Data Volume Management

What is it?
Data Volume Management

Mission: Bringing Data Volume Under Control!

Bring transparency, Control future data growth, Minimize existing data volume

SAP Data Volume Management -

- Helps define and deploy an effective DVM Strategy
  - That enables an organization to stay in full control of data volumes in their SAP landscape
  - By balancing out the requirements of the IT team (i.e. operating a slim solution) and the need of the business owners (i.e. to access the wealth of data)
- Provides Best practices, Services and Tools along all phases of the life-cycle
  - Solution Operations
  - Solution Transition (e.g. HANA Migration, Upgrade / Conversion / System Split …)
Data Volume Management
DVM Life Cycle – General Overview

Assessment & Scoping
- Define systems in scope
- Define roles and responsibilities
- Detect and close gaps in DVM Concept
- Improve effectiveness

Implementation
- Align with business requirements
- Technical Blueprint
- Hand-over to Operations
- Monitoring & proactive approach to data growths

Improvement

Operations
Data Volume Management

Why is it necessary?
Today's Information Management Challenges
Key Impacts of Unmanaged Content and Systems

- Increased **complexity**, higher **costs**
  - Large and complex system landscapes
  - Data volume growing exponentially
  - Inefficient paper-based processes
  - Content fragmented across applications and systems
  - Content not retained for legally required duration, or kept too long
  - Increased regulation requiring auditable content lifecycle records

- Increased legal and **compliance** risk
Data Volume Management

What is the Benefit & Value?
Benefits of Holistic Information Management
supported by Data Volume Management

- Meet audit requirements
- Cut energy use
- Ensure legal compliance
- Reduced risk
- Cut data volume
- Reduce system complexity and cost
Data Volume Management

Benefits

Reduce Complexity
- Help gain Transparency & Efficiency
- Aid Data Discovery
- Support Consistency & Optimization
- Detect Data Quality issues

Decrease Cost
- DVM Tools improve
  - System Availability
  - System Performance
  - Use of Resources

Increase Compliance
- With ILM
  - Retention Management
  - Legal Hold & e-Discovery
  - Data Privacy Support (Data Destruction)
Data Volume Management

What is behind it?
Data Volume Management
The Process

Monitor
Proactive monitoring of data distribution, growth rates and saving potential

Notify
Reactive handling of deviations from DVM compliance

Analyze
Evaluate origin of data, data quality, data reduction possibilities

Optimize
Optimize storage costs and data lifecycle

Report
Prove value to business
DVM Work Center

How DVM is supported by Solution Manager 7.2?
Data Volume Management

Typical Questions

- Where do I start my investigation?
- Which business object consumes most data?
- Which application area shows biggest growth rates?
- Is there any data in the system I have never used?
- Which reduction options apply to my system landscape?
- Which country does not stick to the global DVM policy?
- How old is my data in the entire landscape?
- Which data is of critical importance for my daily business?
- Are there any quick wins and synergies?
- Which archiving object should I tackle first?
Data Volume Management Work Center
Applications (1)

Data Allocation Statistics
- Understanding the data consumption of SAP Landscapes rather than single systems
- Application related views on data distribution (application area, document types, archiving objects...)
- Historical view on data size and growth rates

Table Utilization Statistics
- Identify unused data as potential for data reduction
- Tackle most heavily accessed objects with DVM measures on an early stage

Time Based Data Distribution
- Automated calculation of ‘Age Footprint’ of SAP Applications
- Identification of application areas and document types ‘mature’ enough for reduction measures
- Detection of data quality issues

Potential Savings
- Simulation of saving potential for data deletion or archiving using SAP best practice values
- Revealing potential data volume management strategy gaps

Archiving Information
- Monitoring of archiving and related deletion activities
- Global landscape wide reporting about technical achievements in terms of archiving statistics
- Identification of areas which are not following global DVM standards and guidelines

Best Practice Document Generation
- Guided creation of best practice documents for selected objects (Guided Self Service)
- Understanding the business background and possible data reduction measures
- Provides standardized data content analysis for technical blueprint
- Automated creation of Service Reports
Data Volume Management Work Center
Applications (2)

**Improvement Projects**
- Visualization of Key Performance Indicators and Value Drivers, set targets and follow the improvement history. The tracking tool will always show a status of where the project is at the moment and what the trend analysis returns.

**Decision Maker**
- Which tables should I tackle first in my landscape?
- Which objects fit best to my defined strategy?
- Which objects show high saving potential?
- Which objects are not part of my archiving strategy yet?

**DVM goes EWA**
- A new DVM specific section can be included in the Early Watch Alert (EWA) report. This means a basic DVM session will be run only for EWA that requires no user interaction.

