Applications Operations in SAP BTP:
SAP Alert Notification Service for SAP BTP & SAP Automation Pilot

Biser Simeonov
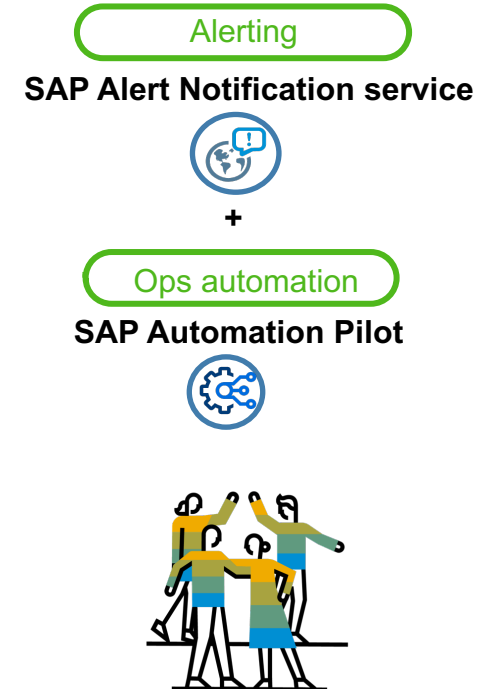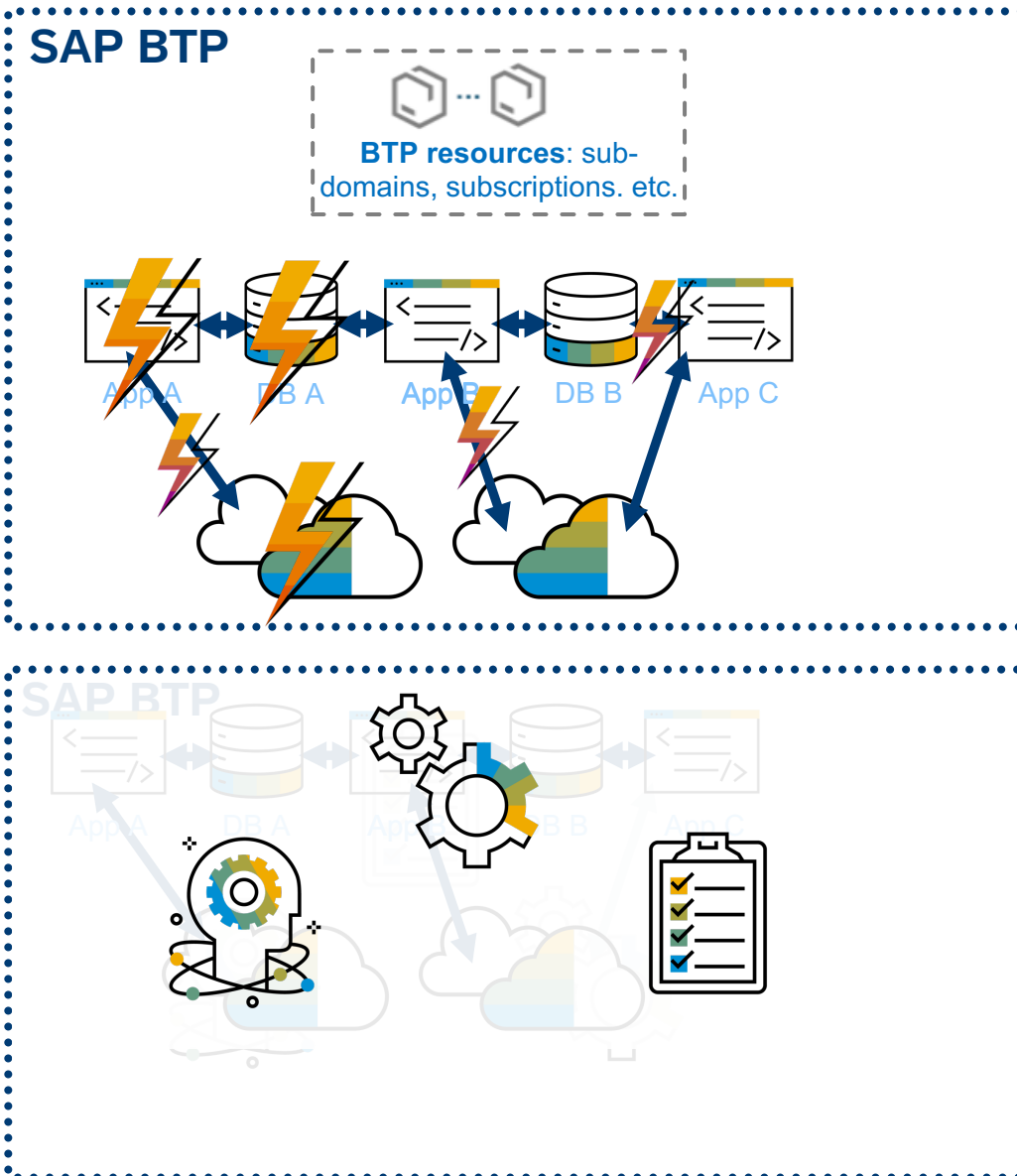05/2023

THE BEST RUN **SAP**

Applications Operations: How we can help our customers?

You experience problems / repetitive requests:

- Application crashes

- DB, Services, Network outages
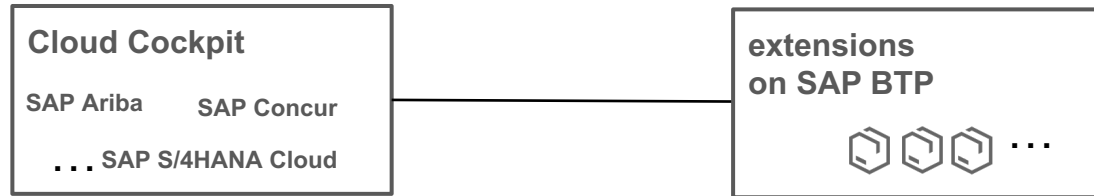
- Provisioning of new resources, repetitve actions

You need DevOps / SRE team to:

- Keep the systems running

- Define recommended actions

- Automate the whole process, save time and efforts

SAP BTP

BTP resources: sub-domains, subscriptions. etc.

