Introduction to Data Archiving

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1. Overview
2. Data Archiving Basics
3. Data Archiving Applied
4. Access to Archived Data
5. Data Archiving Projects
6. More Information
Data Archiving

Online

Access

Archive and Delete

Display

Database

Application Data

File System

Data Objects

Storage System

Data Objects

Store
Benefits

Value Generation through Data Archiving powered by SAP NetWeaver

1. **System Availability**
   - Faster and easier upgrade to higher software releases.
   - Shorter runtime for backup and recovery.

2. **Use of Resources**
   - Reduced hardware costs for Disk, CPU, Memory as well as administration costs.

3. **Better Performance**
   - Shorter response times in dialog mode for all employees.

4. **Legal Compliance**
   - Meeting data retention requirements and setting up end-of-life scenarios.
Use of Resources – Storage Savings

Data Records
10 GB

Mirrors
20 GB

System Copies
80 GB

Archiving
Compression to 20%

2 GB
Backup to Tape

Total savings in this scenario: 97.5%
"Hard disk costs represent less than a quarter of storage costs."
(Giga Information Group)

"Administration costs for 1 Terabyte storage are five to seven times higher than the storage costs"
(Dataquest/Gartner)
Better Performance – Areas of Improvement

Reduce display of mature data

Faster DB access

Faster access to single documents
Number of Legal Requirements Keeps Increasing

Laws and regulations affecting ever more media and data types

Laws and regulations growing across industries and countries

Laws and regulations requiring data to be kept for longer periods
1. Overview
2. **Data Archiving Basics**
3. Data Archiving Applied
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Data Archiving in Relation to Optical Archiving

- Incoming Documents
- Outgoing Documents
- Archive Files
- Print Lists
- Hyperlink
Archive Development Kit (ADK)

Runtime solution for data archiving

Development tool for data archiving solutions

- SAP
  - Application developers integrate archiving functionality into the application
- Customer
  - Archiving solutions for customer-specific tables and extensions

SAP Business Suite Applications

Database

ADK Adjustments of code page, number format, structure changes, compression, file handling, job scheduling

Archive Files
Archiving Object

Definition of logical units in business processes

All programs required for archiving, for example preprocessing, read, write and delete programs

Definition of required Customizing
Archive Administration – Access via Role or Transaction SARA
Archive Administration – Central Access to Archiving Logs

Archive Administration: Initial Screen

Logs

Archiving Object: RV_LKP

Actions:
- Proproc
- Write
- Delete
- Read
- StorageSys
- Management

Logs

- Job Overview
- Job Log
- Speed List

Archiving Object: RV_LKP

- Write
- Read
- Delete
- Proproc

No log was generated.
Archive Administration – Tables and Archiving Objects

Database Tables

[Diagram of Archive Administration interface with focus on Database Tables and Tables and Archiving Objects sections]

Archiving Objects

- Objects for Table: VBUK
  - RV_UKP: Deliveries
  - SD_VBAK: Sales Documents
  - SD_VBAK: Contacts
  - SD_VBAK: Billing Documents

Tables and Archiving Objects

- Tables archived
  - Table: VBUK: Sales Document Header Status and Administrative Data
  - Table: VBUP: Sales Document Item Status
  - Table: VBUV: Sales Document Incompleteness Lag
  - Table: VEPV: Delivery Due Date Index
  - Table: VKOF: SD Index: Billing Initiator
Archive Administration – Statistics

Display Statistics for Data Archiving

Selection
- Client: 805
- Archiving Object: RV_L1KP
- Archived On: [ ]

Status of the Archiving Session
- Incomplete
- Complete
- Replaced

Run No. | Object | Client Date | Status | Disk Space | Heade | DB Space | DB Table | DB Index | DB Cluster
Archive Management – Overview of Archiving Sessions

Archive Administration: Initial Screen

Archive Administration: Overview of Archiving Sessions
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Accessing Archived Data

- Retrieval from DB + Archive
- Business processes
- Business view

100% Index / Archive Infostructure

- DRB
- Application

AS

ADK

Archive Files
Flexible creation of archive file indexes
- Configurable infostructures stored in transparent database tables
- Manually filled using selected archive file(s)
- Automatically filled during archive delete phase

