PURPOSE ENGINEERED SYSTEM

Oracle SPARC MiniCluster

Support for S7-2

- Requirements (excerpt):
 - Oracle Database 11.2.0.4 or 12.1.0.2
 - Oracle Client 11.2.0.4 or higher
 - MiniCluster Configuration Utility \geq 1.1.18.2

For details see

- SAP Note 2384855

Engineered Systems Update

ODA & PCA

TWO-NODE CLUSTERED DATABASE SERVER

Oracle Database Appliance

Support for V1, X3-2 through X6-2

For details see

- SAP Notes 1760737, 2290084 and 2388511
- Oracle ODA white papers in SAP Community

ENGINEERED SYSTEM DESIGNED FOR VIRTUALIZATION

Oracle Private Cloud Appliance X3–X6

Support for X3-2 through X6-2

- Based on Oracle VM

For details see

- SAP Note 2052912

Miscellaneous Topics



Social Media

SAP on Oracle Community

SAP on Oracle Community Page

Find news, discussions and resources related to SAP on Oracle at

go.sap.com/community/topic/oracle.html¹

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SAP on Oracle Community

Find resources – including blogs, questions and answers, and resources for administering your Oracle database with an SAP system.


Featured Content



New BR*Tools Patch Now Available (with support for Oracle 12c Multitenant Database)


The new BR*Tools patch (7.40 patch 24) is now available on SAP Service Marketplace. It introduces the support for Oracle 12c Multitenant Database.

[SAP Note 2333360](#)
[SAP Note 2333995](#)



Oracle Multitenant Option Now in Early Customer Shipment Status

The Oracle Multitenant option is now in early customer shipment status. If you are interested in using this feature for SAP Netweaver-based systems and want more information, please contact Christian Graf, including your customer number in the mail.



SAP BW Flat Cubes Released for Oracle Database 12c

Customers can now use the new Flat Cube architecture for BW InfoCubes with Oracle Database 12c Release 1 and Oracle Database In-Memory. This new optimized InfoCube design is now generally available as of SAP BW 7.40 SP15.

[SAP Note 2335159](#)

¹ Former *SAP Community Network (SCN)* was discontinued in fall 2016

Social Media

SAP on Oracle – Twitter

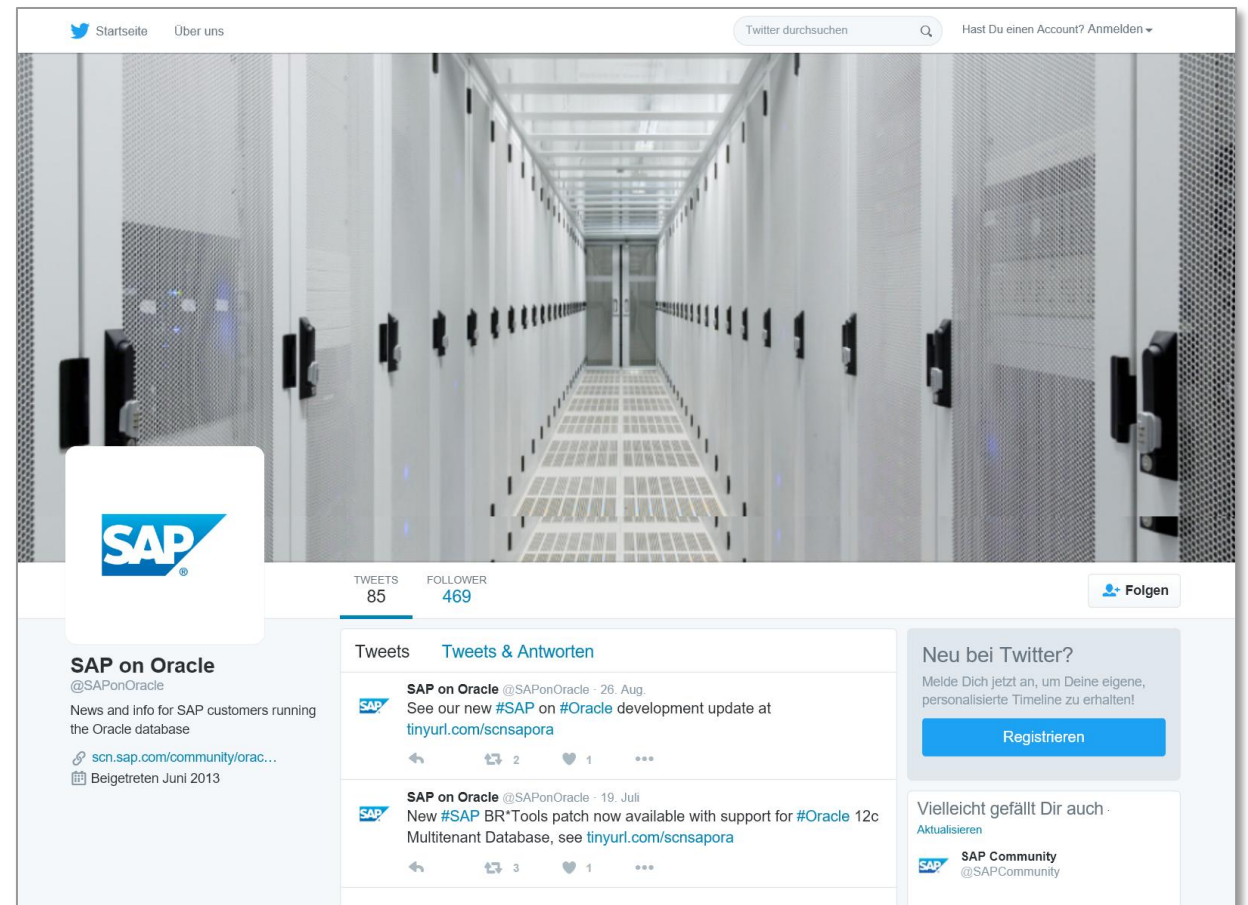
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Thank you.

Contact information:

Dr. Christian Graf

Development Manager

DB Platforms Oracle & Informix

OS Platform Solaris

SAP SE

E christian.graf@sap.com

Jan Klokkers

Senior Director

SAP Development

Server Technologies

Oracle Corporation

E jan.klokkers@oracle.com