App A · DB A · App B · DB B · App C

Alerting
SAP Alert Notification service

+

Ops automation
SAP Automation Pilot

Observability and Supportability of SAP BTP: Different layers

Application Layer

Cloud Cockpit

SAP Ariba   SAP Concur

. . . SAP S/4HANA Cloud

extensions on SAP BTP

Ops Insights Layer

Custom Ops Setup

3rd party APM

SAP Cloud ALM

Platform & Data Layer

SAP BTP

Observability services

Expert tools

Other SAP BTP services

SAP Alert Notification Service   SAP Automation Pilot
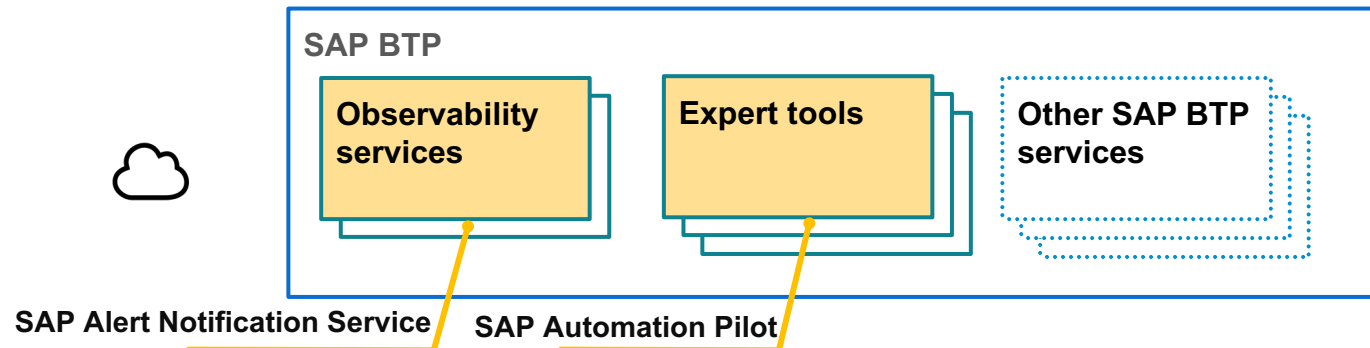
Alert Notification: Quick facts

Alerting

SAP Alert Notification service

Real-time alerting engine

Cloud service offering in SAP BTP for all of its flavors (public & private)

Filtering of the cloud events, so it sends only the events you are interested in
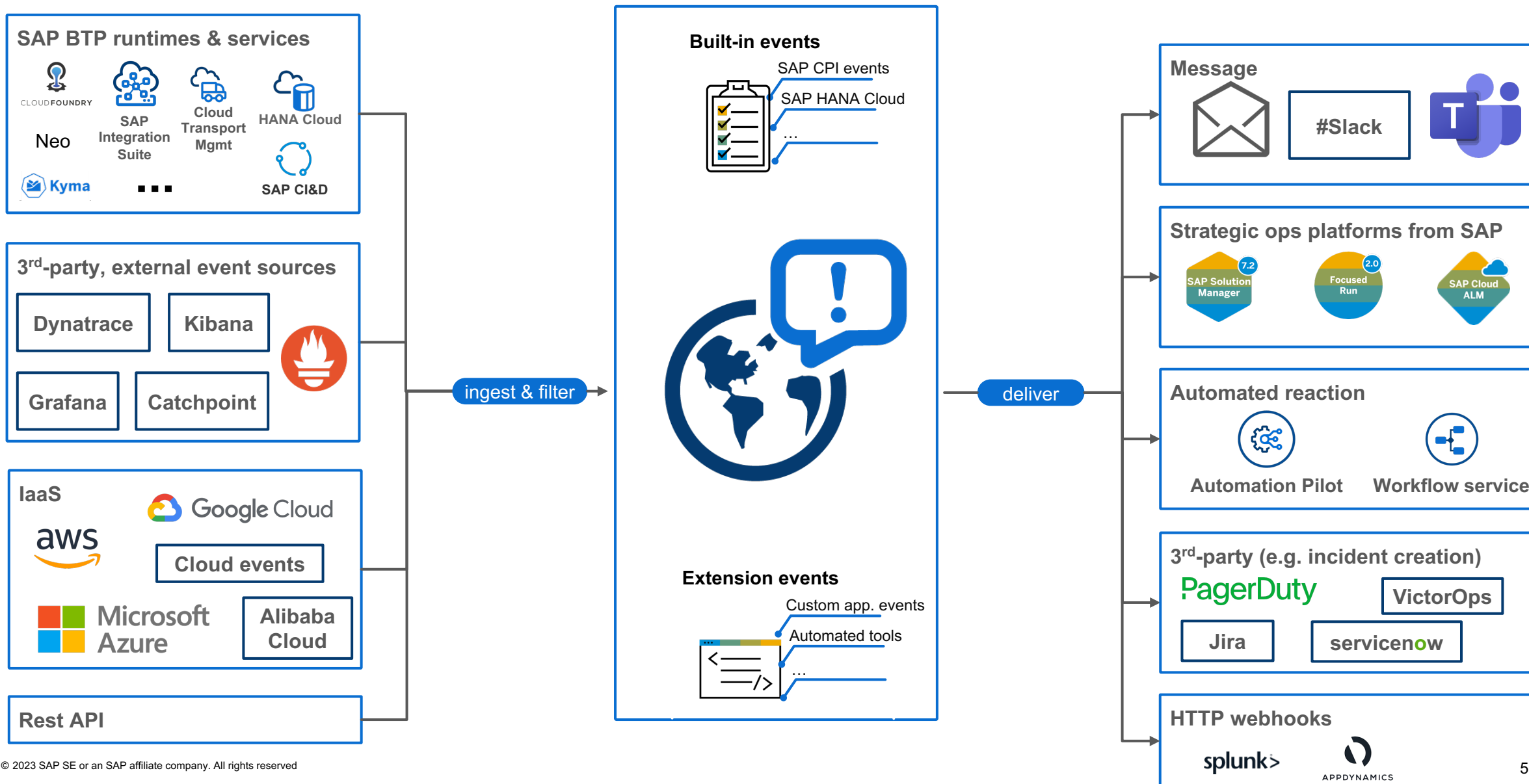
Offering a rich catalogue of predefined delivery channels

Collecting information from:

- SAP BTP services
- Hyperscalers
- Custom applications

SAP Alert Notification service for SAP BTP: Overview

SAP BTP runtimes & services

CLOUD FOUNDRY
Neo
SAP Integration Suite
Cloud Transport Mgmt
HANA Cloud
Kyma
SAP CI&D

3rd-party, external event sources

Dynatrace
Kibana
Grafana
Catchpoint

IaaS

Google Cloud
aws
Cloud events
Microsoft Azure
Alibaba Cloud

Rest API

ingest & filter

Built-in events

SAP CPI events
SAP HANA Cloud
...

