The data driven collaboration platform
SAP EarlyWatch Alert Workspace

Susanne Glänzer
Global CoE Technology, SAP SE
Agenda

• Apps & Features in overview
• Architecture for data transmission & data pipeline & authorizations
  Questions & Answers
• Solution Finder Tips & Tricks – Demo
• SAP Fiori, BW KPIs, SQL Performance
  Questions & Answers
• Predictive Analytics: SAP HANA Memory Analysis – Demo
• Outlook: ABAP Number Range Prediction
  Questions & Answers
Apps & Features in Overview
Configure My Home

My Home

- System Data: Favorite systems
- Support Dashboard: Access dashboard
- Service Messages: Service summaries
- System Overview: Productive systems

SAP Passport: Enable Single Sign-On
- Days to expire: 204

Solution Finder: SAP EarlyWatch Alert
- Find Alerts

Reports: SAP EarlyWatch Alert
- Very critical systems: 3

Workspace: SAP EarlyWatch Alert
- New decisive red alerts: 0
# Key Collaboration Views and Benefits
Powered by SAP EarlyWatch Alert Workspace

## Landscape summary
- Find top risks for business continuity
- Easily identify top improvement actions

**Fiori Overview Page**

## Alert list per landscape
- Aggregated and prioritized alert view
- Get best practices for mitigation

**Powered by HANA Text Search**

## Dashboard per system
- Identify serious bottlenecks
- Find critical trends in KPIs

**Embedded Analytics via CDS views**

## Predictive alerts
- Timely forecasts of critical situations
- Avoid business downtimes well in advance

**Powered by HANA Predictive Analytics Library (PAL)**

## Security risks per landscape
- Get secure and stay secure
- Hardening of security settings
- Perform easy security scans

**Fiori Overview Page**

## Active collaboration at all times
- Get informed about alerts
- Get embedded support
- Searchability

**Powered by Conversational AI**

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Reports in e-Reader Format
Report Charts as SAP Fiori Diagrams

SAP HANA Resource Consumption

Status: Ok  System ID: CBQ  Installation: 20983005  Customer: 873861  Date: 13.07.2020

INTRODUCTION  MEMORY UTILIZATION OVERVIEW FOR SAP HANA INSTANCES  SAP HANA INSTANCE LS6395_CBQ_02

Average CPU Usage (Hourly Aggregates)

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Dashboard per System
Average Response Time – Long-term

System Response Time
System CBO

Time Frame Period:
07.07.2019 - 14.07.2020

System Response Time and Activity
Task Type: RFC

Average Component Response Time in ms
Analysis Timeframe: 06.07.2020 - 12.07.2020

<table>
<thead>
<tr>
<th>Task Type</th>
<th>Dialog Steps</th>
<th>Response Time</th>
<th>CPU Time</th>
<th>Wait Time</th>
<th>Load Time</th>
<th>DB Time</th>
<th>GUI Time</th>
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<tr>
<td>BATCH</td>
<td>1.551.967</td>
<td>310</td>
<td>46,5</td>
<td>0</td>
<td>1,1</td>
<td>92,9</td>
<td>0</td>
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<td>DIALOG</td>
<td>16.286</td>
<td>1.589,7</td>
<td>136,5</td>
<td>0,2</td>
<td>4</td>
<td>104,7</td>
<td>135,1</td>
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<tr>
<td>HTTP</td>
<td>2.383</td>
<td>3.370,9</td>
<td>157,9</td>
<td>1,5</td>
<td>5,8</td>
<td>185,8</td>
<td>0</td>
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<td>HTTPS</td>
<td>181.036</td>
<td>640,3</td>
<td>28,2</td>
<td>7,8</td>
<td>2,3</td>
<td>43</td>
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<td>RFC</td>
<td>1.566.575</td>
<td>933,1</td>
<td>186,1</td>
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<td>1,8</td>
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<td>SPOOL</td>
<td>10.078</td>
<td>10,2</td>
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<td>0,1</td>
<td>1,4</td>
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</table>

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Architecture of Transmission & Data Pipeline
SAP EarlyWatch Alert Workspace
The Center of Data-Driven Collaboration

Customer landscape on-premise

SAP Solution Manager 7.1 / 7.2 & SAP Focused Run

Weekly transmission

SAP HANA Cockpit

SAP HANA

SAP BW/4HANA

SAP NetWeaver

SAP S/4HANA

SAP Cloud Platform

SAP EarlyWatch Alert workspace

SAP One Support Launchpad account

Weekly transmission

Collaboration

SAP Cloud Solutions
SAP HANA Enterprise Cloud

SAP Focused Run

Weekly transmission

SAP S/4HANA

SAP BW/4HANA

SAP NetWeaver

SAP Service Engine running on SAP NetWeaver
Conversational AI, PAL, ML

Service Development & Data Science

SAP HANA

Analytics Cloud
Service Automation for SAP EarlyWatch Alert Workspace

SAP Backend on SAP HANA 2.0

1. Customer System
2. Rule Engine
3. Text Parser + Text ML,
4. Time Series Extraction
5. Anomalies-Seasonality-Outlier-Detection, Forecast Calculation Runs
6. Classification of forecast results

SAP ONE Support Launchpad

1. Landing Page
2. Recommendations
3. Classified Texts & Search
4. KPI Dashboard
5. Forecasts
6. Classified by Urgency

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Prerequisites

**Customer Access:** S-User in SAP ONE Support Launchpad with authorizations:
- Service Reports & Feedback
- Display Security Alerts in SAP EarlyWatch Alert Workspace
EWA Workspace with / without Security Authorization

