DVM – Analysis & Monitoring – Cloud Solution
Introduction
Target Group

The DVM Service for SAP S/4HANA is targeted towards:

IT Manager
- Find optimization potential in different S/4 HANA systems of IT landscape
- Reduce IT cost through better utilizing available memory resources and disk space

DVM Project Manager
- Determine reduction potential in S/4 HANA system
- Focus on optimal methodology for data reduction (right tool for required reduction area)

DVM Expert
- Detect reduction potential on different areas (Memory and Disk)
- Find proper tools for reduction, such as Aging, Archiving and Deletion
- See impact of data reduction measures
DVM Cloud Application

Availability

DVM Cloud Application – One Support Launchpad

Standalone Dashboard

- Available for all customers since July 2018

Integration into SAP Solution Manager 7.2 (Sp03)

- **SAP S/4 HANA**
  - Available as CQC Service (since August 2018)
  - Available as Self Service (as of October 2018)

- **SAP_FIN (sFIN / cFIN)**
  - Reduced scope of analysis content
  - Same availability as S/4 HANA

- **SAP HANA**
  - Availability planned for 2019
Access DVM Cloud Application via SAP One Support Launchpad
Product Overview and Focus Areas

- Main Product Focus: ‘Classic’ SAP Business Suite on Any DB
  - Support decision making process on data reduction possibilities / archiving concepts
  - Support Customers in preparing transition to HANA and S/4 HANA
  - DB specific tools (e.g. Reorg and Compression App)

- Main Product Focus: ‘Next Generation’ products (SAP S/4HANA)
  - Supported Databases: HANA only
  - Insights into all kinds of data reduction methods (technical + application related)
  - Support Customers in S/4 HANA operations (from DVM perspective)
Architecture
Overview Architecture
Integration with Service Delivery
Service Delivery Process

- **Order DVM Service**
  - CRM@SAP

- **DVM CQC Service Session**
  - DVM CQC Service Session is generated in SAP Solution Manager on premise
  - DVM Self-Service session can be created in SAP Solution Manager
  - In case, no SAP Solution Manager is available, self-service can be started from S/4HANA System itself
  - Raw data about data volumes are collected from managed system (SAP S/4HANA):
    - Collection of technical metrics such as table sizes, historic distribution of data etc.
    - Execution of application related potential analysis (e.g. archiving, aging potential)
    - Technical SQL scripts for potential on HANA DB

- **Collect raw data**
  - S/4HANA System

- **Push data to SAP Cloud for analysis**
  - SAP Backend

- **Final DVM Analysis**
  - SAP Cloud Platform

- **Order CQC DVM service** (for a system running SAP S/4HANA)
- Additional delivery as self-service is possible

- SAP Solution Manager pushes data into SAP Cloud
- Alternatively raw data from S/4HANA System can be uploaded directly in the DVM Cloud Application
- Raw data are analyzed based on residence times
- Customer receives Email about completed analysis
- Email contains link to SAP Cloud (via SAP ONE Support Launchpad)
- Analysis is available as Cloud App for navigation and drill down. For CQC Service, additionally DVM report document is prepared.
Email Notifications

Email with Link to Analysis UI received by processor of service

- Service data download is finished
- Service raw data are evaluated
- Service result is persisted
- [Service Report is prepared - in case of CQC]
- Email with link to DVM Cloud Application is sent
Data Collection

- An alternative data collection process is available via the SDCCN tool.
- Details can be found in the SAP KBA Note: 2746840

Benefits
- Cloud Solution always has data
- No need to order a specific service to populate the cloud solution
- Persistence of data will enable Machine Learning based triggering of services/activities
DVM Cloud Application
User Interface – Main screen

The Main screen shows a wealth of information at a glance

- System & Client
- Analysis Date
- Memory Usage
- Disk Usage
- Memory Usage Reduction Potential
- Disk Usage Reduction Potential
- Custom table Statistics
- Technical SAP HANA Analysis
- Memory Usage Reduction Potential - Options
- Disk Usage Reduction Potential - Options
- Age-based data distribution

You can drill down from the main screen on any of the cards/tiles to get further information.
Example – Optimize Memory Usage

A ranked list of reduction objects based on reduction potential.