Extension events

Custom app. events
Automated tools
...

deliver

Message

#Slack

Strategic ops platforms from SAP

SAP Solution Manager 7.2
Focused Run 2.0
SAP Cloud ALM

Automated reaction

Automation Pilot
Workflow service

3rd-party (e.g. incident creation)

PagerDuty
VictorOps
Jira
servicenow

HTTP webhooks

splunk>
APPDYNAMICS

SAP Automation Pilot: Quick facts

Ops automation

SAP Automation Pilot

Low-code/no-code automation engine

Allows to model + execute automated sequences
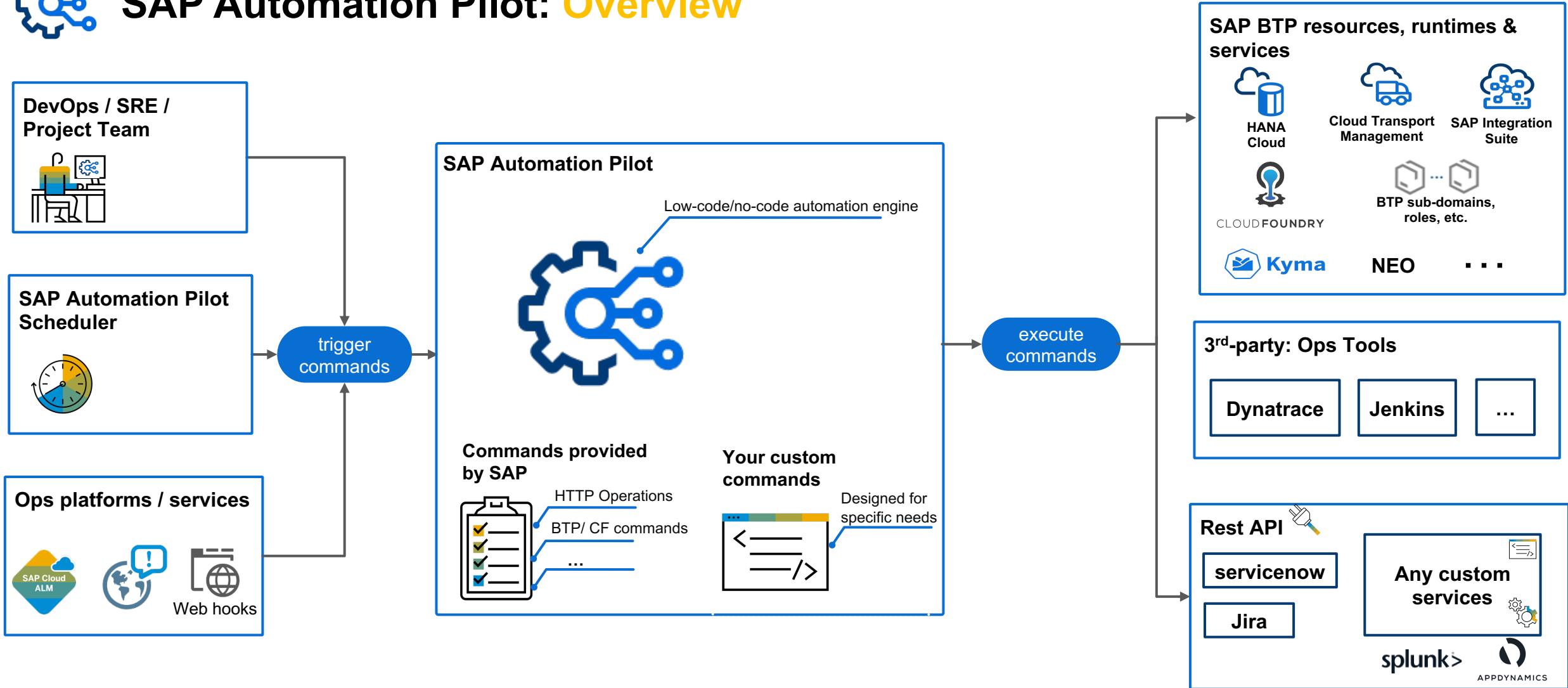
Execute scripts in serverless manner

Brings catalogs of provided automated commands/ sequences that can be used or built upon
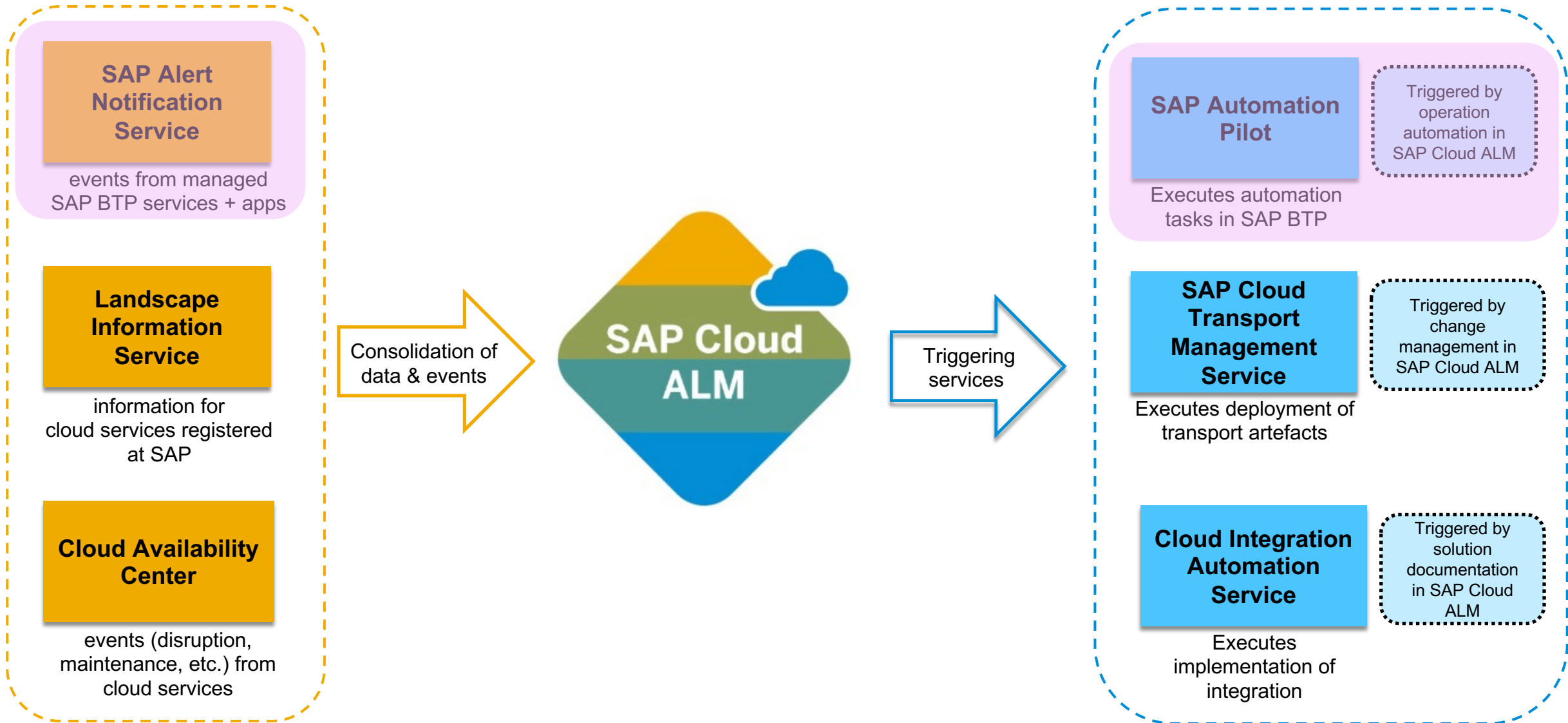
Addressed used cases:

