



Efficient DevOps with SAP Cloud Platform

Boris Zarske, SAP
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Boris Zarske

Boris is product manager at SAP in the *cloud and lifecycle management* area. He is responsible for DevOps and lifecycle management topics around SAP Cloud Platform.

Together with colleagues from other areas, he is forging the overall DevOps story for SAP. In addition, he has a broad experience with system provisioning topics and enterprise architecture. He is a regular speaker at SAP events, such as SAP TechEd.

Follow Boris on [LinkedIn](#).



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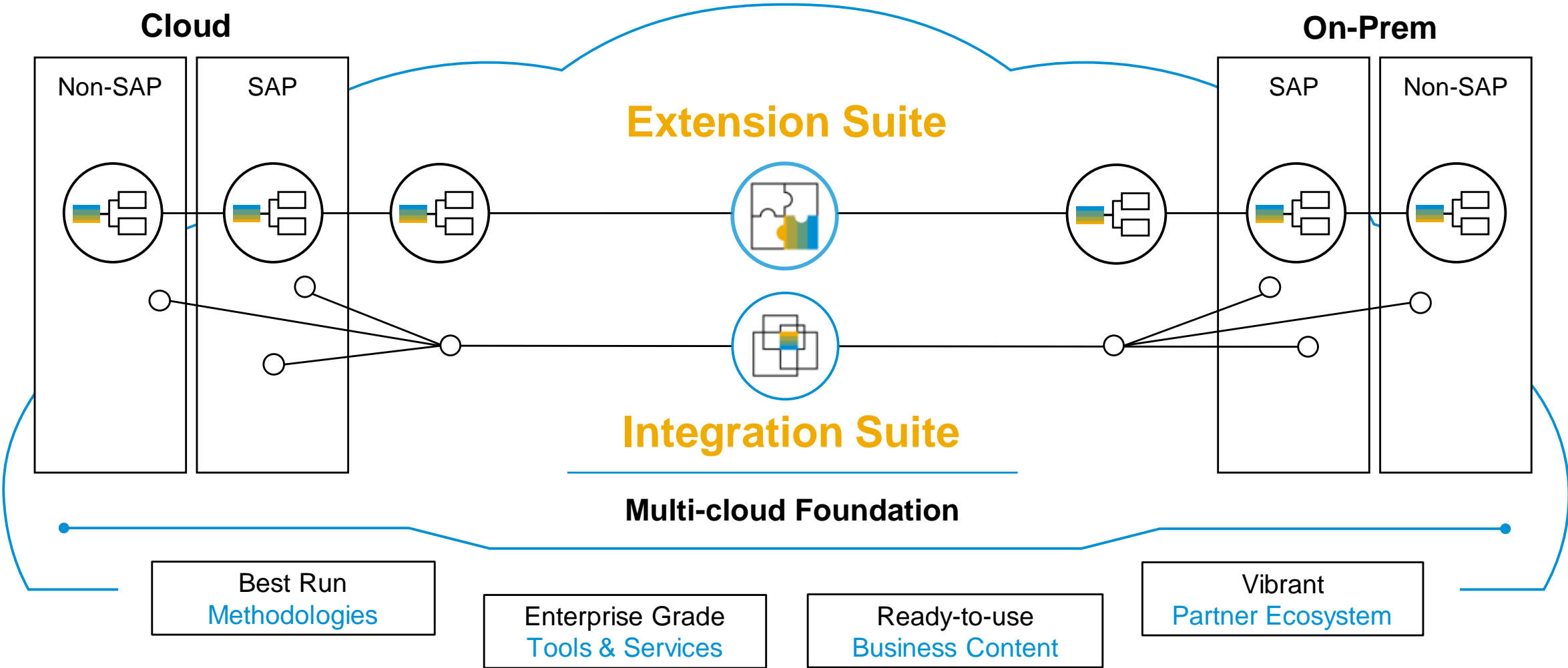
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SAP Cloud Platform – Elevate Your Enterprise Experience

Accelerate integrations. Simplify extensions. Expand business value.





“A **culture** where people, regardless of title or background, **work together** to imagine, develop, deploy, and operate a system.”

Definition by Ken Mugrage, ThoughtWorks

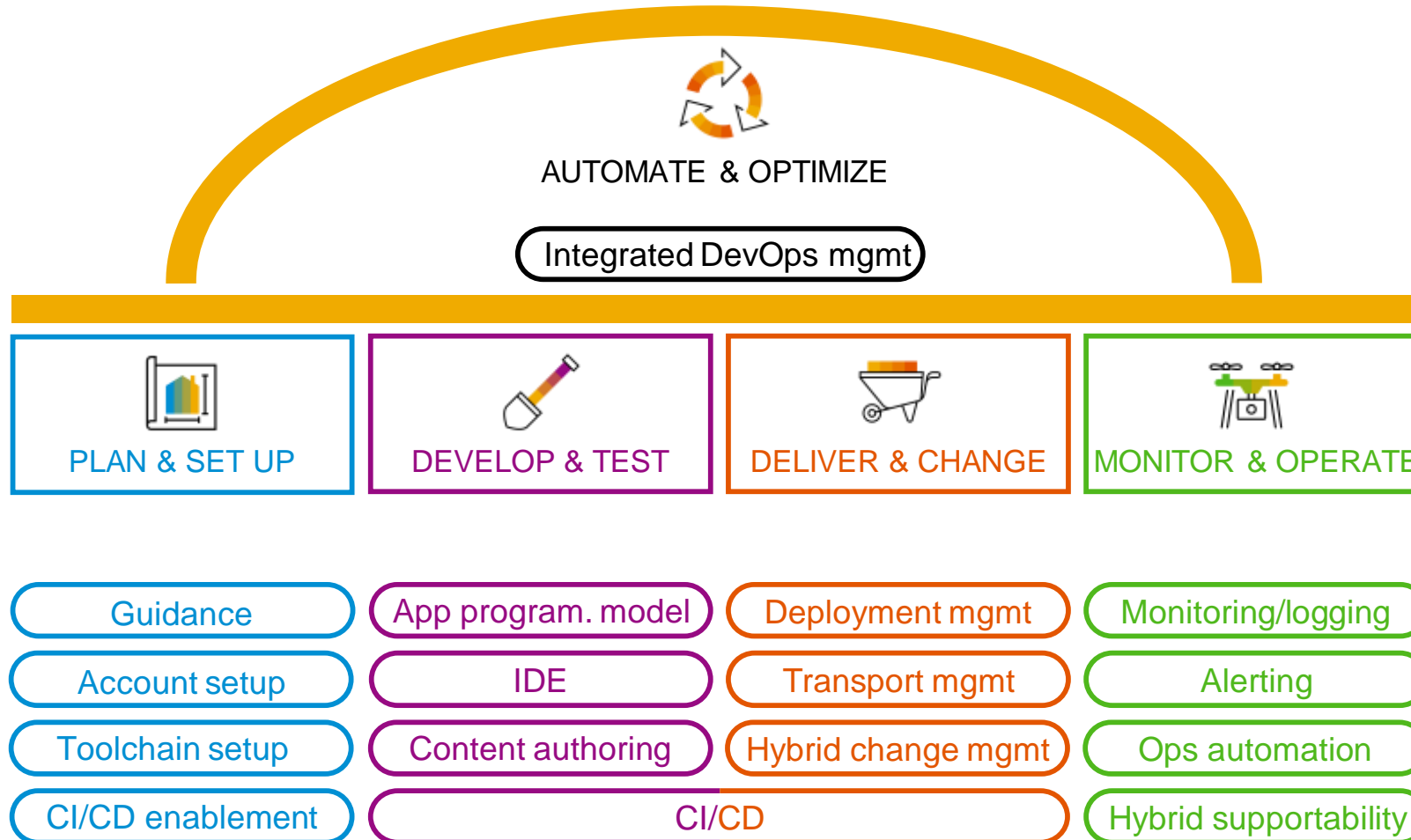
<http://kenmugrage.com/post/my-new-definition-of-devops/>

DevOps with SAP Cloud Platform

Categories and service portfolio

DEV

OPS



DevOps with SAP Cloud Platform

Plan & set up

DEV

OPS



PLAN & SET UP

Guidance

Account setup

Toolchain setup

CI/CD enablement

Best practices for SAP Cloud Platform guide

Available in [SAP Help Portal](#)

- Contains detailed **planning section**:
 - Governance model
 - Account model (with examples!)
 - Security and compliance model
- Covers further aspects around **lifecycle management**

The screenshot shows the SAP Help Portal interface for the article 'When to Use Which Account Model'. The page includes a table of contents on the left, a main content area with an introduction and two tables, and a feedback section on the right.

Project Setup

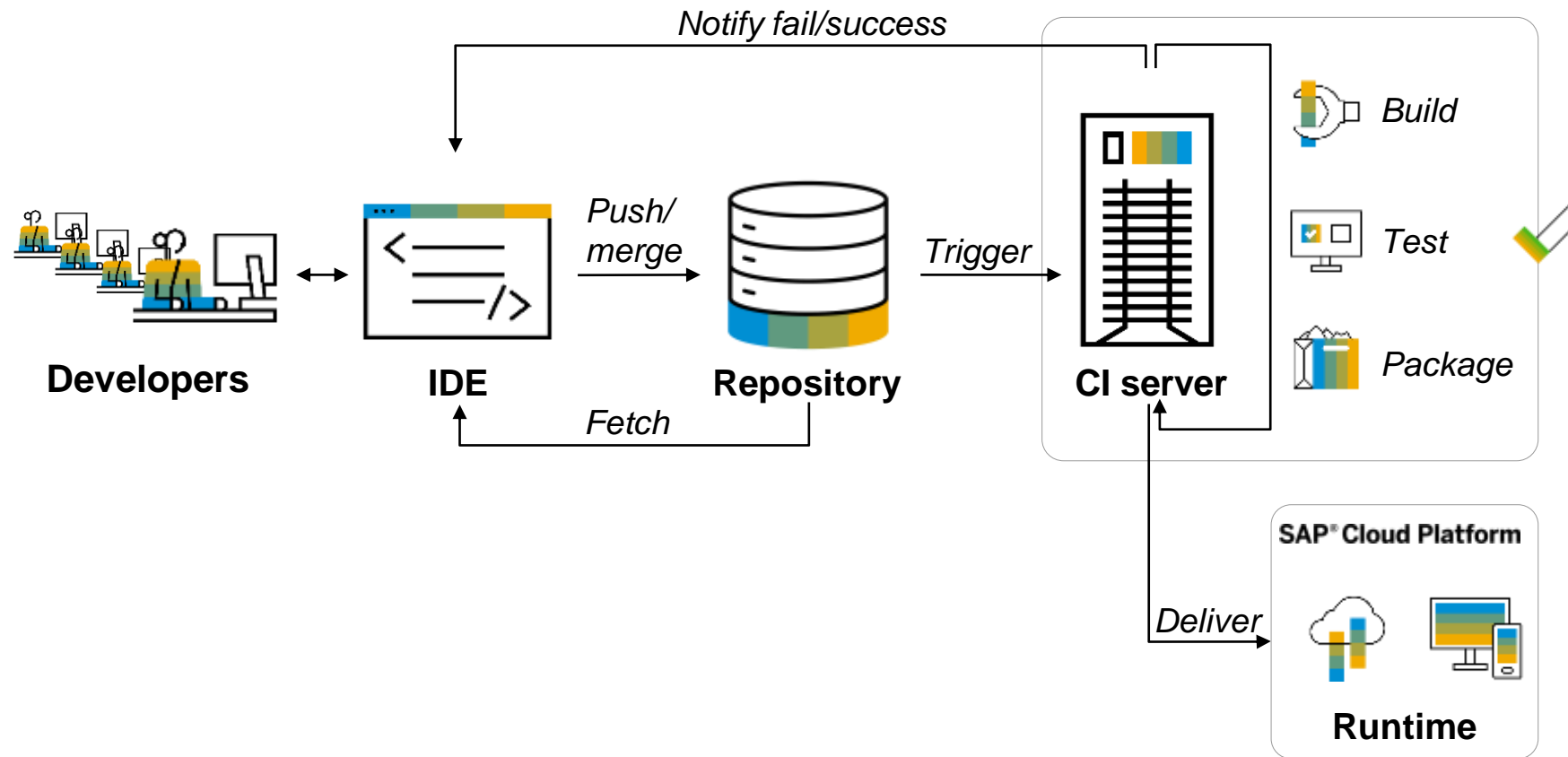
Your Requirements ...	Account Model 1	Account Model 2	Account Model 3	Account Model 4	Account Model 5
You follow the DevOps methodology and have many autonomous projects.		X		(X)	(X)
You need different stages for your project or teams.	X	(X)	(X)	(X)	X
You have a highly partitioned project landscape with many projects using the same technologies (for example, Fiori development for a Fiori launchpad).	X				X
You want to share infrastructure resources (HANA databases, integration service tenants) with multiple projects.	X		X	(X)	(X)

