Achieving Operational Excellence in SAP BTP Observability with SAP Cloud ALM Operations

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SAP Australia

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Public

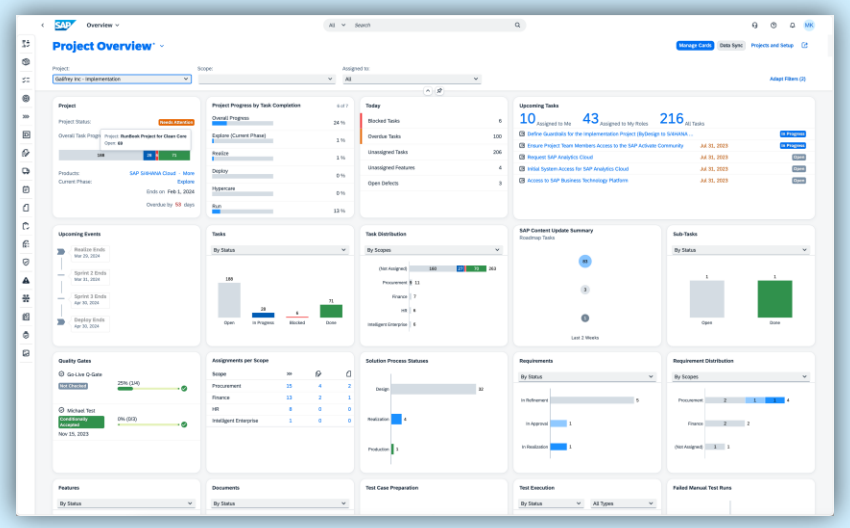
Agenda

1. SAP Cloud ALM overview for Operations
2. OpenTelemetry @ SAP
3. SAP Cloud ALM support for SAP BTP
4. SAP Cloud ALM support for non-SAP components
5. Additional Information

SAP Cloud ALM overview for Operations

SAP Cloud ALM

SAP Cloud ALM provides businesses with a robust and scalable solution for managing their entire solution landscape in the cloud. It enables faster adoption of innovation and more efficient operations through streamlined processes, increased transparency and improved collaboration.



Benefits of SAP Cloud ALM

- **Reduce TCO of solution landscape**
- **Supports Cloud & Hybrid**
- **Instantaneously available**
- **Included in subscription**

Capabilities of SAP Cloud ALM:

Implementation

Holistic support for implementation and maintenance of all SAP solutions, covering all aspects from design, build, test and deploy with integrated analytics and traceability

Operations

Proactive problem detection for integrations, exceptions, jobs, performance and accelerated problem resolution with automated corrective actions integrated into customer service management platform

Service

Collaborative workspace for consumption of SAP services, management of service results and follow-up activities

Facts and figures

9200+
Customers around the world

Low TCO
Included in Subscription and Maintenance

Holistic
Supports implementation, Operations & Service

SaaS Native
Solution available across the globe

Customers Need End-to-End Observability Across ...
SAP Cloud ALM for Operations

Cloud and On-premise

How do I monitor my customer solution with BTP center stage?

SAP and Non-SAP

How do I observe and triage?

Customer, Partner and SAP Operations

How to foster collaboration between all involved parties?

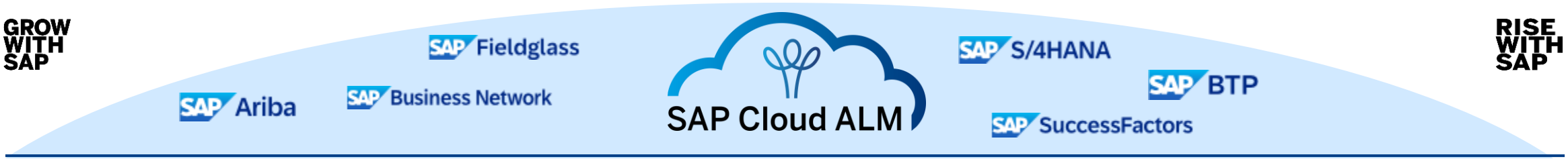
All Monitoring Use Cases

How do I monitor business processes, integration, end user experience, exceptions, automation & health?

Quick Problem Resolution

How do I quickly resolve any occurred issue?

SAP Cloud ALM for Operations – For SAP and Non-SAP



Business Service Management

Metrics
Config Items
Log Entries
Traces
Events
Alerts

Business Process Monitoring
Integration & Exception Monitoring
Synthetic User Monitoring
Real User Monitoring
Job & Automation Monitoring
Configuration & Security Analysis
Health Monitoring

Intelligent Event Processing

Alert Management
Notification Management
Operations Automation
External API Management

Tickets
Tasks
Emails
Chats
Operation Flows
Analytics & Raw Data

Analytics & Intelligence

Inbound Integration
Problem Detection
Problem Routing
Problem Resolution
Outbound Integration

Product agnostic but open for non-SAP
Product specific but open for non-SAP

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SAP Cloud ALM for Operations

By the Numbers

3600

Live Customers in SAP Cloud ALM for Operations

24M

Notifications and **Incidents** created in 2024

30B

Health Monitoring Metrics collected per month in 2024

90+

SAP Products supported by SAP Cloud ALM for Operations

and constantly expanding

See supported solutions for products supported by SAP Cloud ALM

See Operations Expert Portal for more information

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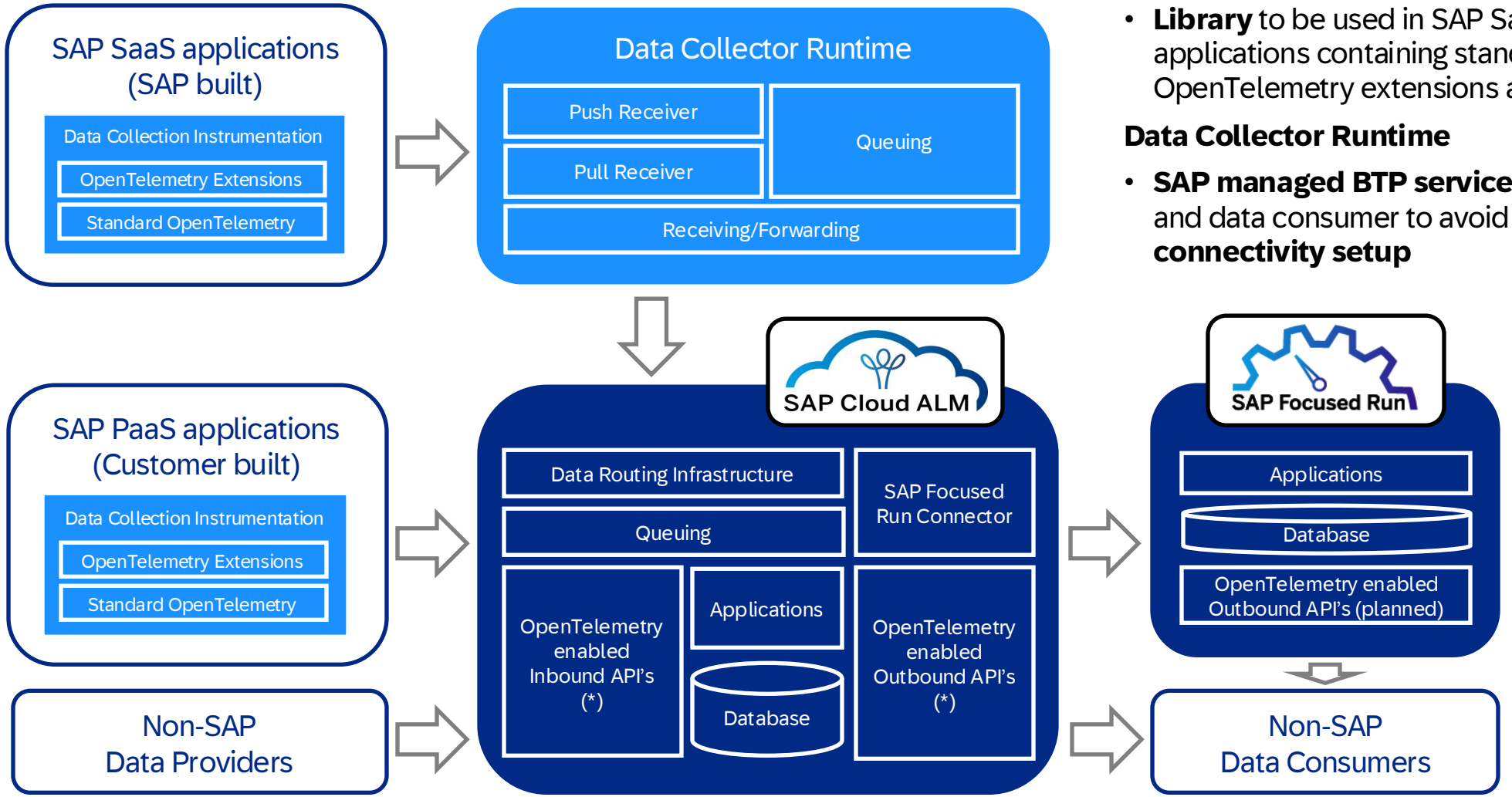
OpenTelemetry @ SAP

OpenTelemetry @ SAP – Customer Facing Observability



Data Collection Instrumentation

- **Library** to be used in SAP SaaS and SAP PaaS applications containing standard OpenTelemetry, OpenTelemetry extensions and utility functionality

Data Collector Runtime

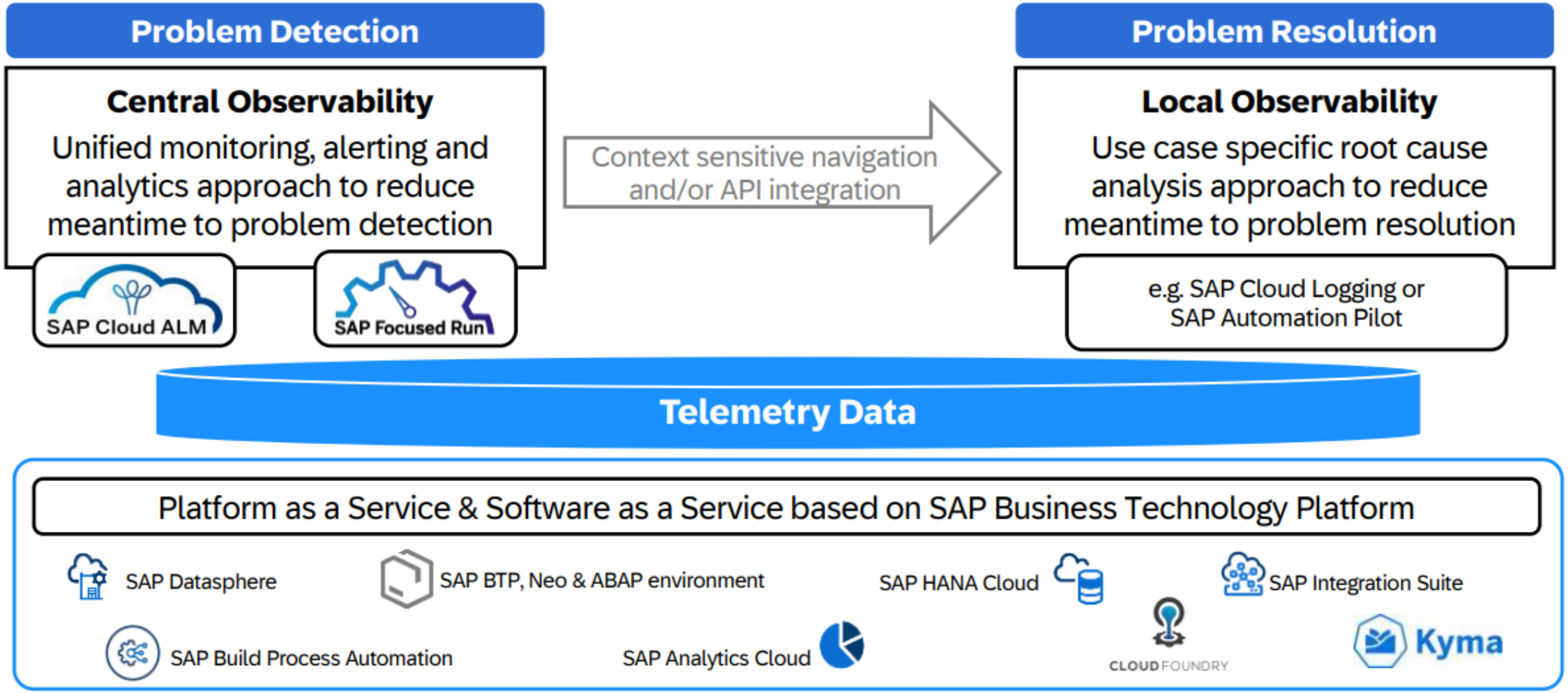
- **SAP managed BTP service** to decouple data provider and data consumer to avoid **customer managed connectivity setup**