- Daily ops tasks
- Alert remediation
- Lifecycle management, hooks
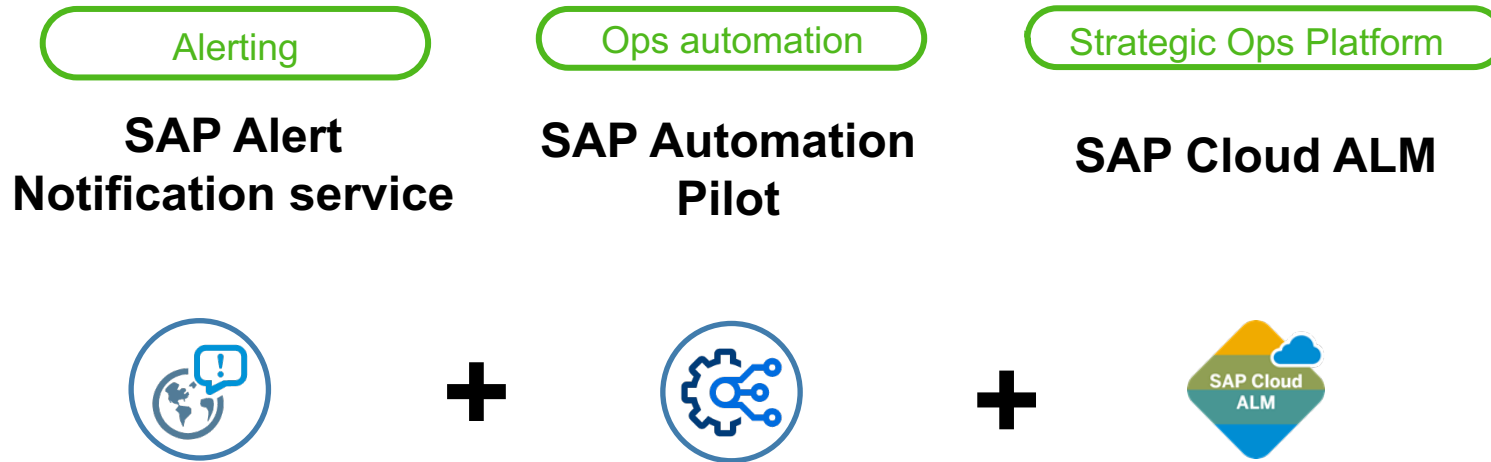- Scheduled maintenance
- Many more

SAP Automation Pilot: Overview

DevOps / SRE / Project Team

SAP Automation Pilot Scheduler

Ops platforms / services

SAP Cloud ALM

Web hooks

trigger commands

SAP Automation Pilot

Low-code/no-code automation engine

Commands provided by SAP

HTTP Operations

BTP/ CF commands

…

Your custom commands

Designed for specific needs

execute commands

SAP BTP resources, runtimes & services

HANA Cloud

Cloud Transport Management

SAP Integration Suite

CLOUD FOUNDRY

BTP sub-domains, roles, etc.

Kyma

NEO

• • •

3rd-party: Ops Tools

Dynatrace

Jenkins

…

Rest API

servicenow

Jira

Any custom services

splunk>

APPDYNAMICS

SAP Cloud services: Integration with Cloud ALM

SAP Alert Notification Service

events from managed SAP BTP services + apps

Landscape Information Service

information for cloud services registered at SAP

Cloud Availability Center

events (disruption, maintenance, etc.) from cloud services

Consolidation of data & events

SAP Cloud ALM

Triggering services

SAP Automation Pilot

Triggered by operation automation in SAP Cloud ALM

Executes automation tasks in SAP BTP

SAP Cloud Transport Management Service

Triggered by change management in SAP Cloud ALM

Executes deployment of transport artefacts

Cloud Integration Automation Service

Triggered by solution documentation in SAP Cloud ALM

Executes implementation of integration

SAP Cloud services: Integration with Cloud ALM

Alerting

SAP Alert Notification service

Ops automation

SAP Automation Pilot

Strategic Ops Platform

SAP Cloud ALM

+

+

Documentation (hints)

Integration with CALM

- SAP Alert Notification Service
- SAP Automation Pilot

Possible use cases: Alerting & Ops Automation

Alerting

SAP Alert Notification service

+

Ops automation

SAP Automation Pilot
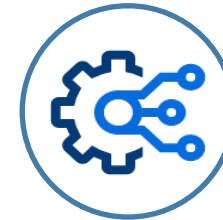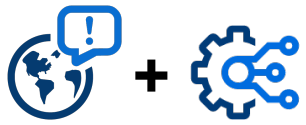
Use case: ANS and Automation Pilot integration → Cloud app health checks

SAP BTP

App is up and running

SRE Team

No notifications / alerts are sent out to the DevOps team

③ Conditions checks

✓ App is up and running, no need of further actions

② app health-check endpoint

SAPUI5 Web App (on BTP, CF)

response: "200" OK

Automation Pilot

① regular app health checks

SAP BTP

App is not accessible

SRE Team

③ Conditions checks

✗ App is not accessible, send custom event

⑤ Fire an alert: notification via email

② app health-check endpoint

SAPUI5 Web App (on BTP, CF)

responses: NOT "200"

Automation Pilot

④ trigger an alert event

Alert Notification

① regular app health checks

12

Use cases: SAP CPI iFlows monitoring and remediations and alerts delivered to multiple MS Teams channels

