

SAP HANA Operation Expert Summit RUN - Administration and Monitoring

Melanie Handreck SAP HANA Product Management

May, 2014

The SAP logo is located in the bottom left corner of the slide. It consists of the letters 'SAP' in a bold, white, sans-serif font, set against a dark blue rectangular background. The background of the entire slide is a blue-toned image of a person's silhouette looking through a magnifying glass at a circuit board pattern.

Disclaimer

This presentation outlines our general product direction and should not be relied on in making a purchase decision. This presentation is not subject to your license agreement or any other agreement with SAP.

SAP has no obligation to pursue any course of business outlined in this presentation or to develop or release any functionality mentioned in this presentation. This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice.

This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. SAP assumes no responsibility for errors or omissions in this document, except if such damages were caused by SAP intentionally or grossly negligent.

Agenda

Admin / Monitoring Tools for the SAP HANA Database - Current Status and Outlook

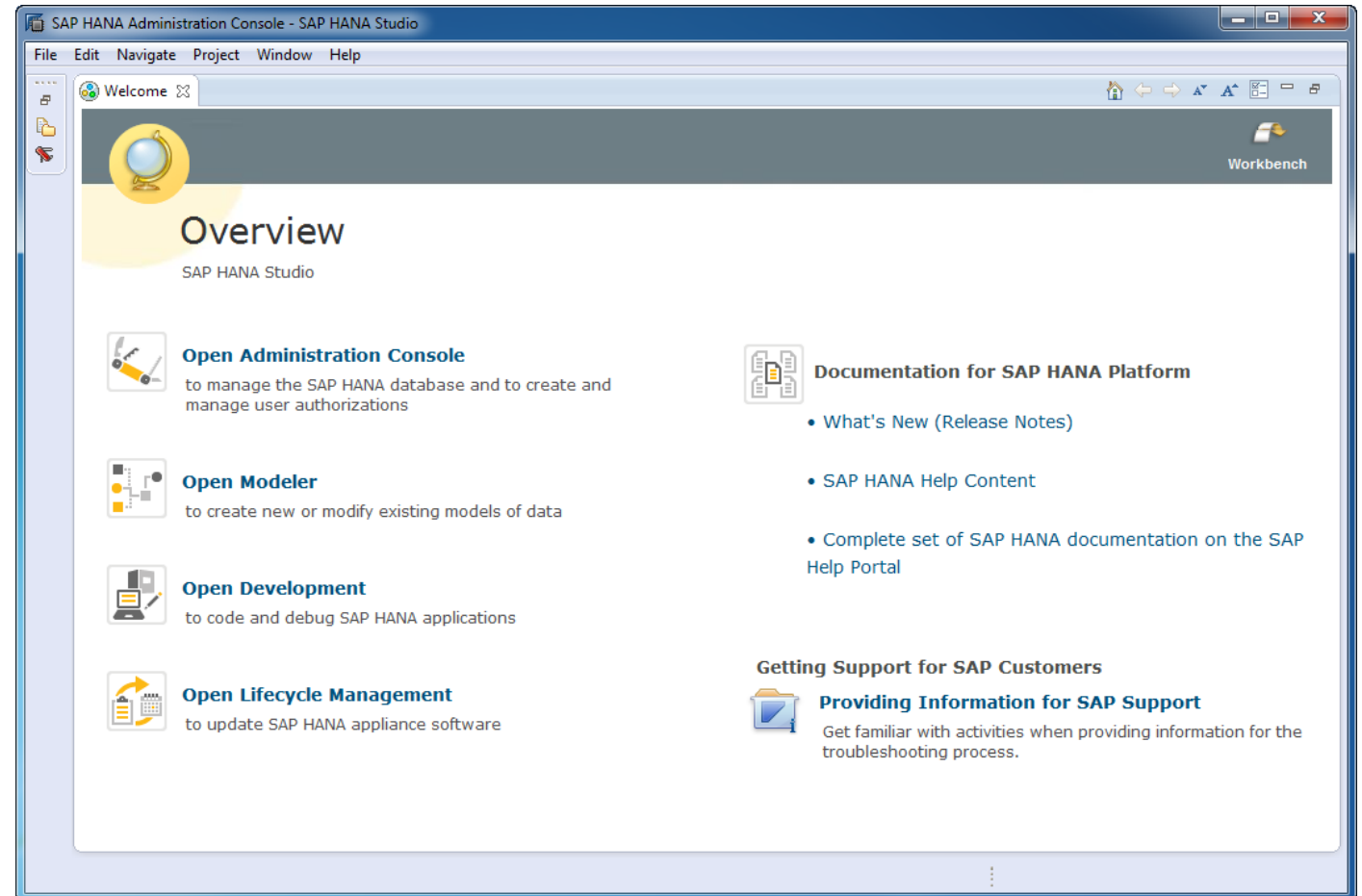
- Build-In monitoring functionality
- Integration into SAP support landscape
- Integration into monitoring landscape

