

ORACLE®

# SAP Bundle Patches - Patch Management with Oracle 12c

Subtitle

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February 17, 2016

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# Oracle ACS Services for SAP Environments

- Oracle Support for SAP
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- ACS Services for Exadata
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# SAP Bundle Patches - Patch Management with Oracle 12c

## Program Agenda

- 1 Criteria for SAP Bundle Patch inclusion
- 2 What comprises a 12.1 SAP Bundle Patch?
- 3 Key points – 12.1 SAP Bundle Patches
- 4 Comparison 11.2 and 12.1 SAP Bundle Patches
- 5 Queryable Patch Inventory – dbms\_qopatch
- 6 References

# SAP Bundle Patches - Patch Management with Oracle 12c

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# Criteria for SAP Bundle Patch inclusion

- Bug was opened for a SAP customer (aka SAP bug)
- SAP bug got closed as a duplicate of another bug
- SR filed by a SAP customer for whom a SAP incident was raised
- Oracle Alerts (e.g. Security Alerts)
- Exadata Critical Issues (MOS Doc ID 1270094.1)
- SuperCluster Critical Issues (MOS Doc ID 1452277.1)
- Proactive patches (PSU, GI PSU, EXA BP, DBBP)

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# What comprises a 12.1 SAP Bundle Patch?

Which ZIP files are / might be contained in which 12.1 SBP?

Mapping ZIP files to Bundle Series	SAP	SGR	SDA	SXD	DBBP	GIM ACFS	GIM OCW
SAP Bundle Patch	X						
SAP Bundle Patch for Grid Infrastructure		X			X	(X)	(X)
SAP Bundle Patch for Oracle Database Appliance			X		X	(X)	(X)
SAP Bundle Patch for Exadata				X	X	(X)	(X)

# What comprises a 12.1 SAP Bundle Patch?

What kind of patches are included and in which ZIP file can they be found?

	SAP	SGR	SDA	SXD	DBBP	GIM ACFS	GIM OCW
Database Bundle Patch (DBBP)	X						
Database Patch for Engineered Systems and DB In-Memory					X		
Grid Infrastructure Merge Patch for ASM Cluster File System						(X)	
Grid Infrastructure Merge Patch for Oracle Clusterware							(X)
Interim Patches for RDBMS home	X	X	X	X			
Interim Patches for GI home		X	X	X			
OPatch tool	X	X	X	X			
MOPatch tool	X	X	X	X			

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# Key points – 12.1 SAP Bundle Patches

- 12.1 SBP's do not include a SAP DBBP
- All 12.1 SBP's include the same DBBP, which is also part of the „Database Patch For Engineered Systems and DB In-Memory“
  - 201503: 12.1.0.2.4DBBP; 201505, 201506: 12.1.0.2.7DBBP; 201508: 12.1.0.2.10DBBP
  - 201511: 12.1.0.2.13DBBP; 201602: 12.1.0.2.160119DBBP
- 12.1 DBBP
  - Are released monthly, but not for all platforms
  - SAP-supported 12.1.0.2 DBBPs are composite patches (exception: 12.1.0.2.4DBBP)
  - To be applied to grid home as well as RDBMS home

# Key points – 12.1 SAP Bundle Patches

## cont'd

- 12.1 SBP's are released quarterly and on-demand
- 12.1 SBP's include interim patches (aka one-off's)
  - Some of them to be applied to both homes: grid home as well as RDBMS home
  - Others to be applied to grid home only, but the majority to RDBMS home only
- GI content (SAP-specific GI Merge, if required)
  - 12.1.0.2 OCW PSU, ACFS PSU, WLM PSU in DBBP ZIP
  - If GI Merges are necessary, than GIMACFS | GIMOCW ZIP will be released.
- 12.1 SBP's 201506 and later are non-RAC Rolling and non-Standby First Installable

# Key points – 12.1 SAP Bundle Patches

## Post-installation steps with datapatch

- Post-installation steps for 12.1 SBP's require execution of script “catsbp” which calls datapatch
  - If the post-installation script completes with an INCOMPLETE overall status, review its output and its log file for any errors, resolve the error cause and re-run the script.
    - catsbp logs in \$ORACLE\_BASE/cfgtoollogs/sqlpatch
    - datapatch logs in \$ORACLE\_BASE/cfgtoollogs/sqlpatch/<bug#>/<unique\_patch\_id#>
- Datapatch updates dba\_registry\_sqlpatch only
  - This is as designed. dba\_registry\_history is no longer updated as of 12.1.0.2, since datapatch no longer calls catbundle.sql as of 12.1.0.2.
  - Only upgrade to 12.1 adds entry; catsbp adds entry for SBP instead of catbundle.sql

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# Comparison 11.2 and 12.1 SAP Bundle Patches