Use Case #1: Alerting and manual fixes

Use Case #2: Alerting and automated remediations
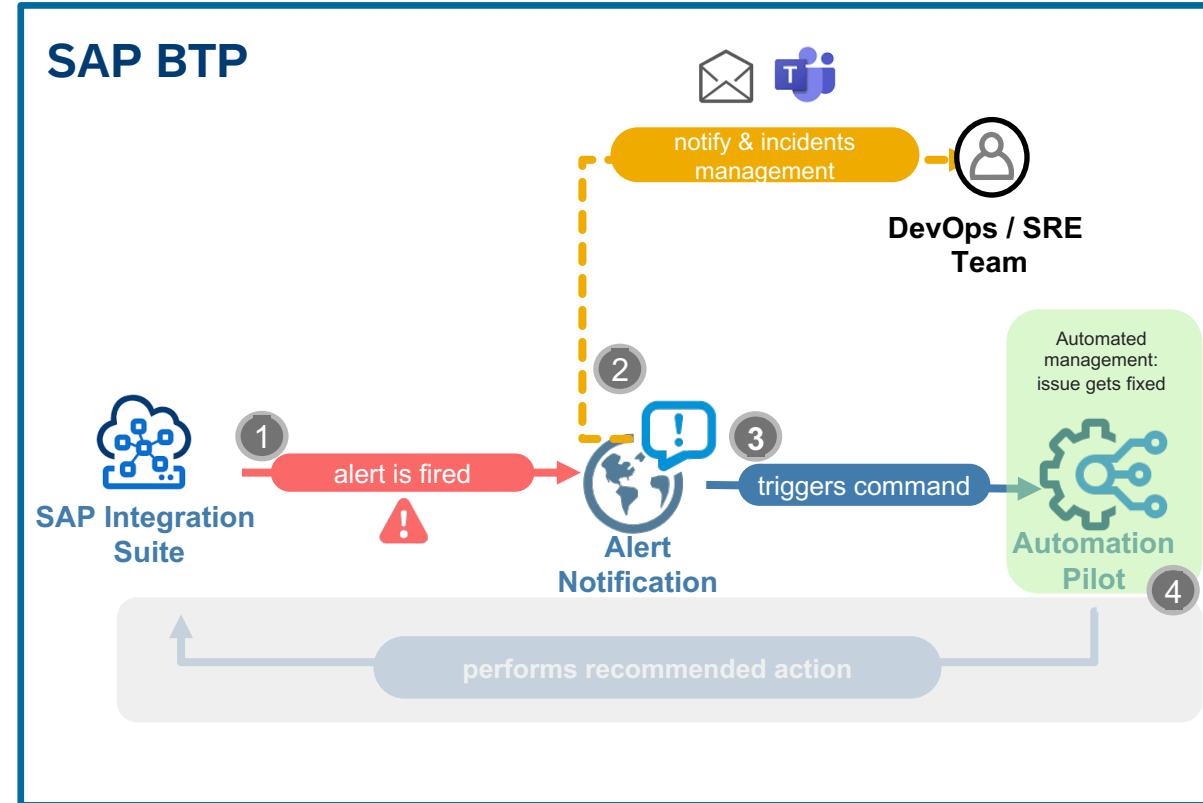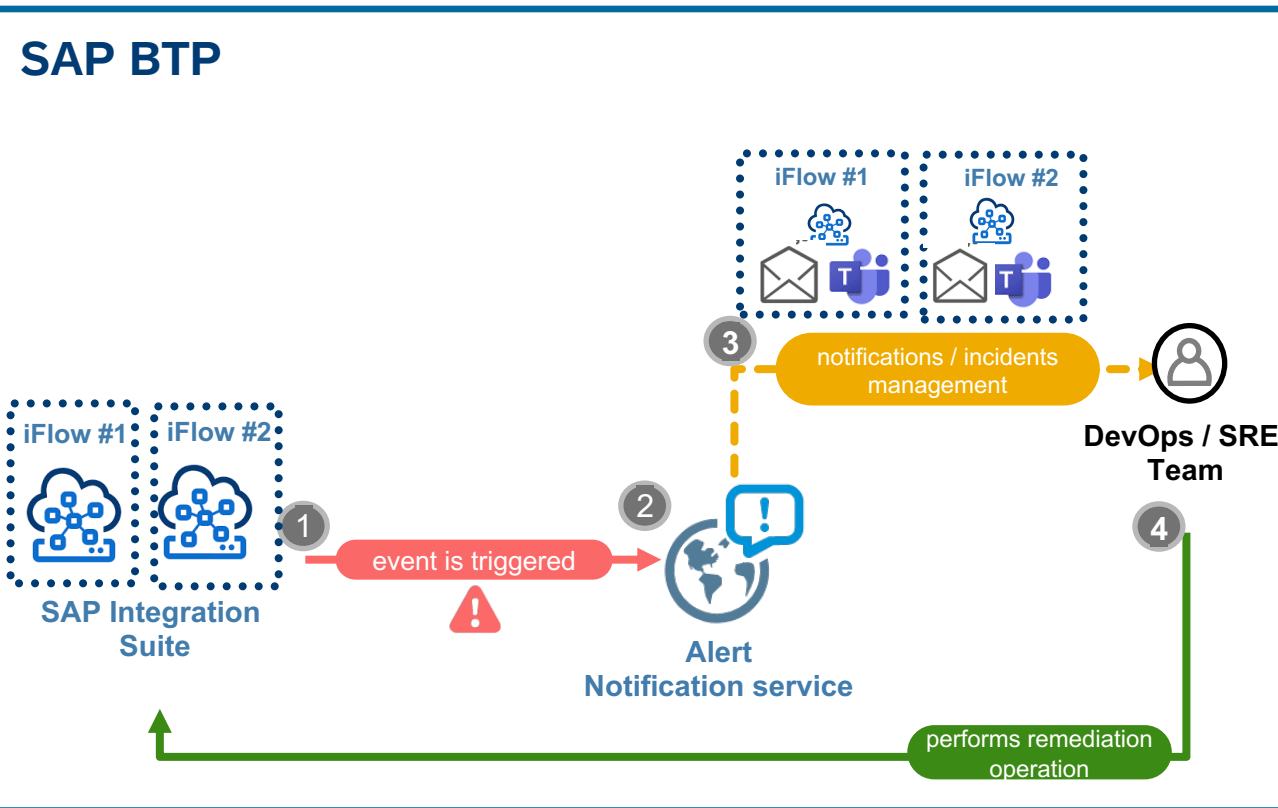
Use cases: Cloud Foundry App : Alerting and Remediation

