



# The Benefits of SAP Data Archiving

Karin Tillotson, Consultant, Auritas LLC

ASUG82395

## About the Speaker

- Karin Tillotson
  - Consultant, Auritas LLC
  - I have been archiving SAP data since 1999
  - Fun fact – I share the same birthday as Michael Jordan

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- Content Migration
- Records Management
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## Information Lifecycle Mgt

- SAP Data Archiving & ILM
- Legacy Application Retirement
- Retention Compliance
- BW Nearlining

*Drive Cost Savings & Improve System Performance*

## SAP HANA Optimization

- Data Modeling & DB Tuning
- Data Aging, NLS, Dynamic Tiering
- Performance Management
- Application / HANA Sizing

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## Key Outcomes/Objectives

1. Learn how to get started with SAP Data Archiving
2. Learn about the benefits of archiving
3. Get archiving best practices

# Agenda

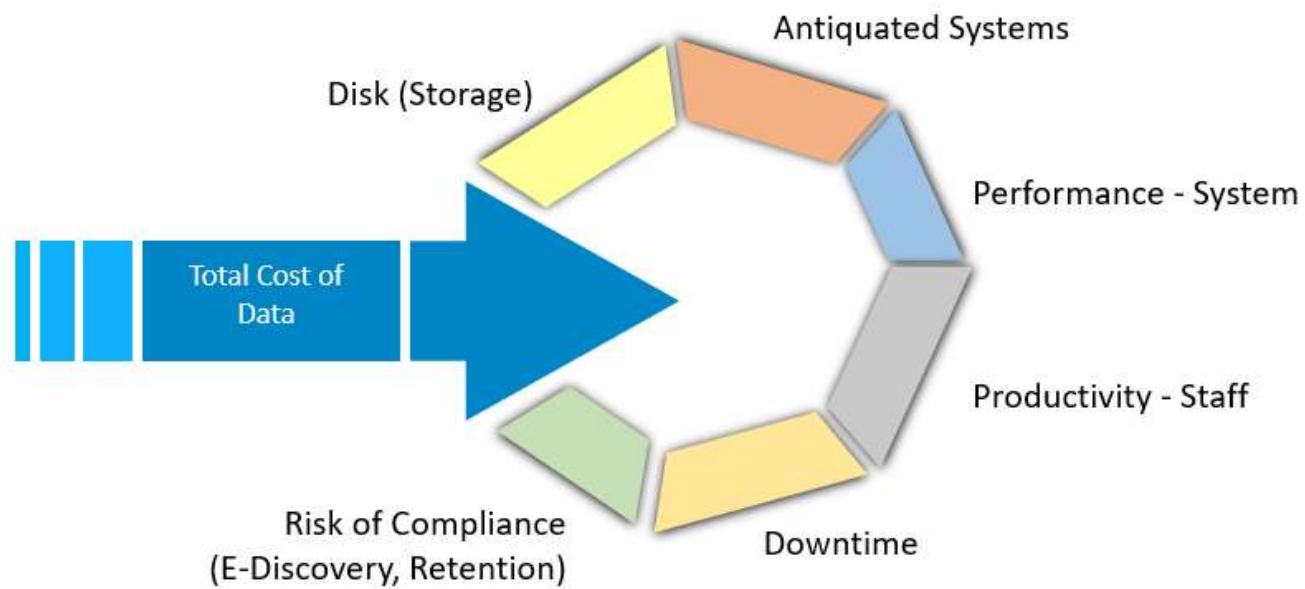
- **Getting started**
- Gather requirements
- Planning a SAP data archiving project
- Benefits of SAP Data Archiving
- Best practices

# Getting Started

- Reasons to archive SAP Data
  - Reduce database size
  - Improve system performance
  - Reduce storage costs (HANA, Cloud)
  - First step in SAP ILM RM