- **OpenTelemetry enabled Inbound API's** to integrate non-SAP data providers
- **OpenTelemetry enabled Outbound API's** to integrate non-SAP data consumers
- **SAP Focused Run Connector** to forward data to SAP Focused Run

(*) Availability see roadmap

SAP Cloud ALM Support for SAP BTP

Problem Detection & Problem Resolution for SAP BTP



Integration Monitoring for SAP BTP

SAP Integration Suite Cloud Integration

- Monitoring of messages technically correlated to e2e message flows
- Find more details here

SAP Mobile Services

- Monitoring of message send through SAP Mobile Services
- Find more details here

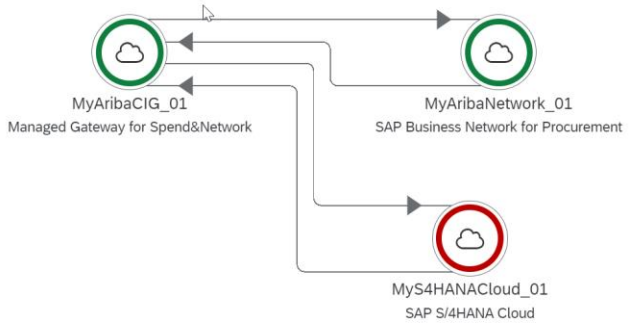
SAP Event Broker for SAP cloud applications

- Monitoring of events processed via SAP Event Broker
- Find more details here

SAP Cloud ALM

Integration Monitoring

- Unified monitoring of integration artefacts
- Correlation of e2e message flows



SAP Master Data Integration

- Monitoring of business objects handled by master data integration
- Find more details here

SAP Master Data Governance cloud edition

- Monitoring of AIF messages sent to SAP Master Data Governance
- Find more details here

SAP Data Intelligence

- Monitoring of messages sent from and to SAP Data Intelligence
- Find more details here

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Exception Monitoring for SAP BTP

SAP Analytics Cloud

- Monitoring of exceptions in activity log, which tracks user activities
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SAP Cloud ALM

Exception Monitoring

- Unified monitoring of exceptions
- Visualization of exception details

SAP Integration Suite Cloud Integration

- Monitoring of exceptions related to integration content
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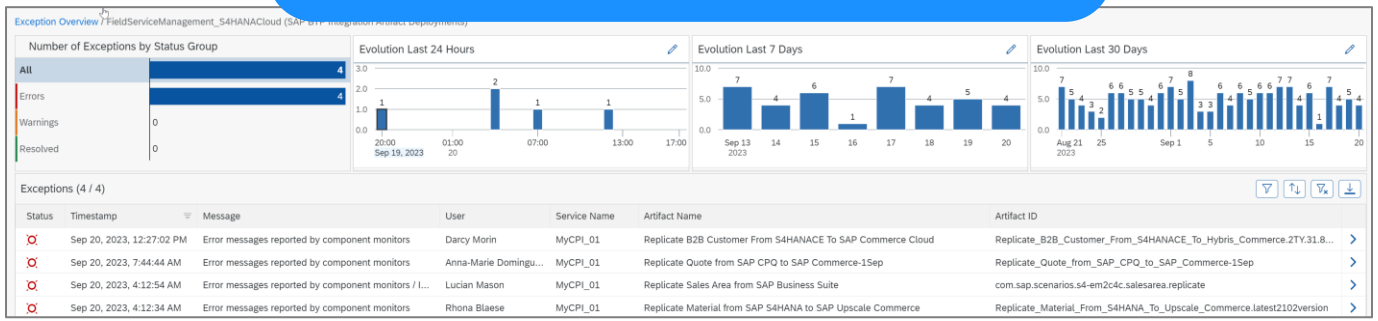

SAP BTP, Neo environment (custom built applications)

- Monitoring of exceptions in custom built java applications
- Find more details here

SAP BTP, CF / Kyma env. (custom built applications)

- Monitoring of exceptions in custom built java and node.js applications (OTEL)
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SAP BTP, ABAP environment (custom built applications)

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Real User Monitoring for SAP BTP

SAP Cloud ALM

Real User Monitoring

- Unified monitoring of end users from performance, functional and utilization perspective
- Correlation of e2e user requests flow based on single request data

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SAP BTP, ABAP environment (custom built applications)

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Job & Automation Monitoring for SAP BTP

SAP Intelligent RPA

- Monitoring of jobs scheduled in SAP Intelligent RPA
- Find more details here

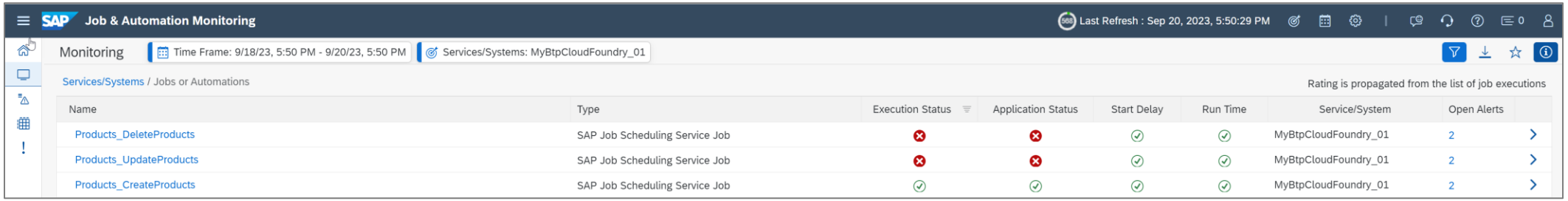
SAP Cloud ALM

Job & Automation Monitoring

Unified monitoring of jobs and automation tasks

SAP Build Process Automation

- Monitoring of jobs scheduled in SAP Build Process Automation
- Find more details here



SAP BTP, CF / Kyma env. (custom built applications)

- Monitoring of jobs scheduled with SAP Job Scheduling Service
- Find more details here

SAP BTP, ABAP environment (custom built applications)

- Monitoring of application jobs used in custom built ABAP applications
- Find more details here

Configuration & Security Analysis for SAP BTP

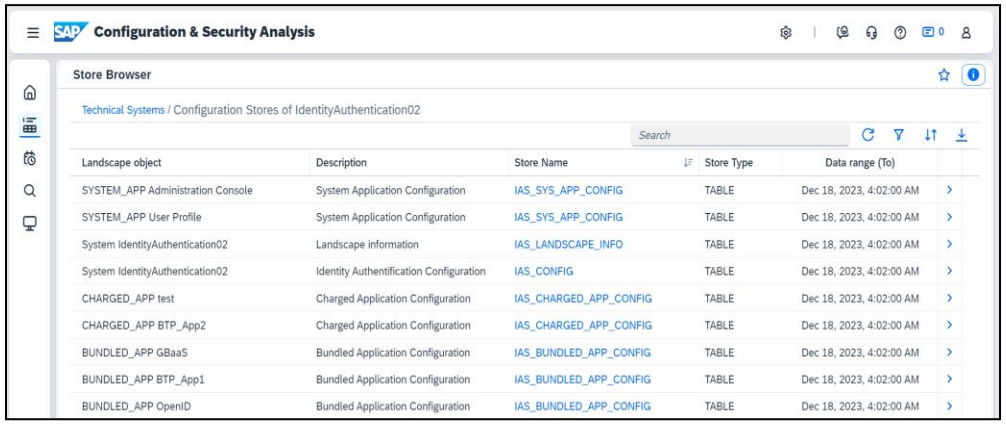
SAP Cloud ALM

Configuration & Security Analysis

- Regular collection and centralized storage of configuration items and software levels
- Store browser, change analysis and search functionality for mass volume processing

Credential Store

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here



Identity Authentication

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here

Mobile Service

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here

Destination Service

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here

Health Monitoring for SAP BTP

SAP Integration Suite

Monitoring of technical KPI's in Cloud Integration and API Mgmt.

SAP HANA Cloud

Monitoring of technical KPI's for SAP HANA Cloud

SAP Cloud Connector

Monitoring of technical KPI's for SAP Cloud Connector

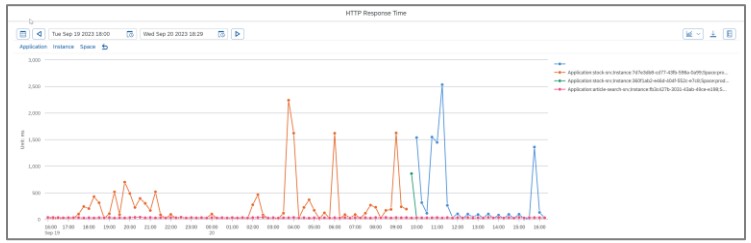
SAP BTP, Neo environment (custom built applications)

Monitoring of technical KPI's in custom built java applications

SAP Cloud ALM

Health Monitoring

Monitoring of technical KPI's for BTP SaaS and PaaS



SAP BTP, CF / Kyma env. (custom built applications)

Monitoring of technical KPI's in custom built java and node.js applications (OTEL)

SAP Datasphere

Monitoring of technical KPI's for SAP Datasphere

SAP Build Process Automation

Monitoring of technical KPI's for SAP Build Process Automation

SAP Intelligent RPA

Monitoring of technical KPI's for SAP Intelligent RPA

SAP Cloud ALM

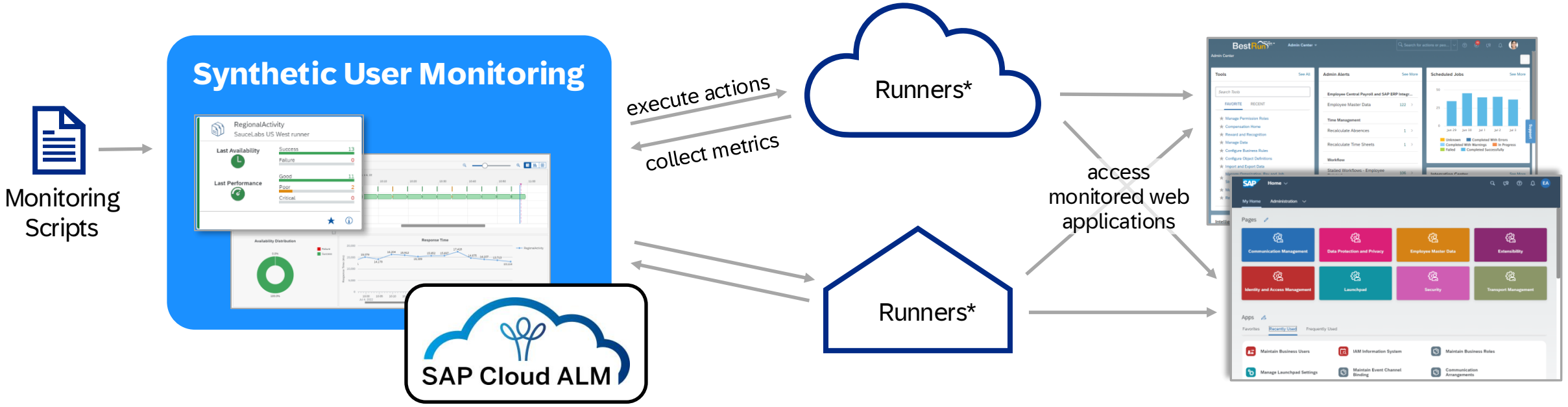
Monitoring of technical KPI's for SAP Cloud ALM

SAP BTP, ABAP environment (custom built applications)

Monitoring of technical KPI's in custom built ABAP applications

Synthetic User Monitoring

Monitor Performance and Availability of Web Applications from User Perspective



- Monitoring based on custom **Selenium based scripts** ➔ Supports most of the web applications
- Regularly executed on **Selenium remote webdriver infrastructures**
- **Proactive problems detection:** 24x7 monitoring enables detection of performance and availability issues before end users are impacted ➔ Runs **independently on real user activities**
- **Comparable measurements:** Monitoring relies on identical **user scenarios regularly executed** ➔ Allows to monitor the **evolution of the performance and availability** based on comparable metrics

Remark: Generic functionality which is available for all SAP BTP SaaS and PaaS services.