SAP BTP

6 App is **up and running**

1 App has **stopped / crashed**

CF Application

2 event gets ingested

Subscription in place

Alert Notification service

4 triggers a command

Configured commands

Automation Pilot

3 send a notification

DevOps / SRE Team

5 performs automated remediation action
[start CF app]
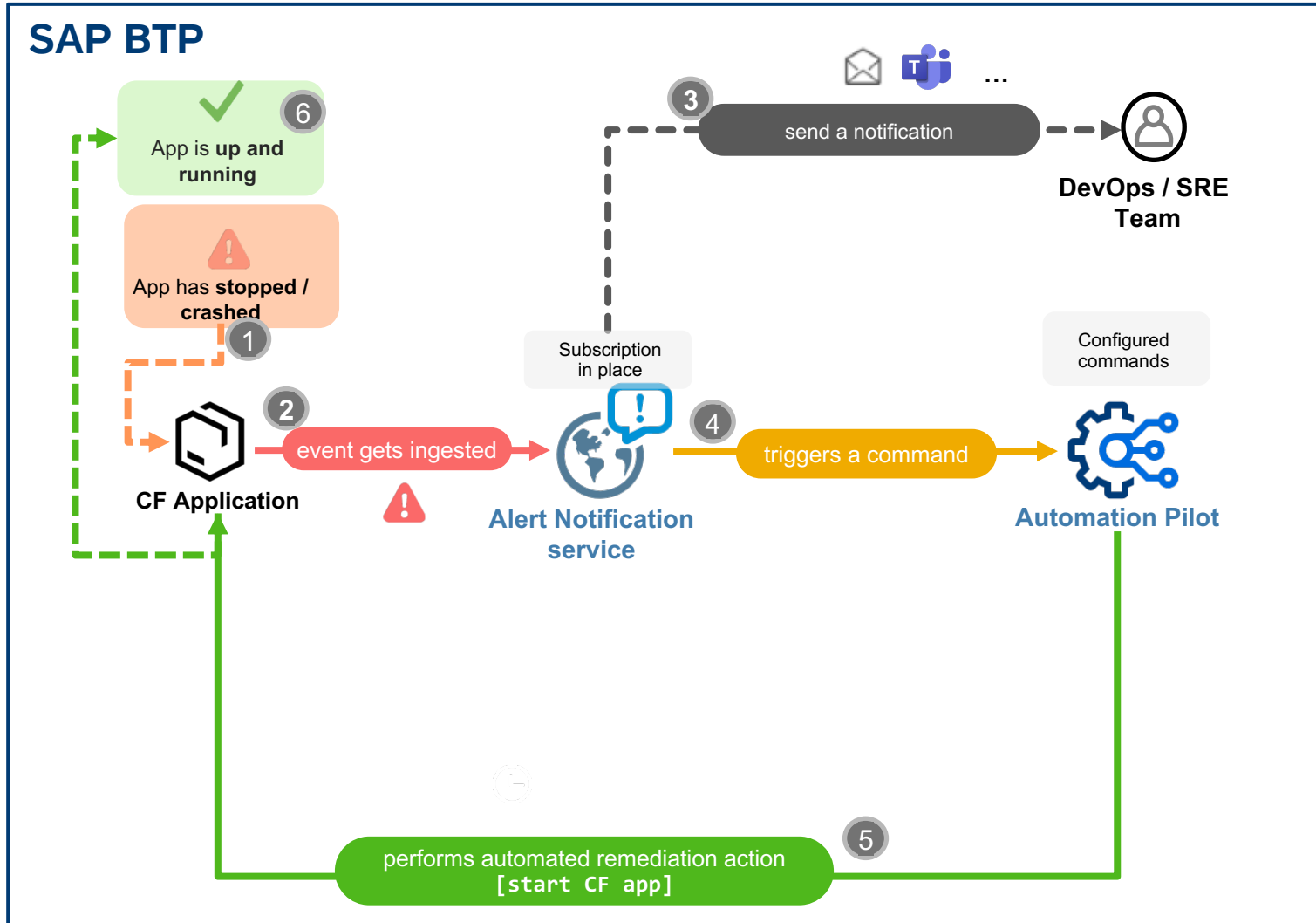
CF Application events

Audit Application Stopped

```
{
    "id": "5360cb33-3b68-4bac-bc41-a5aeff3ccd3a",
    "body": "Alert Notification has received an audit event, about a resource named demo-app,
    "region": "cf-eu10",
    "subject": "Application has been stopped",
    "eventType": "audit.app.stop",
    "regionType": "sap-cp",
    "eventTimestamp": 1606738324,
    "severity": "WARNING",
    "category": "NOTIFICATION",
    "tags": {
        "metadata.audit-event-guid": "ad2a2ea9-de21-4ed1-82f2-d06121293c86",
        "ans:eventScope": "CF_SPACE"
    },
    "resource": {
        "subAccount": "d5854483-5d4d-4a4e-9cf7-eaecb43f047f",
        "resourceName": "demo-app",
        "resourceType": "app",
        "globalAccount": "b757b0da-2a6e-4433-90c3-b3646d105de9",
        "resourceGroup": "c410488d-3fb9-42f7-af70-3d8b5d7d92ab",
        "resourceInstance": "0aeaa202-cde6-4c7a-ac13-0141ff17c07e",
        "tags": {
            "globalAccountId": "b757b0da-2a6e-4433-90c3-b3646d105de9",
            "organizationId": "d5854483-5d4d-4a4e-9cf7-eaecb43f047f",
            "resourceId": "0aeaa202-cde6-4c7a-ac13-0141ff17c07e",
            "spaceId": "c410488d-3fb9-42f7-af70-3d8b5d7d92ab",
            "subAccountId": "e9ab6ded-969f-49e3-8d8a-2c90953e5db1"
```

Use Case: Monitoring and alerting on SAP CI/D Job status - Build Notifications via Alert Notification service
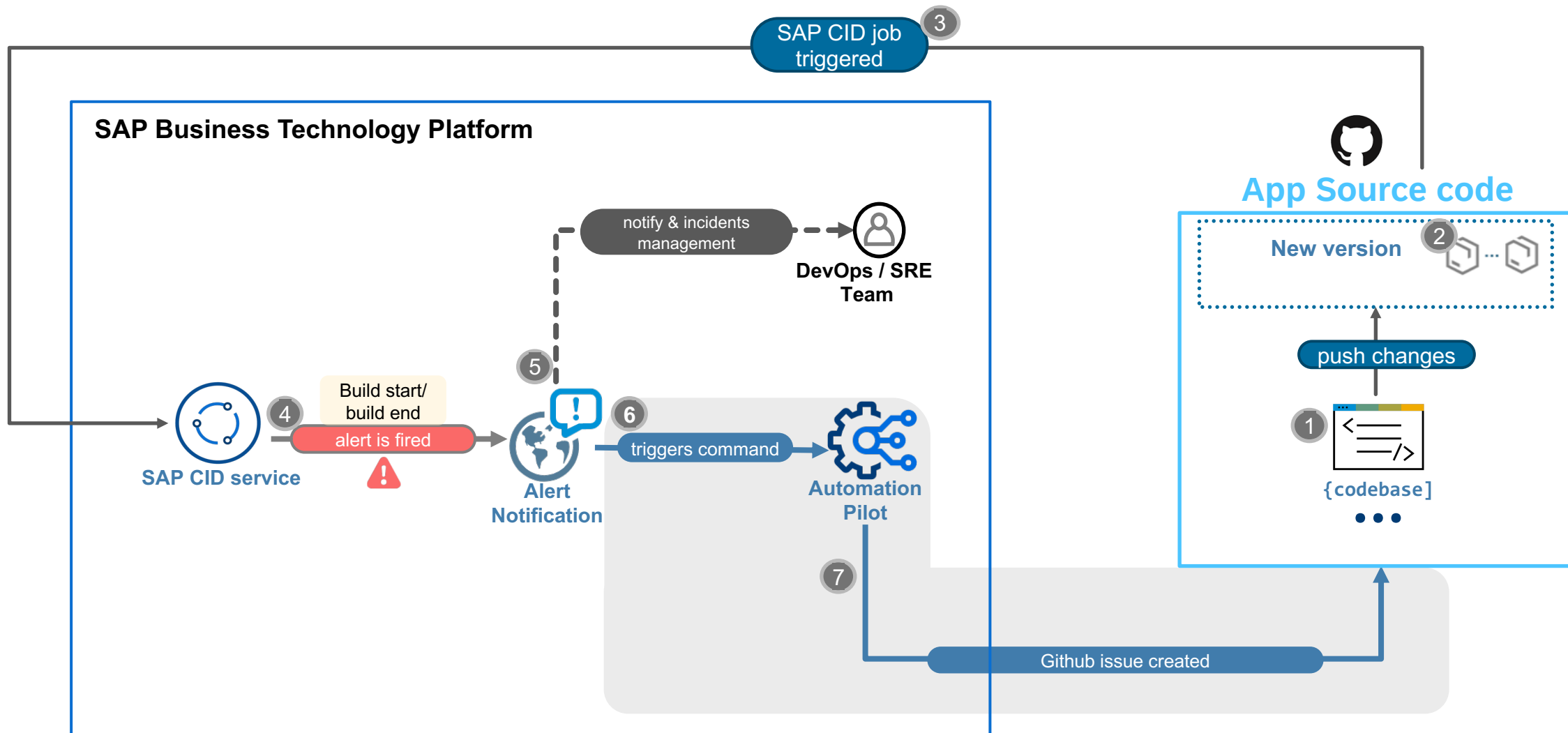
Use case: Managing SAP BTP resources automatically with Automation Pilot via Cloud Management