- Can be filtered by method i.e. Aging, Archiving, Deletion.
- Can be displayed in Tabular or Graphical format
Example - Memory Reduction Potential – Simulate

Simulation Function

- Model the impact of custom residence times on reduction potential
- Custom residence times can be saved. All predictions can be based on these.

Custom residence time and reduction potential

<table>
<thead>
<tr>
<th>Applic. Component</th>
<th>Object Name</th>
<th>Object Size (GB)</th>
<th>Reduction Method</th>
<th>Residence Time (Months)</th>
<th>Time-Based Potential (GB)</th>
<th>Accurate Potential (GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>MM_EKKO</td>
<td>278.63</td>
<td>Archiving</td>
<td>20</td>
<td>208.28</td>
<td>65.85</td>
</tr>
<tr>
<td>BC</td>
<td>CHANGEDOCU</td>
<td>97.67</td>
<td>Archiving</td>
<td>24</td>
<td>32.67</td>
<td>32.67</td>
</tr>
<tr>
<td>GL</td>
<td>FI_SL_DATA</td>
<td>4.66</td>
<td>Archiving</td>
<td>24</td>
<td>19.31</td>
<td>17.32</td>
</tr>
<tr>
<td>BC</td>
<td>BC_DBLG</td>
<td>2.58</td>
<td>Archiving</td>
<td>24</td>
<td>32.67</td>
<td>32.67</td>
</tr>
<tr>
<td>MM</td>
<td>MM_MATBEL</td>
<td>3.36</td>
<td>Archiving</td>
<td>24</td>
<td>19.31</td>
<td>17.32</td>
</tr>
<tr>
<td>BC</td>
<td>IDOC</td>
<td>3.26</td>
<td>Archiving</td>
<td>24</td>
<td>19.31</td>
<td>17.32</td>
</tr>
<tr>
<td>BC</td>
<td>WORKITEM</td>
<td>11.98</td>
<td>Archiving</td>
<td>24</td>
<td>32.67</td>
<td>32.67</td>
</tr>
<tr>
<td>BC</td>
<td>BC_SBAL</td>
<td>1.68</td>
<td>Archiving</td>
<td>24</td>
<td>32.67</td>
<td>32.67</td>
</tr>
</tbody>
</table>

Saving Potential calculated based on residence time

Standard Residence time can be adjusted to reflect your business requirements. These can be saved and all predictions can be based on these custom settings.
Dashboard showing the top custom tables (by size) in the analyzed system.

- Metrics shown – Disk Size, Estimated Max. Memory Size and Record Count.
Technical Analysis – example *Largest Memory Consumers*

A range of analyses are available providing deep technical insights to the data – A full list is provided in a later slide.

**Note:**

The tile on the landing page is dynamic and reflects the number of SQL statements the current snapshot was able to execute e.g. in this slide we can see “6” in the tile, but there are at least 13 statements delivered via the cloud solution.

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**Technical SAP HANA Analysis**

<table>
<thead>
<tr>
<th>MEMORY AREA</th>
<th>MEMORY DETAIL</th>
<th>NO. MEMORY OBJS</th>
<th>GLOBAL ALLOC LT</th>
<th>MEMORY SIZE GB</th>
<th>DFP %</th>
<th>MEMORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLUMN</td>
<td>any</td>
<td>123,854</td>
<td>2,700</td>
<td>743</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>HEAP</td>
<td>any</td>
<td>1,121</td>
<td>2,700</td>
<td>64</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>HEAP</td>
<td>any</td>
<td>1</td>
<td>2,700</td>
<td>43</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HEAP</td>
<td>any</td>
<td>6</td>
<td>2,700</td>
<td>21</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>COLUMN</td>
<td>any</td>
<td>123,854</td>
<td>2,700</td>
<td>13</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
The technical analysis results are presented in tabular form. The displayed columns are customizable using the “personalization” icon.

