SAP Solution Manager 7.2
Application Operations Starter Service
Agenda

1. Service design
2. Overview
3. Technology and architecture
4. Template approach
5. Follow-Up configurations
6. Current situation
Service design

Day 1: System assessment / health check
1. Mandatory Configuration
2. Managed system configuration

Day 2: Workshop
1. Knowledge transfer Application Operations
2. Results of system assessment & definition of next steps

Day 3: Configuration System Monitoring with SAP standard templates

Day 4: Customizing and optimization: creation of customer specific templates and activation

Day 5: Knowledge Transfer
1. How to operate and optimize
2. Troubleshooting and administration
## Service design: scheduling

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Overview
Assignment into the application lifecycle
Application Operations
Holistic approach to operate SAP centric hybrid landscapes

Monitor, diagnose, and administer SAP centric hybrid landscapes with Application Operations

Monitoring, Alerting and Root Cause Analysis
- Monitoring and alerting for Systems, Databases and Hosts
- Integration Monitoring for peer-to-peer as well as orchestrated interface scenarios covering On Premise and Cloud components
- Synthetic as well as Real User Monitoring based proven and highly scalable infrastructure
- Component specific Monitoring covering Process Integration, Business Intelligence and Job Monitoring
- Root Cause Analysis for the most common SAP technologies

Administration and Guided Procedures
- Holistic administration capabilities as IT Calendar, Work Mode Management, Notification Management, Service Availability Management, …
- Guided Procedures for task automation and alert reactions
Monitoring and Alerting
Overview

Monitoring

- System Monitoring
- User Experience Monitoring
- Integration Monitoring
- Job Monitoring
- HANA and BI Monitoring

Alerting

- Alert Inbox
- Email/Ticket

Solution Manager

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### Planned innovation for Application Operations

**Improved support for SAP-centric hybrid scenarios**

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**Limitations:**

1) Integration and Exceptions can be monitored in general. Instrumentation at cloud product side is still missing or incomplete.
2) Infrastructure is prepared, but there is currently no instrumentation at cloud product side available.

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This is the current state of planning and may be changed by SAP at any time.
Focused Run
Complements Solution Manager for high volume monitoring use cases

Focused Run

- Is a powerful solution for service providers who want to host all their customers in a central, scalable, safe, and automated environment.
- Addresses selected customers with advanced needs in the area of system management, user monitoring, and integration monitoring.
- Uses the full power of SAP HANA as a platform, including streaming, replication, scale-out, predictive analytics, and compression.
- Is a separate installation which can run side-by-side with existing SAP Solution Manager installations.
- Can be licensed via the SAP Store (rental license model)

Focused Run offers application operations for service providers and customers with up to 10000 systems.
SAP Solution Manager 7.2’s **Key Value Chains**

- **Portfolio to Project**
  - Portfolio Management
  - Project Management
  - Demand
  - Design
  - Development
  - Test
  - Deploy

- **Requirement to Deploy**
  - Monitor
  - Incident
  - Problem
  - Optimize

- **Detect to correct**
  - Service Catalogue
  - Service Request
  - Service Fulfillment

- **Request to Fulfill**
SAP Solution Manager 7.2 for SAP S/4HANA

**Content**
- SAP Transformation Navigator
- Roadmap Viewer
- SAP Innovation Pathfinder
- SAP Model Company*
- SAP Activate
- Focused Build*

**Core**
- Usage Logging
- Readiness Check
- Landscape Management
- Custom Code Mgmt.
- Process Management
- Requirements
- Test Suite
- Change Control Mgmt.
- Release Mgmt.
- Application Operations

**Choice**
- Project Management
- Data Volume Mgmt.
- Back to standard
- Business Process Improvement

*additional licenses

**SAP S/4HANA**
- project kick-off
- project
- go-live
- operate and optimize
Technology & architecture
Components, directories and dataflow
The Mandatory Configuration and the Managed Systems Configuration sets the foundation for further configurations and ensures that basic functionalities are available:

– Early Watch Alerts
– Service Engagement and Delivery
– Root Cause Analysis

* Please add a waiting time for initial LMDB synchronization (~4 to 12h) and BW content activation (~2 hours)

** SAP Recommends to configure Root Cause Analysis on every managed system, however if you don’t plan to use RCA, Service Delivery, EWA or System and Application Monitoring, it is not necessary to install a diagnostics agent and to perform all the steps of Managed System Configuration

*** Optional and subject to license

SOLMAN_SETUP supports standard customizing for most usages. Further expert customizing is possible using SAP Reference IMG.
Technical Operations in SAP Solution Manager 7.1
Part of Application Lifecycle Management

**Upgrade Management**
- Integration of Upgrade Dependency Analyzer
- Enhanced Custom Code Lifecycle Management

**Process Management**
- Enhanced Solution Documentation Assistant
- Reverse Business Process Documentation and IBIS Content integration
- Upload interface to build an initial Business Blueprint structure

