



# SERVICE REPORT

## SAP® Data Volume Management Best Practice Session

Confidential

**SAP System ID**

**Product version**          SAP NETWEAVER

**DB system**

**Customer**

Processed on  
Release  
Service Tool

Date of Service  
Date of Report

Session No.  
Installation No.  
Customer No.

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## 2 Service Summary



**Within the scope of the SAP Data Volume Management Strategy service, we detected issues that may affect your business operation and determined that improvements can be made in your system.**

**Note:**

The recommendations provided in this report are based on general experience only. You should test these recommendations before implementing them in your production system.

### Summary

**Service Information:**

The data used for the analysis was collected in system xx on xx.xx.2015. This data is stored in the SAP Solution Manager with GUID xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.

The tables analyzed within this report were selected based on the scope you defined within the related GSS Data Volume Management Questionnaire session by choosing one of the available "input options", for example, "SAP proposed Objects" or "Manually specify Objects".

The "Expected Sizes of Objects and Tables" section includes an overview containing an estimation of the expected sizes once all recommendations in this report have been implemented. It summarizes the effects of the recommendations for each object and table analyzed.

## 3 General Information About SAP Data Volume Management (DVM)

### 3.1 Data Volume Management Service Portfolio

The Data Volume Management (DVM) portfolio helps you to set up a data volume management strategy that defines how to manage and reduce future data growth and the existing database size by following a holistic approach that considers and integrates the following options: data avoidance, data summarization, data deletion, and data archiving.

While implementing data avoidance and summarization is a one-off activity affecting future data growth, data deletion and data archiving are recurring operations aimed at reducing the existing data volume.

SAP's service and support portfolio for Data Volume Management (DVM) consists of:

- DVM Guided Self-Service
- DVM Continuous Quality Check (CQC)
- DVM Enterprise Support Value Map
- DVM Workcenter in SAP Solution Manager
- DVM Engineering Service (ESRV)

Here are some details for each of these building blocks:

#### **DVM Guided Self-Service:**

SAP supports your implementation of a data management and data archiving strategy with a Self-Service for Data Volume Management (DVM), which is an SAP tool-based approach powered by SAP Solution Manager.

The self-service generates a best practice document that describes how to handle your largest data objects using the methodologies of data avoidance, summarization, archiving, and deletion.

The best practice document shows the type and amount of data that can be archived or deleted as well as the corresponding archiving objects or deletion reports. SAP's recommended residence times are used to calculate possible savings.

To assist you in using the self-service and to reduce the learning curve, SAP offers an 'Expert Guided Session' in the form of remote training.

For a detailed schedule and registration, see the 'Expert Guided Implementation Calendar'.

<https://service.sap.com/Expert-Guided-Implementation>

#### **DVM Continuous Quality Check (CQC):**

This service uses a similar technical infrastructure as the Guided Self-Service (see above) to generate a service report but offers more flexibility as it is performed by an SAP service consultant together with you.

For more information, see:

<https://support.sap.com/content/dam/library/SAP%20Support%20Portal/support-programs-services/support-programs/enterprise-support/academy/delivery-format/cqcis/CQCDVM.pdf>

#### **DVM Enterprise Support Value Map:**

The SAP Enterprise Support Value Map for Data Volume Management is a social collaboration platform offered by SAP Enterprise Support. The value map provides information on each step involved in SAP Data Volume Management from initial assessment, through implementation, to improvement. It provides details of the Enterprise Support services that can assist you and also a forum where you can ask questions and create discussions. SAP Focus Advisors who have experience with DVM are available to assist you with your queries.

Other customers also participate in the value map, so they may be in a position to share their experiences and areas of shared interest with you.

If you are interested in joining the SAP Enterprise Support value map, either register at

<https://support.sap.com/valuemaps> or contact your local SAP Enterprise Support Advisory Center.

#### **DVM Work Center:**

The Data Volume Management Work Center in SAP Solution Manager 7.1 offers capabilities to gain insights into the source of data volume movements in single and especially in multisystem landscape environments. The solution is based on SAP NetWeaver BW and provides a holistic landscape overview of your data. This analytical

and reporting infrastructure from SAP provides you with a rich array of functions and features that allow you to:

- Get transparency of system landscape data consumption at different levels
- Reveal potential for creating/optimizing a data volume management strategy
- Leverage SAP Best Practices to drive your data volume management strategy
- Simulate different data volume scenarios (for example, moderate versus aggressive archiving)
- Provide monitoring and reporting capabilities for technical KPIs across a system landscape
- Provide a compliance check of a corporate data volume management strategy

SAP offers an 'Expert Guided Session' for setting up the Data Volume Management Work Center.

For a detailed schedule and registration, see the 'Expert Guided Implementation Calendar'.

<https://service.sap.com/Expert-Guided-Implementation>

DVM Engineering Service (ESRV):

This engineering service is intended to help you through the whole process of the project to implement data volume management. The idea is that all phases of the DVM lifecycle, from planning to implementation to review, can be supported by a service consultant working together with you. A DVM Engineering Service can include any of the following activities:

**- Scoping:**

This is usually the starting point of data volume management. A detailed look at the system identifies the major pain points and provides an overview of the most beneficial measures (for example, deletion or data archiving) when implementing a data volume management strategy.

**- Planning:**

During this workshop, the results of data volume scoping are presented as a basis for defining a roadmap for implementing data volume management. The questions of infrastructure and continued operation are also discussed.

**- Implementation (Data Archiving, Deletion):**

This service provides all the information required to implement data avoidance and summarization, including detailed information for scheduling deletion and archiving activities. For example, it reveals connections between tables and archiving objects and provides information on which archiving objects should be used and in which order. It gives recommendations on residence times for archiving objects based on SAP best practices.

Workshops are conducted between the SAP service team and the customer to discuss the findings and define subsequent steps.

**- Setup of the DVM Workcenter:**

This step includes guiding you through the setup, troubleshooting issues that occur, and discussing how the use of this tool can best support your requirements. A setup of detailed analysis jobs is included.

**- Improvement:**

Supports the implementation of a DVM strategy by reviews, empowering and providing expertise on demand.

The central location for information about SAP Data Volume Management is

<http://wiki.scn.sap.com/wiki/display/TechOps/Data+Volume+Management> .

Valuable information about archiving projects can be found in the "Archiving Your SAP Data" book.

[https://www.sap-press.com/archiving-your-sap-data\\_1375/](https://www.sap-press.com/archiving-your-sap-data_1375/)

## 3.2 Additional Information

### Examination of tables

During this data volume strategy session, all the tables are examined for:

- Data avoidance
- Data summarization
- Data deletion
- Data archiving

Only those sections for which action is necessary or possible are listed in the report.

Data Volume Management prevents your database from growing unnecessarily. If archiving or deletion is seldom scheduled, or not at all, this will increase the data volume and result in a performance loss and longer database maintenance times (backup, restore/recovery).

If you do not have a data volume management strategy, set up a project to develop one. Since this takes some

time, you should start as soon as possible.

All table entries that have exceeded the residence time should be archived or deleted during the cleanup phase. During the operational phase, the archiving runs should be executed on a regular basis. Make a backup copy of all tax-relevant data before any data is archived. Select a storage format that the tax authorities can access. Take into account the country-specific legal requirements of your tax authority.

The SAP Data Retention Tool (DART) is available in the USA and Germany. In Brazil, transaction IN68 provides comparable functionality. DART gives access to tax-relevant data, which meets the requirements of these tax authorities. For more information, see the alias "DART" on SAP Service Marketplace.

For analyzing tables prior to archiving, see SAP Note 317219 (transaction TAANA). See transaction 'ARCHGUIDE'.

#### **Saving potential calculation:**

The subsequent sections indicate a savings potential (calculated in GB) for each document type under the heading 'Evaluation'. Bear the following in mind in relation to the individual calculations:

- a) The number of records that could be removed in the analyzed client (according to SAP's best practices) is compared against the **total** number of records per table. The term '**total**' means that records from **all clients** are considered. This total figure is determined based on the database statistics. For the results to be correct, it is essential that the database statistics are updated regularly so that they represent the real database situation.  
**Note:** If the total number of records of a table determined from the database statistics is less than the total number of records based on the TAANA analysis result, the database statistics are considered to be obsolete. In this case, the saving potential is calculated on the basis of the TAANA result.
- b) The calculations are performed based on the annual distribution of records and an equal distribution of records throughout the year is assumed.

#### **Reorganization of tables and indexes:**

Reorganize all tables with a relevant reduction of data, at database level, after reducing the amount of data. Reorganize the table indexes to free up additional disk space (reorganizing indexes is usually not time intensive). This will improve system performance.

#### **Interfaces to other systems:**

Running your system in a solution landscape with systems such as ERP, CRM, BW, or other systems requires you to check the possible impact on these systems when following the recommendations in the DVM report. Since the applicability of DVM recommendations depends on the customer scenario, this DVM report cannot consider potential interface problems.

#### **SAP Notes:**

Before starting any data volume management activities (data avoidance, summarization, deletion, and archiving), ensure that you have applied the **latest relevant SAP Notes for your current release, or have applied the latest Support Package**.

If possible, use the name of the archiving object to search for SAP Notes related to archiving (the name is included in the SAP Note index). Use the table name and the appropriate term, such as 'Avoidance', to search for SAP Notes relating to avoidance, summarization, and deletion.

## 4 Database Resources

The graph below shows the database size history for recent months. This provides a predictive indication of how existing growth patterns will develop in future. For very large databases, this can also lead to an increase in the runtime of core transactions and processes, backup and recovery operations, and conversion processes. Based on these predictions, you can take countermeasures to maintain a more robust solution to meet your business requirements.

The table below shows the current size and growth rate of your DB. These figures are also used to produce the previous graphic.

Date	Total Database Size [GB]	Used Database Size [GB]
	2.083	2.082
	2.005	2.005
	2.006	2.005
	2.006	2.005
	2.009	2.009
	2.012	2.012
	2.016	2.016
	2.017	2.017
	2.018	2.018
	2.019	2.018
	2.019	2.019
	2.021	2.020
	2.023	2.022
	2.024	2.024
	2.025	2.024
	2.026	2.026
	2.026	2.026
	<b>2.027</b>	<b>2.026</b>



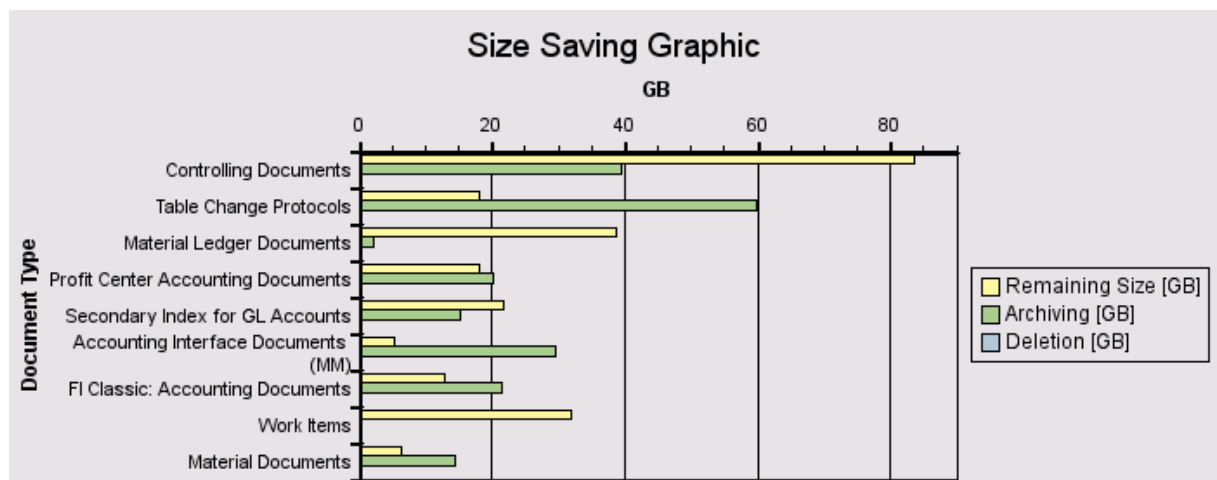
## 5 Expected Sizes of Objects and Tables

The following tables contain an estimation of the sizes anticipated once all recommendations in this report have been implemented. It summarizes the effects of the recommendations for each object and table analyzed. Since these objects and tables contain estimations based on current table sizes and information provided to SAP on the date of the service delivery, they should be used as guidelines only.

The following table shows the estimated saving potential of **data archiving and deletion**.

### ARCHIVING / DELETION

Document Type	Current Size [GB]	Reduction Potential [%]	Reduction Potential [GB]	Remaining Size [GB]
Controlling Documents	123,29	32	39,64	83,65
Table Change Protocols	77,98	77	59,75	18,23
Material Ledger Documents	41,11	6	2,31	38,80
Profit Center Accounting Documents	38,37	53	20,24	18,13
Secondary Index for GL Accounts	37,00	41	15,16	21,84
Accounting Interface Documents (MM)	34,99	85	29,63	5,36
FI Classic: Accounting Documents	34,33	63	21,51	12,82
Work Items	31,97	0	0,00	31,97
Material Documents	20,89	69	14,45	6,44
<b>Total Analyzed</b>	<b>439,93</b>	<b>46</b>	<b>202,69</b>	
<b>Total DB-Size</b>	<b>2.026,56</b>	<b>10</b>	<b>202,69</b>	<b>1.823,87</b>



#### Note:

The saving potential is estimated from a technical perspective only, it does not consider business-related aspects.

The savings calculation is based on conservative assumptions (moderate residence time).

You can reduce the existing database size by archiving and deleting data.

Reorganize table and index at database level to physically reduce the size of the tables after the first clean-up.

You can reduce the current monthly growth rate and future database size by avoiding and summarizing data or redesigning business processes.

The database growth will also be reduced by regular data archiving and deletion.

## 6 Tables in Scope

The following table can list the top sized tables in your system identified by our analysis tools or, if you decided to start the analysis for specific tables, the tables you selected to analyze are listed here.

**Tables marked in the "Analyzed" column are addressed in detail in subsequent sections.**

The "Document Type" of a table determines whether these detailed sections are generated in the session. This means that you may see more than one table marked as analyzed but only one "Document Type" related section appears if those tables belong to the same "Document Type".

In the detailed analysis sections of a "Document Type", you may find additional smaller tables in addition to the aforementioned top tables. This allows a better calculation of the saving potential and provides a comprehensive overview of the set of tables influenced by the different methods discussed in the specific section.

The "Size" column indicates the table total and its associated indexes.

The corresponding application area is also shown. You can use this information to determine the application areas responsible for the space consumption in your system.

### Note:

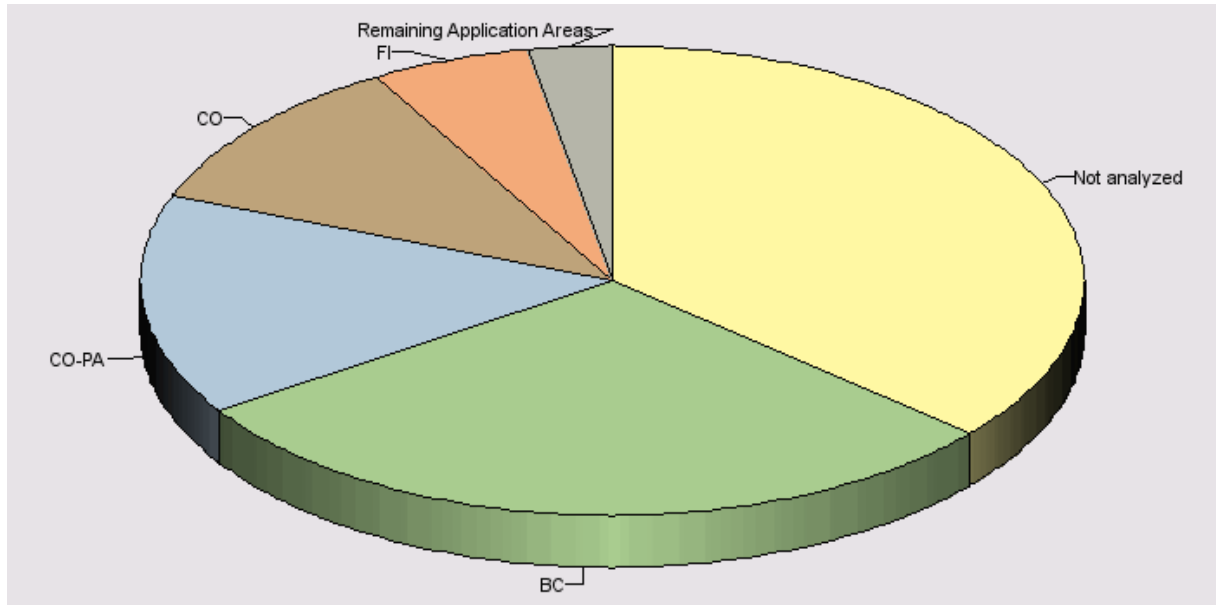
The table description is also collected by our tools (that is, transaction ST14) depending on the logon language (default is English). 'N/A' could indicate that the description is not available in the relevant language.

Analyzed	Table Name	Size [GB]	Description	Application Area	Document Type
<input checked="" type="checkbox"/>	SOFFCONT1	274,26	SOFF: Table for Document Contents (import/export)	BC	Business Workplace / SAPOffice Data
<input checked="" type="checkbox"/>	COEP	106,38	CO Object: Line Items (by Period)	CO	Controlling Documents
<input checked="" type="checkbox"/>	DBTABLOG	77,98	Log Records of Table Changes	BC	Table Change Protocols
<input checked="" type="checkbox"/>	CE1OC12	42,31	N/A	CO-PA	Profitability Analysis Documents
<input checked="" type="checkbox"/>	CDCLS	39,87	Cluster structure for change documents	BC	Change Documents
<input checked="" type="checkbox"/>	TST03	38,49	TemSe data	BC	TemSe Data
<input checked="" type="checkbox"/>	GLPCA	37,02	EC-PCA: Actual Line Items	EC-PCA	Profit Center Accounting Documents
<input type="checkbox"/>	K810026	33,37	N/A	CO-PA	Summarization Levels
<input checked="" type="checkbox"/>	CE2OC12	33,03	N/A	CO-PA	Profitability Analysis Documents
<input checked="" type="checkbox"/>	BSIS	29,02	Accounting: Secondary Index for G/L Accounts	FI	Secondary Index for GL Accounts
<input type="checkbox"/>	K810020	27,02	N/A	CO-PA	Summarization Levels
<input checked="" type="checkbox"/>	SWW_CONT	26,20	Workflow Runtime: Work Item Data Container	BC	Work Items
<input checked="" type="checkbox"/>	RFBLG	25,62	Cluster for accounting document	FI	FI Classic: Accounting Documents
<input type="checkbox"/>	DYNPSOURCE	24,33	Contains Screen Source Information (Compressed)	BC	Screen Data
<input type="checkbox"/>	K810012	23,48	N/A	CO-PA	Summarization Levels
<input type="checkbox"/>	COSP	22,37	CO Object: Cost Totals for External Postings	CO	Controlling Document: Totals
<input checked="" type="checkbox"/>	REPOLOAD	20,81	Report Loads (Loads and Line References)	BC	Report Objects
<input checked="" type="checkbox"/>	STXL	20,66	STXD SAPscript text file lines	BC	SAP Script Document
<input type="checkbox"/>	CE4OC12_ACCT	20,61	N/A	CO-PA	Profitability Segment
<input checked="" type="checkbox"/>	ACCTIT	19,74	Compressed Data from FI/CO Document	FI	Accounting Interface Documents (MM)
<input type="checkbox"/>	K810014	19,59	N/A	CO-PA	Summarization Levels
<input type="checkbox"/>	K810036	19,44	N/A	CO-PA	Summarization Levels
<input checked="" type="checkbox"/>	APQD	19,38	DATA DEFINITION Queue	BC	Batch Input Queue

Analyzed	Table Name	Size [GB]	Description	Application Area	Document Type
<input type="checkbox"/>	COSS	19,21	CO Object: Cost Totals for Internal Postings	CO	Controlling Document: Totals
<input checked="" type="checkbox"/>	MLKEPH	18,93	ML Document: Cost Component Split (Elements) for Values	CO	Material Ledger Documents
<input type="checkbox"/>	K810024	17,79	N/A	CO-PA	Summarization Levels
<input type="checkbox"/>	K810006	17,79	N/A	CO-PA	Summarization Levels
<input checked="" type="checkbox"/>	MSEG	17,67	Document Segment: Material	MM	Material Documents
<input type="checkbox"/>	K810030	17,39	N/A	CO-PA	Summarization Levels
<input type="checkbox"/>	K810032	17,28	N/A	CO-PA	Summarization Levels
<input type="checkbox"/>	<b>Total of listed Tables [GB]:</b>	<b>1.127,04</b>			
<input type="checkbox"/>	<b>Portion of total used DB Size[%]:</b>	<b>56,00</b>			
<input type="checkbox"/>	<b>Total used DB Size [GB]:</b>	<b>2.026,56</b>			

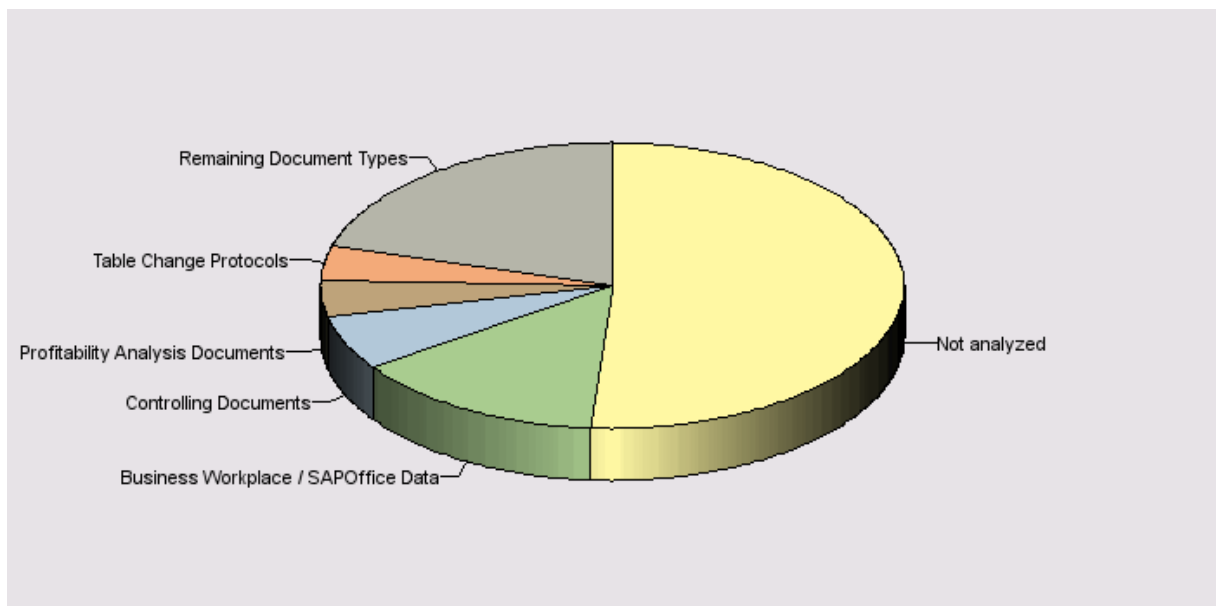
## 7 Analyzed Objects

The diagram below represents the total DB size. It shows you the **application areas** that were analyzed by our analysis tools and the portion of the database that they occupy. At a glance, you can see the portion of the database that was "Not Analyzed".



Application Area	Size [GB]	Portion[%]
Not analyzed	736,23	36
BC	594,82	29
CO-PA	308,69	15
CO	217,81	11
FI	110,19	5
EC-PCA	38,37	2
MM	20,89	1

The diagram below represents the total DB size. It shows you the **document types** that were analyzed by our analysis tools and the portion of the database that they occupy. At a glance, you can see the portion of the database that was "Not Analyzed".



Document Type	Size [GB]	Portion[%]
Not analyzed	1.039,25	51
Business Workplace / SAPOffice Data	285,73	14
Controlling Documents	123,28	6
Profitability Analysis Documents	85,40	4
Table Change Protocols	77,98	4
Change Documents	49,72	2
Material Ledger Documents	40,86	2
TemSe Data	38,62	2
Profit Center Accounting Documents	38,37	2
FI Classic: Accounting Documents	38,20	2
Secondary Index for GL Accounts	37,00	2
Report Objects	36,35	2
Accounting Interface Documents (MM)	34,99	2
Work Items	31,97	2
SAP Script Document	28,83	1
Material Documents	20,89	1
Batch Input Queue	19,56	1

## 7.1 Batch Input Queue

### SAP Application: BC-ABA (ABAP Runtime Environment)

#### Business Content

Batch input sessions and logs are created in the background when data is transferred to an SAP System (for example, during a legacy data transfer). Data for the batch input sessions is stored in the tables APQD (data pool for the actual batch input data objects), APQI (table of contents for the queues: One entry with characteristics and administrative information for each queue) and APQL (links between the sessions and the logs; the logs themselves are stored in the TemSe files; see also SAP Note 175596). The logs are stored in TemSe files (SAP Note 175596) and in table APQL, which contains the information for linking sessions and logs.

In the following cases, the sessions have to be kept and cannot be deleted:

- If they were not processed
- If they are corrupt
- If they were created with the KEEP indicator activated.

Table	Size (GB)	Description
APQD	19,38	DATA DEFINITION Queue
APQI	0,09	Queue info definition
APQL	0,09	Batch Input Log Directory
Total Size	19,56	
% of DB Size	0,97	

### 7.1.1 Batch Input Queue: Avoidance

#### General Information

You can prevent these tables from growing unnecessarily large by not activating the KEEP indicator when configuring the settings for the batch input session. In this case, the session will be deleted automatically directly after it has been processed successfully.

However, you will not be able to display this session later or trace any activities that were executed. Nevertheless, this is rarely necessary; instead, you can view the batch input logs, which are not deleted automatically (for more information, see SAP Note 24438).

#### Technical Background

If the KEEP indicator is set, the QERASE field in table APQI (header record of the batch input session) is set to blank.

If the KEEP indicator is not activated, APQI-QERASE = 'X'

#### Data Content Analysis

See the table in the 'Archiving' section.

### 7.1.2 Batch Input Queue: Deletion

#### General Information

You can delete successfully processed sessions (APQI-QSTATE = 'F') and their logs by using program RSBDCREO (see SAP Notes 18307 and 25219). As of SAP Basis Release 4.6D, you can also use the newer deletion report RSBDC\_REORG, which offers a more convenient selection screen (see SAP Note 147354). When executing these reports, ensure that no batch input sessions are being processed in parallel.

You can choose whether only the sessions, logs, or both should be deleted.

- Deleting **sessions** deletes records from tables APQI (session header record) and APQD (session content).
- Deleting **logs** also deletes records from tables APQL (log header record) and TemSe (log content). Logs can only be deleted if the related session has already been deleted.
- If **both** are to be deleted, the deletion reports first delete the sessions and then the logs. The reason is that you can only delete 'orphaned' logs, that is, those for which the corresponding session has already been deleted.

#### Exceptions

Incorrect batch input sessions should be deleted individually and manually with transaction SM35. Furthermore, entries with queue data type '%BDC' (APQI-DATATYP) that were created by the Batch Input Recorder (transaction SHDB) should be deleted manually with transaction SHDB.

Report RSBDCCTL6 enables mass deletion of batch input sessions independent of their processing status. In addition, it provides the option for mass deletion of batch input recorder data.

This program should only be used by batch input administrators in exceptional cases. It should be handled very

carefully as it can delete all batch input sessions and recordings.

### Maintaining the Variant

Selection fields for deletion report RSBDCREO:

- Session name
- Period from (date/time) up to (date/time)
- Older than (days)

Options

- Processed sessions (deletion of successfully processed sessions and corresponding logs)
- Logs (deletion of logs without sessions)

Selection fields for deletion report RSBDC\_REORG:

- Session name
- Older than (days, one week, one month, unlimited)
- Interval (date/time from – to)

Options

- Processed sessions and logs
- Processed sessions
- Logs (deletion of logs without sessions)
- Commit work after x transactions

### Data Content Analysis

Use the analysis result from the "Archiving" section.

### Deletion Objects

The following table shows the deletion objects relevant for the document type.

Deletion Object	Object Description
RSBDCREO	Batch Input: Reorganize Sessions and Logs
RSBDC_REORG	Batch Input: Reorganize Sessions and Logs

### Deletion Runs

If deletion jobs were scheduled recently for this document type, the following table shows some details. If no deletion jobs were detected, nothing is displayed.

Since the history of scheduled jobs is deleted regularly (for example, after 2 weeks), this analysis cannot include details of past periods.

Deletion Object	Job Name (SM37)	Deletion Runs	First Run	Last Run	Periodic
RSBDCREO	SAP_REORG_BATCHINPUT	10	09.05.2015	18.05.2015	<input checked="" type="checkbox"/>
RSBDC_REORG	N/A	0			<input type="checkbox"/>

## 7.1.3 Batch Input Queue: Archiving

### General Information

Batch input sessions cannot be archived. However, you can archive the logs of processed sessions (status "processed" = 'F') with archiving object BDCLOGPROD, even if the sessions have already been deleted. This means that tables APQL and TST01 are archived.

You can use transaction SARA to access the log archiving functions, or transaction SM35P using Goto -> Archive.

Legend for status:

- (blank): new
- C: being created
- E: error
- F: processed
- R: in processing
- S: in background

### Overview of scenarios

The following scenarios exist for deleting and archiving sessions and their logs:

- A session can be deleted regardless of whether the log has been archived or not.
- A log can be deleted when its session has already been deleted.
- A log can be archived regardless of whether the session has been deleted or not.

### Customizing Settings

Application-specific Customizing:

There are no specific Customizing settings for the archiving object BDCLOGPROD.

### Prerequisites for Archiving

There are no application-specific prerequisites.

### Maintaining the Variant

Selection fields of the write program for the archiving object BDCLOGPROD:

The following selection criteria are possible:

- Archive logs with session name
- Time limit
  - Older than x days
  - Interval date/time from
  - Interval date/time to
  - Older than one week
  - Older than one month
  - Unlimited
- Generate archive file
- Deletion program as test run

### Display Functionalities

You can use the following functions to access archived data:

- Read program: RSBDC\_ARCHREAD

### Dependencies

There are no dependencies to other archiving objects.

### Data Content Analysis

The table below shows the records in table APQI. It shows the distribution of the data types. Data type 'BDC' is related to the batch input session and entries with data type '%BDC' are related to the batch input recorder.

The 'Automatic Deletion After Successful Processing' column refers to the KEEP indicator, which can be set when a session is created. If the KEEP indicator is set, automatic deletion after successful processing becomes inactive and is listed as blank in the following table.

The analysis was done with SAP transaction code TAANA, variant AD-HOC:

Data type(APQI-DATATYP)	Year	Automatic deletion after successful processing	Status (APQI-QSTATE)	Description	No. of Entries	In % of Total
	2001			New	6	0,1
%BDC	1999	X		New	10	0,2
%BDC	2000	X		New	2	0,0
%BDC	2001	X		New	1	0,0
%BDC	2002	X		New	3	0,1
%BDC	2003	X		New	17	0,3
%BDC	2004	X		New	30	0,5
%BDC	2005	X		New	5	0,1
%BDC	2006	X		New	15	0,3
%BDC	2007	X		New	11	0,2
%BDC	2008	X		New	15	0,3
%BDC	2009	X		New	11	0,2
%BDC	2010	X		New	155	2,6
%BDC	2011	X		New	220	3,7
%BDC	2012	X		New	616	10,5
%BDC	2013	X		New	195	3,3
%BDC	2014	X		New	272	4,6
%BDC	2015	X		New	74	1,3



Data type(APQI-DATATYP)	Year	Automatic deletion after successful processing	Status (APQI-QSTATE)	Description	No. of Entries	In % of Total
%BDC (Total)				New	1.652	28,1
BDC	1999	X		New	1	0,0
BDC	2007			New	1	0,0
BDC	2015			New	1.049	17,9
BDC	2015		C	Being created	4	0,1
BDC	2015		E	Error	815	13,9
BDC	2015		F	Processed	1.504	25,6
BDC	2015		R	In processing	14	0,2
BDC	2015	X		New	180	3,1
BDC	2015	X	C	Being created	1	0,0
BDC	2015	X	E	Error	609	10,4
BDC	2015	X	R	In processing	21	0,4
BDC	2015	X	S	In background	18	0,3
BDC (Total)				New	4.217	71,8
Total				New	5.875	100,0

#### Evaluation

Based on SAP's best practices, we suggest that you archive batch input logs after 2 months, since they will probably not be required for frequent access after this time. We strongly recommend that you archive at least all data that is older than the current year and that has status 'F' (= successfully processed).

## 7.2 Table Change Protocols

### SAP Application: BC-ABA (ABAP Runtime Environment)

#### Business Content

Changes to control and Customizing tables, for example, can be logged (see SAP Note 1916). The logs are stored in table DBTABLOG.

"Before images" (before the change) are always recorded, which means a complete set of entries is available. Changes to master data and transactional documents, however, are stored in the corresponding business areas using change documents (tables CDHDR and CDCLS). An overview of FI and MM tables that are subject to logging is provided in the audit guides for R/3 FI and R/3 MM (SAP Note 112388 "Tables are subject to logging").

#### CURRENT SITUATION

Table	Size (GB)	Description
DBTABLOG	77,98	Log Records of Table Changes
Total Size	77,98	
% of DB Size	3,85	

### 7.2.1 Table Change Protocols: Avoidance

#### General Information

As a rule, all Customizing tables are shipped with logging activated because the requirements of external auditors are inconsistent as regards table logging. Tables for master data and transaction data, on the other hand, are shipped without logging indicators. A high percentage of these tables are subject to mass changes that would cause performance problems if they were logged. Exercise caution if you want to log any of these tables.

Table changes are logged if the following criteria apply to a table:

1. The log changes indicator is selected in the technical settings (transaction SE11 or SE13).
2. Logging is activated in parameter "rec/client" in the system parameter client (transaction RZ11).

The values of profile parameter "rec/client" can be explained as follows:

- OFF: No logs are generally kept
- nnn: Logs are kept for client-specific tables for client nnn
- nnn, mmm: Logs are kept for the clients specified (maximum of 10)
- ALL: Logs are kept for all clients

Ensure that rec/client values are consistent across all servers.

Client-independent tables are always logged if rec/client is not set to OFF and logging is set as required in the technical settings for the tables. You can also activate logging for imports with R3trans, either by making an entry in the transfer profile or by calling R3trans directly as an option in the control file (SAP Note 84052). User actions can also be logged.

#### Note:

- Existing logs can be displayed with transaction SCU3 (Table History).

