

House Cleaning Procedure / housekeeping

Introduction

OSS notes related to housekeeping

Preventing Basis tables from increasing considerably.

2388483 - How-To: Data Management for Technical Tables

[2388483 - How-To: Data Management for Technical Tables](#)

Old oss note related to Housekeeping : 706478

Why do we need a house cleaning procedure ?

This procedure explains how to delete data from the BW servers which are no longer useful. There are several reasons for doing that :

- It **increases the overall performances of the system** (Reading in a table with 1M lines is faster than on a table with 10M lines)
- It **reduces the cost of the BW server hosting** : the price of the hosting depends on the number of Go of storage used.
- It makes maintenance and **overall usage of BW easier/clearer** for everyone as you no longer have to filter out obsolete objects.
- It shortens the time taken to copy servers (ex : prod to quality) and therefore save time for technical team but also **reduces the downtime of the servers** for those operations.

For reference, the cost of 1 Go (depends on the SLA level & decreases with time - Empty storage about 20% is not invoiced) :

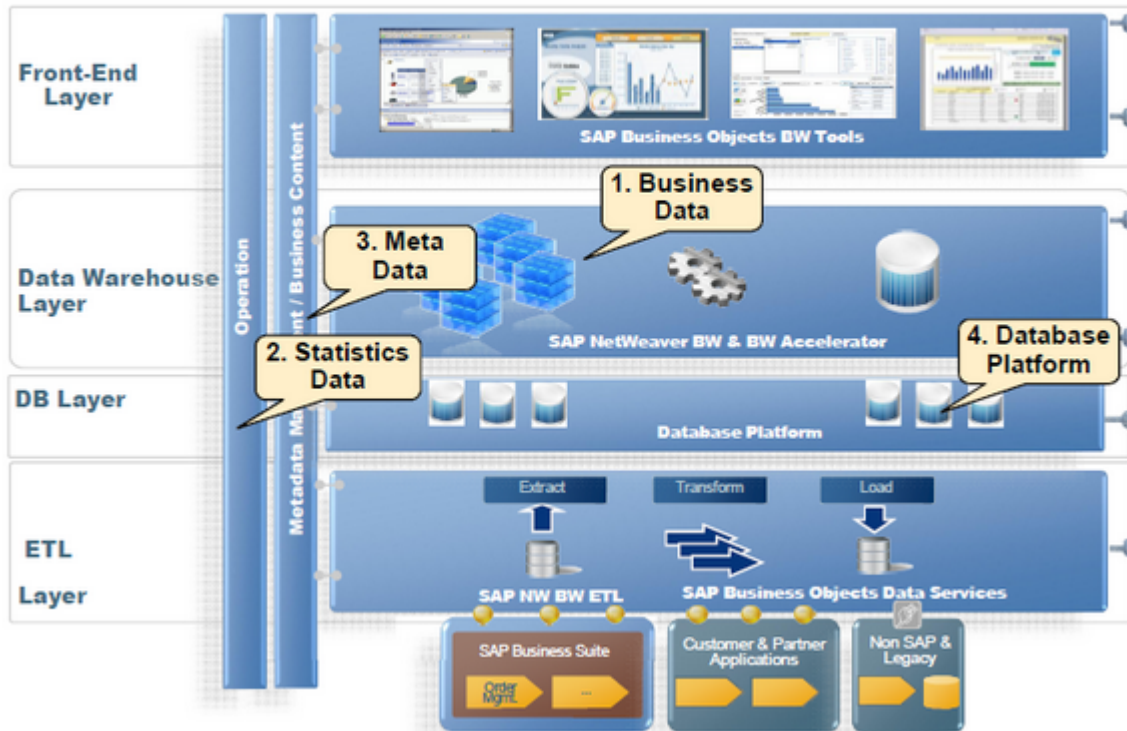
Storage Cost €/Go	2015	2016
L1 - WBP	1.78	1.68
L2 - PQ1 / PQ2 / WBD	0.99	0.94
L3 - WB1 / WBQ / SQ1 / SQ2 / DQ1 / DQ2	0.5	0.47

Overall logic of the house cleaning procedure

In this clean 4 main types of data :

Housekeeping activities Focus areas

SAP



- 1 - Business Data : The data used by the reports and users. It's all the data found in the info-providers and related objects.
- 2 - Statistics Data : All the logs and historical saved data that results of the usage and maintenance of BW.
- 3 - Meta Data : Basically the content created by the users. Queries, workbooks, bookmarks...
- 4 - Database Platform : All data generated by oracle and SAP internally (Usually not much we can do).

When to run this procedure

The full procedure should only be conducted once a year on each server and mainly on the production servers.

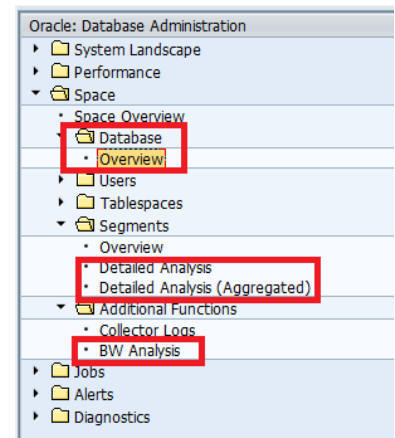
- Keep in mind that some processes take a long time to run and take processes. Better run when server is under light workload.
- It's best to do it just before the production server is copied to quality/simulation in order to shorten the copy process.
- Each step can be run individually on different schedules.

How to check the size of the database & tables

Full database and individual table sizes can be checked via DB02 transaction. In that transaction there are several functions that are useful.

Full database overview

You can have a look at the overall server size by going to the "Overview". Then select "History" and either days/weeks or months :



Date	Name	Size(Gb)	Chg.Size/month	Free(Gb)	Chg.Free/month	Used(%)	Chg.Used/month	Users	Chg.Users	Tablesp
01.08.2015	WBP	6,404.09	152.05	462.71	3.99	93	0	12	0	12
01.07.2015	WBP	6,279.09	127.48	509.17	58.20	92	1	12	0	12
01.06.2015	WBP	6,151.61	256.79	567.37	45.91	91	0	12	0	12
01.05.2015	WBP	5,894.82	149.49	521.46	56.02	91	1	12	0	12
01.04.2015	WBP	5,745.33	1.85	577.48	32.82	90	1	12	0	12

DB02 not updated

DB02 should be updated daily - If it is not up to date, contact the SAP Technical team and ask them to correct the scheduling of the job.

- Size(Gb) : Total size of the BW server storage. Includes both free and used space
- Chg.Size : Change of size of the total size between this measurement and the previous one in Go
- Free(Gb) : Size of the free available space.
- Chg.Free : Change of the free space size between this measurement and the previous one in Go.
- % Used : Percentage of total space used = (Size(Gb) - Free (Gb)) / Size (Gb)

You can calculate the used space by simply doing : Size(Gb) - Free(Gb)

Tables sizes

You can check the individual table sizes via the "Segments" section.

