



Get your organization in shape: Keep a Clean Core with SAP Business Technology Platform





Clean Core and Low Code No-Code with SAP BTP



Shreyas Pandya

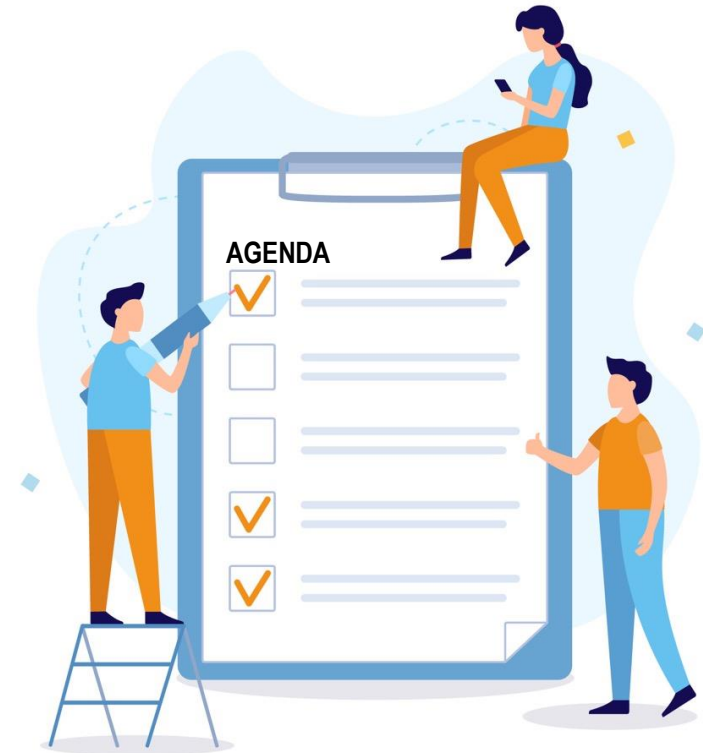
Sr. Solution Advisor, SAP Business Technology Platform,
shreyas.pandya@sap.com





AGENDA

- 01** Clean Core Strategy
- 02** Why BTP?
- 03** Extensibility Concepts
- 04** Low-code / No-code for Everyone
- 05** Q&A BTP Use Cases
- 06** DevOps with SAP BTP



CURRENT CUSTOM CODE CHALLENGES

Custom code is used as an **easy and powerful** way to **extend** standard SAP software and implement customer-specific **business requirements**.



Flexibility of ERP



High TCO costs for custom code

SAP customers have thousands of custom objects in their ERP systems from years of system usage

BUT:

- 30% to 60% of custom code is **never executed** in the production system
- 60% of **performance issues** reside in custom code
- 50% of **modifications** can be classified as **obsolete**

(C)LEAN CORE CONCEPT

Benefits

■ Reduce TCO

- Make upgrades non-events from a custom code point of view
- Reduce test efforts for business users
- Reduce adaption efforts for developers
- IT service providers can offer upgrade projects at a fixed price

■ Speed and Innovation

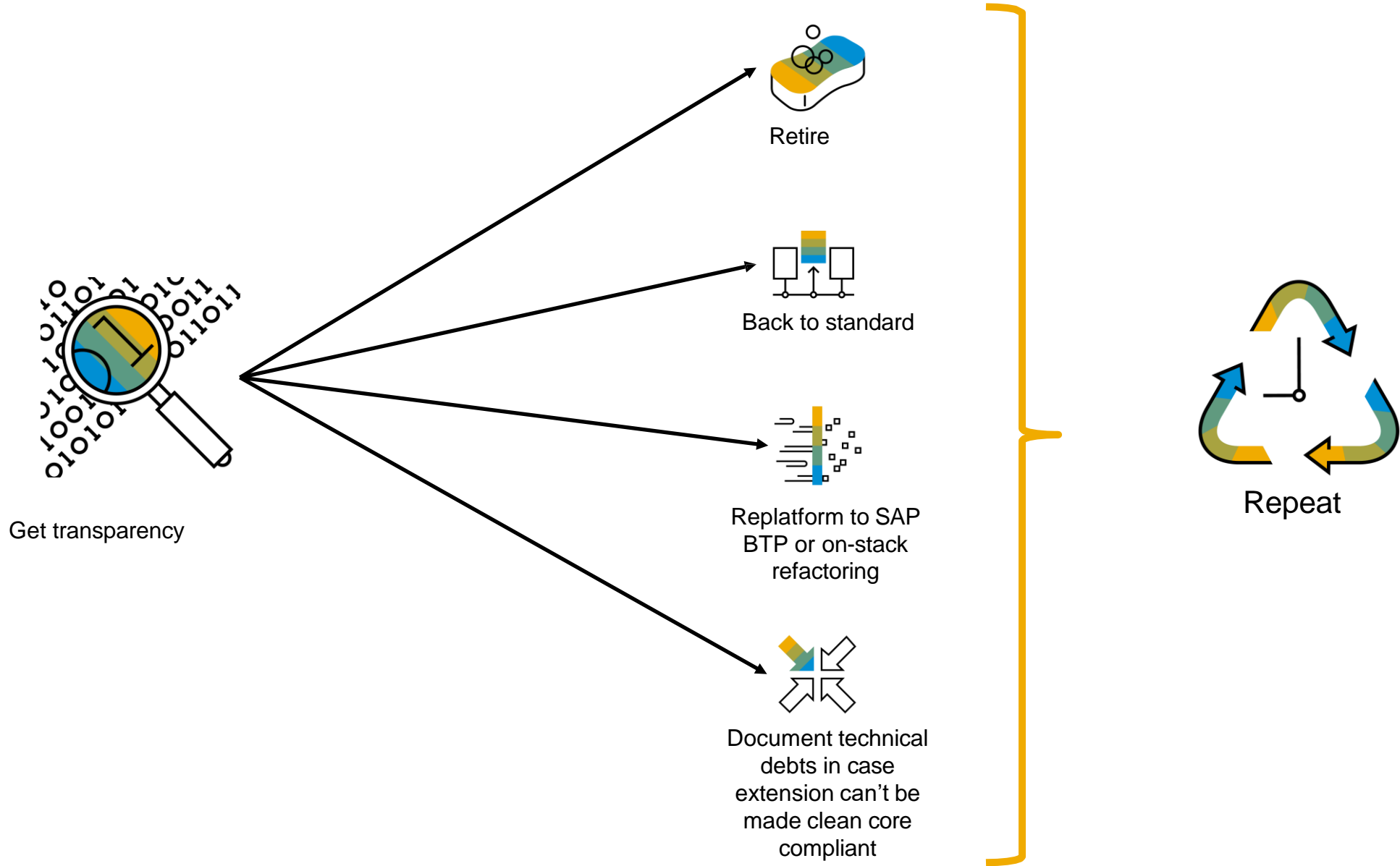
- Absorb innovation delivered by SAP at a faster rate
- React fast on changing business requirements