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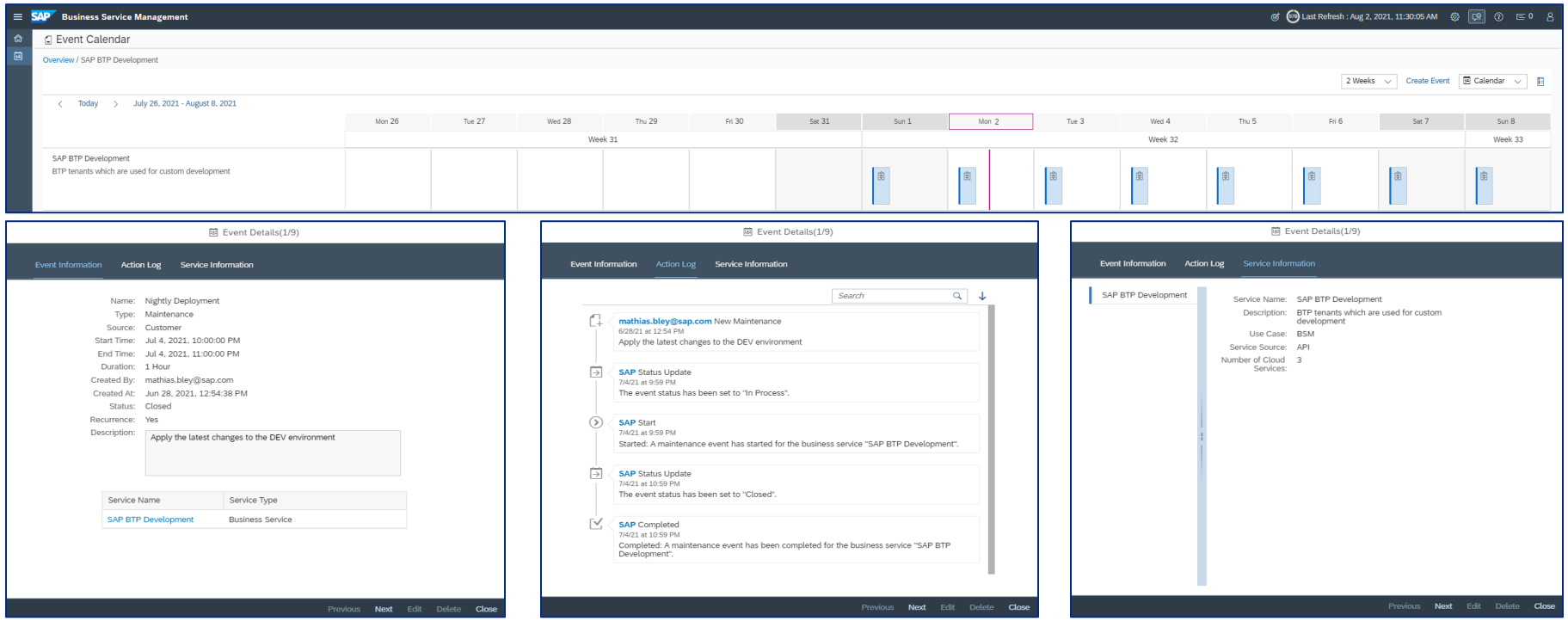
Business Service Management for SAP BTP

Business Service Management

- SAP BTP SaaS and PaaS services can be summarized to business services in SAP Cloud ALM
- SAP initiated maintenance, disruptions, degradations, and communication events as available in SAP for Me are exposed to customers and can be used for customer specific service level management



Remark: Generic functionality which is available for all SAP BTP SaaS and PaaS services.

SAP Cloud ALM – Content Roadmap for SAP BTP

	Currently available		Planned	
Integration Monitoring	SAP IS - Cloud Integration SAP Master Data Integration SAP Event Broker SAP Task Center Service	SAP Master Data Governance Cloud edition SAP Mobile Services SAP Data Intelligence	SAP IS - Edge Integration Cell SAP IS - Advanced Event Mesh	SAP Build Process Automation
Exception Monitoring	SAP Analytics Cloud SAP IS - Cloud Integration SAP BTP, ABAP, NEO - PaaS	SAP BTP, CF & Kyma - PaaS Integration with SAP Cloud Logging	SAP Workzone Service SAP BTP Audit Log	
Real User Monitoring	SAP BTP, ABAP - PaaS SAP BTP, NEO - PaaS SAP BTP, CF & Kyma - PaaS	Integration with SAP Cloud Logging SAP Build Workzone Service	SAP Analytics Cloud	SAP Build Apps SAP Build Code
Job & Automation Monitoring	SAP BTP, ABAP - PaaS SAP BTP, CF & Kyma - PaaS SAP BTP, Identity Provisioning	SAP Build Process Automation SAP Intelligent Robotic Process Automation	SAP DataSphere SAP Analytics Cloud	Deeper integration with SAP Job Scheduling Service
Configuration & Security Analysis	SAP BTP, Credential Store SAP BTP, Identity Authentic. SAP BTP, Identity Provisioning	SAP BTP, Mobile Service SAP BTP, Destination Service SAP DataSphere	SAP Custom Domain Service SAP HANA Cloud SAP Automation Pilot	SAP Build Process Automation SAP Document Management Service
Health Monitoring	SAP BTP, ABAP, NEO - PaaS SAP BTP, CF & Kyma - PaaS SAP Build Process Automation (Jobs) SAP Cloud Connector	SAP Datasphere SAP Intelligent RPA SAP IS - CI & APIM SAP HANA Cloud & BTP Neo DB Integration with SAP Cloud Logging	SAP IS - Edge Integration Cell SAP IS - Advanced Event Mesh	Platform metrics for CF/Kyma SAP Analytics Cloud

Expert Portal for SAP Cloud ALM

Demo

Home

calm-dev-eu10-004-relcfeatures-ops-observability-demo.dev.eu10.alm.cloud.sap/launchpad#Shell-home

Private Links | SAP IT Links | SAP Links | SAP Travel | SAP HR | BCP | Home | SAP SolMan 7.2 | FRUN | CRUN | ST-PI / ST-A/PI | NG-DCI | Product Standards | IES | BTP | CXS | SAP Others | Share | Events | All Bookmarks

SAP Home SAP Cloud ALM

JB

My Home | Implementation | Transformation | Operations | Service | Administration

Welcome to SAP Cloud ALM

Get to know SAP Cloud ALM

Submit and vote on improvement requests.
Influence SAP Cloud ALM for Implementation