Team Setup

Your Requirements ...	Account Model 1	Account Model 2	Account Model 3	Account Model 4	Account Model 5
You have a large number of developers, with several different project admins responsible for them.		X		X	(X)
You have many different development teams, but only one single production environment for which the teams develop applications.				X	
You have different development teams, each of which works independently, meaning they should not be able to, for example, accidentally break the other team's developments.		X	X	X	X
Your development teams on SAP Cloud Platform are coming from different organizational units in different geographic locations and you want to track them separately.		X	X	X	X
You want to ensure that no developer or project admin can assign privileges to themselves for services or applications.		X	X	X	
You have stringent security requirements. For example, you don't want all developers to have access to all Git repositories.	X	X	(X)	(X)	
You want to allow access to on-premise systems via Cloud Connector only for selected projects, while restricting it for the applications of other projects.		X	(X)		(X)

How tools enable DevOps

Example for automation as driver for DevOps



Continuous Integration and Delivery (CI/CD)

Continuous Integration and Delivery

SAP offerings that ease applying CI/CD for your projects

CI/CD enablement

Flexibility



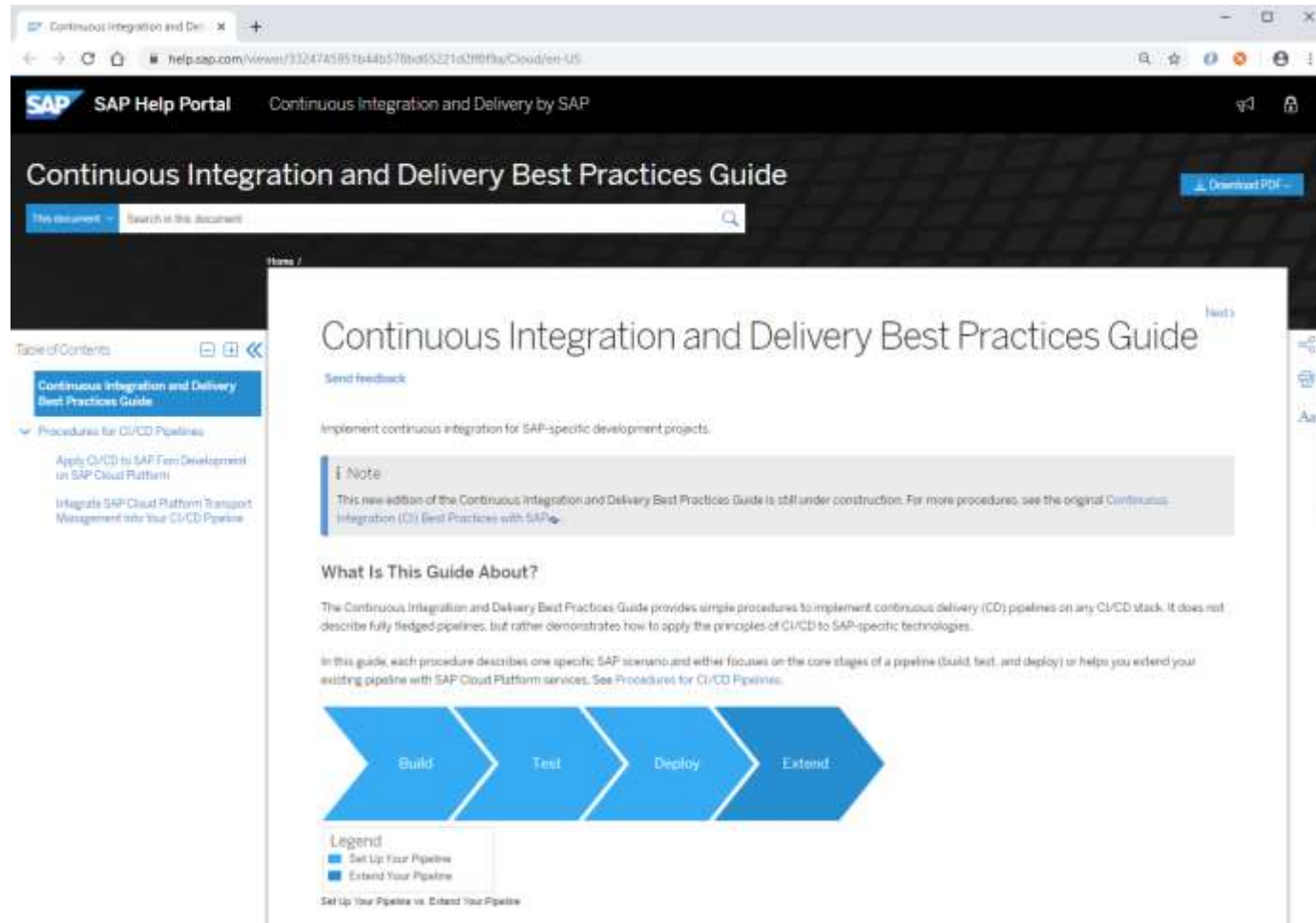
CI/CD Best Practice
Guide

Required
expertise

Continuous Integration and Delivery

Continuous Integration and Delivery Best Practices Guide

CI/CD enablement



The screenshot shows the SAP Help Portal page for the 'Continuous Integration and Delivery Best Practices Guide'. The page title is 'Continuous Integration and Delivery Best Practices Guide'. A search bar is visible at the top. The main content area includes a 'Send feedback' link, a note stating 'Implement continuous integration for SAP-specific development projects.', and a 'Note' box indicating that the current version is under construction. Below this, the section 'What Is This Guide About?' explains that the guide provides simple procedures to implement continuous delivery (CD) pipelines on any CI/CD stack, focusing on applying CI/CD principles to SAP-specific technologies. A diagram shows a pipeline flow with four stages: Build, Test, Deploy, and Extend. A legend below the diagram distinguishes between 'Set Up Your Pipeline' (represented by a blue arrow) and 'Extend Your Pipeline' (represented by a white arrow).

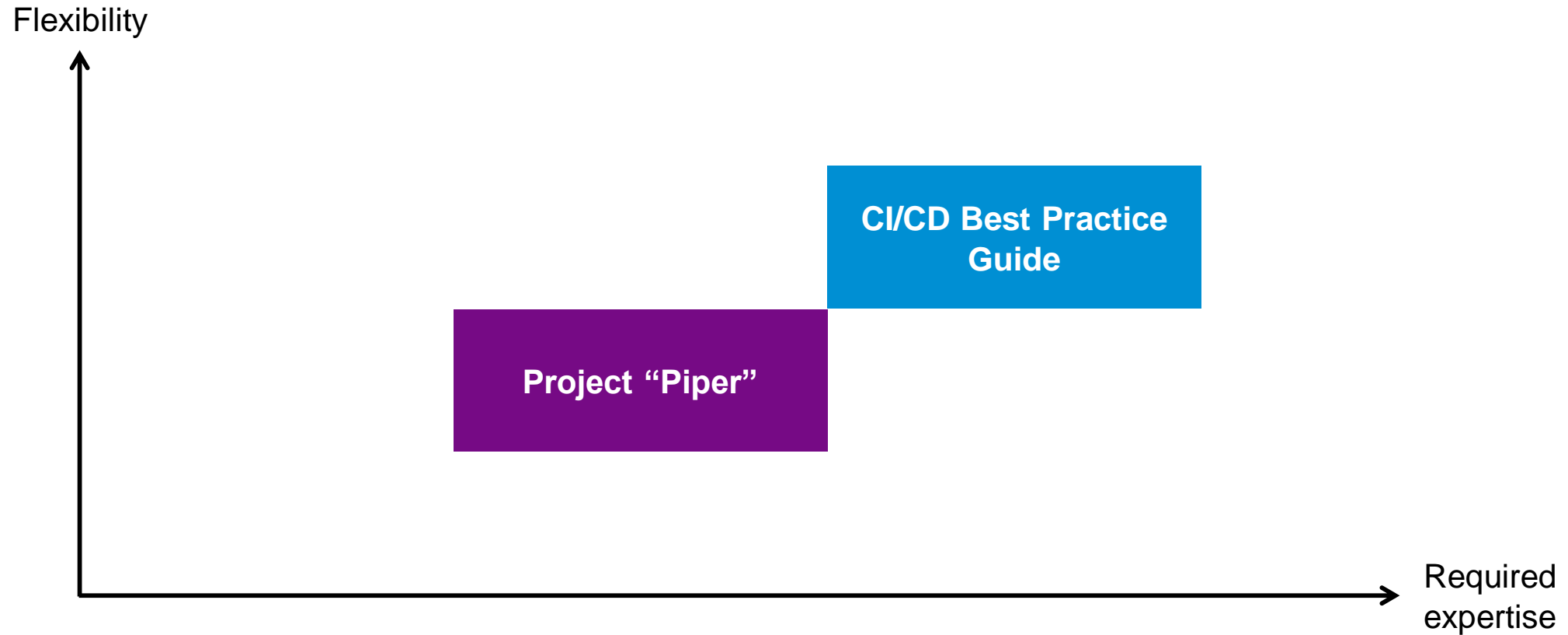
- Provides simple procedures to implement continuous delivery pipelines **on any CI/CD stack**
- Demonstrates how to apply principles of CI/CD to **SAP-specific technology**

[Continuous Integration and Delivery Best Practices Guide](#)

Continuous Integration and Delivery

SAP offerings that ease applying CI/CD for your projects

CI/CD enablement

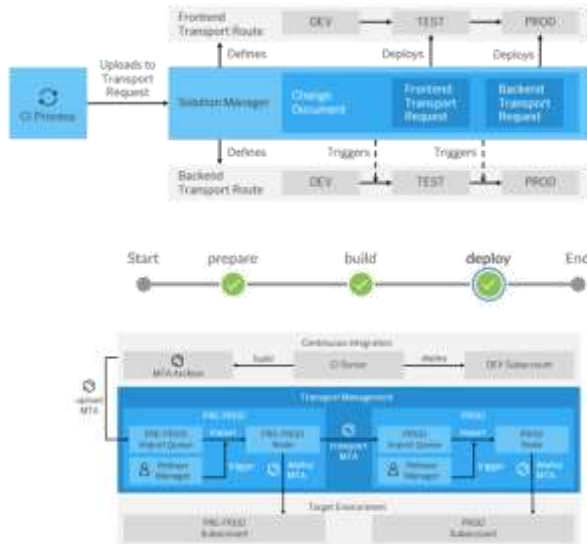
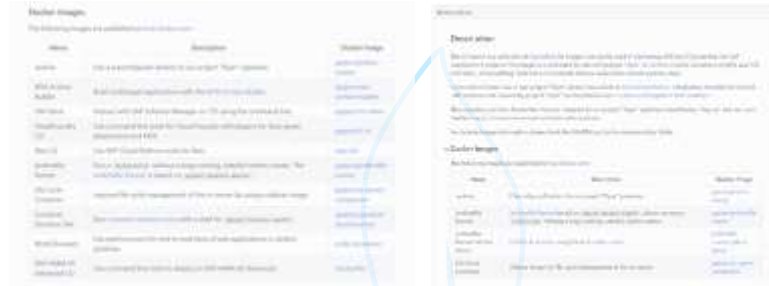