- In "Overview" --> Top Sizes you have the top 100 largest tables :

Owner	Name	Partition	Type	Tablespace	Size(MB)	#Extents	#Blocks
SAPSR3	RSBERRORLOG		TABLE	PSAPSR3	279,284,813	7,299	35,745,450
SAPSR3	/BI2/ADDS_OPA400		TABLE	PSAPSR3ODS	137,512,080	4,085	17,601,538
SAPSR3	/BI2/ADDSFGL100		TABLE	PSAPSR3ODS	125,177,875	4,127	16,022,768
SAPSR3	RSBATCHDATA		TABLE	PSAPSR3	107,880,375	5,930	13,796,448
SAPSR3	/BI2/ADDSFGL300		TABLE	PSAPSR3ODS	103,668,375	3,413	13,261,872
SAPSR3	/BI2/ADDSFGL0200		TABLE	PSAPSR3ODS	103,270,080	5,177	13,218,560

Top 100 in Overview

Note that in the Overview Top Sizes, it shows the size of the individual tables. This is not a very complete approach as many tables are actually much larger once you add indexes, logs and partitions

- Detailed Analysis : this shows the individual table sizes - Use "Detailed Analysis Aggregated" instead.
- Detailed Analysis (Aggregated) : Shows the tables size including all related objects (Index, Lobs, Partitions)

Tips on DB02 table sizes

To measure the real size of a table, it is not enough to check only the table itself. You may be underestimating the size.

To have the full picture, you need to check all objects relative to that table :

- Indexes : most large tables have 1 or more index which can take a lot of space
- Lob Segments : In cases a lob segment is attached to the table. The lob segment is used to store the actual large data and therefore it could look like the table itself is very small... but the lob could be very large. Ex : The BW workbooks list is stored in the RSRWBSTO RE table, but the actual workbooks data is stored in the attached Lob Segment
- Partitions : Large tables (and info-providers dimensions) can be split in many different partitions. You need to include all partitions.

Main system tables descriptions

Table	Description
ARFCSDATA	tRFC tables - SM58
BALDAT	Application log (Details) - Logs from SLG1
BALHDR	Application Header
C_OBJ#_INTCOL#	Cluster tables
D010INC	Where used table
D010TAB	Where used table
DBTABLOG	Database Log
DDPRS	Dictionnary Logs
DOKCLU	Solution Manager Session Information
EDI40	Control record (IDoc)
EDIDC	Control record (IDoc)
EDIDS	Control record (IDoc)
GVD_LATCHCHILDS	Oracle monitor
GVD_SEGSTAT	Oracle monitor
OCSCMPLOBJ	Complete Information for Objects
REPOSRC	ABAP Source code repository
RSBATCHCTRL	BI Background Management
RSBATCHDATA	BI Background Management
RSBATCHHEADER	BI Background Management
RSBATCHPROT	BI Background Management
RSBATCHSTACK	BI Background Management
RSBERRORLOG	DTP Error Log
RSBKDATA	Copy of INDX for DTP: Runtime Buffer
RSBKSELECT	Selections for DTP Request (Summary)
RSBMLOGPAR	Hierarchical Log: Field/Value Pair
RSBMLOGPAR_DTP	DTP Log: Field/Value Pairs
RSBMNODES	Hierarchical Log: Nodes
RSBMONMESS	Hierarchical Log: Table with Messages
RSBMREQ_DTP	DTP Error Log Related
RSDDSTATAGGRDEF	BW Statistics
RSDDSTATDTP	BW Statistics
RSDDSTATEVDATA	BW Statistics
RSDDSTATHEADER	BW Statistics
RSDDSTATLOGGING	BW Statistics
RSDDSTATWHM	BW Statistics
RSHIENODETMP	Hierarchie Loading Log
RSIXWWW	Web Reporting Component
RSLDTDONE	Texts on the requested InfoPackages and groups
RSMONFACT	Fact table monitor
RSMONIPTAB	InfoPackage for the monitor
RSMONMESS	Monitor Logs
RSODSACTDATA	DSO Field aggregation
RSODSACTUPDTYPE	DSO Field aggregation
RSPCINSTANCE	PC Instance - Info on process chain instances
RSPCPROCESSLOG	Process Chain Log

RSREQDONE	Monitor: Saving of the QM entries
RSREQDPTID	Note TID for Request and Data Package
RSRWBSTORE	Workbooks Storage
RSSELDONE	Monitor: Selections for executed request
WBCROSSGT	Lists of objects in ABAP programs
WRH\$_ACTIVE_SESSION_HISTORY	Oracle system
WRH\$_EVENT_HISTOGRAM	Oracle system
WRH\$_SQL_PLAN	Oracle system
WRH\$_SYSMETRIC_HISTORY	Oracle system

Table Reorg - Updating the size of the tables after clean up

When you delete data in tables, the tables size do not always change. This depends on the configuration of the table.

Usually if a table is dropped (ie. completely deleted, not just emptied) then the change will be reflected in DB02 the next day.

But in most cases, there is no change. it is necessary to do a "Re-organisation" of the table in order to reflect the change.

The BW team cannot do this re-org so it is necessary to request it to the SAP technical team.

Before running the procedure

Delete inactive user accounts

Before launching any of the following clean up actions, it is better if all the BW users accounts **in production** that have not been used for a long time (12 months - Excluding IT & non-dialog users) be deleted from the system. This is because in some cases, data cannot be deleted if the user still exists.

To check if user accounts are used, launch transaction RSUSR200.

Take a snapshot of Database sizes before process

In order to be able after the process to verify the changes of sizes, you need to take a snapshot of the database sizes before running the process.

- 1 - Go to DB02
- 2 - Select the "Segments" and "Detailed Analysis" options
- 3 - Extract the list of top largest tables sizes and save it

Meta data - PRODUCTION ONLY



To be done in production systems only

All the metadata actions must only be done in production - This is simply due to the fact that it's normal that many ressources are not used in dev/simulation/quality.

Main Parameter	Value
Last Use Date	current date - 365

Main tables
D010INC
RSRWBSTORE
RSSGTPDIR

Delete un-used queries & workbooks

Explanation

This program deletes queries that have not been used for a long time (365days). Although this is not very large in terms of size, it allows to delete obsolete reports that no longer need to be maintained and also allows removal of all the test queries.

We do not delete all un-used queries : please check the [specific page](#) for all the exceptions.

How to

- Transaction : RSZDELETE
- Main Parameter : **Last Use Date < current date - 365**
- See specific page for this process : [Un-Used Query Deletion Process](#)

Delete un-used Bex Web bookmarks

Explanation

This is to remove bookmarks that result from Web templates in SAP NetWeaver 7.0 format.

How to

1 - Go to transaction Se38

2 - Run program RSRD_ADMIN_BOOKMARKS_3X (For old 3.x version bookmarks)

Deletion of Bookmarks

Period

Created Before 10.08.2014

Last Access 10.08.2014

Author

Users

Further Selections

Template

Bookmark Type A

3 - Select All users. For Created Before/Last Access, put **Current Date - 365**

4 - Select All bookmarks and delete



Repeat

You need to repeat the select all + delete several times if necessary as the initial screen only shows a few bookmarks

Delete Bex Broadcaster Bookmarks

Explanation

Deleting bookmark IDs and view IDs that were created by the system for information broadcasting.

Temporary Bookmark IDs / View IDs

Bookmark IDs and view IDs that have been generated temporarily for the system to generate online links. The bookmark IDs or view IDs are no longer used in broadcast settings and do not form part of a URL for any sent online links.

Bookmark IDs / View IDs Used in Sent Links

Bookmark IDs and view IDs that are no longer being used in broadcast settings but have still been sent as a part of a URL for an online link. This means that the bookmark IDs and view IDs can only be deleted when they are no longer being used in a broadcast setting.

How to

1 - Go to transaction SE38



V7 Bookmarks

RSRD_ADMIN_BOOKMARK S_3X can only delete 3.x version bookmarks. Program RSWR_BOOKMARK_REORG can be used to delete 7.x bookmarks but the problem is that you cannot know if it's still in use - So it's not included in this process.

