

# Lean and Green: Sustainable SAP Archiving for Modern Enterprises

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## Abstract

As organizations undergo digital transformation, SAP systems increasingly struggle under the weight of growing data volumes. This causes performance bottlenecks, escalating storage costs, and challenges in maintaining compliance. This white paper proposes a framework for sustainable SAP archiving tailored to modern business needs, emphasizing the importance of declassifying datasets and aligning archival practices with cross-functional objectives. By addressing technical debt and leveraging process-centric data hubs, businesses can create sustainable archiving strategies that enhance system performance, ensure compliance, and support agile decision-making.

**Keywords:** Archiving, SAP Archiving, ILM, DVM, Data volume management, SARA, SOX compliance, SARA, IDoc

## 1. Introduction

The proliferation of data in modern enterprises has become a double-edged sword. While data fuels insights and innovation, its exponential growth in SAP systems presents challenges such as degraded system performance, increased operational costs, and compliance risks. These challenges are exacerbated by regulatory pressures like GDPR, SOX, and HIPAA, which mandate stringent data retention and privacy standards. Enterprises must adopt innovative archiving methodologies to ensure operational efficiency and compliance while maintaining agility in decision-making.

### Objective

This paper addresses the pressing need for sustainable SAP archiving by exploring methodologies that leverage process-centric data hubs, declassify datasets, and align archival practices with organizational goals.

### Scope

The focus is on balancing "lean" system performance with "green" sustainability principles, creating strategies that ensure long-term efficiency, Identifying the datasets that can be complex among different process groups, Sustainable on-going model.

## 2. Problem Statement

The rapid growth of data volumes in SAP systems poses significant challenges:

*Challenges in identifying the technical debts:* Either process documents (like accounting document, PO, PR, debit note.. ) or infrastructure tables (DBTABLOG, DBTABPRT, DDLOG,.) that may have been unintentionally configured to stay forever. Unearthing is a humongous task.

*Performance Bottlenecks:* Growing data volumes lead to slower transaction processing and reporting delays.

*Compliance Complexities:* Regulatory frameworks demand strict data retention and deletion protocols. Sometimes these are overlooked as well.

Without sustainable archiving strategies, organizations risk inefficiencies, penalties, and missed opportunities for innovation.

### 3. Methodology for Sustainable SAP Archiving

#### 3.1 Principles of Lean and Green Archiving

A sustainable SAP archiving strategy should incorporate the following principles.

Data Declassification	Cross-Functional Mapping	Identifying data redundancy
Bring Out the data based on relevance and ownership. Often certain datasets are treated as critical and their history is preserved with no end-dates. Challenge it for its actual purpose and validity.	Preparing & Aligning archival practices with the needs of diverse organizational units. Every growing process document/table should be tied to a process team like OTC, PTP, MD, AP, AR, FICA..	Modern systems do have their reporting systems separately for the same dataset. Ideally, if the legal compliance can be done in one of the systems, the other should be negotiated in the path of archival process, leaving the current data to a defined period of time.

**Table 1: Principles of SAP Archival strategy**

#### 3.2 Framework for Implementation

The framework involves:

*Assessment:* Identifying redundant, obsolete, and trivial (ROT) data.

*Optimization:* Implementing lean data practices to minimize storage costs, be it Avoiding, Scoping the validity, deleting or Archiving to a historical content.

*Sustainability:* Establishing governance policies for continuous archival improvements.

A financial services firm transitioned from on-premise SAP to a hybrid cloud model, reducing archival costs by 30% (*Schmidt, K., & Laurent, J., 2016*).

### 4. Addressing the challenges in Current SAP Archiving Practices

#### 4.1 Technical Debt

ERP systems often accumulate inefficiencies due to outdated processes and unsupported configurations. This technical debt is often not tied to a process team and goes unnoticed until performance gets impacted. With some examples from Table 2, this paper will explain about the ‘technical debt’, which may not necessarily belong to a process team. But had to be reviewed by Basis, infra, integration, development, data services UI and other platform services teams together to Avoid / Summarize / Delete / Archive Or even scope for a valid period.