The following table lists the top tables that are listed in table DBTABLOG and for which the log indicator has been set by a user (other than "SAP"). If the table is empty, no manual changes have been made to the log indicator.

Table Name (TABNAME)	No. of Entries	In % of Total
-	-	-

#### Recommendation

Check whether changes need to be logged for all tables. In particular, check the settings for tables you created yourself (such as Y and Z tables).

Not only SAP customers may flag tables for logging unintentionally, but also SAP flagged tables for logging by mistake.

The following table provides a list of tables for which logging should be deactivated or may have been deactivated in the meantime by implementing Support Packages. Existing logs for these tables can be deleted.

SAP Note	Table(s)
1303671	/SAPAPO/TSTROBJR
1598473	/MIRSA/ZFFCDHDR
1500422	/MIRSA/ZFFTNSLOG, /MIRSA/ZFFCDHDR, /MIRSA/ZVIRFFLOG

SAP Note	Table(s)
1524924	ALPFASSIGN
1395163	BKK40, BKK42, BKK45, BKK46, BKK98
1622495	BKKSONT
636216	COMM_*
1071933	COMM_PRPRDCATR
637065	CRMM_BUT_*
1225992	CRMM_PRP*
1311786	DB6TREORG, DB6IREORG
1084360	DFKKCOLL, DFKKCOLLH
146938	EKPA
732470	EVER
661574	FMSNRULE, FMSNRULEC, FMDECKHK, FMDECKRG, FMDECKRGT, FMDECKUNG, FMUDRULE, FMUDRULEC
1589734	IST-TDATA
672503	KONP
1567106	LOGIC_DEST
781433	SKAT, SKAS (SKA1,SKB1)
1227243	SWD_HEADER
434902	T811F, T811K, T811C, T811S, T811L, T811G, T811C
1685088	TE107
503637	TF260, TF261, TF270 and TF271
728141	TRACT_POSCONTEXT
667979	TRLT_DERIVFLOWS
1303588	TTSTR
649904	VTBFHAPO, VTBFHAPO_UNFIXED, VTIFHA, VTIFHAPO, VTIFHAZU, VTIOF, VWPANLE

### Implementation

You can change the individual setting in transaction SE11 by deselecting the "Log Changes" indicator. If you decide to deactivate the logging mechanism for all tables, you can simply set the R/3 profile parameter "rec/client" to "OFF" (see SAP Note 001916).

## 7.2.2 Table Change Protocols: Deletion

### General Information

Data in table DBTABLOG can be deleted using deletion report RSTBPDEL according to period (end date) and table. If the end date is selected, all change documents with the same end date or earlier are deleted from table DBTABLOG.

This report implements the "Delete Documents" administration function within the table analysis function (transaction SCU3) and can also be used separately.

### General table change protocols

#### Data Content Analysis

The table below shows the top 10 entries for the relevant tables. If you detect table KONP under the top entries, see SAP Note 672503. In this case, table logging is activated for database table KONP even though it is a master data table rather than a Customizing table.

The analysis was performed with transaction TAANA, variant AD-HOC.

Table Name (TABNAME)	No. of Entries	In % of Total
/HOAG/P_ASOURCE	1.373.221	1,5
AQLTS	7.681.139	8,2
MPLA	8.763.851	9,4
MPOS	9.078.659	9,7
SDOKPROF	8.817.419	9,4
T77UA	5.328.431	5,7
TFRM	9.466.358	10,1
ZAPS_SDATA_IMP	19.005.602	20,3
ZMRPPOSNR	3.529.068	3,8

Table Name (TABNAME)	No. of Entries	In % of Total
ZNOTES	1.357.398	1,4
Other Entries	19.313.294	20,6
Total	93.714.440	100,0

### Recommendation

Check whether you can delete the entries (using report RSTBPDEL) for your business or whether they should be archived. For entries that can be deleted, deactivate logging in SE11 to avoid future logging.

The following table shows the top 5 tables with the corresponding transaction codes:

Table Name (TABNAME)	Transaction Code (TCODE)	No. of Entries	In % of Total
MPLA	IP02	17.695	0,0
MPLA	IP10	8.741.637	9,3
MPLA	IP41	4.044	0,0
MPLA	IP42	475	0,0
MPLA (Total)		8.763.851	9,4
MPOS	IP02	40.012	0,0
MPOS	IP05	683	0,0
MPOS	IP10	9.028.794	9,6
MPOS	IP41	8.220	0,0
MPOS	IP42	950	0,0
MPOS (Total)		9.078.659	9,7
SDOKPROF		1.697.738	1,8
SDOKPROF	MIR4	292.118	0,3
SDOKPROF	SBWP	5.104.598	5,4
SDOKPROF	SO01	458.882	0,5
SDOKPROF	SWO_ASYNC	544.609	0,6
SDOKPROF (Total)		8.097.945	8,6
TFRM		3.889.485	4,2
TFRM	SA38	616.047	0,7
TFRM	SE38	4.960.826	5,3
TFRM (Total)		9.466.358	10,1
ZAPS_SDATA_IMP		17.541.290	18,7
ZAPS_SDATA_IMP	SE38	92.423	0,1
ZAPS_SDATA_IMP	SM30	1.371.889	1,5
ZAPS_SDATA_IMP (Total)		19.005.602	20,3
Other Entries		39.302.025	41,9
Total		93.714.440	100,0

### DELETION OBJECT

Deletion Object	Object Description
RSTBPDEL	Table Log Database Management: Delete Logs

### Deletion Runs

If deletion jobs were scheduled recently for this document type, the following table shows some details. If no deletion jobs were detected, nothing is displayed.

Since the history of scheduled jobs is deleted regularly (for example, after 2 weeks), this analysis cannot include details of past periods.

Deletion Object	Job Name (SM37)	Deletion Runs	First Run	Last Run	Periodic
RSTBPDEL	N/A	0			<input type="checkbox"/>

## 7.2.3 Table Change Protocols: Archiving

### General Archiving Information

Data in table DBTABLOG is usually archived with archiving object **BC\_DBLOGS**. As of SAP NetWeaver 7.0 enhancement package 2, a new audit trail function allows audit trail data from table DBTABLOG to be archived with archiving object **S\_AUT\_LTXT**. Audit trail records are posted for changes to tables STXH and STXL.

### Table Change Protocols: Archiving Object BC\_DBLOGS

Archiving object BC\_DBLOGS is a cross-client object, which means that all log records are archived independently of the client in which the change log in table DBTABLOG was created. Since the archiving object is cross-client, you only have to schedule an archiving run in one client and not in every client in which you have configured the Customizing settings.

### Business-Process-Related Information

The technical settings of a table in the data dictionary contain a logging indicator that defines whether changes to the data records of a table are logged. If logging is activated, every change (with UPDATE, DELETE) to an existing data record made by a user or an application program is recorded in log table DBTABLOG in the database.

The logging indicator is set for Customizing tables in particular. The logs are used to document changes to the system and can be relevant for external audits. Especially in industries with strict internal process audits (such as GMP in the pharmaceutical industry), these change logs must be kept on a long-term basis.

Archived change logs can be reloaded to the database or accessed directly using transaction SCU3.

### Recommendation

Archive the change logs on a regular basis. Decide whether it is sufficient to archive the change logs in the production system or in the development system. In the production system, only the software transport ID is documented. In the development system, the name of the developer responsible for the change is documented in the change log. In some cases, the change logs from the production system might not be sufficient for external auditors. If the change logs are required for audit purposes, consider archiving them in the development system.

### Customizing Settings:

#### *Application-Specific Customizing*

There are no specific Customizing settings for archiving object BC\_DBLOGS.

#### *Archiving Object-Specific Customizing (Technical Settings)*

You can set parameters that apply to a specific archiving object only.

### Prerequisites for Archiving

There are no application-specific prerequisites.

### Maintaining the Variant:

Selection fields for the write program of archiving object BC\_DBLOGS:

The following selection criteria can be used:

Beginning of Archiving Period (write program RSLDARCH01)

- Date
- Time

End of Archiving Period

- Date
- Time

There is also an alternative write program available (BC\_DBLOGS\_WRI) (see SAP Note 1589591), which allows a selection by table name.

### Display Functionalities:

You can use the following functions to access archived data:

- Transaction: SCU3 (RSVTPROT)
- Read program: RSLDARCH03
- SAP Archive Information System

### Dependencies on Other Objects:

There are no dependencies on other archiving objects.

### Data Content Analysis

The following table shows the annual distribution in table DBTABLOG. The analysis was performed with transaction TAANA, variant AD-HOC.

Archiving Object	Year (LOGDATE)	No. of Entries	In % Total
BC_DBLOGS	2014	27.984.567	29,9
BC_DBLOGS	2006	10.658.676	11,4
BC_DBLOGS	2007	9.939.847	10,6
BC_DBLOGS	2012	9.381.460	10,0
BC_DBLOGS	2013	7.053.761	7,5
BC_DBLOGS	2008	6.415.035	6,8
BC_DBLOGS	2011	6.095.620	6,5
BC_DBLOGS	2009	4.622.631	4,9
BC_DBLOGS	2015	4.363.226	4,6
BC_DBLOGS	2010	4.281.356	4,6
BC_DBLOGS	2002	789.215	0,8
BC_DBLOGS	2005	765.216	0,8
BC_DBLOGS	2004	541.437	0,6
BC_DBLOGS	2001	314.911	0,3
BC_DBLOGS	2003	278.214	0,3
BC_DBLOGS	2000	24.274	0,0
Total		93.509.446	100,0

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
BC_DBLOGS	99	02.04.2007	12.04.2015	59.440	10.672,83

### Evaluation

SAP Best Practices recommend that you archive Table Change Protocols entries after 12 months, since they probably no longer need to be accessed frequently after this period of time.

71.742.618 entries, or 77% of the entries, are older than 12 months.

Archiving these entries would produce a saving potential of approximately 59,70 GB.

## Table Change Protocols: Archiving Object S\_AUT\_LTXT

### Business-Process-Related Information

The US health authority, the Federal Drug Administration (FDA), requires enterprises in the pharmaceutical industry wishing to market their products in the USA to provide a detailed, complete, and traceable description of their production process. This includes all operations affecting product quality that are carried out during the process of manufacturing and distributing a drug.

Naturally, the data that is created or processed during these processes is subject to frequent changes. The FDA, therefore, requires each change to such data to be documented in a change log. In this log, all data changes must be completely traceable at all times. The log must, therefore, contain at least the date and time of the change, the type of change, the data value before and after the change, and identification of the person who made the change.

This change log is a key prerequisite that must be satisfied in order to comply with the regulations for Good Manufacturing Practice (GMP). These GMP regulations are part of the conditions for regulated production, and were drawn up by the FDA to achieve uniform guidelines for the production of drugs and medicines on the US market. They have since become a quasi-standard in many other countries. Adherence to the GMP rules during production of a drug, and, in particular, proof of this adherence, are absolute prerequisites for the successful marketing of the product in the USA. Validation of the quality-relevant business processes is a prerequisite for obtaining product approval. This approval is, in turn, a prerequisite for marketing the product in the USA.

Because of the ever-increasing use of electronic tools, the FDA needed to develop guidelines for logging data changes in the electronic media. These FDA activities led to the Final Rule 21 CFR Part 11 Electronic Records, Electronic Signature. In this rule, the FDA defines how changes in electronic data records are to be logged so that these changes are traceable in line with the aforementioned criteria and can be evaluated, if necessary, taking account of particular factors.

The logging of data that takes place in the SAP system as part of change document creation does not satisfy all the FDA requirements. In particular, it is not possible to evaluate the data to a sufficient extent or with the accuracy demanded by the FDA with the options currently available. In addition, it is extremely difficult to change the logging settings (logging yes or no).

The Audit Trail function extends the previously available options so that logging settings can be changed easily and without technical modifications, and that evaluations of the changed data can be carried out in line with FDA requirements.

#### Customizing Settings:

Application-Specific Customizing

There are no specific Customizing settings for archiving object S\_AUT\_LTXT.

Archiving Object-Specific Customizing (Technical Settings)

You can set parameters that apply to a specific archiving object only.

#### Prerequisites for Archiving

Please delete long text logs that do not need to be archived before scheduling the archive jobs to avoid archiving of irrelevant data records.

#### Maintaining the Variant:

##### Preprocessing Program:

The date up to which all long text logs are archived needs to be defined. It must not be located in the future and also cannot fall in a period for which long texts were already archived.

If data exists that resulted from a previous preprocessing program, but was not archived, the preprocessing program cannot be restarted. A restart of the preprocessing program is only possible once this data has been removed from the system. This can be done either by ending the archiving cycle that was started (write program and deletion program), or by discarding the data of the preprocessing program using program S\_AUT\_ARCH\_UNDO.

Important: As there is only an up-to selection and no from-to selection, be careful when running pre-processing the first time and ensure to process only distinct chunks of data to avoid extensive runtimes in the following write job, which simply picks up all(!) pre-processed data.

##### Write Program:

As the date range has already been selected in the pre-processing program, the only option in the write job is to choose test or production mode.

##### Display Functionalities:

You can use the following functions to access archived data:

- Transaction: S\_AUT10. In enhancement mode of transaction S\_AUT10, under Long Text Logs, you can directly access the archived long texts if you have an active archive information structure. To do so, specify that the system is to read from the archive when you choose the data source.
- SAP Archive Information System (archive information structure SAP\_S\_AUT\_LTXT).

##### Data Content Analysis

The following table shows the annual distribution in table DBTABLOG. The analysis was performed with transaction TAANA, variant AD-HOC.

Archiving Object	Year (LOGDATE)	No. of Entries	In % Total
S_AUT_LTXT	2006	54.938	100,0
Total		54.938	100,0

##### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
BC_DBLOGS	99	02.04.2007	12.04.2015	59.440	10.672,83

##### Evaluation

SAP Best Practices recommend that you archive Table Change Protocols entries after 18 months, since they probably no longer need to be accessed frequently after this period of time.

54.938 entries, or 0% of the entries, are older than 18 months.

Archiving these entries would produce a saving potential of approximately 0,05 GB.



## 7.3 Work Items

### SAP Application: BC-BMT-WFM (SAP Business Workflow)

#### Business Content

The SW\* tables are related to workflow data. Workflow items are updated primarily from applications or using event linkage; they are edited either automatically or manually, whereby a user stores the items in the SAPoffice inbox.

#### CURRENT SITUATION

Table	Size (GB)	Description
SWW_CONT	26,20	Workflow Runtime: Work Item Data Container
SWWLOGHIST	1,45	Workflow Runtime: History of a Work Item
SWPNODELOG	0,80	Workflow: Instance Data of Nodes of a Workflow Execution
SWW_WI2OBJ	0,70	Workflow Runtime: Relation of Work Item to Object
SWWWIHEAD	0,66	Workflow Runtime: Header Table for All Work Item Types
SWW_CONTOB	0,56	Workflow Runtime: Work Item Data Container (Only Objects)
SWPSTEPLOG	0,51	Workflow: Instance Data of Steps of a Workflow Execution
SWPNODE	0,31	WFM: Node Properties and Node Hierarchy at Runtime
SWWCNTP0	0,28	Workflow Container: XML Database (P0)
SWP_NODEWI	0,23	WF: Work items for nodes in a workflow definition
SWWWIRET	0,22	Workflow Runtime: Return Values of Method Call
SWP_JOIN	0,05	Workflow instances: Join node of a workflow execution
SWPCMPCONT	0,00	Component Container of WFM
SWWRUNMETH	0,00	Obsolete 6.1/ Workflow Runtime - Save Methods
SWWLOGPARA	0,00	Obsolete 4.6/ WIM Log Table: Actions on WIs - Parameters
SWWBINDEF	0,00	Obsolete 6.1/ Workflow Runtime - Save Bindin...
Total Size	31,97	
% of DB Size	1,58	

### 7.3.1 Work Items: Avoidance

You can prevent workflow data from being created if workflows relate to IDoc processing in the following ways:

You can suppress the error notification for IDoc processing by setting the transaction code to "inactive" in transaction WE40 for every process code.

You can suppress the error notification by deactivating the event receiver linkage for the relevant task. Call transaction PFTC. Enter the task (eight-character number). If you do not know the number, enter the logical output as the value search. Choose "Display" and click "Triggering Events". The linkage is deactivated by double-clicking the green dot of the event target.

#### Note:

Before you suppress the error notification, make sure that you do not require the notifications. Consider that in many error scenarios, a useful post-processing of the IDoc is possible only from the inbox. The error notification cannot be manufactured subsequently. If you return to the standard later, this applies only to the documents generated after this event.

### 7.3.2 Work Items: Deletion

The following deletion reports exist for the **work item-tables**:

The report **RSWWCIDE** can be used if only type C work items are to be deleted. We recommend this in particular if the workflow was only set up for ALE in Customizing.

Report **RSWWWIDE** deletes all types of work items. This report should be used with extreme caution, as work items or partially completed workflows can very easily be deleted accidentally in productive systems. The report deletes work items, including all attachments and dependent work items. After you have run the reports, you cannot reconstruct the deleted work items.

Report **RSWWHIDE** deletes history data for work items.

For safety reasons, we recommend that you first start the reports **RSWWWIDE** and **RSWWHIDE** with the required selection in test mode. After you have made sure that the required selection is correct, you should perform the actual deletion in the background.

**Remark:**

In production systems, we recommend that you archive work items using the archiving object **WORKITEM**. We do NOT recommend using report **RSWWWIDE** in a production system because the report does not check dependencies, which means that there is always a danger of deleting steps in a flow that is not completed.

**Data Content Analysis:**

The following table contains a distribution by work item type. We therefore analyzed table SWWWIHEAD. The analysis was performed with transaction TAANA.

Type (WI_TYPE)	Description	No. of Entries	In % of Total
A	Work Item that Represents a Work Queue	21	0,0
B	Work Item for Background Step	927.028	53,6
D	Deadline Work Item; Notification upon Missed Deadline	21.474	1,2
E	Work Item that Waits for an Event (Wait Step)	289.978	16,8
F	Workflow (Also Subworkflow)	281.559	16,3
W	Dialog Work Item; Represents a Single-Step Task	206.948	12,0
X	Work Item that Represents a Block	3.260	0,2
Total		1.730.268	100,0

**Deletion Objects**

The following table shows the deletion objects relevant for the document type.

Deletion Object	Object Description
RSWWCIDE	Delete Type C Work Items Specifically
RSWWHIDE	WIM (public): Delete Work Item History
RSWWWIDE	WIM (public): Delete Work Item

**Deletion Runs**

If deletion jobs were scheduled recently for this document type, the following table shows some details. If no deletion jobs were detected, nothing is displayed.

Since the history of scheduled jobs is deleted regularly (for example, after 2 weeks), this analysis cannot include details of past periods.

Deletion Object	Job Name (SM37)	Deletion Runs	First Run	Last Run	Periodic
RSWWCIDE	N/A	0			<input type="checkbox"/>
RSWWHIDE	N/A	0			<input type="checkbox"/>
RSWWWIDE	N/A	0			<input type="checkbox"/>

**Background information: Type 'C' work items**

Type 'C' work items are generated by ALE (without workflow). They have type 'C' and the status READY. These items are links between application objects and IDocs (for example, the original document generated by EDI) up to and including R/3 Release 4.5.

**How to delete these work items**

In Releases < 4.6A, these work items are assigned the status 'COMPLETED' when the corresponding IDocs are archived using archiving object IDOC. To delete these work items, you have to use report RSWWCIDE. Alternatively, these work items can be archived with archiving object WORKITEM.

As of Release 4.6A, type 'C' work items were replaced by application object links (table IDOCREL). Work items of type 'C' may still exist because they were not eliminated before a release upgrade. When the IDocs are archived, the status of the type 'C' work items is not changed from 'READY' to 'COMPLETED'. To remove these work items, you have to delete them using report RSWWCIDE.

If you are not interested in the link information, you can delete them using the report RSWWCIDE. Otherwise, you must change the status from 'READY' to 'COMPLETED' and archive them. You can do this by means of a custom program or by archiving the corresponding IDocs (Releases < 4.6A).

The following table provides an overview of the processing status of work items of type 'C'. We therefore analyzed table SWWWIHEAD. The analysis was performed with transaction TAANA, variant AD-HOC.

Status (WI_STAT)	No. of Entries	In % of Total
Total	0	0,0

The following table shows the distribution of work items with work item type (WI\_TYPE) = "C" in terms of status and creation year to determine whether they can be deleted. For this purpose, table SWWWIHEAD was analyzed with transaction TAANA.

Status (WI_STAT)	Year (WI_CD)	No. of Entries	In % of Total
<b>Total</b>		0	0,0

Based on this analysis, determine whether obsolete work items (for example, those older than two years) should be deleted.

### 7.3.3 Work Items: Archiving

#### General Archiving Information

Workflow items can be archived using the WORKITEM archiving object, which uses the WORKITEM archiving class. All data that belongs to a work item and that is not runtime data is archived. Only work items with status "Completed" or "Canceled" can be archived. All work items that depend on another work item are archived as a block. This means that a work item that depends on a higher-level work item (SWWWIHEAD-WI\_CHCKWI = blank) cannot be archived on its own. Dependent work items are, therefore, archived if the header work item (the last higher-level work item) fulfills the archiving criteria. Lower-level work items do not have to fulfill these criteria. The creation date and/or change date is used as the reference point.

#### Customizing Settings

##### Application-Specific Customizing

No application-specific Customizing settings exist. You can specify a residence time indirectly by entering the creation or end (change) date on the archiving selection screen.

##### Archiving Object-Specific Customizing (Technical Settings)

For more information, see the "Standard Operation Technical Customizing Settings" section.

#### Prerequisites for Archiving

Main check criteria for archiving:

- Workflow work items can only be archived if their status is "Completed" or "Canceled".
- All work items that depend on another work item with this status are also archived regardless of their own status. A work item that depends on a higher-level work item (SWWWIHEAD-WI\_CHCKWI is not "Initial") cannot be archived on its own.

#### Maintaining the Variant

In the standard SAP R/3 system, the following selection criteria are available for the write program of the WORKITEM archiving object:

- Work item ID
- Creation date
- End date
- Task ID
- Actual agent

#### Display Functionalities

The following functions can be used to access and display the archived work items:

- Read programs available in archive administration (transaction SARA):
  - RSWWARCR (Read Program for Work Items for Archiving), which returns the header data of work items
  - RSWWARCP (Archive Work Items: Read Program After Object and Task)
- You can also schedule this report by choosing "Tools -> Business Workflow -> Development -> Administration -> Workflow Runtime -> Reorganization -> Display Workflows from Archive".
- You can access an archived work item if SAP archive information structure SAP\_O\_2\_WI\_001 (based on field catalog SAP\_O2WI\_001) is activated. The SAP archive information structure SAP\_BO\_2\_WI\_001 used previously is obsolete as of SAP NetWeaver Release 6.40, see SAP Note 1084132).
  - The archived work item is displayed and you can access attached documents from the Business Workplace (as of SAP NetWeaver Release 6.20).
  - SAP Archive Information System
  - Document Relationship Browser (DRB)

It is not possible to retrieve the work item directly in the DRB. The work items are displayed with the relevant business objects and you can access them and their attachments.

#### Dependencies on Other Objects

Ensure that work items are archived before XX\_QMEL archiving objects.

## SRM:

Workflows must not be archived before the related shopping cart has been archived, because the shopping cart archiving object saves the workflow data into the shopping cart archive file. The workflow data is required for a later integrated display of the shopping cart including the approval workflow. For more information, see SAP Note 1038660.

Ensure that approval workflows related to SRM business documents, such as shopping carts or purchase orders, are only archived AFTER the corresponding SRM business document has been archived. This allows the SRM archiving objects to include workflow information in the SRM-specific archive files. SAP Note 1038660 provides a BAdI for this purpose. If you require an example implementation of the BAdI code that checks the existence of a related SRM document, such as a shopping cart, open a customer message on component SRM-EBP-ARV.

The following table shows an analysis of table SWW\_CONTOB using the OBJTYPE field. This table links work items with other objects.

Object Type (OBJTYPE)	No. of Entries	In % of Total
/PSI/WFCND	176.027	3,0
/PSIIC/CAP	353.892	6,1
/PSIIC/CB	44.007	0,8
/PSIIC/CPI	177.164	3,1
/PSIIC/HDR	412.463	7,1
/PSIIC/PAR	132.021	2,3
/PSIIC/PRO	163.536	2,8
AM_AI	21	0,0
BATCHITEM	438.332	7,6
BKPF	25.562	0,4
BUS1001006	4.664	0,1
BUS2009	16	0,0
BUS2012	44.893	0,8
BUS2032	60	0,0
BUS2045	1.384	0,0
BUS2078	12.097	0,2
BUS2081	578.764	10,0
BUS2105	51.083	0,9
DEADLITEM	13.916	0,2
EVENTITEM	277.836	4,8
FIPP	78.151	1,3
FLOWITEM	310.245	5,4
IDOC	1.097	0,0
IDOCAPPL	1.971	0,0
IDOCINVOIC	11.451	0,2
IDOCMSG	482	0,0
IDOCORDCHG	135	0,0
IDOCORDERS	2.029	0,0
IDOCORDRSP	1.463	0,0
IDOCSTATUS	1.840	0,0
IMAGE	1.178.640	20,3
IMAGELINK	4.038	0,1
QMSM	2.019	0,0
SELFITEM	13.449	0,2
SOFM	403.663	7,0
TWFDB	17.010	0,3
WIMUSER	3	0,0
WORKINGWI	558.955	9,6
WORKITEM	20.310	0,3
YFWFAGENT	17.220	0,3
YFWFBKPF	28	0,0

Object Type (OBJTYPE)	No. of Entries	In % of Total
YFWFBKPFVA	10.690	0,2
YFWFBSEG	5.571	0,1
YFWFEKKO	17.648	0,3
YFWFFIPP	2.250	0,0
YFWFVBKPF	10.666	0,2
YFWFVBSEGS	38.520	0,7
ZQMSM	19.038	0,3
Z_BUS2013	231	0,0
Z_IMAGE	142.890	2,5
Z_USER	17.781	0,3
Total	5.797.222	100,0

Table entries in table SWW\_CONTOB with field SWW\_CONTOB-OBJTYPE = SOFM refer to an attachment in the Business Workplace.

Only these attachments are archived with the work item by the archiving run with archiving object WORKITEM. The documents stored in the Business Workplace are only deleted by report RSBCS\_REORG. Check whether these attachments are relevant for your business before archiving.

#### Data Content Analysis

The following table provides an overview of the processing status of all work items. Entries with status 'COMPLETED' or 'CANCELLED' are candidates for archiving using archiving object WORKITEM. For this purpose, table SWWWIHEAD was analyzed with transaction TAANA.

Status (WI_STAT)	Description	No. of Entries	In % of Total
CANCELLED	Logically Deleted	180.674	10,4
CHECKED	In Preparation	2	0,0
COMMITTED	Executed (Only If Expl. End Confirmation Is Expected)	475	0,0
COMPLETED	Completed	1.472.636	85,1
ERROR	Error	68	0,0
READY	Ready	36.279	2,1
SELECTED	Reserved	153	0,0
STARTED	In Process	39.948	2,3
WAITING	Waiting (Also: Work Items in Resubmission)	33	0,0
Total		1.730.268	100,0

The following table provides an overview of the processing status of all work items for which the work item type (WI\_TYPE) is not equal to (NE) "C". For this purpose, table SWWWIHEAD was analyzed with transaction TAANA. The 'Year' column shows the creation date of a work item (field WI\_CD).

Status (WI_STAT)	Description	Year	No. of Entries	In % of Total
CANCELLED	Logically Deleted	< 2012	55	0,0
CANCELLED	Logically Deleted	2014	12.904	0,7
CANCELLED	Logically Deleted	2015	167.715	9,7
CANCELLED (Total)			180.674	10,4
CHECKED	In Preparation	2015	2	0,0
COMMITTED	Executed (Only If Expl. End Confirmation Is Expected)	2014	208	0,0
COMMITTED	Executed (Only If Expl. End Confirmation Is Expected)	2015	267	0,0
COMMITTED (Total)			475	0,0
COMPLETED	Completed	2014	39.826	2,3
COMPLETED	Completed	2015	1.432.810	82,8
COMPLETED (Total)			1.472.636	85,1
ERROR	Error	2014	5	0,0

Status (WI_STAT)	Description	Year	No. of Entries	In % of Total
ERROR	Error	2015	63	0,0
ERROR (Total)			68	0,0
READY	Ready	2014	10.386	0,6
READY	Ready	2015	25.893	1,5
READY (Total)			36.279	2,1
SELECTED	Reserved	2014	95	0,0
SELECTED	Reserved	2015	58	0,0
SELECTED (Total)			153	0,0
STARTED	In Process	2014	17.712	1,0
STARTED	In Process	2015	22.236	1,3
STARTED (Total)			39.948	2,3
WAITING	Waiting (Also: Work Items in Resubmission)	2014	3	0,0
WAITING	Waiting (Also: Work Items in Resubmission)	2015	30	0,0
WAITING (Total)			33	0,0
Total			1.730.268	100,0

### Analysis Result

Determine whether obsolete work items (for example, those older than two years) should be deleted or can be assigned an archive status. In this case, the status of the top-level work items (SWWWIHEAD-WI\_CHCKWI = initial) must be changed to "CANCELLED" or "COMPLETED", by means of a custom report, for example.

### Archiving Objects

The following table shows the archiving objects relevant for document type Work Items.

#### Note:

ONLY archiving object WORKITEM archives AND deletes work item data.

All other archiving objects only write the work item data to the archive files but do not reduce the data volume on the database tables since no workflow data is deleted during the delete runs.

#### ARCHIVING OBJECTS

Archiving Object	Object Description
/PSIIC/CAP	Archiving object for CAPTURE of documents
/PSIIC/HDR	Archiving object for IC of documents
CM_QMEL	Claims
HR_EIC	HR: EIC - Activities
NM_QMEL	General Notification
PM_QMEL	Maintenance Notifications
QM_QMEL	Quality Notification
SCMG	Case Management: Case Archiving
SM_QMEL	Service Notifications
WORKITEM	Work Items from Workflow System

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
WORKITEM	70	23.09.2010	30.04.2015	2688015	72.773,57

### Evaluation

Based on SAP's best practices, we recommend archiving Work Items after 18 months since they probably no longer have to be accessed frequently.

21 entries or 0% of the entries are older than 18 months and have an archivable status (such as status "COMPLETED" and "CANCELLED"). These could be archived.

Archiving these entries would produce a saving potential of approximately 0,00 GB.



## 7.4 Business Workplace / SAPOffice Data

### SAP Application: BC-SRV-GBT (Generic Business Tools)

#### Business Content

Table SOC3 contains the contents of documents, such as application mails, URLs, work item notes, and PC documents, which are created and sent in SAP Business Workplace (previously known as SAPoffice) and documents caused by the Generic Object Services (GOS). Therefore, the size of this table depends heavily on whether and how frequently these types of documents are sent within a system. The documents are stored in folders that can be accessed either from the user interface or only through the system (the latter are called "dark folders"). The corresponding management data is stored in table SOOD, the folder management data in table SOFM, and the information of the send process in tables SOOS (send procedure) and SOST (send history).

SOC3-CLUSTR shows how many bytes are occupied in field CLUSTD (max. 2886 Bytes). SOC3-SRTF2 is a numerator if the content of the entry is larger than 2886 Bytes and, therefore, more lines in SOC3 are required to store the content.

Table SOOD is the header table of SOC3 and contains the fields OBJTP, OBJJR, and OBJNO, which correspond to SOC3-SRTFD.

As of Release 4.6B, the content of the PC attachments can be stored using the Knowledge Provider (KPro). The KPro allows you to connect an external storage system so that the contents of the PC attachments no longer place a burden on the database. If an external storage system is not connected, the contents of the PC attachments are written to table SOFFCONT1 as of Release 4.6B.

The administrative information that is stored in table SOC3 is required to locate the document (either in table SOFFCONT1 or in an external content repository). This means table SOC3 still contains an entry for the PC attachment.

SOFFCONT1 is the content table of the Content Repository SOFFDB (Storage repository for Business Workplace/SAPoffice Documents, transaction: OAC0). To send the document to an external content repository, an additional entry is required in transaction SKPR08 ("new category" field).

#### CURRENT SITUATION

Table	Size (GB)	Description
SOFFCONT1	274,26	SOFF: Table for Document Contents (import/export)
SOC3	4,28	SAPoffice: DB for objects (import/export)
SOOD	3,16	SAPoffice: Object definition
SOFM	0,85	SAPoffice: Folder contents
BCST_SR	0,85	BCS: Status of Send Orders
SOST	0,61	SAPoffice: Status log table
SOOS	0,47	SAPoffice: send process
SOES	0,46	SAPoffice: External send operation
SRGBTBREL	0,44	Relationships in GOS Environment
BCST_RE	0,23	BCS: Status of Recipient Entries
BCST_CAM	0,05	Persistence of a BAS Address
SOFD	0,02	SAPoffice: Object Definition
SRGBINREL	0,02	Object Relationship Service: generic binary links
SRBCSBREL	0,02	Relationships in GOS Environment
SBCMCONT1	0,01	SDOK: Table for Document Contents (Import/Export)
Total Size	285,73	
% of DB Size	14,10	

### 7.4.1 Business Workplace / SAPOffice Data: Avoidance

#### Avoidance Table SOFFCONT1:

If an external storage system is connected, the contents of the PC attachments are not written to the SOFFCONT1 table; instead, they are stored in the external storage system. This means that, by using an external storage system, you can avoid data in database table SOFFCONT1.

The subsequent transfer of documents from table SOFFCONT1 to an external content server is only possible by means of a modification. For this reason, check SAP Notes 389366 and 445057.

Relevant for Basis Releases > 6.10:

**Avoidance Table SBCMCONT1:**

SBCMCONT1 contains the converted MIME documents that are created during shipping with the SMTP (Simple Mail Transfer Protocol). These are only used within SAPconnect, where the costs involved in data retention outweigh the advantages (memory requirement, performance). Therefore, as of Support Package 34 (Basis Release 6.20), this persistent MIME storage is deactivated. As of Support Package 39, it can be activated or deactivated.

For more information, see the following SAP Notes: 706328, 687810, and 845449.

## 7.4.2 Business Workplace / SAPOffice Data: Deletion

There is no standard program or transaction for deleting office documents. This means that end users must be trained to do this regularly by accessing their mail box and deleting old documents manually.

If a user deletes mails from a folder (with or without an attachment), only the references between the folder and the documents are deleted initially. The content of the document itself, including the header data and send logs, remains in the database. The remaining data can be deleted physically from the database with report RSBBCS\_REORG\* (tablesSOC3, SOOS, SOOD, SOFM, and SOFFCONT1). A document is deleted from the database only when ALL references to which the attachment is connected (every recipient's inbox folder, outbox folder, and all trash folders) have been removed. This report also deletes the document attachments stored in table SOFFCONT1.