Continuous Integration and Delivery

Project "Piper"

CI/CD enablement

Containerized tools



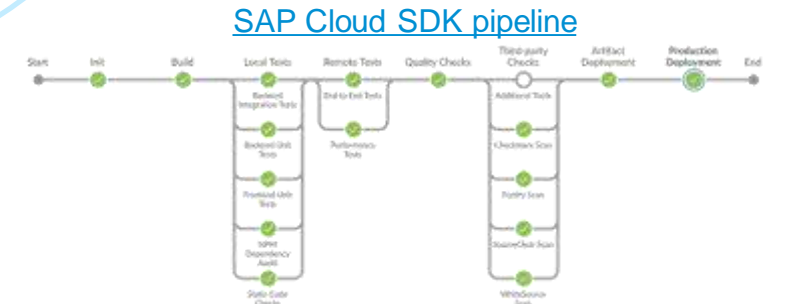
Typical scenarios

Project "Piper"

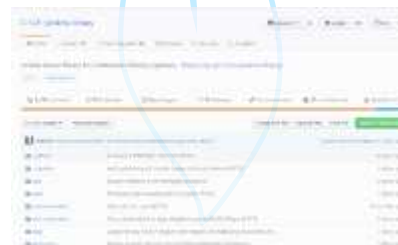
sap.github.io/jenkins-library/



General purpose pipeline



SAP Cloud SDK pipeline



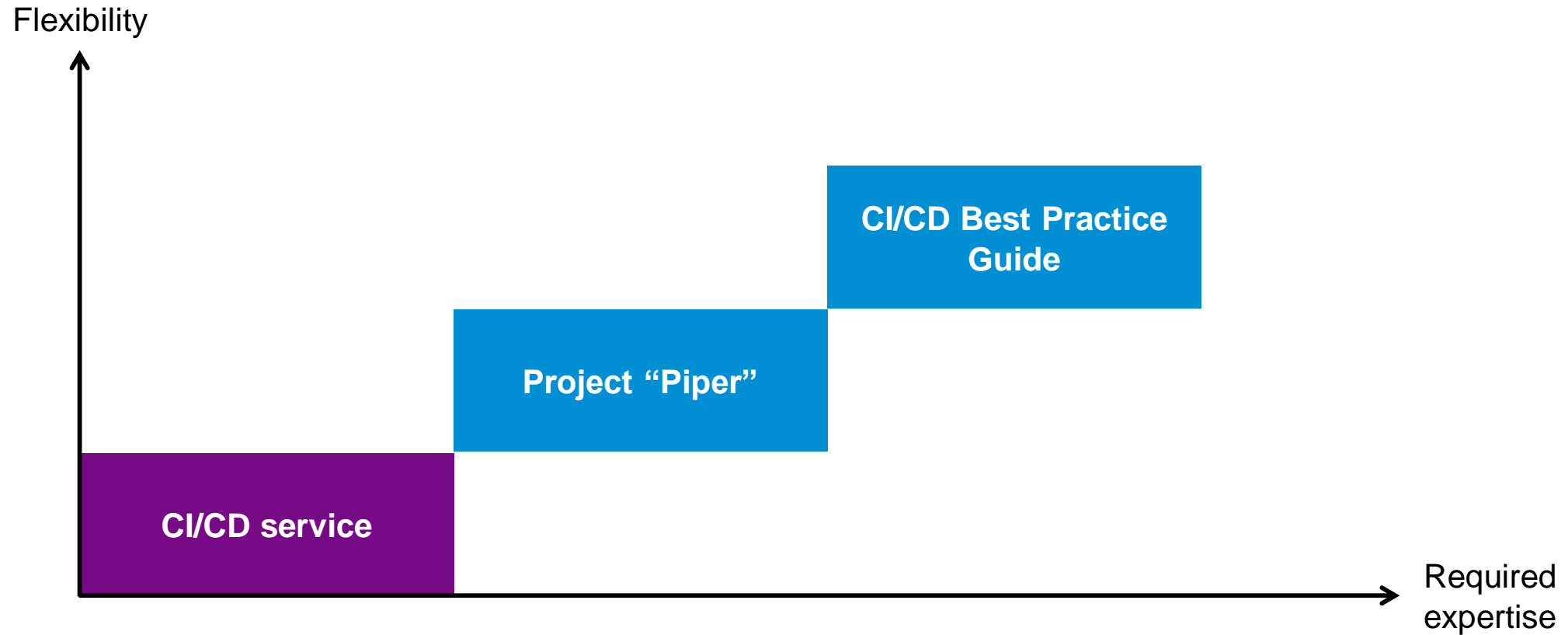
Step library

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Continuous Integration and Delivery

SAP offerings that ease applying CI/CD for your projects

CI/CD enablement



SAP Cloud Platform Continuous Integration and Delivery

CI/CD enablement

Configure and run predefined pipelines to automatically test, build, and deploy your code changes.

The screenshot displays the SAP Cloud Platform Continuous Integration and Delivery (CI/CD) console. The main view shows a pipeline run for 'SampleFioriUI5' on the 'master' branch. The pipeline is currently in a 'SUCCESS' state. The 'Builds' tab is active, showing a list of builds with columns for Name, State, and Branch. The selected build is '#8 | Branch: master' with a status of 'SUCCESS' and a duration of '10 min 16'. Below the build list, the 'GENERAL INFORMATION' section provides details about the repository, credentials, branch, pipeline, and version. The 'Build #8 Stages' panel on the right shows a list of stages: 'Init' (SUCCESS, 16 sec), 'Test SAP Fiori App' (SKIPPED, 434 ms), 'Build SAP Fiori App' (SUCCESS, 2 min 33), and 'Deploy SAP Fiori App' (SUCCESS). The interface includes navigation menus, search bars, and various action buttons like 'Retrigger' and 'Delete'.

- **Simple onboarding** for SAPUI5 and cloud application programming model (CAP) development projects
- **No customer CI infrastructure** required
- **No in-depth CI/CD knowledge** required
- Well-integrated in tooling ecosystem for SAP Cloud Platform

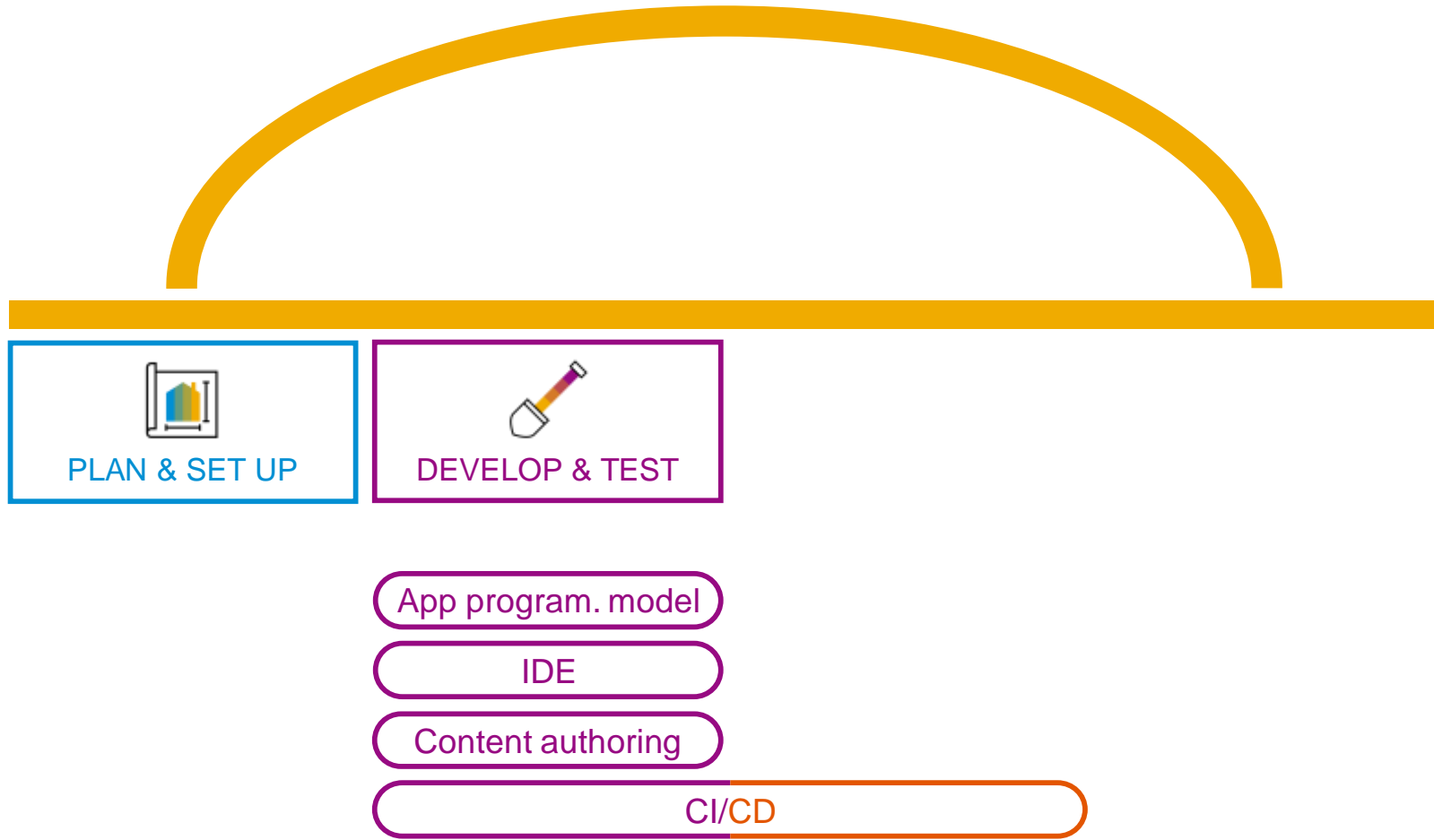
[Documentation](#)