# Getting Started

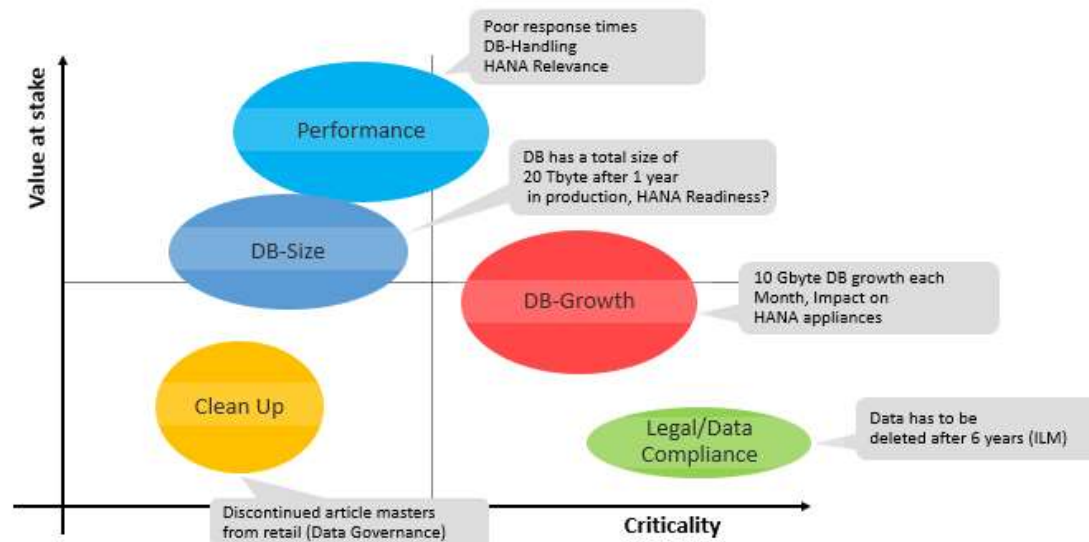
- Cost of data



# Getting Started

- What are your data management drivers:

## The Prevention/Escalation Quadrant



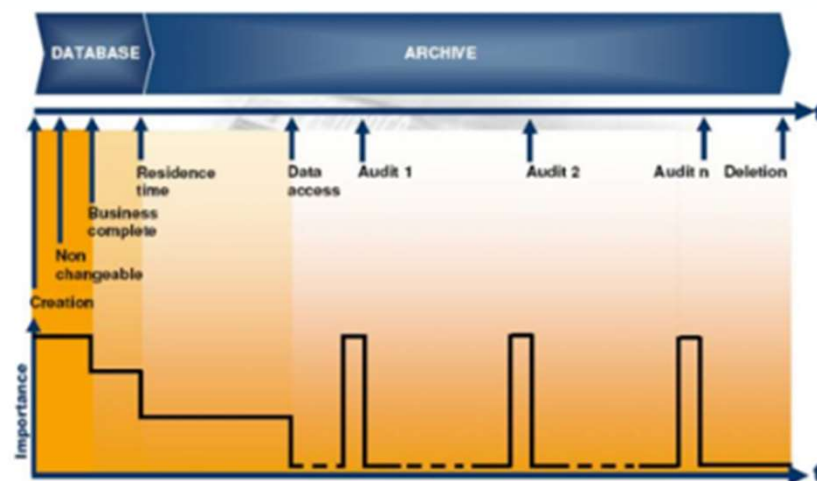


# Getting Started

- SAP data archiving is the process of moving data:
  - Static
  - Rarely accessed
  - Historical
- ... from the transactional system (database)
- ... to other storage (file system, SAP IQ, 3<sup>rd</sup> party external storage)
- ... while maintaining acceptable end user access to the archived data

# Getting Started

- Archiving terms
  - Residence time – how long the data remains in the database before archiving
  - Retention time - how long you keep the data based on company policy before it is eligible for destruction