Additional Information

SAP Support Portal

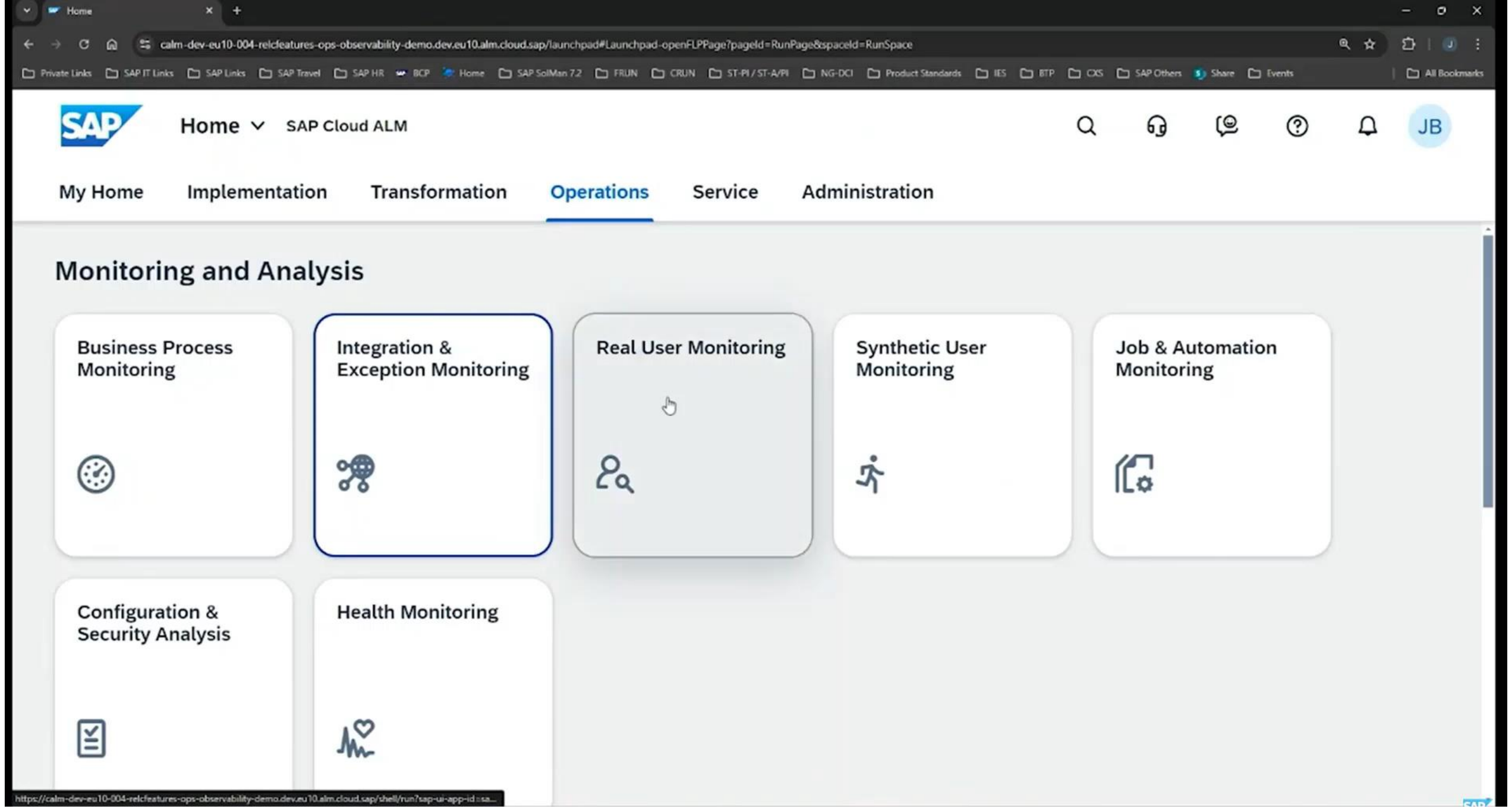
SAP Help Portal

Expert Portal for Operations

Expert Portal for Implementation

SAP Road Map Explorer

Public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Home
SAP Cloud ALM
JB
My Home
Implementation
Transformation
Operations
Service
Administration
Monitoring and Analysis
Business Process Monitoring
Integration & Exception Monitoring
Real User Monitoring
Synthetic User Monitoring
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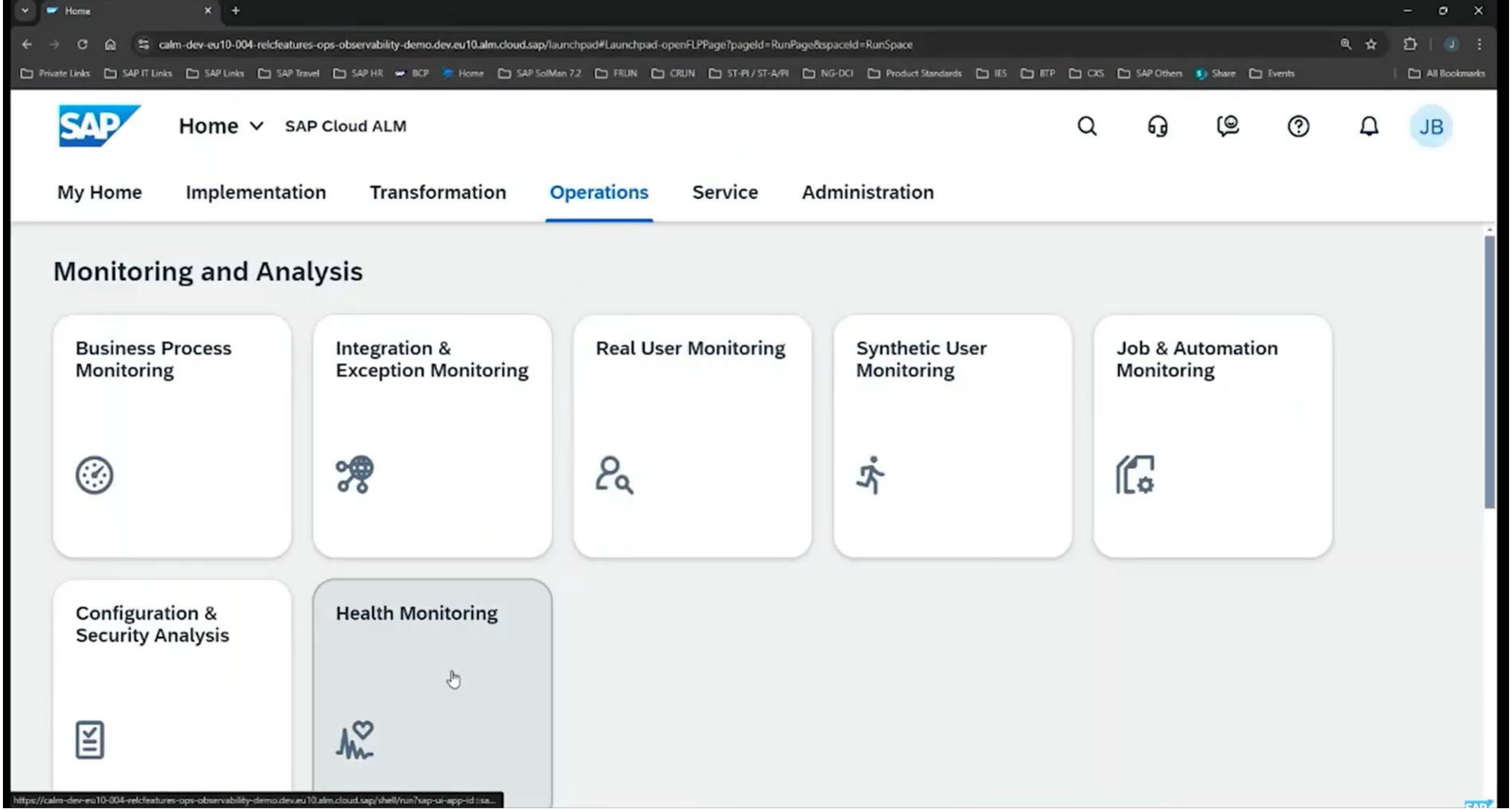
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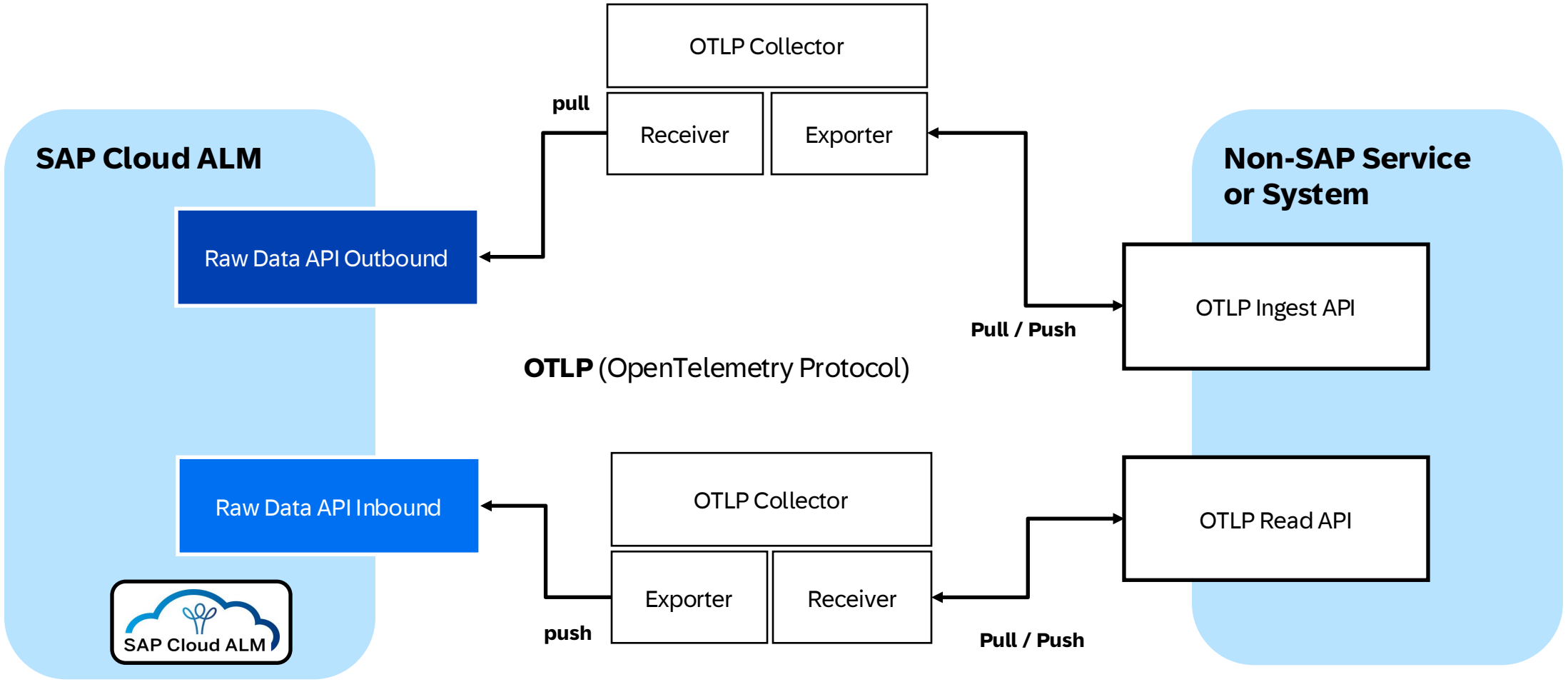
Public

SAP Cloud ALM Support for non-SAP components

Integration Architecture for non-SAP components



Available and Planned OpenTelemetry Signal API's for non-SAP components

Use Case	Analytics	OTeL Metrics		OTeL Logs		OTeL Traces	
	Outbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound
Business Process Monitoring	2023	-	-	-	2025	-	-
Integration Monitoring	2023	2023	-	2024	2024	-	-
Exception Monitoring	2023	2023	-	2023	2023	-	-
Real User Monitoring	2023	2023	-	-	-	2024	2024
Synthetic User Monitoring	2023	2023	-	-	-	-	2024
Job & Automation Monitoring	2023	2023	-	2025	2025	-	-
Configuration & Security Analysis	2023	-	-	-	-	-	-
Health Monitoring	2023	2023	2023	-	-	-	-
Business Service Management	2024	2023	-	2024	-	-	-
Intelligent Event Processing	2023	2023	-	2024	-	-	-

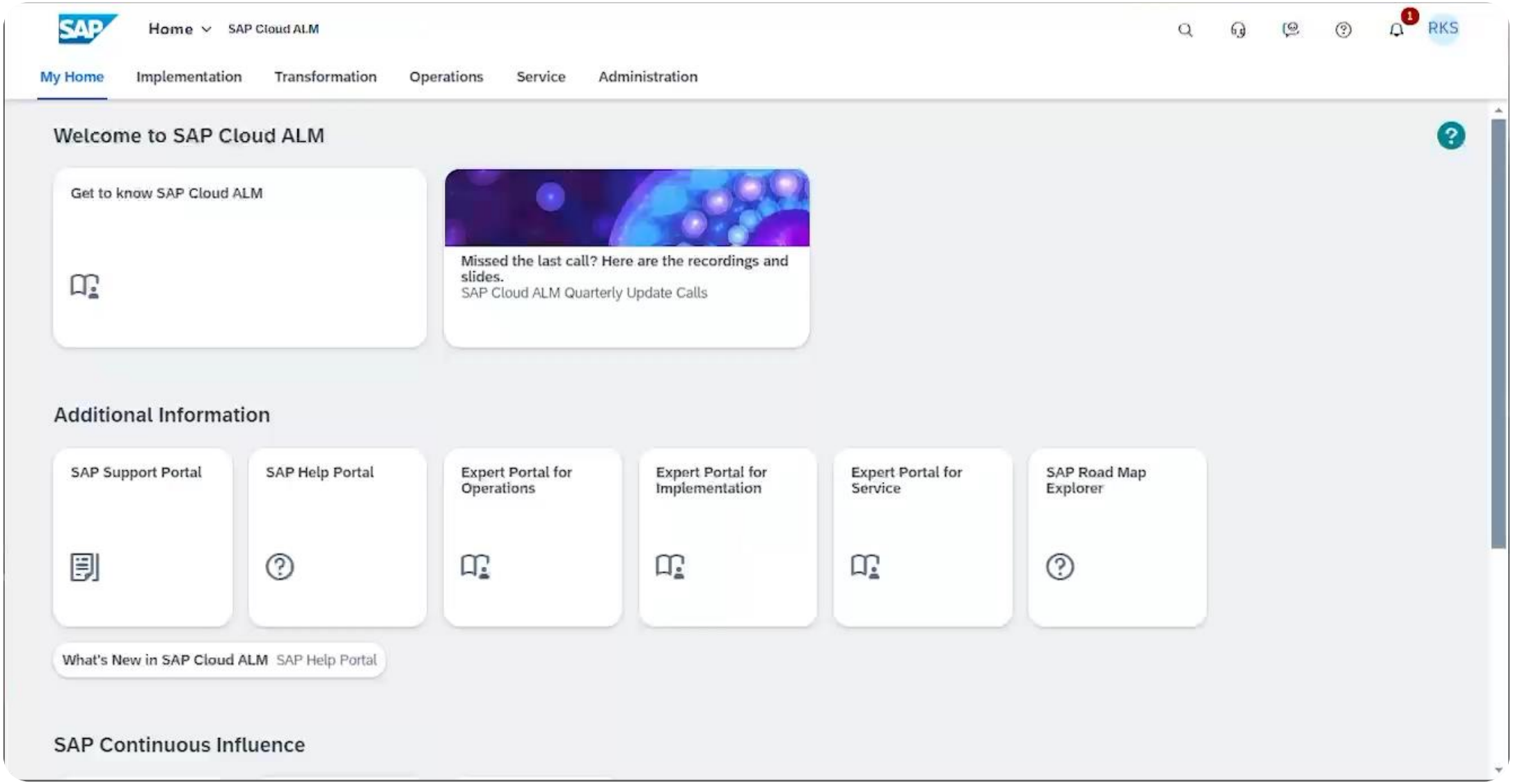
Available Planned

AI @ SAP Cloud ALM

PLANNED

GenAI powered Alert Processing with SAP Joule

Lab Preview



This is the current state of planning and may be changed by SAP at any time.

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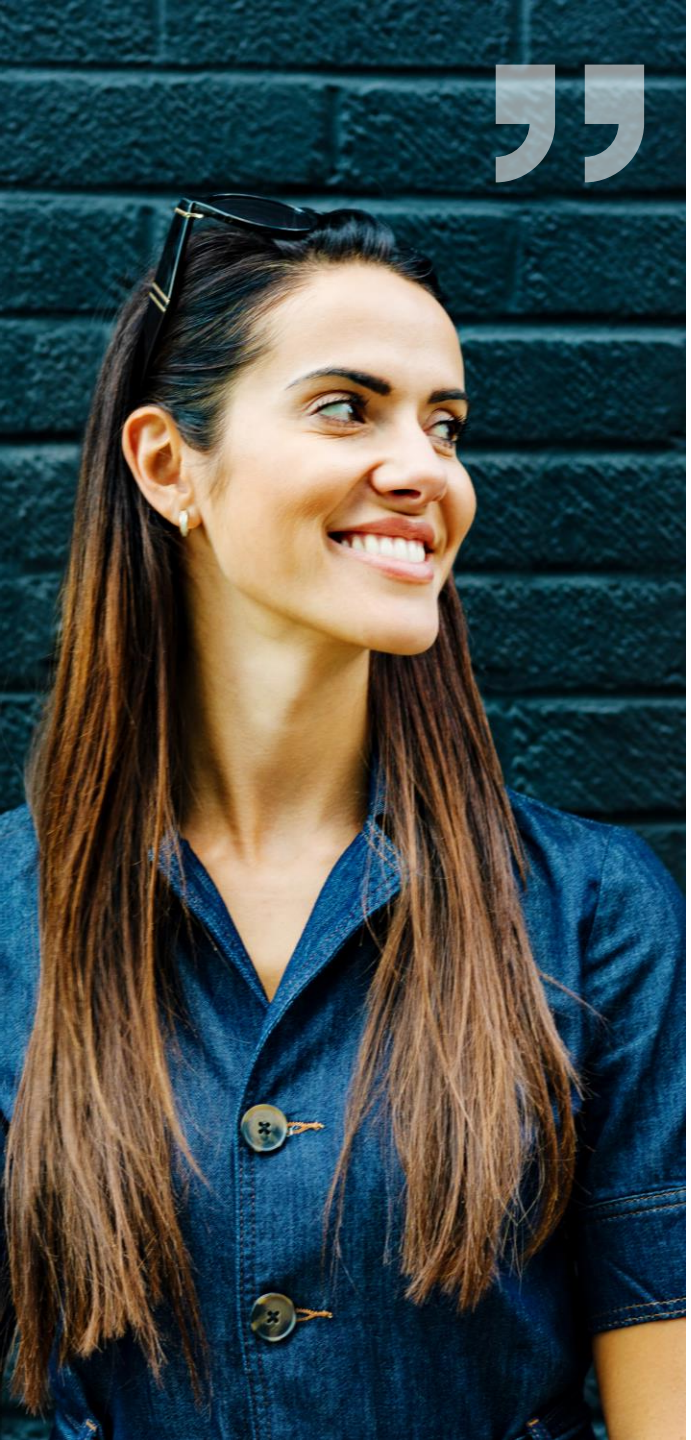


I need **more** capabilities in SAP Cloud ALM.

SAP Continuous Influence for SAP Cloud ALM

Customers/partners submit requests → **Community** ranks via voting → **SAP** reviews and develops

Available today!

