Advanced User Monitoring with Focused Run for SAP Solution Manager

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Agenda

Overview Run Market

Focused Run for SAP Solution Manager

Advanced User Monitoring

Synthetic User Monitoring

Real User Monitoring
Overview Run Market
Operations for hybrid landscapes

- **SAP Solution Manager**: On Premise based operation platform for hybrid landscapes operated and used by Customers

- **Focused Run**: On Premise based operation platform for hybrid landscapes operated by Service Providers or Customers and used by Service Providers and/or Customers

- **SAP Cloud ALM**: SAP Cloud Platform based operation platform for hybrid landscapes operated as SaaS Service by SAP and used by Customers
Different Operation Platforms for different target groups

**SAP Solution Manager**
- Target group:
  - Medium and large hybrid customers
  - Customers, who are satisfied with the currently provided functional scope

**Focused Run for SAP Solution Manager**
- Target group:
  - Service Providers
  - Large and very large hybrid customers
  - Customers with advanced needs, which go beyond SAP Solution Manager

**SAP Cloud ALM for Operations**
- Target group:
  - Cloud-centric customer
  - Small and medium hybrid customers
  - Customers, who are requesting cloud based Operation Platform

Available

Available

Beta
Focused Run for SAP Solution Manager
Focused Run – Mission statement

- Is a **powerful solution for customers & partners** to operate their solution **centralized and highly automated with minimal TCO impact**

- **Addresses advanced customer needs** in scalability, data volumes, security, automation, openness, dashboarding & artificial intelligence

- Uses the **full power of SAP HANA as a platform**, including replication, partitioning, predictive analytics, and compression

- Is a **separate installation**, which can run **side-by-side with an existing SAP Solution Manager**

- Provides feature rich and powerful **functionality dedicated to operations of IT solutions**

- Isn’t covered by maintenance fee, but **needs to be licensed separately from SAP**
Focused Run – Use cases in scope

Advanced Analytics & Intelligence

Advanced Event & Alert Management

Advanced Configuration Monitoring

Advanced System Management

Advanced Integration Monitoring

Presentation Layer

Advanced User Monitoring

Application Layer

Advanced Root Cause Analysis
Advanced User Monitoring
Advanced User Monitoring
Obtain end-to-end views across systems and technology

Monitor real as well as synthetic user requests across systems and technology

• **Real User Monitoring** to monitor every single user activity including resource consumption:
  • Enable efficient triage of performance problems based on end-to-end correlation mechanism
  • Supports SAPGUI, WebDynpro, WebGUI and SAPUI5 (browser running at desktop as well as mobile) as frontends
  • Supports SAP Gateway, SAP ABAP, SAP J2EE and SAP Cloud Platform as backends
  • Allows to map user requests to organizational information

• **Synthetic User Monitoring** to monitor recorded user scenarios on regular basis:
  • Monitoring of communication from different locations within a IT landscapes based on synthetic probes
  • Supports most relevant protocols as HTTP(S), SAPGUI, RFC, and WS
Synthetic User Monitoring
Synthetic User Monitoring - Overview

Monitor **synthetic user** requests across systems and technology

- Monitoring of communication **from different locations** within a IT landscapes based on synthetic probes
- Supports **most relevant protocols** as HTTP(S), SAPGUI, RFC, and WS
- Possibility to create HTTP scenario from **HTTP Archive** (.HAR files) directly recorded from Google Chrome.
- “Cron” Scenario execution scheduling
  With this script parameter, it’s possible to precisely schedule the Scenario executions
- **SUM configuration** is directly **integrated** into monitoring application.
- The Monitoring application includes a global **Scope Selector** (for Scenarios and Locations)
- **Data Quality Indicator** indicates if SUM scenarios are properly executed as scheduled.
- **Work Mode** integration for **scenarios** and **alerts** via the association of SUM scenario to the Systems.
- **Comparison view** gives the possibility to compare **Scenarios** and/or **Locations**.
Synthetic User Monitoring – How does it work?

* Synthetic User (Robot) executes frequently previously recorded scripts
Synthetic User Monitoring – Usage Scenario

1. Evaluate the status regarding script availability, performance and content checks for all monitored locations.

2. Check problems related to specific robots (locations) or scripts in dedicated views.

3. Drill down into single execution / single step analysis for suspicious script executions.

4. Analysis of the single request execution on server side by direct jump into SAP End User Trace Analysis (on request)
Real User Monitoring
Real User Monitoring - Overview

Monitor real user requests across systems and technology

- Real User Monitoring to monitor every single user activity including resource consumption:
  - Enable efficient triage of performance problems based on end-to-end correlation mechanism
  - Supports SAPGUI, WebDynpro (ABAP), WebGUI and SAPUI5 (browser running at desktop as well as mobile) as frontends
  - Supports SAP Gateway, SAP ABAP, SAP J2EE, SAP Cloud Platform, and SAP S/4 HANA Cloud
  - Static mapping of users to location or organization attributes used in filters and grouped by in page Most Expensive Requests
Real User Monitoring – How does it work?