	11.2 SBP's	12.1 SBP's
Release Frequency	Quarterly	Quarterly (monthly on-demand)
Composite	Yes (Exception: 11.2.0.3 SAPEXADBBP)	Yes (Exception: 12.1.0.2.4DBBP)
Startup Upgrade	Yes	No
DG Standby First Installable	No	No (Exception: 201503, 201505)
RAC Rolling	No	No (Exception: 201503, 201505)
Post (De)Installation	catsbp.sql   rmsbp.sql calls catbundle.sql APPLY   ROLLBACK	Script catsbp   rmsbp calls datapatch
dba_registry_history	catbundle.sql adds entries for bundle series PSU   BP   SAPDBBP   SAPEXADBBP   SBP	Only upgrade to 12.1 adds entry; catsbp adds entry for SBP instead of obsolete catbundle.sql
dba_registry_sqlpatch	-	Datapatch adds entries for each Bundle Patch or interim patch with post-install



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# Queryable Patch Inventory – dbms\_qopatch

- New feature in 12c which can be used to retrieve inventory from SQL prompt by using external table with preprocessor and pl/sql package functions, procedures.
- Need to connect as SYS or „as sysdba“ as \$ORACLE\_HOME software owner
- Data is returned in XML format  
=> need to convert the data in a readable format using xmltransform

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# References

## SAP Notes

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### SAP notes for Oracle 12c

[1677978](#) – Mixed GI/RDBMS Versions or Mixed SAP/Non-SAP Environments on Exadata

[1888485](#) – Database Parameter for 12.1.0.2

[1915316](#) – Database: Patches for 12.1.0.2

[2145572](#) – Grid Infrastructure: Patches for 12.1.0.2

[2159551](#) – Exadata / Supercluster: Patches for 12.1.0.2

[2170776](#) – Oracle 12c: datapatch

[2184253](#) – Oracle: Maintaining SAP and non-SAP Databases on one Oracle Installation

[2184669](#) – Troubleshooting 12.1 catsbp post-installation issues

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# References

## Oracle MOS Notes

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### Oracle MOS notes for Queryable Patch Inventory and Datapatch

Oracle Support Document [1530108.1](#) (Oracle Database 12.1 : FAQ on Queryable Patch Inventory)

Oracle Support Document [1585814.1](#) (Queryable Patch Inventory – SQL Interface to view, compare validate database patches)

Oracle Support Document [1585822.1](#) (Datapatch: Database 12c Post Patch SQL Automation)

Oracle Support Document [1609718.1](#) (Datapatch Known Issues)

Oracle Support Document [1635056.1](#) (What to do if the status of a datapatch action was not SUCCESS due to finding non-ignorable errors)

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# Thank You

Any Questions



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# What comprises a 11.2 SAP Bundle Patch?

Which ZIP files are / might be contained in which 11.2 SBP?

Mapping ZIP files to Bundle Series	SAP	SGR	SDA	SXD	GIPSU	EXA	GIM ACFS	GIM OCW
SAP Bundle Patch	x							
SAP Bundle Patch for Grid Infrastructure		x			x		(x)	(x)
SAP Bundle Patch for Oracle Database Appliance			x		x		(x)	(x)
SAP Bundle Patch for Exadata				x		x		(x)

# What comprises a 11.2 SAP Bundle Patch?

What kind of patches are included and in which ZIP file can they be found?

	SAP	SGR	SDA	SXD	GIPSU	EXA	GIM ACFS	GIM OCW
SAP Database Bundle Patch (SAPDBBP)	X	X	X					
SAP Exadata Database Bundle Patch (SAPEXADBBP)				X				
Grid Infrastructure Patchset Update					X			
Quarterly Database Patch for Exadata Bundle (incl. Exa BP)						X		
Grid Infrastructure Merge Patch for ASM Cluster File System		(x)	(x)				(x)	
Grid Infrastructure Merge Patch for Oracle Clusterware		(x)	(x)	(x)				(x)
Interim Patches for RDBMS home	X	X	X	X				
Interim Patches for GI home		X	X	X				
OPatch tool	X	X	X	X				
MOPatch tool	X	X	X	X				



# Key points – 11.2 SAP Bundle Patches

- Since June 2014, 11.2 SBP's include SAP Database Bundle Patches (DBBP's)
  - 11.2.0.3|4.xSAPDBBP included in Unix, Grid and ODA SBP's
  - 11.2.0.3|4.xSAPEXADBBP included in Exa SBP
- 11.2.0.3|4 SAP DBBP's
  - Are released quarterly; last SBP for 11.2.0.3 was released in August 2015
  - Are composite patches; exception: 11.2.0.3.xSAPEXADBBP
  - To be applied to RDBMS homes only, not to grid homes  
PSU from GI PSU or Exa BP from QDPE will be applied to grid home
- 11.2 SBP's are released quarterly

# Key points – 11.2 SAP Bundle Patches

## cont'd

- 11.2 SBP's include some interim patches (aka one-off's)
  - Some of them to be applied to both homes: grid home as well as RDBMS home
  - Others to be applied to grid home only or RDBMS home only
- GI content (SAP-specific GI Merge, if required)
  - 11.2.0.3 HAS PSU: included in SGR | SDA | SXD ZIP file
  - 11.2.0.4 OCW PSU and ACFS PSU: included in SGR | SDA | SXD ZIP file
- 11.2 SBP's: Non-RAC Rolling, Non-Standby First Installable, Startup Upgrade
- Post install steps for 11.2 SBP's require execution of "catsbp.sql" which calls catbundle.sql; logs in \$ORACLE\_BASE/cfgtoollogs/catbundle