References

[Reorganization of Bookmarks](#)


Main parameter	Value
Temporary Bookmark ID	365
Older than (In days)	
Bookmark IDs	365
Old than (In days)	
Test Call (No delete)	Uncheck

References

[Reorganization of Bookmark IDs and View IDs](#)

- 2 - Run program RSRD_BOOKMARK_REORGANISATION
- 3 - Input "365" in Older Than Days
- 4 - Uncheck "Test Call (No Delete)" - Otherwise no real deletion will be done

Reorganization of Bookmarks/ViewIDs



Temporary Bookmark ID/View ID

Bookmark IDs/ view IDs that were not sent in the broadcast settings or as part of the URL

Delete

Older Than (in Days)

Bookmark IDs/ View IDs Used in Links That Have Been Sent

Bookmark IDs/ view IDs that are no longer being used in the broadcast settings but have been sent as part of the URL

Reorganize

Older Than (in Days)

Test Call (No Delete)

Output Details

Delete un-used workbooks & roles content

Explanation

This program is used to delete from the workbook storage (RSRWBSTORE) all the workbooks that are still stored but are no longer referenced in any favorites or roles. This happens for example for all the workbooks in the favorites of a user account that was deleted.


Note that the program also checks the existing workbooks that have no queries in it. This can happen for workbooks that are in fact simple documentations via excel. That is why those are not deleted (see process below).

Main tables cleaned
RSRWBSTORE AGR_HIER AGR_HIERT RSRWORKBOOK SMEN_BUFFER RSRWINDEX RSRWINDEXT

How to

- 1 - Go to transaction SE38
- 2 - Run program RSWB_ROLES_REORG
- 3 - Choose "Only Examine BW Roles"

Reorganization of Workbook and Role Storage



Search roles?

Search favorites?

Search workbooks?

Examine all roles?

Only examine BW roles?

Use role name?

Role Name:

This report has several sections :

Section	Explanation	Action
Incorrect References from Workbooks in Roles	References from workbooks in roles that do not exist in workbook storage	Delete all
Workbooks without Query Assignment	References to workbooks in roles that do not have a query assignment	DO NOT DELETE
Incorrect References from Workbooks in Favorites	References from workbooks in favorites that do not exist in workbook storage	Delete all

References from workbooks in favorites that do not exist in workbook storage	References to workbooks in favorites that do not have a query assignment	DO NOT DELETE
Unused Workbooks	Workbooks in workbook storage that are not referenced in roles or favorites	Delete all

Delete un-used broadcast settings

- 1 - Go to RSRD_ADMIN
- 2 - Click on Settings
- 3 - Remove any values in Created By.
- 4 - In Last Executed On, select 01.01.2000 to Current Date - 365

Selection of Broadcast Settings

General Parameters

Technical Name: [] to []

Description (Search String): []

Object Version: A

Created By: [] to []

Last Changed by: [] to []

Created On: [] / 00:00:00 To [] / 00:00:00

Last Changed On: [] / 00:00:00 To [] / 00:00:00

Last Executed on: **01.01.2000 / 00:00:00 To 13.08.2014 / 00:00:00**

- 5 - Select the settings & delete

Selected Broadcast Settings

Broadcast Setting	Create Time	Changed by	Changed On	Chng Time	Use Date	Use Time
WC_NOV_VWV_EUR	15:47:06	BW_BCAST	13.10.2010	10:44:25	16.11.2009	09:42:51
BCAST_LA_CF_002	21:39:28	LANDRADE	02.12.2009	21:39:28	07.01.2010	08:01:48
BCAST_LA_CF_005	21:57:35	LANDRADE	02.12.2009	21:59:33		08:01:48
BCAST_LA_CF_007	22:07:41	LANDRADE	02.12.2009	22:08:57		08:04:40
BCAST_LA_CF_009	22:14:43	LANDRADE	02.12.2009	22:16:58		08:12:01
KK22_LA_MONTHLY_DOCOLLAB	22:17:25	BW_BCAST	04.02.2010	22:17:25	05.02.2010	10:00:37

Statistics

Delete Temporary Tables - Optional

Explanation



When to do

This operation should only be done if temporary tables are taking a lot of space. Check in DB02 all tables starting with "/BI0/0"

The BW System uses different temporary objects for queries and other processes.

- o /BI0/01* Temporary Table
- o /BI0/02* External hierarchies
- o /BI0/03* Not used any longer.
- o /BI0/04* Only relevant for BW3x: 04 are names of stored procedures
- o /BI0/05* Names of triggers that are used while the system compresses requests
- o /BI0/06* Reuse temporary
- o /BI0/0D* Tables that are used by open hub functionality
- o /BI0/0P* Tables used during optimized preprocessing

How to

- 1 - Go transaction Se38
- 2 - Run program SAP_DROP_TMPTABLES

Main parameter	Value
Last Executed On	01.01.2000 to Current Date - 365

Main tables cleaned
/BI0/0*

References
SAP_DROP_TMPTABLES
BW temporary database objects
SAP Note 1106393

Removes temporary database objects

Caution
 This Report Deletes Temporary Objects
 If any objects are still in use, crucial processes may terminate
 See SAP Note 449891

The following objects need to be deleted:

- Temporary Tables (Type 01/0P)
- Temporary Views (Type 03/07)
- Temp. Hierarchy Table (02/08)
- Temporary SID Tables (06)
- Generated (Temporary) Reports
- CRMSEGM
- TMPIDX
- TMPCS
- TREXALL

Deleting DTP Error Log

How to

The DTP error log can be analysed via program RSB_ANALYZE_ERRORLOG.

To delete the DTP error log :

- 1 - Go to transaction SE38
- 2 - Run program RSBM_ERRORLOG_DELETE
- 3 - Input "30 days" in the "but always older than ... days" parameter
- 4 - Check "Delete log"
- 5 - Run - If large, run in Background

Report RSBM_ERRORLOG_DELETE

Start Date: [] to []

DTP: [] to []

but always older than ... days:

Delete Log

Main parameter	Value
but always older than ... days	30
delete log	Checked

Main tables cleaned
RSBERRORLOG (+ indexes)

References
SAP Note 1139396
SAP Note 1106393

Deletion of BW Statistics

Please don't implement the deletion of BW statistics for PQ2 till new communication from Techno BI team.

- 1 - Go to transaction SE38
- 2 - Run program RSDDSTAT_DATA_DELETE
- 3 - Select all checkboxes for data to be deleted
- 4 - Free Date selection : Current Date - 365

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5 - In the Date up until which data is to be deleted, select "Date Selection" and then enter Current date - 365 in the "Up to Day (Incl.)" field.