Tables / Entities	Description	Component	Avoidanc	Summarizatio	Deletio	Archivin
TSP*	Spool tables	HK	x	x	✓	x
TST01	TemSe: List of objects and parts	HK	x	x	✓	x
TST03	Spool data from the print and output controller	NW	✓	x	✓	x
TXMILOGRAW	External job scheduling tools logs	HK	✓	x	✓	x
VARI	ABAP/4: Variant storage	HK	x	x	✓	x
VBDATA	Update request data	NW	✓	x	✓	x
SADLSTRECB	Dynamic part of an address	ERP	x	x	✓	x
SALRT*	Alert management data	NW	✓	x	✓	x
SBCMCONT1	Table for document contents (import/export)	NW	✓	x	✓	x
SE16N_CD_DATA, SE16N_CD_KEY	Table display – Change documents	NW	✓	x	✓	✓
SGOSHIST	Generic object services: object history data	NW	✓	x	✓	x
RSBERRORLOG	Log entries for erroneous DTP data records	BW	✓	x	✓	x
RSDDSTATAGGRDEF	Statistics data OLAP: Navigation	BW	x	x	✓	x

Tables / Entities	Description	Component s	Avoidanc e	Summarizatio n	Deletio n	Archivin g
	step/aggregate definition					
RSMON* and RS*DONE	Request administration data	BW	x	x	x	✓
RSPCLOGCHAIN und RSPCPROCESSLOG	BW process chain	BW	x	x	✓	x
RSRWBSTORE	Objects in binary format	BW	x	x	x	x
IDocREL, SRRELROLES	Object link data	NW	x	x	✓	✓
INDX	System table INDX	NW	x	x	✓	x
D010* ((D010L, D010TAB, D010S, D010Q, D010INCA)	ABAP Dictionary tables	NW	x	x	x	x
DBERDL, DBERDLB, DBERDZ and ERDK, ERDB, ERDO, DBERDR, DBERDU	Print document line items and headers	ISU	✓	x	✓	✓
DBTABLOG	Table change logs	NW	✓	x	✓	✓
DBERCHZ1-8, DBERCHZ, and ERCHC (also ERCHO, ERCHP, DBERCHU)	Billing document line items and headers	IS-U	✓	x	✓	✓
DDLOG	Buffer synchronization data	NW	✓	x	✓	x
PPFTTRIGG, PPFTMETHRU	Post Processing Framework	CRM	✓	x	✓	✓
PPOIX, PPOPX	Posting index	ERP	✓	x	✓	✓

Tables / Entities	Description	Component	Avoidanc	Summarizatio	Deletio	Archivin
		s	e	n	n	g
	of payroll results					
PRCD_COND	Conditions for SAP CRM business transaction)	CRM	✓	✓	x	✓
PROF, PROH, PRON, PROP, PROW	Forecast	ERP	✓	x	✓	x
SGOSHIST	Generic object services: object history data	NW	✓	x	✓	x
SMO*, CDB*	SAP CRM mobile application data	CRM	✓	x	✓	x
SGOSHIST	Generic object services: object history data	NW	✓	x	✓	x
SMO*, CDB*	SAP CRM mobile application data	CRM	✓	x	✓	x
SNAP	ABAP/4 snapshot for runtime errors	HK	x	x	✓	x
<i>Snnn</i>	RIS – Information structures	ERP	✓	✓	✓	✓
SO33	Logistics Information System (LIS) information structure S033	ERP	✓	x	x	✓
STERM_*	SAP terminology	NW	x	x	✓	x

Tables / Entities	Description	Component	Avoidance	Summarization	Deletion	Archiving
STXH, STXL	SAP script texts	NW	✓	✗	✓	✓

*Table 2: Courtesy SAP Data volume management for SAP business suite 7.2 (Dietmar-Hopp-Allee, Jan 2019)*

Legends: Components are, BW = SAP Business Warehouse (SAP BW); CRM = SAP Customer Relationship Management (SAP CRM); ERP = mySAP ERP/SAP R/3 Enterprise/SAP R/3, S4; EWM = SAP Extended Warehouse Management (SAP EWM); HK = Housekeeping measures; ISU = SAP for Utilities; NW = SAP NetWeaver/SAP Basis; S/4\* = S/4HANA systems. This information is valid up to 1709.