**\*Note:** Report RSBBCS\_REORG replaces report RSSORE00. For more information, see the following SAP Notes: 922565,966854, and 988057.

**Relevant for Releases >= 6.10**

Deletion table SBCMCONT1:

Due to an error, the data in table SBCMCONT1 was not taken into account during reorganization with report RSBBCSRE03. SAP Note 712714 (SAPKB61043, SAPKB62039, SAPKB64002) solves this issue. SAP Note 687810 provides report RSSORESBCM to delete data that was created prior to the installation of SAP Note 712714. Furthermore, the report can be used to delete MIME data that is not reorganized by any other job since it still belongs to existing documents. For more information, see the SAP Notes mentioned under "Avoidance Table SBCMCONT1".

### 1.) Business Workplace

If you want to delete documents from the Business Workplace, we recommend that you use the deletion programs and follow the procedure specified below:

**a. Delete the folder references** (table SOFM) for Business Workplace / SAPOffice functionality. You can use the following programs:

**RSSOTRCL**

This report deletes the shared trash.

You need to remind all your users to delete all unnecessary mails and run the report RSSOTRCL, which will clear all messages in the "shared trash folder".

**RSSO\_DELETE\_PRIVATE**

User folders: inbox, outbox, resubmissions, private folders, private trash.

This program can be used to delete all objects of a specific user (for example, when a user leaves the company) or delete documents created by batch users. See also SAP Notes 63912, 862985, and 922671.

In the general office settings (transaction SO16), you can define the number of days after which a document should be deleted from the outbox. See also SAP Note 431801.

**RSSODFRE**

Documents without references to the Business Workplace that were sent by fax, mail, or workflow mails.

This program deletes documents from the dark folder (documents that are not assigned to any user and therefore also not accessible and erasable via the Business Workplace interface). See also SAP Note 567975.

**b. Run program RSBBCS\_REORG to delete the document completely.**

Example 1:

An employee sends a mail to a colleague via SAP Office. To delete the entries in all relevant tables, the sender and the recipient have to delete the mail from their outbox, inbox, and private trash to remove the reference between the mail and the folders. Alternatively, you can use report RSSO\_DELETE\_PRIVATE to delete the reference. Afterwards, report RSBBCS\_REORG has to be executed to delete the content of the mail from the tables.



**Example 2:**

An employee sends a mail with an attachment to a colleague via SAP Office. To delete the entries in all relevant tables, the sender and the recipient have to delete the mail from their outbox, inbox, and private trash to remove the reference between the mail, attachment, and folders. Alternatively, you can use report RSSO\_DELETE\_PRIVATE to delete the reference. Afterwards, report RSBBCS\_REORG has to be executed.

**Example 3:**

There are a lot of mails in the shared trash or in the user's outbox. To delete these entries, use either one of the reports RSSOTRCL or RSSO\_DELETE\_PRIVATE. Afterwards, report RSBBCS\_REORG has to be executed to delete the document completely.

**Example 4:**

**There are a lot of dark folder entries in the tables. To delete these entries, run the report RSSODFRE (See SAP Note 567975).**

**This report can be used to delete all entries of type "dark folder" for certain years. Afterwards, report RSBBCS\_REORG has to be executed to delete the document completely.**

This deletion report can also be used to delete data records in tables SOOS, SOST, SOCX, SOSC, and SOES. These tables contain data if Business Workplace documents exist with sent requests. This can be checked in table SOOD with the fields IF\_DOC\_BCS and IF\_DOC\_CLS. An initial (blank) value in these fields indicates that the documents do not have a sent request. If these fields are not empty or blank, the documents have been sent internally or externally to another system. You can verify this by detecting entries in tables SOSC and SOES.

**2.) Generic Object Service (GOS)**

If you want to delete attachments that were added with the GOS function (such as PC attachments) for SAP business objects, we recommend the following procedure:

- a) Run report RSGOSRE01 to delete the object references (reference between PC attachment and business object).
- b) Run report RSBBCS\_REORG to delete the PC attachment completely.

**Example:**

A user creates a purchase order. Afterwards, he or she changes the purchase order with transaction ME22N to add an attachment using the "Services for object" pushbutton or the menu path "System" -> "Services for object" (in Releases < 4.6C: System -> Links). From the menu, the user chooses "Create" -> "Create attachment" to select a document from the desktop. The system creates an object reference between the document (PC attachment) and the purchase order. To delete the reference between the purchase order and the attachment, run report RSGOSRE01. To delete the content of the attachment, run report RSBBCS\_REORG (this is the same as for Business Workplace).

Important: If the reference between the PC attachment and the business object is deleted with report RSGOSRE01 as described above, you can no longer access the attachment from the business object. In the example above, this means that the attachment in the purchase order can no longer be displayed.

**Data Content Analysis**

The following table contains the distribution of all object types in table SOC3 with RELID = DT. RELID = DT stands for the content of the documents. In table TSOTT, you can see all available object types and their corresponding texts. The analysis was carried out with transaction TAANA.

SRTFD (Doc Type)	Description	No. of Entries	In % of Total
ALI	ABAP list document	35.647	0,6
ARC	Archive object (image)	4	0,0
EXT	PC document	3.406.777	57,6
GRA	SAP Business Graphics	3	0,0
OBJ	Business object	15.226	0,3
OFO	Object folder	1	0,0
OTF	OTF document	115.294	2,0
RAW	SAP editor document	2.281.542	38,6
SCR	SAPscript document	57.133	1,0
URL	Link to Internet/Intranet	891	0,0
XXL	Document for list viewer	4	0,0
Total		5.912.522	100,0

In the following two analyses, we focus on the yearly distribution of the two largest object types in table SOC3. The selection for these analyses in table SOC3 is RELID = DT plus the top object type. The analysis was carried out with transaction TAANA.

YEAR	DOC_TYPE	CREATION_YEAR	No. of Entries	In % of Total
2000	EXT	25	2	0,0
2001	EXT	26	81	0,0
2002	EXT	27	119	0,0
2003	EXT	28	112	0,0
2004	EXT	29	179	0,0
2005	EXT	30	861	0,0
2006	EXT	31	1.173	0,0
2007	EXT	32	6.942	0,2
2008	EXT	33	24.510	0,7
2009	EXT	34	49.988	1,5
2010	EXT	35	88.098	2,6
2011	EXT	36	210.573	6,2
2012	EXT	37	249.783	7,3
2013	EXT	38	319.383	9,4
2014	EXT	39	817.125	24,0
2015	EXT	40	1.637.848	48,1
Total			3.406.777	100,0

**\*\*Explanation of the field SOC3-SRTFD**

As a rule, the year is calculated by taking digits 4 and 5 and then adding 1975.

Example:

AL129\*

Digit 4 is "2" and digit 5 is "9". Together, digits 4 and 5 form the number 29.

To determine the year of creation, add 1975 to 29. The result is 2004.

YEAR	DOC_TYPE	CREATION_YEAR	No. of Entries	In % of Total
1999	RAW	24	28	0,0
2000	RAW	25	124	0,0
2001	RAW	26	369	0,0
2002	RAW	27	525	0,0
2003	RAW	28	1.155	0,1
2004	RAW	29	2.027	0,1
2005	RAW	30	4.292	0,2
2006	RAW	31	6.767	0,3
2007	RAW	32	9.807	0,4
2008	RAW	33	15.486	0,7
2009	RAW	34	31.869	1,4
2010	RAW	35	68.898	3,0
2011	RAW	36	136.514	6,0
2012	RAW	37	106.993	4,7
2013	RAW	38	194.391	8,5
2014	RAW	39	664.141	29,1
2015	RAW	40	1.038.156	45,5
Total			2.281.542	100,0

The table below shows an analysis of table SOOD, which is the header table of SOC3.

All entries with EXTCT = K (meaning that Knowledge Provider (Kpro) is used) create entries in tables SOC3 and SOFFCONT1 or in an external content repository. The administrative information is stored in table SOC3 and the document content is stored in table SOFFCONT1 or in the external content repository. The analysis was carried out with transaction TAANA.

Content stored externally (SOOD-EXTCT)	No. of Entries	In % of Total
K	2.612.254	44,4
Other Entries	3.265.649	55,6
Total	5.877.903	100,0

**Note:**

"K" is not available in the input help. "K" indicates that the document is sent, using Knowledge Provider (Kpro), to table SOFFCONT1 or to an external content repository.

The following table contains an extract of table SOOD to provide an impression/overview of the document title (OBJDES) and the user who created the document (OWNAM). The analysis shows the top 20 documents with the largest attachments.

Document Class (OBJTP)	Object Number (OBJNO)	Document Name (OBJNAM)	Document Title (OBJDES)	Owner Name (OWNAM)	Date Created (CRDAT)	Attachement Length (ATTLEN)
RAW	000000654138	DRUCKDATEI	P10137387-1:	BWILLA	24.08.2010	1560311754
RAW	000001092133	DRUCKDATEI	P10105946-1:	FZENKLUSEN	22.12.2010	1431222489
RAW	000000585946	DRUCKDATEI	P10227219-1:	SSCHNEITER	03.03.2015	1267998105
RAW	000001024457	DRUCKDATEI	P10155189-1:	JLENSKYREI	16.04.2015	578781098
RAW	000001023856	DRUCKDATEI	P10155027-1:	JLENSKYREI	16.04.2015	576187154
RAW	000000336878	SAPRPT	ZV10 Order Report	WCHANG	05.02.2015	131944140
RAW	000000954716	DRUCKDATEI	P1092219-1:	MMUELLER	15.11.2010	76057181
RAW	000000954900	DRUCKDATEI	P1092219-3:	MMUELLER	15.11.2010	76057181
RAW	000000954731	DRUCKDATEI	P1092219-2:	MMUELLER	15.11.2010	76057181
RAW	000000882029	DRUCKDATEI	P10311007-1:	GBEAUPRE	01.04.2015	68420140
RAW	000000291206	SAPRPT	ZV10 Order Report	CDELAREY	02.02.2015	59195700
RAW	000000677793	DRUCKDATEI	P10382628-1:	FIMBODEN	12.03.2015	45435106
RAW	000001018938	DRUCKDATEI	WE/RE-Verrechnungskonto pflegen	WBIRCHER	15.04.2015	36076544
RAW	000001041322	DRUCKDATEI	WE/RE-Verrechnungskonto pflegen	WBIRCHER	17.04.2015	36074529
RAW	000001218923	DRUCKDATEI	P1016812-1:	SAP-BATCH	01.05.2015	34842600
RAW	000001601327	DRUCKDATEI	P1098145-1:	FZENKLUSEN	19.09.2012	32918109
RAW	000000473948	DRUCKDATEI	P1020449-1:	ADANNERT	26.04.2011	30727069
RAW	000001376584	DRUCKDATEI	WE/RE-Verrechnungskonto pflegen	WBIRCHER	15.05.2015	30701972
RAW	000000518125	DRUCKDATEI	PCI SARA 2014	RBONSUTTO	25.02.2015	26657516
RAW	000000696832	DRUCKDATEI	P1010499-1:	PLUPINACCI	13.03.2015	25523731

The following table shows an analysis of the V\_SOFMFDOD view (tables: SOFD, SOFM, and SOOD). It provides a distribution of data in the different folder areas (Dark Folder, Inbox, Outbox, for example). The analysis was carried out with transaction TAANA.

Folder area (FOLRG)	Description	No. of Entries	In % of Total
B	Dark Folder	2.024.536	90,0
I	Inbox	53.080	2,4
O	Outbox	167.643	7,5
P	Private folder	941	0,0
Q	Shared Folder	20	0,0
T	Private trash	3.072	0,1
Y	Workflow folder	2	0,0
Z		7	0,0
Total		2.249.301	100,0

**Relevant for Releases prior to 470**

The SRGBINREL table must be analyzed to identify whether attachments were created by the GOS function. The GOS function is used if entries exist in the SRGBINREL table. The SRGBINREL table contains the linkages between the attachment and business document.

**Relevant for Releases from 470**

The SRGBTBREL table must be analyzed to identify whether attachments were created by the GOS function (for example, attachment of PC documents to business objects). The GOS function is used if entries exist in the SRGBTBREL table. The SRGBINREL table contains the linkages between the attachment and business document.

**Recommendation**

In general, we recommend that if you use the GOS function and want to continue using it, that you use an external content server in the future.

In this case, the massive growth of the SOFFCONT1 table could be stopped. As mentioned above, subsequently transferring documents from the SOFFCONT1 table to an external content server is only possible with modification.

**Note:**

If you want to display archived business documents that contain attachments that were attached using the GOS function, the attachments cannot be displayed if it is not possible to display the archived business document in the standard transaction, even if the link and the attachment are still available in the system. For example, since an archived purchase order can be displayed using transaction ME23N, the attachment is not lost and can still be displayed in this transaction. Archived purchase requisitions cannot be displayed using the ME53N transaction (for Releases < mySAP ERP2005), which is why it is also not possible to display the attached document. In this case, the attached document cannot be accessed after the corresponding purchase requisition has been archived. This GOS function is not designed for attachments, which must be kept in the system on a long-term basis for business requirements.

When attaching documents to business objects, please use the content server to store the document outside the database and Archive Link to display the document after the business object has been archived.

Use the following procedure to attach the document:

Call the corresponding transaction (for example, ME22N) with which you want to attach the document and use the following path:

In Release 4.6B: System --> Links --> Store document. Choose the appropriate document type and enter the path and file name for the document to be stored.

From Release 4.6C, choose "Services for objects" --> Create --> Store Business Document.

To display documents that were attached using the above procedure, choose:

Tools --> Business Documents --> Miscellaneous --> Business Document (transaction OAER)

See also SAP Note 530792 and the relevant section of the documentation.

**Analysis Reports for Business Workplace / SAPoffice Documents**

Specific analysis reports are available for special requirements.

**RSSOINBO** (transaction: SOY5)

The RSSOINBO report returns a list of users who have many documents or who have many unread documents in their inbox.

**RSSOQUTA**

This program collects the number and size of documents that users have in their private folder area and may send messages to the users for whom key figures have been exceeded. On the RSSOQUTA selection screen, you can choose the users for whom the quota data has to be selected.

**RSSOPRIV**

This report returns the number of documents (if more than 100) in the private folders of a user (inbox, mailbox, personal storage, and trash).

**Deletion Objects**

The following table shows the deletion objects relevant for the document type.

Deletion Object	Object Description
RBCS_REORG	BCS Reorganization of Documents and Send Requests

Deletion Object	Object Description
RSSODFRE	Delete Documents from Hidden Folder
RSSOTRCL	Delete shared trash
RSSO_DELETE_PRIVATE	SAPoffice Administration: Delete Private Folder Items

#### Deletion Runs

If deletion jobs were scheduled recently for this document type, the following table shows some details. If no deletion jobs were detected, nothing is displayed.

Since the history of scheduled jobs is deleted regularly (for example, after 2 weeks), this analysis cannot include details of past periods.

Deletion Object	Job Name (SM37)	Deletion Runs	First Run	Last Run	Periodic
RSBCS_REORG	BC050M_REORG_SOST	0			<input type="checkbox"/>
RSSODFRE	N/A	0			<input type="checkbox"/>
RSSOTRCL	N/A	0			<input type="checkbox"/>
RSSO_DELETE_PRIVATE	BC050M_REORG_SOST	0			<input type="checkbox"/>

### 7.4.3 Business Workplace / SAPOffice Data: Archiving

#### General Archiving Information

It is possible to move the document contents (for document types RAW and SCR) from table SOC3 to an optical archive using program RSSOAPUT. Program RSSOAPUT is designed to archive mass data.

Data archiving is not supported for table SOFFCONT1. However, report RSIRPIRL provides a solution for moving existing content from table SOFFCONT1 to an external content server. See SAP Notes 389366 and 445057.

This migration can be a complex task so we recommend asking SAP partner company xft ([www.xft.de](http://www.xft.de)) to support you with the migration activities.

## 7.5 Accounting Interface Documents (MM)

### SAP Application: AC-INT (Accounting Interface)

#### Business Content

MM Inventory Management and MM Invoice Verification write data to the ACCTIT, ACCTCR, and ACCTHD tables to allow subsequent postings to Accounting.

The documents for MM Inventory Management and MM Invoice Verification do not contain all the information required for an update in Accounting. Certain additional information is known only at the time of the original posting. These documents are unsuitable for subsequent postings. For this reason, when you post goods movements and invoice receipts (reference types MKPF and RMRP) and the FI/CO interface is called, this is documented in the ACCTHD, ACCTIT, and ACCTCR tables.

#### New G/L Migration

In the case of a migration without document splitting, the ACCT\* tables have no significance. When you use document splitting, the tables are required only in a very specific exceptional case, namely if splitting is performed for each logical transaction (LOGVO). However, for this to happen, the FI summarization must be inactive. In all other cases, the ACCT\* tables are not relevant for the migration and can be archived, deleted, or deactivated, or must not be activated if they are already deactivated.

#### Audit

For audit purposes, the ACCT\* tables are not used by AIS and DART in the standard system. However, the user exit technology in DART enables you to tailor the increase of the data volume, which includes ACCT\* tables.

Table	Size (GB)	Description
ACCTIT	19,74	Compressed Data from FI/CO Document
ACCTCR	14,30	Compressed Data from FI/CO Document - Currencies
ACCTHD	0,95	Compressed Data from FI/CO Document - Header
Total Size	34,99	
% of DB Size	1,73	

### 7.5.1 Accounting Interface Documents: Avoidance

#### General Information

You can deactivate the update for these documents by implementing the modification described in SAP Note 48009. Note that deactivation has long-term consequences; we recommend that you read SAP Note 48009 carefully.

#### Alternative Solution

Instead of deactivating the update for ACCT\* writing, you can archive records soon after their creation (for example, after six months) with archiving object MM\_ACCTIT.

#### Business-Process-Related Information

- If table ACCTIT is deactivated and reposting from MM to FI-SL is required, the user may lose the drilldown functionality to the MM document since reposting will come from FI (table BSEG) and may contain less data due to summarization. Reposting from FI to FI-SL can be achieved in transaction GCU1.
- If your business requirements do not permit summarization of line items, reposting from FI (table BSEG) to FI-SL still provides you with line item details (in this case, drilldown to the MM document is possible).

#### Recommendation

For more information about reposting MM documents, choose Special Purpose Ledger: FI-Special Purpose Ledger -> Transfer Program for Non FI-SL Data -> Data Transfer programs and access the online documentation.

#### Data Content Analysis

The table below shows the number of entries in table ACCTIT distributed by year. The analysis was performed with transaction TAANA and variant AD-HOC.

Fiscal year (GJAHR)	Number of Entries in ACCTIT	In % of Total
< 2012	24.336.633	41,4
2012	5.534.155	9,4
2013	5.198.748	8,8
2014	16.639.073	28,3
2015	7.038.955	12,0
Total	58.747.564	100,0

### Analysis Result

The table above indicates that you write a large amount of ACCTIT records. Check whether the information in these records is required.

## 7.5.2 Accounting Interface Documents: Deletion

### General Information

If you intend to delete tables ACCTCR, ACCTHD, and ACCTIT, you have two options.

- In all cases, you first have to deactivate the update of the tables.
- Deletion of the content for all clients:

The fastest and safest method is to use database tools for dropping these tables. After dropping the tables, they should be recreated and reactivated for R/3 consistency reasons.

- Deletion of the content for a specified client: If you want to delete data in particular clients only, use the program (ZZTTAMAC) described in SAP Note 48009. It deletes tables ACCTHD, ACCTIT, and ACCTCR completely in the current client. Depending on the data volume, runtimes may be long.

## 7.5.3 Accounting Interface Documents: Archiving

### General Archiving Information

Tables ACCTIT, ACCTCR, and ACCTHD can be archived with archiving object MM\_ACCTIT. Archived data can be reloaded to the DB (see SAP Notes).

If you intend to use the data for subsequent postings, decide whether you want to keep it in the database until it is needed or archive it and reload it if necessary. There is no need to keep data online until the end of the fiscal year.

### Recommendation

Archive the data with a short residence time such as six months.

### Customizing Settings

#### *Application-Specific Customizing*

There are no application-specific Customizing settings for MM\_ACCTIT.

#### *Archiving Object-Specific Customizing (Technical Settings)*

You can set parameters that apply to a specific archiving object only.

### Prerequisites for Archiving

There are no prerequisites for archiving.

### Maintaining the Variant

In the standard SAP system, you can use the following selection criteria for the write program of the MM\_ACCTIT archiving object:

- Company Codes (mandatory)
- Fiscal Year/Period (mandatory)
- Document Origin
- Posting Date
- Document Number

### Note

- Enter as many selection criteria as possible to reduce the processing time of the write program. We recommend that you always enter the fiscal year.
- Under "Selections", you can further restrict the documents to be archived by fiscal year/period and posting date. These restrictions are useful if you want to sort your archived data according to these criteria.

### Display Functionalities

You can use the following functions to access archived data:

- Technical view in the Archive Information System

### Dependencies on Other Objects

There are no mandatory dependencies between MM\_ACCTIT and other archiving objects.

As a rule, ACCT\* data should be archived before archiving:

- Material documents with MM\_MATBEL
- FI documents with FI\_DOCUMNT

### Data Content Analysis

The following table contains the top five results, by reference procedure and fiscal year, from the analysis of table ACCTIT. The analysis was performed with transaction TAANA and variant AD-HOC. To obtain full information



(distribution of ACCTIT entries across clients, years, periods, company codes, and reference procedures), display the TAANA analysis in your system.

Reference Procedure (AWTYP)	Year (GJAHR)	Number of Entries in ACCTIT	In % of Total
MKPF	< 2014	28.745.719	48,9
MKPF	2014	11.897.380	20,3
MKPF	2015	4.581.130	7,8
MLHD	2014	3.256.393	5,5
MLHD	2015	1.791.505	3,0
PRCHG	< 2014	128.278	0,2
PRCHG	2014	109.630	0,2
PRCHG	2015	89.266	0,2
RMRP	< 2014	6.195.539	10,5
RMRP	2014	1.375.670	2,3
RMRP	2015	577.054	1,0
Total		58.747.564	100,0

The following table shows the archiving objects relevant to Accounting Interface Documents (MM)

Archiving Object	Object Description
MM_ACCTIT	MM- Accounting interface posting data

#### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

#### Evaluation

SAP Best Practices recommend that you archive Accounting Interface Documents (MM) entries after 6 months, since they probably no longer need to be accessed frequently after this period of time.

49.748.526 entries, or 85% of the entries, are older than 6 months.

Archiving these entries would produce a saving potential of approximately 29,63 GB.



## 7.6 SAPscript Document

### SAP Application: BC-SRV-SCR (SAPscript)

#### Business Content

SAPscript texts, which are generated for customer documents in several applications such as SD, are stored in tables STXH (text file header), STXL (text file items), and STXB (texts in non-SAPscript format). Table STXL depends on table STXH and will be updated if the text is longer than the maximum field length in table STXH (72 characters).

#### CURRENT SITUATION

Table	Size (GB)	Description
STXL	20,66	STXD SAPscript text file lines
STXH	8,17	STXD SAPscript text file header
STXB	0,00	SAPscript: Texts in non-SAPscript format
Total Size	28,83	
% of DB Size	1,42	

### 7.6.1 SAPscript Document : Avoidance

#### General Information

In text determination, texts can be transferred to a document from preceding documents such as the customer master or the material master.

In Customizing for SD, for example, you can determine whether the text will be referenced or copied (adopted) for each text type. If the texts are copied, a separate data record is written to the database for each text in each document. This can result in a significant increase in the size of tables STXH and STXL.

#### Recommendation

If possible, avoid copying texts and use references instead. We recommend that you change as many text types as possible from copy to reference.

### 7.6.2 SAPscript Document : Deletion

#### General Information

In general, no deletion program is available to delete entries in tables STXH, STXL, and STXB. Deletion report RVTEXTE can only be used to delete phantom texts.

In exceptional cases, tables can also contain phantom texts to which a document can no longer be assigned. These are usually temporary texts that can no longer be restored because a special event (for example, a termination) has taken place. These texts can also cause tables to increase dramatically in size.

You can carry out the following actions based on the selection criteria text object, text type, text language, and text name and function:

- A: Display administrative data in table STXH
- D: Delete administrative data and text information (tables STXH and STXL)
- E: Texts without document reference lists (only in the background)
- F: Delete texts without document references that were not deleted by archiving in table STXH, for example (long runtime)
- X: Delete all dummy texts for the text objects:
  - KNA1, KNB1, KNVK, KNVV = Dummy text = INTERN\*
  - VBBK, VBBP, VBKA, VTTK = Dummy text = X\*
  - VBBK, VBBP, VBKA = Dummy text = \$\*
- Y: Multiple entries in tables TTXER (text types in text determination procedure) and TTXZI (access sequences) are deleted independently of other selection criteria.

#### Recommendation

- Determine what causes phantom texts. In the majority of cases, they are caused by update terminations in the system. Ensure that a minimum number of phantom texts occur in the future.
  - Execute deletion report with function "E" in background to display all texts that do not contain a reference to current documents (only background processing possible).
- Continue to delete the texts that are displayed in the spool list output of the deletion report.

- Execute deletion report with function "X" for the text objects that have been identified as the TOP ones in the "Archiving" section.

- For more information, see SAP Note 963314.

### 7.6.3 SAPscript Document : Archiving

#### General archiving information

Since SAPscript texts are created in a number of different applications, several archiving objects are responsible for archiving entries in tables STXH and STXL. To determine which archiving objects are most effective, use transaction TAANA to analyze the attribute TDOBJECT in table STXH. The short texts in table TTXOT (transaction SE16) return specific details about the corresponding application and which archiving objects should be used. When these archiving objects are used, the SAPscript texts are archived using the archiving class TEXT (using structures THEAD and TLINE).

SAPscript texts are archived automatically when the application data to which the SAPscript text belongs is archived.

#### Data Content Analysis

To determine which application objects are most relevant to data growth, we analyzed the TDOBJECT field of table STXH to find the object with the highest number of entries. A description of the TDOBJECT keys identified is provided in table TTXOT.

The following table shows the distribution of the largest text objects, including their description text. This description text gives you an idea of the application documents and, consequently, the archiving objects that have the greatest effect on tables STXH and STXL. The analysis was performed with transaction TAANA, variant AD-HOC.

Text Object (TDOBJECT)	Description (TDTEXT)	No. of Entries
AUFG	Order text	3.041.269
CODPSPEC	PP-PI: PI sheet/messages	1.970.323
COPOC	Long texts for POC and HA	702.003
EKPO	Purchasing doc. item texts	1.020.652
MATERIAL	Material texts, pur./storage	406.245
QMEL	Message	612.040
QPRUEFLOS	Inspection lot texts	935.361
VBBK	Sales Header texts	12.056.734
VBBP	Sales Item texts	32.670.851
VTTK	Transport header texts	448.381
Other Entries		2.680.449
Total		56.544.308

#### Archiving Objects

The following table shows the archiving objects relevant for document type SAP Script Document.

Document Type	Table	Archiving Object	Archivable entries	Archivable [%]	Archivable [GB]
SAP Script Document	STXL	SD_VBRK	2.887	0,0	0,00
SAP Script Document	STXH	SD_VBRK	1.893	0,0	0,00
SAP Script Document	STXL	SD_VBRK	2.887	0,0	0,00
SAP Script Document	STXH	SD_VBRK	1.893	0,0	0,00
SAP Script Document	STXL	SD_VBRK	2.887	0,0	0,00
SAP Script Document	STXH	SD_VBRK	1.893	0,0	0,00
SAP Script Document	STXL	SD_VBRK	2.887	0,0	0,00
SAP Script Document	STXH	SD_VBRK	1.893	0,0	0,00
SAP Script Document	STXL	SD_VBAK	26.000	0,1	0,00
SAP Script Document	STXH	SD_VBAK	11.870	0,1	0,00
SAP Script Document	STXL	SD_VBAK	26.000	0,1	0,00
SAP Script Document	STXH	SD_VBAK	11.870	0,1	0,00
SAP Script Document	STXL	SD_VBAK	26.000	0,1	0,00
SAP Script Document	STXH	SD_VBAK	11.870	0,1	0,00
SAP Script Document	STXL	SD_VBAK	26.000	0,1	0,00
SAP Script Document	STXH	SD_VBAK	11.870	0,1	0,00

Document Type	Table	Archiving Object	Archivable entries	Archivable [%]	Archivable [GB]
SAP Script Document	STXL	MM_MATNR	0	0,0	0,00
SAP Script Document	STXH	MM_MATNR	0	0,0	0,00
SAP Script Document	STXL	MM_MATNR	0	0,0	0,00
SAP Script Document	STXH	MM_MATNR	0	0,0	0,00
SAP Script Document	STXL	RV_LIKP	7.613	0,0	0,00
SAP Script Document	STXH	RV_LIKP	3.418	0,0	0,00
SAP Script Document	STXL	RV_LIKP	7.613	0,0	0,00
SAP Script Document	STXH	RV_LIKP	3.418	0,0	0,00
SAP Script Document	STXL	MM_MATNR	0	0,0	0,00
SAP Script Document	STXH	MM_MATNR	0	0,0	0,00
SAP Script Document	STXL	PM_EQUI	0	0,0	0,00
SAP Script Document	STXH	PM_EQUI	0	0,0	0,00
SAP Script Document	STXL	MM_EKKO	591.976	45,2	0,03
SAP Script Document	STXH	MM_EKKO	591.966	45,2	0,03
SAP Script Document	STXL	PM_EQUI	0	0,0	0,00
SAP Script Document	STXH	PM_EQUI	0	0,0	0,00
SAP Script Document	STXL	MM_EKKO	591.976	45,2	0,03
SAP Script Document	STXH	MM_EKKO	591.966	45,2	0,03
SAP Script Document	STXL	MM_EBAN	48.774	34,4	0,00
SAP Script Document	STXH	MM_EBAN	48.774	34,4	0,00
SAP Script Document	STXL	MM_EBAN	48.774	34,4	0,00
SAP Script Document	STXH	MM_EBAN	48.774	34,4	0,00
SAP Script Document	STXL	FI_DOCUMNT	28.867	69,7	0,00
SAP Script Document	STXH	FI_DOCUMNT	28.704	69,6	0,00

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

#### ARCHIVING RUNS

Archiving Object	Archiving Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
BC_ARCHIVE	1	02.02.2015	02.02.2015		
CO_ORDER	16	15.05.2003	03.06.2014	43.066	378,61
FI_DOCUMNT	24	13.11.1999	19.04.2014	13.175.937	13.243,31
MM_EBAN	14	03.06.2002	15.05.2014	1.434.023	1.523,32
MM_EKKO	12	03.03.2003	15.05.2014	1.269.497	4.294,16
MM_SPSTOCK	1	01.12.2000	01.12.2000	1	0,09
PM_ORDER	10	03.06.2003	03.06.2014	339.175	3.065,13
PP_ORDER	16	22.01.2001	15.01.2014	92.735	2.662,76
PR_ORDER	16	08.05.2007	27.03.2014	136.046	4.882,12

### Evaluation

SAP best practices recommend that you archive SAP Script Document entries.

The possible savings on SAP Script Document depend on the archiving potential of the most relevant related archiving objects.

The saving potential of SAP Script Document is added to the saving potential of the related document types and displayed in the corresponding sections of those document types.

## 7.7 TemSe Data

### SAP Application: BC-CCM-PRN (Print and Output Management)

#### Business Content:

Some objects, which are normally not retained in the system for a long time, are stored in the temporary sequential objects (TemSe) database.

These objects include:

- Spool requests (TemSe name: Spool.....)
- Job logs (TemSe name: JOBLG.....)
- Objects from other applications, for example
  - Human Resources (TemSe name: HR.....),
  - Financial Accounting - payment data medium exchange (TemSe name: DTA...)
- The background input logs (TemSe Name: BDC....), if the new log procedure is used for background input (SAP Note 175596).
- An object beginning with KONS. This object is regularly used by report RSPO1043 and should never be deleted (SAP Note 98065).

Every **TemSe object** consists of a header entry in table **TST01** and the actual object. It can be stored in the file system (usually the case for job logs) or in table **TST03** (generally for HR data).

In the case of **spool entries**, you can use a parameter to decide whether the object is stored in the file system or in table TST03 (default setting, see SAP Note 20176).

Spool requests also have entries in table TSP01 (header entries for the spool request) and possibly in table TSP02 (header entries for possible output requests).

In case of **payment data medium** exchange from Financial Accounting, you can determine whether the object is stored in TST03 or in the file system, for the relevant runs (in this case, there is no header entry in TST01, which means that the object is no longer a TemSe object. You can use transaction FDTA to manage the objects).

The **TemSe** cannot manage any objects larger than **2 GB**, irrespective of whether the object is stored in the database or at file-system level.

#### Technical note:

As data in table TST03 is often deleted and reinserted, the DB indexes on TST03 may deteriorate over the time (depending on the DB system). This is caused by index fragmentation and results in the indexes consuming more disk space than they actually need.

Similarly, the TST03 table can occupy more disk space than actually required due to a large volume of TemSe data that once allocated the disk space. This disk space remains allocated even after the data itself has been deleted from the table.

#### Recommendation:

The DB administration team should check table TST03 and its indexes and consider a table reorganization to optimize disk space usage.

#### CURRENT SITUATION

Table	Size (GB)	Description
TST03	38,49	TemSe data
TST01	0,10	TemSe: List of objects and parts
TSP01	0,02	Spool Requests
TSP02	0,01	Spool: Print requests
Total Size	38,62	
% of DB Size	1,91	

### 7.7.1 TemSe Data: Avoidance

#### General Information

The following options avoid unnecessary entries in table TST03:

#### 1. Deleting spools automatically after output

In user maintenance, you can configure the "Delete after output" setting by default for all users (must be maintained for each user individually). This causes all spools for all users to be deleted automatically after output, if individual users do not explicitly select their spools to be saved.

Select the "Delete after output" indicator (table USR01, field SPDA) in the default settings for all users (use transaction SU01 -> "Defaults" tab page).

We evaluated the User Master Table USR01 and determined the number of users who have set the user parameter "No automatic deletion" (K), and those who have set the user parameter "Delete after output" (D). The results are displayed in the table below.

Default Setting (USR01-SPDA)	Number of users
	1
D	1.118
K	19.738
Total	20.857

#### Recommendation

Activate the user parameter 'Delete after output' in the default parameters to prevent spool files from being kept in the spool database.

#### Consequences

The user has to actively specify whether to keep each spool. Otherwise, the spool is deleted.

#### 2. Saving the spool to a file system

The spooler data can be saved in files in the file system, not in the table TST03. Change the profile value for "rspo/store\_location" from "db" to "G" (see SAP Note 10551, release-independent). This will improve performance during write and read operations for spool data, because the system is faster than the database. The disadvantage is that the data will not be backed up with regular database backups.