# Getting Started

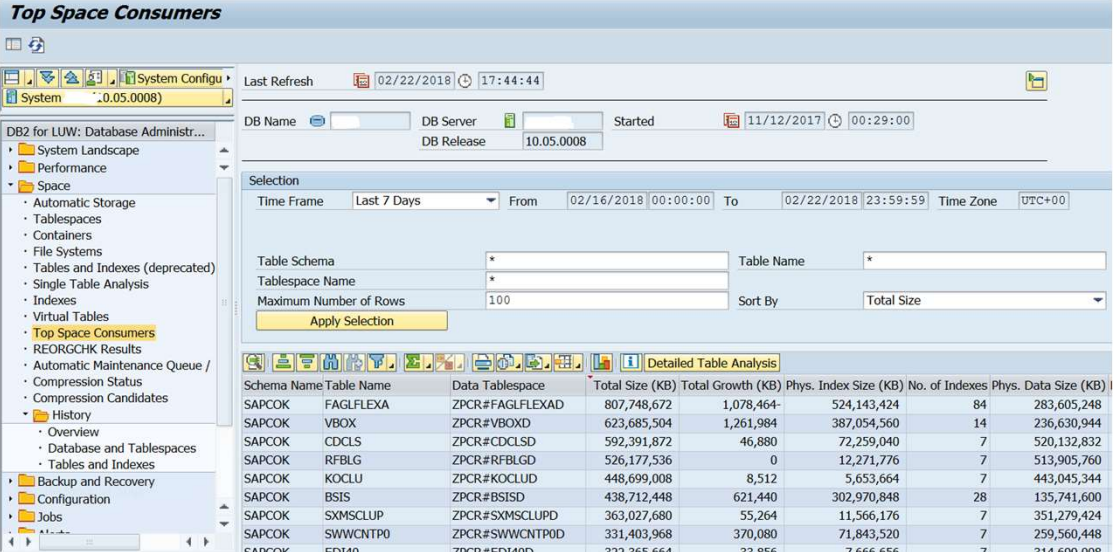
- SAP provides about 800 standard archiving objects
- In most cases, a small % of objects will be needed
- There are 3 types of archive objects
  - Technical
  - Transactional
  - Master data

# Getting Started

- There can be dependencies between archive objects
  - Recommendation: SAP Network Graphic
  - Example: Transactional data before master data
- There may also be functional dependencies
  - DART (Data Retention Tool)
  - BW considerations
  - Image archiving of outgoing documents (Billing docs)

# Getting Started

- Transaction DB02
  - Top space consumers
- Check for
  - Largest tables
  - Fastest growing tables



The screenshot shows the 'Top Space Consumers' report in SAP. The report is filtered for the last 7 days, from 02/16/2018 00:00:00 to 02/22/2018 23:59:59. The table lists the top space-consuming tables, sorted by total size in descending order.

Schema Name	Table Name	Data Tablespace	Total Size (KB)	Total Growth (KB)	Phys. Index Size (KB)	No. of Indexes	Phys. Data Size (KB)
SAPCOK	FAGLFLEXA	ZPCR#FAGLFLEXAD	807,748,672	1,078,464	524,143,424	84	283,605,248
SAPCOK	VBOX	ZPCR#VBOXD	623,685,504	1,261,984	387,054,560	14	236,630,944
SAPCOK	CDCLS	ZPCR#CDCLSD	592,391,872	46,880	72,259,040	7	520,132,832
SAPCOK	RFBLG	ZPCR#RFBLGD	526,177,536	0	12,271,776	7	513,905,760
SAPCOK	KOCLU	ZPCR#KOCLOUD	448,699,008	8,512	5,653,664	7	443,045,344
SAPCOK	BSIS	ZPCR#BSISD	438,712,448	621,440	302,970,848	28	135,741,600
SAPCOK	SXMSCLUP	ZPCR#SXMSCLUPD	363,027,680	55,264	11,566,176	7	351,279,424
SAPCOK	SWWCNTP0	ZPCR#SWWCNTP0D	331,403,968	370,080	71,843,520	7	259,560,448
SAPCOK	FDI40	ZPCR#FDI40D	322,365,664	33,856	7,666,656	7	314,699,008

# Getting Started

- Take the DB02 information and download into a spreadsheet
- Use one of the following to determine strategy
  - Transaction DB15
  - OSS Notes
  - SAP Data Management Guide