DevOps with SAP Cloud Platform

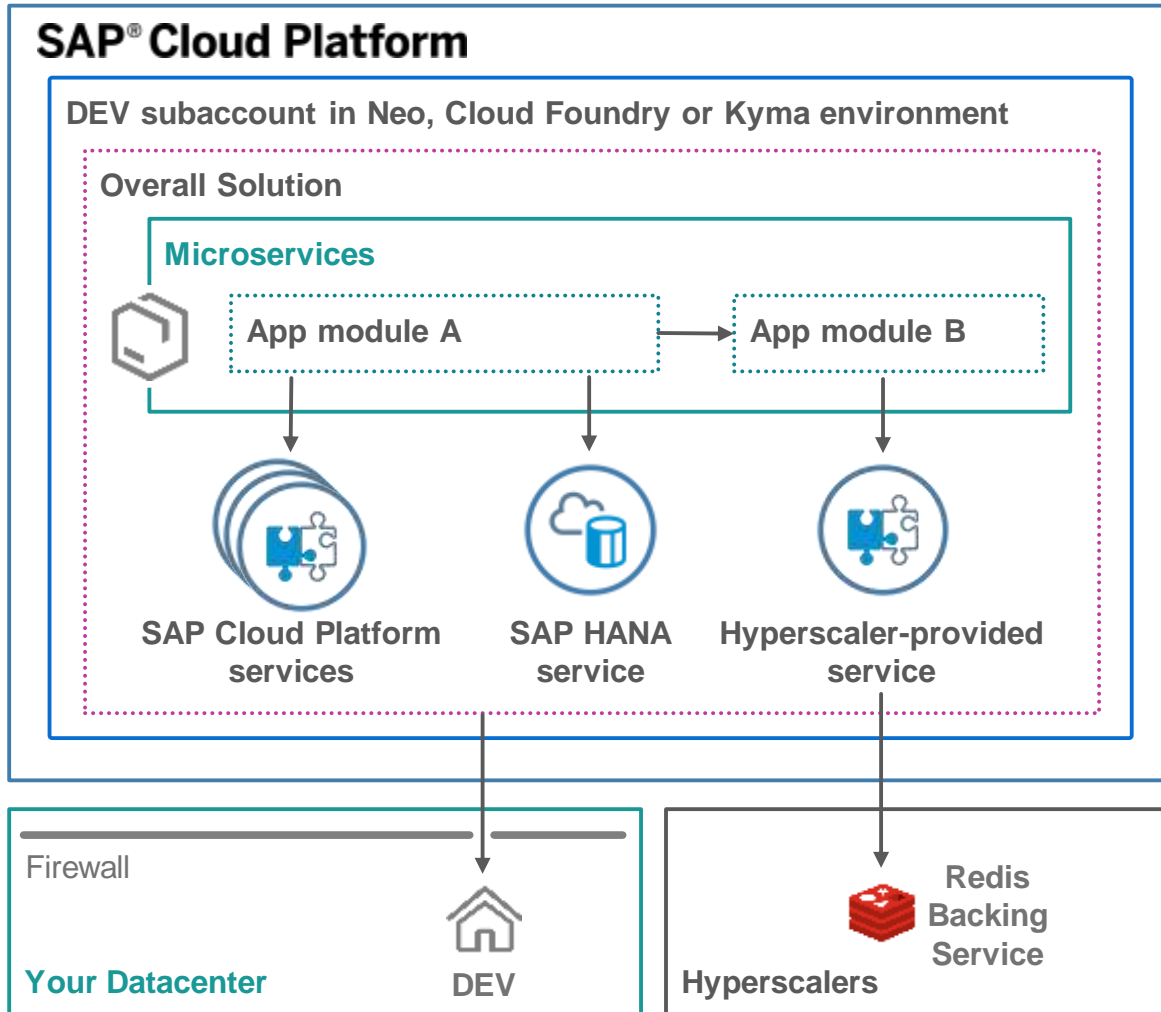
Develop & test

DEV

OPS



Example app

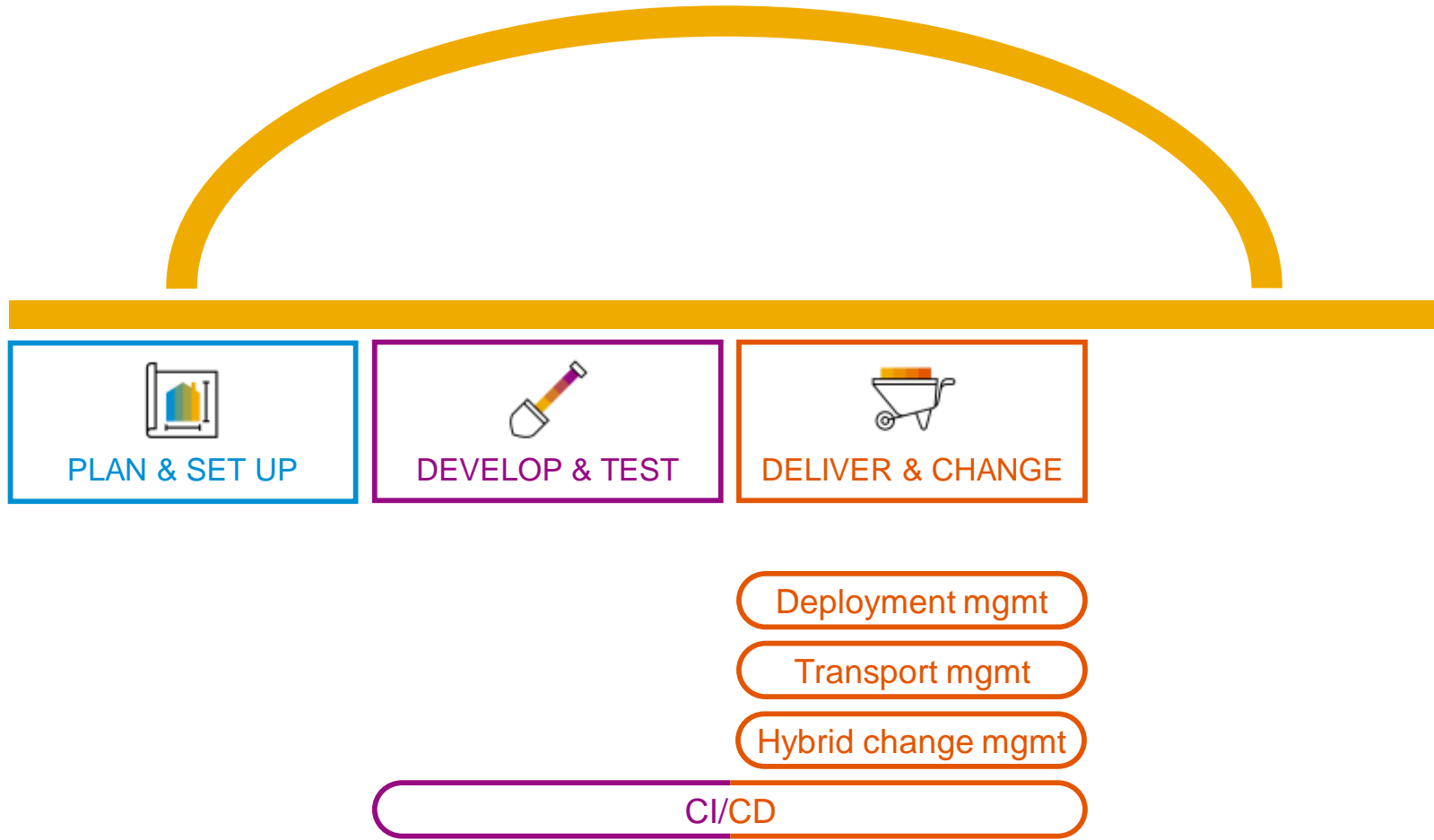


DevOps with SAP Cloud Platform

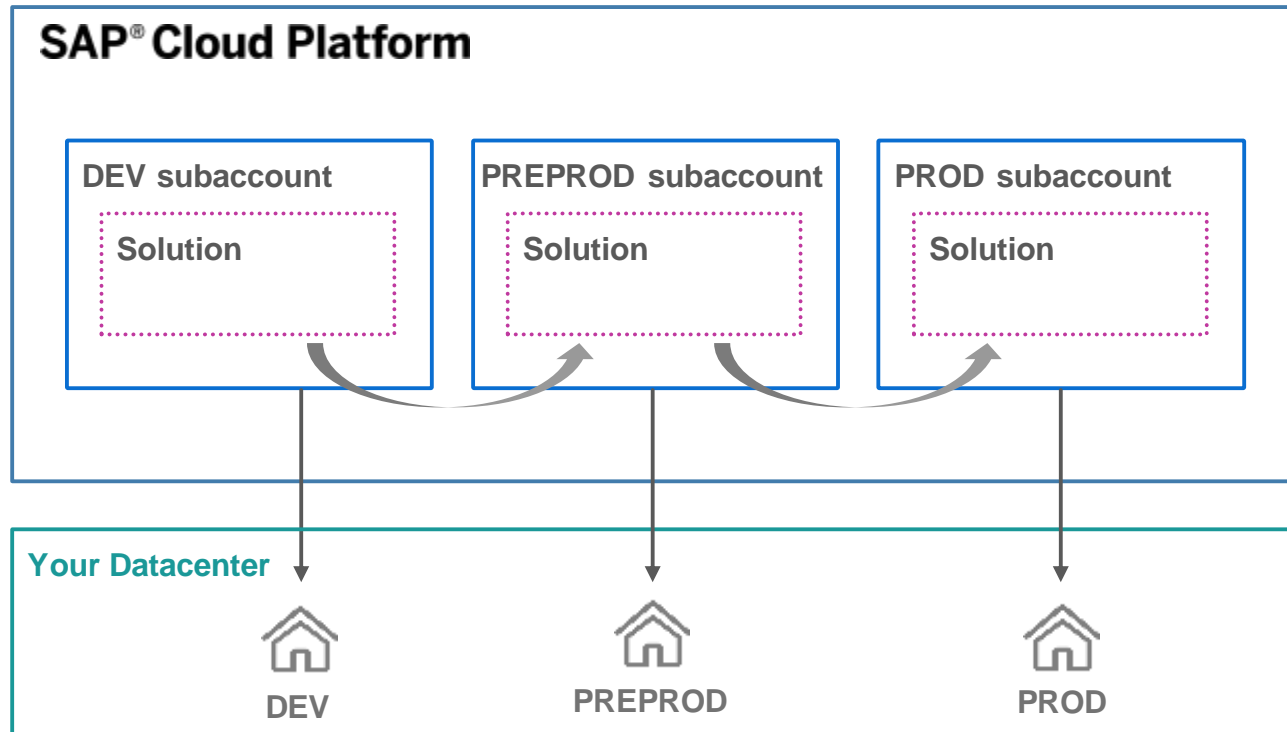
Delivery & change

DEV

OPS



Example app



Deliver your changes toward production



Continuous Delivery

- Mainly **source-code-based** development
- Typically fully automated



Transport Management

- Apply standardized, enterprise-ready change management process
- Add transparency on audit trail of changes
- Establish separation of concerns
- Option for synchronizing transports with on-premise artifacts

SAP Cloud Platform Transport Management

- **Cloud-centric** solution desired
- Transport of cloud **development** and **application content** (also beyond MTA)

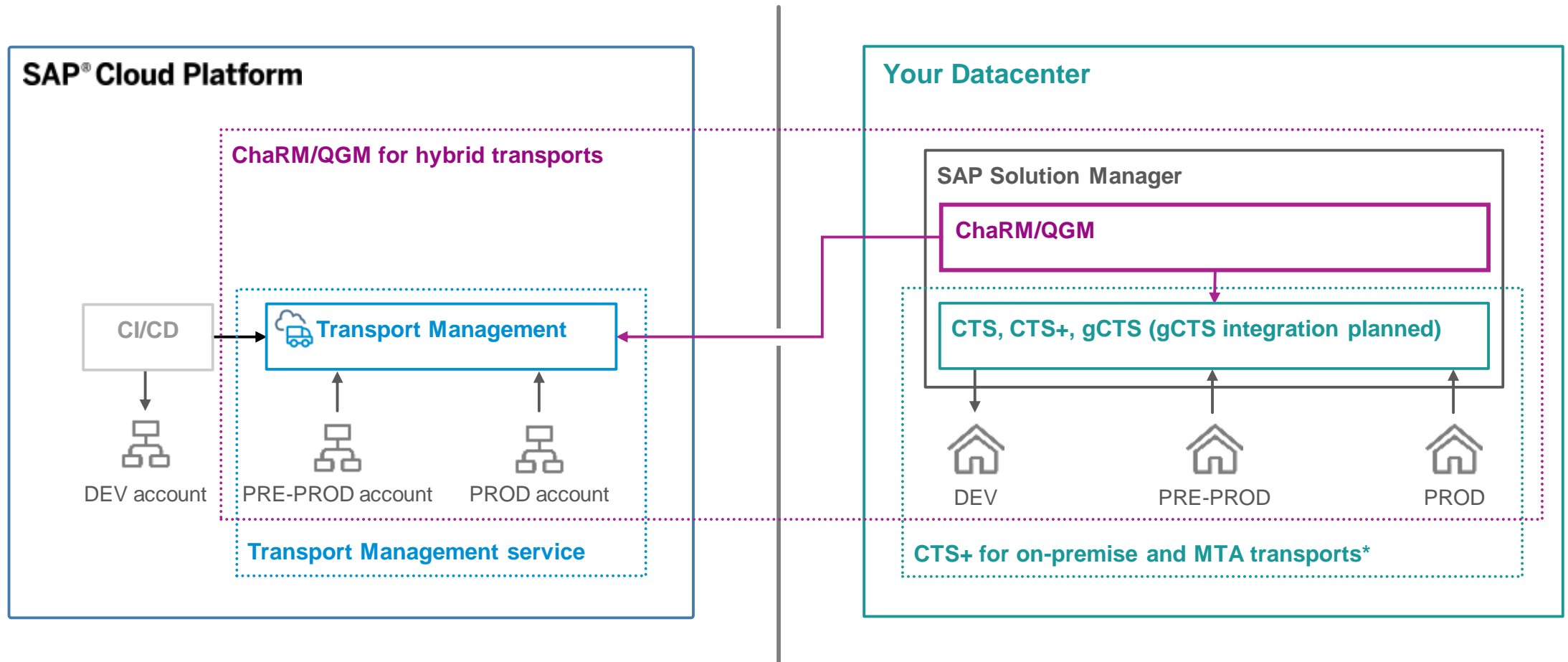
CTS+

- **ABAP-centric** landscape
- Transport of “Multitarget Application Archive (**MTA**)”-**based cloud content only** (in addition to on-premise content)