SAP HANA Studio

Build-In Monitoring Tool

SAP HANA Studio

- Is both the central development environment and the main administration tool for the SAP HANA database
- Presents its various tools in the form of perspectives
- Database administration and monitoring features are contained primarily within the **SAP HANA Administration Console** perspective
- Additional perspectives include the SAP HANA Modeler perspective and the SAP HANA Development perspective
- Runs on the Eclipse platform
- Accesses the servers of the SAP HANA database by SQL



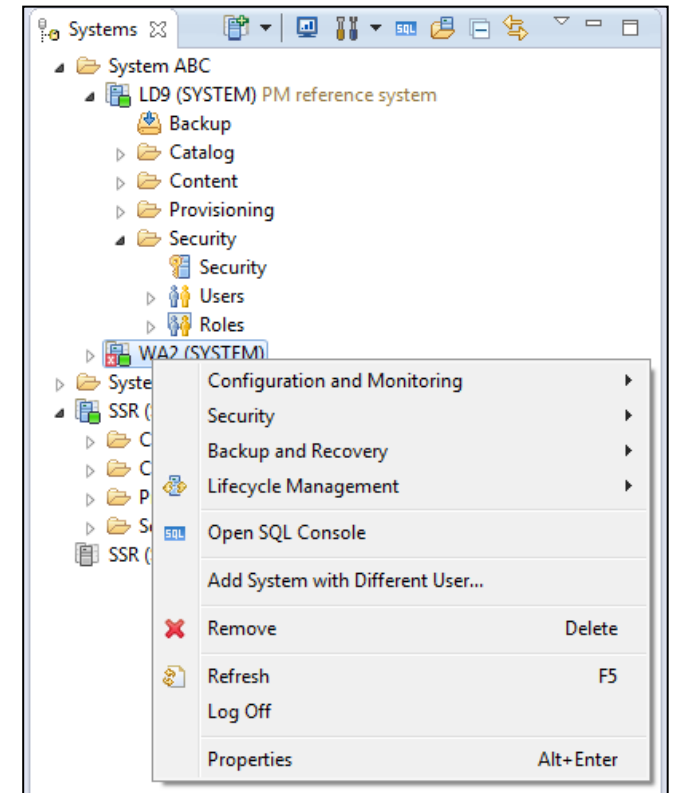
Administration Console

The SAP HANA Systems View

The **SAP HANA Systems** view provides you with a hierarchical view of all the SAP HANA systems managed in the SAP HANA studio and their contents (database catalog, users, roles). This view allows you to see the status of your systems at glance. It is also the central access point for performing system-specific administration and monitoring activities.

From the context menu of the SAP HANA Systems view, you can access a range of both system-specific and object-specific functions, for example:

- Add system
- Log On to / Log Off from system
- Stop, start, restart system
- Open Administration editor
- Back up and recover the system
- Import and export catalog objects
- Open SQL console
- Find table
- Open table definition



Administration Console

The Administration Editor

- The **Administration editor** is available in the **Administration Console perspective** and is the main tool for performing administration and monitoring activities.
- You can open the Administration editor for a system by simply double-clicking the system in the **SAP HANA Systems view**.
- The functions of the Administration editor are available across several tabs.