Table Name	Total Size (KB)	SAP Archive Object	Archive Object or SAP supplied program	Comments or clean program name
FAGLFLEXA	807,748,672Y		FI_DOCUMENT	
VBOX	623,685,504Y		SD_VBRK	
CDCLS	592,391,872Y		multiple	change docs are archived with the relevant transaction object plus CHANGEDOCU may be used for master data related records
RFBLG	526,177,536Y		FI_DOCUMENT	
KOCLU	448,699,008Y		multiple	
BSIS	438,712,448Y		FI_DOCUMENT	these entries are not archived, but would need to be deleted with the post processing pgm
SXMSCLUP	363,027,680Y		BC_XMB	
SWWCNTP0	331,403,968Y		WORKITEM	
EDI40	322,365,664Y		IDOC	
VBFA	319,509,376Y		multiple	
SOC3	286,910,336N			See SAP Data Management Guide
VBAP	279,808,096Y		SD_VBAK	
LIPS	259,384,640Y		RV_LIKP	
VBRP	229,440,800Y		SD_VBRK	
FAGL_SPLINFO_VAL	226,649,888Y		FI_DOCUMENT	

# Getting Started

- Use transaction TAANA to analyze the data in the table
- This information may be useful in determining archive write job variants

The screenshot displays the SAP Table Analysis: Administration interface. The left pane shows a tree view of tables, with '183F' selected. The right pane shows the 'General Data' for table 183F, including analysis variant 283F, date/time 09/14/2014, and status 'Completed'. Below this, a table shows the number of entries for each year from 1998 to 2014.

Year	No. of Entries
2014	2,296
2013	872
2012	1,520
2011	1,845
2010	1,751
2009	3,850
2008	8,659
2007	7,681,423
2006	16,543,643
2005	13,452,066
2004	547,390
2003	409,658
2002	240,585
2001	149,002
2000	212
1999	222
1998	11
<b>Total</b>	<b>39,045,005</b>

# Agenda

- Getting started
- **Gather requirements**
- Planning a SAP data archiving project
- Benefits of SAP Data Archiving
- Best practices



# Gather Requirements

- Gathering requirements is a critical step
  - Technical
    - Storage considerations
  - Business
    - Residence time
    - Access method
  - Legal/audit
    - Retention time
    - Audit reports

# Gather Requirements

- Technical requirements
  - Storage considerations
    - File system
    - 3<sup>rd</sup> party storage solution
  - Archive file backup strategy

# Storage Option Comparison

	File System	SAP Content Server	3 <sup>rd</sup> Party Solution
Structured Data / Archiving	Yes	Yes	Yes
Retrieval Methods	Yes	Yes	Yes
Unstructured Data / Imaging	No	Possible	Yes
Software Cost	None	None	Yes
ILM Complaint	Yes	Depends	Depends

# Gather Requirements

- Business requirements
  - Residence time
    - The business will need to determine the appropriate amount of time the data remains in the system before it can be archived
    - How long does the data need to become business complete?
    - Tip: it is very helpful to show the business the data will still be able to be viewed after it is archived (in a sandbox system)

# Gather Requirements

- Business requirements
  - Will the archived data need to be accessed?
    - Single document display?
    - Reports?

# Gather Requirements

- There are multiple options to access archived data
  - Standard SAP
    - Document Relationship Browser – (DRB) – transaction code: ALO1
    - Archive Information System – (AS) – transaction code: SARI/SARE
    - Single document display transactions (example FB03)
    - Standard “archive-enabled” ABAP reports
    - Report Writer “archive-enabled” queries
    - Custom developed “archived-enabled” ABAP reports