**Sustainable approach for Housekeeping:**

We can delete some types of data from your system very soon after it has been created. Use of mentioned Jobs for each of those functions will help clear up certain tables. These Jobs should be permanently set up in-order to keep those tables retain only a specific period data. I have detailed some of the table housekeeping items that can be sustainably managed with regular archiving. Also set up some reports/alert mechanisms outside of ERP systems, if these jobs are cancelled or long-running, thereby a sustainable end-end approach is made.

**Runtime Statistics for Background Jobs**

- Program: RSBPSTDE
- Reorganized tables: BTCJSTAT\*
- Job scheduling: monthly (with variants)
- Recommended job name: SAP\_REORG\_JOBSTATISTIC

This report deletes old data from the job runtime statistics. More in SAP Note 16083 - Standard jobs, reorganization jobs. In SAP S/4HANA, should refer SAP Note 2190119 - Background information about S/4HANA technical job repository.

**Consistency Check for Administration Tables of Background Jobs:**

- Program: RSBTCCNS
- Reorganized tables: TBTC\*
- Job scheduling: daily (with variants)
- Recommended job name: SAP\_BTC\_TABLE\_CONSISTENCY\_CHECK

This report checks the consistency of job definitions and repairs erroneous entries. See also SAP Notes:

- 1549293 (SAP\_BASIS 700 - 740): SM65: Improvements in consistency check
- 1893670 (SAP\_BASIS 700 – 740): Problems with RSBTCCNS (SM65)
- 2581518 - SAP\_BASIS Jobs in the Technical Job Repository (SJOBREPO)

Orphaned Temporary Variants in Table VARI :

- Program: BTC\_DELETE\_ORPHANED\_IVARIS
- Reorganized tables: VARI
- Job scheduling: weekly (with variants)
- Recommended job name: SAP\_DELETE\_ORPHANED\_IVARIS

If you schedule a report as a background job, the system generates a variant called &0000000000xxx for

the report. However, if an error occurs during scheduling, the generated variant is not deleted.

See also SAP Notes:

- 1021775 (SAP\_BASIS 640 – 711): Orphaned temporary variants in the table VARI
- 2581518 - SAP\_BASIS Jobs in the Technical Job Repository (SJOBREPO)

Housekeeping for Spool Data:

Spool Data and Administration Data for Spool Jobs

- Program: RSPO1041
- Reorganized tables: TSP\*
- Job scheduling: Daily (with variants)
- Recommended job name: SAP\_REORG\_SPOOL

This report deletes old spool data. Report RSPO1043 enables the continuous monitoring of inconsistent spool objects (example: no entries in TST01 but entries in TST03 for a selected spool are available). Just as in RSPO0043, the write locks are analyzed and, if necessary, deleted. In contrast to report RSPO0043, report RSPO1043 can run in parallel to the other activities in the background. To do this, the report must run daily.

External Job Scheduling Tools :

- Program: RSXMILOGREORG
- Reorganized tables: TXMILOGRAW
- Job scheduling: weekly (recommended)
- Recommended job name: SAP\_REORG\_XMILOG

If you use external job scheduling programs, XMI log entries are written to table TXMILOGRAW. As a result, this table can grow quite large and should be reorganized periodically.

Program RSXMILOGREORG is available to delete XMI logs.

A weekly reorganization of your tables should delete any entries that are older than seven days. If the table is already large, we recommend that you use the reorganization method TRUNCATE at database level. This can be done without any negative consequences because the table does not have any dependencies to other tables. For more information, see SAP Note 182963.

SAP Note 852933 (SAP NetWeaver AS 6.40 – 7.00) provides information about how to speed up the deletion process when you are using the reorganization program RSXMILOGREORG.

Housekeeping for SAP CRM Middleware Tables

- Program: SMO6\_REORG2

In SAP Customer Relationship Management (SAP CRM) and SAP Supplier Relationship Management (SAP SRM), it is common to see strong growth of BDoc and trace tables in CRM Middleware. This could have a negative impact on performance during the processing of BDocs.