6 - Today, we applied the oss note 891740 - Query runtime statistics: Corrections for extractors / in the table RSADMIN : TCT_KEEP_OLAP_DM_DATA_N_DAYS = 730 (so 730 days to avoid the issue done in the past, deletion of infocube and not more possible to retrieve the data)

Main parameter	Value
Up to day (Incl)	Current Date - 365

Main tables cleaned
All RSDDSTAT* :
RSDDSTATLOGGING
RSDDSTATDTP
RSDDSTATAGGRDEF
RSDDSTATEVDATA
RSDDSTATHEADER
RSDDSTATAGGRDEF
(+Indexes)

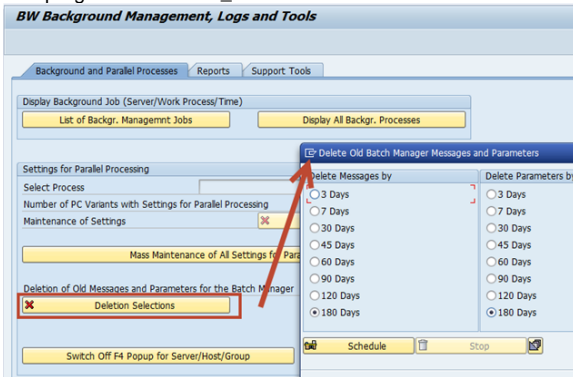
Corresponding tables cleaned by option :

891740 - Query runtime statistics: Corrections for extractors

Option	Tables
Query Statistics Tables	RSDDSTATHEADER, RSDDSTATDM, RSDDSTATEVDATA, RSDDSTATAGGRDEF, RSDDSTATINFO.
Statistic Loggin Tables	RSDDSTATLOGGING
Aggregates/BIA Index Process	RSDDSTATAGGR, RSDDSTATTREXSERV, RSDDSTATTREX,
InfoCube Statistics (Delete, Compress)	RSDDSTATDELE, RSDDSTATCOND

Delete RSBATCH

1. Go to transaction SE38 (tcode: RSBATCH)
2. Run program RSBATCH_DIALOG and select on 'Deletion Selections'

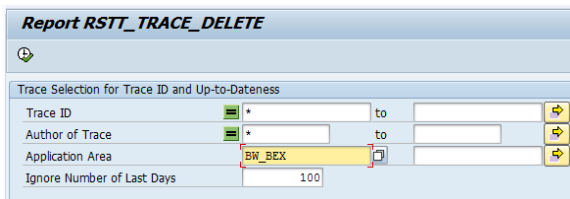


3. Select 60 Days and schedule as background mode.

Main tables cleaned
RSBATCADATA
RSBATCHEADER
RSBATCCTRL

Delete RSST logs

- 1 - Go to transaction SE38
- 2 - Run program RSTT_TRACE_DELETE



Main parameter	Value
Ignore Number of Last Days	100
Application Area	BW_BEX

Main tables cleaned
RSTT_CALLSTACK
RSTT_TRACE

Clean DYNPSOURCE table

WBP

- 1 - Go to transaction SE38
- 2 - Run program RSDQ_DYNP_GP_CLEANUP
- 3 - Check the PDOIT
- 4 - Execute the program

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Main tables cleaned
DYNPSOURCE
+ corresponding LOB segments

PQ1

1 - Go to transaction SE38

2 - Run program ZSAP_TEMPOREP_CLEANUP

3 - Check the PDOIT

4 - Execute the program



Delete Sent Documents - Hidden documents

1 - Go to transaction SE38

2 - Run program RSSODFRE

3 - Select Minimum Age (Days) = 60

4 - Check the 2 delete boxes

5 - Uncheck Test Mode

6 - Execute the program

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Main parameter	Value
Minimum Age (Days)	30
Test Mode	Unchecked
Delete documents linked	Checked
Delete unsent documents	Checked

Main tables cleaned
SOFFCONT1
BCST_CAM
BCST_RE
BCST_SR
SOC3
SOCS
SOES
SOFM
SOOD
SOOS
SOST

Delete Sent Documents - Private Documents

1 - Go to transaction Se38

2 - Run program : RSSO_DELETE_PRIVATE

3 - Select all types of messages (Inbox to Private Trash)

4 - For Inbox, check "All" instead of "Viewed"

5 - Uncheck Test Mode

6 - Run the program

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Main parameter	Value
Minimum Age (Days)	60
Inbox	All
Test Mode	Unchecked
Delete unsent documents	Checked

Reorg Documents & Sent requests

- 1 - Go to SE38
- 2 - Run program RBCS_REORG
- 3 - Select "Specify Age (in Days)" and select from 60 to 9999.
- 4 - Uncheck the "Test Mode"

BCS Reorganization of Documents and Send Requests

Reorganization Mode

Reorganize documents with send requests
 Reorganize documents that do not have send requests

Selection Period

Specify Creation Date
 Specify Age (in Days)

Age in Days: to
 Date created: to

Main parameter	Value
Age in days	60 to 9999
Test Mode	Unchecked

Deletion of Log Files - PC Instances

- 1 - Go to SE38
- 2 - Run program RSPC_INSTANCE_CLEANUP
- 3 - In Older than : current date - 365

Report RSPC_INSTANCE_CLEANUP

Older than:

Without Correspond. Chain Run
 Delete Logs

Main parameter	Value
Older Than	Current Date - 365
Delete Logs	Checked

Main tables cleaned
RSPCINSTANCE RSPCINSTANCET

Deletion of Log FILES - Process Chain Log

- 1 - Go to SE38
- 2 - Run program RSPC_LOG_DELETE
- 3 - In the "Up to and including date" enter current date - 365

Deletion of Process Chain Logs and Assigned Process Logs

Date Selection

Process Chain (ID):
 Delete from date:
 up to and including date:

Log-ID of a Process Chain Run:

Ignore Errors

Main parameter	Value
Up to and including date	Current Date - 365

Main tables cleaned
RSPCLOGCHAIN RSPCPROCESSLOG RSPCCHAINATTR

Deletion of Log Files - Job Status

Already scheduled
 This is already scheduled automatically (at least on WBP)

Main tables cleaned
TBTCO

- 1 - Go to SE38
- 2 - Run program RSBTCDEL2
- 3 - Run with default values and "Test Run" unchecked

Differentiation Specifications of Jobs

Job Name

User Name

Event

Event Parameter

Statuses, Classes, and Time Specifications

Job Class:

			A	B
Released	<input type="checkbox"/>	Older Than (Days)	14	14
Scheduled	<input type="checkbox"/>	Older Than (Days)	14	14
Finished	<input checked="" type="checkbox"/>	Older Than (Days)	14	14
Canceled	<input checked="" type="checkbox"/>	Older Than (Days)	14	14

Performance Optimization

Commit

Do Not Delete Temporary Variants

Deletion of Log Files - Application logs

- 1 - Go to transaction SE38
- 2 - Run program SBAL_DELETE
- 3 - Select Expiry Date "and logs which can be deleted before the expiry date"
- 4 - In from (date/time) to (date/time) select "01.01.1900" and current date - 730 days

Main parameter	Value
Expiry Date	and logs which can be deleted before the expiry date
from (date /time)	01.01.1900
to (date /time)	current date - 730 days

Application Log: Delete Expired Logs

Delete logs

All logs are deleted which satisfy the following selection conditions, and for which:

- the expiry date is reached or passed
- the expiry date is not defined

Expiry date

Only logs which have reached their expiry date

and logs which can be deleted before the expiry date

Selection conditions

Object	<input type="text"/>	to
Subobject	<input type="text"/>	to
External ID	<input type="text"/>	to
Transaction code	<input type="text"/>	to
User	<input type="text"/>	to
Log number	<input type="text"/>	to
Problem class	<input type="text"/>	to
from (date/time)	01.01.1900	00:00:00
to (date/time)	11.08.2014	00:00:00

Main tables cleaned
BALHDR
BALDAT

Delete Idocs

Main tables cleaned

1 - Go to SE38

2 - Run program RSETESTD

EDI40

EDIDC

EDIDS

Authorization

The BW team doesn't have the access to run this report - It is necessary to request it from the SAP Technical Team

Deletion of Change Log

How to check the biggest table of Change Log

1. Go to Tcode DB02

Select Space --> Additional Function --> BW Analysis. The overall size of change log will be display like picture below.