SAP BTP

BTP CLI / via API
CF CLI / via API

Automation Pilot

execute a command

1. Create a directory

2. Create new subaccount(s) plus adding a user

3. Set subaccount entitlements

4. Enable Cloud Foundry

CLOUDFOUNDRY

5. Create CF Space + Space roles
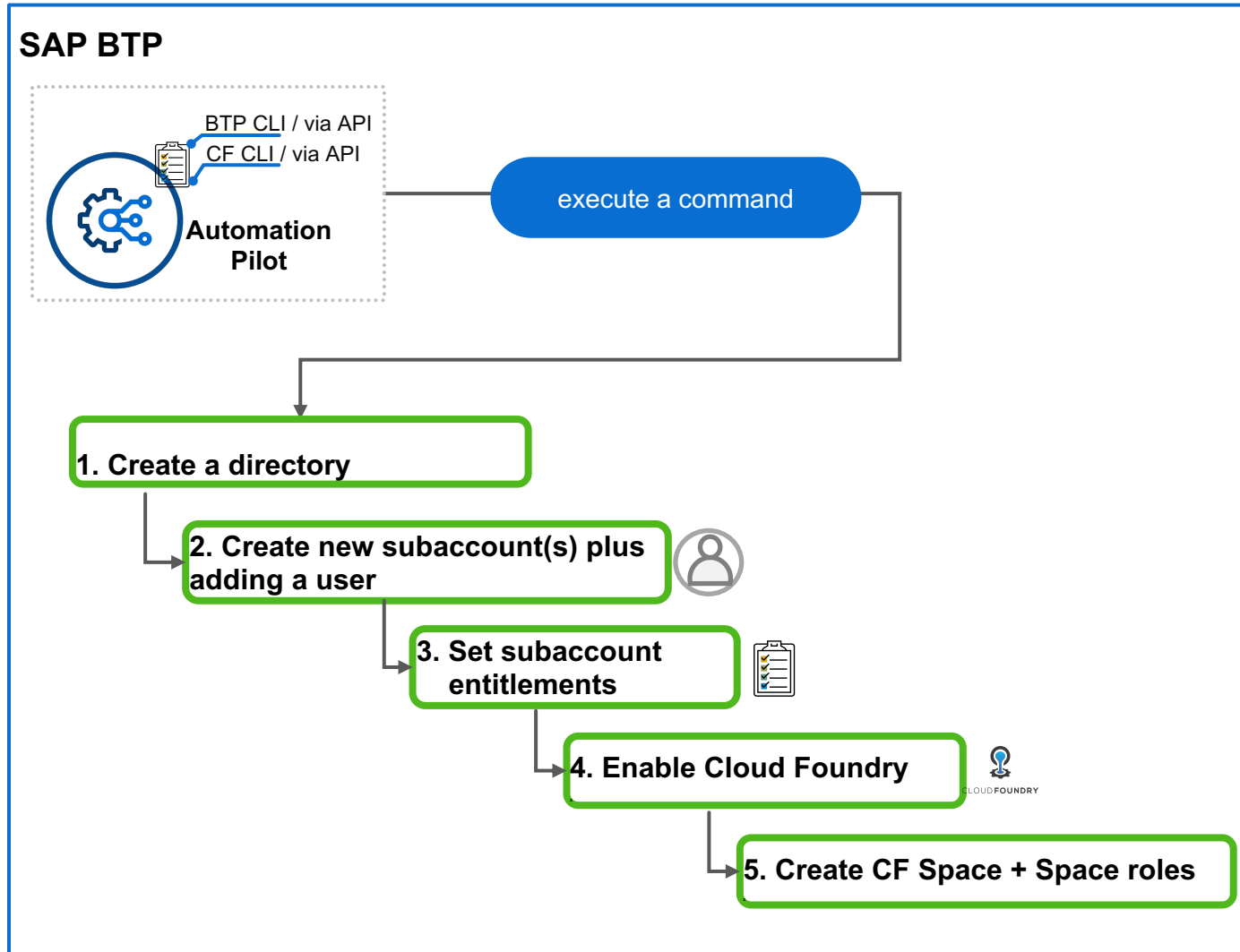
Quick overview on the use case provided commands

1. **[DONE]** Create service instance - service key from SAP Service Manager

2. **[DONE]** Subscription to SaaS app

   A. Dependency on [1] + [2] , to be solved by end-Feb 2023

3. **[DONE]** Enable CF (note: to be executed you need to execute firs command #5)

   A. Central plan creation

   B. Local plan creation

4. **[DONE]** BTP Subaccount role collections , users, assigning roles to users

5. **[DONE]** Create Org

6. **[DONE]** Set Org Roles + Users (CF)

7. **[DONE]** Create Space

8. **[DONE]** Set Space Roles + Members (CF)