#### 3. No creation of spool requests

You can assign the output device "NULL" to the users. No spool requests will be created for users with this output device. This applies only to printing lists and SAPscript. SAP Note 181571, which is also valid for Releases > 4.6B, explains this in more detail.

For others, like Smart Forms and SAP Interactive Forms by Adobe, you can assign a "dummy" printer to the users, and set the "delete after output" flag. A "dummy" printer is not a real printer, but as the system assumes that the data has been sent to a printer, the spool request will be deleted immediately after the output.

#### 4. More Efficient Use of Tablespace

If you change the parameter LONG\_RAW to a more favorable length (see SAP Note 140547, release-independent) there will be less waste when the data records are saved. In addition to this measure, SAP also recommends that you lower the PCTFREE parameter from 10 to 1 (see SAP Note 140547). This means that less space needs to remain free in a data block when it is taken from the free list. However, this is only relevant for new records that are written. This recommendation applies to all databases; the potential for savings, however, is greatest with Oracle databases (see SAP Note 572060).

## 7.7.2 TemSe Data: Deletion

#### General Information

The TemSe is **NOT** an archiving system. The maximum permissible number of spool requests is limited (SAP Note 48284).

The number of TemSe objects may vary considerably depending on the system. In some production systems, 30,000 or 40,000 objects would be quite normal (100,000 would be a lot). Ensure that the number and memory allocation do not increase continually in your system.

We recommend:

- Check memory distribution in the TemSe database
  - using transaction SP12 with function "TemSe Data Storage" -> "Memory Allocation". The distribution of the TemSe objects by age, client, and creator will be listed (see SAP Note 11070).
  - Check whether the number of the TemSe objects is very large and whether many of the objects have an unlimited retention period.
- Delete objects that are no longer required.
  - Spool objects by using the report RSPO0041 or its improved version **RSPO1041**
  - Job logs by using report **RSBTCDEL2** (SAP Note 784969)
  - Background input logs (batch) by using the report RSBDCREO (SAP Note 25219).  
As of SAP R/3 4.6C, you can also archive batch input logs by using data archiving object BDCLOGPROD.
  - Payment media objects DTA using transaction FDTA or F110 (see "Payment Data")
  - HR objects by using the report RPUTSR00 (SAP Note 98995).  
The country-specific legal requirements must be considered.
- Perform a consistency check on the TemSe and the spooler.

- TemSe consistency check
  - in batch using the report RSTS0020/RSTS0030
  - check the header entries in TST01 and the corresponding objects for all types of TemSe objects
- Spool consistency check (on a daily basis)
  - in batch with report RSPO0043/**RSPO1043**
  - check the spool entries in TSP01, TSP02 only for spool objects
- Both consistency checks for TemSe and spool must be scheduled. They are cross-client.
- Delete inconsistent spool requests exclusively with the spool consistency check.  
Do not use the TemSe consistency check for spool data. To achieve this exclude spool data in TemSe consistency check report RSTS0030.

#### 4. Delete

- orphaned job logs  
(report RSTS0024, standard job SAP\_REORG\_ORPHANED\_JOBLOGS, SAP Note 1411877) and
- orphaned Temse files  
(report RSTS0043, standard job SAP\_REORG\_ORPHANED\_TEMSE\_FILES, SAP Note 1411877) on a daily basis.

#### Recommendation

- Use print list archiving for spool objects which you need to keep on a long term basis, e.g. to fulfill legal requirements
- Schedule the deletion reports for old TemSe objects (Spool RSPO1041, Job Logs RSBTCDEL2), the corresponding consistency checks and the deletion jobs for orphaned data daily.

#### Important:

**Before spool objects are deleted (default residence time 10 days), they must be analyzed for legal requirements that require a longer residence time.** Check if the spool objects are to be stored automatically on a content server (optical archiving).

**Refer to SAP Note 1422843, which fixes a problem with the expiration dates that may prevent deletion.**

#### Recommendation up to Release ECC500 and/or Basis 640

If you are using RSPO0041/**RSPO1041**, do not select the radio button to automatically delete old spool requests in the spool administration at the same time. (Tools -> CCMS -> Spool -> Spool Administration; on the Admin. tab page, go to Settings -> Admin. -> Automatically delete old spool requests.) If the two functions are running in parallel, they can cause serious database errors. For more information, see SAP Note 498668.

#### Prerequisites for Deletion

Job logs will be deleted in accordance with the selection parameters for report RSBTCDEL2. Only job logs with the state Scheduled (P), Released (S), Aborted (A), or Finished (F) can be deleted, depending on a selected start or finish date, or a residence time (older than days).

Spool requests will be deleted in accordance with the selection parameters for report RSPO1041.

In the standard system, job logs and spool requests older than 10 days will be deleted.

#### Maintaining the Variant

See the related selection screen of the reports

#### Dependencies on Other Objects

None.

#### Data Content Analysis

If the TemSe is to be analyzed across clients, you can use the transaction SP12 -> TemSe Data Storage -> Memory Allocation (online). You can see the users who occupied the most table space to verify which entries can be deleted.

For client-dependent information, the header table **TST01** will be analyzed by TemSe object type, creation year, and storage type (F = file system, D = database).

The analysis was performed with transaction TAANA, variant AD-HOC.

TemSe Object	Storage Type	Creation Year	No. of entries	In % Total
BDC	F	2014	1	0,0
BDC	F	2015	23.082	8,1
BDC (Total)			23.083	8,1
DTA	D	2015	868	0,3

Analyzed Objects

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TemSe Object	Storage Type	Creation Year	No. of entries	In % Total
HOA	D	2009	401	0,1
HOA	D	2010	4.665	1,6
HOA	D	2011	4.610	1,6
HOA	D	2012	5.131	1,8
HOA	D	2013	4.903	1,7
HOA	D	2014	4.784	1,7
HOA	D	2015	1.720	0,6
HOA (Total)			26.214	9,2
JOB	F	2015	145.719	51,0
KON	D	2015	1	0,0
SPO	D	2007	8	0,0
SPO	D	2008	4	0,0
SPO	D	2010	2	0,0
SPO	D	2014	13	0,0
SPO	D	2015	89.777	31,4
SPO (Total)			89.804	31,4
Total			285.689	100,0

The TemSe Object is determined by the first 5 characters of field DNAME in table TST01. Common TemSe Objects are:

- SPO: Spool requests
- JOB: Job logs
- Objects from other applications, for example
  - HR\* : Human Resources
  - DTA\* : Financial Accounting - payment data medium exchange
- BDC: The background input if the new log procedure is used for background input (SAP Note 175596).
- KON\* : This object is used regularly by report RSPO1043 and should not be deleted (SAP Note 98065).

The following table shows the TemSe objects in the database table TST03. The analysis was performed with transaction TAANA, variant AD-HOC.

A detailed analysis of TST03 is only possible as of SAP\_BASIS 700. In lower releases, only the number of entries in table TST03 is provided in the following table.

TemSe Object	Creation Year	No. of entries	In % Total
DT	2010	4.462	0,2
HO	2010	15.573	0,7
HO	2011	29.965	1,3
HO	2012	30.079	1,3
HO	2013	20.084	0,9
HO	2014	19.841	0,9
HO	2015	18.486	0,8
HO (Total)		134.028	5,9
KO	2015	1	0,0
SP	2008	542	0,0
SPOOL*	2008	857	0,0
SPOOL*	2015	2.134.730	93,8
SPOOL* (Total)		2.135.587	93,9
Total		2.274.620	100,0

The following table shows the deletion year for spool (SPO) data. Since this table is client-independent, the 'Client' column is included in order to determine which records belong to the client that is analyzed in this report. The analysis was carried out on table TSP01 with transaction TAANA.

A high number of records with deletion year 2099 or 2100 indicates that SAP Note 1422843 needs to be implemented.

Client (RQCLIENT)	Deletion Year (RQDELTIME)	No. of entries	In % Total
000	2015	17	0,0



Client (RQCLIENT)	Deletion Year (RQDELTIME)	No. of entries	In % Total
050	2015	89.152	99,7
050	2099	266	0,3
050 (Total)		89.418	100,0
Total		89.435	100,0

#### Recommendation

- Use transaction SP12 to identify the users who are occupying the most space.
- Use transaction SP12 to calculate the space savings (file system, database).
- If there are many entries with an undefined expiration date, clarify the reason with the business owners who must then decide if this data can be deleted.
- Also for HR and DTA TemSe objects, clarify with the business owners if and when these objects can be deleted.

#### Deletion Objects

The following table shows a list of deletion reports for TemSe data.

Deletion Object	Object Description
RPUTSR00	Delete HR Objects in the TemSe
RSBDCREO	Batch Input: Reorganize Sessions and Logs
RSBTCDEL2	Deletion of Jobs
RSPO0041	Delete Old Spool Requests
RSPO1041	Delete Old Spool Requests
RSTS0024	Finds and Deletes "Orphaned" Job Logs

#### Recommendation

The deletion reports for jobs and spool objects should be scheduled daily. Report RSPO1041 is an improved version of report RSPO0041 and should be used instead of RSPO0041.

Deletion jobs for batch input data and HR objects should be scheduled regularly. The business departments must decide on the variants to be used for these jobs.

#### Deletion Runs

If deletion jobs were scheduled recently for this document type, the following table shows some details. If no deletion jobs were detected, nothing is displayed. Since the history of scheduled jobs is deleted regularly (for example, after 2 weeks), this analysis cannot include details of past periods.

Deletion Object	Job Name (SM37)	Deletion Runs	First Run	Last Run	Periodic
RPUTSR00	N/A	0			<input type="checkbox"/>
RSBDCREO	SAP_REORG_BATCHINPUT	10	09.05.2015	18.05.2015	<input checked="" type="checkbox"/>
RSBTCDEL2	SAP_REORG_JOBS	11	08.05.2015	18.05.2015	<input checked="" type="checkbox"/>
RSPO0041	SAP_REORG_SPOOL	0			<input type="checkbox"/>
RSPO1041	SAP_REORG_SPOOL_RSPO1041_30TAGE	2	10.05.2015	17.05.2015	<input checked="" type="checkbox"/>
RSTS0024	SAP_REORG_ORPHANED_JOBLOGS	2	10.05.2015	17.05.2015	<input checked="" type="checkbox"/>

#### Evaluation

SAP Best Practices suggest deleting job logs and spool requests after 10 days (after checking their legal relevance), as they are probably no longer needed after this time.

For all other objects, an individual decision on the residence time has to be taken as there are no SAP Best Practices for HR or DTA data, for example.

All job log and spool request entries that have exceeded the residence time should be deleted in the clean-up phase.

In the operational phase, the deletion runs for job logs and spool requests should be executed regularly for performance reasons.



## 7.8 Report Objects

### SAP Application: BC-ABA (ABAP Runtime Environment)

#### Business Content

The report tables (REPO\*) are required for the basis of the ERP system, and cannot be avoided, summarized, deleted or archived by **general** mass operation reports. Deletion is permitted at the different application levels only. These tables are used by the generation of ABAP programs.

#### CURRENT SITUATION

Table	Size (GB)	Description
REPOLOAD	20,81	Report Loads (Loads and Line References)
REPOSRC	13,43	Report Source Code
REPOTEXT	2,11	Report Texts
Total Size	36,35	
% of DB Size	1,79	

### 7.8.1 Report Objects: Deletion

#### General Information

Reports SDBI\_REPO\_CHECK or RSREPOSRCHECK (Basis Release 7.10) can be used to determine whether report sources are readable (see SAP Notes 658169 and 69871).

#### Data Content Analysis

The following table shows the status of reports in table REPOSRC.

The analysis was performed with transaction TAANA, variant AD-HOC.

Program Status (R3STATE)	Status Description	Status (RSTAT)	Status Description	No. of Entries
A	Active			3.506.326
A	Active	*		90
A	Active	K	Customer Production Program	4.767
A	Active	P	SAP Standard Production Program	139.748
A	Active	S	System Program	503.842
A	Active	T	Test Program	65.761
A	Active	W		1
Total				4.220.535

The **program status** is usually either A (active) or I (inactive).

If there are a considerable number of inactive programs, check whether any of them can be decommissioned.

If you found a large number of customer programs, you may be interested in SAP's capabilities for managing custom code, so please have a look at SAP's application lifecycle management (ALM) scenario: 'Custom Code Management':

[www.service.sap.com/alm-processes](http://www.service.sap.com/alm-processes).

Unfortunately, you cannot rely on field RSTAT alone, since it is not mandatory to set this field when creating a report. It therefore needs to be analyzed if any customer-defined reports have been used, since these are potential candidates for deletion.

To analyze whether a report has been used, use the security audit log. For more information, see SAP Notes 39418 and 539404.

## 7.9 Controlling Documents

### SAP Application: CO-OM (Overhead Cost Controlling)

#### Business Content

The Overhead Cost Controlling component plans, allocates, controls, and monitors overhead costs. It is a prerequisite for accurate profitability analysis and precise product costing. Overhead planning can specify standards to control costs and evaluate internal activities.

Table COEP contains the actual line items for Controlling. The system automatically creates a CO line item for every process in which a Controlling object is used (for example a sales order or cost center). The line items are created in addition to the settlement or financial accounting documents.

CO plan line items are stored in table COEJ.

In addition to the line items, the information will be updated as a total in table COSS for internal CO postings and table COSP for external postings (for example goods issues).

Table COEPL contains the actual activity type line items, and table COSL the corresponding total records.

Table COSB contains the calculated total values for a variance calculation, scrap calculation and result analysis/work in progress. CO table COSB is updated during period end closing in CO. The line items for variance/period-based results analyses are stored in table COEPB.

Table	Size (GB)	Description
COEP	106,38	CO Object: Line Items (by Period)
COBK	12,71	CO Object: Document Header
COEPL	2,19	CO Object: Line Items for Activity Types (by Period)
COEJ	1,91	CO Object: Line Items (by Fiscal Year)
COEJL	0,05	CO Object: Line Items for Activity Types (by Fiscal Year)
COEJT	0,04	CO Object: Line Items for Prices (by Fiscal Year)
Total Size	123,29	
% of DB Size	6,08	

### 7.9.1 CO Documents: Avoidance

#### General Information

There are two ways of avoiding data in table COEP.

- Deactivate writing Reconciliation Objects for data transferred from other SAP applications, such as billing documents with an account assignment to a Profitability Segment.
- Deactivate writing line items for Target Costs & Variance calculations.

There are two ways of avoiding data in table COEJ.

- Restrict the number of planning versions
- Do not use planning functionality

#### 7.9.1.1 Deactivation of Target Costs / Variances

##### Avoidance - Target costs

Write documents for target costs/variances (operation "KSOP" or "KSOS", and "KKKP" and "KKKS") for testing and development purposes only, **not for production systems**.

##### Business-Process-Related Information

The 'Write line items' indicator can be set/reset with Customizing transaction OKV1.

The "Write line items" indicator generates a document during variance calculation or target cost calculation, specifying:

- Who calculated the target costs/variances
- When the target costs/variances were calculated
- Which target costs/variances have changed

##### Data Content Analysis

The following table shows the number of entries forwarded to table COEP about their operation. The analysis was performed using transaction TAANA, variant AD-HOC.

Business Transaction	Description	No. of Entries	In % of Total
KSOP	Prim. Target Cost Calculation	265.812.280	61,7
KSOS	Sec. Target Cost Calculation	65.687.916	15,2
Other Entries		99.369.227	23,1
Total		430.869.423	100,0

#### Analysis result

According to the above table you write documents for target costs/variances (operation "KSOP", "KSOS", "KKKP", or "KKKS).

#### Customizing Settings

The following table shows your current customizing settings in OKV1:

Variance Key	Description	Write Line Items
000001	Variance calculation for orders	X
000002	Variance Calc for Prod Cost Collectors	
000002	Variance Calc for Prod Cost Collectors	X

The writing of line items for target costs/variances (operation "KSOP" or "KSOS") is currently active in your system.

The following table gives an overview of how many orders are defined with a variance key. The analysis was carried out using transaction TAANA, variant AD-HOC.

Order Category	Variance Key	No. of Entries	In % of Total
01		31.693	1,6
02		217	0,0
03		227	0,0
04		3.177	0,2
04	000001	6.177	0,3
05	000001	38	0,0
05	000002	1.562	0,1
10		11.913	0,6
10	000001	32.585	1,7
20		1.272	0,1
30		861.878	44,2
30	000001	2.029	0,1
31		687.776	35,2
40		346	0,0
40	000001	298.783	15,3
40	000002	133	0,0
70		12.156	0,6

#### Recommendation

Write these documents **for testing** and development purposes only, **not for production systems**.

#### Background Information

If you have written line items for target costs/variances in the past, and you then deactivated writing in transaction OKV1, delete these line items, they are of no further use. Delete these COEP entries with report RKSODEL1 from SAP Note 310089.

See section [CO Document: Deletion - Planning Data](#)

## 7.9.1.2 Planned Items: Version Management

### Planned Items: Avoidance - Use of Versions

#### General Information

In planning, versions display alternative plan scenarios based on different planning assumptions. For example, you can illustrate varying employment markets, price and wage increases, or sales programs, in different versions, with different parameters.

**Business-Process-Related Information**

The most likely plan version in normally version 000. The plan data you enter in customizing (transaction OKEV) is the basis for calculating plan prices for activity types, and determines the rates at which you allocate activities. Version 000 also contains all actual data. The plan and actual data in version 000 is used in plan/actual comparisons and variance analysis.

**Important**

Activating other plan versions could lead to an unnecessary growth of the plan line item table.

**Data Content Analysis**

The following table shows the use of versions, by fiscal year. Only the top 5 versions are displayed. To get a full list of the versions, analyze table COEJ with transaction TAANA or SE16. This analysis was performed with transaction TAANA, variant AD-HOC, on table COEJ.

**PLANNING VERSIONS - ANNUAL OVERVIEW**

Controlling Area	Versions	Fiscal Year	No. of Entries	In % of Total
CA05	000	1999	61	0,0
CA05	000	2000	5.883	0,2
CA05	000	2001	20.345	0,5
CA05	000	2002	4.904	0,1
CA05	000	2003	13.076	0,3
CA05	000	2004	15.362	0,4
CA05	000	2005	125.616	3,2
CA05	000	2006	120.845	3,1
CA05	000	2007	173.468	4,5
CA05	000	2008	174.799	4,5
CA05	000	2009	170.146	4,4
CA05	000	2010	235.121	6,1
CA05	000	2011	453.355	11,7
CA05	000	2012	342.472	8,8
CA05	000	2013	397.578	10,3
CA05	000	2014	486.690	12,6
CA05	000	2015	481.786	12,4
CA05	000	2016	6	0,0
CA05	000	2017	1	0,0
CA05	000	2018	1	0,0
CA05	000	2099	69	0,0
CA05	000 (Total)		3.221.584	83,1
CA05	001	2001	82	0,0
CA05	001	2005	6	0,0
CA05	001	2007	11	0,0
CA05	001	2008	1.197	0,0
CA05	001	2009	27.452	0,7
CA05	001	2011	624	0,0
CA05	001	2012	724	0,0
CA05	001	2014	6	0,0
CA05	001	2015	4	0,0
CA05	001 (Total)		30.106	0,8
CA05	008	2007	17	0,0
CA05	008	2008	2.838	0,1
CA05	008	2009	14	0,0
CA05	008	2010	4.001	0,1
CA05	008	2011	1.763	0,0
CA05	008	2012	40.241	1,0
CA05	008	2013	1.051	0,0
CA05	008 (Total)		49.925	1,3
CA05	009	2005	1	0,0

Controlling Area	Versions	Fiscal Year	No. of Entries	In % of Total
CA05	009	2007	2	0,0
CA05	009	2009	34.878	0,9
CA05	009	2010	65.772	1,7
CA05	009	2011	138.559	3,6
CA05	009	2012	1.878	0,0
CA05	009	2013	5.738	0,1
CA05	009	2014	27.136	0,7
CA05	009	2015	87.876	2,3
CA05	009 (Total)		361.840	9,3
CA05	OPT	2015	101.687	2,6
CA13	000	2000	66	0,0
CA13	000	2001	281	0,0
CA13	000	2002	64	0,0
CA13	000 (Total)		411	0,0
CA14	000	2008	940	0,0
CA14	000	2009	12.744	0,3
CA14	000 (Total)		13.684	0,4
CA14	001	2008	470	0,0
CA14	001	2009	3.362	0,1
CA14	001 (Total)		3.832	0,1
CA14	008	2008	470	0,0
CA14	008	2009	2.439	0,1
CA14	008 (Total)		2.909	0,1
Other Entries			90.342	2,3
Total			3.876.320	100,0

### Analysis Result

Reducing the number of planning versions in a system decreases the number of new entries in controlling table COEJ.

### Recommendation

If multiple planning versions are used, check the necessity for them.

### Note

- To plan in a single version only, use version 000.
- Actual primary cost data entry and actual data from internal activity allocation all post to version 000. SAP therefore recommends that you use this version for all plan/actual comparisons.

## 7.9.2 CO Documents: Summarization

### General Information

Document summarization is an efficient method of reducing data growth. CO document summarization avoids creating a line item in table COEP for every line item of the original document (for example a material posting or invoice posting). You define the CO document summarization in accordance with the reference procedure (COEP-AWTYP) and object type in Customizing for CO (transaction code OKBI).

Summarizing the planning data (table COEJ) is not possible.

**Note:** CO document summarization cannot be set in connection with transfer prices within the same controlling area.

### Business-Process-Related Information

**Attention - Take the following information into account before using summarization in your productive environment:**

1. Information in CO is lost as a result of summarization. This could have an impact on financial reporting. When transferring data from table COEP into BW, check the impact on BW reporting.
2. Set up a detailed test phase in a test environment to check the impact on your business.

**Customizing Settings - Use of CO Document Summarization:**

The table below displays your current settings for line item summarization in CO (see table TKACPC or transaction OKBI). An empty table indicates that summarization is not implemented.

Client	Reference Procedure	Object Type	Table	Field
-	-	-	-	-

### Data Content Analysis

#### Relevant Data for Summarization in CO

The following table shows the entries made by the CO interface. A relevant number of the entries in table COEP are made by the CO interface "COIN". These line items can be summarized. Document summarization avoids creating a line item in CO for every line item of the original document (for example a material posting). The analysis was carried out using transaction TAANA, variant AD-HOC.

Business Transaction	No. of Entries	In % of Total
COIN	53.692.280	12,5
Other Entries	377.177.143	87,5
Total	430.869.423	100,0

### Recommendation

If a high percentage of the entries in table COEP result directly from the CO interface (COIN), you could summarize them. To determine the most beneficial reference procedures and object types on which to concentrate, run the summarization simulation program RARCCOA5. It is documented in SAP Note 195480.

## 7.9.3 CO Documents: Deletion

### General Information

SAP recommends archiving rather than deleting data. There are nevertheless a number of possibilities to delete CO line item data.

- COEP - Delete target costs/variances after deactivating the line item update
- COEJ - Delete planning data

### 7.9.3.1 Target Costs

#### Tables COEP and COBK: Deletion - Target costs

As stated in chapter "Deactivation of Target Costs/Variances", deactivate line items update for target costs/variances (transaction OKV1). The line items that were already written are of no further use. Delete them.

### Recommendation

To delete these COEP entries, execute report RKSODEL1 from SAP Note 310089.

The following table shows the number of target costs entries in table COEP. If you do not need these entries then they can be deleted.

Business Transaction	Description	No. of Entries	In % of Total
KSOP	Prim. Target Cost Calculation	265.812.280	61,7
KSOS	Sec. Target Cost Calculation	65.687.916	15,2
Other Entries		99.369.227	23,1
Total		430.869.423	100,0

### 7.9.3.2 Planning Data

#### General Information

Delete plan data that you no longer require (for example because you regenerate your planning according to other criteria). In so doing, you can either delete:

- Planned costs
- All planning data, including activity quantities and key figures and prices

#### Implementation

- Planned costs: Choose: transaction KP90.
- Planning data: choose: transaction KP91.

#### Scope of Data Deletion

When deleting planning data with transaction KP90 or KP91, the system does not take all business transactions into account.

#### Transaction KP90 (delete planned costs)

Transaction KP90 permits restriction to certain cost elements, but only considers "primary" data, in the sense of "without partner object".

The following table lists the Business Transactions taken into account by transaction KP90.

Business Transaction	Description
RKP1	Planning Primary Costs
RKP5	Planning revenue Elements
RKP6	Activity-dependent Planning Primary Costs
RKP8	Planning Settlement Costs
RKP9	Activity-dependent Planning Order Costs
RKPZ	Planning Overhead Credits

All other business transactions are not taken into account by the KP90, in particular, no data from allocations as settlement, cycles or the automatic overhead calculation.

#### - Transaction KP91 (Delete planning data)

Transaction KP91 considers statistical key figures and a lot of allocations, as well as the six business transactions of transaction KP90:

These are listed in the following table

Area	Business Transaction
Manual Planning	RKP2, RKP3, RKP4, RKP7, RKPW, RKPX
Cycles	CPPP, KSPB, RKPB, RKPL, RKPU, RKPV
Accrual Calculation	KAZP
Settlement	KOAM, KOAP
Template	KSP0, KSP1, KSP2, KSP3
Splitting	RKPS
Overhead Rates	KZPP

Special handling of business transactions KOAM, KOAP (Settlement), and KSPB (Assessment into the result), according to SAP Note 520890.

Other business transactions are not taken into account.

There is also a restriction on **CO object types**. The program only takes into account data of CO objects that are "integrated in plan" with Cost Center Accounting:

- Cost centers, business processes, profitability segments (Note 520890), reconciliation objects (Note 488205), and cost objects (Note 558446)

- Internal orders integrated in plan and WBS elements Note 201162 contains details of the integrated planning of these two object types.

- All other CO objects, in particular internal orders and WBS elements, which are not in plan, are not taken into account.

#### Maintaining the Variant

The following selection criteria are available for transaction KP91

Version  
Fiscal year  
Cost Element  
Cost Element Group  
Selection Variant  
All Cost Elements

For transaction KP91, the following selection criteria are available:

Version  
Fiscal year

#### Data Content Analysis



Refer to the table Planning Versions - Annual Overview, in the earlier section CO Documents: Avoidance, subsection Planned Items: Version Management, for a breakdown of the top 5 planning versions in use.

Controlling Area	Version	Year	Number of Entries	In % of Total
CA05	000	1999	61	0,0
CA05	000	2000	5.883	0,2
CA05	000	2001	20.345	0,5
CA05	000	2002	4.904	0,1
CA05	000	2003	13.076	0,3
CA05	000	2004	15.362	0,4
CA05	000	2005	125.616	3,2
CA05	000	2006	120.845	3,1
CA05	000	2007	173.468	4,5
CA05	000	2008	174.799	4,5
CA05	000	2009	170.146	4,4
CA05	000	2010	235.121	6,1
CA05	000	2011	453.355	11,7
CA05	000	2012	342.472	8,8
CA05	000	2013	397.578	10,3
CA05	000	2014	486.690	12,6
CA05	000	2015	481.786	12,4
CA05	000	2016	6	0,0
CA05	000	2017	1	0,0
CA05	000	2018	1	0,0
CA05	000	2099	69	0,0
CA05	000 (Total)		3.221.584	83,1
CA05	001	2001	82	0,0
CA05	001	2005	6	0,0
CA05	001	2007	11	0,0
CA05	001	2008	1.197	0,0
CA05	001	2009	27.452	0,7
CA05	001	2011	624	0,0
CA05	001	2012	724	0,0
CA05	001	2014	6	0,0
CA05	001	2015	4	0,0
CA05	001 (Total)		30.106	0,8
CA05	008	2007	17	0,0
CA05	008	2008	2.838	0,1
CA05	008	2009	14	0,0
CA05	008	2010	4.001	0,1
CA05	008	2011	1.763	0,0
CA05	008	2012	40.241	1,0
CA05	008	2013	1.051	0,0
CA05	008 (Total)		49.925	1,3
CA05	009	2005	1	0,0
CA05	009	2007	2	0,0
CA05	009	2009	34.878	0,9
CA05	009	2010	65.772	1,7
CA05	009	2011	138.559	3,6
CA05	009	2012	1.878	0,0
CA05	009	2013	5.738	0,1
CA05	009	2014	27.136	0,7
CA05	009	2015	87.876	2,3
CA05	009 (Total)		361.840	9,3
CA05	OPT	2015	101.687	2,6



Controlling Area	Version	Year	Number of Entries	In % of Total
CA13	000	2000	66	0,0
CA13	000	2001	281	0,0
CA13	000	2002	64	0,0
CA13	000 (Total)		411	0,0
CA14	000	2008	940	0,0
CA14	000	2009	12.744	0,3
CA14	000 (Total)		13.684	0,4
CA14	001	2008	470	0,0
CA14	001	2009	3.362	0,1
CA14	001 (Total)		3.832	0,1
CA14	008	2008	470	0,0
CA14	008	2009	2.439	0,1
CA14	008 (Total)		2.909	0,1
Other Entries			90.342	2,3
Total			3.876.320	100,0

### Analysis Result

Reducing the number of planning versions in a system decreases the number of new entries in controlling table COEJ.

### Recommendation

If multiple planning versions are used, check the necessity for them.

### Note

- To plan in a single version only, use version 000.
- Actual primary cost data entry and actual data from internal activity allocation all post to version 000. SAP therefore recommends that you use this version for all plan/actual comparisons.

## 7.9.4 CO Documents: Archiving

### General Archiving Information

There are various archiving objects in CO. Analysis reports RARCCOA1/2/3 and RARCCOAA/P identify the archiving objects that best match the data and recommend possible archiving objects (see SAP Note 138688). You can also use transaction TAANA to analyze the table according to your selection fields.

A significant number of records can be archived with archiving object CO\_ITEM (see details on the next pages), which is described here in more detail.

### Caution

While it is technically possible to remove many of the line items from table COEP with archiving object CO\_ITEM, you should not do so. The CO application can receive many of its postings directly from other applications, such as PM - Plant Maintenance, MM - Materials Management, SD - Sales & Distribution, and so on. Archiving CO entries with the applicable archiving object from the associated (origin) application ensures that the documents can use the full range of functions of the archiving object, such as display and retrieval, in the future. This functionality cannot be guaranteed if the documents are archived with CO\_ITEM. When archiving CO line items, identify the source object wherever possible.

### Note

Line items can either be archived together with the corresponding object (such as Production Order, Cost Center), or CO line items can be archived separately from the corresponding object, with archiving object CO\_ITEM. Using CO-ITEM is only recommended for CO line items on cost centers and reconciliation objects.

The table below lists the available analysis reports and their associated analyzed tables.

Report	Tables Analyzed	Specific Archiving Object
RARCCOA1	COEP, COEJ, COSP, COSS, COST	N/A
RARCCOA2	COEP, COEJ, COSP, COSS, COST	N/A
RARCCOA3	COEP	CO_ITEM
RARCCOAA	COEP, COEJ	CO_ALLO_ST
RARCCOAP	COEJ, COSP, COSS, COST	CO_CCTR_PL

### Customizing Settings for CO\_ITEM

Application-Specific Customizing (Residence Times for CO Line Item Archiving)

The CO\_ITEM write program archives only CO line items for those objects for which you maintained an entry in the application-specific customizing of residence times. It does not process CO line items for object types for which there is no entry in the application-specific customizing, or which have been explicitly excluded from archiving ('Do not archive' indicator in the application-specific customizing).

To set the residence times in the SAP System, choose transaction SARA, enter archiving object 'CO\_ITEM', choose 'Customizing', choose 'Residence Times for CO Line Items' (under Application-Specific Customizing).

1. Create at least one entry for each **object type** to be archived. All values except the object type are optional.
  - a. Object type CTR covers both cost center and activity type data (object type ATY cannot be maintained separately).
  - b. For orders (except for sales orders), you can specify the order type as a subobject type.
  - c. To distinguish between objects in different controlling areas, enter the controlling area in the column COAr.
  - d. To distinguish between plan and actual line items, enter the abbreviation in the column Val. type cat.
2. To exclude lines from archiving, select the **Do not archive** column.
3. Enter the **number of residence periods** for each line.

Each CO line item is archived after the corresponding number of residence periods after the posting period. This does not include special periods. Documents posted in special periods are assigned to the last period of the fiscal year.

In the current period, you can archive CO line items by period, but only annually in the plan.

4. To archive only data from fiscal years in which all postings meet the residence time, select the **Fyear complete** column.

The following table shows the application-specific customizing settings for Residence Times for CO Line Items (archiving object CO\_ITEM) in your system: The analysis was performed on table ARCU\_COIT1, with transaction TAANA, variant AD\_HOC.

Object Type	Subobject type	CO-Area	Value type Category	Do not archive	Residence Periods	Fiscal Year Complete
-	-	-	-	-	-	-

\* The object type PEG (Pegging Object) is obsolete; it should not be used any more.

### Recommendation

If cost-based profitability analysis is active, transaction KEU5, which uses the reconciliation objects, may be used. Archive the reconciliation objects after 3 months, assuming that period closing is finished and no changes will be made in the closed period. If your business process supports reversals that can make changes in a closed period, a higher residence time is necessary. In this case, a residence time of 12 months could be sufficient, which means that reconciliation objects belonging to the current fiscal year should not be archived.

### Additional Information

See SAP Note 73152 for more information about archiving object CO\_ITEM and possible interactions with other areas in the SAP system.

### Prerequisites for Archiving with CO\_ITEM

The system does not archive any CO line items that meet the following criteria:

- CO line items that are down payments (value type 12, 58, 59, 61, 63)
- CO line items for parked documents (value type 60)
- Investment measures that are stored as CO line items
- Actual CO line items in current or future period
- P CO line items in current or future fiscal year
- CO line items that were distributed using ALE

Line items distributed by ALE are not archived in the system in which you entered the document. You can delete these line items with the RKADELIT report.

The copies in each receiving system are archived.

### Maintaining the Variant

The following selection criteria are available for the write program or archiving object CO\_ITEM.

Line items

- Controlling area
- Object Type (i.e. Cost Center, Network, Order, Reconciliation Object)
- Subobject Type (only relevant to Orders, refers to Order Types)
- Group or Set

To Fiscal Year \*\*(Note: you cannot specify a year - it is an UPTO value)

To Posting Period \*\* (Note: you cannot specify a period - it is an UPTO value)

- Value Types

### Notes on performance

To achieve maximum performance in the write program:

1. **Do not run the archiving session parallel to CO\_ITEM.**

**Do not set up more than one archiving run for CO\_ITEM. The program only has an UPTO Fiscal and UPTO Posting Period selection. If you start more than one archiving run, each run will attempt to archive the same data.**

2. Start the write program for a **single object type** only. Enter the object type in the selection screen.

3. Start the write program for a **single controlling area** only, if possible.

4. In the cleanup phase (first archiving runs), start with the oldest data and then archive year by year if the runtime is not too long. If a full year cannot be archived in a single write job, split the archiving into periods. In the operational phase **do not specify 'periods to' or 'fiscal year to'**. Only the residence times are used. Do not run more than one archiving session for different 'periods to' or 'fiscal years to'. Restricting the period and fiscal year does not significantly improve the runtime.