BW Area	BW Object Type	Details	# BW Objects	# Root Objects	# Partitions	Size[MB]	Entries	Blocks
ODS & Changelog	Changelog		1,793	1,607	2,646	3,085,237,361	471,618	392,358,972
ODS & Changelog	Changelog		590	1,180	2,646	723,474,498	256,915	52,604,712
ODS & Changelog	ODS	Active data	631	1,596	0	2,281,222,824	483,126	299,671,144
ODS & Changelog	ODS	New data	538	1,076	0	535,529	1,637	68,416
PSA	PSA		1,065	2,580	4,411	512,494,728	290,380	65,599,232
PSA	PSA		1,065	2,580	4,411	512,494,728	290,380	65,599,232
Temporary	Temporary	Ext. hierarchy	278	340	0	94,626	1,662	15,096
Temporary	Temporary		9	18	0	14,500	157	4,504

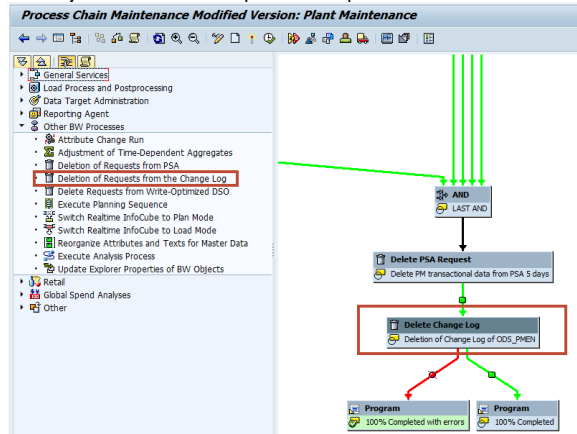
2. Double click on ODS & Changelog line to display detail of each DSO. Sort the size in order to see the biggest table.

Owner	BW Object	BW Area	BW Object Type	Details	Size[MB]
SAPSR3	/BIC/AODSFIGL100	ODS & Changelog	ODS	Active data	196,366.875
SAPSR3	/BIC/AODSFIGL300	ODS & Changelog	ODS	Active data	192,494.375
SAPSR3	/BIC/AODS_OPA600	ODS & Changelog	ODS	Active data	186,937.000
SAPSR3	/BIC/ADPFGL0200	ODS & Changelog	ODS	Active data	153,768.000
SAPSR3	/BIC/AODS_IC0100	ODS & Changelog	ODS	Active data	129,468.813
SAPSR3	/BIC/AARC_IC0100	ODS & Changelog	ODS	Active data	76,721.500

3. Then, go to check on the flow in process chain. In order to delete the changelog, it has to be deleted by process chain.

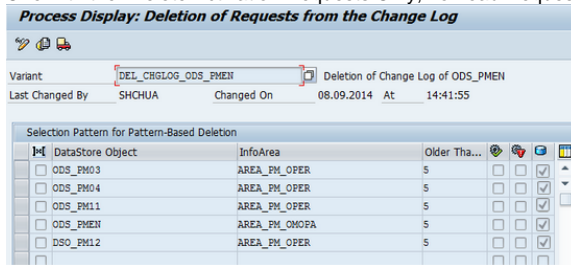
How to Delete Change Log

1. Add object 'Deletion of Requests from process chain

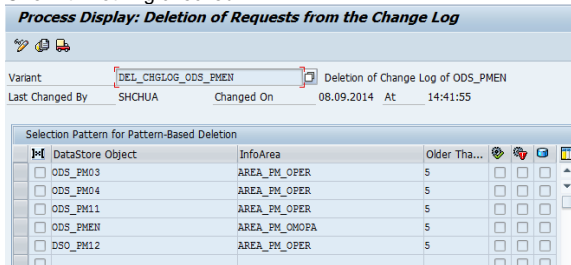


2. Enter parameter for each DSO including in the process chain. The time should be 14 days. It can be 0 if the DSO is loaded by full
3. Run the Changelog deletion task twice.

- One with the "Delete Activation Requests Only, no Load Requests"



- One with nothing checked.



Note:

- The best practice is modified process chain in development system
- Deletion of changelog should be at the end of process chain.
- Check the big table of changelog once a year and if missing process is found, modify the process chain by adding the deletion of PSA

Deletion of Incorrect PC Job

References: Note 1455417

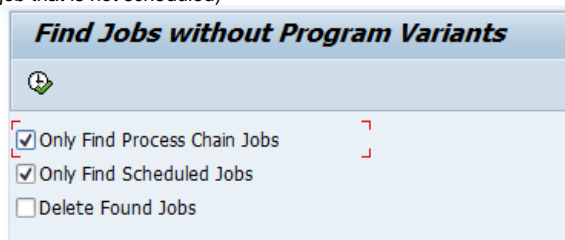
When we have to do:

There is an error popup when go to display process chain. The system will display error message "Variant * does not exist" occurs when you try to execute a process chain. This happens especially after a system copy or transport.

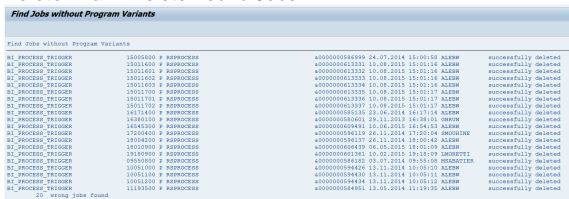


How to fix:

1. It needs to delete incorrect job of PC by using program RS_FIND_JOBS_WITHOUT_VARIANT
2. **Check:** Mark on find PC jobs and Scheduled jobs (remove mark, if we want to delete incorrect job that is not scheduled)



3. **Delete:** Mark 'Delete Found Jobs'





Business Data

Delete empty, un-used partitions for cubes

For each of the largest partitioned cubes, this can be run to delete useless partitions. This is particularly important after data was deleted from the cubes.

- 1 - Go to SE38 transaction
- 2 - Run program SAP_DROP_EMPTY_FPARTITIONS
- 3 - Input in CUBENAME the name of the cube you want to clean
- 4 - Execute once with the "Show Option"

Locate/remove unused or empty partitions of an F-fact table

Choose Infocube

CUBENAME



SHOW
 DEL_CNT
 DEL_DIM
 DO_DROP

- 5 - Check the result of the analysis

```
1.602 partitions may be dropped.  
1.602 partitions with DEL_CNT.  
0 partitions with DEL_DIM.  
  
Partitions with a requid of -1 may be dropped.  
They do not have an entry in the p-dimension  
and will thus not be used for reporting.  
  
Partitions with a count of 0 may be dropped.  
They contain no data and will not be reused.
```

- 6 - Depending on the result, re-execute the program with "DO_DROP" checked and either "DEL_CNT" or "DEL_DIM"

Locate/remove unused or empty partitions of an F-fact table

Choose Infocube

CUBENAME

SHOW
 DEL_CNT
 DEL_DIM
 DO_DROP

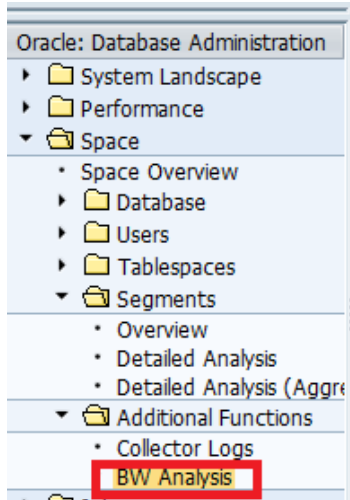
Deletion of unused dimension entries

How to

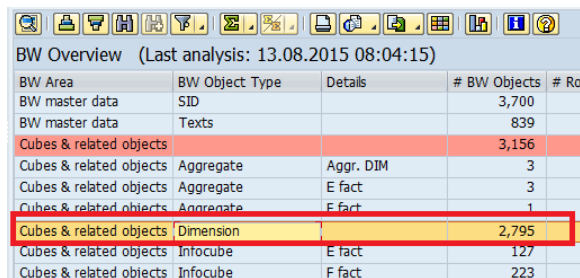
As this program runs individually for each infocube, it cannot be launched for all. You need to identify the info-providers with the largest table dimensions and then apply the program to those cubes.