Deliver applications with **transport management**

Best practice and way forward for hybrid scenarios

Hybrid change mgmt



*) CTS+ can also handle MTA-based transports on SAP Cloud Platform (such as for SAP Cloud Platform Integration)

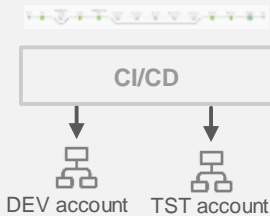
Deliver your changes toward production

Example for evolution of delivery approaches for a project

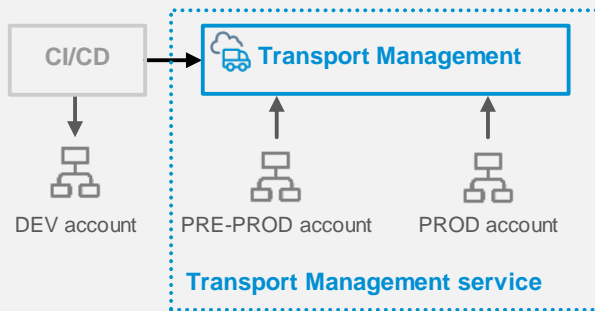
3 Hybrid interdependencies come up or get more important, so that you want to control them by synchronizing on-premise changes with SAP CP development

2 You release your project and want to have more control of your prod environment

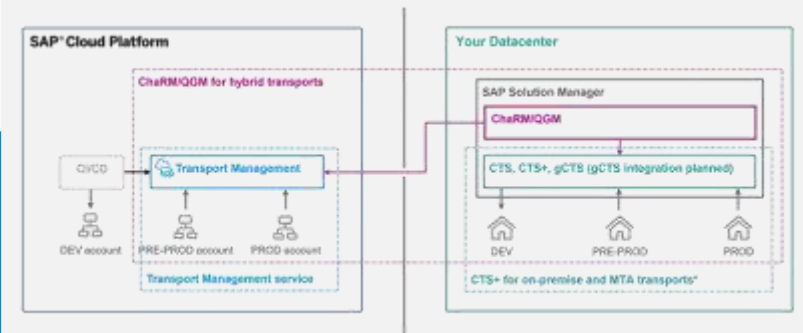
1 You start your project with a pipeline



Consider **project “Piper”** and **Continuous Integration and Delivery service** to set up your environment quickly



Configure **automated hand-over** of release candidates from pipeline to transport mgmt

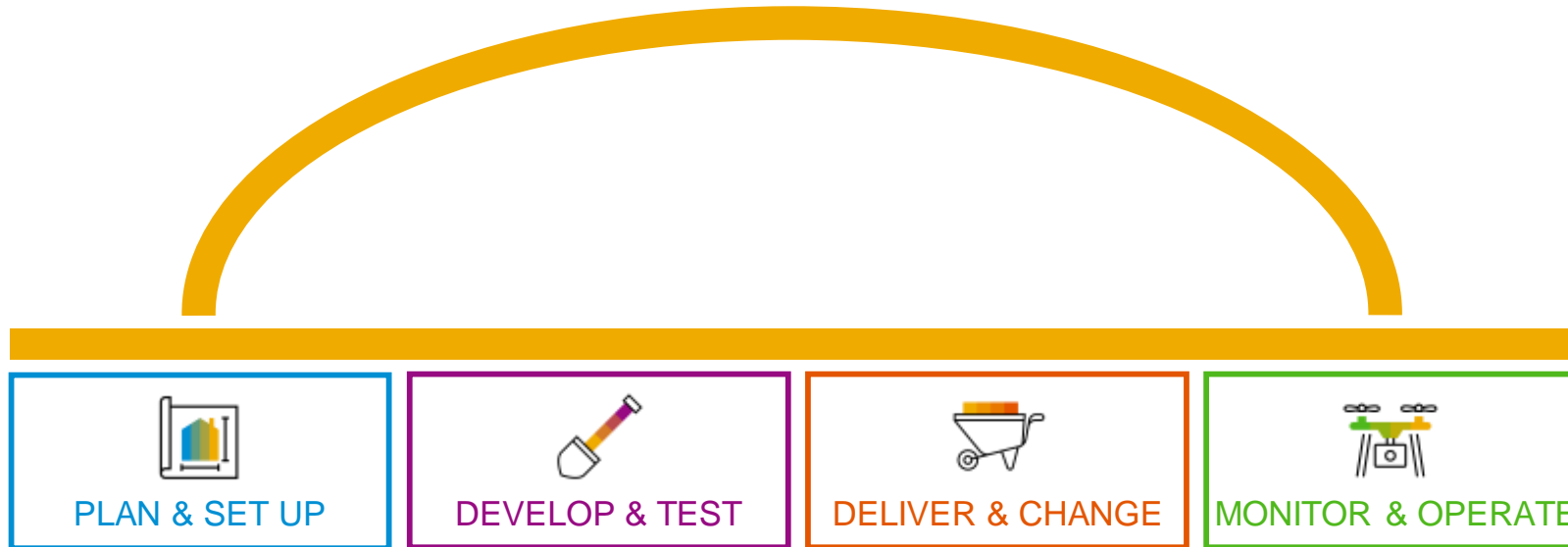


Integrate transport management into **change management**

DevOps with SAP Cloud Platform

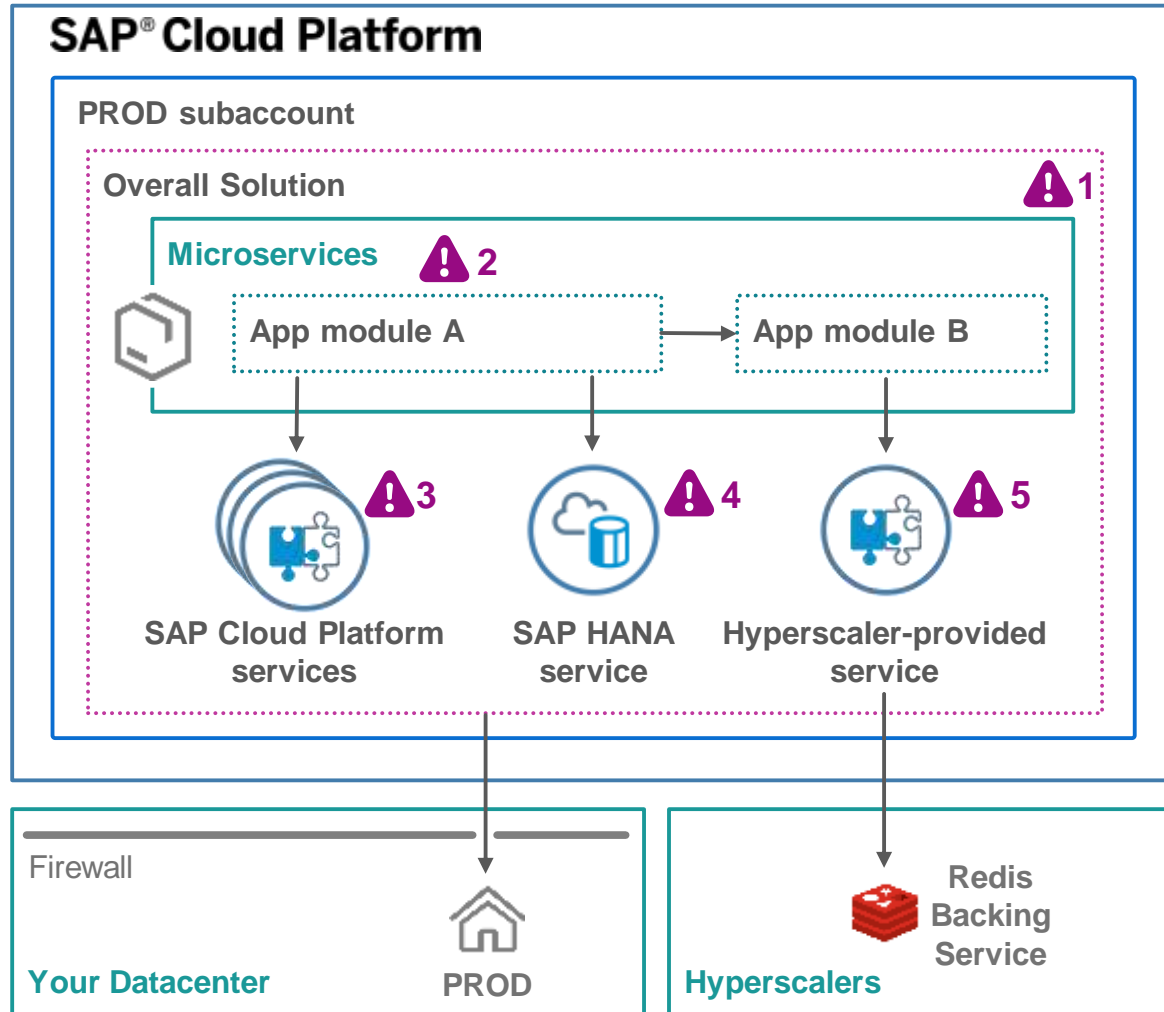
Monitor & operate

DEV



OPS

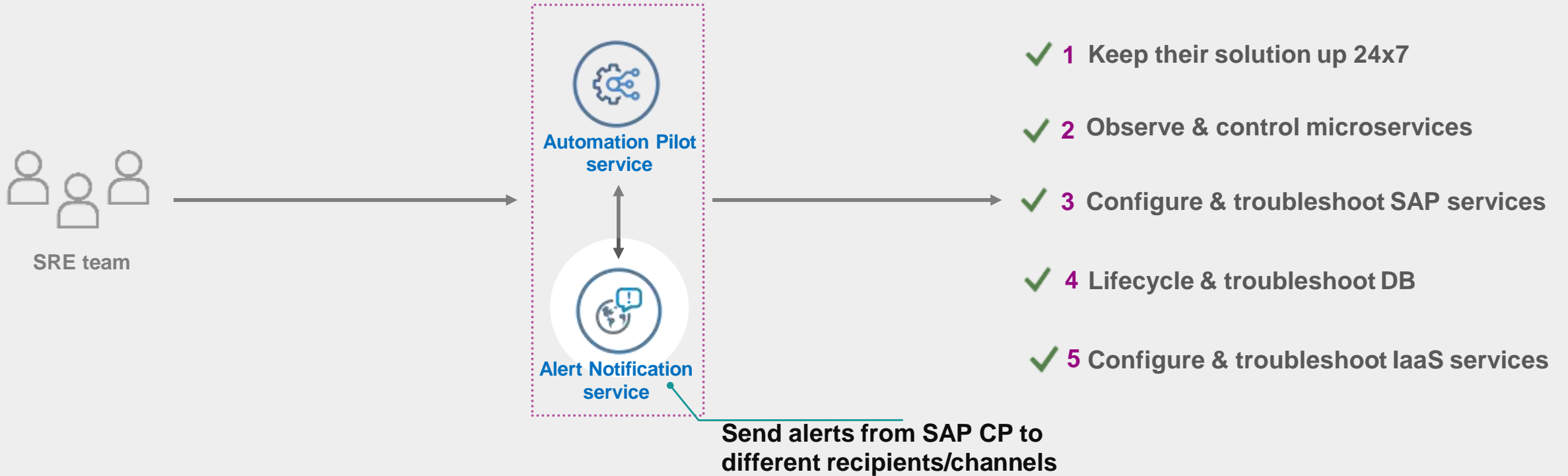
Cloud-native problem space for **Site Reliability Engineering (SRE)**