5. Define the runtime according to 'groups or sets':

If the runtime for the write program is too long (for example, it exceeds a specified time range), you can further reduce it with the 'Group or Set' parameter. For more information, see the following documentation:

- F1 help for the 'group or Set' field, on the initial screen of the write program

- Documentation for archiving object CO\_ITEM

### Set up archiving in Cost Center Accounting

You can set up archiving (for example, in Customizing, maintaining the variant) with transaction SARA or from the area menu for Cost Center Accounting. Unfortunately, the area menu has not been adjusted to the new SAP archiving concept valid as of SAP ERP 2004 (ECC 5.0). See SAP Note 903502.

### Display Functionality

You can use the following functions to access archived data: Access the Data Source via the Extras menu

Transactions:

- KSB1 --Cost centers (actual)

- KSBP --Cost centers (plan)

- KKCS --Cost objects (actual)

- KOB1 --Orders: Actual

- CJI3 --Project: Actual

- CJI4 --Project: Plan

- CPB1 --Processes: Actual

- CPBP --Processes: Plan

- KVBI --Sales orders: Actual

- KSB5 --Documents: Actual

- KABP --Documents: Plan

Reports:

- RKCOITS4 -- Line item report from archive (CO\_ITEM)

Document Relationship Browser

- Transaction ALO1 (up to Release 4.6C)

As of Release 4.7, the DRB is integrated in the user role SAP\_DRB, which provides a separate user menu. This user menu replaces SAP transaction ALO1. The user role #SAP\_DRB# has to be assigned to the user. This can be done in the following way:

Execute transaction PFCG -> insert the role #SAP\_DRB# -> Display -> Go to the #User# tab page.

To display documents, execute transaction PFCG -> insert the role #SAP\_DRB# -> Display -> Go to the #Menu# tab page. You have the same access as in the old ALO1.

SAP Archive Information System

- business-specific view

### Selection of Data Source

When you run these reports via Extras ' Data Source, you can display a dialog box in which you can specify how to access the archived data. Choose whether to access only the database, only the archive, or both.

If you select access via the archive, you have the following options:

- Use the archive information system

If you select this option, the system uses the selection criteria to determine which data has to be read from the archive, automatically. You do not have to make any further entries. The system determines the corresponding archiving object automatically.

- Select files manually

You have to select the archive files to be evaluated, manually. To do so, select an archiving object, depending on the report.

**General information regarding display as of SAP ERP 2004 (ECC 5.0)**

Before SAP ERP 2004 (ECC 5.0), cost center line items were archived with archiving objects CO\_CCTR\_ID (actual data), CO\_CCTR\_PL (planning data), or CO\_COSTCTR (all data). You can still access existing archive files that were created with these archiving objects.

**Dependencies of CO\_ITEM on other objects**

CO line items can be archived independently of other archiving programs. Nevertheless, consider the interactions with other areas in the SAP system mentioned in SAP Notes 73152, especially the reporting requirements (drilldown/navigation to line item reports). Be aware of the impact set out in SAP Note 972043, whereby if you use CO\_ITEM to archive CO Line Items it will archive the CO line items belonging to other objects (such as CO\_ORDER and PP\_ORDER) without performing any dependency checks. For this reason, you must ensure that the relevant production orders are also archived before archiving with CO\_ITEM.

There is also a knock-on effect on any WIP calculations if the product cost collector is used (see SAP Note 972043).

**As of release 4.70**, the SAP cost center archiving concept has changed as followed:

1. Line items with CO\_ITEM
2. Totals records with CO\_TOTAL
3. **Master data with CO\_CCMAS**

See also SAP Note 865671.

**Additional remarks for archiving CO cost center accounting documents**

Archiving objects CO\_CCTR\_ID and CO\_CCTR\_EP are obsolete. Use archiving object CO\_ITEM instead. It works better and more efficiently.

Use the 3 -step archiving process described above instead of archiving via archiving object CO\_COSTCTR (see SAP Note 645962).

**Data Content Analysis**

To determine the archivability of the data in table COEP we first analyzed the table by Value Type. As outlined in the Prerequisites for Archiving with CO\_ITEM section above, certain value types (12, 58, 59, 60, 61, 63) are excluded from archiving. In the table below, these value types are displayed individually, while those value types that can be archived are grouped under "Other Entries".

Analysis of Value Types

The following table contains the results of the analyses for table COEP, showing the distribution of entries by value type. The analysis is separated into two parts - value types that cannot be archived are itemized, value types that can be archived are grouped under the value type "Other Entries". The analysis was carried out using transaction TAANA, variant AD-HOC.

Value Type (WRTTP)	Description	No. of Entries	In % of Total
12	Down Payment as Operating Expense	118.514	0,0
60	Parked Document	72	0,0
Other Entries		430.750.837	100,0
Total		430.869.423	100,0

Detailed Analysis of Cost Center Line Items (CO objects of types KL/ATY or KS/CTR)

The following table contains a detailed analysis for tables COEP and COEJ/line items related to cost centers. Line items on cost centers should be archived with a residence period of current and previous fiscal year. In case of very high data volumes and fast data growth, a more aggressive archiving approach should be considered.

If the number of cost center line items differs significantly from the total number of records in table COEP that are to be archived with archiving object CO\_ITEM (see table below), see the avoidance chapter to determine whether the difference is caused by a significant number of reconciliation postings (type AO).

Table	Archiving Object	Object Type	Archiving is possible from	Related size [GB]	Related [no. of rows]	Archivable [no. of rows]	Archivable [%]	Archivable [GB]
COEJ	CO_ITEM	KL	2013	0,28	1.128.331	905.250	80,2	0,22
COEJ	CO_ITEM	KS	2013	0,64	2.584.095	1.613.059	62,4	0,40
COEP	CO_ITEM	KL	2013	2,58	20.899.955	17.428.335	83,4	2,15
COEP	CO_ITEM	KS	2013	1,59	12.856.482	10.360.438	80,6	1,28
COEJ	CO_ITEM	KL	2013	0,28	1.128.331	905.250	80,2	0,22

Table	Archiving Object	Object Type	Archiving is possible from	Related size [GB]	Related [no. of rows]	Archivable [no. of rows]	Archivable [%]	Archivable [GB]
COEJ	CO_ITEM	KS	2013	0,64	2.584.095	1.613.059	62,4	0,40
COEP	CO_ITEM	KL	2013	2,58	20.899.955	17.428.335	83,4	2,15
COEP	CO_ITEM	KS	2013	1,59	12.856.482	10.360.438	80,6	1,28
Total				10,17				8,10

Note: the entries in column **Related [no. of rows]** in the table above refers to the number of entries found in the DB Statistics results.

### Analysis Result

Controlling entries relating to cost centers/activity types that are older than the previous fiscal year are candidates for archiving.

We assume a relationship of 1:1 between table COEP and COBK - so you are also able to archive the same volume of table COBK as COEP.

### Archiving Potential - Analysis

The following table shows the distribution of data in tables COEP and COEJ. It shows a range of metrics including table name, archiving object, residence time, size, number of entries (related rows), number of archivable entries and the potential reduction through archiving in both percentage and Giga Byte values.

Table	Archiving Object	Residence Time	Related size [GB]	Related [no. of rows]	Archivable [no. of rows]	Archivable [%]	Archivable [GB]
COEP	PR_ORDER	24	40,97	331.808.074	217.523.245	65,6	26,86
COEP	CO_ITEM	17	4,17	33.756.437	27.788.773	82,3	3,43
COEP	COPA2_OC12	24	2,89	23.399.128	10.186.500	43,5	1,26
COEP	CO_ORDER	48	2,74	22.222.001	8.463.413	38,1	1,05
COEP	PM_ORDER	24	1,04	8.462.321	6.427.492	76,0	0,79
COEP	PP_ORDER	24	0,94	7.588.560	3.750.305	49,4	0,46
COEP	PS_PROJECT	36	0,33	2.685.737	2.112.885	78,7	0,26
COEP	SD_VBAK	24	0,04	331.315	255.195	77,0	0,03
COEP	COPA2_OC05	24	0,01	110.125	110.125	100,0	0,01
COEP	RE_RNTL_AG	120	0,05	395.481	92.892	23,5	0,01
COEP	RE_STLM_UN	120	0,00	9.708	1.867	19,2	0,00
COEP	RE_RNTL_UN	120	0,00	3.557	435	12,2	0,00
COEJ	CO_ITEM	24	0,91	3.714.483	2.518.309	67,8	0,62
COEJ	CO_ORDER	48	0,03	114.169	84.267	73,8	0,02
COEJ	COPA2_OC12	24	0,01	46.217	45.796	99,1	0,01
COEJ	PS_PROJECT	36	0,00	1.471	1.243	84,5	0,00
Total			104,19				39,64

Note 1: The entries in the **Related [no. of rows]** column in the table above refer to the number of entries found in the DB statistics results.

Note 2: The entries in the **Residence Time** column are not uniform. This is because the number of months is calculated dynamically based on the best-practice recommendation provided by SAP.

Example: For a given archiving object, the recommendation is to retain all data for the current year and the previous fiscal year. This means that the values in the "Residence Time" column can vary between 13 and 24 (months) depending on when the analysis is executed. For example, if you perform the analysis in January, the residence time is shown as 13, but if you perform the analysis in June, the residence time is shown as 18, and so on.

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of Archived and Del. Objects	Size of Archive File(s) [MB]
CO_ALLO_ST	46	16.01.2002	24.01.2011	8.779	47,6



Archiving Object	Archiving Runs	First Run	Last Run	No.of Archived and Del. Objects	Size of Archive File(s) [MB]
CO_ORDER	16	15.05.2003	03.06.2014	43.066	378,6
PM_ORDER	10	03.06.2003	03.06.2014	339.175	3.065,1
PP_ORDER	16	22.01.2001	15.01.2014	92.735	2.662,8
PR_ORDER	16	08.05.2007	27.03.2014	136.046	4.882,1

**Evaluation**

The entries in the Controlling tables can have many different origins.

The possible savings on **Controlling Documents** depend on the archiving potential of the most relevant archiving objects.

Analysis of tables COEP and COEJ determined that removing these archivable entries would produce a saving of approximately 39,64 GB



## 7.10 FI Classic: Accounting Documents

### SAP Application: FI (Accounting)

#### Business Content

Financial accounting documents are financial records of business transactions such as sales, purchases, payments, receipts, and so on. The general ledger serves as a complete record of all business transactions. It is the centralized, up-to-date reference for account rendering. Actual individual transactions can be checked at any time in real-time processing by displaying the original documents, line items, and transaction figures at various levels such as: Account information, journals, totals/transaction figures, balance sheet/profit and loss evaluations.

Tables BKPF and RFBLG contain header data and actual line items for accounting. The system automatically creates an entry for each process in which an account is used.

To display the line items for a G/L account, the account must be managed with the 'Line Item Display' indicator activated in its master data. This leads to the creation of an entry in secondary index table BSIS: postings to vendor and customer accounts always create a secondary index posting in tables BSIK and BSID respectively. Cleared open items are deleted from tables BSIS, BSIK, and BSID and a corresponding entry is written to tables BSAS, BSAK, and BSAD; this clearing procedure is valid for 'Open Item Managed' G/L accounts as well as for all vendor and customer accounts.

The entry for table BSIM and table CKMI1 (application: CO-PC-ACT) is automatically updated with each business transaction for a material that is relevant to accounting. It contains the quantity and inventory value of the business transaction.

Table	Size (GB)	Description
RFBLG	25,62	Cluster for accounting document
BKPF	8,71	Accounting Document Header
Total Size	34,33	
% of DB Size	1,69	

### 7.10.1 FI Classic: Accounting Documents: Summarization

#### Background Information

If the update of financial accounting data from the upstream modules is too detailed, it can cause unnecessary data growth in your R/3 system: When you post documents using the FI/CO interface (from SD, MM, or other applications), items appear in the FI document that are identical in all or almost all fields. This can also cause error message F5 727 ('Maximum number of items in FI reached'). The system issues this error if more than 999 items occur in a FI document (see SAP Note 117708).

In such cases, FI document summarization can be helpful. Customizing transaction OBCY can be used to activate the summarization of FI documents depending on the procedure used, as stated in SAP Note 36353. The system will only summarize items in the FI document if you configured the correct settings for this action in Customizing (sending application, that is, VBRK for SD, MKPF for MM Inventory Management, and RMRP for MM Logistics Invoice Verification). For documents that are entered in application FI (object type BKPF) (for example, EDI invoice receipt, transaction FB01, MR0) or invoice verification (transaction MR01 with object type BKPF), there is no summarization.

The system can only summarize items in the FI document if they have the same account assignments and only differ in the value fields. It is therefore not possible to carry out summarization across different G/L accounts.

#### Business-Process-Related Information

Important: Take the following information into account before using summarization in your production environment:

- Summarization is achieved by deleting certain fields in all items (can be configured in Customizing). As a consequence, these fields will not contain data in the FI document. They are therefore no longer available for selection, clearing, or reconciliation with other applications.
- This field deletion only affects the FI document and not documents from other FI/CO applications.
- The field contents deleted in the FI document are still available for other FI applications and can be updated there. The FI applications are not updated on the basis of the FI document. In addition, there are other summarization procedures in other applications, for example, in CO (SAP Note 147766).
- Data is not updated to table BSIM if aggregation at material level has been activated. With active FI document summarization at material level, no items (records for goods movements) are updated in table BSIM. In this case, MM uses the information out of table CKMI1 for reconstructing and reporting (LIS) purposes. Note: The programs for reconstructing info structures RMCBNERP (transaction OLIZ) and RMCBMMAT use table CKMI1.
- The data in table BSIS is aggregated when table RFBLG is aggregated using FI document summarization. For

more information, see SAP Note 178487.

- Set up a detailed test phase in a test environment to check the impact on your business.

### Customizing Settings

Use of FI Summarization

The table below contains your current settings for line item summarization in FI. An empty table indicates that summarization, for FI documents, is currently not being used.

Reference Procedure	Table	Field
-	-	-

### Data Content Analysis

Simulated Summarization

You can simulate FI document summarization using report RSUMSIFI or transaction ST13 (select FI\_CO\_DMA (via input help), choose the 'Execute' pushbutton, and then choose 'Summarization Simulation FI' under 'DMA Summarization Simulation').

Reference procedure	Description (see table TTYP)	Current No. of Entries	No. of Entries WITH Summarization	Total Improvements in %
-	-	-	-	-

#### \* Explanation: Calculation of the 'Total Improvement'

x = Current No. of Entries (per Ref. Procedure)

y = No. of Entries WITH Summarization (per Ref. Procedure)

t = Total (of Current No. of Entries)

Total Improvement for Ref. Procedure aaaa =  $(x - y) / t = z\%$

The 'Total Improvement' column shows the effect of the improvements on the total number of records (caused by a specific reference procedure).

**Note:** FI document summarization will also have a positive impact on the dependent secondary index tables (such as table BSIS).

## 7.10.2 FI Classic: Accounting Documents: Archiving

### General Archiving Information

Financial accounting documents are archived, deleted, and so on, using archiving object FI\_DOCUMNT. Data in the FI document header (table BKPF) and line items (tables BSEG/RFBLG) is archived (written to archive files).

Entries from the following tables are deleted (not written to archive files):

- The secondary index tables **BSIS**, **BSAS**, **BSAK**, and **BSAD** as well as the archive indexes for financial accounting documents (table ARIX\_BKPF) are deleted by the post-processing program/remove index program of FI\_DOCUMNT.

**Note:** For archived FI documents, it is no longer possible to display the balance sheet adjustment data in the transaction for displaying FI documents FB03 (Environment --> Balance Sheet Adjustment).

- The entries in secondary index table **BSIM** are deleted by the deletion program of FI\_DOCUMNT.

### Business-Process-Related Information

#### Customizing Settings

Application-Specific Customizing

In order to archive data, document-specific settings must be configured in Customizing for Financial Accounting. You have to configure settings for index management, document type life, and account type life.

#### 1. Document Type Life

You can define the minimum amount of time a document spends in the system (prior to archiving) according to company code and document type. The system archives only those documents that have exceeded their **document life**. The reference dates used by the system to calculate this are the document posting date and the key date you specify when you start the archiving program.

If the minimum life is the same for multiple company codes or document types, you can enter an asterisk (\*) instead of entering a specific company code or document type. Otherwise, enter the relevant company code or document type.



(You can also determine the **archiving index life** for document types. Archiving indexes represent the link between accounting data and archives. The application-specific archive index for FI\_DOCUMNT is stored in table ARIX\_BKPF. See SAP Note 807726.)

### Recommendation

Setting the document type life for 'Company code' = '\*' and 'Document type' = '\*' ensures that all types of Financial Accounting documents are archived.

## 2. Detailed Archiving Assessment

There are two business transactions where it can be useful to determine whether or not the document has already been archived (because the document life has been reached or exceeded) prior to executing either of the transactions.

The transactions in question are

- FBRA - Reset Cleared Items
- FCH8 - Cancel Check Payment

If the indicator is set, the system examines in detail whether the document is contained in a current archiving run. If this is not the case, the resetting of cleared items is allowed. If the indicator is not selected and the document runtime has been reached, the resetting of cleared items is always rejected.

The following table shows the Customizing settings for the document type life in your system (transaction OBR8): The analysis was performed with transaction TAANA, variant AD-HOC.

Company Code	Document Type	Document Life in days
*	*	9999
BE01	*	0550
BE51	*	0550
CH06	*	0550
CH10	*	0550
CH11	*	0550
CH12	*	0550
CH13	*	0550
CH56	*	0550
CH61	*	0550
CH62	*	0550
CH63	*	0550
CN01	*	0550
CN02	*	0550
CN03	*	0550
CN04	*	0550
CN05	*	0550
CN08	*	0550
CN51	*	0550
CN52	*	0550
CN53	*	0550
CN54	*	0550
CN55	*	0550
CN58	*	0550
CZ01	*	0550
ES08	*	0550
GB01	*	0550
US01	*	0550
US02	*	0550
US18	*	0550
US19	*	0550
US69	*	0550

## 2. Account Type Life

You can define the minimum life, which is the amount of time a document spends in the system (prior to archiving), based on the company code, account type, and account number interval. When you archive

documents, the system selects only those documents that have exceeded their document life. The reference dates used by the system to calculate this are the clearing date of the individual line items for documents with cleared items, or the document posting date for all other documents and the key date you specify when you start the archiving program.

If the minimum life is the same for several company codes, you can enter an asterisk (\*) in the company code column. If this is not the case, enter the appropriate company code.

The system requires you to enter G/L account numbers. This means that if you enter a number range for **D** or **K** account types (customer or vendor), you will need to use the numbers of the corresponding reconciliation accounts.

### Recommendation

Setting the account life for the following entries ensures all accounts are archived:

'Company code' = '\*', 'Account type' = '\*', 'From account' = '0', 'To account' = '999999999';

'Company code' = '\*', 'Account type' = '\*', 'From account' = 'A', 'To account' = 'ZZZZZZZZZ'.

For more information, see SAP Note 94144.

The following table shows the Customizing settings for the account type life in your system (transaction OBR7). The analysis was performed with transaction TAANA and variant AD-HOC.

Company Code	Account Type	From Account	To Account	Account Life	Secondary Index Run Time
*	*	0000000000	9999999999	9999	9999
*	*	A	ZZZZZZZZZZ	9999	9999
BE01	*	0000000000	9999999999	0550	1100
BE51	*	0000000000	9999999999	0550	1100
CH06	*	0000000000	9999999999	0550	1100
CH10	*	0000000000	9999999999	0550	1100
CH11	*	0000000000	9999999999	0550	1100
CH12	*	0000000000	9999999999	0550	1100
CH13	*	0000000000	9999999999	0550	1100
CH56	*	0000000000	9999999999	0550	1100
CH61	*	0000000000	9999999999	0550	1100
CH62	*	0000000000	9999999999	0550	1100
CH63	*	0000000000	9999999999	0550	1100
CN01	*	0000000000	9999999999	0550	1100
CN02	*	0000000000	9999999999	0550	1100
CN03	*	0000000000	9999999999	0550	1100
CN04	*	0000000000	9999999999	0550	1100
CN05	*	0000000000	9999999999	0550	1100
CN08	*	0000000000	9999999999	0550	1100
CN51	*	0000000000	9999999999	0550	1100
CN52	*	0000000000	9999999999	0550	1100
CN53	*	0000000000	9999999999	0550	1100
CN54	*	0000000000	9999999999	0550	1100
CN55	*	0000000000	9999999999	0550	1100
CN58	*	0000000000	9999999999	0550	1100
CZ01	*	0000000000	9999999999	0550	1100
ES08	*	0000000000	9999999999	0550	1100
GB01	*	0000000000	9999999999	0550	1100
US01	*	0000000000	9999999999	0550	1100
US02	*	0000000000	9999999999	0550	1100
US18	*	0000000000	9999999999	0550	1100
US19	*	0000000000	9999999999	0550	1100
US69	*	0000000000	9999999999	0550	1100

### Analysis result for Application-Specific Customizing (Document Type Life, Account Type Life)

Setting the document type, account type life time, secondary index life, and archive index run times to **9999 days** (approximately 27 years), or **1 day** means that FI documents will either remain in the system for too long, or may be archived too early.

If you do not specify the archive index runtime (for all company codes and document types) in the document-type-specific customizing settings, the system uses a minimum life of **9999 days** for the archive indexes.

### Recommendation

Customize the appropriate retention times for document types, accounts types, secondary indexes, and archive indexes.

We recommend:

keep the **FI documents** from the current and the last fiscal year in the system (archive all FI documents older than the last fiscal year)

keep the **secondary indices** of archived FI documents in the system for 3 years (delete the secondary indices of archived FI documents after 3 years)

### If stricter archiving is necessary:

keep the FI documents online during the current fiscal year. If you need to archive FI documents within the current fiscal year, ask your application team about possible side-effects.

If FI documents are to be archived during the current fiscal year, the required reconciliation reports must run before archiving. We advise against mid-year archiving. This should only be carried out if there is an extremely large increase in the amount of data.

### Prerequisites for Archiving

A number of conditions must be met to ensure that only documents that are no longer required in the online system are archived. To determine whether a document can be archived, the archiving program checks the document header and line items. If, during the checks, one of the prerequisites for the document is not met, the entire document is not archived. The main check criteria for archiving FI documents are:

Document header:

- **Document life must be exceeded.**

The document life depends on the document type (for example, customer payment) and company code.

- **The document must have been in the system for at least the minimum period.**

As well as exceeding the document life and account life, documents must also exceed the minimum retention period. Before documents can be archived, the number of days between the date on which the document was entered or changed, and the archiving key date, must exceed the minimum retention period.

- **Documents with withholding tax (field BSEG-QSSKZ) must meet country-specific retention requirements.**

They must remain in the system for at least 455 days.

- **Sample, recurring, and parked documents are not included.**

Line items:

- **The document must not contain any open items.**

The system can only archive documents containing cleared items, or such that are not managed as open items.

- **The account life must have expired.**

The account life depends on the account type (customer, vendor, G/L account).

The account or document life runs from the **key date** you enter for each program run. If you do not enter a key date, the current date is used.

If you require additional individual checks for your application, you can create them in user exits.

### Recommendation

Before archiving, you can use **analysis transaction FB99** to check the archivability of documents. See SAP Note 99620 (release-independent) for further details.

### Maintaining the Variant

The standard SAP ERP system contains the following selection criteria for the write program of archiving object FI\_DOCUMNT:

- Company code
- Document number
- Document type

- Fiscal year/period
- Minimum number of days in the system
- Key date

The "min. no. of days in the system" means that the period between the entry date (CPU date of the document) and the key date entered, must be longer than the specified period, to be able to archive the document.

### Display Functions

You can access archived data with the following functions:

Transactions:

- FB03 Display Accounting Document

Read Programs:

- RFBELJ00 Compact Document Journal
- RFEPOJ00 Line Item Journal
- RFKKET00 Extract for Accumulated Open Item Balance Audit Trail
- RFKLET00 Extract for the Accumulated Historical Balance Audit Trail
- RFUSVB10 Annual Tax Report (Belgium) ---> On Tape / Paper
- RFUSVS10 Annual Sales Report (Spain) > on Disk
- SAPF048A FI, Document Archiving: Technical Standard Evaluation (not available as of ECC5.0)
- SAPF048L FI Documents: Display from DB and/or Archive
- SAPF048S FI Document Archiving: Standard Document Search
- SAPF048Z FI Document Archiving: Determine Archive Files for Documents
- RFITEMAR Customer Line Item Display

Other reports using

- logical database BRF
- logical database DDF (FBL5, FBL5N, RFITEMAR)
- logical database DDF (FBL5, FBL5N, RFITEMAR)
- logical database DDF (FBL5, FBL5N, RFITEMAR)

Document Relationship Browser

As of SAP R/3 Release 4.7, the DRB is integrated within the user role SAP\_DRB, which provides a user menu (for SAP R/3 Releases 3.1 - 4.6C, see SAP Note 389335). This user menu replaces SAP transaction ALO1. The user role "SAP\_DRB" has to be assigned to the user, as follows:

Execute transaction PFCG -> insert the role "SAP\_DRB" -> Display -> Go to the "User" tab page.

To display individual documents, execute transaction PFCG -> insert the role "SAP\_DRB" -> Display -> go to the "Menu" tab page. You have the same access as in the old ALO1.

- Transaction ALO1 (up to SAP R/3 Release 4.6C), point of entry: Accounting Documents

SAP Archive Information System

- business-specific view available (as of Release 4.6C)

Field catalogs

- SAP\_FI\_DOC\_002 Item Key and Reference
- SAP\_FI\_DOC\_DRB1 Standard for DRB

### Note

- If you need to evaluate archived data, you can use one of the R/3 standard evaluation programs, SAPF048C, or copy the program and modify it as required. This program can generate a list of all the documents in an archive file. You can also include the SAP database and an archive in the evaluation.

- SAP\_FI\_DOC\_002 / SAP\_FI\_DOC\_DRB1: You can display accounting documents from the archive. You can display this document from the display line items function in the General Ledger, Accounts Receivable, or Accounts Payable menu. You can only display line items from an account, if the secondary index is still in the system. Whether or not the secondary index still exists, depends on the length of its index life.

### Additional information

There is more than one option for incorporating archived FI documents into the application. You can use the FI\_DOCUMNT application-specific archive index ARIX\_BKPF and/or an SAP Archive Information System (SAP AS) index.

- Displaying documents (transaction FB03):

You can display archived FI documents by entering the document number directly in transaction FB03. An SAP AS index must be available.

- Account-based display (transactions FBL1N, FBL3N / FAGLL03, FBL5N):

Account-based display with transactions FBL1N, FBL3N/FAGLL03, and FBL5N is usually essential for the business.

You can also use these transactions to access archived data. This requires that

- the corresponding secondary index tables (BSIS, BSAD, and so on) exist, together with an SAP AS index at header level (based on the field catalog SAP\_FI\_DOC\_001), or
- there is an SAP AS index at item level (based on the field catalog SAP\_FI\_DOC\_002)

If the G/L account line items are displayed using transaction FBL3(N), the secondary indexes in table BSIS do not need to be accessed. The items can be read directly from the archive by the SAP AS. If you are using the SAP AS to read the items, the residence time of the secondary index can be set to match the residence time of the documents for the SAP AS, helping to reduce the number of BSIS entries. The secondary indexes on FI documents can be deleted separately, in a post-processing run. See SAP Note 596865.

**Caution:** SAP AS information structures based on field catalog SAP\_FI\_DOC\_002 (line item-based AS information structure) will grow significantly. Use the secondary indexes instead of a line-item-based SAP AS information structure.

- DRB and business-specific view using the SAP AS.

### Application-specific archive index ARIX\_BKPF and Archive Information System SAP AS

The application-specific archive index ARIX\_BKPF displays archived FI documents up to and including SAP ERP 2004.0. As of SAP ERP 6.0, indexing uses the SAP AS information structure. This is more effective than the previous archive index, but it is still possible to access documents indexed with ARIX\_BKPF, from earlier releases.

For older releases, use the SAP AS instead of index ARIX\_BKPF. For information on prerequisites and how to switch to the SAP AS, see **SAP Note 807726** (SAP R/3 4.6C, SAP R/3 Enterprise 4.70, and SAP ERP 2004).

### Dependencies on other Archiving Objects

The current archiving concept for FI documents, recommended by SAP, is:

1. MM\_ACCTIT and transaction F110
2. FI\_DOCUMNT

### Additional information

Before archiving FI documents, payment data (tables REGU\*) should be deleted. You execute the reorganization program for payment data, with the 'Payment Run Reorganization' menu option in transaction F110. This will delete the entries in the log tables REGU\*. You should also schedule this to run regularly in the future.

See chapter 'Payment Data (Tables REGU\*)'.

### Data Content Analysis

The following tables contain the results of the analyses for table **BKPF**. The analyses were made by transaction TAANA. The variants of transaction TAANA used were ARCHIVE and AD-HOC.

1. The first table shows the distribution of BKPF entries across the **fiscal years** (on the left). The table also shows the documents with a special function/**document status** (BKPF-BSTAT), which cannot be archived (on the right).

Fiscal Year	No. of Entries	In % of Total	Noted Items (BSTAT = S)	Recurring Docs (BSTAT = D)	Parked Docs (BSTAT = V/W/Z)	Sample Docs (BSTAT = M)
< 2013	12.561.317	57,3	2.886	1.734	12.622	0
2013	3.092.333	14,1	765	246	2.942	0
2014	4.558.123	20,8	731	162	3.334	47
2015	1.706.826	7,8	264	132	6.146	0
Total	21.918.599	100,0	4.646	2.274	25.044	47

### Analysis Results

Since we assume a 1:1 relationship between table BKPF (header) and table RFBLG/BSEG (line items), you can archive the same percentage of table RFBLG/BSEG.

Only noted items, recurring documents, parked documents, and sample documents have a status that does not allow data archiving.

2. In Customizing and in the variant for archiving, the company code and document type can be used as selection fields to configure archiving. To gain an impression of how these keys are distributed, we executed an analysis based on these keys for table BKPF. For display purposes, only those entries that represent 5% or more of the total entries by volume are displayed. Therefore, the sum of the individual entries may not equal the total displayed.

Company Code	No. of Entries	In % of Total
BE02	1.190.702	5,4
CH05	2.703.749	12,3
CH12	2.503.883	11,4
US01	2.630.298	12,0
US02	1.559.258	7,1
US03	2.883.277	13,2
US06	1.691.283	7,7
Other Entries	6.756.149	30,8
Total	21.918.599	100,0

Postings for the **company codes** above were found in table BKPF. Verify that all these company codes are still being used. If any of these company codes are no longer used, consider archiving the obsolete data.

The following table shows the distribution of data in table BKPF, by document type. The analysis was performed with transaction TAANA, variant AD-HOC. For display purposes, only those document types that represent 5% or more of the total entries by volume are displayed. Therefore, the sum of the individual entries may not equal the total displayed.

Document Type	No. of Entries	In % of Total
AG	3.382.916	15,4
RE	1.223.253	5,6
RV	2.515.954	11,5
WA	3.383.778	15,4
WE	2.038.089	9,3
WL	1.784.843	8,1
Other Entries	7.589.766	34,6
Total	21.918.599	100,0

### 3. Documents posted with **withholding tax**.

Table BSEG can be analyzed to determine whether there are any documents posted with "withholding tax" (field BSEG-QSSKZ not empty). These entries must be retained for **at least 455** days before archiving (country specific). Note that such an analysis can take a long time to run since BSEG is stored in cluster table RFBLG and therefore has to be unclustered to retrieve the required information. This type of analysis is only relevant if you decide to use a residence time lower than 455 days (our standard analysis is based on 24 months).

### Archiving Objects

The following table shows the archiving objects relevant for document type FI Classic: Accounting Documents.

Archiving Object	Object Description
FI_DOCUMNT	Financial Accounting Documents

Archiving FI documents will have **further positive impact on** table **BSE\_CLR**, which stores clearing information (additional data for document segment). Since there is no 1:1 relation between table BKPF and table BSE\_CLR, reduction cannot be estimated for table BSE\_CLR.

Archiving Object	Archiving Runs	First Run	Last Run	No. of Archived and Del. Objects	Size of Archive File(s) [MB]
FI_DOCUMNT	24	13.11.1999	19.04.2014	13.175.937	13.243,31

### Evaluation

SAP Best Practices recommend that you archive FI Classic: Accounting Documents entries after 24 months, since they probably no longer need to be accessed frequently after this period of time.

13.730.528 entries, or 63% of the entries, are older than 24 months.

Archiving these entries would produce a saving potential of approximately 21,51 GB.

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

## 7.11 Material Documents

### SAP Application: MM-IM (Inventory Management)

#### Business Content

Goods movements include "external" movements (goods receipts from external procurement and goods issues for sales orders) and "internal" movements (goods receipts from production, withdrawals of material for internal purposes, stock transfers, and transfer postings). For each goods movement, a document is created that the system uses to update quantities and values and that serves as proof of goods movements.

The transaction data of goods movements (material documents) is stored in tables MKPF (header data) and MSEG (item data).

#### CURRENT SITUATION

Table	Size (GB)	Description
MSEG	17,67	Document Segment: Material
MKPF	3,22	Header: Material Document
MSEGO1	0,00	Quantity Conversion Parameters for Material Documents
MSEGO2	0,00	Material Document Quantities in Additional Units of Measure
Total Size	20,89	
% of DB Size	1,03	

### 7.11.1 Material Documents: Archiving

#### General Archiving Information

Movement data for component MM-IM (material documents) is stored in tables MKPF (header) and MSEG (line items). Since this application uses the message control function, entries are recorded in table NAST for every material document printed.

Archiving object MM\_MATBEL can be used to archive material documents. The archiving potential check only covers the document life (residence time), which can be defined for each plant and transaction/event type. When material documents are archived, the system does not check against data from other applications (for example, Purchasing, Invoice Verification, FI, and CO). Business-specific and customer-specific dependencies for these applications can, therefore, only be controlled using a suitable document life definition.

#### Customizing Settings:

##### Application-Specific Customizing

In application-specific Customizing for MM\_MATBEL, you can define a specific residence time for each combination of plant and transaction/event type. If all transaction types of a plant have the same residence time, use the placeholder "###" for the transaction/event type.

If all material documents (for all transaction/event types and all plants) have the same residence time, you can use the placeholder "####" for the plant.

#### Note:

Combinations of plant and transaction/event type that are NOT maintained in the Customizing table are NOT archived.

#### Note Regarding Residence Time:

Retain the material documents for an adequate period of time for use in logistics invoice verification. The residence time for goods receipt material documents has to be defined depending on your business processes. Customer experience has shown that it can take up to six months to receive invoices from vendors.