**Maintenance Management**
- Enhanced Maintenance Optimizer
- System Recommendations

**Solution Implementation**
- Enhanced Business Blueprint
- Implementing Business Functions
- Integration with the service messages

**Business Process Operations**
- Enhanced BPO Dashboards with Alert Inbox
- Cross Database Comparison
- Job Control and Schedule Management

**Template Management**
- Comparison & Adjustment for Template
- Roll-in changes from projects

**Application Operations**
- New Infrastructure for Technical Monitoring and Alerting
- Technical Administration
- Technical Analytics
- Enhanced Root Cause Analysis

**Test Suite**
- Enhancement to manage test phases efficiently
- Test Automation Framework with 3rd party tools
- Test Scope Identification & Optimization with BPCA

**IT Service Management**
- IT Service Management Processes
- Highly configurable web-client user interface
- Additional Service document functions

**Change Management**
- Enhanced Quality Gate Management for various activities
- Enhanced process flexibility for Change Request Management
- Improved mechanism for the change and transport backend
- Configuration Validation and Change Analysis
Application Operations
What is the process behind…

Monitor
Proactive real-time monitoring

Notify
Reactive handling of critical events

Analyze
Lower mean time to problem resolution

Administr ate
Optimize excellence of technical operations

Technical Monitoring & Alerting
- System, DBMS and Host Monitoring
- End User Experience Monitoring
- Connection Monitoring
- Process Integration Monitoring
- Business Intelligence Monitoring
- Solution Manager Self Monitoring

Root Cause Analysis
- End-to-End Change Analysis
- End-to-End Workload Analysis
- End-to-End Exception Analysis
- End-to-End Trace Analysis

Technical Administration
- Task Inbox
- Down Time and Work Mode Management
- IT Calendar
- Notification Management
- Central Tool Access

Report
Prove value to business

Technical Reporting
- EarlyWatch Alert (for Solutions)
- Interactive reporting
- Customer specific reporting

Management Reporting
- Document based SLA reporting
- Interactive SLA Reporting
- Management Dashboard

Incident Management
Evolution of Monitoring & Alerting

**Local**
- RZ20
- ABAP

**Central**
- Central CCMS
- ABAP
- SAP J2EE

**End-to-End**
- Technical Monitoring & Alerting

**System**
- BI
- PI

**Database**

**Host**

**New UI Framework**
- in SAP Solution Manager 7.2
- and functional improvements

- ABAP
- Java
- .Net
- C/C++
- ...
System Monitoring Overview

Summary view of overall rating for all connected systems

System list view includes information regarding self monitoring status, configured workmode and business partner information

Scope selection based on LMDB attributes

Alert ticker shows the newest five alerts (yellow or red rated) over all connected systems
System Monitoring
System View

- Jump in to hierarchy view
- Jump in to LMDB details
- Possibility to specify filter criteria and to change the display style
- Jump in to Alert Inbox and IT Calendar
- Detailed System information
System Monitoring
Hierarchy and Metric View

- Hierarchy view including status ratings per category
- By click on metric name detailed information including threshold settings will be displayed
- Jump in to detailed metric monitor
- Embedded metric monitor
System Monitoring
Detailed Metric Monitor

Metric Monitoring

- Time frame selection
- Detailed metric monitor with threshold information
Infrastructure components

**MAI components**

**SAP Host Agent:**
- Collects host relevant metrics

**Solution Manager Diagnostic Agent (SMD):**
- Collects system relevant metrics
- Transfer interface to/from Solution Manager
- Includes robot functionalities

**CA Wily Introscope Enterprise Manager (IS EM):**
- Server application for Byte Code Agents

**CA Wily Introscope Byte Code Agent (IS BC):**
- Client application for EM framework

**Directories**

**System Landscape Directory (SLD):**
- Contains technical system data and SAP product catalog information
- Replication source for SAP Solution Manager

**Landscape Management Database (LMDB):**
- Central system repository in SAP Solution Manager
Solution Manager Landscape Components
Overview in SAP Solution Manager 7.1
Solution Manager Landscape Components Overview in SAP Solution Manager 7.2

SAP Solution Manager Host
- SAP Solution Manager
- ABAP
- Java
- Wily Enterprise Manager

Physical Host
- Vhost 1
  - ERP
  - ABAP
  - SMD
  - Wily HA
- Vhost 2
  - EP
  - Java
  - SMD
  - Wily HA
  - Wily BCA

SAP HOST AGENT
- Wily HA
- Wily BCA
Stack Split

- SAP Solution Manager 7.2 runs 2 single stacks
- Split is done after upgrade

The upgrade from SAP Solution Manager 7.1 to 7.2 is a standard procedure
Solution Manager Landscape Components
Overview in SAP Solution Manager 7.2
Define the connections to any System Landscape Directory (SLD), being relevant for this SAP Solution Manager:

- You need at least one connection with SLD role: *Source for LMDB*. Choose *Create New Connection*, or *Assign Existing HTTP Destination* from SM59.