SRE team
responsible for:

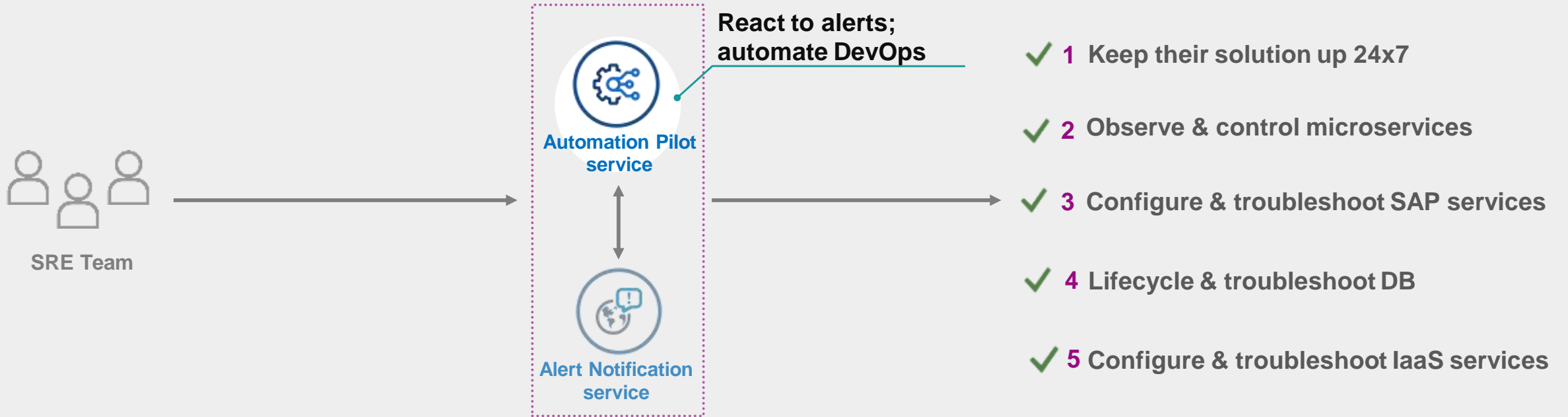
- 1 Keep their solution up 24x7
- 2 Observe & control microservices
- 3 Configure & troubleshoot SAP services
- 4 Lifecycle & troubleshoot DB
- 5 Configure & troubleshoot IaaS services