# Gather Requirements

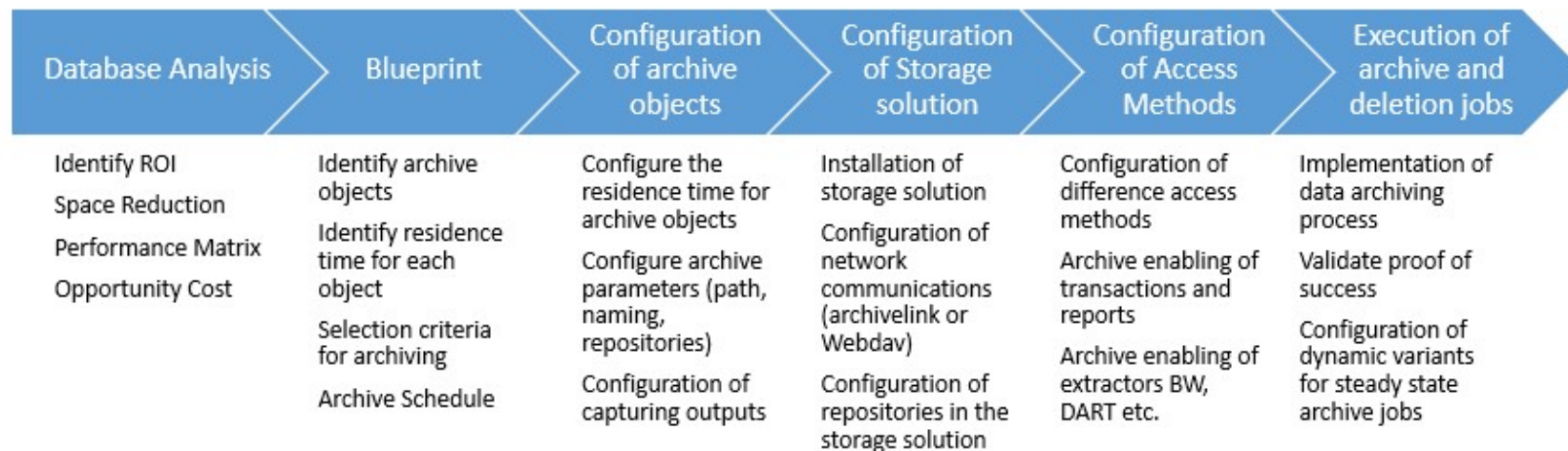
- Legal/audit Requirements
  - Retention time
    - Determined by legal, record management team
  - Audit reports
    - Does the archived data have audit reporting requirements?

# Agenda

- Getting started
- Gather requirements
- **Planning a SAP data archiving project**
- Benefits of SAP Data Archiving
- Best practices



# Planning a SAP Data Archiving Project



# Planning a SAP Data Archiving Project

- Executive Sponsorship
- SME's
- Basis/DBA
- External Resources

# Planning a SAP Data Archiving Project

- Have a detailed plan
- Set realistic expectations
- Accurate analysis and archiving object selection
- Effective archiving team
  - Clearly defined roles and responsibilities
- Organizational commitment

# Agenda

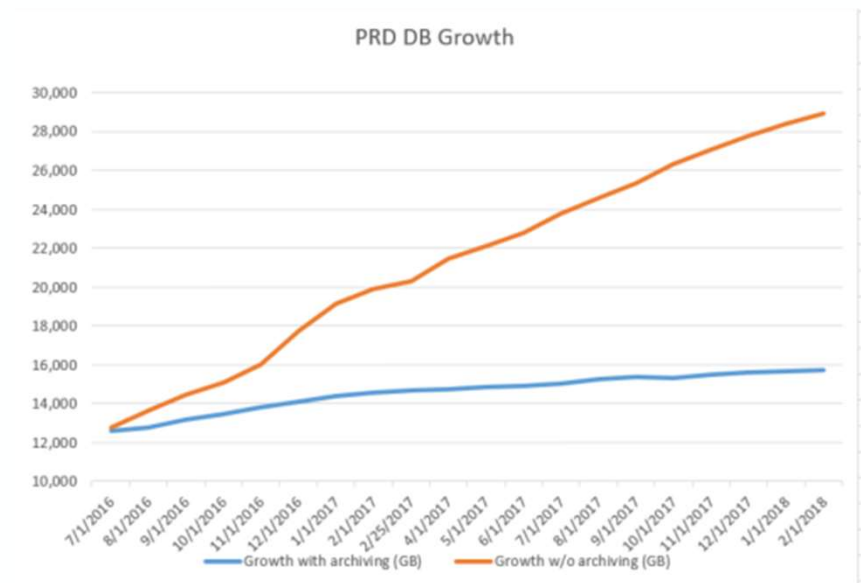
- Getting started
- Gather requirements
- Planning a SAP data archiving project
- **Benefits of SAP Data Archiving**
- Best practices