**Reorg and Compression**
- What space did I release with my recent archiving activities?
- Is data compression a good option in my environment?
- Is the planned table / index reorganization really worthwhile or needed?

**Impact and References**
- Which business processes are impacted by planned archiving measures?
- Which processes and steps require testing?
- Which tables and indexes are linked with which business scenarios?
- Which transactions and reports are affected?

**Forecast and Simulation**
- Allows forecasting of future landscape size
- Simulation of cost savings after implementing proposed DVM measures
- Projection on impact of planned business changes
- Simulation of HANA migration (size required on HANA)
DVM Work Center – A Tool

Status Overview

- Status Summary: Provides an status overview on operation status of extractors, analysers, alerts and DVM related services.
- Analyses: Create new or change existing analysis jobs and its related variants.

Reorg & Compression

- Decision Maker: The Decision Maker will assist you in the process of defining priorities of DVM measures. You just need to define the importance of certain key figures and this tool will do the rest.
- Reorg & Compression: This application performs a simulation of potential data reduction by technical measures such as data reorganisation or compression.

Archiving Information

- Service Documents: Get access to all DVM Management related Services and Sessions (including creation of Self Services).

Data Allocation Statistics

- Archiving Information: Access to all Archiving related information such as job details of archiving runs and technical statistics on archiving and archive files.

Potential Savings

- Reorg & Compression (what would I save if?):

Table Statistics (who consumes what?)

- Business Object Footprint (which business objects consumes which data?)

Time Based Data Distribution (How mature is my data?)
DVM Workcenter Architecture

Managed Systems
- Extractor / Agent
- Jobs / Taana
- User

Solution Manager (ABAP)
- Extractor
- Guided Self Service
- Solman_setup
- Jobs

Business Intelligence *
- Cube
- Bex Queries
- Web Templates

* Could be on the same system like Solution Manager
Data Allocation Statistics

Who consumes what?
Data Allocation Statistics – Overview

Focus: Transparency on size distribution

- Supports process of setting priorities for upcoming DVM projects correctly
- Visualization of biggest consumer’s of data across landscapes and products
- Helps in identification of reduction measures beneficial for multiple systems
- Enables multi-level analysis based on best-practice data model and respective hierarchy
- Easy analysis and identification of trends and exceptional growth rates
- Enables historical views on highly aggregated and very detailed technical views
Data Allocation Statistics – Hierarchical Views

- Showing space consumption with different views, such as
  - Product
  - System
  - Application Area
  - Document Type
  - Archiving Object
  - Table
Data Allocation Statistics – Summary Dashboards

Selection

Time range Selection

Dashboard Area & View Selection, e.g. per Products

Chart / Graphic Area

Technical Details
Data Allocation Statistics – History View

- Customizable selection of time frame
- Granularity of Data (e.g. month / week)
- System size across defined time-line

Overview
Status Summary
Improvement Projects
Analyses
Forecast & Simulation
Decision Maker
Statistics & Trend
Reorg. & Compression
Impact & References
Service Documents
Potential Savings
Archiving Information
Reports

Related Links
Applications
Fact Sheet
Content Browser
Classification Browser
Virtual Fields Generator
Configuration
Solution Manager Configurator...
Technical Scenario Wizard
Administration
Landscape Browser
Log Viewer for EFWK
Documentation
Wiki – Data Volume Management
SAP Links
SAP Enterprise Support Ac...
SCN Wiki: Application Oper...
Best-Practice Documents
SAP Service Marketplace
SAP Support Portal
SAP Help Portal

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Data Allocation Statistics – Top Consumer Analyses

Focus on different key figures (absolute, relative growth rates)

Available in all views across the hierarchy (products, systems, …)

Distribution of data per application

Size of different applications
Data Allocation Statistics – Archiving Object Views

• Analyze complex archiving objects across a landscape (*)

• Space consumption calculation based on archiving object (distribution of table to relevant archiving objects as a snapshot)

• Easily identify synergies

• Detect mismatch between systems (or gaps in global concept)
Table Utilization Statistics

Which data is heavily used?
Which data is not touched at all?
Table Utilization Statistics – Overview

Focus: Business Relevance
- Extract all DB related activities for tables (read, insert, update, delete)
- Visualize objects with highest execution frequency
- Easily identify objects with most important business contribution to be covered in a global DVM Strategy

Focus: ‘Waste Detection’
- Long term evaluation of objects which show no indication of being used
- Detect old data which is not required anymore (migrated data, obsolete business functions)
Table Utilization Statistics – Summary