1 - Go to DB02

2 - Double click on "BW Analysis" on the left menu :

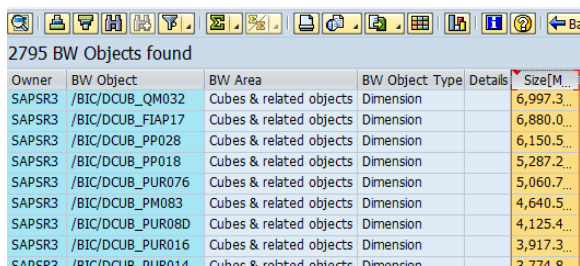


3 - Double click on the "Cubes & related objects - Dimension" line



BW Area	BW Object Type	Details	# BW Objects	# Ro
BW master data	SID		3,700	
BW master data	Texts		839	
Cubes & related objects			3,156	
Cubes & related objects	Aggregate	Aggr. DIM	3	
Cubes & related objects	Aggregate	E fact	3	
Cubes & related objects	Aggregate	F fact	1	
Cubes & related objects	Dimension		2,795	
Cubes & related objects	Infocube	E fact	127	
Cubes & related objects	Infocube	F fact	223	

4 - Sort the results by "Size". This provides the largest dimensions in BW. You can then run the program on those infocubes.



Owner	BW Object	BW Area	BW Object Type	Details	Size[M..
SAPSR3	/BIC/DCUB_QM032	Cubes & related objects	Dimension		6,997.3...
SAPSR3	/BIC/DCUB_FIAP17	Cubes & related objects	Dimension		6,880.0...
SAPSR3	/BIC/DCUB_PP028	Cubes & related objects	Dimension		6,150.5...
SAPSR3	/BIC/DCUB_PP018	Cubes & related objects	Dimension		5,287.2...
SAPSR3	/BIC/DCUB_PUR076	Cubes & related objects	Dimension		5,060.7...
SAPSR3	/BIC/DCUB_PM083	Cubes & related objects	Dimension		4,640.5...
SAPSR3	/BIC/DCUB_PUR08D	Cubes & related objects	Dimension		4,125.4...
SAPSR3	/BIC/DCUB_PUR016	Cubes & related objects	Dimension		3,917.3...
SAPSR3	/BIC/DCUB_PUR014	Cubes & related objects	Dimension		3,774.8...

5 - Go to transaction RSRV

6 - Select the test "Unused entries in InfoCube dimension" and double click to add it to the tests to run

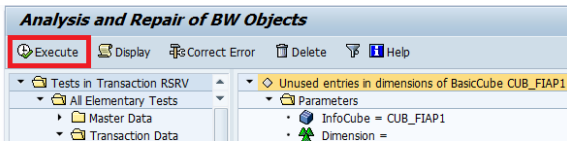
blocked URL

7 - Double click on the right side "Unused entries in InfoCube dimension" and enter the name of the infocube you want to clean

8 - Click on Execute

References

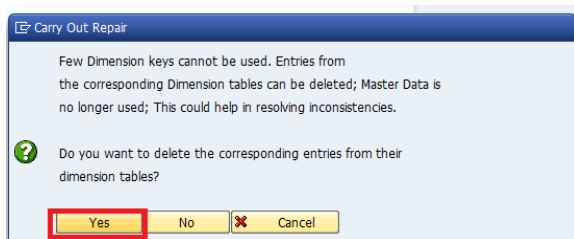
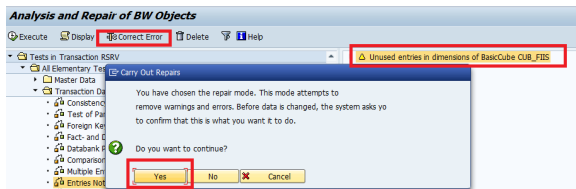
2197654 - BW Data Extraction - Important house keeping activity in BW system



Function Module

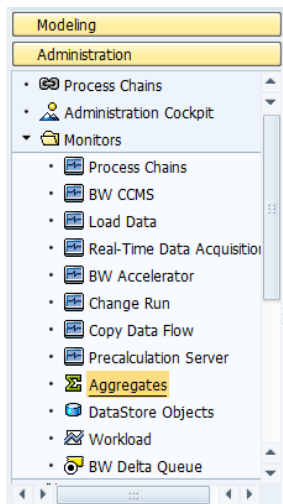
Note that function module RSDDCVER_DIM_UNUSED can also be used for this. But it will not provide any logs.

9 - Once the check is finished, go back, select the test line (on the right) and then "Correct Error" - Then select YES for Carry out Repairs.



Deletion of Aggregates

- 1 - Go to RSA1 transaction
- 2 - In the left menu, click on Administration --> Monitors --> Aggregates



3 - Analyse each aggregate to see if it is useful

Aggregate Status	Status	Filled / S...	Valuation	Records	Records Summmari...	Usage	Last Used
Controlling - Actual							
AGG_PS002_001	🟢	🟢	----	2086966	12	31	05.08.20...
STAT 18	🔴	🔴	----			0	

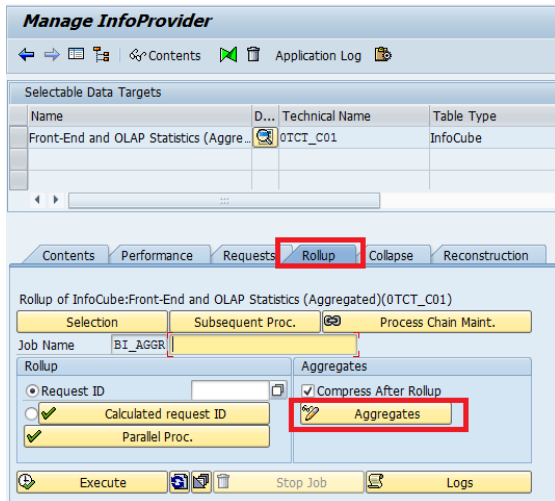
To know if the aggregate can be deleted :

1. If the cube is already in BI Accelerator --> Delete the aggregate as BI Accelerator is used first.
2. If the valuation of the aggregate is not positive (Ex : |+++) then it means it doesn't improve the execution time --> Delete the aggregate
3. If the number of "Usage" is very low considering the time since the aggregate creation --> Delete the aggregate since it's not used much

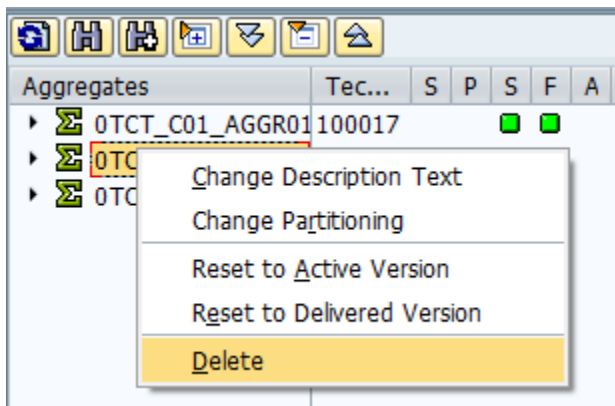
4 - To delete the aggregate, for each cube selected, go to RSA1

5 - Select the cube and right click --> Manage

6 - Go to the Rollup tab and click on "Aggregates"



7 - Select the aggregate, right click and delete



Deletion of PSA

How to check the biggest table of PSA

1. Go to Tcode DB02
2. Select Space --> Additional Function --> BW Analysis. The overall size of PSA will be display like picture below.