SAP Cloud Platform **Alert Notification**

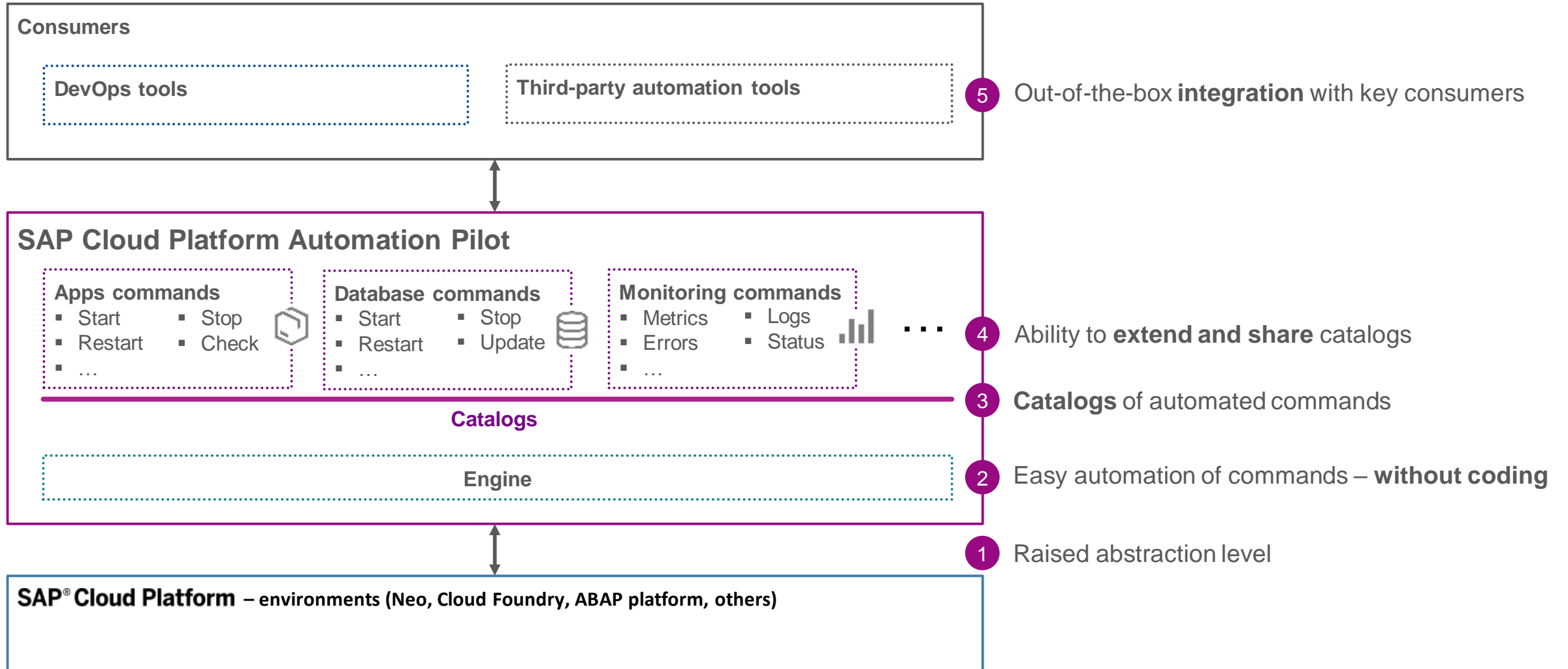


SAP Cloud Platform Automation Pilot

Ops automation

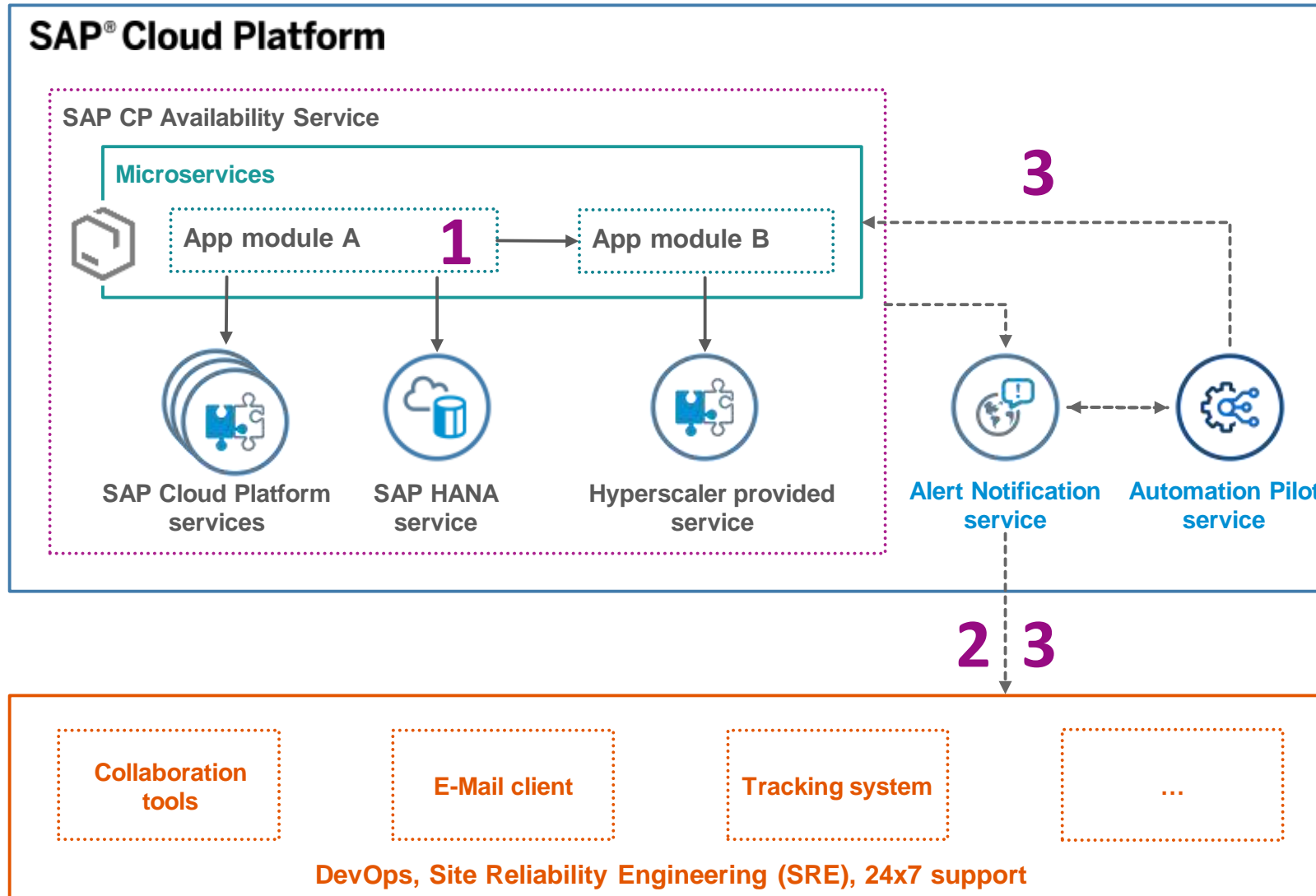


SAP Cloud Platform Automation Pilot



Example: complement alerts with automation

Ops automation

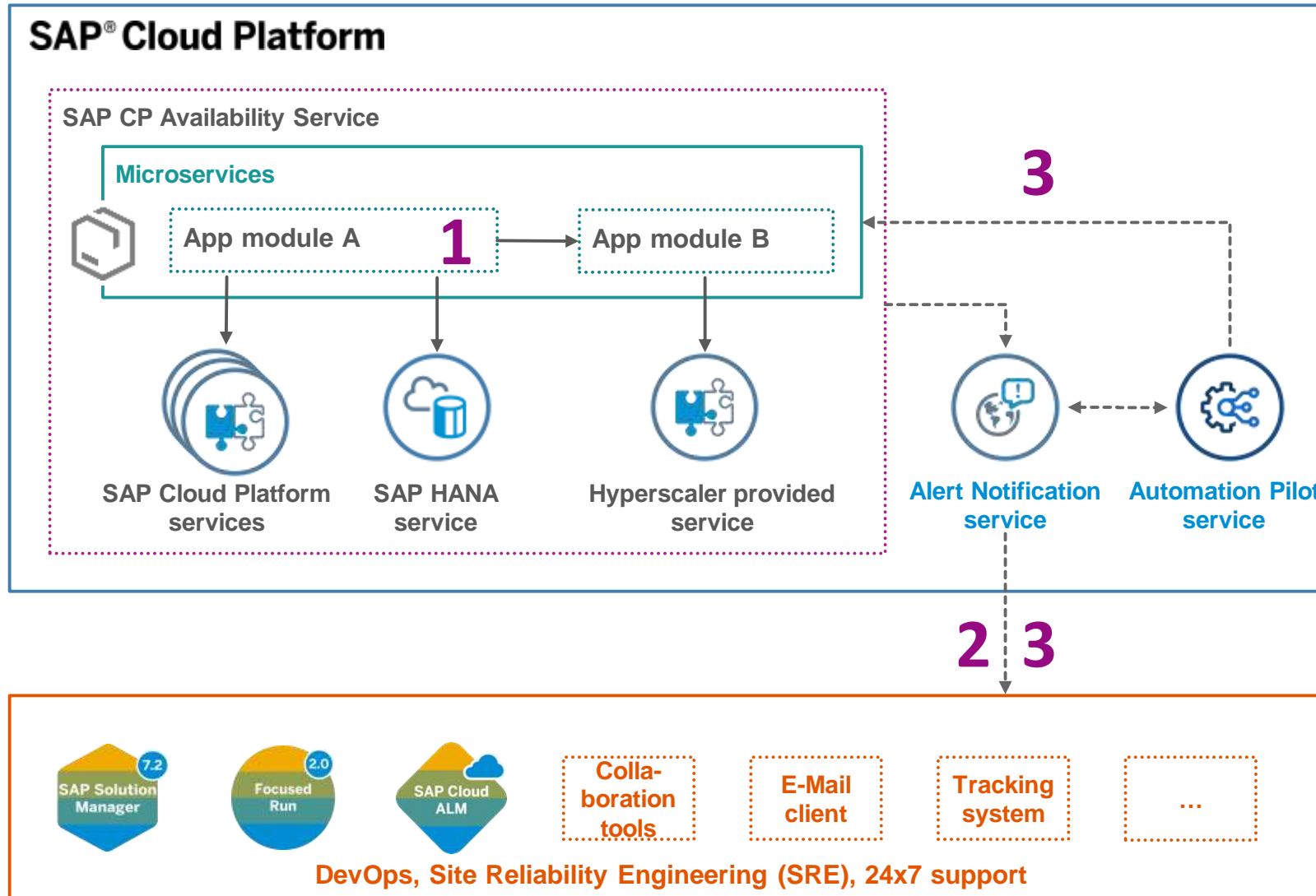


- 1** Event (e.g. service stops working)
- 2** Notify + trigger
- 3** Recover service + notify



Example: complement alerts with automation

Ops automation



- 1 Event (e.g. service stops working)
- 2 Notify + trigger
- 3 Recover service + notify



Monitor and operate your **hybrid** application

Hybrid supportability offerings

Hybrid supportability

Integration Monitoring

Ensure reliable data exchange between SAP on-premise and cloud



Trace Analysis

Trace performance of SAP Cloud Platform apps, based on exposed statistics



User Monitoring

Ensure availability and performance of SAP Cloud scenarios from customer on-premise locations



Exception Management

Forward business-critical exceptions from SAP Cloud to on-premise operations



Hybrid SAP operations

Approach to extend towards hybrid operations from on-premise center of gravity

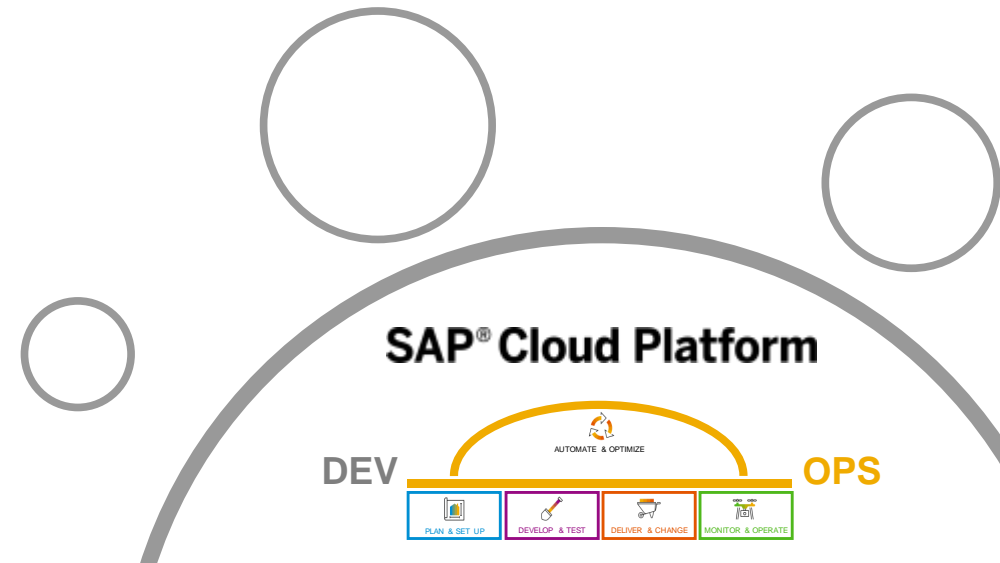
Hybrid supportability



Existing
on-premise ops



Upcoming
cloud scenarios



Hybrid SAP operations

Hybrid supportability

Approach to extend towards hybrid operations from on-premise center of gravity



Existing
on-premise ops

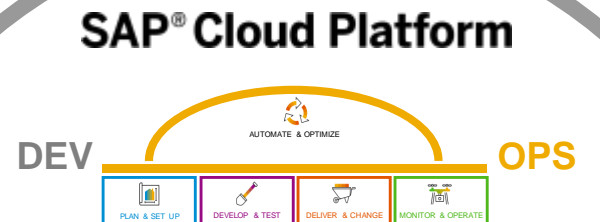


Upcoming
cloud scenarios

Proposed approach:

Smooth the transition by extending existing on-premise ops processes with cloud aspects

- Retaining center of gravity around on-premise
- Optionally with defined hand-over from cloud-native processes



“Offers hybrid lifecycle management support”

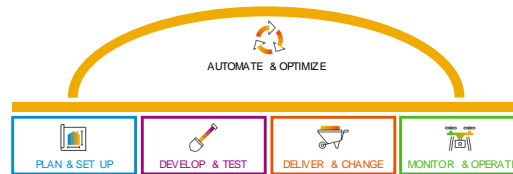
Hybrid SAP operations

Exemplary options to extend towards hybrid operations

Hybrid supportability



Hybrid operations



SAP® Cloud Platform

Proposed approach:

Smooth the transition by extending existing on-premise ops processes with cloud aspects

- Retaining center of gravity around on-premise
- Optionally with defined hand-over from cloud-native processes



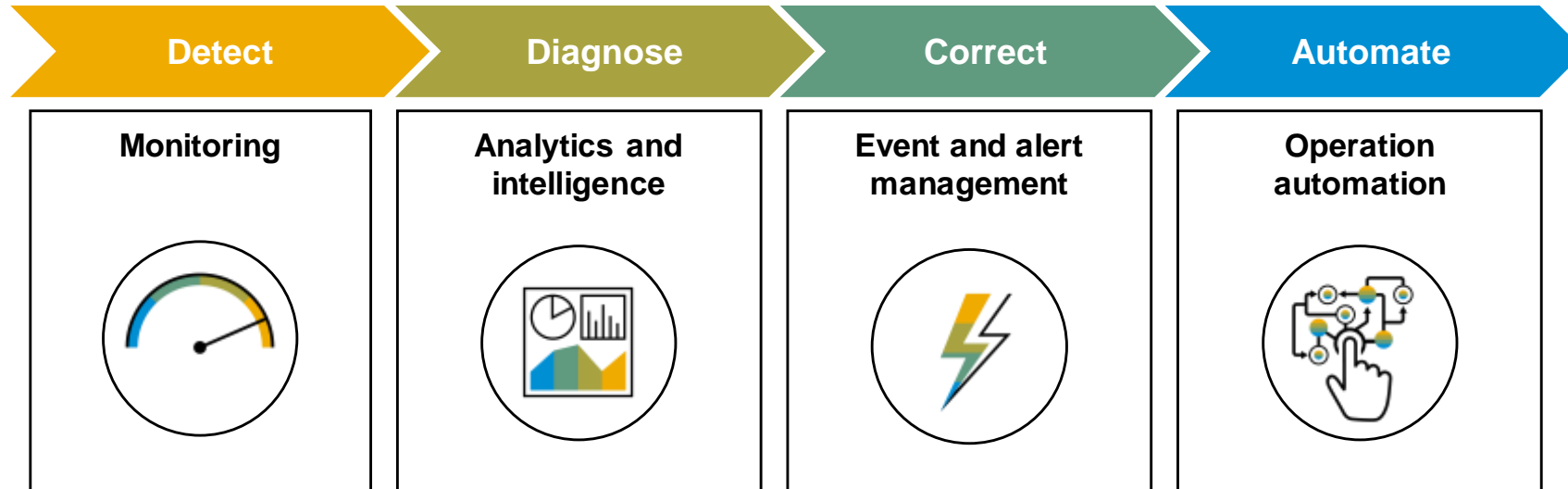
- Use **transport mgmt** – to integrate SAP CP into **change mgmt**, optionally with **defined hand-over from CI/CD** pipelines



- Forward SAP CP **alerts** towards SAP Solution Manager
- No-coding approach for technical **ops automation**
- **Hybrid supportability**