Retrieval of archived data

Technical view for all archiving objects

Document lists
- Based on infostructures
- Based on ad hoc evaluation of selected archive files
- Use of display variants

Generic tool also for customer developments
Using the Archive Information System

Archive Information System

- **Archive Retrieval Configurator**
  - Selection of the archiving object
  - Selection of the required field catalog
  - Selection and activation of the desired infostructure

- **Status Management**
  - Fill the infostructure with the required archive file content

- **Archive Explorer**
  - Select infostructure
  - Make field selections
  - Browse document list
  - Detailed display from the archive
Display of business processes across archive and database boundaries
## DRB – Display the Relationship Tree

### Document Relationship Browser

<table>
<thead>
<tr>
<th>Relationship Type</th>
<th>Details</th>
<th>Origin</th>
<th>LegID/RefID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbound Delivery</td>
<td>1234567890</td>
<td>AR</td>
<td>T00001</td>
</tr>
<tr>
<td>Purchase Order</td>
<td>9876543210</td>
<td>DB</td>
<td>T00002</td>
</tr>
<tr>
<td>Material Document</td>
<td>0987654321</td>
<td>DB</td>
<td>T00003</td>
</tr>
<tr>
<td>Accounting Document</td>
<td>1234567890</td>
<td>DB</td>
<td>T00004</td>
</tr>
</tbody>
</table>
### Display Archived Data from Within an Application

**Replenishment dlv. 80010000 Display: Overview**

**Outbound delivery**: 80010000  
**Document Date**: 07.12.2001

**Ship-to party**: R310

**Archived**

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
<th>Delivery quantity</th>
<th>SU</th>
<th>Description</th>
<th>D.M.</th>
<th>F.Y.</th>
<th>Batch</th>
<th>Vet type</th>
<th>Open quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>81000085</td>
<td>432</td>
<td>PC</td>
<td>RAMOLI LA MAMMA</td>
<td>NLN</td>
<td>C</td>
<td></td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Reloading archived data back into the DB should be considered only in the following cases:

**1. Scenario**
**Reload in the test system**
- Data in a test environment can be reloaded at any time, since this does not affect operational data (cannot result in business inconsistencies)

**2. Scenario**
**Reload immediately after archiving**
- Restoring the database due to an error (e.g. incorrect selection, incorrect customizing of residence times)

**Reload function is not available for all archiving objects**
Agenda

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Finding the Right Time

1 **A „healthy“ System**
   Data Archiving should not be seen as the last resort for preventing total system collapse after all other means have been exhausted.

2 **Early Planning**
   Ensure that the performance of your systems remains efficient.

3 **Interdisciplinary Process**
   Data Archiving requires a high degree of cooperation between user and IT departments.
### Table Growth in Accounting at a Customer Site

#### Database Size

<table>
<thead>
<tr>
<th>Date</th>
<th>Size in GB</th>
<th>Monthly Growth in GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month 1</td>
<td>33.17</td>
<td>1.90</td>
</tr>
<tr>
<td>Month 2</td>
<td>36.09</td>
<td>2.92</td>
</tr>
<tr>
<td>Month 3</td>
<td>73.78</td>
<td>37.69</td>
</tr>
<tr>
<td>Month 4</td>
<td>137.96</td>
<td>64.18</td>
</tr>
<tr>
<td>Month 5</td>
<td>190.01</td>
<td>52.05</td>
</tr>
<tr>
<td>Month 6</td>
<td>256.99</td>
<td>66.98</td>
</tr>
<tr>
<td>Month 7</td>
<td>324.87</td>
<td>67.88</td>
</tr>
<tr>
<td>Month 8</td>
<td>376.00</td>
<td>51.13</td>
</tr>
<tr>
<td>Month 9</td>
<td>428.37</td>
<td>52.37</td>
</tr>
</tbody>
</table>
Considerations Before Data Archiving

Is the data still required?

Yes

Can the data be summarized?