The screenshot displays the SAP HANA Administration Console for system LD9. The interface is divided into several sections:

- General Information:** Shows operational status (All services started), system usage (Custom System), start times, distributed system status (No), version (1.00.72.00.388670), build time (20.02.2014 11:34:55), platform (SUSE Linux Enterprise Server 11.1), Linux kernel version (2.6.32.54-0.3-default), hardware manufacturer (IBM), and installed plug-ins (AFL).
- Current Alerts and Messages:** Indicates 1 alert with HIGH priority and 1 alert with LOW priority. Includes links for 'Show Alerts' and 'Show traces'.
- SAP HANA Used Memory:** Shows used memory/peak used memory/allocation limit (GB) for host ld9400 as 21,34/22,34 (391,91).
- Resident Memory:** Shows database resident/total resident/physical memory (GB) for host ld9400 as 22,65/31,31 (504,90).
- CPU Usage:** Shows database CPU usage/total CPU usage/maximum CPU usage for host ld9400 as 0/1 (100).
- Disk Usage:** Shows data volume size/total disk usage/total disk size (GB) for host ld9400 as 13,53/61,27 (196,86). Also shows log volume size/total disk usage/total disk size (GB) as 6,63/61,27 (196,86) and trace volume size/total disk usage/total disk size (GB) as 0,45/61,27 (196,86).