The table displays initially the existing HTTP destinations, as defined in previous SAP Solution Manager release.
**LMDB Synchronization**

**Infrastructure Preparation**

1. Set Up Landscape Management
2. LMDB Synchronization
3. LMDB Content Check
4. Set Up Java Connectivity
5. Set Up SAP BW

CIM model, SAP software catalog (SAP CR content), and technical system descriptions from the system landscape is collected in the SLD (source namespace “sld/active”). It must be synchronized with the LMDB (target namespace “active”).

To add the synchronization connection:
1. Choose **Configure LMDB Object Server** (one-time activity).
2. Add an SLD connection with the role **Source for LMDB** (created in the previous step).
3. Activate.

The activation starts an initial, full, **automatic synchronization** to import all SLD information to the LMDB, which takes several hours.

After this, **incremental synchronization** imports new changes every 10 minutes.
SAP Solution Manager 7.2 Cloud Capabilities
SolMan on premise

Customer Network

- SAP Solution Manager 7.1
  - J2EE
  - ABAP
  - BW
  - LMDB
  - SLD

HEC Customer Network Segment

- Managed System Host
  - J2EE
  - ABAP
  - IS BC Agent
  - Diagnostics Agent
  - SAP Host Agent

HEC Admin Network

- Communication Server
  - J2EE
  - SLD
  - Reverse Proxy
  - SAPRouter

- SLD Bridging
  - (Forward mechanism)

VPN Tunnel
SAP Solution Manager 7.2 Cloud Capabilities
SolMan on demand

Customer Network

HEC Customer Network Segment

SAP Solution Manager
- J2EE
- ABAP
- BW
- LMDB
- IS BC Agent

Managed System Host
- J2EE
- ABAP
- Diagnostics Agent
- SAP Host Agent

HEC Admin Network

Communication Server
- J2EE
- SLD

Reverse Proxy

SAPRouter

SLD Bridging
(Forward mechanism)

SAP GUI Access

VPN Tunnel

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Template approach
Centralized maintenance
Template definition process

**Master-templates** are used as a global copy source

The majority of customers is using system related templates

In some special cases managed object related configurations can be used or single system related templates

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<th>Master Templates</th>
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<td>General valid metrics For all managed object types</td>
<td>Systemline-specifics For all managed object types</td>
<td>System-specifics For all managed object types</td>
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Rapid Content Delivery (Template Updates)

Rapid Content Delivery (RCD) tool allows customers to import the latest content updates for various SAP Solution Manager Functions, such as Monitoring and Alerting, Guided Procedure, and Customer Usage Provisioning. Content updates are available in the form of Support Packages (content package ST-CONT) in SAP Service Marketplace. Each content package contains the latest content updates for various Solution Manager Functions.
Two-Tier Landscape

Two-tier landscapes can be used for transporting modified monitoring templates to verify customer specific configurations:

Demo system managed systems

DEV

transport

PRD

SAP Landscape

Demo system managed systems

DEV

transport

PRD

SAP Landscape
Two-Tier Landscape

Separated AppOps systems can be used to implement new monitoring functionalities (like PI/BI, end user experience monitoring)
Three-tier landscape

Three-tier landscapes can be used to establish a quality assurance scenario.
Modifications will be transported from a development environment to the productive SAP Solution Manager.
How to prioritize metrics

Prioritization on the level of Managed Objects:
- Database
- Host
- Technical System
- Technical Instance

Prioritization on the level of metric categories:
- Verfügbarkeit
- Performance
- Ausnahmen
- Konfiguration

- A major question is always the existence of several alert consumers for different prioritizations
Follow Up Configuration
Alert Inbox, Notifications and Workmodes
Alerting & Alert Inbox

Monitoring

System Monitoring
User Experience Monitoring
Integration Monitoring
Job Monitoring
HANA and BI Monitoring

Alerting

Alert Inbox

Email/Ticket

Alert Details

Solution Manager

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Workmode Management

Create new Workmode

Download or Upload function
With Template
Notifications

Alert Details

Name: High ABAP Memory Usage
Start Time: 06.04.2011 07:43:11 CET
End Time: 06.04.2011 14:36:26 CET
Managed Object: SM9-ABAP-ncs60148616a_SM9_01
Managed Object Type: Technical Instance
Rating: Red
Category: Performance
Status: Open

Alert Description

A high memory utilization has been detected on the ABAP instance ncs60148616a_SM9_01.

Analysis Tools:
- Check the current memory status on this instance with transaction STD2.

Link to Alert Inbox
Current situation
Results of the prerequisites questionnaire
Current Situation ABC

Possible SLD Data Synchronisation Setup for productive System ABC

RZ70 / NWA / VisualAdmin

SLD ABC

Bridge

Sync

Global SLD

Sync

XYZ

ABC

SLD ABC
Thank you.

Contact information:
Name Lastname
Role
Email: Name.Lastname@sap.com
Mobile: +49 123 456789