SAP Cloud ALM for operations

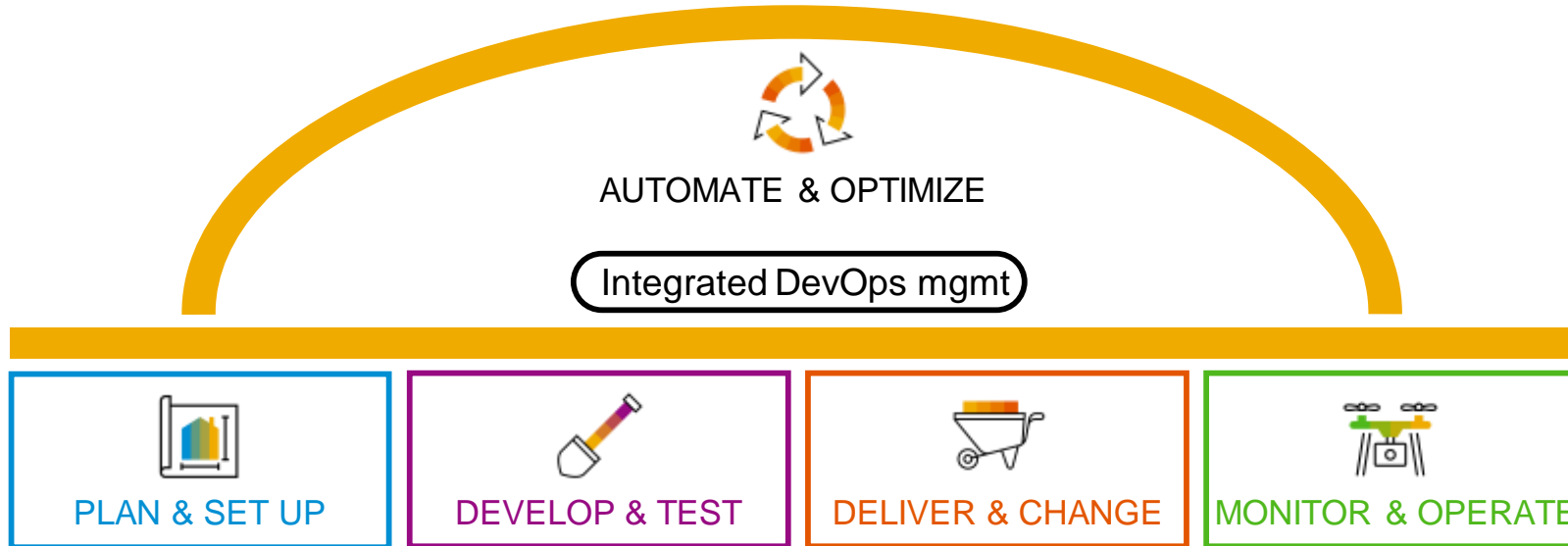
Hybrid supportability



DevOps with SAP Cloud Platform

Automate & optimize

DEV



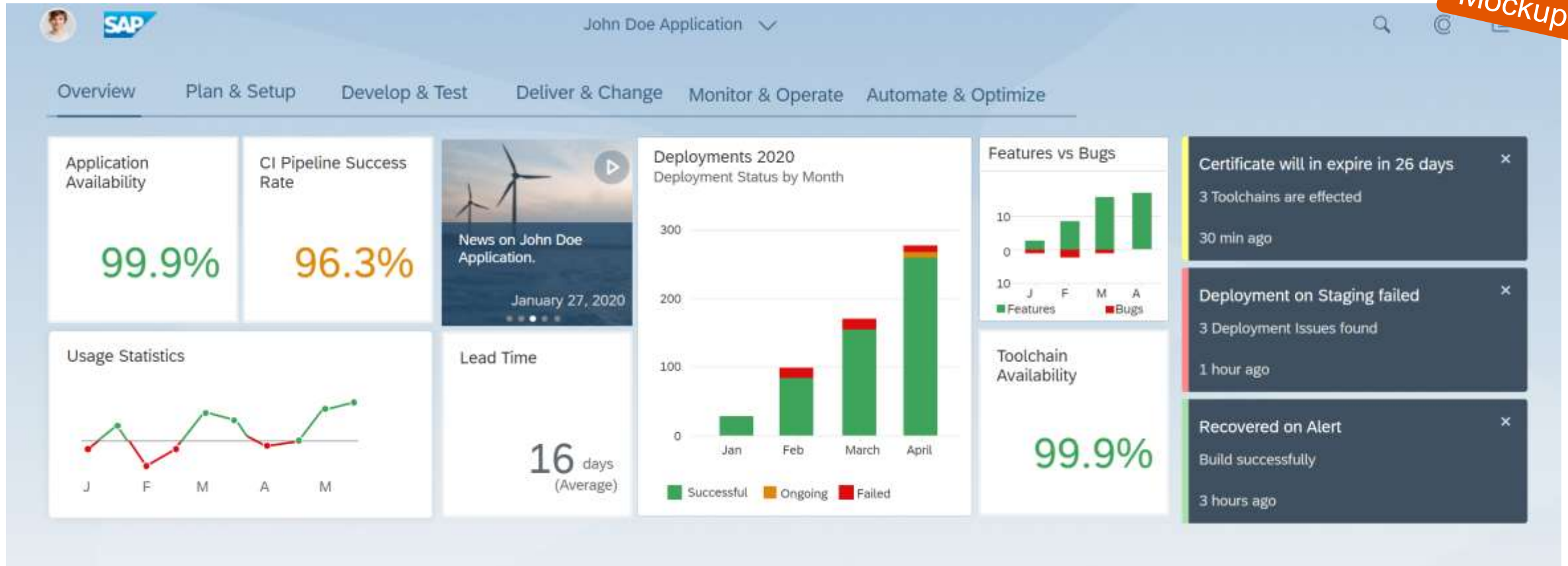
OPS

Automate & operate

Preview at planned service for integrated DevOps management

Outlook
Integrated DevOps mgmt

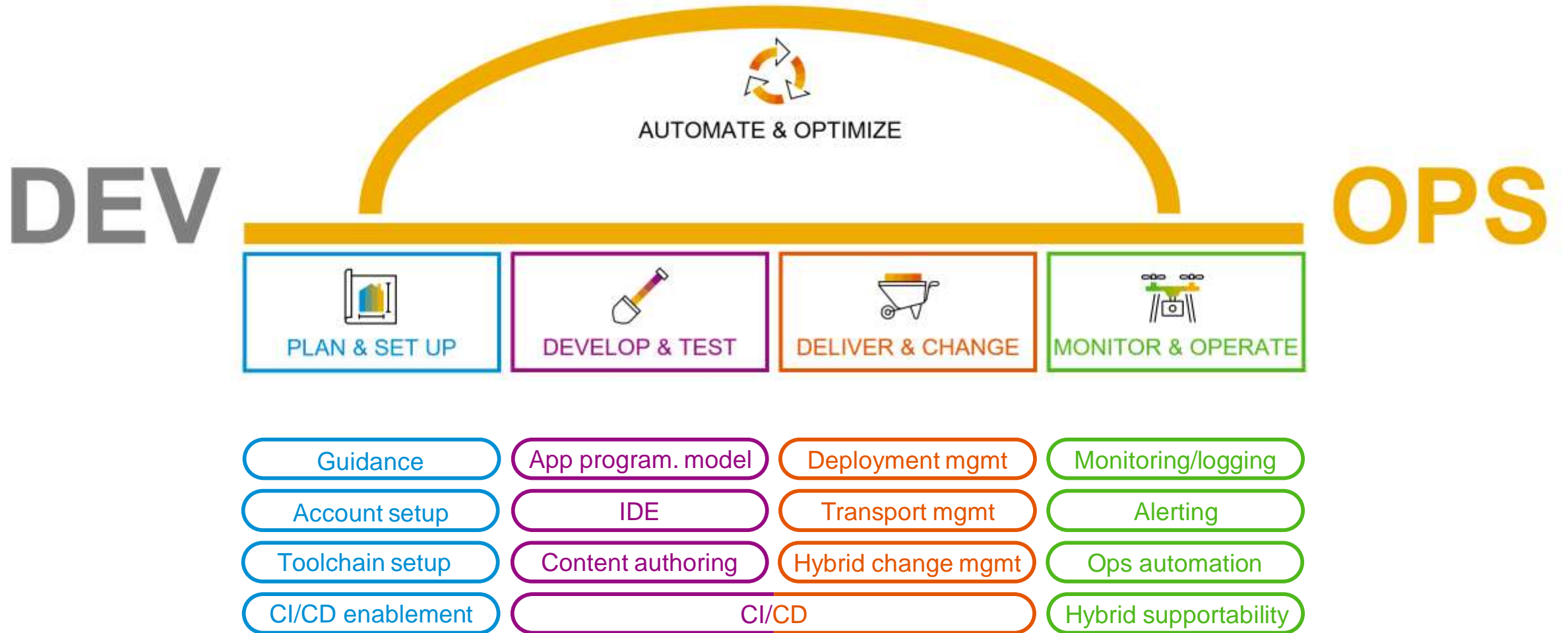
Mockup



Summary

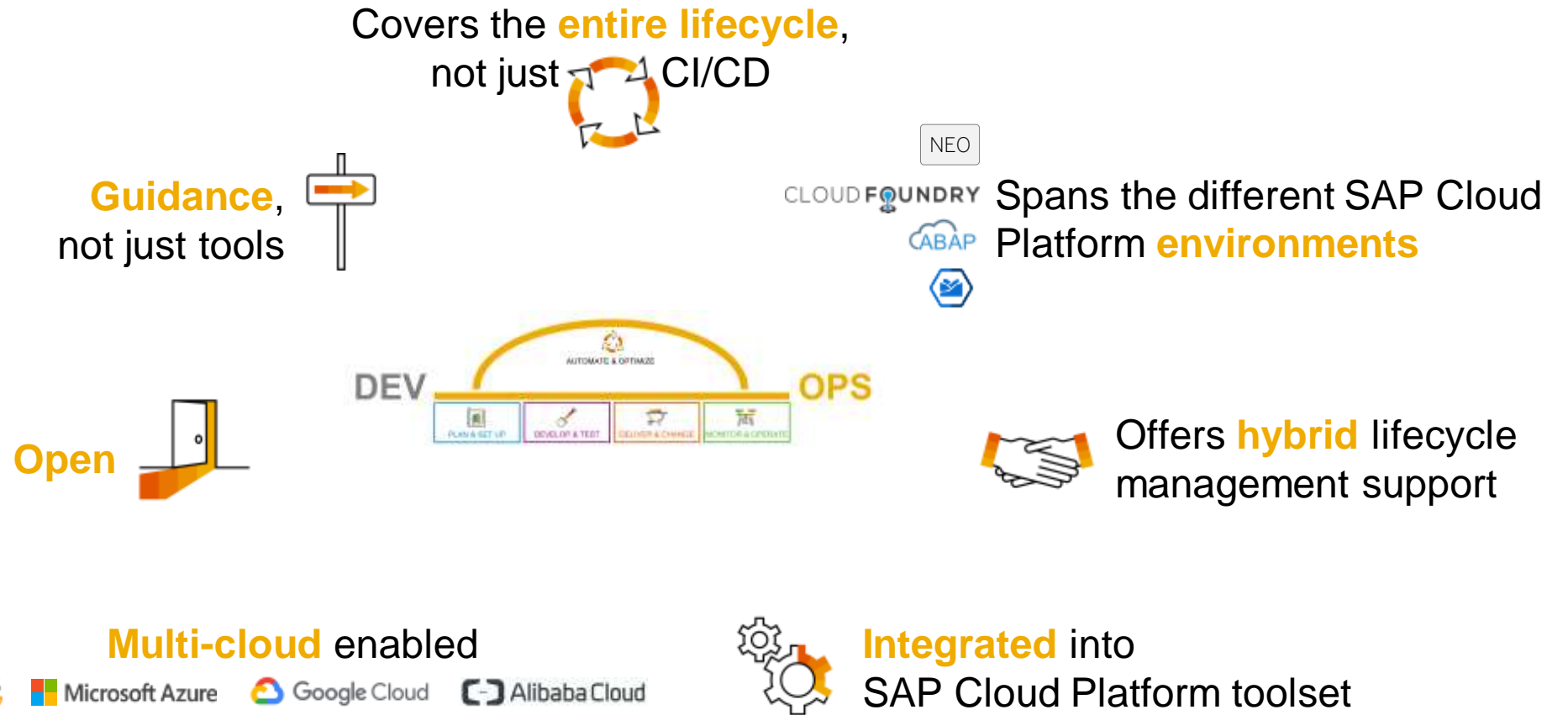


DevOps with SAP



DevOps with SAP Cloud Platform

Corner stones of our offering



Call to **action**



Learn more about DevOps with SAP:

- [DevOps SAP Community page](#)
- [gCTS documentation page](#) and central [SAP Note 2821718](#)
- [SAP Help Portal page about DevOps with SAP Cloud Platform](#)
- [Blog post series around efficient DevOps with SAP Cloud Platform](#)
- [Learning Journey – DevOps with SAP Cloud Platform](#)
- [Best Practices for SAP Cloud Platform guide](#)



Try out our services on SAP Cloud Platform:

- Set up our services in the trial environment for [SAP Cloud Platform](#)
- Run our missions in SAP Cloud Platform Discovery Center (such as for [transport management](#))



Contribute to our [SAP Continuous Influence session](#)
[SAP Community Call series](#)



SAP Continuous Influence

Are you missing any SAP Cloud Platform features in the area of platform foundation?

Contribute to our SAP Continuous Influence session: <https://influence.sap.com/sap/ino/#campaign/2277>

- Browse through existing improvement requests submitted by other customers and partners & vote for them
- Submit own requests
- Requests that reach the vote threshold will be assessed in the next review cycle



Available categories in the *SAP Cloud Platform – Platform Foundation* session:

- Multi-cloud
- Security services
- CI/CD
- Lifecycle management

Thank you.

Contact information:

Boris Zarske
Product Manager – SAP SE
Boris.Zarske@sap.com

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