- Direct access to different preconfigured dashboards, e.g. application area
- Granularity of Data (e.g. month / week / day)
- Details about all DB operations (read, change, delete operations etc.)
- Table calls per application area
Table Utilization Statistics – Top Accessed Document Types

Table calls per top accessed document types

Details about all DB operations (read, change, delete operations etc.)
### Table Utilization Statistics – Non-Accessed Data

**Overview**
- Status Summary
- Improvement Projects
- Analyses
- Forecast & Simulation
- Decision Maker
- Statistics & Trend
- Reorg. & Compression
- Impact & References
- Service Documents
- Potential Savings
- Archiving Information
- Reports
  - System specific contribution

**Related size of unused data objects (potentially to be deleted)**

**Selected data object level (e.g. document type)**

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<th>Size (Current Week)</th>
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Time Based Data Distribution

How mature is my data?
Time Based Data Distribution – Overview

Focus: Backlog and Quality Check

- Understand the ‘Age Footprint’ of your system landscape
- Identify areas of ‘mature’ data as a prerequisite for archiving or deletion discussions
- Reveal gaps in data quality (e.g. data old enough for archiving, but still in the system)
Time Based Data Distribution – Dashboards

Level of Details (Year → Month)

Application Area data over all years (age of records)

Details about all DB operations (read, change, delete operations etc.)
Time Based Data Distribution – Ideas on how to interpret the results

- Which system contains the oldest data in my landscape?
- Do I have a backlog of data in any system?
- Which system should I include in the first step of a DVM related project?
Time Based Data Distribution – Ideas on how to interpret the results

Which business teams / stakeholders should I include in my follow up discussion on reduction potential

Even if it’s not the biggest application area in the system, maybe there are small areas with a long history of data - could be easy to handle!

Which system / country / application area is not following the general DVM policy, such as having a general two years residence time
Potential Savings

What would I save if...?
Potential Savings – Overview

Focus: Input for Discussion with Business Owners

- Provides an environment to visualize the effect of archiving (what-if prediction)
- Simulate different residence times possibilities (aggressive – moderate - customer specific)
- Calculates a saving potential for selected objects (if applicable) based on given SAP Best Practice residence times
Potential Savings – Dashboards per application area

- Easy Identification of areas for improvement
- Can be used for quality checking of archiving
- Saving Potential per Application Area
Potential Savings – Dashboards per table
Archiving Information

What archiving activities are ongoing?
Archiving Information (Statistics) – Overview

Focus: Monitor Archiving Progress

- Monitor archiving and related deletion activities
- Global landscape wide reporting about technical achievements in terms of archiving statistics
- Identify areas which are not following global DVM standards and guidelines
- Input for cross checking if archiving activities match with forecasted values
- Easily predict ‘where would we end up if no archiving would have taken place’
Archiving Information (Statistics) – Dashboards

- Flow charts show the progress of activities and achievements (e.g. archived and deleted data)
- Trends and missmatches can be easily identified to intensify DVM measures
Archiving Information (Statistics) – Dashboards

<table>
<thead>
<tr>
<th>System ID</th>
<th>Archiving Object</th>
<th>Category of Job</th>
<th>Job Name</th>
<th>Start Date</th>
<th>Start Time</th>
<th>Key for Archive File</th>
<th>Duration (sec.)</th>
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</table>

- **Archiving Job Information per system and archiving object**
- **Technical details about landscape archiving job statistics**
- **Overview of Category of jobs as well as run date and time information**
Archiving Information (Statistics) – Dashboards

Cross system reporting on archiving statistics

Archiving Statistic Information per system and archiving object

SARA / SARI information stored centrally for technical reporting
Guided Self Service

Provides background information & detailed analysis
Best Practice Document – Overview

Focus: To generate a best practice document which:
- Collects all necessary background information for the selected objects
- Identify links between selected object and related and dependent tables
- Reveal all data reduction possibilities (deletion / summarization / avoidance / archiving)
- Automatically analyze and detect most relevant archiving / deletion object
- Calculates a saving potential for selected objects (if applicable) based on given SAP Best Practice residence times
Best Practice Document – Manual Creation

- Overview of existing service documents
- Create self-service
- Detailed information about chosen service
Guided Procedure

Data Volume Management Session

Session Number: 2000000013298  User Name: BHOYAR

1 Prepare
   1.1 Technical Preparation
   1.2 Select Input Options
   1.3 Select Processing Mode
   1.4 Specify Objects
   1.5 Data Collection

2 Analyse
3 Report
4 Follow Up

In this step, you prepare your session. The step is divided into several substeps. Each substep contains detailed help texts. Choose Next to continue and navigate through the session.