#### Archiving Object-Specific Customizing (Technical Settings)

For more information, see the section "Standard Operation Technical Customizing Settings".

#### Prerequisites for Archiving:

The main check criterion for archiving is:

- The residence time must have expired.

#### Maintaining the Variant:

In the standard SAP R/3 system, you can use the following selection criteria for the write program of the MM\_MATBEL archiving object:

- Material Document
- Material Document Year
- Plant



- Posting Date
- Transaction/Event Type

#### Additional Notes for Improving Performance When Archiving Material Documents:

Use the material document number to accurately restrict the selection.

Use the material document year to accurately restrict the selection.

#### Note Regarding the MM\_MATBEL Archiving Selection:

Some material documents (such as stock transfers) may contain items with different plants. If the document contains a single line item that refers to a plant not included in the selection variant or excluded in Customizing, it is not archived.

#### Display Functionalities:

You can use the following functions to access archived data:

##### SAP ERP

- Transaction MB51 (works based on SAP AS)
- Transaction MIGO (SAP Note 1306620)
- Document Relationship Browser

- Transaction ALO1, point of entry: material documents (up to Release 4.6C)
- As of Release 4.7, the DRB is integrated into user role SAP\_DRB, which provides a separate user menu. This user menu replaces SAP transaction ALO1. The user role "SAP\_DRB" has to be assigned to the user. This can be done in the following way:

Call transaction PFCG, insert role "SAP\_DRB", choose "Display" and navigate to the "User" tab page.

- SAP Archive Information System
- Read program: RM07MAAU

#### Dependencies on Other Objects:

When you use MM\_MATBEL to archive data, you have to adhere to the following guidelines:

- If you do not delete/archive corresponding data from the ACCT\* tables, do not reset the MM number ranges after you archive MM documents. Otherwise, data may be inconsistent when you create a new MM document if the ACCT\* tables already have an entry with this document number and active updating is carried out in these tables (SAP Note 83076).

- Due to the aforementioned dependency between MM\_MATBEL and MM\_ACCTIT and the potential dependency of ACCT\* data on FI document data (in terms of subsequent posting of incorrect FI documents using ACCT\* data), the archiving of MM\_MATBEL, MM\_ACCTIT, and FI\_DOCUMNT must be coordinated.

As a rule, we recommend the following sequence:

1. MM\_ACCTIT
2. or 3. MM\_MATBEL
3. or 2. FI\_DOCUMNT

#### Data Content Analysis

The following table shows the distribution of entries in tables MKPF and MSEG across several years. The analysis was carried out with transaction TAANA, variant AD-HOC.

Year (MJahr)	No. of Entries in MKPF	In % of Total	No. of Entries in MSEG	In % of Total
< 2012	9.716.890	65,0	19.731.387	57,5
2012	1.266.947	8,5	2.621.434	7,6
2013	1.219.856	8,2	2.509.176	7,3
2014	2.000.727	13,4	6.838.675	19,9
2015	749.534	5,0	2.641.931	7,7
Total	14.953.954	100,0	34.342.603	100,0

The following table shows the annual distribution of entries in table MKPF for the top five transaction types that cause the most entries (table T158 contains the assignment of transaction codes to transaction types). The analysis was carried out with SAP transaction code TAANA, variant AD-HOC.

Transaction Type (VGART)	Description	Year (MJahr)	Total No. of Entries	In % of Total
WA	GI, Trsfr Posting, Other Goods Movement	< 2012	4.295.391	28,7



Transaction Type (VGART)	Description	Year (MJAHHR)	Total No. of Entries	In % of Total
WA	GI, Trsfr Posting, Other Goods Movement	2012	490.249	3,3
WA	GI, Trsfr Posting, Other Goods Movement	2013	495.954	3,3
WA	GI, Trsfr Posting, Other Goods Movement	2014	743.536	5,0
WA	GI, Trsfr Posting, Other Goods Movement	2015	277.436	1,9
WA (Total)			6.302.566	42,1
WE	Goods Receipt for Purchase Order	< 2012	1.536.873	10,3
WE	Goods Receipt for Purchase Order	2012	195.303	1,3
WE	Goods Receipt for Purchase Order	2013	183.893	1,2
WE	Goods Receipt for Purchase Order	2014	239.324	1,6
WE	Goods Receipt for Purchase Order	2015	93.369	0,6
WE (Total)			2.248.762	15,0
WF	Goods Receipt for Order	< 2012	1.475.287	9,9
WF	Goods Receipt for Order	2012	151.771	1,0
WF	Goods Receipt for Order	2013	143.937	1,0
WF	Goods Receipt for Order	2014	193.727	1,3
WF	Goods Receipt for Order	2015	71.157	0,5
WF (Total)			2.035.879	13,6
WL	Goods Issue for Delivery	< 2012	958.966	6,4
WL	Goods Issue for Delivery	2012	214.866	1,4
WL	Goods Issue for Delivery	2013	190.328	1,3
WL	Goods Issue for Delivery	2014	415.081	2,8
WL	Goods Issue for Delivery	2015	159.607	1,1
WL (Total)			1.938.848	13,0
WR	Goods Movement for Completion Confirm.	< 2012	774.187	5,2
WR	Goods Movement for Completion Confirm.	2012	117.308	0,8
WR	Goods Movement for Completion Confirm.	2013	112.717	0,8
WR	Goods Movement for Completion Confirm.	2014	142.083	0,9
WR	Goods Movement for Completion Confirm.	2015	54.187	0,4
WR (Total)			1.200.482	8,0
Other Entries			1.227.417	8,2
Total			14.953.954	100,0

The following table shows the annual distribution of entries in table MSEG for the top five plants. The analysis was performed with transaction TAANA and variant AD-HOC.

Plant (WERKS)	Year (MJAHHR)	No. of Entries	In % of Total
0003	< 2012	10.930.657	31,8
0003	2012	907.351	2,6
0003	2013	848.666	2,5
0003	2014	840.393	2,4
0003	2015	337.865	1,0
0003 (Total)		13.864.932	40,4
1011	< 2012	887.395	2,6
1011	2012	116.240	0,3
1011	2013	112.251	0,3

Plant (WERKS)	Year (MJAH)	No. of Entries	In % of Total
1011	2014	108.002	0,3
1011	2015	39.508	0,1
1011 (Total)		1.263.396	3,7
6010	< 2012	1.771.836	5,2
6010	2012	398.811	1,2
6010	2013	372.404	1,1
6010	2014	364.625	1,1
6010	2015	137.538	0,4
6010 (Total)		3.045.214	8,9
6040	< 2012	700.873	2,0
6040	2012	205.463	0,6
6040	2013	187.582	0,5
6040	2014	154.314	0,4
6040	2015	62.086	0,2
6040 (Total)		1.310.318	3,8
US61	2013	6.698	0,0
US61	2014	1.500.218	4,4
US61	2015	552.798	1,6
US61 (Total)		2.059.714	6,0
Other Entries		12.799.029	37,3
Total		34.342.603	100,0

### Archiving Objects

The following table shows the archiving objects relevant for document type Material Documents.

Archiving Object	Object Description
MM_MATBEL	Materials management: Material documents

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of Archived and Del. Objects	Size of Archive File(s) [MB]
MM_MATBEL	3	13.11.1999	13.11.1999	1.197.145	514,5

### Evaluation

SAP Best Practices recommend that you archive Material Documents entries after 24 months, since they probably no longer need to be accessed frequently after this period of time.

11.445.065 entries, or 77% of the entries of table MKPF and 23.301.540 entries, or 68% of the entries of table MSEG are older than 24 months.

Archiving these entries would produce a saving potential of approximately 14,45 GB.

## 7.12 Material Ledger Document

SAP Application: CO-PC-ACT (Actual Costing/Material Ledger)

### Business Content

The application component Actual Costing/Material Ledger fulfills two basic objectives:

- 1 - The ability to carry material prices in multiple currencies/valuations (carrying inventories in multiple currencies and/or valuations)
- 2 - Actual costing (determining actual costs for externally procured materials and materials produced in-house, actual costs to value material inventories, such as raw materials, as well as semi-finished and finished products)

The material ledger document is a document that displays the transactions relevant to material valuation in all present currencies and valuations.

For every valuated transaction (for example, goods movements, invoice receipts, credits and debits, account maintenance, material price determination, price changes, or closing entries), the material ledger document records the changes that result from the posting in the system during the material valuation.

Material ledger documents can also be updated, even if the material ledger is not active. This is caused by a design change in SAP R/3 Release 4.5A. Due to modifications in the price change transaction MR21, the price change documents are defined as material ledger documents as of Release 4.5A. This is independent of the active use of the material ledger.

The data of material ledger documents is stored in tables ML\* (MLHD, MLIT, MLPP, MLPPF, MLCR, MLCRF, and MLCRP).

### CURRENT SITUATION

Table	Size (GB)	Description
MLKEPH	18,93	ML Document: Cost Component Split (Elements) for Values
MLCR	7,70	Material Ledger Document: Currencies and Values
MLIT	4,12	Material Ledger Document: Items
MLCRF	3,46	Material Ledger Document: Field Groups (Currencies)
MLPP	2,79	Material Ledger Document: Posting Periods and Quantities
MLPPF	1,60	Material Ledger Document: Field Groups (Posting Periods)
MLCRP	1,36	Material Ledger Document: Price Changes (Currencies, Prices)
MLHD	0,59	Material Ledger Document: Header
MLPRKEPH	0,26	ML Document: Cost Component Split (Components)for Prices
MLPRKEPH	0,26	ML Document: Cost Component Split (Components)for Prices
MLMST	0,05	Material Ledger Document: Costing Run Header Data
Total Size	41,11	
% of DB Size	2,03	

### 7.12.1 Material Ledger Document: Archiving

#### General Archiving Information

Material ledger documents can be archived with the archiving object CO\_OM\_BEL.

With this archiving object, data from the following tables is archived:

CKMLCT, MLCR, MLCRF, MLCRP, MLHD, MLIT, MLKEPH, MLMST, MLPP, MLPPF, MLPRKEKO, and MLPRKEPH.

Information from table CKMLCT is not deleted. The system writes it to the archive for check reasons only. To determine the archiving potential, the header table (MLHD), document items table (MLIT), and currency and values table (MLCR) need to be analyzed. Archived data can be reloaded with program SAPRCKMX.

#### Customizing Settings

Application-Specific Customizing

There are no application-specific Customizing settings for archiving object CO\_ML\_BEL.

#### Prerequisites for Archiving

Material ledger documents contain data that is recorded during every valuation-relevant business transaction.

The material ledger documents can be archived:

- 1) If the company is legally obliged to store particular documents. Since such data is relevant for valuation, the accounting department must be involved.
- 2) For closed periods that are no longer required for material price determination and reporting purposes, but this

is not checked by the archiving object and must be considered by creating the archiving selection variants.

The material ledger documents can be differentiated by the material ledger transaction types (MLHD-VGART):

The following material ledger documents types cannot be archived for the current period and the previous period.

- CL material ledger closing entries
- ST single-level price determination
- MS multilevel price determination

For these documents, the system checks whether the accounting document entry date (MLHD-CPUDT) is older than 62 days. This data is needed for the correct representation of the material price analysis CKM3 (report SAPLCKM8) and also for the verification of the material period status.

The price change and closing entry documents should only be archived if the material ledger period data has been archived for the relevant periods.

You can use the "ML Transaction Type" parameter to exclude the price change and closing entry documents from the selection. For price change documents, the transaction type is "PC", and for closing entry documents, the transaction type is "CL".

If there is still material ledger period data in the system and it has been evaluated and analyzed, but all material ledger documents have already been archived, there may be inconsistencies in the material price analysis (transaction CKM3) in the opening inventory of the affected periods.

Material ledger documents of type UP (material ledger update) can be archived for all periods excluding the current period. If information is needed based on these archived material ledger documents, this information can be derived from the summarization records of table MLCB.

Material ledger documents of the other transaction types are not checked against a time period (residence time) or other criteria.

#### General Information

As a general rule, we recommend that you keep the volume of data that is to be archived as low as possible. Carry out archiving as often as possible and spread the data that is to be archived across several archiving runs. Since archiving is not normally time-critical, we recommend that you schedule the runs to take place overnight or on the weekend, or at a time when utilization of the server is at its lowest. Make sure that the table statistics for the processed objects are as up-to-date as possible (see transaction DB20).

#### Additional Information

Archived material ledger documents cannot be displayed with the standard business transaction and also cannot be reversed.

#### Maintaining the Variant

The following field selection parameters are available for the write report:

Valuation Area  
Document Date  
ML Transaction Type  
Document Number  
Calendar year  
Period/Year  
Posting Date

#### Display Functionalities

Note that evaluations on the basis of documents do not include the archived documents. You should archive documents in accordance with your information requirements.

Transaction CKM3 does not access archived documents.

You can use the following functions to access archived data:

Read program (function ANALYZE of SARA):  
SAPRCKMX\_LESEN (sequential read with manual archive file selection)  
SAP Archive Information System:

Two standard SAP field catalogs are available:

- SAP\_CO\_ML\_001 (material number, plant)
- SAP\_CO\_ML\_002 (material number, plant, period)

In ECC 6.0, the standard archive infostructure SAP\_ML\_BEL002 is available (see SAP Note 1010787).

DRB: You can include price change documents in the Document Relationship Browser DRB by implementing SAP Note 642748 (SAP R/3 Release 4.6C to SAP R/3 Release 4.70) (TA: CKMPCD GoTo DRB).

### Remarks

Field catalog SAP\_CO\_ML\_001 (relevant as of SAP R/3 Release 46C, also for ECC 5.0 and ECC 6.0)  
See SAP Note 949559:

SAP Note 748992 implements a change that allows you to make the selection according to the posting date when you archive documents (archiving object CO\_ML\_BEL). However, the standard field catalog was not changed correspondingly.

### Reloading Archived Documents

When you reload documents, you can use the usual reporting functions to analyze them again (such as material price analysis).

The reload function could be used if the number ranges were not reset after archiving.

Only an entire archive file could be reloaded by file selection; no selection criteria are available.

### Dependencies on Other Objects

Before you use archiving object CO\_ML\_BEL, make sure that the data is no longer needed for the following:

For material price determination

For reporting purposes

This is not checked by the program, however. This must be defined by the customer business consultants.

Documents can be archived independently of other archiving programs.

If you convert into euros, data that has already been archived is not included. Once the current database has been converted into euros, it is no longer possible to reload datasets that were archived before the euro conversion.

### Data Content Analysis

The following analyses indicate the possible reduction potential through archiving.

#### Table MLHD – Document Header

The following table contains the results of the analysis for table MLHD (document headers), sorted by transaction type and fiscal year. The analysis was carried out using transaction TAANA, variant AD-HOC.

Transaction Type	Description	Year	No. of Entries	In % of Total
AL	Activity Type/ABC Process Closing	2014	213	0,0
AL	Activity Type/ABC Process Closing	2015	260	0,0
CL	Material Ledger Settlement	2014	9.982	0,3
CL	Material Ledger Settlement	2015	23.928	0,7
MS	Multilevel Price Determination	2014	263.090	8,1
MS	Multilevel Price Determination	2015	97.231	3,0
PC	Price Change	< 2013	177.506	5,4
PC	Price Change	2013	16.309	0,5
PC	Price Change	2014	20.900	0,6
PC	Price Change	2015	9.232	0,3
RC	Revaluation of Consumption	2014	25.173	0,8
RC	Revaluation of Consumption	2015	23.369	0,7
ST	Single-Level Price Determination	2014	17.275	0,5
ST	Single-Level Price Determination	2015	21.266	0,7
UP	Material Ledger Update	2014	1.607.979	49,2
UP	Material Ledger Update	2015	876.160	26,8
WP	WIP Revaluation	2014	45.777	1,4
WP	WIP Revaluation	2015	32.166	1,0
Total			3.267.816	100,0

#### Table MLIT – Document Items

The next table shows the analysis of table MLIT by company code and fiscal year. The analysis was carried out with transaction TAANA, variant AD-HOC.

Company Code	Year	No. of Entries	In % of Total
AR01	2014	36.358	0,2



Company Code	Year	No. of Entries	In % of Total
AR01	2015	222.208	1,2
AR01 (Total)		258.566	1,4
BE01	< 2013	6.182	0,0
BE01	2013	958	0,0
BE01	2014	40.803	0,2
BE01	2015	54.591	0,3
BE01 (Total)		102.534	0,5
BE02	< 2013	201.327	1,1
BE02	2013	54.611	0,3
BE02	2014	271.745	1,4
BE02	2015	239.678	1,3
BE02 (Total)		767.361	4,0
CA02	2014	141.014	0,7
CA02	2015	48.340	0,3
CA02 (Total)		189.354	1,0
CA03	2014	82	0,0
CA03	2015	46	0,0
CA03 (Total)		128	0,0
CH05	< 2013	24.921	0,1
CH05	2013	4.777	0,0
CH05	2014	29.589	0,2
CH05	2015	24.779	0,1
CH05 (Total)		84.066	0,4
CH06	< 2013	436	0,0
CH06	2013	4	0,0
CH06	2014	29	0,0
CH06	2015	895	0,0
CH06 (Total)		1.364	0,0
CH12	< 2013	205.227	1,1
CH12	2013	17.906	0,1
CH12	2014	917.040	4,8
CH12	2015	1.188.290	6,2
CH12 (Total)		2.328.463	12,2
CN01	< 2013	2.041	0,0
CN01	2013	630	0,0
CN01	2014	13.059	0,1
CN01	2015	10.179	0,1
CN01 (Total)		25.909	0,1
CN02	< 2013	5.698	0,0
CN02	2013	250	0,0
CN02	2014	10.225	0,1
CN02	2015	273	0,0
CN02 (Total)		16.446	0,1
CN03	< 2013	6.324	0,0
CN03	2013	778	0,0
CN03	2014	103.181	0,5
CN03	2015	83.776	0,4
CN03 (Total)		194.059	1,0
CN04	< 2013	47	0,0
CN04	2014	669	0,0
CN04 (Total)		716	0,0
CN05	< 2013	316	0,0
CN08	< 2013	2.244	0,0

Company Code	Year	No. of Entries	In % of Total
CN08	2013	691	0,0
CN08	2014	23.382	0,1
CN08	2015	21.677	0,1
CN08 (Total)		47.994	0,3
CN11	2014	133.741	0,7
CN11	2015	52.516	0,3
CN11 (Total)		186.257	1,0
CN12	2014	19.873	0,1
CN12	2015	7.917	0,0
CN12 (Total)		27.790	0,1
CZ01	< 2013	21.618	0,1
CZ01	2013	10.692	0,1
CZ01	2014	67.961	0,4
CZ01	2015	55.279	0,3
CZ01 (Total)		155.550	0,8
DE03	< 2013	6.826	0,0
DE03	2013	1.585	0,0
DE03	2014	73.907	0,4
DE03	2015	69.120	0,4
DE03 (Total)		151.438	0,8
DK01	< 2013	5.820	0,0
DK01	2013	794	0,0
DK01	2014	6.309	0,0
DK01	2015	15.517	0,1
DK01 (Total)		28.440	0,1
ES01	< 2013	859	0,0
ES08	< 2013	12.453	0,1
ES08	2013	9.403	0,0
ES08	2014	72.161	0,4
ES08	2015	73.256	0,4
ES08 (Total)		167.273	0,9
FR01	< 2013	1.999	0,0
FR01	2014	494	0,0
FR01 (Total)		2.493	0,0
GB01	< 2013	27.027	0,1
GB01	2013	3.780	0,0
GB01	2014	149.674	0,8
GB01	2015	212.659	1,1
GB01 (Total)		393.140	2,1
GB04	< 2013	5.443	0,0
GB08	2014	117.890	0,6
GB08	2015	47.028	0,2
GB08 (Total)		164.918	0,9
GB09	2014	79.116	0,4
GB09	2015	30.472	0,2
GB09 (Total)		109.588	0,6
GB10	2014	37.984	0,2
GB10	2015	18.114	0,1
GB10 (Total)		56.098	0,3
IN01	< 2013	3.231	0,0
IN01	2013	1.379	0,0
IN01	2014	29.869	0,2
IN01	2015	29.607	0,2

Company Code	Year	No. of Entries	In % of Total
IN01 (Total)		64.086	0,3
IN02	2014	13.081	0,1
IN02	2015	5.530	0,0
IN02 (Total)		18.611	0,1
IT01	< 2013	935	0,0
JP01	< 2013	2.929	0,0
JP01	2013	1.572	0,0
JP01	2014	57.451	0,3
JP01	2015	97.279	0,5
JP01 (Total)		159.231	0,8
NL03	2014	12.834	0,1
NL03	2015	3.938	0,0
NL03 (Total)		16.772	0,1
SG02	< 2013	20.954	0,1
SG02	2013	1.476	0,0
SG02	2014	67.567	0,4
SG02	2015	70.749	0,4
SG02 (Total)		160.746	0,8
SG03	< 2013	2.479	0,0
SG04	< 2013	613	0,0
SG04	2013	200	0,0
SG04	2014	1.148	0,0
SG04	2015	3.334	0,0
SG04 (Total)		5.295	0,0
SG05	< 2013	10.337	0,1
SG05	2013	1.834	0,0
SG05	2014	36.027	0,2
SG05	2015	61.841	0,3
SG05 (Total)		110.039	0,6
US01	< 2013	52.844	0,3
US01	2013	3.100	0,0
US01	2014	645.199	3,4
US01	2015	384.616	2,0
US01 (Total)		1.085.759	5,7
US02	< 2013	62.544	0,3
US02	2013	14.296	0,1
US02	2014	177.204	0,9
US02	2015	117.109	0,6
US02 (Total)		371.153	2,0
US03	< 2013	94.992	0,5
US03	2013	6.091	0,0
US03	2014	842.467	4,4
US03	2015	549.199	2,9
US03 (Total)		1.492.749	7,8
US04	< 2013	8.405	0,0
US04	2013	1.551	0,0
US04	2014	228.716	1,2
US04	2015	153.647	0,8
US04 (Total)		392.319	2,1
US06	2014	6.353.861	33,4
US06	2015	2.277.268	12,0
US06 (Total)		8.631.129	45,4
US07	2014	321.785	1,7



Company Code	Year	No. of Entries	In % of Total
US07	2015	122.227	0,6
US07 (Total)		444.012	2,3
US08	2014	63.389	0,3
US08	2015	22.212	0,1
US08 (Total)		85.601	0,5
US09	2014	47.233	0,2
US09	2015	14.869	0,1
US09 (Total)		62.102	0,3
ZA01	2014	178.199	0,9
ZA01	2015	266.163	1,4
ZA01 (Total)		444.362	2,3
ZA02	2014	1.700	0,0
ZA02	2015	2.473	0,0
ZA02 (Total)		4.173	0,0
Total		19.018.116	100,0

#### Table MLCR – Currencies and Values

A further table shows the analysis of table MLCR by currency. The analysis was carried out with transaction TAANA, variant AD-HOC.

Currency	Description	Year	No. of Entries	In % of Total
10	Company code currency	< 2013	804.085	1,4
10	Company code currency	2013	138.360	0,2
10	Company code currency	2014	12.475.114	21,5
10	Company code currency	2015	6.647.698	11,4
10 (Total)			20.065.257	34,5
30	Group currency	2014	12.392.478	21,3
30	Group currency	2015	6.647.547	11,4
30 (Total)			19.040.025	32,7
31	Group currency, group valuation	2014	12.392.478	21,3
31	Group currency, group valuation	2015	6.647.547	11,4
31 (Total)			19.040.025	32,7
Total			58.145.307	100,0

#### Archiving Objects

Archiving object CO\_ML\_BEL archives the material ledger documents/price change documents of the Actual Costing/Material Ledger component (tables ML\*).

Archiving Object	Object Description
CO_ML_BEL	Material ledger docs (MLHD/IT/PP/PPF/CR/CRF/CRP)

#### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

#### Evaluation

SAP Best Practices recommend that you archive Material Ledger Documents entries after 24 months, since they probably no longer need to be accessed frequently after this period of time.

183.672 entries, or 6% of the entries, are older than 24 months.

Archiving these entries would produce a saving potential of approximately 2,31 GB.

#### Important

If more aggressive archiving is required due to fast growing data volume, the following data could be archived: Data of the previous fiscal year, excluding the last period of the previous fiscal year. This means archiving fiscal year 20XX is possible by excluding period 12/20XX.

AND

Data of the current fiscal year, excluding the current period, the previous period, and the period before the previous period.

Example: Current period = 10/2009 Archiving possible, excluding periods 12/2008, 08/2009, 09/2009, 10/2009

**Background Information**

All material ledger consistency checks (such as transaction CKMC) execute the analysis for:

Last period of the previous fiscal year

Previous period

Current period

## 7.13 Change Documents

### SAP Application: BC-SRV-ASF (Technology Service Functions)

#### Business Content

Change documents are used to log changes to master records, tables, and documents. All changes made to material master data, for example, are automatically updated in change documents. Changes that are carried out in one step are saved in one change document. Changes that are made sequentially, but at different points in time, are stored in different change documents.

Change documents are stored in tables CDHDR (header data) and CDPOS (item data). Table CDPOS is part of the CDCLS cluster table. Table CDPOS\_UID is also available as of Release 4.7, and table CDPOS\_STR as of Release ECC5.0.

#### CURRENT SITUATION

Table	Size (GB)	Description
CDCLS	39,87	Cluster structure for change documents
CDHDR	9,49	Change document header
CDPOS_UID	0,36	Additional Table for Inclusion of TABKEY>70 Characters
CDPOS_STR	0,00	Additional Change Document - Table for STRINGS
CDPOS	0,00	Change document items
Total Size	49,72	
% of DB Size	2,45	

### 7.13.1 Change Documents: Avoidance

#### General Information

For networks and plant maintenance orders, you can prevent change documents from being written by configuring certain Customizing settings. You can deactivate the creation of change documents or apply the settings to specific status changes on the network/order (changes at header level, operations, materials, or production/resource tools).

Use the following menu path in the IMG for networks:

Project System -> Structures -> Operative Structures -> Network -> Settings for Networks -> Specify Parameters for Network Type

Use the following menu path in the IMG for plant maintenance orders:

Plant Maintenance and Customer Service -> Maintenance and Service Processing -> Functions and Settings for Order Types -> Define Change Docs, Collective Purc. Req. Indicator, MRP-Relevance

For more information, see SAP Note 390635.

You can deactivate the change documents for CO groups (change document object SETS) in Customizing: IMG -> Controlling -> General Controlling -> Production Start-Up Preparation -> Activate Change Documents for Groups. (For more information, see SAP Note 367073.)

The table below shows the CO groups for which change documents are written.

Table SETCLS\_CD was analyzed with transaction TAANA, variant AD-HOC (filter SETWRITECD = X). Table SETCL contains the descriptions of the CO groups identified.

Set Class	Description
0000	Sets
0003	Report Sets
0101	Cost Center Groups
0102	Cost Element Groups
0103	Order Groups
0104	Statistical Key Figure Groups
0105	Activity Type Groups
0106	Profit Center Groups
0111	Fund Groups
0112	Functional Area Groups
0113	Grant Groups
0311	Commitment Item Groups

Set Class	Description
0312	Funds Center Groups

For initial listing (Retail), you can use transaction WSM8 (Reorganize Listing Conditions by Material Group) to deactivate the creation of change documents for tables WLK1 and MARC by setting the "Deactivate Change Documents" indicator. You should do this for performance reasons since change documents are generally not required for initial listing.

## 7.13.2 Change Documents: Deletion

### General Information

You can use report RSCDOK99 to delete change documents.

You can use report RWSORT54 to delete change documents for object classes WLK1, ASMODULE, WBASISWG, and LAYMOND depending on date selection.

### Recommendation

These deletion reports should be used in exceptional cases only and are the sole responsibility of the customer. It is better to archive change documents using the relevant application archiving objects or generic archiving object CHANGEDOCU.

### Deletion Objects

The following table shows the deletion objects relevant for the document type.

#### DELETION OBJECT

Deletion Object	Object Description
RSCDOK99	Delete Change Documents
RWSORT54	Delete Out-of-Date Change Documents for WLK1 and ASMODULE

### Deletion Runs

If deletion jobs were scheduled recently for this document type, the following table shows some details. If no deletion jobs were detected, nothing is displayed.

Since the history of scheduled jobs is deleted regularly (for example, after 2 weeks), this analysis cannot include details of past periods.

Deletion Object	Job Name (SM37)	Deletion Runs	First Run	Last Run	Periodic
RSCDOK99	N/A	0			<input type="checkbox"/>
RWSORT54	N/A	0			<input type="checkbox"/>

## 7.13.3 Change Documents: Archiving

### General Archiving Information

Change documents can be archived in the following way:

a) In context with the corresponding application archiving object:

For example, change documents for sales documents are archived together with the sales documents (archiving object SD\_VBAK in ERP systems or archiving object CRM\_SALDOC in CRM systems). Change documents for business partner master data are archived together with archiving object CA\_BUPA.

b) You can archive change documents separately from their related business object with archiving object CHANGEDOCU. This is a common approach for change documents for master data.

### Recommendation

We recommend archiving change documents for application data together with the corresponding archiving object. Change documents for master data can be archived separately with archiving object CHANGEDOCU in advance (for example, after a retention period of one year) since this master data is generally stored for a long-term period or never archived or deleted.

### Archiving Object CHANGEDOCU

The characteristics of archiving object CHANGEDOCU are described below.

### Customizing Settings

#### Application-Specific Customizing

There are no specific Customizing settings for archiving object CHANGEDOCU.

**Archiving Object-Specific Customizing (Technical Settings)**

For more information, see the "Standard Operation Technical Customizing Settings" section.

**Prerequisites for Archiving**

There are no application-specific prerequisites.

**Maintaining the Variant**

Selection fields of the write program for archiving object CHANGEDOCU:

The following selection criteria are possible:

- Change Doc Object
- Change Document Object Value
- From Date
- To Date
- From Time
- To Time
- Transaction Code
- Changed by (user name)

**Display Functionality**

You can use the following functions to access archived data:

- SAP Archive Information System (for more information, see SAP Note 192976). SAP Note 183774 describes how you can activate a business view that displays the long texts or change documents with formatting.
- Read program: RSSCD7RE

You have to use the SAP AS functions to retrieve the archived change documents. Therefore, create a field catalog (transaction SARJ) and set up an SAP AS info structure to obtain a technical view of the change document in the archive explorer (transaction SARI).

As of Release 4.70, there is a standard SAP field catalog (SAP\_CHANGEDOCU1) and you can display the item data of the change document using read program RSSCD7RE.

**Dependencies**

There are no dependencies to other archiving objects.

**Data Content Analysis**

The following table shows the 15 object classes that cause the most entries sorted in alphabetical order. Table CDHDR was analyzed using transaction TAANA, variant AD-HOC.

OBJECTCLAS	No. of Entries	In % of Total
/PSIIC/HDR	6.189.996	5,8
ADRESSE	2.761.488	2,6
BELEGR	2.133.577	2,0
CHARGE	3.947.224	3,7
CLASSIFY	3.864.859	3,6
COND_A	26.937.499	25,1
DEBI	4.331.422	4,0
DOKUMENT	4.290.271	4,0
EQUI	1.612.602	1,5
IFLO	3.677.949	3,4
LIEFERUNG	6.825.583	6,4
MATERIAL	8.216.031	7,7
MELDUNG	5.406.740	5,0
ORDER	4.309.226	4,0
VERKBELEG	5.377.379	5,0
Other Entries	17.369.270	16,2
Total	107.251.116	100,0

**Note**

You can use transaction SCDO to find out which tables are involved in the object class. Call transaction SCDO -> Select an object such as HANDL\_UNIT -> Change doc.object -> Display. Tables HUSSTAT, HUSTOBJ, VEKP, and VEPO are then displayed. This enables you to determine whether the changes are related to master data (which indicates the use of archiving object CHANGEDOCU) or related to transactional data.

### Archiving Objects

The following table shows the most relevant archiving objects related to the top object classes. The 'No. of Entries' column shows the number of records for which the recommended residence time has already been exceeded. These are considered as good candidates for archiving. As a result, the following table lists the potential savings and does not list the overall total number of records that are assigned to the archiving object.

Archiving Object	Description	TAANA Table	No. of Entries older than the residence time	In % of Total
CHANGEDOCU	Change Documents	CDHDR	12.571.165	11,7
XM_QMEL		CDHDR	4.265.486	4,0
RV_LIKP	Deliveries	CDHDR	3.966.342	3,7
SD_VBAK	Sales Documents	CDHDR	3.640.998	3,4
PM_ORDER	Service and Maintenance Orders	CDHDR	2.803.656	2,6
MM_SPSTOCK	LO: Batches and Special Stock	CDHDR	2.511.532	2,3
FI_DOCUMNT	Financial Accounting Documents	CDHDR	2.139.268	2,0
PM_EQUI	Equipment	CDHDR	1.189.247	1,1
SD_VTTK	SD Transport	CDHDR	1.067.559	1,0
MM_EINA	Purchasing Info Records	CDHDR	1.037.575	1,0

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
CO_ORDER	16	15.05.2003	03.06.2014	43.066	378,61
FI_DOCUMNT	24	13.11.1999	19.04.2014	13.175.937	13.243,31
MM_EBAN	14	03.06.2002	15.05.2014	1.434.023	1.523,32
MM_EKKO	12	03.03.2003	15.05.2014	1.269.497	4.294,16
MM_SPSTOCK	1	01.12.2000	01.12.2000	1	0,09
PM_ORDER	10	03.06.2003	03.06.2014	339.175	3.065,13
PP_ORDER	16	22.01.2001	15.01.2014	92.735	2.662,76
PR_ORDER	16	08.05.2007	27.03.2014	136.046	4.882,12

### Evaluation

SAP best practices recommend that you archive Change Documents entries.

The possible savings on Change Documents depend on the archiving potential of the most relevant related archiving objects.

The saving potential of Change Documents is added to the saving potential of the related document types and displayed in the corresponding sections of those document types.

## 7.14 Profitability Analysis Documents

### SAP Application: CO-PA (Profitability Analysis)

#### Business Content

Profitability analysis (CO-PA) enables you to evaluate market segments, which can be classified according to products, customers, orders, or any combination of these, or strategic business units, such as sales organizations or business areas, with respect to your company's profit or contribution margin.

The aim of the system is to provide your sales, marketing, product management, and corporate planning departments with information to support internal accounting and decision making.

Two forms of profitability analysis are supported: costing-based and account-based.

- Costing-based profitability analysis is the form of profitability analysis that groups costs and revenues according to value fields and costing-based valuation approaches, both of which you can define yourself. It guarantees you access at all times to a complete, short-term profitability report.