# Benefits of SAP Data Archiving

- Benefits to archiving SAP Data
  - Reduce database size
  - Improve system performance
  - Reduced backup times, downtime during upgrades
  - Reduce storage costs (HANA, Cloud)
  - Required as part of an ILM Retention Management Implementation

# Benefits of SAP Data Archiving

- SAP data archiving can slow/reduce database growth
- Example: if you archived approximately 644 GB per month
  - Monthly average 156 GB growth with archiving
  - Monthly average 800 GB growth without archiving



# Benefits of SAP Data Archiving

- Reducing Database Size
  - Data Archiving only “frees up” space in the database during the archive delete job
  - To actually reduce the database size
    - Index reorganization
    - Table/Tablespace reorganization
  - SAP Data Archiving can actually reduce database size during a migration
    - HANA
    - Cloud

# Benefits of SAP Data Archiving

- Maintain System Performance
  - Large table size can lead to long runtimes (but not always)
    - Material documents
      - MSEG can be a very large table and archiving MM\_MATBEL can improve runtime for MB51
  - Also analyze performance with transaction ST03N for possible archiving candidates



# Benefits of SAP Data Archiving

- Legal Retention Requirements
  - Liability for getting rid of data too soon
  - Liability for keeping data past its retention time
  - Some countries have mandatory destruction time for certain types of data (example: personnel)
  - Part of a companies ILM Strategy

# Agenda

- Getting started
- Gather requirements
- Planning a SAP data archiving project
- Benefits of SAP Data Archiving
- **Best practices**

# Stick To Your Methodology

## Residence

- The period of time a document remains in the online database



**Decide how long you keep data in database and then migrate to archives**

## Retention

- The “life” of a record in ERP system. e.g. Finance = 7 yrs.



**Match retention schedules to corporate policy**

## Restrictions

- Doc types
- Company Codes
- Military/Government partners
- Regulated Company



**Define consistent selection criteria for archiving your data**

## Requirements

- Documents
- Z tables
- Testing scenarios
- Integrated systems – BW, CRM, SRM, SEM



**Identify transactions and reports impacted by archiving**

## Reporting

- Historical v/s current data access



**Decide if these reports need archive enabling**

**Identify extractors to be archive enabled for BW**

## Retrieval & Storage

- Standard SAP delivered t-codes and reports
- DRB - Learn ALO1
- DART, BW



**Evaluate and choose options for Storage & Retrieval**

# Best Practices

- A thorough technical analysis will ensure your archiving project is headed in the right direction
  - The technical analysis is the foundation of your archiving project
  - Map tables to archive objects
  - Examine dependencies
  - Research relevant SAP OSS Notes

# Best Practices

- Research available documentation such as SAP's Performance Aspects of Data Archiving
  - Don't assume your largest tables are your biggest win
- Do not underestimate the amount of time to get business approval to archive
- Data archiving is not a one-time-event, it is an on-going process

# Best Practices

- The most common approach is to implement archive objects in this order:
  - Technical
    - IDOC's, Application Logs, etc.
  - Transactional
    - Financial, sales, etc.
  - Master
    - These are the hardest to archive due to multiple pre-requisites and business complete rules

# Best Practices

- SAP database analysis should be done yearly
- SAP Data Management Guide is a great resource
- Many tables may be addressed the SAP supplied cleanup programs
- Use resources such as the ASUG Archiving and ILM discussion forum

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# Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

<http://info.asug.com/2019-ac-slides>

# Q&A

For questions after this session, contact me at [KTillotson@auritas.com](mailto:KTillotson@auritas.com).

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