The Steps section provides an overview of the substeps, including additional information such as the status, changed date, and time. The Log section contains the messages generated by an application.

Steps

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
<th>Last Changed On</th>
<th>Last Changed By</th>
</tr>
</thead>
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<td>Technical Preparation</td>
<td>'00.00.0000 00:00:00'</td>
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<tr>
<td></td>
<td>Select Input Options</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Select Processing Mode</td>
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<td></td>
<td>Specify Objects</td>
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<td>Data Collection</td>
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</table>

Details of Step: Technical Preparation

Log with 0 Messages for Step Technical Preparation

<table>
<thead>
<tr>
<th>Type</th>
<th>Message</th>
<th>Date</th>
<th>Time</th>
<th>User</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

A step-by-step process guides you through the analysis process

Various input options allow you to set the focus on the objects which require a deeper analysis, e.g. own tables
Depending on the objects chosen in the session, the resulting report reflects the checks performed.
Overview of Reduction Potential

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<tr>
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<td>0.00</td>
<td>163.69</td>
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<tr>
<td>Application Logs</td>
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<td>33</td>
<td>15.84</td>
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<tr>
<td>SMD Cubes and Hash Table</td>
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<td>51</td>
<td>11.06</td>
<td>10.84</td>
</tr>
<tr>
<td>Table Change Protocols</td>
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<td>39</td>
<td>4.55</td>
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</tr>
<tr>
<td>Total Analyzed</td>
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<td>31.47</td>
<td>630.33</td>
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<tr>
<td>Total DB-Size</td>
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<td>31.47</td>
<td>630.33</td>
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</tbody>
</table>

Detailed Chapter

6.1.2 Table Change Protocols: Deletion

General Information
Data in table DBTADLOG can be deleted using deletion report RSTDPDEL 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 DBTADLOG. This report implements the “Delete Documents” administration function within the table analysis function (transaction SCUS) 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 TANAA, variant AD-HOC.

<table>
<thead>
<tr>
<th>Table Name (TABNAME)</th>
<th>No. of Entries</th>
<th>in % of Total</th>
</tr>
</thead>
<tbody>
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<td>AGS_SISE_DIR</td>
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<td>AICCMBSI_CONFIG</td>
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<td>RFCATTRIB</td>
<td>17,746</td>
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<tr>
<td>RFCCHECK</td>
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<td>RFCDES</td>
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<td>RFCDOC</td>
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<tr>
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</table>
Best Practice Document – Automatic Creation

Possibility to create Best Practice Document automatically and at regular intervals in Solution Manager Configuration > Work Center > Data Volume Management
Impact and References

Who is impacted by DVM measures?

Which tables are linked with which business scenarios?
Impact and References – Overview

Focus: Transparency of business relationships

- Identify connections between business objects and technical objects
- Determine the impact of technical changes on business processes
- Create a working basis for testing
- Integrate results with test management
Impact and References – Result

Automatically identifies links between technical objects in the context of Data Volume Management and business process information (processes, steps, transactions, reports...)

Affected Projects with relevant business steps / programs / transactions

Affected objects
Decision Maker

Which objects should I tackle first?
Decision Maker – Overview

Focus: Decision Making

- Analyze systems to determine which objects consume the most data in your system
- Generate a list of database tables to consider for data volume reduction
- Rank the list of tables according to your specific requirements to help you prioritize objects for Data Volume Management
Decision Maker – Input Values / Key Figures

- Which tables should I tackle first in my landscape?
- Which objects fit best to my defined strategy?
- Which objects show high saving potential?
- Which objects are not part of my archiving strategy yet?
Decision Maker – Create New Run

Create new Decision Maker Run

Technical System: FBT-ABAP-200
User Name: BHAYAR

1. System Selection
2. Application Area
3. Key Figure Selection
4. Job Scheduling

Number of objects to be evaluated: 100

Pre-Set: Create Preset
Copy Preset

Name: GROWING_NO_ARCH
Owner: SAP
Preset Description: Detail

Key Figures Data
Preset Description: Quick Reduction of biggest and fast growing Objects

Key Figures

<table>
<thead>
<tr>
<th>Key Figures</th>
<th>Weighting Factor</th>
<th>Weighting Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPLEXITY DEGREE: LOW</td>
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<td>MONTHLY DATA GROWTH</td>
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<tr>
<td>SIZE</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

SAP presets (e.g. to quickly reduce data) or customer presets

Key Figures with defined weighting factors
Results Overview screen area displays the results of the selected run. The list is ranked according to the score of each database table. The score is based on the overall size of the table and the weighting factors of the key figures used.