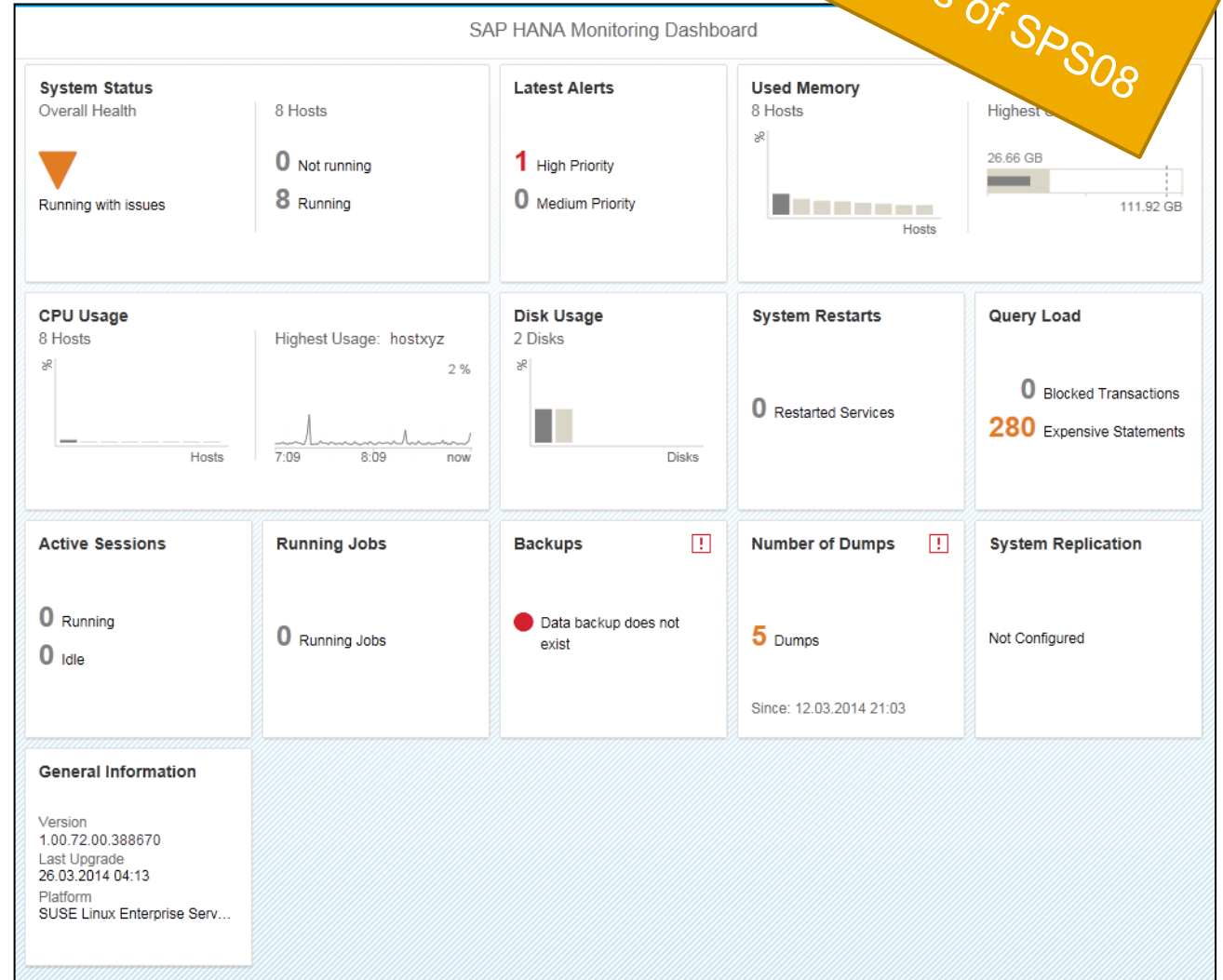
Administration Console

New Monitoring Dashboard

Planned to be available as of SPS08

New SAPUI5 Based Monitoring Dashboard

- Web-browser-based dashboard that visualizes key aspects of system health and configuration, for example:
 - current high and medium priority alerts,
 - memory and CPU usage,
 - availability of data backups
- Drill down to views containing more detailed information



Solution Manager Integration

Integrating SAP HANA into the Support Landscape I/II

SM7.1 SP03

SAP HANA SPS03

- ✓ System Monitoring for SAP HANA
- ✓ File System and Log Browser
- ✓ Early Watch Alert

SM7.1 SP04

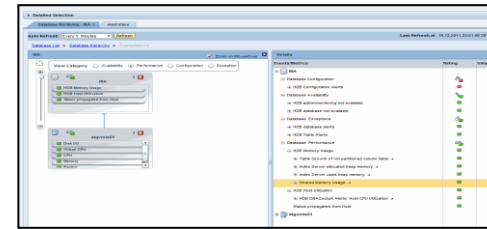
SAP HANA SPS03

- ✓ DBA Cockpit for SAP HANA database
- ✓ E2E Change Analysis
- ✓ E2E Workload Analysis

SM7.1 SP05

SAP HANA SPS04

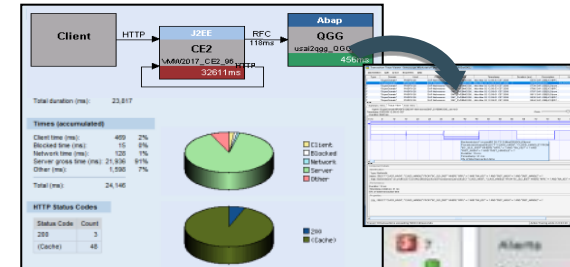
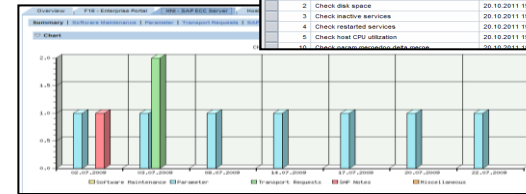
- ✓ E2E Exception Analysis
- ✓ Integration with Business Intelligence Monitoring
- ✓ CTS+ for SAP HANA studio content
- ✓ Auto-discovery of SAP HANA systems



DB Server: algms01 DB Release: 1.00.17.354972 Started: 16.10.2011 12:16:32 Updated: 2 Days 6 Hours Last Refresh: 20.10.2011 19:06:39

Alerts: 0 Errors, 0 High, 0 Medium, 1 Low

Alert	Alert Name	Last Check Time	Interval	Next Check Time	Rating	Description
1	Check host free physical memory	20.10.2011 19:03:45	00:00:00	20.10.2011 19:06:45	Low	Check for free physical memory
2	StatisticsServer internal problem	20.10.2011 19:03:45	00:00:00	20.10.2011 19:06:45	Low	Check if the StatisticsServer has problems reading its configuration
3	Check disk space	20.10.2011 19:03:45	00:00:00	20.10.2011 19:06:45	Low	Check for sufficient disk space
4	Check inactive services	20.10.2011 19:03:45	00:00:00	20.10.2011 19:06:45	Low	Check whether services are inactive
5	Check restarted services	20.10.2011 19:03:45	00:00:00	20.10.2011 19:06:45	Low	Check whether services have been restarted
6	Check host CPU utilization	20.10.2011 19:03:45	00:00:00	20.10.2011 19:06:45	Low	Check for CPU utilization for hosts