Authorization Name = Display Security Alerts in SAP EarlyWatch Alert Workspace

With Security Authorization

Without Security Authorization

No decisive red security alerts (security alerts don’t show up in Alerts card)
Questions & Answers
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Solution Finder – Trips & Tricks
Solution Finder

Performance Evaluation (Performance Overview)
Based on response times in your ABAP system performance problems may occur.
2 Systems: CBD, CBO

SAP Application Release - Maintenance Phases (Software Configuration)
Mainstream maintenance for your SAP product version has ended or will end in the near future.
1 System: AAS
   Recommendation (1)

Program Errors (ABAP Dumps) (SAP System Operating)
We found more than 30 ABAP dumps in your system.
1 System: AAS

Known Issue (Statement)
Check the mentioned SAP Note(s) for the recommendation concerning the statement and apply the recommendation if applicable.
3 Systems: AAS, CBD, CBO(2)
SAP Fiori
Navigate from the OVP card to the Details View
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Predictions
## Use Cases Using SAP HANA Predictive Analytics Library (PAL)

<table>
<thead>
<tr>
<th></th>
<th>Two Billion Records</th>
<th>Indexserver Memory Consumption</th>
<th>Data Footprint</th>
<th>Critical Number Ranges in ABAP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motivation</strong></td>
<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>Prevent business downtime due to number range interval exhaustion</td>
</tr>
<tr>
<td><strong>Goal</strong></td>
<td>Prediction of date when 2 billion limit is reached</td>
<td>Prediction of date when EAL is reached</td>
<td>Prediction of database growth (row store and column store) within 12-48 months</td>
<td>Predict when interval will be 100% used</td>
</tr>
</tbody>
</table>
Predictive Cases Using SAP HANA PAL

Two Billion Records

<table>
<thead>
<tr>
<th>Time to Reach Limit</th>
<th>Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1 Week</td>
<td>7</td>
</tr>
<tr>
<td>1 - 2 Weeks</td>
<td>7</td>
</tr>
<tr>
<td>2 Weeks - 1 Month</td>
<td>6</td>
</tr>
<tr>
<td>1 - 3 Months</td>
<td>2</td>
</tr>
<tr>
<td>More Than 3 Months</td>
<td>145</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</td>
</tr>
<tr>
<td>1 Week - 3 Months</td>
<td>4</td>
</tr>
<tr>
<td>3 Months - 6 Months</td>
<td>5</td>
</tr>
<tr>
<td>6 Months - 1 Year</td>
<td>7</td>
</tr>
<tr>
<td>Well-balanced Systems</td>
<td>3</td>
</tr>
<tr>
<td>Insufficient data for forecast</td>
<td>8 Systems</td>
</tr>
</tbody>
</table>

Data Footprint

Memory Area

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First Predictive Use Case: SAP HANA 2 Billion Record Limit

- New card on SAP EarlyWatch Alert Workspace
- Historic and predicted growth in one chart
Notification Example

2 Billion Record Limit Forecast (View SAP IT Business Systems)

Critical object in system I3P detected.

The forecast detected an issue with priority 2: SAPI3P.EDID4 might reach the maximum number of entries. The calculated worst-case date is 24.08.2020. For details, see [App URL].

Definition of priority:
The worst-case date is the result of an unfavorable, yet possible forecast - with a probability of 80% the limit is reached later. The priority depends on the period until this worst-case date is reached:

**Priority Period**
1 less than 30 days
2 for the first time less than 60 days
3 for the first time less than 90 days
SAP HANA Memory Analysis
SAP HANA Scale-out: View all nodes 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)
Data Footprint Use Case
Number Range Prediction
New OVP card “Number Range Limit”
## Details - List Page

### Objects (BB) Forecast

<table>
<thead>
<tr>
<th>Customer</th>
<th>System ID</th>
<th>Object</th>
<th>Prediction</th>
<th>Worst-Case Date</th>
<th>Remaining Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company One (0000000001)</td>
<td>AB1</td>
<td>Asset Number</td>
<td>04.10.2019 (this week)</td>
<td>25</td>
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<tr>
<td>Enterprise Two (0000000002)</td>
<td>B01</td>
<td>CMFE MSG Log</td>
<td>04.10.2019 (this week)</td>
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<tr>
<td>Business Venture Three (0000000003)</td>
<td>BHP</td>
<td>Sub-number COKEY</td>
<td>05.10.2019 (this week)</td>
<td>76</td>
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<tr>
<td>Successful Org Four (0000000004)</td>
<td>XYZ</td>
<td>Asset Accounting</td>
<td>07.10.2019 (in 1 week)</td>
<td>15.592</td>
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<tr>
<td>Firm Five (0000000005)</td>
<td>ABC</td>
<td>Official Documents</td>
<td>09.10.2019 (in 1 week)</td>
<td>18</td>
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<tr>
<td>Six Limited (0000000006)</td>
<td>BCD</td>
<td>Material ledger doc.</td>
<td>11.10.2019 (in 1 week)</td>
<td>6.844</td>
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<tr>
<td>Seven Inc. (0000000007)</td>
<td>CDE</td>
<td>SAOffice: object</td>
<td>11.10.2019 (in 1 week)</td>
<td>1.233</td>
<td></td>
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Details with Line Chart
## Critical Number Range Intervals

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Thank you!

Susanne.glaenzer@sap.com