Demo time
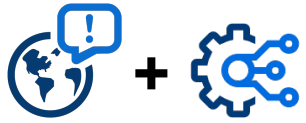
[Webinar #1] Synthetic monitoring – API check for your Mobile App
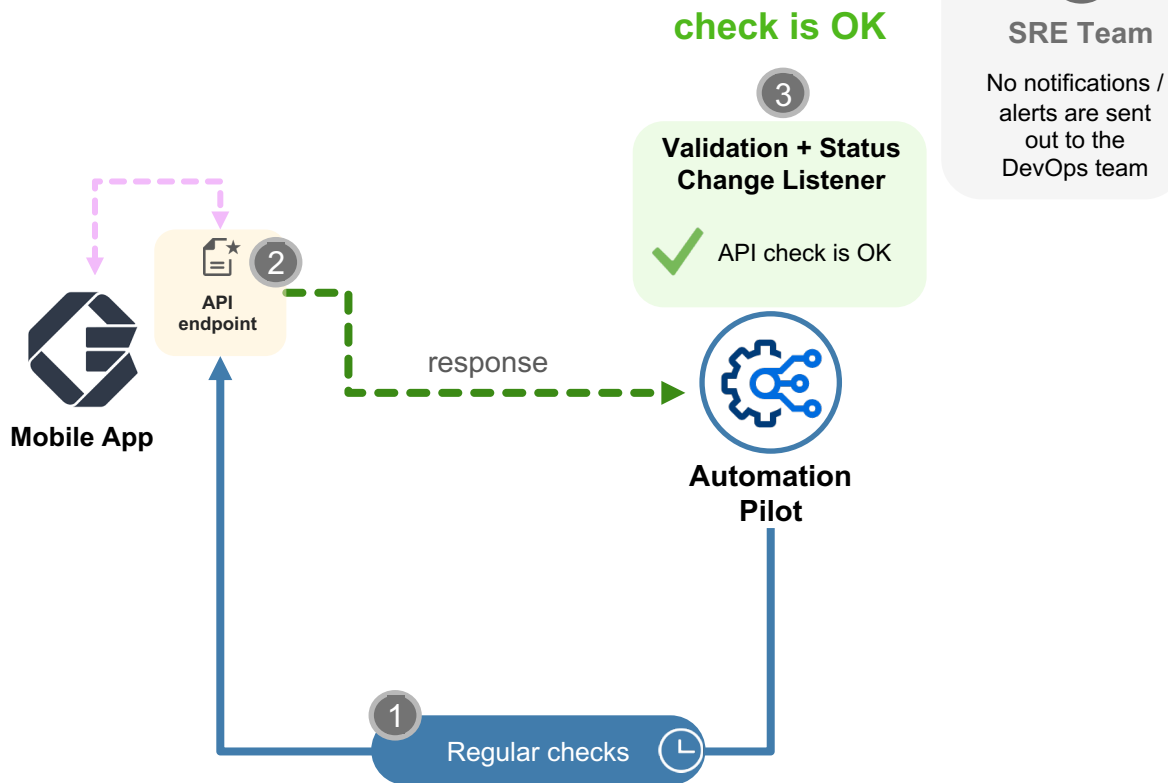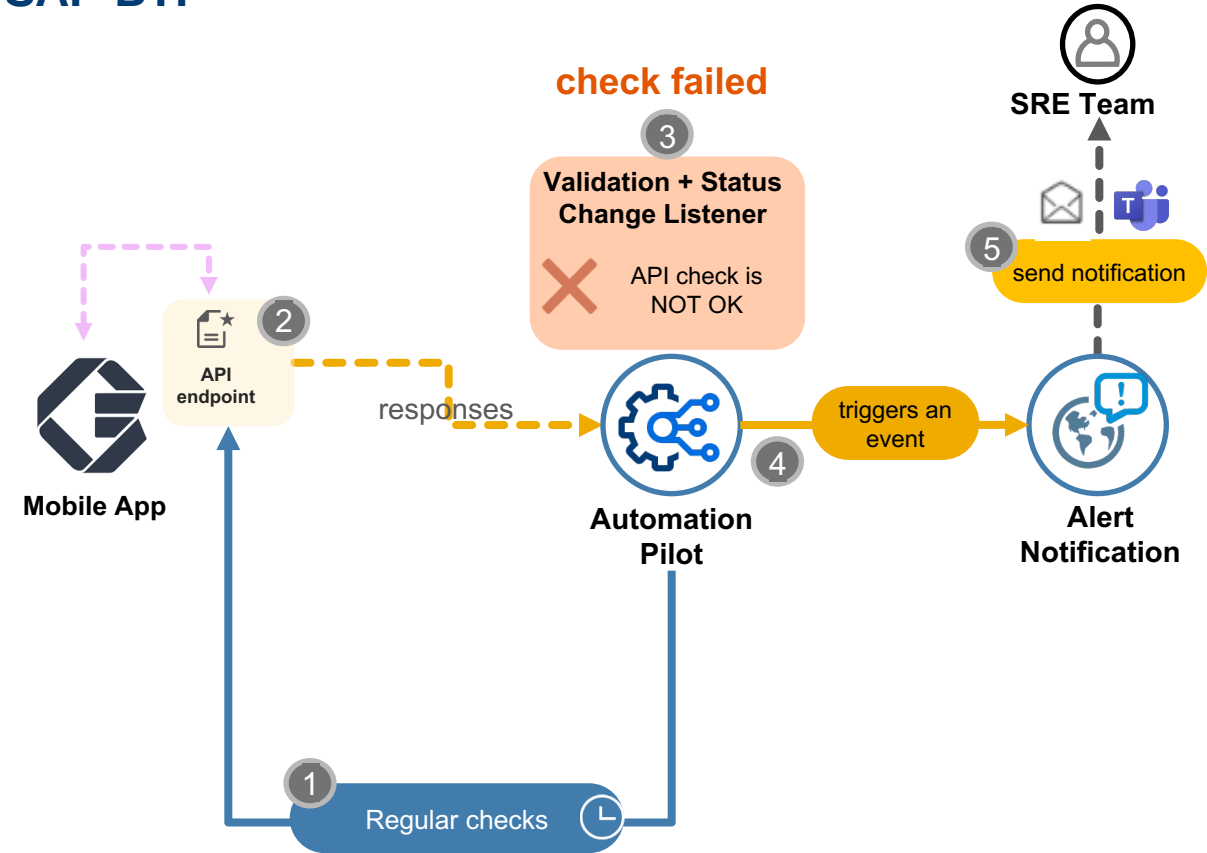
SAP Alert Notification Service: Learning resources
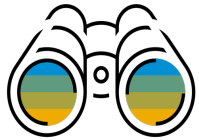
SAP Discovery Center

Find details about:

- Product main goal and use cases;
- Roadmap;
- Support details;
- Pricing

SAP Help Portal: Documentation

Documentation providing further details about product:

- Concept;
- Setup and usage;
- Administration;
- Integration with services / tools;
- FAQ

SAP Community: Blog posts & videos

Review the blog posts and you can find insights about:

- Potential use cases;
- New features;
- How-to show cases and many more

openSAP Online course: *Efficient DevOps with SAP*

Join this free online course to learn about DevOps and how you can efficiently foster DevOps principles along the relevant phases of SAP development projects.

Note: SAP Automation Pilot content is covered in *Week 5: Operation of Your Solution and Summary.*

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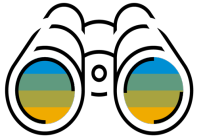
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Thank you!

Ask for a demo @

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