Solution Manager Integration

Integrating SAP HANA into the Support Landscape II/II

SM7.1 SP08

SAP HANA SPS04

- ✓ E2E Trace Analysis
- ✓ Guided Procedures for SAP HANA alerts

SM7.1 SP10

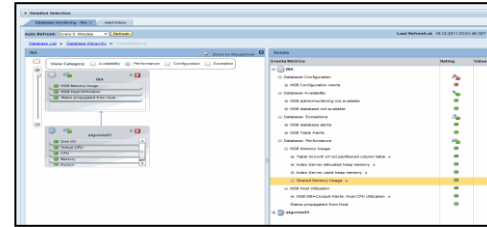
SAP HANA SPS07

- ✓ Support of new Embedded Statistics Service (available as of SAP HANA SPS07 Revision 74, please check SAP notes 1917938 and 1925684)

SM7.1 SP11 + SP12

SAP HANA SPS07

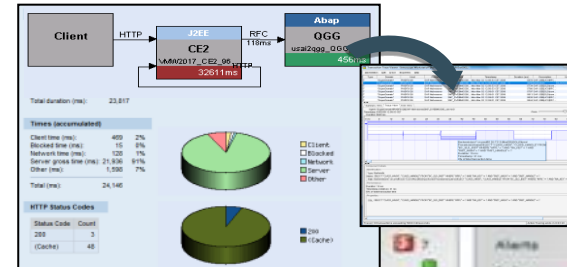
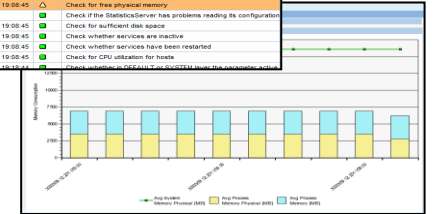
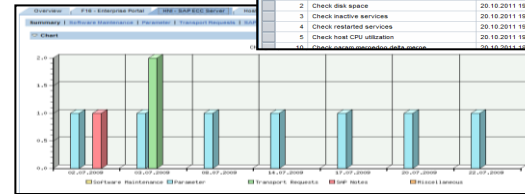
- ✓ Extended E2E Workload Analysis (Planned)



DB Server: algms01 DB Release: 1.00.17.354972 Started: 16.10.2011 12:16:32 Uptime: 2 Days 6 Hours Last Refresh: 20.10.2011 19:06:39

Alerts: 0 Errors, 0 High, 0 Medium, 1 Low

Alert	Alert Name	Last Check Time	Interval	Next Check Time	Rating	Description
1	Check host free physical memory	20.10.2011 19:03:45	00:05:00	20.10.2011 19:08:45	Low	Check for free physical memory
2	StatisticsService internal problem	00:00:00	00:00:00	20.10.2011 19:08:45	Low	Check if the StatisticsService has problems reading its configuration
3	Check disk space	20.10.2011 19:03:45	00:05:00	20.10.2011 19:08:45	Low	Check for sufficient disk space
4	Check inactive services	20.10.2011 19:03:45	00:05:00	20.10.2011 19:08:45	Low	Check whether services are inactive
5	Check host CPU utilization	20.10.2011 19:03:45	00:05:00	20.10.2011 19:08:45	Low	Check whether services have been restarted
6	Check host CPU utilization	20.10.2011 19:03:45	00:05:00	20.10.2011 19:08:45	Low	Check for CPU utilization for hosts



SAP Solution Manager Integration

DBA Cockpit

DBA Cockpit

Platform-independent tool to monitor, control, configure, backup and administer the database

Available for SAP HANA database as of BW 7.30 SP05 and SAP Solution Manager 7.1 SP04