- Account-based profitability analysis is a form of profitability analysis organized in accounts and using an account-based valuation approach. The distinguishing characteristic of this form is its use of cost and revenue elements. It provides you with a profitability report that is permanently reconciled with financial accounting. You can also use both of these types of CO-PA simultaneously.

Table CE1xxxx contains the actual line items for the operating concern. The system automatically creates an actual line item for every process in which a profitability segment that belongs to profitability analysis is used (for example, a sales order or billing document). Internal CO data will be transferred by means of assessment.

Table CE2xxxx contains the planned item data for a profitability segment. These items are created in CO-PA directly.

Table CE3xxxx contains the total planned and actual values for a profitability segment. These values are created for each profitability segment and period.

These tables are created automatically if the operating concern is activated and defined as cost based.

Table	Size (GB)	Description
CE1OC12	42,31	N/A
CE2OC12	33,03	N/A
CE3OC12	9,87	N/A
CE2OC05	0,08	N/A
CE1OC05	0,07	N/A
CE3OC05	0,04	N/A
CEALE01	0,00	CO-PA Distribution: Line Item Reference for Distribution
Total Size	85,39	
% of DB Size	4,21	

### 7.14.1 Profitability Analysis Documents: Avoidance

#### 7.14.1.1 Avoidance - Actual Line Items

##### 7.14.1.1.1 Avoidance - Transfer of Incoming Sales Orders

###### Deactivate the Transfer of Incoming Sales Orders / Record Type A

The setting for the transfer of incoming sales orders to CO-PA can be changed in Customizing transaction KEKF (field TKA00-KAEIN). If you decide to deactivate the transfer, the data of type 'A' should be archived with the help of the archiving object COPA1\_xxxx. As of SAP ERP 6.0, SAP\_APPL 600, archiving object COPAA\_XXXX replaces archiving object COPA1\_XXXX. Note that the archiving objects are dynamically named based on the technical name assigned to the operating concern (replace the values "XXXX" above with the name of your operating concern).

The following table shows the settings in the analyzed system, for the transfer of incoming sales orders. The analysis was carried out using transaction TAANA, variant AD-HOC.

CO Area	Transfer Setting	Description
		Inactive
	3	Active with Deliv.Date/Billing Plan Deadline (Using KBMENG)
0001		Inactive
CA01		Inactive
CA02		Inactive

CO Area	Transfer Setting	Description
CA03		Inactive
CA04		Inactive
CA05		Inactive
CA07		Inactive
CA08		Inactive
CA09		Inactive
CA10		Inactive
CA10	3	Active with Deliv.Date/Billing Plan Deadline (Using KBMENG)
CA11		Inactive
CA12		Inactive
CA12	3	Active with Deliv.Date/Billing Plan Deadline (Using KBMENG)
CA13		Inactive
CA14		Inactive
CA15		Inactive
CA16		Inactive
CA19		Inactive
CA20	3	Active with Deliv.Date/Billing Plan Deadline (Using KBMENG)
CA21	3	Active with Deliv.Date/Billing Plan Deadline (Using KBMENG)
CA22		Inactive
CA26		Inactive
CA30		Inactive
CA43		Inactive
CA45		Inactive
CA48		Inactive
CA99		Inactive

#### Business-Process-Related Information

You can value incoming sales orders (as expected revenues) and transfer them from SD to CO-PA in order to obtain an early estimate of anticipated profits. By analyzing this data, you can obtain early profitability results for individual segments of your business. This allows you to create reports that reflect the course of actual profits and contribution margins on the basis of billing documents, and also to analyze these developments on the basis of incoming orders. (To analyze incoming orders, specify record type A in the report. To analyze billing data, specify record type F.)

This function is especially useful when there is a long period of time between when you open the sales order and when you actually bill the customer.

If you activate the transfer of incoming sales orders to profitability analysis, line items of type 'A' are written to the CE1XXXX and CE3XXXX tables (XXXX = operating concern); this increases the volume of data in these tables. In the majority of cases, there is a very short time interval between issuing the sales order and issuing the billing document and there are nearly no differences in values on the sales order and billing document. This means that reporting on both figures does not provide much more useful information.

#### Data Content Analysis

We checked the setting for the transfer of sales orders to CO-PA in your system and the number of entries written to the CE1 tables as a result of that transfer. The analysis was carried out using transaction TAANA, variant AD-HOC.

CO Area	Year	Record Type 'A'	Description	No of Entries	In % of Total
CA05	1997	A	Incoming sales order	12	0
CA05	1998	A	Incoming sales order	248	0
CA05	1999	A	Incoming sales order	240	0
CA05	2000	A	Incoming sales order	14	0
CA05	2001	A	Incoming sales order	258	0
CA05	2002	A	Incoming sales order	220	0
CA05	2003	A	Incoming sales order	196	0
CA05	2004	A	Incoming sales order	42	0
CA05	2005	A	Incoming sales order	1.220	0
CA05	2006	A	Incoming sales order	966	0



CO Area	Year	Record Type 'A'	Description	No of Entries	In % of Total
CA05	2007	A	Incoming sales order	15.042	0
CA05	2008	A	Incoming sales order	19.312	0
CA05	2009	A	Incoming sales order	336.696	1
CA05	2010	A	Incoming sales order	3.608.484	7
CA05	2011	A	Incoming sales order	2.515.444	5
CA05	2012	A	Incoming sales order	10.485.964	19
CA05	2013	A	Incoming sales order	2.840.436	5
CA05	2014	A	Incoming sales order	5.116.209	9
CA05	2015	A	Incoming sales order	22.018	0
CA05	2016	A	Incoming sales order	1.198	0
CA05	2017	A	Incoming sales order	78	0
CA05	2018	A	Incoming sales order	44	0
CA05	2019	A	Incoming sales order	30	0
CA05	2020	A	Incoming sales order	108	0
CA05	2021	A	Incoming sales order	64	0
CA05	2022	A	Incoming sales order	12	0
CA05	2024	A	Incoming sales order	28	0
CA05	2025	A	Incoming sales order	68	0
CA05	2028	A	Incoming sales order	8	0
CA05	2029	A	Incoming sales order	20	0
CA05	2030	A	Incoming sales order	20	0
CA05	2044	A	Incoming sales order	4	0
CA05	2091	A	Incoming sales order	24	0
CA05	2099	A	Incoming sales order	20	0
CA05	2100	A	Incoming sales order	4	0
CA05	2103	A	Incoming sales order	4	0
CA05	2111	A	Incoming sales order	6	0
CA05	2136	A	Incoming sales order	8	0
CA05	2174	A	Incoming sales order	4	0
CA05	2200	A	Incoming sales order	24	0
CA05	2201	A	Incoming sales order	46	0
CA05	2205	A	Incoming sales order	52	0
CA05	2206	A	Incoming sales order	24	0
CA05	2207	A	Incoming sales order	32	0
CA05	2208	A	Incoming sales order	28	0
CA05	2209	A	Incoming sales order	2	0
CA05	2211	A	Incoming sales order	10	0
CA05	2212	A	Incoming sales order	10	0
CA05	2300	A	Incoming sales order	8	0
CA05	2301	A	Incoming sales order	8	0
CA05	2413	A	Incoming sales order	12	0
CA05	3201	A	Incoming sales order	2	0
CA05	4201	A	Incoming sales order	8	0
CA05	6006	A	Incoming sales order	8	0
CA05	6201	A	Incoming sales order	8	0
Other Entries				29.950.801	55
Total				54.915.856	100

**Recommendation**

If the 'transfer of incoming sales orders to CO-PA' is activated for any operating concern, consider deactivating it to avoid unnecessary data being written to the CE1XXXX and CE3XXXX tables. If you decide to deactivate the transfer, the data of type 'A' should be archived with the help of the archiving object COPA1\_XXXX. As of SAP ERP 6.0, archiving object COPAA\_XXXX replaces archiving object COPA1\_XXXX.

If you already deactivated the transfer of incoming sales orders to CO-PA, any existing data with record type 'A'



should be archived.

### Implementation

Call transaction KEKF to change the setting for the transfer of incoming sales orders to CO-PA to 'not active'.

## 7.14.1.1.2 Avoidance - Multiple Currency Updates

### Deactivate multiple currency updates of values in profitability analysis

#### Business-Process-Related Information

Updating CO-PA in multiple currencies and valuations depends on the selections made in Customizing. In costing-based CO-PA, actual line items (table CE1xxxx) can be updated simultaneously in all the combinations of currency type and valuation that are described below. Planning data (table CE2xxxx) is always updated in one currency only - the currency specified for that particular plan version.

#### 1. Operating Concern Currency

In costing-based profitability analysis, actual data is always updated in the operating concern currency.

#### 2. Company Code Currency

In addition to the operating concern currency, you have the option of storing all data in the currency of the relevant company code as well. This can be useful if your organization operates internationally and deals with exchange rates that change daily. It allows you to avoid differences due to different exchange rates and lets you reconcile your CO-PA data directly with FI.

Note: If you deactivate the company code currency, you can no longer use plan versions and reports that use the company code currency.

#### 3. Profit Center Valuation

In addition to storing data in these two currencies using the legal (= company code) valuation view, you can also store data in both of these currencies valued from the viewpoint of individual profit centers.

**Note:** Updating actual data in multiple combinations of currency and valuation significantly increases your data volume with each additional combination.

### Implementation

The setting for the **use of currencies** in CO-PA can be maintained in Customizing transaction KEA0. The following table shows your current Customizing settings.

An empty table indicates that there are no such Customizing entries.

Operating Concern	Operating Concern Currency	Store Company Code Currency
		<input type="checkbox"/>

The table below shows for which company codes the company code currency differs from the operating concern currency. The analysis was carried out using:

- Transaction KECM or
- Transaction ST13 (enter FI\_CO\_DMA (via input help), choose the 'Execute' pushbutton, and choose 'Currencies in company codes' under 'CO-PA Analysis II').

Operating Concern	Op. Concern Currency	Company Code	Co. Code Currency

CO-PA provides you with the functionality to value both external sales and internal sales between profit centers (such as stock transfers between different plants) from the viewpoint of the individual profit centers.

### Recommendation

You should only activate profit center valuation in CO-PA if you want to be able to value exchanges of goods and services between profit centers using transfer prices and analyze the results of this valuation in CO-PA.

### Further notes

If you activate profit center valuation, the system creates separate line items for legal valuation and profit center valuation.

Consequently, **this roughly doubles the volume of actual data transferred to CO-PA**. The number of profitability segments, however, remains the same.

The following table shows your Customizing settings for actual data valuation from the profit center viewpoint (transaction KEGG).

CO. Area	From Fiscal Year	Operating Concern	Profit Center Valuation

**Data Content Analysis**

The following table provides an overview of the existing postings differentiated by used currency types in table CE1XXXX (XXXX = Operating Concern). The analyses were carried out using transaction TAANA, variant AD-HOC.

Currency Type	Description	Fiscal Year	No. of Entries	In % of Total
01		1997	6	0,0
01		1998	36.609	0,1
01		1999	70.602	0,1
01		2000	144.673	0,3
01		2001	112.201	0,2
01		2002	96.244	0,2
01		2003	101.886	0,2
01		2004	119.281	0,2
01		2005	336.299	0,6
01		2006	287.758	0,5
01		2007	327.136	0,6
01		2008	810.324	1,5
01		2009	1.220.120	2,2
01		2010	3.011.989	5,5
01		2011	2.492.508	4,5
01		2012	6.594.725	12,0
01		2013	2.540.698	4,6
01		2014	7.825.697	14,3
01		2015	1.892.741	3,4
01		2016	630	0,0
01		2017	39	0,0
01		2018	22	0,0
01		2019	15	0,0
01		2020	56	0,0
01		2021	33	0,0
01		2022	6	0,0
01		2024	14	0,0
01		2025	34	0,0
01		2028	4	0,0
01		2029	10	0,0
01		2030	10	0,0
01		2044	2	0,0
01		2091	12	0,0
01		2099	10	0,0
01		2100	2	0,0
01		2103	2	0,0
01		2111	3	0,0
01		2136	4	0,0
01		2174	2	0,0
01		2200	12	0,0
01		2201	24	0,0
01		2205	26	0,0
01		2206	12	0,0
01		2207	16	0,0
01		2208	14	0,0
01		2209	1	0,0
01		2211	5	0,0
01		2212	6	0,0
01		2300	4	0,0

Currency Type	Description	Fiscal Year	No. of Entries	In % of Total
01		2301	4	0,0
01		2413	6	0,0
01		3201	1	0,0
01		4201	4	0,0
01		6006	4	0,0
01		6201	4	0,0
01 (Total)			28.022.550	51,0
02		1997	6	0,0
02		1998	124	0,0
02		1999	120	0,0
02		2000	7	0,0
02		2001	129	0,0
02		2002	38.403	0,1
02		2003	101.882	0,2
02		2004	119.289	0,2
02		2005	336.188	0,6
02		2006	287.969	0,5
02		2007	357.395	0,7
02		2008	825.036	1,5
02		2009	1.234.480	2,2
02		2010	2.984.455	5,4
02		2011	2.469.778	4,5
02		2012	6.556.239	11,9
02		2013	2.458.064	4,5
02		2014	7.233.879	13,2
02		2015	1.888.882	3,4
02		2016	568	0,0
02		2017	39	0,0
02		2018	22	0,0
02		2019	15	0,0
02		2020	52	0,0
02		2021	31	0,0
02		2022	6	0,0
02		2024	14	0,0
02		2025	34	0,0
02		2028	4	0,0
02		2029	10	0,0
02		2030	10	0,0
02		2044	2	0,0
02		2091	12	0,0
02		2099	10	0,0
02		2100	2	0,0
02		2103	2	0,0
02		2111	3	0,0
02		2136	4	0,0
02		2174	2	0,0
02		2200	12	0,0
02		2201	22	0,0
02		2205	26	0,0
02		2206	12	0,0
02		2207	16	0,0
02		2208	14	0,0
02		2209	1	0,0

Currency Type	Description	Fiscal Year	No. of Entries	In % of Total
02		2211	5	0,0
02		2212	4	0,0
02		2300	4	0,0
02		2301	4	0,0
02		2413	6	0,0
02		3201	1	0,0
02		4201	4	0,0
02		6006	4	0,0
02		6201	4	0,0
02 (Total)			26.893.306	49,0
Total			54.915.856	100,0

### Recommendation

If the company code and operating concern currency are identical, consider the following.

- Deactivate the update of the company code currency entries
- Check with the business owners whether the outdated/redundant company code currency entries can be deleted or if they are required. Unfortunately, archiving is not possible since the currency type criterion is not available in the variant of the archiving run.

We further advise you to investigate whether you really need to store data in any valuation type.

### Implementation

To stop writing data in company code currency, use transaction KEA0 to deactivate the unnecessary setting for the relevant operating concern.

### Important

If you are uploading the line items or totals in company code currency to BW, it is not possible to deactivate the update in company code currency. Note that plan versions and reports that use the company code currency can longer be used.

**Note:** As of SAP R/3 Enterprise, it is possible to suspend the posting of two line items – if the operating concern currency and the company code currency are the same – without modification. This function is not available in Customizing, but if you decide to apply it, ask the delivery team to provide you with the implementation instruction for this function.

## 7.14.1.2 Avoidance - Plan Line Items

### General Information

Planning in profitability analysis allows you to plan sales, revenue, and profitability data for any selected profitability segments. You can display the entire planning process of your company in different ways, depending on your business demands.

There are two possibilities for avoiding plan line item data in CO-PA.

- Do not use the planning functions
- Restrict the number of active planning versions used

### Background

Planning is performed in CO versions. Versions enable you to carry parallel sets of planning data for the same object, such as optimistic plan data and pessimistic plan data.

### Implementation

The versions to be used for planning must be flagged with the "Plan" indicator. Maintaining versions is one of the preparatory steps necessary for setting up planning, which you carry out in Customizing for CO-PA under 'Planning > Initial steps > Maintain Versions'.

### Consequences

The more versions that are updated with planning data, the larger the volume of data in tables CE2XXXX and CE3XXXX (XXXX = Operating Concern).

Only those versions that are used for reporting purposes should be activated for planning.

### Data Content Analysis

The following table contains the results of the analysis for table CE2XXXX. It shows the distribution of entries across the single fiscal years, versions, and record types. Where multiple versions are used, verify the need for these versions. The analysis was carried out using transaction TAANA, variant AD-HOC.

Fiscal Year	Version	Record Type	Description	No. of Entries	In % of Total
1962	010	F	Billing data	201	0,0
1972	010	F	Billing data	109	0,0
1982	010	F	Billing data	240	0,0
2001	011	F	Billing data	80	0,0
2002	010	F	Billing data	30.960	0,1
2002	011	F	Billing data	222	0,0
2002 (Total)				31.182	0,1
2003	010	F	Billing data	34.880	0,1
2003	011	F	Billing data	368	0,0
2003 (Total)				35.248	0,1
2004	010	C	Order/proj.settlemnt	3.803	0,0
2004	010	F	Billing data	36.283	0,1
2004	011	F	Billing data	576	0,0
2004 (Total)				40.662	0,1
2005	000	F	Billing data	69.947	0,2
2005	008	F	Billing data	54.420	0,1
2005	009	C	Order/proj.settlemnt	2.360	0,0
2005	009	D	Overhead costs	1.080	0,0
2005	010	C	Order/proj.settlemnt	1.168	0,0
2005	010	D	Overhead costs	19.458	0,0
2005	010	F	Billing data	1.156.946	2,7
2005	011	F	Billing data	737	0,0
2005	015	F	Billing data	1.920	0,0
2005 (Total)				1.308.036	3,1
2006	006	F	Billing data	53.000	0,1
2006	007	F	Billing data	53.396	0,1
2006	010	C	Order/proj.settlemnt	1.440	0,0
2006	010	D	Overhead costs	8.648	0,0
2006	010	F	Billing data	739.673	1,8
2006	011	A	Incoming sales order	268.782	0,6
2006	011	F	Billing data	257.166	0,6
2006 (Total)				1.382.105	3,3
2007	006	F	Billing data	62.748	0,1
2007	007	F	Billing data	301.702	0,7
2007	009	C	Order/proj.settlemnt	2.940	0,0
2007	010	C	Order/proj.settlemnt	1.620	0,0
2007	010	D	Overhead costs	25.320	0,1
2007	010	F	Billing data	634.908	1,5
2007	011	A	Incoming sales order	274.716	0,7
2007	011	F	Billing data	264.844	0,6
2007	015	F	Billing data	504	0,0
2007 (Total)				1.569.302	3,7
2008	006	F	Billing data	366.113	0,9
2008	007	F	Billing data	84.158	0,2
2008	010	C	Order/proj.settlemnt	2.148	0,0
2008	010	D	Overhead costs	50.842	0,1
2008	010	F	Billing data	936.861	2,2
2008	011	A	Incoming sales order	3.696.365	8,8

Fiscal Year	Version	Record Type	Description	No. of Entries	In % of Total
2008	011	F	Billing data	968.437	2,3
2008	015	F	Billing data	552	0,0
2008 (Total)				6.105.476	14,5
2009	006	F	Billing data	73.091	0,2
2009	007	F	Billing data	56.028	0,1
2009	010	C	Order/proj.settlemnt	1.932	0,0
2009	010	D	Overhead costs	39.064	0,1
2009	010	F	Billing data	1.058.293	2,5
2009	011	A	Incoming sales order	3.164.713	7,5
2009	011	F	Billing data	5.594.061	13,3
2009	015	F	Billing data	2.188	0,0
2009 (Total)				9.989.370	23,7
2010	006	F	Billing data	79.727	0,2
2010	007	F	Billing data	36.878	0,1
2010	010	C	Order/proj.settlemnt	1.987	0,0
2010	010	D	Overhead costs	178.776	0,4
2010	010	F	Billing data	971.766	2,3
2010	011	A	Incoming sales order	433.582	1,0
2010	011	F	Billing data	5.212.071	12,4
2010	013	C	Order/proj.settlemnt	1.308	0,0
2010	013	D	Overhead costs	624	0,0
2010	013	F	Billing data	124.927	0,3
2010	015	F	Billing data	48	0,0
2010	071	F	Billing data	36.150	0,1
2010	072	F	Billing data	36.586	0,1
2010	Z9	F	Billing data	12	0,0
2010 (Total)				7.114.442	16,9
2011	006	F	Billing data	127.451	0,3
2011	007	F	Billing data	94.639	0,2
2011	010	C	Order/proj.settlemnt	1.212	0,0
2011	010	D	Overhead costs	125.044	0,3
2011	010	F	Billing data	931.479	2,2
2011	011	F	Billing data	1.861.731	4,4
2011	013	C	Order/proj.settlemnt	528	0,0
2011	013	F	Billing data	85.167	0,2
2011	015	F	Billing data	53	0,0
2011	071	F	Billing data	30.856	0,1
2011	072	F	Billing data	39.735	0,1
2011	Z9	F	Billing data	1.047.964	2,5
2011 (Total)				4.345.859	10,3
2012	006	F	Billing data	33.859	0,1
2012	007	F	Billing data	34.778	0,1
2012	010	C	Order/proj.settlemnt	1.382	0,0
2012	010	D	Overhead costs	19.956	0,0
2012	010	F	Billing data	490.400	1,2
2012	013	F	Billing data	70.720	0,2
2012	015	F	Billing data	46	0,0
2012	Z9	F	Billing data	405.454	1,0
2012 (Total)				1.056.595	2,5
2013	006	F	Billing data	23.031	0,1
2013	007	F	Billing data	36.525	0,1

Fiscal Year	Version	Record Type	Description	No. of Entries	In % of Total
2013	010	C	Order/proj.settlemt	1.548	0,0
2013	010	F	Billing data	487.600	1,2
2013	013	F	Billing data	69.940	0,2
2013	Z9	F	Billing data	280.571	0,7
2013 (Total)				899.215	2,1
2014	006	F	Billing data	24.149	0,1
2014	007	F	Billing data	32.558	0,1
2014	010	C	Order/proj.settlemt	1.005	0,0
2014	010	F	Billing data	1.278.462	3,0
2014	013	F	Billing data	108.096	0,3
2014	Z9	F	Billing data	997.890	2,4
2014 (Total)				2.442.160	5,8
2015	010	C	Order/proj.settlemt	169	0,0
2015	010	F	Billing data	4.096.001	9,7
2015	013	F	Billing data	490.959	1,2
2015	Z9	F	Billing data	1.239.153	2,9
2015 (Total)				5.826.282	13,8
2022	010	F	Billing data	443	0,0
2042	010	F	Billing data	446	0,0
Total				42.147.453	100,0

## 7.14.2 Profitability Analysis Documents: Summarization

### General Information

It is possible to summarize multiple items of a sender document into one line item during the transfer to profitability analysis (CO-PA).

This summarization reduces the volume in the line item table (CE1xxxx). This is especially useful when you want to transfer large amounts of data from an external system.

The summarization takes place on a sender document basis (billing document or financial accounting document). It is not possible to summarize the data across multiple documents. The system retains only the document number of the sender document as the proof of origin. Consequently, it is no longer possible to attribute the data in the CO-PA document to the corresponding item of the sender document. Line items containing the same profitability segment number (CE1xxx-PAOBJNR) are candidates for summarization. The summarization is customized for each business transaction. Depending on the business transaction, specific characteristics are also considered in conjunction with the segment level characteristics (for example: for business transaction SD00, the value of characteristic KAUFN will be kept although it is probably a non-segment level characteristic).

Settings for summarization are maintained in table TKESU (field SMODE).

Summarization can be maintained for:

- Billing documents (SD00)
- Financial accounting documents (RFBU)
- Logistic documents such as
- Incoming invoices (RMRP)
- Goods movement documents (RMWA)
- Goods receipts for purchase orders (RMWE)

This applies to both external and internal documents. In this case, an external sender document can be either an IDoc (an intermediate document that is imported from an external system via the central interface to accounting) or a BAPI (Business Application Programming Interface).

Summarization of financial accounting document items (RFBU) is only possible for internal documents and only after derivation and valuation.

**Important - Take the following information into account before using summarization in your production environment:**

- To enable summarization for line items in profitability analysis, characteristics need to be initialized. The



characteristics used as profitability segment (settings in transaction KEQ3) are not affected. We recommend testing the effect of summarization (for each business process entered for summarization) intensively in a test environment. In particular, check whether all the characteristics needed for reporting or upload to BW are still populated.

- The time point "2 - summarization before derivation / valuation" has a positive impact on performance since fewer line items need to pass the derivation strategy. Since most non-segment level characteristics are, in this case, initialized before derivation, segment level characteristics that are derived using non-segment level characteristics as source fields cannot be populated. The impact of this setting needs to be tested as well.

**We also recommend that you be careful with summarization before valuation when using scales in valuation.**

#### Data Content Analysis

The table below shows your current settings for summarizing CO-PA line items. The table shows, for each operating concern and business transaction, the source of the data (internal or external) and the "timepoint" for summarizing the data (before or after derivation). An empty table indicates that summarization is not active. The analysis was performed with transaction TAANA, variant AD-HOC.

Operating Concern	Business Transaction	Description	Source	Description	Timepoint	Description

To assess the impact of summarization on CO-PA line items, you can execute a simulation in transaction **ST13**: From the drop-down menu, choose **FI\_CO\_DMA** and then "Execute". Then choose **Summarization Simulation of CO-PA line items** for your required analysis period.

The results of the simulation can be entered into the following table.

Business Transaction	Description	Lines CE1xxxx(B0)	Distinct Prof. Segmts	Difference

#### Analysis Result

If you have not already done so, check the possibility of activating CO-PA document summarization. The simulation report shows the business transactions to focus on when checking the possibility of summarization. With these, you can achieve the largest absolute improvements.

## 7.15 Profit Center Accounting Documents

### SAP Application: EC-PCA (Profit Center Accounting)

#### Business Content

Profit Center Accounting (EC-PCA) is a statistical accounting component. It takes transaction data posted in other components and presents it from a profit-center perspective. The postings in EC-PCA are statistical postings, since the profit center is not itself an account assignment object in Controlling.

The integration of the R/3 system makes it possible to post profit-relevant data to Profit Center Accounting automatically as soon as the transaction is originally posted (table GLPCA). The system either transfers the relevant items from the original postings, or creates additional postings (for example, goods movements). A special posting program is also available to select and post plan data after Profit Center Accounting (table GLPCP).

Table	Size (GB)	Description
GLPCA	37,02	EC-PCA: Actual Line Items
GLPCP	1,35	EC-PCA: Plan Line Items
Total Size	38,37	
% of DB Size	1,89	

### 7.15.1 Profit Center Accounting Documents: Avoidance

#### General Information

Profit center documents can be avoided in the following ways:

1. If New GL is active, all functions of the EC-PCA module are now integrated in the New GL and the EC-PCA module may no longer be required.
2. Deactivate writing line items in the Actual and Plan tables (GLPCA & GLPCP).
3. Deactivate the transfer of additional data from balance sheet and P&L accounts.

The continued use of the classic EC-PCA module in parallel to the FIN\_PCA scenario delivered in New GL causes data to be duplicated. Furthermore, the use of the splitting functionality in New GL renders the use of classic EC-PCA redundant since certain functionalities (for example, Calculate Balance Sheet Adjustment (F.5D)) no longer work.

#### 7.15.1.1 Line item writing in PCA

##### General Information

Transaction data in Profit Center Accounting is stored by account in the summary record table GLPCT. You can also store this data in tables GLPCA (actual line items) and GLPCP (plan line items). The summary records contain the data stored according to profit center, account, and period. This data forms the basis for the EC-PCA Information System.

Please note: Storing line items can lead to very large data volumes and subsequent performance problems. However, it enables you to access the original postings from the other applications (FI, CO, SD, and MM).

##### Background Information

- **Actual data** (table GLPCA): The 'Write Line Items' indicator for actual data is set at controlling area level (transaction 1KEF); it is valid from the start of the fiscal year specified. If the settings do not change for several consecutive years, you only need to specify an entry for the first year.

- **Plan data** (table GLPCP): In comparison to actual data, the indicator 'Write Line Items for Plan Data' has to be set explicitly for every fiscal year (transaction OKEQ). If line items are to be written to planned data, you have to maintain the Customizing indicator 'Write Line Items' for every fiscal year based on the affected Controlling Area and Version.

Also note that once you have posted data in a given timeframe, you can no longer change the control parameters in transaction 1KEF. If you want to change the parameters after transaction data has been created, you must delete the transaction data first.

##### Customizing Settings

The following table displays the controlling areas in your system and the settings for writing line items to Profit Center Accounting (actual data - table GLPCA): The analysis was carried out with transaction TAANA, variant AD-HOC on table TKA00PCA.

Controlling Area	From Fiscal Year	Write Line Items
	2009	X

Controlling Area	From Fiscal Year	Write Line Items
CA01	2006	X
CA02	2004	X
CA03	2004	X
CA04	2010	X
CA05	2001	X
CA07	2003	X
CA08	2007	X
CA09	2009	X
CA10	2002	X
CA12	1995	X
CA14	2008	X
CA15	2009	X
CA19	2006	X
CA19	2007	X
CA20	2005	X
CA21	2008	X
CA22	2012	X
CA26	2009	X
CA30	2007	X
CA99	2009	X

#### Data Content Analysis

The following table provides an overview of the number of entries in table GLPCA across the individual controlling areas. The analysis was performed with transaction TAANA, variant AD-HOC.

Controlling Area	Number of Entries	In % of Total
CA05	76.455.512	99,9
CA14	70.287	0,1
Total	76.525.799	100,0

#### Recommendation

Identify the controlling areas for which you require the line items. Activate the update in transaction 1KEF (control parameters for actual postings) for these controlling areas only.

### 7.15.1.2 Additional Balance Sheet and Profit & Loss Accounts

#### General Information:

The transaction data in Profit Center Accounting is divided according to the type of object to which it was posted. The 'Type of origin object' field indicates whether the data referred to was transferred from cost centers, internal orders, or another object. For example, postings that were actually posted to cost centers are stored in Profit Center Accounting with origin object type 02.

#### Background Information:

In Customizing transaction 3KEH (EC-PCA: Additional Balance Sheet and Profit + Loss Accounts), you can specify accounts (for each controlling area) whose transactions are also transferred to Profit Center Accounting. These are transferred with **origin object type 35**.

#### Customizing Settings

The following table shows your current Customizing entries, which are maintained in table T8A30. The analysis was performed with transaction TAANA, variant AD-HOC.

Client	Controlling Area	Account Number from	Account Number to	Chart of Accounts	Default Profit Center

#### Recommendation

Check whether the data is to be transferred to this level of detail and check whether the entries in 3KEH are required.

#### Data Content Analysis

The following table shows the number of entries in table GLPCA with origin object type 35 compared to the total

number of entries in GLPCA. The analysis was performed with transaction TAANA, variant Ad-Hoc. For display purposes, entries more than three years old are aggregated.

Type of Origin Object	Fiscal Year	Number of Entries	In % of Total
Other Entries		76.525.799	100,0
Total		76.525.799	100,0

#### Analysis Result

By not updating data of origin object type 35, you can help reduce the growth of table GLPCA.

## 7.15.2 Profit Center Accounting Documents: Summarization

### General Information

You can set up summarization on Profit Center Accounting documents to reduce database growth.

### Background Information

Document summarization is an efficient method of reducing data growth. With Profit Center Accounting (PCA) document summarization, you avoid creating a PCA line item in table GLPCA for every line item of the original document (for example, a material posting or invoice posting).

### Implementation

As of R/3 Releases 4.5, you can activate document summarization for each reference procedure, using transaction 0KE8. It is similar to setting up summarization in Financial Accounting (FI) or Controlling (CO). Setting up summarization is a technical setting that affects the growth of the PCA line item table GLPCA.

**Note:** Document summarization is only possible if a document contains several document line items.

### Business-Process-Related Information

**Important - Take the following information into account before using summarization in your production environment:**

1. With summarization, you lose information in Profit Center Accounting. This could have an impact on your reporting and reconciliation needs. If you transfer data from table GLPCA into BI, check the impact on BI reporting.
2. **Do not summarize a field that you intend to use for document splitting (in the case of FI New GL).**
3. Set up a detailed test phase in a test environment to check the impact on your business.

### Recommendation

If you do not want maximum summarization, summarize at least the following fields:

MATNR Material number  
EBELN Purchasing document number  
EBELP Item number of purchasing document

The system automatically summarizes the fields DOCLN (Document line), REFDOCLN (Reference line item), and GL\_SIRID (Record number).

The more fields you allow the system to summarize, the better the summarization. However, the amount of information the line item contains decreases. Decide which fields can be left out from a business perspective.

### Customizing Settings

Use of PCA Document Summarization

The table below displays your current settings, in table T8A\_COMPRESS, for line item summarization in PCA. The analysis was carried out using transaction TAANA, variant AD-HOC. An empty table indicates that there are no further summarization settings.

Client	Controlling Area	Activity	Table	Field

### Data Content Analysis

With report Z\_PCA\_SUMMARIZATION\_SIM, you can simulate the summarization (see SAP Note 198519) of table GLPCA.

Alternatively, you can use transaction ST13 to simulate PCA summarization: Call transaction ST13, choose FI\_CO\_DMA (input help), choose 'Execute', and choose 'Summarization Simulation EC-PCA' under DMA Summarization Simulation'.

## 7.15.3 Profit Center Accounting Documents: Deletion

### General Information

You can delete test data in Customizing. Data from production systems should generally be archived and not deleted.

### Business-Process-Related Information

If you no longer need the line items of Profit Center Accounting, delete them using transaction OKE1. The associated totals records are adjusted if you delete only certain periods of a year. They are deleted if you delete all periods of a year. If you delete transaction data in Profit Center Accounting, the original postings in other components (such as Financial Accounting, Cost Center Accounting, and so on) are not affected.

### Implementation

The transaction for deleting profit center data can be accessed in Customizing:

Enterprise Controlling -> Profit Center Accounting -> Tools -> Prepare Production Startup -> Delete Test Data -> Delete Transaction Data.

- Specify the controlling area in which you want to delete the data. You can also restrict the data selection further if required.
- You can also specify whether you want to conduct a test run first, and whether the system is then to display statistics.

### Recommendation

We highly recommend conducting a test run and displaying its statistics before actually deleting the data.

## 7.15.4 Profit Center Accounting Documents: Archiving

### General Archiving Information

Depending on the implemented functions, various archiving objects are required to remove data from the EC-PCA tables.

The actual archiving of transaction data from Profit Center Accounting (tables GLPCA, GLPCP, GLPCT) is performed

- **As of Release 4.6A**, with archiving object EC\_PCA\_ITM (tables GLPCA, GLPCP) and archiving object EC\_PCA\_SUM (table GLPCT)
- **Up to Release 4.5B**, with archiving object PCA\_OBJECT
- If the **Special Ledger** is also implemented, archiving object FI\_SL\_DATA can be used.