Yes

Summarize data

No

Can the data be deleted?

No

Can the data be archived?

No

Data remains in the database

Yes

Delete data!

No

Archive data!
Automatically collected statistics can be used to
- Demonstrate the use and need for data archiving
- Better plan future archiving projects
- Recognize resource bottlenecks early on

Statistics can be
- Stored
- Displayed
  - Standard statistics log
  - Analyze statistics in *Archive Administration* (transaction SARA)
  - Space information: Database space and disk space
  - Amount: Number of data objects, structures, and delete jobs
  - Time: Job duration

**Rule of thumb:** Compression factor of five – DB size vs. file size
The greater the number and the variation of archiving objects used, the closer the factor is to five
## Statistics

### Display Statistics for Data Archiving

**Selection**
- **Client**: 600 to
- **Archiving Object**: BC_DBLogs
- **Archive On**: to

**Status of the Archiving Session**
- Incomplete
- Complete
- Replaced

### Details

<table>
<thead>
<tr>
<th>Run No.</th>
<th>Object</th>
<th>Client ID</th>
<th>Start Date</th>
<th>Status</th>
<th>Disk Space (MB)</th>
<th>Header Space (MB)</th>
<th>DB Space (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>812</td>
<td>BC_DBLogs</td>
<td>600</td>
<td>19.08.2005</td>
<td>OK</td>
<td>13,653</td>
<td>0.0</td>
<td>1342.042</td>
</tr>
<tr>
<td>813</td>
<td>BC_DBLogs</td>
<td>800</td>
<td>01.09.2005</td>
<td>OK</td>
<td>25,181</td>
<td>0.0</td>
<td>2118.056</td>
</tr>
<tr>
<td>814</td>
<td>BC_DBLogs</td>
<td>800</td>
<td>01.10.2005</td>
<td>OK</td>
<td>70,917</td>
<td>0.0</td>
<td>6954.278</td>
</tr>
<tr>
<td>815</td>
<td>BC_DBLogs</td>
<td>800</td>
<td>01.11.2005</td>
<td>OK</td>
<td>25,433</td>
<td>0.0</td>
<td>2388.378</td>
</tr>
</tbody>
</table>

**Archiving Session Number**: 812
**Archiving Object**: BC_DBLogs
**Client**: 800
**Archive On**: 19.08.2005
**Status of the Archiving Session**: OK
**Disk Space in MB**: 13,653
**Written DB Space in MB**: 1342.042

**Written DB Index Space in MB**: 5.032
**Written DB Structure Space in MB**: 5.032

**Number of Written Data Objects**: 86
**Number of Deleted Data Objects**: 86
**Number of Delete Jobs**: 1
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Important Sources of Information

**ILM in SAP Service Marketplace**
http://service.sap.com/ilm
⇒ Is Your Missing ILM Strategy Putting You at Risk?
⇒ From Birth to Burial
⇒ Information Lifecycle Management at SAP

**Data Archiving:**
⇒ Media Library ⇒ Presentations
  Introduction to Data Archiving
⇒ Media Library ⇒ Literature & Brochures
  Data Management Guide
  Introduction to Data Archiving
  Reports and Transactions for Accessing Archived Data

**Data Volume Management**
http://service.sap.com/dvm

**Archive Migration and Archive Conversion**
http://service.sap.com/slo
Data Archiving in Print - 2nd Edition

Revised new edition with up-to-date information for
- SAP NetWeaver 7.0
- SAP ERP 6.0

New functions and technologies, e.g.
- Introduction to ILM
- Archive Routing
- XML-based archiving
- Table analysis with TAANA

Authors
- SAP archiving experts

More information
- www.sappress.de
- ISBN: 978-3-89842-796-8 (German)
- ISBN: 1-59229-008-6 (English)
SAP Customer Training

- BIT660 Data Archiving
  - Level 3
  - 3 Days

- BIT670 Data Archiving – Retrieval
  - Level 3
  - 2 Days

- BC680*/WDE680 (USA/Germany)
  - Level 3
  - 2 Days
  
*on demand only

http://www.sap.com/education
Thank You!