Implementation

Operations

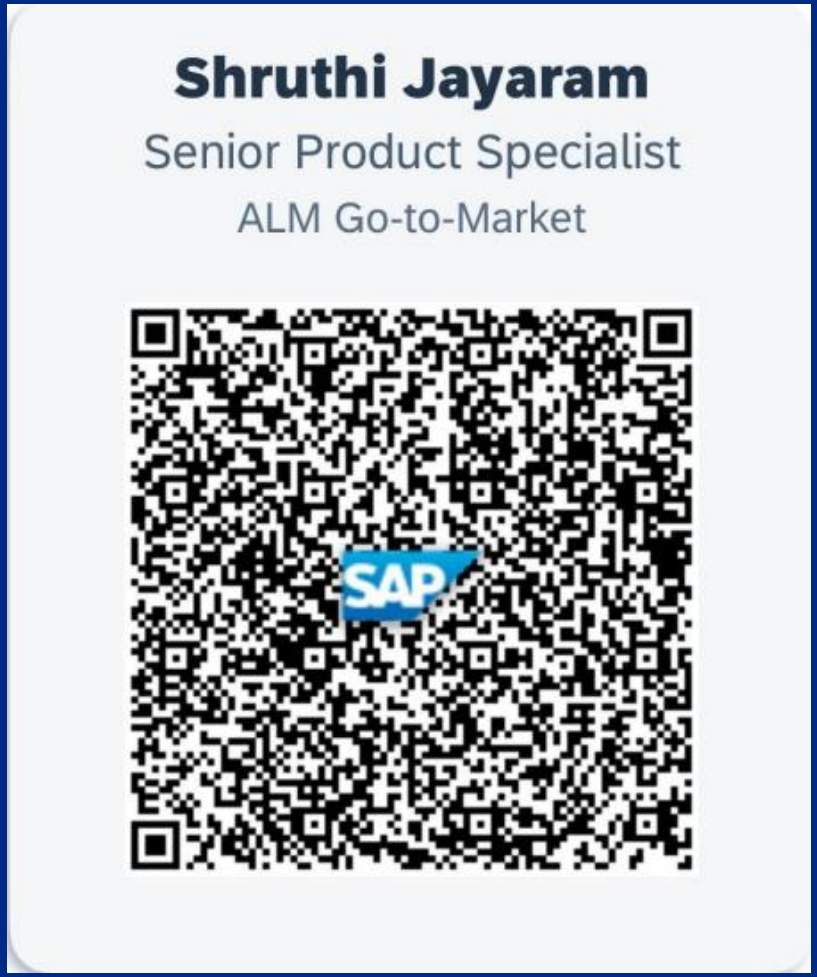
Service

Thank you.

Contact information:

Shruthi Jayaram

Shruthi.Jayaram@sap.com



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Additional Information

Exception Monitoring for SAP BTP

SAP Analytics Cloud

- Monitoring of exceptions in activity log, which tracks user activities
- Find more details here

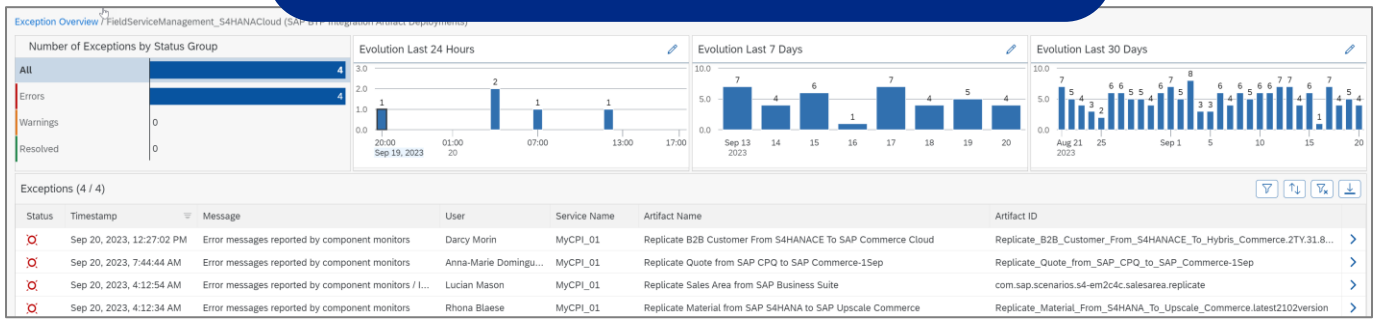
SAP Cloud ALM

Exception Monitoring

- Unified monitoring of exceptions
- Visualization of exception details

SAP Integration Suite Cloud Integration

- Monitoring of exceptions related to integration content
- Find more details here



SAP BTP, Neo environment (custom built applications)

- Monitoring of exceptions in custom built java applications
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SAP BTP, ABAP environment (custom built applications)

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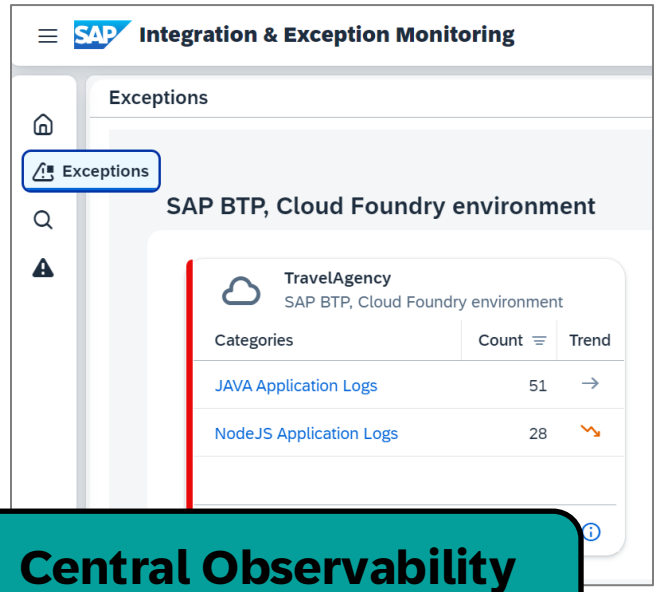
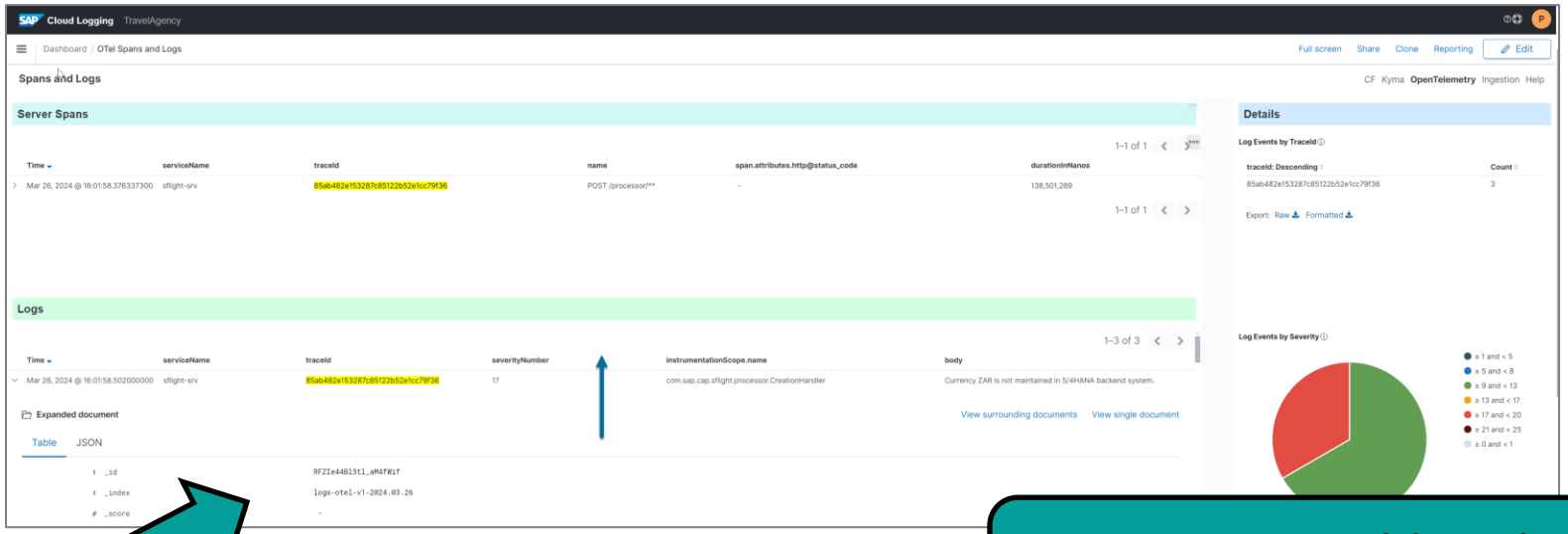
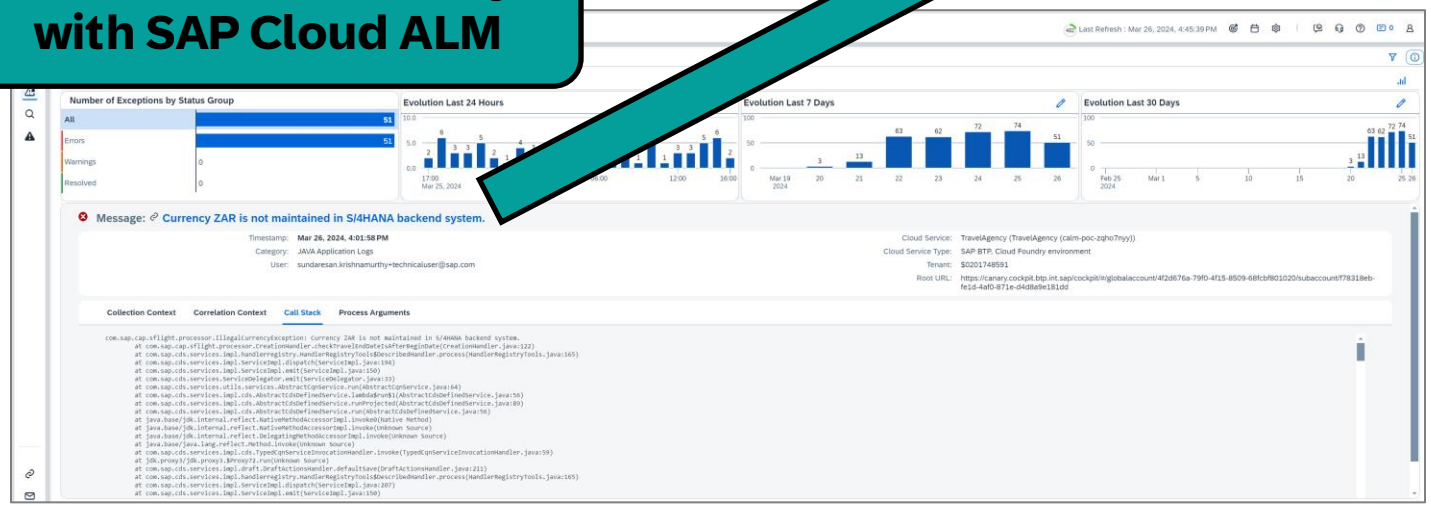
Exception Monitoring for custom applications built on SAP BTP



Central Observability with SAP Cloud ALM



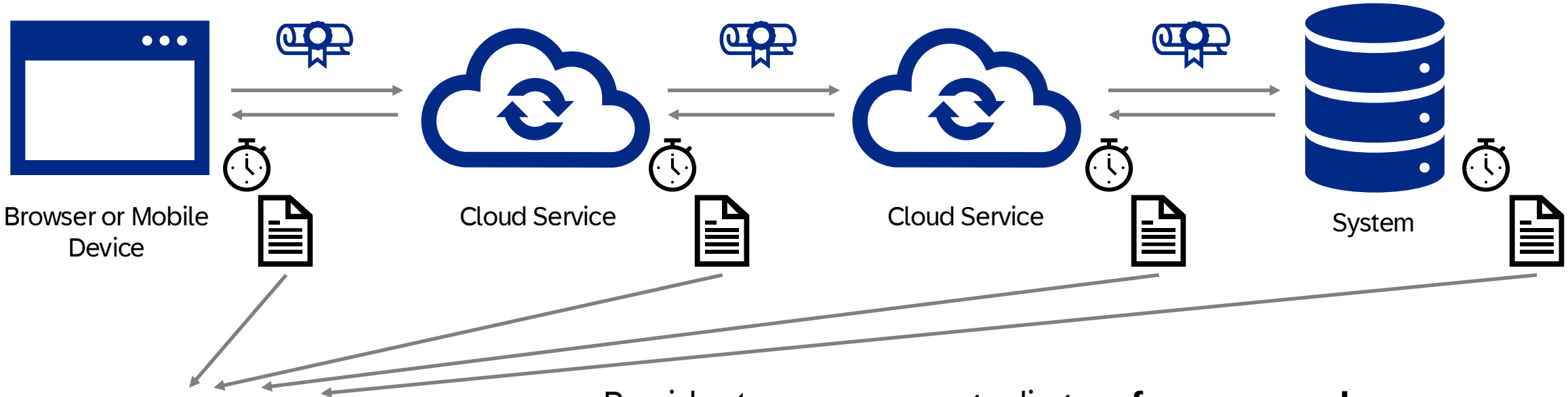
Local Observability with SAP Cloud Logging