Archiving objects EC\_PCA\_SUM and EC\_PCA\_ITM archive the data of **ledgers 8A, 8C, 8E and 8Z**, the standard ledgers in Profit Center Accounting, which are shipped with the standard system. These standard ledgers have the following significance:

- **Ledger 8A** is updated for all customers with Profit Center Accounting and is used for the general collection of transaction data. It can manage line items and summary records, which are archived with EC\_PCA\_ITM or EC\_PCA\_SUM.
- **Ledger 8E** is the export ledger for the ALE roll-up (transaction KE78). It will only be used if you use a PCA ALE scenario (decentralized, central). To ensure data consistency, execute a roll-up before archiving a period. Since the ledger 8E only manages summary records, this only concerns the archiving of summary records.
- **Ledger 8C** is the reporting ledger for Profit Center Accounting in the central system, if you use the decentralized PCA ALE scenario, which has been available since Release 4.5A. This ledger only manages summary records.
- **Ledger 8Z** is the average balance ledger, which can be activated as of Release 4.0A with transaction OKE6. It is used only for reporting purposes and only manages summary records.
- **User-defined ledgers** for Profit Center Accounting data can be archived with the archiving object **FI\_SL\_DATA**.

**Note:** Direct postings are not possible with ledgers 8C and 8E.

To identify the relevant archiving objects, we analyzed table GLPCA using transaction TAANA with variant AD-HOC:

Ledger	Number of Entries	In % of Totals
8A	76.525.799	100,0

### Analysis Result

Profit center documents could be archived with the archiving object EC\_PCA\_ITM.

**Note:** There is no reload function for profit center line items.

### Customizing Settings

#### Application-specific Customizing:



There is no **customizing of residence times** for profit center line items.

In Customizing, rather than specifying residence times, you define for the EC-PCA archiving objects, which of the reporting groups and analysis programs that you created are to be available within the framework of archive evaluation.

In application-specific Customizing, you specify which report groups or read programs are to be available for analyzing archive data (transaction KE87).

If you want to output reports to analyze archived data and/or databases, specify which report groups and programs you want to execute to create these reports in archiving reporting. You can use all the report groups that you created in reporting.

Depending on which of the following report types is maintained, either a transaction key or a report name appears in the 'Program' field:

RW: Report Writer Report

TA: Transaction

### Prerequisites for Archiving

Line items can be archived at any time. For example, if your database contains a large number of current line items, you can archive these records within a given period. However, if your system has enough storage capacity, you should only need to archive records once a year.

### Business Considerations

- Totals records contain aggregated data for the entire fiscal year. Because the fiscal year is part of the summary record key, you cannot archive the totals records for the current fiscal year because the system would then create a new summary record for postings made subsequent to the archiving run. Example: If you were to archive a summary record in May and then make new postings in June, you would have a new summary record based on the June posting. This would lead to inconsistencies with the summary record you have already archived.

- When Profit Center Accounting is active, additional line items and summary records are created for each profit-related transaction posted in the SAP system. Consequently, Profit Center Accounting is not complete for a period until all the profit-related transactions for the period have been posted. Wait until this is the case before archiving the profit center transaction data for the period.

As of SAP Release R/3 4.6A - Before removing any PCA data from the system, ensure that the business process is complete. For example, if the source of the PCA document is a sales order/billing document, ensure that the billing process is complete and that no cancellations will be processed. There is a new billing document cancellation procedure as of SAP R/3 4.6A that reverses the original FI posting and all subsequent (follow-on) documents. The PCA document is a follow-on document. Errors arise where the follow-on documents have been removed from the live database when a posting is canceled. SAP Note 339928 provides further information.

### Residence Time

It is not possible to define a residence time for the transaction data (totals records and line items) in the archiving Customizing settings for Profit Center Accounting. The residence time is defined indirectly by the values of the selection variant for the archive write job.

### Maintaining the Variant

In the standard SAP R/3 ERP system, the following selection criteria are possible for the write program of archiving object EC\_PCA\_ITM:

- Controlling area
  
- Profit center group
- Company code
- Fiscal year
- Period
- Record type
- Version

Line items can be archived at any time. They are sorted and stored according to profit center.

### Performance

The selection should contain the following for performance reasons:

- Controlling area
- Fiscal year
- Profit center
- Version, if applicable

**Remarks for selection**

1. - Line item and totals records are sorted and stored according to controlling area, fiscal year, profit center, version, record type, account, and company code. This corresponds to archiving by account.
2. - If you want to archive line items for several periods, do not start an archiving run for each period. Enter all the relevant periods on the selection screen.
3. - If you want to archive all periods, leave the period field blank.
4. - If you want to archive specific periods, and runtimes are long, create another index for the table GLPCA (see SAP Note 370299).

**Plan Line Items**

When you archive plan line items, they can only be archived (and deleted, if required) for the entire year. If you specify any period for these activities, this specification only affects current line items.

**Display Functions**

You can use the following functions to access archived data:

- Transactions (as of Release 46B):

KE5Z - Profit Center: Actual Line Items

KE5Y - Profit Center: Plan Line Items

GD20 - FI-SL Line Items

- Document Relationship Browser (as of Release 470) As of Release SAP R/3 4.7, the DRB is integrated in the user role SAP\_DRB, which provides a user menu. This user menu replaces SAP transaction ALO1. The user role 'SAP\_DRB' has to be assigned to the user as follows:

Execute transaction PFCG -> insert the role 'SAP\_DRB' -> Display -> Go to the 'User' tab page.

To display documents, execute transaction PFCG -> insert the role 'SAP\_DRB' -> Display -> Go to the 'Menu' tab page.

- SAP Archive Information System (SAP AS, technical view only)

- Read programs:

RGUGLPCA - Profit Center Accounting: Actual Line Items

RGUGLPCP - Profit Center Accounting: Plan Line Items

- Reports:

Report Painter/Writer reports (as of Release 46B)

RCOPCA02 (transaction KE5Z)

RCOPCA08 (transaction KE5Y)

For more information about accessing archived data, see SAP Notes 422836 and 401961 for SAP R/3 4.6C.

**Dependencies on Other Objects**

The EC-PCA archiving objects are independent in so far as there is no predefined sequence for their use. Each of the objects is "responsible" for its part of the records.

Totals records can only be archived (with archiving object EC\_PCA\_SUM) if the associated line items have already been archived (with archiving object EC\_PCA\_ITM).

**Data Content Analysis**

The following table contains the results of the analysis for table GLPCA. Distribution per Year, Ledger and Controlling Area. The analysis was done with SAP transaction code TAANA, variant AD-HOC:

Year	Ledger	CO Area	Number of Entries	In % of Total
< 2013	8A	CA05	36.912.554	48,2
< 2013	8A	CA14	70.287	0,1
2013	8A	CA05	8.933.408	11,7
2014	8A	CA05	21.557.412	28,2
2015	8A	CA05	9.052.134	11,8
from 2018	8A	CA05	4	0,0
Total			76.525.799	100,0

The following table contains the results of the analysis for table GLPCA; distribution per year.

The analysis was done with transaction TAANA, variant AD-HOC.

Year	Number of Entries	In % of Total
< 2013	36.982.841	48,3
2013	8.933.408	11,7



Year	Number of Entries	In % of Total
2014	21.557.412	28,2
2015	9.052.134	11,8
from 2018	4	0,0
Total	76.525.799	100,0

### Archiving Objects

The following table shows the archiving objects relevant for the document type.

Archiving Object	Object Description
EC_PCA_ITM	Profit Center Acctg: Actual and Plan Line Items
FI_SL_DATA	FI Special Ledger: Totals and Line Items

### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Object Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
EC_PCA_ITM	13	30.04.2007	24.03.2014	97.947	1.824,29

### Evaluation

SAP Best Practices recommend that you archive Profit Center Accounting Documents entries after 24 months, since they probably no longer need to be accessed frequently after this period of time.

40.360.563 entries, or 53% of the entries, are older than 24 months.

Archiving these entries would produce a saving potential of approximately 20,24 GB.

### Archiving of EC-PCA Totals Records

Totals records (table GLPCT) of the last two fiscal years should remain in the system, for annual comparisons.

\* Aggressive archiving: Customers that use GLPCA as a data collector for BI usually keep the GLPCA entries online for no longer than 2 or 3 months.



## 7.16 Secondary Index for GL Accounts

### SAP Application: FI (Accounting)

#### Business Content

The general ledger (GL) is used to produce the legally required set of financial statements such as a balance sheet or profit and loss account. Every business transaction that affects these statements needs to be recorded and reflected in the general ledger, such as sales and purchases. Management reporting has traditionally been achieved through the use of the controlling components. With the introduction of new General Ledger Accounting, the requirements of management reporting can now be met from the GL.

Depending on the business model, many of the transactions affecting the general ledger may be generated in other (SAP) components, such as Logistics, Sales and Distribution, Materials Management, or directly within the SAP FI component, for example, in accounts payable, accounts receivable, fixed asset accounting, and so on. For many of these business transactions, the document flow (audit trail) to the originating document (such as a sales order) and SAP component (Logistics, Sales & Distribution) in which the detailed information is held, combined with a summary total in the general ledger, is sufficient. However, there are occasions when, for control purposes, it is necessary to record the details (line items) of a transaction at a detailed level within the general ledger. To achieve this, certain settings need to be maintained in the general ledger.

In order to display the line items for a GL account, the account must be managed with the line item display indicator activated in the master data of the account. To facilitate tighter control of certain accounts, we provide the open item management (OIM) functionality. General ledger accounts are kept with OIM if you need to check whether there is an offsetting posting for a given business transaction. Items in a GL account managed on an OIM basis are marked as either "Open" or "Cleared". The open items are stored in table BSIS; the cleared items are moved from table BSIS to table BSAS.

Consequently, at least two database tables in the general ledger are affected by business transaction processing: BSIS and BSAS.

With the introduction of new General Ledger Accounting (as of SAP ERP 2004), a further set of tables has been introduced that extends the functionality of classic General Ledger Accounting to include parallel accounting, legal and management reporting, segment reporting, and cost of sales accounting. With the enhanced functionality, a larger volume of data is likely to be created in the live system.

#### CURRENT SITUATION

Table	Size (GB)	Description
BSIS	29,02	Accounting: Secondary Index for G/L Accounts
BSAS	7,98	Accounting: Secondary Index for G/L Accounts (Cleared Items)
Total Size	37,00	
% of DB Size	1,83	

### 7.16.1 Secondary Index for G/L Accounts: Avoidance

#### Background Information

BSIS entries are written under the following conditions:

- The line item display indicator is set in the G/L account master record. Line item display is used for reporting and to ensure better performance when the line items of specific accounts are accessed.
- The open item management indicator is set in the G/L account master record (line item display must be activated before open item management can be activated).

Line items (BSIS entries) are then transferred to table BSAS after clearing and are deleted from this table (BSAS) during the archiving process.

#### Important - Take the following information into account if you have implemented NewGL.

When NewGL is activated, new tables such as FAGLFLEXA are updated. Table FAGLFLEXA can be used as an alternative to table BSIS since it contains the most important fields for retrieving documents for every document line item:

- Ledger (RLDNR)
- Company Code (RBUKRS)
- Account Number (RACCT)
- Fiscal Year (RYEAR)
- Period (POPER)
- Posting Date (BUDAT)

Note: The RLDNR, RBUKRS, RACCT, RYEAR, and POPER fields are included in a database index, allowing them to be accessed easily.

In addition to transaction FBL3N ('G/L Account Line Item Display'), transaction FAGLL03 ('G/L Account Line Item Display G/L View') can also be used to access accounting documents using the 'Account' search criteria even though the line item display indicator has been deactivated. Table BSIS is not required.

If NewGL has been implemented, the line item display should be deactivated so that line items can be accessed via FAGLFLEXA.

The following information provides an overview of when line items should be deactivated to avoid updates to table BSIS, irrespective of whether NewGL is implemented.

Deactivation of line item display: Do not activate open item management or line item display for the following accounts:

- Bank accounts
- Tax accounts
- Raw material accounts and material stock accounts
- Reconciliation accounts
- Sales revenue accounts (if CO-PA is used)
- MM accounts to which documents with posting key 'M' are posted
- Receivables and liabilities accounts
- Specific revenue and expense accounts

Otherwise, FI data is written in too much detail.

Most SAP customers (for example, retail companies) do not use line items written for these accounts in FI-related business process steps (display account, reporting, clearing, and so on). Deactivating the writing of line items is a technical setting that influences the growth of FI index table BSIS. It should not lead to any changes in your business. Before line item display is deactivated for specific accounts (as listed below; see 'TOP 30 G/L ACCOUNTS'), approval is required from the functional departments and it should be clarified whether these line items are required for business processes as designed in your SAP system.

#### Recommendation

Determine the top G/L accounts for which you require the line item display/account-specific view (transaction FBL3N). Please deselect the "Line Item Display" indicator wherever possible. This will reduce the growth of table BSIS considerably.

If New GL is active in your system, examine the accounts that only have "Line Item Display" and not "Open Item Management" active to determine whether reporting on these line items through transaction FAGLL03 is sufficient for your requirements. Deactivating line item display for these accounts will further reduce future growth of table BSIS.

Check and implement SAP Note 178487.

After deselecting the "Line Item Display" indicator for certain G/L accounts, existing entries (created in the past) are of no use. You should take immediate action to delete these items from table BSIS.

Proceed as described in section **Secondary Index for GL Accounts: Deletion** to delete all BSIS entries that refer to the G/L accounts for which you deactivated the "Line Item Display".

#### Data Content Analysis

##### TOP 30 G/L ACCOUNTS

The following table shows the G/L accounts that created most of the entries in table BSIS.

Client	Company code	Account	Number of Items	% of Total	Reconciliation account	Tax account	Line Item Display	Open Item Management	Sorting key
050	BE02	0000175101	601.407	0.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	CH05	0000421050	1.249.404	1.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	CH05	0000495011	493.915	0.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	095
050	CH05	0000603008	923.889	1.2%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	095
050	CH12	0000172111	960.278	1.3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	CH12	0000172121	857.587	1.1%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	CH12	0000176101	720.416	1.0%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	CH12	0000602011	934.295	1.3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003

Client	Company code	Account	Number of Items	% of Total	Reconciliation account	Tax account	Line Item Display	Open Item Management	Sorting key
050	CH12	0000624011	876.807	1.2%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US01	0000171111	628.310	0.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US01	0000601001	540.579	0.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US02	0000171111	826.852	1.1%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US02	0000601001	614.961	0.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US03	0000171111	596.746	0.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US03	0000177101	1.526.147	2.0%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US03	0000421030	1.485.113	2.0%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US03	0000421031	1.376.505	1.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US03	0000480078	829.015	1.1%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	095
050	US03	0000601001	438.578	0.6%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000172111	1.388.841	1.9%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000175101	975.336	1.3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000177101	1.710.948	2.3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000218302	2.045.024	2.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	003
050	US06	0000421030	1.356.475	1.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000421050	964.574	1.3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000431012	2.002.626	2.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000431022	2.021.856	2.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	095
050	US06	0000480078	1.322.725	1.8%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	095
050	US06	0000602011	1.278.788	1.7%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	003
050	US06	0000603008	977.186	1.3%		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	095
Other entries			42.101.735			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total BSIS entries			74.626.918			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### Analysis Result

Our experience shows that most customers tend to set line item display and, less frequently, open item management by mistake or without realizing the impact it has on the growth rate of table BSIS.

If this situation applies to your system, review the settings for the top accounts in the table above. We assume that it is not useful to display line items for accounts with very large volumes in BSIS.

Avoiding entries for these top G/L accounts in the future is the best way to reduce database growth in table BSIS.

### Note

At present, you can neither evaluate nor display the entries in the top accounts shown in the table because there are too many entries. The work process times out before it can retrieve the specified line items. Therefore, the value of this information is questionable. However, it is occupying valuable disk space.

## 7.16.2 Secondary Index for G/L Accounts: Deletion

### General Information

Line item data can be deleted in a number of ways.

- 1) Normal business transaction processing (in the process of clearing)
- 2) Archiving (using the FI\_DOCUMNT post-processing program)
- 3) Deletion program (after deactivating "Line Item Display")

#### 1)

For open-item-managed GL accounts, BSIS entries are deleted from the table during the normal course of events when an offsetting (clearing) entry is generated using the **business transaction**. Here are some typical transactions that clear open items:

- F-04 - Post with Clearing
- F-06 - Incoming Payments
- F-07 - Outgoing Payments
- F.13 - Automatic Clearing
- FB1S - Clear GL Account

Bank Statement Processing  
 FF67 - Manual Bank Statement  
 FF.5 - Import Electronic Bank Statement

If no offset entries are created (for example, the "open item management" master record indicator was activated by mistake), clearing will not be possible and, therefore, BSIS cannot be deleted using the normal business processes.

In this case, consider creating a dummy offset posting on a dummy clearing account. In this way, BSIS entries will be deleted and BSAS could be handled as described in the following paragraph. Once the BSAS entries have been deleted, master record settings can be corrected (deselect the "open item management" indicator) and new postings can be performed. This solution needs to be verified with the relevant tax auditor. For more information, see SAP Note 606977.

## 2)

BSAS entries remain in the system until the corresponding financial document (BSEG entry) has been archived and the **archiving** "Post-processing" program has been executed.

Financial accounting documents are archived with archiving object FI\_DOCUMNT. Once the original document (BSEG) has been archived, the corresponding entry in the BSIS table (for GL accounts that only have "Line Item Display" activated) or BSAS (for GL accounts with activated "Open Item Management") is updated with the "Archived" indicator (XARCH). Once the secondary index life has expired, the postprocessing program of the archiving object (program FI\_DOCUMNT\_PST) deletes the entries from tables BSIS and/or BSAS.

## 3)

In cases where you decided to deactivate writing line items for certain GL accounts and have deselected the "Line Item Display" indicator, you can delete BSIS entries for the GL accounts by executing a report:

**Report RFSEPA04** - Reduced Line Item Display After Master Data Change.

## 7.16.2.1 Deletion after deactivating Line Item Display

### Deletion After Deactivating Line Item Display

As shown in the "Secondary Index for G/L Accounts: Avoidance" section, BSIS entries could be avoided if the line item display setting is deactivated.

### Recommendation

If you deactivate the line item display setting, remove the existing items from the table immediately. Once line item display has been deactivated for a specific account, execute program RFSEPA04 ("Reduced Line Item Display after Master Data Change") to delete the old records that are no longer required from table BSIS.

**Note:** Table entries that can be deleted do not need to be archived.

## 7.16.2.2 Deletion - Automatic Clearing

### Deletion - Automatic Clearing

#### Background Information

For open item managed G/L accounts, entries in table BSIS are deleted during the clearing process and the corresponding cleared items are written to table BSAS. The automatic clearing function is provided in transaction **F.13** or program **SAPF124**. To enable automatic clearing, the necessary Customizing settings (additional clearing rules, sorting keys, and so on) must be defined.

#### Entries in BSIS and BSAS

The following table shows the top G/L accounts for which "Open Item Management" is activated and the volume of entries in tables BSIS and BSAS. Automatic clearing is possible for these accounts. The analysis was performed with transaction ST14 -> Financial Accounting -> Transaction data -> Writing Line Items (BSIS) and ST14 -> Financial Accounting -> Transaction data -> Compare entries BSAS-BSIS.

Client	Company Code	Account	Open Item Management	Number of Entries in BSIS	Number of Entries in BSAS	Sorting Key
050	US06	0000218302	<input checked="" type="checkbox"/>	2045024	0	003

#### Analysis Result

If "Open Item Management" is not activated for any account identified as a TOP G/L account (account with many BSIS entries), **we conclude that the high number of entries in table BSIS is not caused by a problem with automatic clearing.**

If "Open Item Management" is activated for accounts identified as TOP G/L accounts (accounts with many BSIS entries), the Customizing settings for automatic clearing/sorting keys (transactions OB74 and OB16, table TZUN)

should be analyzed in more detail.

### Customizing Settings

#### Additional Rules for Automatic Clearing (Transaction OB74)

The next table shows the Customizing settings of criteria for grouping documents that can be cleared in table TF123 (transaction OB74). Fields in tables BSID, BSIK, and BSIS affect the performance of the automatic clearing program (SAPF124) more favorably than fields that are only in table BKPF or BSEG.

The analysis was performed with transaction TAANA and variant AD-HOC.

Chart of Accounts	Account type	From Account	To Account	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5
	S	0000000000	9999999999	ZUONR				

### Recommendation

Field **ZUONR** should be selected. Note the following:

- The sort key determines how field BSIS-**ZUONR** is filled in the documents. This key is stored in the master record of the account (check value of SKB1-ZUAWA for corresponding G/L account).
- The defined sort key (transaction **OB16**, "Rules for 'Allocation' Field Layout") determines whether the automatic clearing process is positively affected.

For example, if the "Allocation" field (BSIS-ZUONR) contains a special date (such as BSIS-CPUDT - Entry Date), it is very unlikely that the grouped documents can be cleared.

- The more criteria you specify in the clearing rules table, the more unlikely clearing will occur since each additional criterion is treated as an "AND" rather than an "OR".

*Definition of the sort key (transaction OB16):*

Based on the information displayed in the previous table, the following sort keys are taken into account by the clearing run:

Sort Key	Description	Field(s)	Name
003	Document date	BLDAT	Document Date

### Recommendation

Use transaction OB74 to define the rules for automatic clearing for all accounts listed in the table above.

A **short-term solution** would be to replace ZUONR with WRBTR or SGTXT and a **long-term solution** would be to use **ZUONR** with a valid sorting key.

Verify this solution with the persons responsible for these accounts.

Run report SAPF124 / transaction F.13 for these accounts on a regular basis.

## 7.16.3 Secondary Index for G/L Accounts: Archiving

### General Archiving Information

In releases up to and including SAP ERP 2004, the SAPF048I postprocessing program/remove index program for FI\_DOCUMNT deletes secondary index tables BSIS, BSAS, BSAK, and BSAD, as well as the archive indexes for financial accounting documents (table ARIX\_BKPF).

As of SAP ERP 6.0, program SAPF048I is replaced by program FI\_DOCUMNT\_PST. Postprocessing program FI\_DOCUMNT\_PST deletes the secondary index tables BSIS, BSAS, BSAK, and BSAD.

The previous application-specific archive index ARIX\_BKPF (in ERP 2004 and earlier) has been replaced by the Archive Information System (SAP AS). However, the old indexes can still be analyzed.

New archives receive new SAP AS indexes and follow the naming convention ZARIXFI#. SAP AS allows new indexes to be generated for old documents (see also SAP Note 807726). Consequently, ARIX\_BKPF entries can be deleted or removed.

Entries in tables BSIS and BSAS are deleted with the delete job of the archiving run if the runtime of the secondary indexes in the Customizing account type (OBR7) for the archiving object is set to the same duration as the runtime of the FI document itself (OBR8) and if the postprocessing program is configured to start automatically. The runtime of the secondary indexes is often set longer to preserve access to FI documents already archived with the transactions FBL1(N), FBL3(N), and FBL5(N). Documents that belong to the secondary index must have been archived already.

### Additional Information

When a financial accounting document is posted, the actual document data is stored in tables BKPF and BSEG.

Data from these tables is also written redundantly to secondary index tables BSIS, BSIK, and BSID (depending on the account type). After clearing, this secondary index data is moved to tables BSAS, BSAK, and BSAD. The purpose of this is to provide faster access to data in some applications such as the line item report function.

Many applications only require the data from the secondary indexes rather than the actual document data. The secondary indexes are, therefore, not removed from the database during the delete phase of data archiving but subsequently with a special postprocessing program (SAPF048I/FI\_DOCUMNT\_PST).

When an archiving run for archiving object FI\_DOCUMNT is executed, the dependent secondary indexes are flagged (field XARCH) and retained in the system. This means that evaluation reports can still make limited use of a document, even after it has been archived.

The secondary indexes (BSIS and BSAS entries) are stored in the system with the XARCH indicator for as long as is defined in the index runtime (OBR7). If the index runtime of a secondary index is exceeded, program SAPF048I/FI\_DOCUMNT\_PST deletes the index. Program SAPF048I/FI\_DOCUMNT\_PST starts automatically (if required) after each archiving run and checks all the indexes in the system. You can start the program manually with a limited selection if required.

## Customizing Settings

### Application-Specific Customizing

To archive documents, you must configure specific settings in Customizing for Financial Accounting. For secondary index documents, you must configure settings for the account type life.

### Account Type Life

Secondary index run times are defined in Customizing transaction **OBR7** (Document Archiving: Account Life).

The secondary index life for document archiving indicates how long the FI **secondary indexes** (tables BSIS, BSAS, BSAD, and BSAK), which contain redundant document information from headers and items, are to be retained in the system. If the secondary index life is longer than the account type/document type life, the document can be archived and deleted from the database immediately, while its secondary index information remains in the system until it is deleted according to the runtime definition of program SAPF048I/FI\_DOCUMNT\_PST (postprocessing program). The retention of secondary indexes in the system ensures that line items are displayed for account numbers (transactions FBLxN).

If you use SAP AS to access archived FI documents, transactions FBLxN use these SAP AS indexes, so the secondary indexes are no longer required. In this case, the times for the secondary index runtime and the account life can be customized with the same value.

**Important:** SAP AS information structures based on field catalog SAP\_FI\_DOC\_002 (line-item-based AS information structure) will grow significantly. Therefore, we recommend using the secondary indexes instead of a line-item-based SAP AS information structure.

The following table shows the Customizing settings in your system (transaction OBR7). The analysis was carried out with transaction TAANA, variant AD-HOC.

Company Code	Account Type	From Account	To Account	Account Life (Days)	Secondary Index Run Time (Days)
*	*	0000000000	9999999999	9999	9999
*	*	A	ZZZZZZZZZZ	9999	9999
BE01	*	0000000000	9999999999	550	1100
BE51	*	0000000000	9999999999	550	1100
CH06	*	0000000000	9999999999	550	1100
CH10	*	0000000000	9999999999	550	1100
CH11	*	0000000000	9999999999	550	1100
CH12	*	0000000000	9999999999	550	1100
CH13	*	0000000000	9999999999	550	1100
CH56	*	0000000000	9999999999	550	1100
CH61	*	0000000000	9999999999	550	1100
CH62	*	0000000000	9999999999	550	1100
CH63	*	0000000000	9999999999	550	1100
CN01	*	0000000000	9999999999	550	1100
CN02	*	0000000000	9999999999	550	1100
CN03	*	0000000000	9999999999	550	1100
CN04	*	0000000000	9999999999	550	1100



Company Code	Account Type	From Account	To Account	Account Life (Days)	Secondary Index Run Time (Days)
CN05	*	000000000	999999999	550	1100
CN08	*	000000000	999999999	550	1100
CN51	*	000000000	999999999	550	1100
CN52	*	000000000	999999999	550	1100
CN53	*	000000000	999999999	550	1100
CN54	*	000000000	999999999	550	1100
CN55	*	000000000	999999999	550	1100
CN58	*	000000000	999999999	550	1100
CZ01	*	000000000	999999999	550	1100
ES08	*	000000000	999999999	550	1100
GB01	*	000000000	999999999	550	1100
US01	*	000000000	999999999	550	1100
US02	*	000000000	999999999	550	1100
US18	*	000000000	999999999	550	1100
US19	*	000000000	999999999	550	1100
US69	*	000000000	999999999	550	1100

### Recommendation

To ensure that all accounts are archived, set the account life to an appropriate value (such as 465 days) for the following entries:

'Company code' = '\*', 'Account type' = '\*', 'From account' = '0', 'To account' = '999999999';

'Company code' = '\*', 'Account type' = '\*', 'From account' = 'A', 'To account' = 'ZZZZZZZZZZ'.

*Archiving Object-Specific Customizing (Technical Settings)*

The following table shows the technical Customizing settings for the secondary index tables (tables BSIS, BSAS, BSAD, and BSAK) in your system (see transaction AOBJ -> search for archiving object FI\_DOCUMNT -> choose "Customizing Settings"). The additional column, "Recommended settings", provides information about the settings recommended.

Archiving Object	Settings in your System (Active = X)	Recommended Settings
FI_DOCUMNT		X

### Additional information about the different parameters that can be set for archiving object FI\_DOCUMNT

#### Settings for Postprocessing Program: Start automatically

Here, you can schedule a postprocessing program to run after the delete phase. Postprocessing programs carry out operations such as updating statistics and cleaning up secondary indexes (such as table BSIS) following an archiving session.

#### Prerequisites for Archiving

The main check criteria for deleting secondary indexes using the postprocessing/index removal program are:

The index lives must have expired by the key date. The index life runs from the clearing date (or the posting date for accounts not managed on an open-item basis).

Documents that belong to the secondary index must have been archived already.

#### Display Functionality

You can use the following functions to access archived data:

- Transactions
- FB03 Display Accounting Document
- FB03L Display Accounting Document
- FBL3N G/L Account Line Items Display
- FAGLL03 G/L Account Line Items Display G/L View
- Read Programs
- FAGL\_ACCOUNT\_ITEMS\_GL,,G/L Account Line Item Display
- RFBELJ00 Compact Document Journal
- RFPEOJ00 Line Item Journal
- RFITEMAP Vendor Line Item Display
- RFITEMAR Customer Line Item Display

- RFITEMGL G/L Account Line Item Display
- RFKLET01 Accumulated Balance Audit Trail
- RFUSVB10 Annual Tax Report (Belgium) ---> On Tape / Paper
- RFUSVS12 Annual Sales Report (Spain) > on Disk
- SAPF048S FI Document Archiving: Standard Document Search
- SAPF048Z FI Document Archiving: Determine Archive Files for Documents (ERP 2004 only)
- Other reports using:
  - Logical database BRF
  - Logical database DDF (FBL5, FBL5N, RFITEMAR)
  - Logical database KDF (FBL1, FBL1N, RFITEMAP)
  - Logical database SDF (FBL3, FBL3N, RFITEMGL)
- Document Relationship Browser
- Transaction ALO1, point of entry: Accounting documents (up to Release 4.6C). As of Release 4.7, the DRB is integrated into user role SAP\_DRB, which provides a separate user menu. This user menu replaces SAP transaction ALO1. The user role "SAP\_DRB" has to be assigned to the user. This can be done as follows: Call transaction PFCG, insert role "SAP\_DRB", choose "Display", and navigate to the "User" tab page.

To display documents, call transaction PFCG, insert role "SAP\_DRB", choose "Display", and navigate to the "Menu" tab page.

- SAP Archive Information System
- Business-specific view available (as of Release 4.6C)
- SAP\_FI\_DOC\_002 Item Key and Reference
- SAP\_FI\_DOC\_DRB1 Standard for DRB
- SAP\_FI\_DOC\_003, New for NewGL (see SAP Note 798540)

#### Note

SAP\_FI\_DOC\_002 / SAP\_FI\_DOC\_DRB1: You can display individual accounting documents from the archive. You can display this document from the display line items function in the General Ledger, Accounts Receivable or Accounts Payable menu. However, you can only display line items from an account if the secondary index still exists in the system. Whether or not the secondary index still exists, depends on the length of its index life.

#### Data Content Analysis

The following analyses show the annual distribution of entries in tables BSIS and BSAS.

##### Table BSIS: Secondary Index for G/L Accounts

The following table contains the results of the analysis for table BSIS. It shows the number of entries for each year and the number of entries for which the underlying FI document has been archived (field XARCH = X). The analysis was carried out with transaction TAANA, variant AD-HOC.

Year	No. of Entries	In % of total	No. of Entries with XARCH = X	In % of Total
< 2012	26.119.318	35,1	2.177.334	2,9
2012	7.377.819	9,9	993.778	1,3
2013	7.053.059	9,5	0	0,0
2014	24.290.190	32,6	0	0,0
2015	9.654.143	13,0	0	0,0
Total	74.494.529	100,0	3.171.112	4,3

#### Analysis Result

If no FI documents have yet been archived (archiving object FI\_DOCUMENT), no BSIS entries will refer to FI documents already archived (BSIS-XARCH = X).

28.921.414 BSIS entries, equal to 39% of the total BSIS entries, refer to FI documents that have already exceeded our secondary index recommended residence time (36 months) and could therefore be archived/deleted.

0 entries or 0% refer to FI documents that have been archived (BSIS-XARCH = X) and have exceeded our secondary index recommended residence time (36 months). These are candidates for removal/deletion by the post-processing program.

**Note:** This calculation of reduction potential is based on SAP's recommended residence time of 36 months. This may differ from the values in the above table, since it does not have a monthly breakdown.

##### Table BSAS: Secondary Index for G/L Accounts (Cleared Item)

The following table contains the results of the analysis for table BSAS. It shows the number of entries for each



year and the number of entries for which the underlying FI document has been archived (field XARCH = X). The analysis was carried out with transaction TAANA, variant AD-HOC.

Year	No. of Entries	In % of total	No. of Entries with XARCH = X	In % of Total
< 2012	9.618.128	44,7	528.638	2,5
2012	2.482.173	11,5	203.189	0,9
2013	2.667.322	12,4	0	0,0
2014	5.046.327	23,5	0	0,0
2015	1.682.388	7,8	0	0,0
Total	21.496.338	100,0	731.827	3,4

#### Analysis Result

If no FI documents have yet been archived (archiving object FI\_DOCUMNT), no BSAS entries will refer to FI documents already archived (BSAS-XARCH = X).

10.560.857 BSAS entries, equal to 49 % of the total entries in BSAS, refer to FI documents that have exceeded our secondary index recommended residence time (36 months), and could therefore be archived or deleted.

0 entries or 0% refer to FI documents that have been archived (BSAS-XARCH = X) and have exceeded our secondary index recommended residence time (36 months). These are candidates for removal/deletion by the post-processing program.

**Note:** This calculation of reduction potential is based on SAP's recommended residence time of 36 months. This may differ from the values in the above table, since it does not have a monthly breakdown.

#### Archiving Objects

The following archiving objects apply to tables BSIS and BSAS:

Archiving Object	Object Description
FI_DOCUMNT	Financial Accounting Documents

#### Archiving Runs

If there were archiving activities for this document type, the following table shows some details. If no archiving runs were detected, nothing is displayed.

Archiving Object	Archiving Runs	First Run	Last Run	No. of archived and del. Objects	Size of Archive File(s) [MB]
FI_DOCUMNT	24	13.11.1999	19.04.2014	13.175.937	13.243,31

#### Evaluation

SAP best practices recommend that you archive **Financial Accounting** data after 24 months, since it probably no longer needs to be accessed frequently after this period of time.

To avoid having to generate SAP AS indexes at line item level, archive/delete the **Secondary Index for GL Accounts** later. A timeframe of three to five years is normal.

Tables BSIS and BSAS were analyzed. **Secondary Index for GL Accounts** entries that are older than 36 months, are candidates for archiving/deletion. This is 28.921.414 entries, or 39% of the entries in table BSIS, and 10.560.857 entries, or 49% of the entries in table BSAS.

Removing these entries would produce a saving of approximately 15,16 GB.