Fact sheets provide technical information about each table and statistical data about the data volume over a defined period.
Reorganization and Compression

What can I save by using data reorganization or compression or migrating to SAP HANA?
Reorganization and Compression – Overview

Focus: Decision Making

- Simulate technical data volume reduction processes (reorganization and / or compression) to identify the most suitable reduction method
- Simulate potential reduction by migrating current database to SAP HANA
- Generate statistical information to see how much data you could save
- Generate a graphical overview of the potential data volume reductions
- Filter objects to prioritize which objects most need data volume management
Reorganization and Compression – Results

- What space did I release with my recent archiving activities?
- Is data compression a good option in my environment?
- Is the planned table / index reorganization really worthwhile or needed?
Reorg and Compression – Results for HANA Size

- **What is my potential space consumption reduction when migrating to SAP HANA?**
Forecast and Simulation

What will be my future system size?
What about my cost savings?
Forecast and Simulation – Overview

Focus: Decision Making, Visualization
- Simulate expected size of a system by using different parameters (e.g. moderate archiving approach)
- Simulates cost savings after implementing proposed DVM measures
- Simulate potential reduction by migrating current database to SAP HANA
- Visualize impact of combined measures (e.g. data reduction and technical savings)
- Visualize results by a line graph, bar chart or table
Forecast and Simulation – Input Parameters

- What happens when using e.g. reorganization at a selected date?
- What will be the impact of data archiving? (moderate or aggressive approach)
- What is my potential space consumption reduction when migrating to SAP HANA?
Forecast and Simulation – Results

- How does my system size change?
- What about my cost savings?
- When will my critical value be reached?
Improvement Projects

How is my DVM project progressing?
Improvement Projects – Overview

Focus: Improvement Measurement, Visualization
- Define groups and relevant KPI’s for your DVM projects
- Visualize the current status of a DVM project
- Tracking the progress of DVM projects on a technical level
- Visualize progress with KPI’s in your own iCI dashboard
Improvement Projects – Input Parameters

- Choose selected KPI types (e.g. system, archiving object, tables) for your DVM project scope
- Define your own target values
Improvement Projects – Results

- What is the current status of my DVM project?
- In which direction will it move?
- How do my Key Performance Indicators look like?
- What about my defined targets and improvement history?
EWA contains DVM

EWA’s DVM chapter helps to reveal Reduction Potential
EWA contains DVM Overview

Focus: Decision Making

- Include a DVM specific chapter in the automatically created Early Watch Alert (EWA) report
- Run a basic DVM session only for EWA that requires no user interaction
- Guides user in discovering DVM related objects with data reduction potential
EWA contains DVM – Input Parameters

Activate DVM in solman_setup, scenario: ‘Early Watch Alert Management ’ for selected system
EWA contains DVM – Results

- Where are my starting points for a well-defined Data Volume Management Process?
- Which database objects show potential for data reduction?
- How is the size distributed by application areas?
- What archiving activities have already been done?
Implementation

How do I set up the DVM WoC?
Configuration Roadmap

Transaction: SOLMAN_SETUP

Scenarios:

- ‘System Preparation’
- ‘Basis Configuration’
- ‘Managed Systems Configuration’
- ‘Data Volume Management’

SAP Incident: Component: SV-SMG-DVM
Infosources
Data Volume Management

SDN Wiki

Data Volume Management

Developed by Dominik Heiz, last modified by John O’Meara on Sep 23, 2015

Introduction

Message Control your Landscape Data Volumes

The Problem

Too much data being created and retained on the live database office causes rising IT costs, complex system management and degraded system performance.

You want to use your databases as close as possible to getting rid of waste and keeping the relevant data for your business processes.

SAP is revolutionizing a proliferation of data on a daily basis. We are introduced to unstructured data (such as SAP Documents, records and logs or small, video, social media data etc.). It has become a hurdle to stay in control of the data and know what data is really important. To manage this space in a way you need an established framework based on Tools that will promote transpareny on the data in the whole landscape, not just in single systems or applications. Tools that will provide guidance on the culture of managing the data and that visual knowledge. You need a well-defined process to ensure that based on this knowledge a strategy is formulated and implemented that defines how the life cycle (create to close) of data is managed.
SAP Remote Training Opportunities
SAP Enterprise Support Academy

https://support.sap.com/support-programs-services/offerings/enterprise-support/academy.html
SAP Enterprise Support Value Maps
Social collaboration platform

https://support.sap.com/valuemaps

- Offered by SAP Enterprise Support
- Provides information on each step involved in SAP Data Volume Management
- Assists you with SAP Focus Advisors who have experience with DVM
- Participation of other customers
Thank You!

Email: data_volume_management@sap.com