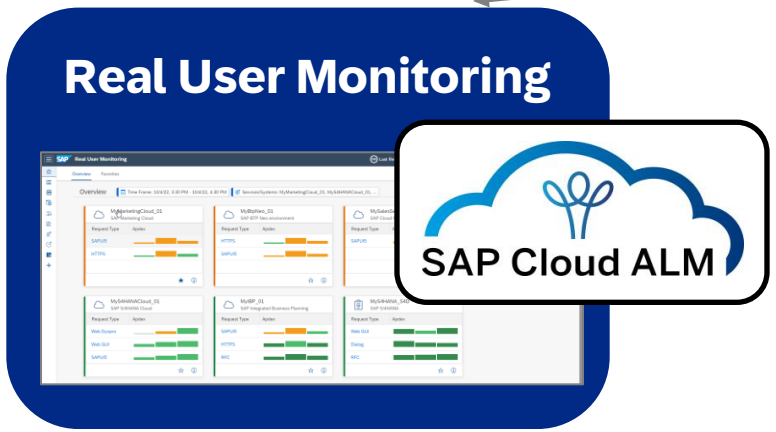


- Context-sensitive navigation from Exception Monitoring in SAP Cloud ALM to SAP Cloud Logging
- Log entries are retrieved by Open Telemetry based on auto instrumentation and forwarded to both tools

Remark: SAP Cloud Logging Service isn't part of SAP Cloud ALM subscription

Real User Monitoring
Allow to Understand Performance and Utilization from End User Perspective





- Provides transparency regarding **performance and errors as experienced by end users** as well as **utilization of business functionality**
- Measurement at frontend and server side **to identify actual root cause of performance and functional problems**
- Allows to **correlate monitoring data** measured at frontend, cloud service and/or system side to **end-to-end user request flows**

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Real User Monitoring for SAP BTP

SAP Cloud ALM

Real User Monitoring

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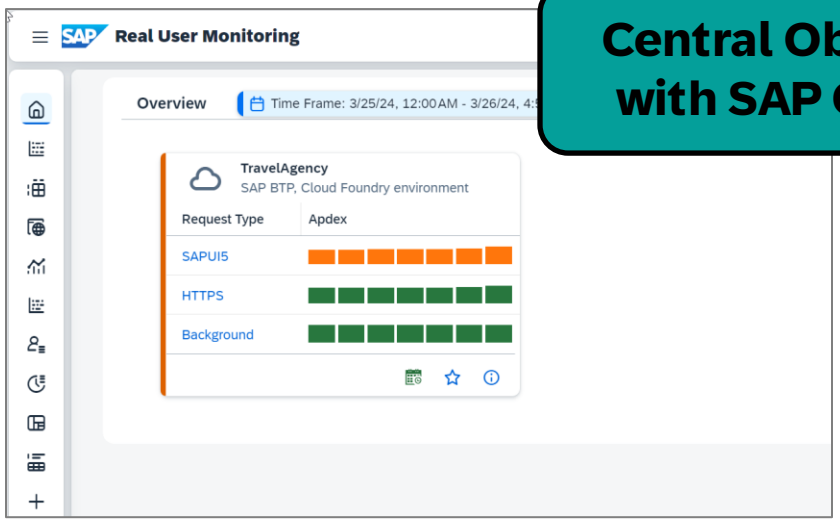
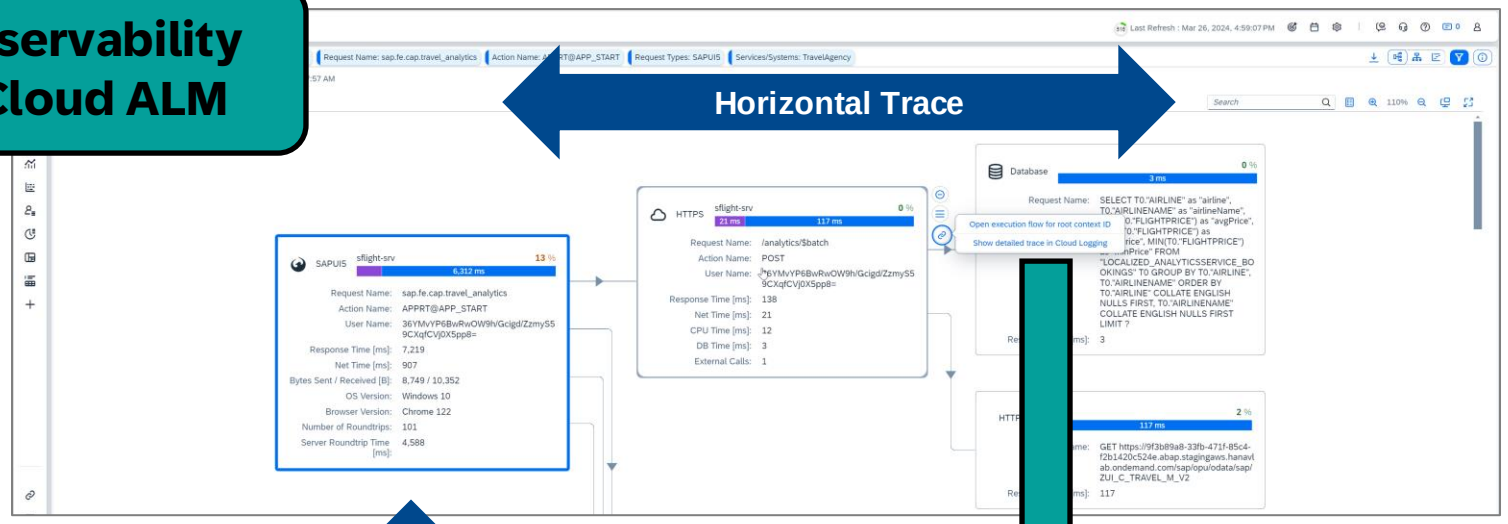
- Find more details here

Real User Monitoring for custom applications built on SAP BTP

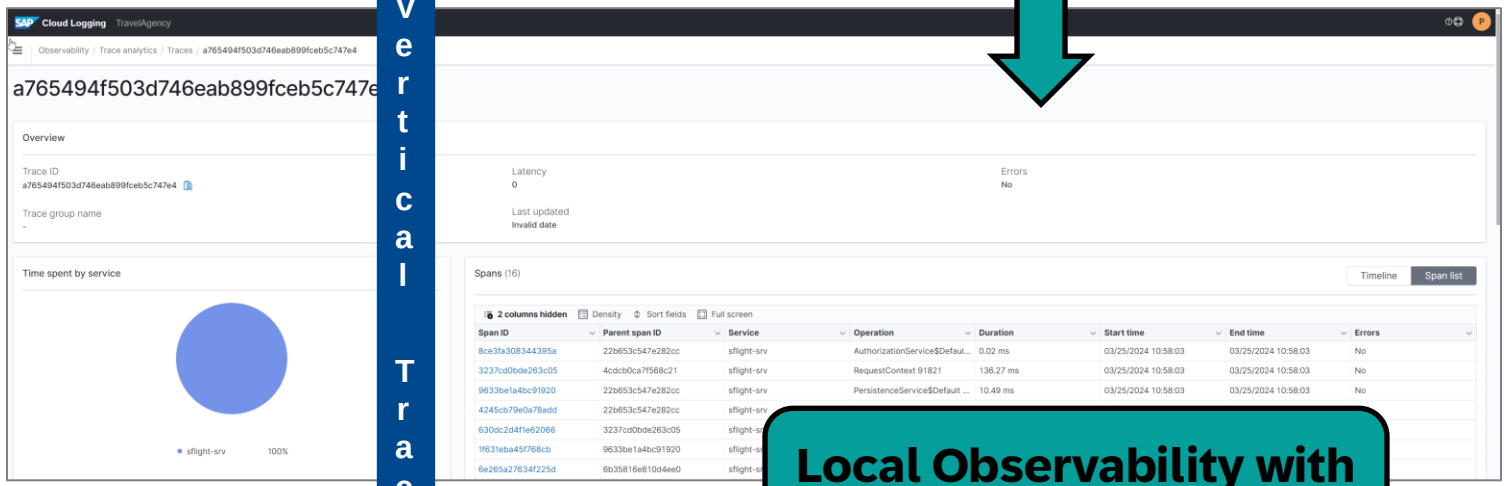


Central Observability with SAP Cloud ALM



- Context-sensitive navigation from Real User Monitoring in SAP Cloud ALM to SAP Cloud Logging
- Traces are retrieved by Open Telemetry based on auto instrumentation and forwarded to both tools

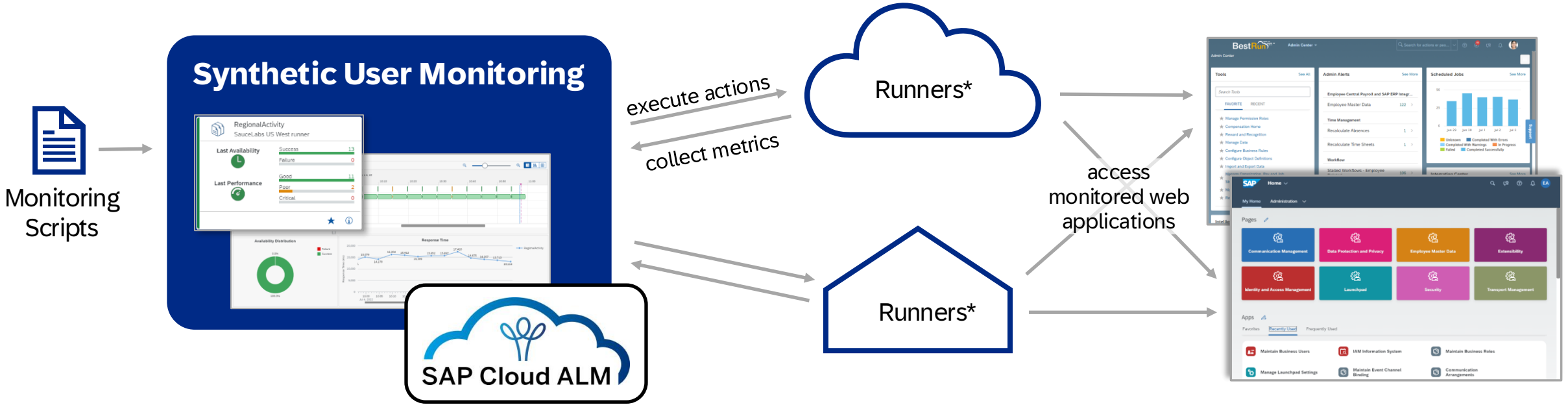
Vertical Trace



Local Observability with SAP Cloud Logging

Remark: SAP Cloud Logging Service isn't part of SAP Cloud ALM subscription

Synthetic User Monitoring
Monitor Performance and Availability of Web Applications from User Perspective



- Monitoring based on custom **Selenium based scripts** ➔ Supports most of the web applications
- Regularly executed on **Selenium remote webdriver infrastructures**
- **Proactive problems detection:** 24x7 monitoring enables detection of performance and availability issues before end users are impacted ➔ Runs **independently on real user activities**
- **Comparable measurements:** Monitoring relies on identical **user scenarios regularly executed** ➔ Allows to monitor the **evolution of the performance and availability** based on comparable metrics

Remark: Generic functionality which is available for all SAP BTP SaaS and PaaS services.