End-user behavior is measured on the client (Browser or SAPGUI). On server side measured data (GW, ABAP, …) are collected and transferred to Focused Run System. Collected data is assembled and correlated in Focused Run system to end-to-end real user scenarios.
Real User Monitoring – Usage Scenario

1. Identification of **systems and/or request types** with poor performance

2. Identification of **single requests** with poor performance

3. Identification of **time frame** where single requests are executed with poor performance

4. Analysis of the **single request flow** including all components involved in the execution
Demo: Real User Monitoring
Real User Monitoring – Overview 1/2

The following questions can be answered by evaluating the Status Overview:

Which request types are used by your end users?

- Systems: 2
  - RFC: 2%
  - Httos: 4%
  - SAPUI5: 25%
  - HTTP: 0%
  - Dialog: 5%

How many percent of the end user requests per request type are running longer than expected?

- SAPUI5: 25%

E.g., 25% of the requests related to the execution of SAPUI5 applications are considered as being slowly.

Let’s investigate further.
The following questions can be answered by evaluating the Request Overview:

**How many requests** of a particular request type are executed?

**Which system** handles the highest number of user requests?

What is the **distribution of fast, medium, and slowly** end user requests?

Which **system executes end user requests** of a particular type with **poor performance**?
Real User Monitoring – Request Analysis 1/2

By analyzing Requests the following questions can be answered:

Which requests of a specific user were executed with low performance?

How often has a specific request been executed?

Which Actions of an application are really used / relevant?
Real User Monitoring – Request Analysis 2/2

When was a user action executed?

Are there any performance bottlenecks during specific time frames?

<table>
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<th>Execution Time</th>
<th>Type</th>
<th>Response Time (ms)</th>
<th>System</th>
<th>Net Time (%)</th>
<th>Net Time (ms)</th>
</tr>
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<td></td>
<td>FT4ADM-ASAP</td>
<td>8%</td>
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<td>FT4ADM-ASAP</td>
<td>21%</td>
<td>717</td>
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</tbody>
</table>

What was the exact request flow? Which components where involved in the end user request execution?

What was the time spent by every single sub request executed at a certain component?

What was the resource consumption used by every single sub request executed at a certain component?
Customers can create their own card view dashboard by defining the request types, relevant requests, and systems on which they are specially interested. Each selection is represented in a dedicated dashboard tile.

Trend analysis for average response time, number of executions and amount of red executions is automatically provided for selected dashboard tiles.
Real User Monitoring – Front End Performance

The Front End Performance View shows the relation between amount of request executions and Client Response Time, Network Time and Server Response Time. It is possible to adjust the view by filtering for Time Range, Request Names, Users and specific Systems.
Real User Monitoring – End User Evaluation

The **End User Evaluation View** shows which **operation system** (including version) and which **browser** (including version) has been used by end users to trigger requests in the system landscape.

It is also possible to **combine** the information in a **single diagram**. The **filter settings** can be used to specify the displayed information by:

- Timeframe
- Request Name
- User
- System
Real User Monitoring – Back End Evaluation

The **Back End Dashboard** shows the statistical views for **ABAP system performance** grouped by metric and task type. In addition an **ABAP statistical records performance histogram** is provided.
Real User Monitoring – Heat Map

Purpose of the **Heat Map** is the evaluation of huge amount of data in order to find out the “hot” requests which are the ones with the highest impact.

Size of the rectangular according to:
- Number of red executions
- Total execution time
- Number of unique users

Background color of the rectangular is defined according to the percentage of red rated executions.
The **24 Hours Status Profile** allows to evaluate the request execution rating over a complete day. So it is simple to identify **critical hours** for particular request executions as well as **conjunctions of bad performance** and hours of a day.

Questions that can be answered:

During which **time window** was a request executed?

What was the percentage of red rated executions for a **specific request** during the **peak business hours**?

Is there a particular time window where several **requests** are executed with **bad performance**?
The **Topology View** allows to evaluate the amount of **request executions per hour** and the **average response timer** per request type in the **context of system landscape** components. In this way it is possible to get full **transparency** about **system components** which are involved in request executions.

The **number of calls per hour** is the criteria for the **thickness of a connection line**

The **color of a connection line** is determined by the **threshold which is defined for the request type**

Questions that can be answered:

Which **technical components** in the landscape handling the **most requests**?

Which **request types** are executed with good / bad **performance**?
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Thank you.

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