SAP GUI version available as well as Web Dynpro

DBA Cockpit contains a subset of the SAP HANA studio functionality

Additionally available:

- DBA Planning Calendar to schedule backups
- Audit Log, logging configuration changes done in the DBA Cockpit

The screenshot shows the SAP DBA Cockpit interface for instance IN1. The top navigation bar includes 'Select System', 'Current Status', 'Configuration', 'Jobs', 'Diagnostics', 'Test Suite', and 'System Information'. Below the navigation bar, the instance details are displayed: DB Server: atgvmls51, DB Release: 1.00.12.351658, Started: 23.07.2011 19:42:38, Uptime: 37 Days, Last Refresh: 30.08.2011 18:16:43. The 'Overview' section shows the Operational State as 'All services are started' with a green status icon and a 'Show more details' link. The 'General System Information' section lists Instance Name (IN1), Instance ID (01), Port (15), Host (atgvmls51), Distributed System (No), Version (1.00.12.351658 (NewDB100_REL)), Buildtime (2011-07-01 20:35:10), and Platform (SUSE Linux Enterprise Server 11.1 (LINUX_X64)). The 'Recent Warnings' section shows 1 warning with HIGH priority and 1 warning with MEDIUM priority, with a 'Show more details' link. The 'CPU' section shows Available CPUs (8) and Total Usage (%) (0%), with a 'Show more details' link. The 'Storage' section shows Data (46,97 GB/ 98,42 GB), Log (46,97 GB/ 98,42 GB), and Traces (46,97 GB/ 98,42 GB), with a 'Show more details' link. The 'Memory' section shows Physical Memory (10,33 GB/ 11,76 GB) and Virtual Memory (23,47 GB/ 38,77 GB), with a 'Show more details' link.

The screenshot shows two pages from the SAP DBA Cockpit. The left page is the 'System State' page, which displays the Operational State as 'Some services are not started' with a yellow status icon and a 'Show more details' link. The Start time is 23.08.2011 11:49:36. The 'CPU' section shows Total Usage (%) and Available CPUs (12). The 'Data' section shows Used Disk Space (89,16 GB/ 931,52 GB). The 'Log' section shows Used Disk Space (89,16 GB/ 931,52 GB). The 'Traces' section shows Used Disk Space (89,16 GB/ 931,52 GB). The right page is the 'General System Information' page, which displays Instance Name (DOR), Instance ID (10), Port (15), Host (berd00255212a), Distributed System (No), Version (1.50.00.349731 (dev)), Buildtime (2011-06-24 17:10:51), and Platform (Windows 7 (NT_X64)). The 'Physical Memory' section shows Used Physical Memory (8,53 GB/ 23,98 GB). The 'Virtual Memory' section shows Used Virtual Memory (9,78 GB/ 48,26 GB). The 'Recent Warnings' section shows 2 warnings with MEDIUM priority.

3rd Party Monitoring Tools

Integrating SAP HANA into Monitoring Landscape

Integration into Monitoring Landscape

- Several 3rd party monitoring tools already provide monitoring integration for SAP HANA
- Tool vendors do not necessarily contact SAP regarding a monitoring integration
- SAP does not provide a certification for such tools
- Incomplete list (based on hearsay):
 - Centerity Monitor
 - IBM Tivoli
 - HP Open View
 - Dell is working on the SAP HANA integration into toad
 - Realtech is working on a connector to integrate SAP HANA monitoring
- If you are using a 3rd party monitoring tool and would like to see SAP HANA integrated into this tool, you need to contact the tool vendor.

Roadmap – Planned Features > SPS08

Build-In monitoring functionality

- Extend and enhance existing monitoring features
- Provide more SAPUI5 based monitoring and administration screens
- Provide mobile and web monitoring solution

Integration into SAP support landscape

- Extend monitoring content and workload analysis screens, adapt them to new monitoring features of SAP HANA

Integration into monitoring landscape

- SAP Database Control Center for landscape monitoring
- Support tool vendors to integrate SAP HANA into their monitoring solution



Thank you

Contact information

Melanie Handreck
SAP HANA Product Management
AskSAPHANA@sap.com