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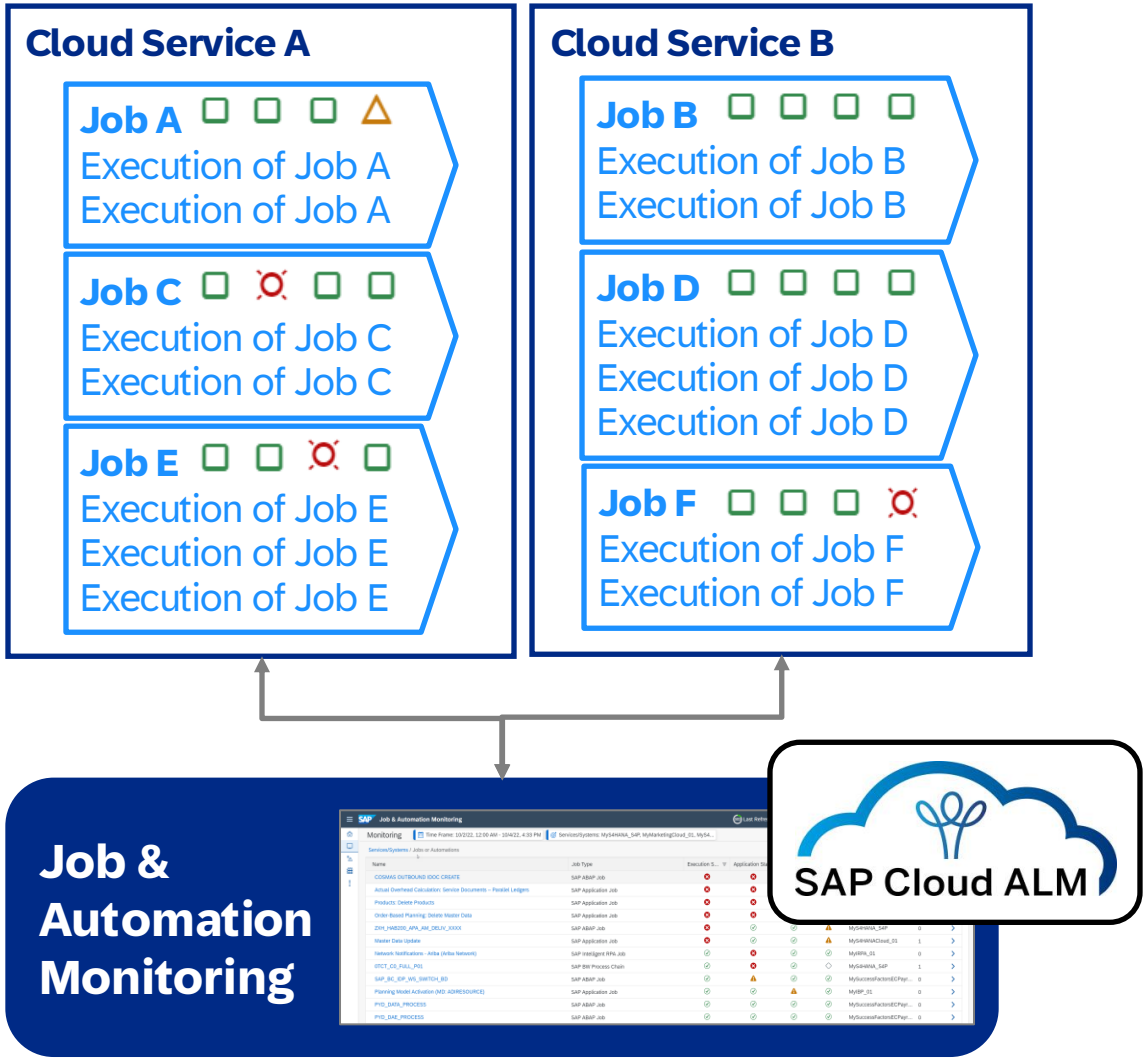
Job & Automation Monitoring

Provide Transparency Regarding Job Executions & Automated Activities



- **Monitoring** ensures **efficient execution of jobs and tasks:**
  - by monitoring **executions status, application status, start delay and response time** for jobs and tasks
  - by providing **details at job on task execution level** to enable root cause analysis
  - by **reducing configuration efforts** by making use of historical execution information
- **Embedded Alerting** enables notification of business and IT users on job & task related disruptions and exceptions
- **Embedded Analytics** allows to analyze root causes and trends based on historical data

Job & Automation Monitoring for SAP BTP

SAP Intelligent RPA

- Monitoring of jobs scheduled in SAP Intelligent RPA
- Find more details here

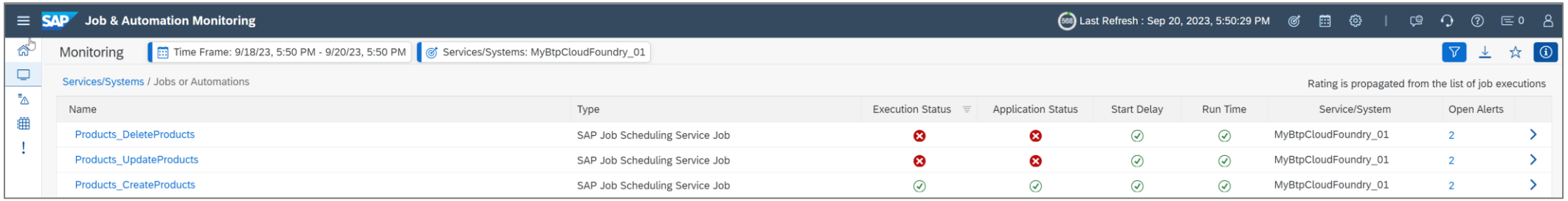
SAP Cloud ALM

Job & Automation Monitoring

Unified monitoring of jobs and automation tasks

SAP Build Process Automation

- Monitoring of jobs scheduled in SAP Build Process Automation
- Find more details here



SAP BTP, CF / Kyma env. (custom built applications)

- Monitoring of jobs scheduled with SAP Job Scheduling Service
- Find more details here

SAP BTP, ABAP environment (custom built applications)

- Monitoring of application jobs used in custom built ABAP applications
- Find more details here

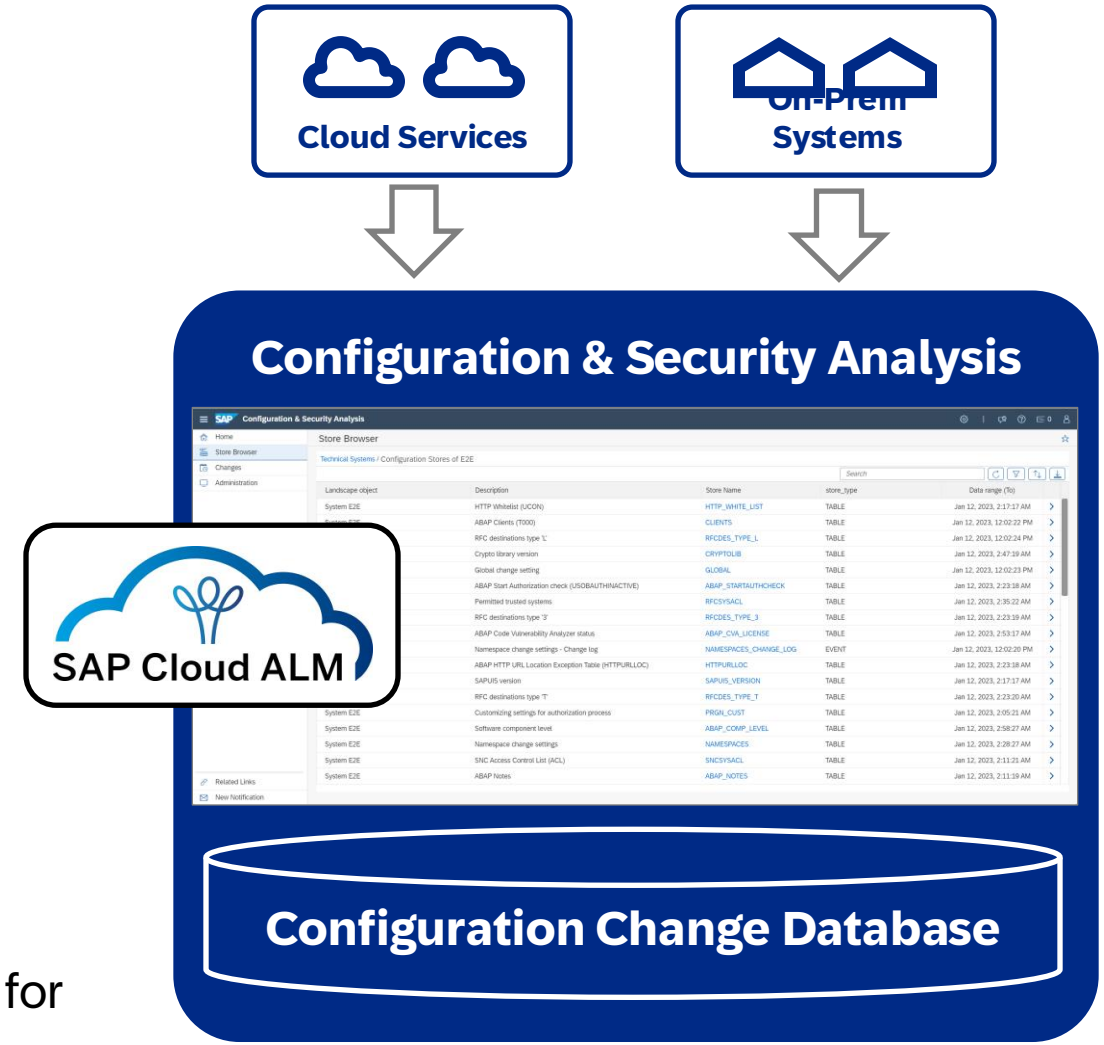
Configuration & Security Analysis
Validate Configuration Items and Software Levels Automatically and Regularly

Existing functionality

- **Regular collection of configuration items and software levels** into the configuration stores of the Configuration Change Database
- **Store browser** as user interface to **visualize content of configuration stores**
- **Change analysis** for selected scope and timeframe
- **Search capability** for pattern-based browsing into configuration items of selected scope

Planned functionality

- **Configuration validation** to compare TO-BE with AS-IS situation
- **Embedded alerting** to notify on critical issues
- **Embedded analytics** to analyze trends and root causes for discovered problems



Configuration & Security Analysis for SAP BTP

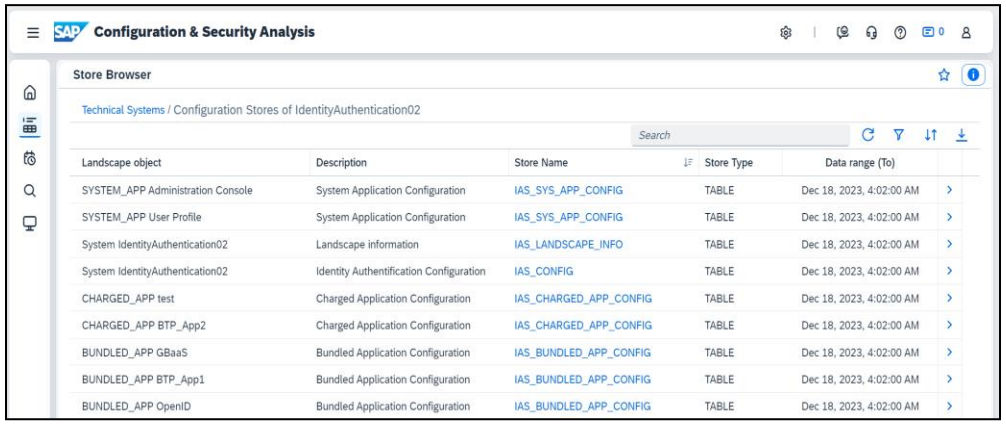
SAP Cloud ALM

Configuration & Security Analysis

- Regular collection and centralized storage of configuration items and software levels
- Store browser, change analysis and search functionality for mass volume processing

Credential Store

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here



Identity Authentication

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here

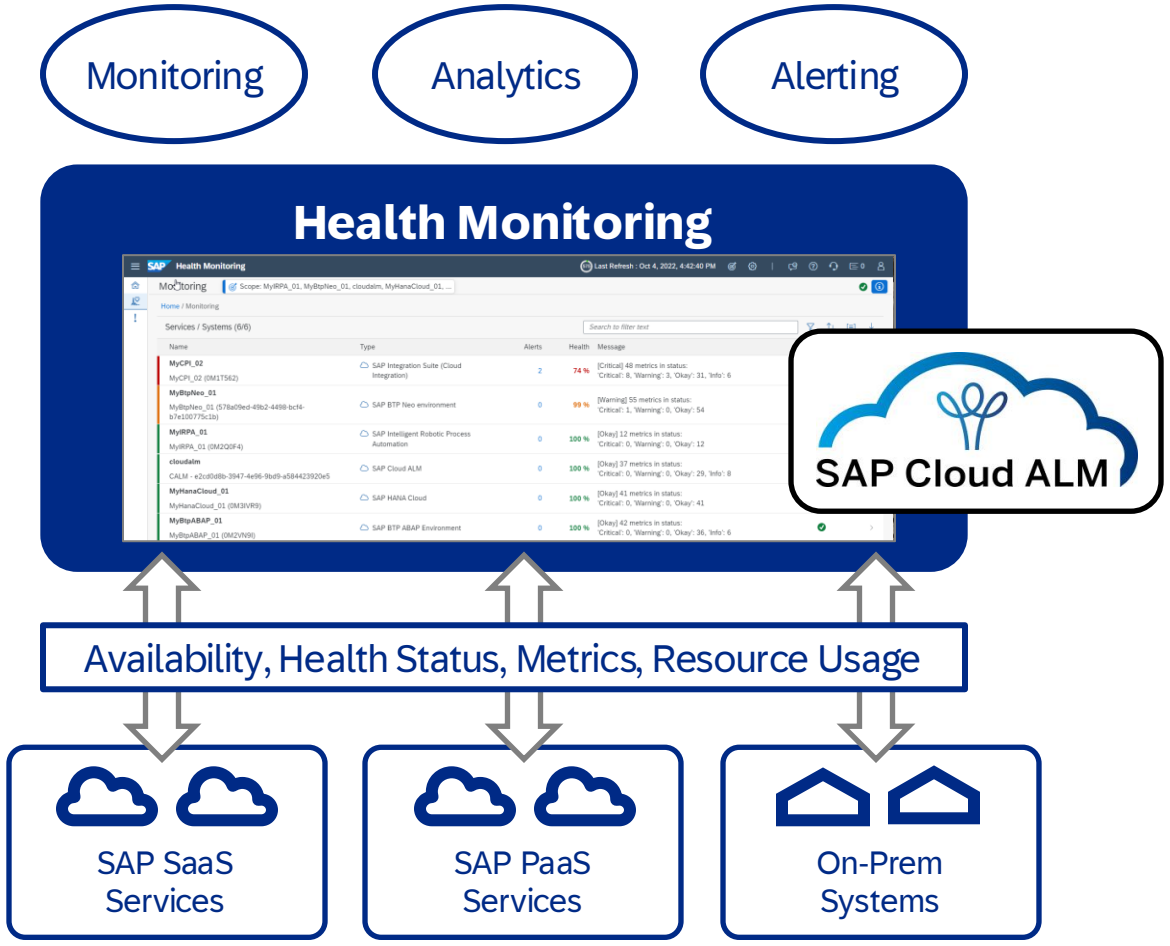
Mobile Service

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here

Destination Service

- Monitoring of security relevant configuration items including recommendations from SAP
- Find more details here

Health Monitoring
Check Application Health of Cloud Services and Systems



- **Monitoring of technical KPI's** for services and systems:
  - By executing **application health checks for SAP SaaS services**
  - By delivering **metrics for customer applications** built at SAP Business Technology Platform (SAP PaaS Services)
  - By providing metrics for **light-weight system monitoring** for SAP ABAP and associated system types e.g. SAP Cloud Connector
- Provides **embedded alerting** including the capability to **trigger notifications and corrective actions**
- Allows **embedded analytics** to **analyze trends and root causes** for discovered problems

Health Monitoring for SAP BTP

SAP Integration Suite

Monitoring of technical KPI's in Cloud Integration and API Mgmt.

