SAP EarlyWatch® Alert Workspace
SAP EarlyWatch Alert Workspace
SAP Product Excellence Award 2018 – voted by SUGEN customers

EarlyWatch Alert workspace
- One data lake with 2+ years history of system data
- Designed for Predictive and Preventive service
- Basis for Continuous Quality Checks
- Build for Simplicity with Design Thinking
- Build on SAP Cloud Platform & HANA

~ 65,000 Visits in March 2019
62,000+ Customer systems
16,000+ Systems based on SAP HANA
~ 1 million SAP HANA objects analyzed every week to predicted 2 billion record limit
Prerequisites

SAP ABAP Systems, SAP HANA stand-alone and EWA data is sent to SAP

**Customer Access**: S-User in SAP ONE Support Launchpad with authorization:

„Service Reports & Feedback“
(in German: „Zugriff auf Servicemeldungen“)

**Partner Access**: S-User in SAP ONE Support Launchpad with authorization:

„Service Reports and Feedback (Partner)” (SC_CCCREAD_P)

This authorization will gives a VAR-d S-user the right to view EWA reports for customer installations where the VAR-d partner is maintained in the SU function.
SAP EarlyWatch Alert Workspace

SAP Cloud Platform

- SAP One Support Launchpad account
- SAP EarlyWatch Alert workspace

SAP back end using SAP Solution Manager 7.2

SAP HANA

1,5 year history

Collaboration

Customer landscape on-premise and private cloud

- SAP Solution Manager 7.1 / 7.2
- Weekly transmission

SAP S/4HANA
- SAP BW/4HANA
- SAP NetWeaver
- SAP HANA Cockpit
- SAP HANA

SAP back end using SAP Solution Manager 7.2

SAP HANA

1,5 year history
New set of **SAP EarlyWatch® Alert** Applications in the cloud

**SAP EarlyWatch Alert Workspace:**

The central landing page which gives a comprehensive overview on your system landscape regarding stability, configuration, hardware utilization and performance.

Drill-downs into KPI time series for a long time range are provided, e.g. database growth, SAP HANA CPU and memory utilization and response times.

launchpad.support.sap.com

Current focus is on-premise and private cloud systems
SAP EarlyWatch Alert Workspace: Features and Technologies powered by SAP HANA

Landscape Overview
- Identify largest systems
- Find top alerts
- SAP Fiori Overview Page

Dashboard per System
- Identify bottlenecks
- Find critical trends in KPIs
- Embedded Analytics via CDS views

Alert List per Customer
- Aggregated view
- Solve alerts in whole landscape
- Get recommendations
- Powered by HANA Text Search

Predictive Alerts
- Forecast critical situations
- Avoid business downtimes
- Powered by HANA Predictive Analytics Library (PAL)
Predictive Cases Using SAP HANA PAL

Two Billion Records

2 Billion Record Limit

<table>
<thead>
<tr>
<th>Time to Reach Limit</th>
<th>Critical Tables - Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1 Week</td>
<td>7 Objects</td>
</tr>
<tr>
<td>1 - 2 Weeks</td>
<td>7 Objects</td>
</tr>
<tr>
<td>2 Weeks - 1 Month</td>
<td>6 Objects</td>
</tr>
<tr>
<td>1 - 3 Months</td>
<td>2 Objects</td>
</tr>
<tr>
<td>More Than 3 Months</td>
<td>45 Objects</td>
</tr>
</tbody>
</table>

Indexserver Memory Consumption

Main Memory SAP HANA Systems (excluding BW)

<table>
<thead>
<tr>
<th>Time to Reach Limit</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Already Reached</td>
<td>4 Systems</td>
</tr>
<tr>
<td>1 Week - 3 Months</td>
<td>4 Systems</td>
</tr>
<tr>
<td>3 Months - 6 Months</td>
<td>5 Systems</td>
</tr>
<tr>
<td>6 Months - 1 Year</td>
<td>7 Systems</td>
</tr>
<tr>
<td>Well-balanced Systems</td>
<td>3 Systems</td>
</tr>
<tr>
<td>Insufficient data for forecast</td>
<td>8 Systems</td>
</tr>
</tbody>
</table>

Data Footprint

Memory Area

- Spalte: 9.5%
- Zeile: 11.3%
- Sonstige: 78.1%
First Predictive Use Case: SAP HANA 2 Billion Record Limit

- New card on SAP EarlyWatch Alert Workspace
- Historic and predicted growth in one chart
Indexserver Memory Consumption Use Case

- Results:
  - Forecast Mean
  - 80% Prediction Interval
  - Date on which limit is reached
  - Forecast Adjusted (consideration of past highest peaks)
# Use Cases Using PAL

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Two Billion Records</th>
<th>Indexserver Memory Consumption</th>
<th>Data Footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention of downtime of business processes caused by SAP HANA database tables that exceed the maximum of about 2 billion records</td>
<td>Prevention of out-of-memory-dumps caused by reaching a system’s Effective Allocation Limit (EAL)</td>
<td>Support the customer in his IT budget planning by estimating the size of his database</td>
<td></td>
</tr>
</tbody>
</table>

| Goal | Prediction of date when 2 billion limit is reached | Prediction of date when EAL is reached | Prediction of database growth (row store and column store) within 12-48 months |
# Use Cases Using PAL

<table>
<thead>
<tr>
<th>Data</th>
<th>Two Billion Record</th>
<th>Indexserver Memory Consumption</th>
<th>Data Footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weekly time-series data about the records of the largest partitioned- and non-partitioned column tables</td>
<td>Hourly time-series data about the memory consumption of the Indexserver Service</td>
<td>Monthly time-series data about row store and column store size</td>
</tr>
</tbody>
</table>

| Algorithm                    | AUTOARIMA                                                                         | AUTOARIMA                                                                         | AUTOARIMA                                                                         |

- All three use cases rely on the AUTORARIMA function provided by SAP HANA PAL
  - Function for Arima-Algorithm which combines differencing with autoregression and a moving average
  - Algorithm is re-trained regularly once new data are available for the most recent point in time
Thank you.

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