Obj	Area	Type	Details	# Rows	# Root Objects	# Partitions	Size(MB)	Extents	Blocks
OTCT_C01_AGGRO1100017	OTCT_C01	AGGR	Active data	631	1,599	0	2,341,227,814	153,156	209,677,444
OTCT_C01_AGGRO1100018	OTCT_C01	AGGR	Active data	538	1,076	0	535,629	1,637	68,416
OTCT_C01_AGGRO1100019	OTCT_C01	AGGR	New data	1,067	2,134	4,411	512,594,757	295,980	65,969,232
OTCT_C01_AGGRO1100020	OTCT_C01	AGGR	New data	1,067	2,134	4,411	512,594,757	295,980	65,969,232
OTCT_C01_AGGRO1100021	OTCT_C01	AGGR	Active data	276	540	0	64,636	1,962	12,096
OTCT_C01_AGGRO1100022	OTCT_C01	AGGR	Active data	5	10	0	14,209	137	1,856
OTCT_C01_AGGRO1100023	OTCT_C01	AGGR	Active data	162	324	0	31,872	351	3,968
OTCT_C01_AGGRO1100024	OTCT_C01	AGGR	Active data	111	222	0	49,867	604	6,232

References

[How to Delete Error PSA](#)

- Double click on PSA line to display detail of each datasource. Sort the size in order to see the biggest table.

Owner	BW Object	BW Area	BW Object Type	Details	Size(Mb)	Extents	Blocks
SAPSR3	/BIC/B0003001000	PSA	PSA		71,113.000	35,433	9,102,4...
SAPSR3	/BIC/B0005491000	PSA	PSA		49,468.000	17,845	6,331,9...
SAPSR3	/BIC/B0000498000	PSA	PSA		35,903.000	18,547	4,595,5...
SAPSR3	/BIC/B0006586000	PSA	PSA		30,070.000	17,509	3,848,9...
SAPSR3	/BIC/B0005918000	PSA	PSA		25,508.000	11,484	3,265,0...
SAPSR3	/BIC/B0000808000	PSA	PSA		24,135.252	14,667	3,089,3...

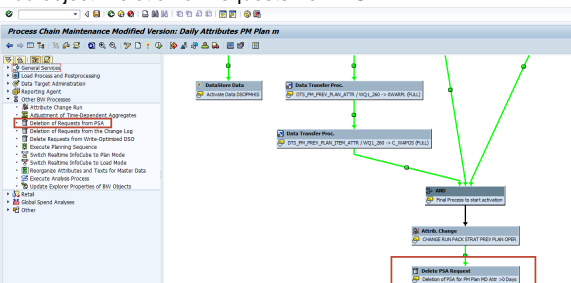
- To find the name of datasource. Go to SE16 - RSTSODS and enter BW Object from DB02 into Technical ODS Name. Execute it, the name of datasource will be display

Technical ODS Name	Object Name	VERSION
/BIC/B0003001000	DTS_CCRCT_EHS_COMP	WP1_400
/BIC/B0005491000	DTS_BW_COEPD	PF1_020
/BIC/B0005918000	DTS_BW_AGREEMENT	PF1_020
/BIC/B0006586000	0NOTIFICATN_TEXT	PF1_020
/BIC/B0000498000	0NOTIFICATN_TEXT	WP1_400

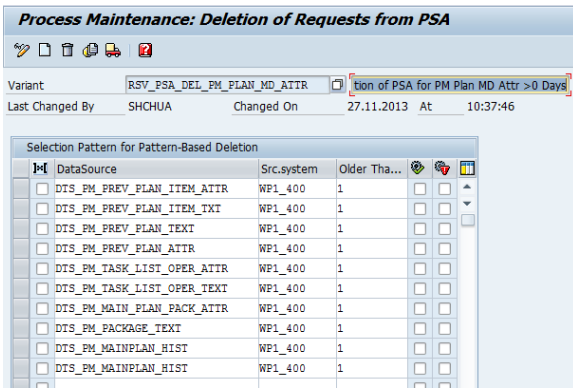
- Then, go to check on the flow in process chain. In order to delete the PSA, it has to be deleted by process chain.

How to Delete PSA

- Add object 'Deletion of Requests from PSA



- Enter parameter for each data source
The time should be:
 - Delta loading is 14 days
 - Full load is 14 days (normally 1 day is enough but to easier maintain to know each load is full or delta, we can delete after 14 day)



Note:

- The best practice is modified process chain in development system
- Deletion of PSA should be at the end of process chain.
- Check the big PSA once a year and if missing process is found, modify the process chain

Delete un-necessary ODS Secondary Indexes

Explanation

By default each ODS has a main index on it's key. Secondary index can be created (via RSA1 in the ODS) on top of the main index to boost performances in some cases.

It is necessary to check if the existing indexes are useful as those :

- Take a lot of storage space
- Slow down the data loadings (each time a row is inserted, index has to be modified)
- Can slow down the performances if too many indexes that are too similar are created

There are several reasons existing indexes can no longer be useful :

- Index was not created on the ODS intentionally : the ODS was created via copy of another ODS which had this index.
- The ABAP code that was using the index was changed (fields removed or added)
- The Queries that used this index no longer exist or have been changed.
- Another index was created that overlaps.



Copy of ODS

When you copy an ODS, the indexes are also copied ! Think about remove them if not needed in the new ODS.

It is most of the time useless to create indexes with fields that are already all in the ODS KEY

Secondary indexes improve performances in a few cases :

Secondary Indexes improve performances when :

- ABAP Lookup : If you have a SELECT statement in an abap code where the "WHERE" has filters on the exact fields in the index (or less)
- If there is a direct selection on the infopackage/dts on those fields exactly.
- If field is used as key for infoaset (Although infosets should be avoided)
- If used as a filter in a query that is either directly on the DSO, or a MPR/Infoaset using the DSO.
- On a single info-object if it's necessary for a variable to display the ODS values only.