Also refer SAP Note:

- 2086931 - Middleware Reorganization Reports (BBPCRM 712 -714)
- 1138051 (BBPCRM 400 – 600) Deactivation of BDoc to Object links
- 1876287 (BBPCRM 5.0 – 7.13): Performance Optimization Of SMO6\_REORG
- 2388483 - How-To: Data Management for Technical Tables

## Avoidance

SAP or any business suite application, the out-of-box Customizing tables are configured 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. Existing logs can be displayed with transaction SCU3 (Table History).

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).

It may happen that tables are flagged for logging by mistake. SAP DVM for avoidance has a list of tables for deactivation on review. Existing logs for these tables can be deleted. This does not include custom tables. (*Dietmar-Hopp-Allee, (Jan 2019) section avoidance*)

#### **4.2 Archiving should not be a One-Time Implementation Mindset**

Many organizations treat archiving as a one-time project rather than an ongoing process, leading to short-lived benefits and recurring issues. Ideally, SAP Archiving should be designed to work in parallel, not like a one-time affair. So the benefit is outweighed against the effort of this project. Modern systems often churn enormous data, because of data intensive design, But this can be kept to an optimal level, if the SAP archiving or ILM (SAP Information Lifecycle management) is in place.

#### **4.3 Organizational Alignment on Archiving without compromising Compliance / Regulatory:**

Cross-functional misalignment results in data silos, complicating archival strategies and reducing their effectiveness. Usually a PMO should be designated and Executives should be briefed on these benefits and housekeeping.

Many datasets in an organization are put on hold for Archiving citing the compliance or Regulatory requirements like FINRA, FDA, EPA, GDPR,.. Any organization will have a baseline of document retention strategy based on the compliances it is going through. Each of the high volume documents should be challenged for their retention time against the baseline along with the historical proof of usage in audits. So this forms a criterion to segregate the data for Retention time scoping.

#### **4.4 Cross-Functional Mapping**

Aligning archival practices with organizational goals ensures that all stakeholders benefit from the archiving process.

*Approach:* Engaging IT, legal, compliance, and business units in policy formulation. Mapping data lifecycles to departmental workflows.



Example:

Below charted out detail is one of the examples that is taken for triaging the Business documents like IDocs, which is related to process teams. Get the buy-in from the respective team to scope the retention time, after that it will be archived. SARA transactions will be used to archive with respective Object types.

Category of IDoc Processing	Successful IDocs (Status 53, 03)		Errored IDoc (51,.)		Archived IDoc (68)	
	Residence time in ERP / CRM / SOM	Retention time in storage	Residence time in ERP / CRM / SOM	Retention time in storage	Residence time in ERP / CRM / SOM	Retention time in storage
General IDoc policy	60 days	365 Days	90 Days	180 Days	120 Days	0 Days
Exceptions IDoc policy	240 Days	500 Days	180 Days	365 Days	120 Days	0 Days

**Table 3: A IDoc residence and retention policy for a Retail giant.**

A retail giant implemented a ‘Table 3: IDoc Residence and Retention policy’ based on the regulatory compliance. So the residence time & Retention time in the table is broadly classified for IDocs in 2 sections. ‘General IDoc policy’ dictates all IDoc message types that need to follow Archiving strategy, based on their Status. Like Errored IDocs inbound or outbound will have to be held for 90 days. ‘Exceptional IDoc policy’ is meant for all the business processes which are audited for regulatory or compliance.

### 5. Benefits of Sustainable SAP Archiving

System Efficiency: Faster processing times and reduced database size.

Cost Reduction: Lower storage and maintenance costs.

Regulatory Compliance: Streamlined audits and data retention.

Operational Agility: Enhanced real-time analytics and decision-making.

### 6. Conclusion

Sustainable SAP archiving is no longer optional for modern enterprises—it is essential for maintaining system efficiency, reducing costs, and ensuring compliance. Above steps to triage ‘Technical debts’ and set their lifecycle in the system for ever, instead of a one-time activity. Process documents like IDocs should also be in-line with the regulatory/compliance timeline needed for residence/retention. Likewise other business documents like accounting document, Sales order, purchase order, Material ledger, Contracts., have different objects to be exclusively archived in a continuous process rather than a one-time activity.

By adopting a lean and green approach that emphasizes data declassification, cross-functional mapping we can address the challenges of growing data volumes and unlock new opportunities for innovation and agility.

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