<table>
<thead>
<tr>
<th>NAME OF TABLE</th>
<th>TABLE RANK</th>
<th>NO. RECORDS</th>
<th>TOTAL DISK SIZE</th>
<th>TOT MEM SIZE PO</th>
<th>TOT CUR MEM SIZ</th>
<th>TOT CUR MEM %</th>
<th>CUMULATED %</th>
<th>NO. PARTITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDPOS</td>
<td>1</td>
<td>2,726,160,745</td>
<td>132</td>
<td>170</td>
<td>170</td>
<td>23</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>JCDS</td>
<td>2</td>
<td>1,520,312,789</td>
<td>40</td>
<td>48</td>
<td>48</td>
<td>6</td>
<td>30</td>
<td>2</td>
</tr>
<tr>
<td>OBJK</td>
<td>3</td>
<td>1,182,109,687</td>
<td>52</td>
<td>53</td>
<td>53</td>
<td>7</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td>ADOCA</td>
<td>4</td>
<td>1,095,041,961</td>
<td>34</td>
<td>45</td>
<td>45</td>
<td>6</td>
<td>44</td>
<td>1</td>
</tr>
</tbody>
</table>
Drilldown features allow navigation from the *Distribution of Analyzed Records by Time* to the *Distribution of Records by Application Area*. Further drilldown to *sub-application* and switch to the raw data is possible.
Share information

Every dashboard can be shared via email with relevant recipients.

Every dashboard has its own dedicated URL.

Use the email icon. A draft email is proposed as follows. Edit as required to convey your message.

Hello,

Here is a direct link for DVM analysis.

System and client: [Redacted]
Date: 27/02/2019

Link: https://supportshell-ww06c0b360.dispatcher.int.sap.hana.ondemand.com/#/dataoverview/TechHanaAnDetail/27022019&

Regards,
## SQL Scripts in DVM Content

### Description in Cloud

<table>
<thead>
<tr>
<th>Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory &amp; Disk Overview</td>
<td>HANA Memory and Disk Usage overview</td>
</tr>
<tr>
<td>Largest Memory Consumers</td>
<td>Areas in HANA with highest memory requirements</td>
</tr>
<tr>
<td>Row Store Overview</td>
<td>HANA Row store overview including allocated space and fragmentation</td>
</tr>
<tr>
<td>Save Using HASH Indexes</td>
<td>Calculation of space savings when migrating to inverted hash indexes</td>
</tr>
<tr>
<td>Tables &gt; 1 billion rows</td>
<td>HANA largest tables with more than 1 billion records</td>
</tr>
<tr>
<td>Largest Tables on Disk</td>
<td>HANA largest tables by disk size</td>
</tr>
<tr>
<td>Largest Tables in Cur Mem</td>
<td>HANA largest tables by current memory</td>
</tr>
<tr>
<td>Top Growing Tables – Disk</td>
<td>Displays top 50 tables with highest growth in disk size</td>
</tr>
<tr>
<td>Top Growing Tables – CM</td>
<td>Displays top 50 tables with highest growth in current memory</td>
</tr>
<tr>
<td>Top Growing Tables – MM</td>
<td>Displays top 50 tables with highest growth in estimated maximum memory</td>
</tr>
<tr>
<td>Top Shrinking Tables – Disk</td>
<td>Displays top 50 tables with highest shrinking / reduction in disk size</td>
</tr>
<tr>
<td>Top Shrinking Tables – CM</td>
<td>Displays top 50 tables with highest shrinking / reduction in current memory</td>
</tr>
<tr>
<td>Top Shrinking Tables - MM</td>
<td>Displays top 50 tables with highest shrinking / reduction in estimated maximum memory</td>
</tr>
</tbody>
</table>