How to

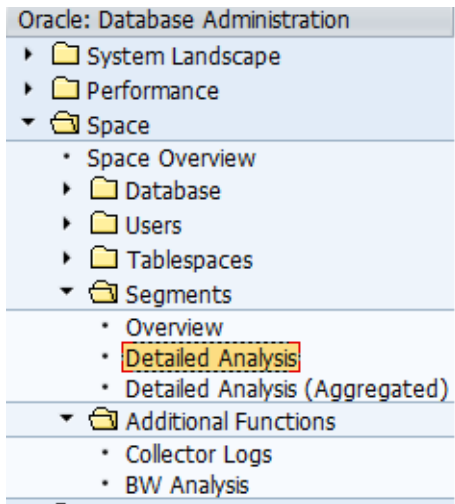
First step is to find the largest secondary indexes

1 - Go to transaction DB02

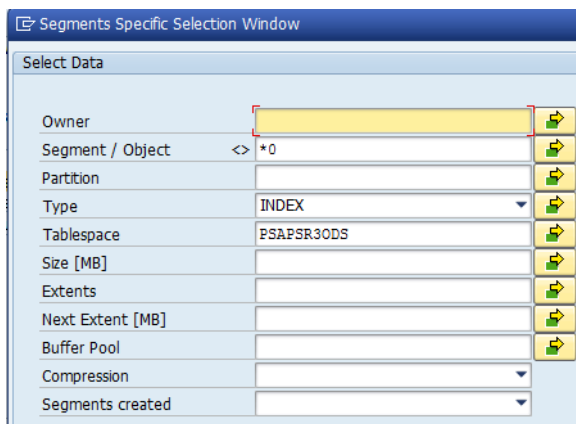
2 - Select Detailed Analysis

References

[How to Create Secondary Index on DSO's in SAP BW/BI 7.x](#)



3 - Input the following values (<> *0 will exclude the primary indexes).



4 - Sort by size(MB). You now have the list of the largest secondary indexes in the system

Owner	Segment	Partiti...	Type	Tablespace	Header File	Header Block	Size(MB)
SAPSR3	/BIC/AODSFJGL30001		INDEX	PSAPSR3ODS	102	1,944,609	29,514.000
SAPSR3	/BIC/AODSFJGL10002		INDEX	PSAPSR3ODS	86	1,152,033	22,019.000
SAPSR3	/BIC/AODSFJGL30003		INDEX	PSAPSR3ODS	72	2,211,489	16,001.000

Now for each of the large Secondary Indexes, you need to check if it is still useful.

Checking what is in the index

- 1 - Go to RSA1 transaction
- 2 - Select the DSO/ODS, right click and display
- 3 - You can see in the "Index" group the existing indexes and which characteristics are included

DataStore Object	Techn. name / val... F...
FIGL: Line Items by Profit Centre	ODSFIGL3
Object Information	
Version	In Process
Save	Saved
Revised Version	Active Version
Object Status	Active, executable
Settings	
Key fields	
Data Fields	
Navigation Attributes	
Indexes	
010 (non-unique)	
Company code	0COMP_CODE
Chart of accounts	0CHRT_ACCTS
G/L Account	0GL_ACCOUNT
Fiscal year / period	0FISCPER
Accounting document number	0AC_DOC_NO
Number of line item within acco	0ITEM_NUM
Fiscal year variant	0FISCVARNT
020 (non-unique)	
030 (non-unique)	

Checking if the index is still useful

Now that you know what is inside the index, you need to conduct several checks to see if it is useful.

If any of these conditions is fulfilled then do not delete the index :

1. Check that the index is not completely included in the ODS Key. The index is not useful if it's all included in the ODS key as there is already the primary index.
2. Check if the index is used in a query. The query must have a **FILTER** or **VARIABLE** on the index characteristics. The query could be :
 - a. Directly in the ODS --> Check using query designer.
 - b. In a multiprovider on top of the ODS --> Check using query designer.
3. Check if the index is used as the **join KEY for an infoset**
4. Check if there is an ABAP program that does a **select on the ODS table with "WHERE" conditions that all exist in the index.**
5. Check if there is an **infopackage/dts which selects on fields from the index** - In this case, if the ODS is very large, it could speed up the loading.

If none of these conditions are fulfilled, then the ODS Secondary Index can be deleted.

You can delete it from the RSA1 ODS modification view.

Note that a transport order is needed.

Delete un-used & obsolete infoproviders & info-objects

Info-providers and info-objects that are no longer useful should be deleted.

In this case, **it is necessary to request approval from the object owner :**

- Reporting CC Manager if technical object
- Reporting coordinator of the relevant process for other objects

One way of identifying the obsolete objects is to check the date of last loading.

Database re-organisations

In many cases, removing data from a table will not decrease the table size, nor the tablespace size, nor the total database size.

It's necessary to request a re-organisation from IBM in order to really reflect the size change.

Several types of re-organisations can be requested :

- Table re-org : The table will be re-organized to take less space. This won't affect the tablespace of database size. It will simply review the size taken by the table and its index to free some space.
 - Note that even if the table is empty, there is a minimum size defined for each table in the system. A table with 0 lines will therefore have the minimum size after re-org.
- Tablespace re-org : The full tablespace is re-organised. In this case it will move out and copy back all tables and reduce the size of the tablespace, It will effectively decrease the size of the database accordingly (reducing the "free" space).
- Full database re-org : This does a full re-org on all the tablespaces.

Symptom : Size of RSBKDATA or RSBKDATAINFO is huge.

Oss note : 2407784 - How to clean up RSBKDATA and related tables

Resolution

1. NEVER delete data from RSBKDATA/RSBKDATAINFO directly
 2. Make sure all corrections for reports RSBKCHECKBUFFER and RSBKCLEANUPBUFFER are implemented
 3. Apply the note: 2692909 P21; DTP; RSBKDATA: Deletion of temporary data also for TSN requests
 4. To clean up RSBKDATA and RSBKDATAINFO as much as possible, you can use the program RSBKCLEANUPBUFFER 1759601 - P30:DTP:Request temporary storage is deleted too soon
 - 1911677 - P32:DTP:Error handler no longer deleted
 - RSBKCHECKBUFFER - Cleaning Up the Temporary Storage of the Data Transfer Process
 - RSBKCLEANUPBUFFER - Deletion of orphaned Entries in Errorstack/Log
 5. SAP Recommends to run RSBKCHECKBUFFER DAILY in background: Cleaning Up the Temporary Storage of the Data Transfer Process
 6. For ADSOs, please refer to SAP Note 2228793 - ADSO DTP Request and Temporary Storage
- Currently, it is not to reduce the size of the table RSBKDATAPAKID.

RSBM_ERRORLOG_DELETE JOB Only on WBD

max 60 days.

DTP error logs to avoid to have big table

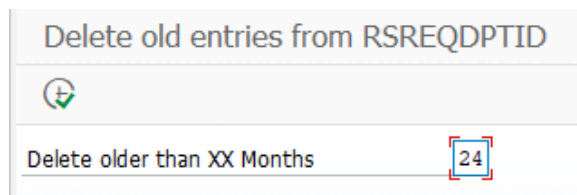
- RSBERRORLOG and RSBERRORCHANGED

General topics on the recurrent tasks done or could be done on BW environments :

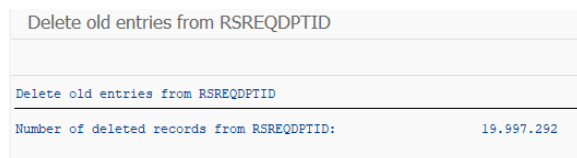
Delete log on table RSREQDPTID

This table contain the DPTID logs

1. Run program RSSM_DEL_OLD_RSREQDPTID
2. Enter number of month that we need to keep



After execute



Delete old entries from RSREQDPTID	
Delete old entries from RSREQDPTID	
Number of deleted records from RSREQDPTID:	19.997.292

Main parameter	Value
Delete older than	24 months

Main tables cleaned
RSREQDPTID

Reference: Note 2436631 - P37:
Deletion report for old entries in table RSREQDPTID