SAP HANA Cloud

Monitoring of technical KPI's for SAP HANA Cloud

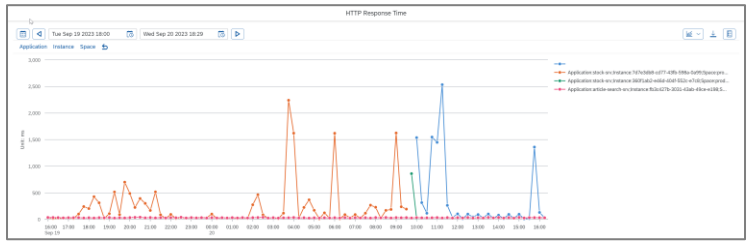
SAP Cloud Connector

Monitoring of technical KPI's for SAP Cloud Connector

SAP Cloud ALM

Health Monitoring

Monitoring of technical KPI's for BTP SaaS and PaaS



SAP Build Process Automation

Monitoring of technical KPI's for SAP Build Process Automation

SAP Intelligent RPA

Monitoring of technical KPI's for SAP Intelligent RPA

SAP Cloud ALM

Monitoring of technical KPI's for SAP Cloud ALM

SAP BTP, Neo environment (custom built applications)

Monitoring of technical KPI's in custom built java applications

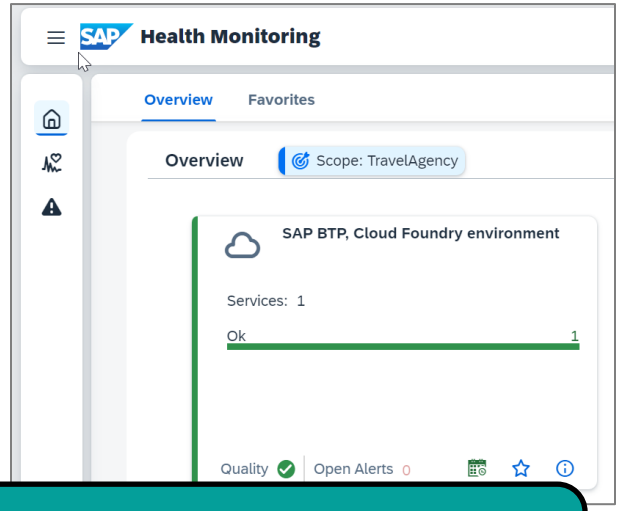
SAP BTP, CF / Kyma env. (custom built applications)

Monitoring of technical KPI's in custom built java and node.js applications (OTEL)

SAP BTP, ABAP environment (custom built applications)

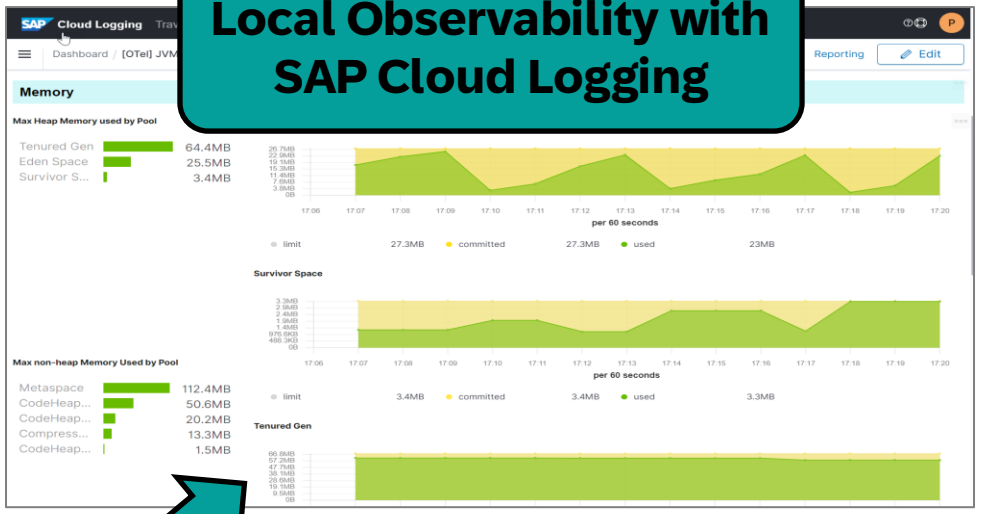
Monitoring of technical KPI's in custom built ABAP applications

Health Monitoring for custom applications built on SAP BTP

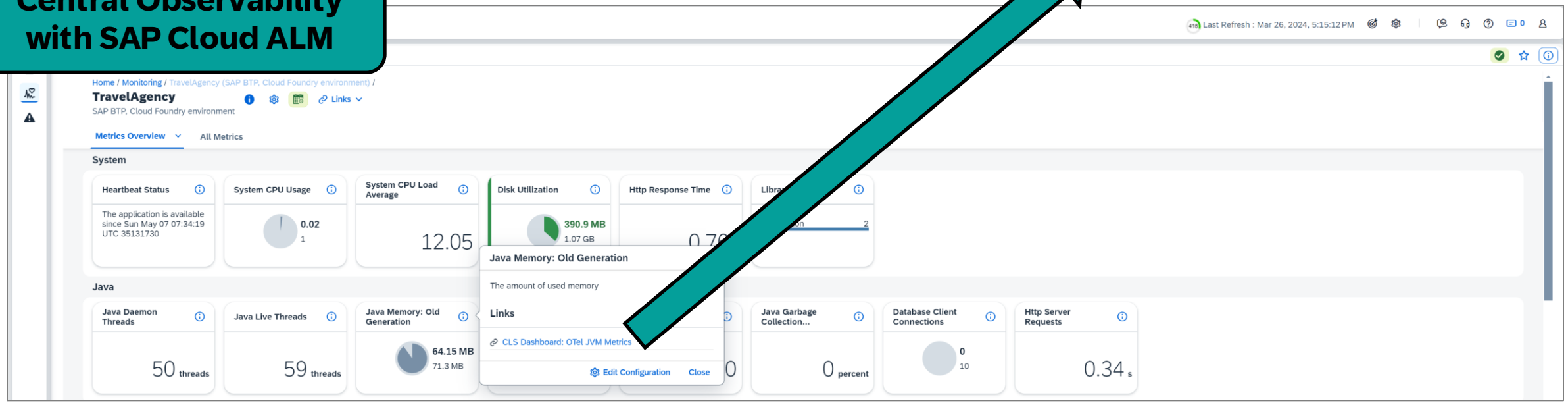


- Context-sensitive navigation from Health Monitoring in SAP Cloud ALM to SAP Cloud Logging
- Metrics are retrieved by Open Telemetry based on auto instrumentation and forwarded to both tools

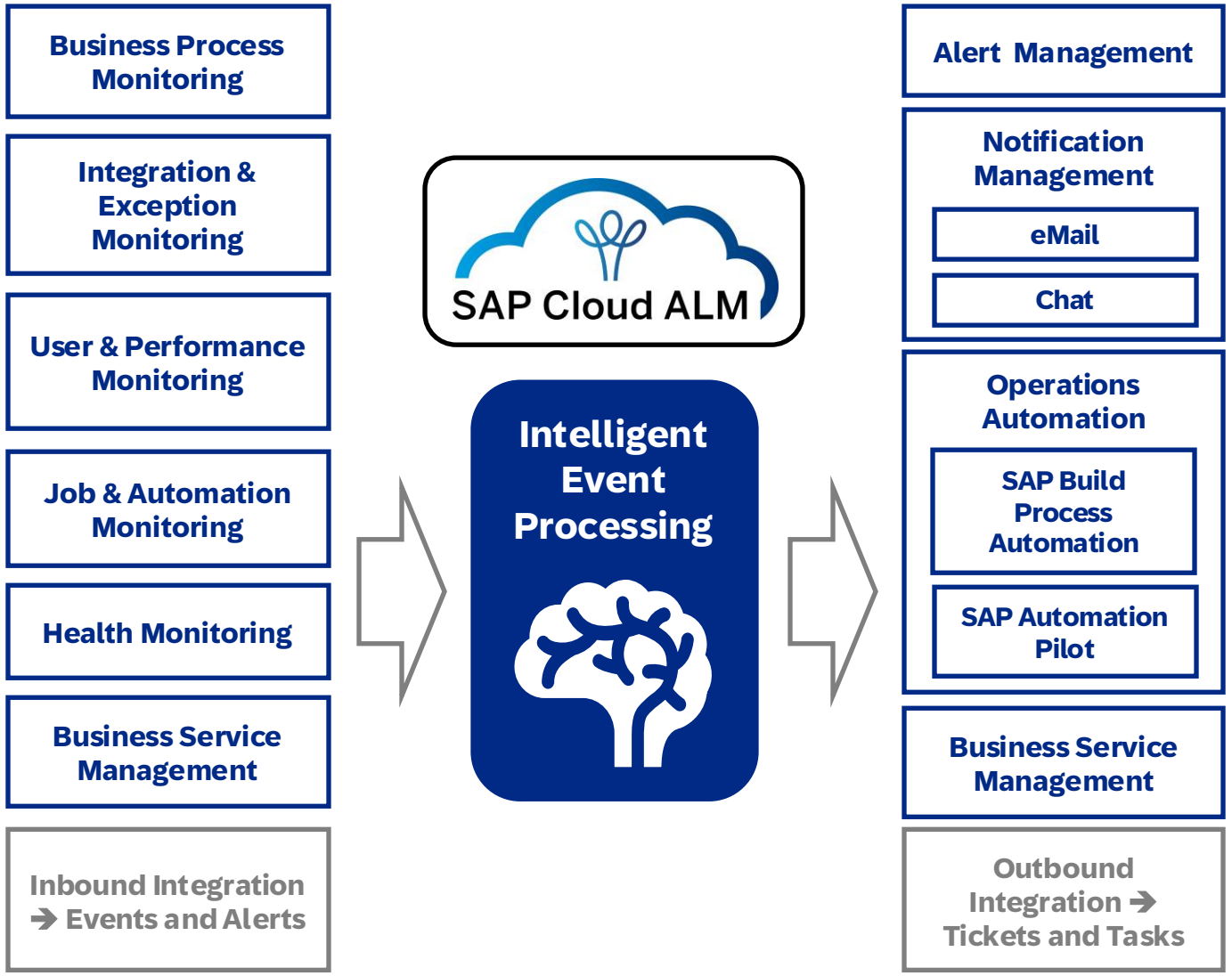
Local Observability with SAP Cloud Logging



Central Observability with SAP Cloud ALM



Intelligent Event Processing / Alert Management / Notification Management
Process Events from Different Sources and Initiate Follow-Up Activities



- **Central intelligence** for **efficient event routing** between internal and external producers and consumers
- **Unified event processing** based on rules for **automatically as well as manually triggered events**
- Enables **centralized event handling** via event log viewer as well as **alert handling** via use case specific alert inbox
- **Foundation for intelligent correlation of events** e.g. correlation of manually generated notifications with automatically generated alerts

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[Discover Center – Mission Implement Observability in a FullStack CAP Application Following SAP BTP Developer's Guide]

[SAP BTP Developer Guidelines]

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