■ Be cloud ready

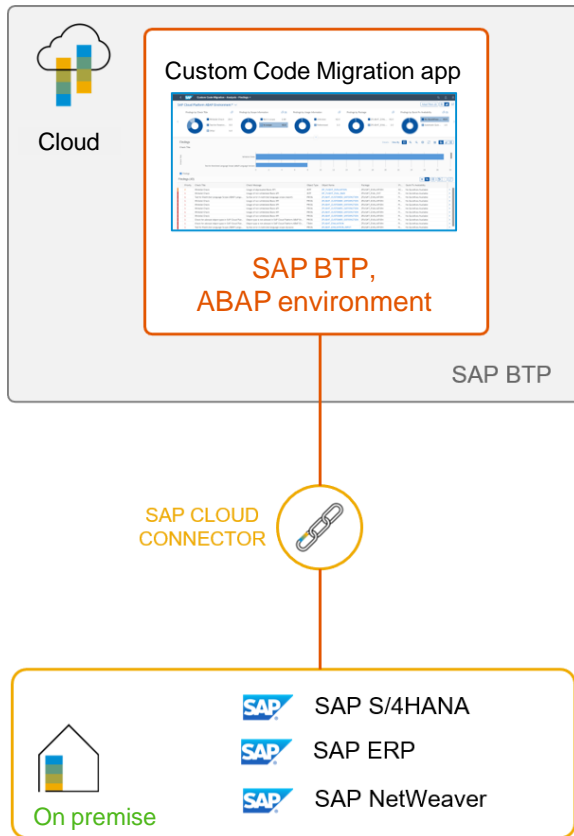
- Lay the foundation today to move to the cloud from a custom extension perspective










HOW TO CLEAN THE CORE



Custom Code Migration app – Overview



Solution overview

-  Analysis of custom code for SAP S/4HANA, SAP BTP or General Code Quality
-  Simplified custom code remediation
-  Obsolete custom code removal based on usage data. Back up of custom code objects using abapGit or gCTS
-  Identification of custom code candidates for back-to-standard and redesign
-  Evaluation of custom code for semiautomated adaptation (quick fixes)
-  Automated setup and configuration in SAP BTP, ABAP environment
- Upload usage data for custom code and define scope of custom code
-  Analytical representation & burndown charts of analysis results



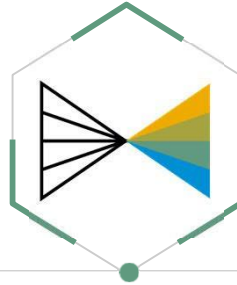
Check out [RISE with SAP and custom code migration - What is included](#)

BEST POINT IN TIME TO MAKE THE CORE CLEAN



Before

SAP S/4HANA conversion
(planning)



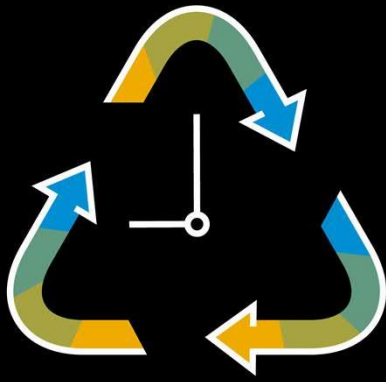
During

SAP S/4HANA conversion
(migration)



After

SAP S/4HANA conversion
(run)

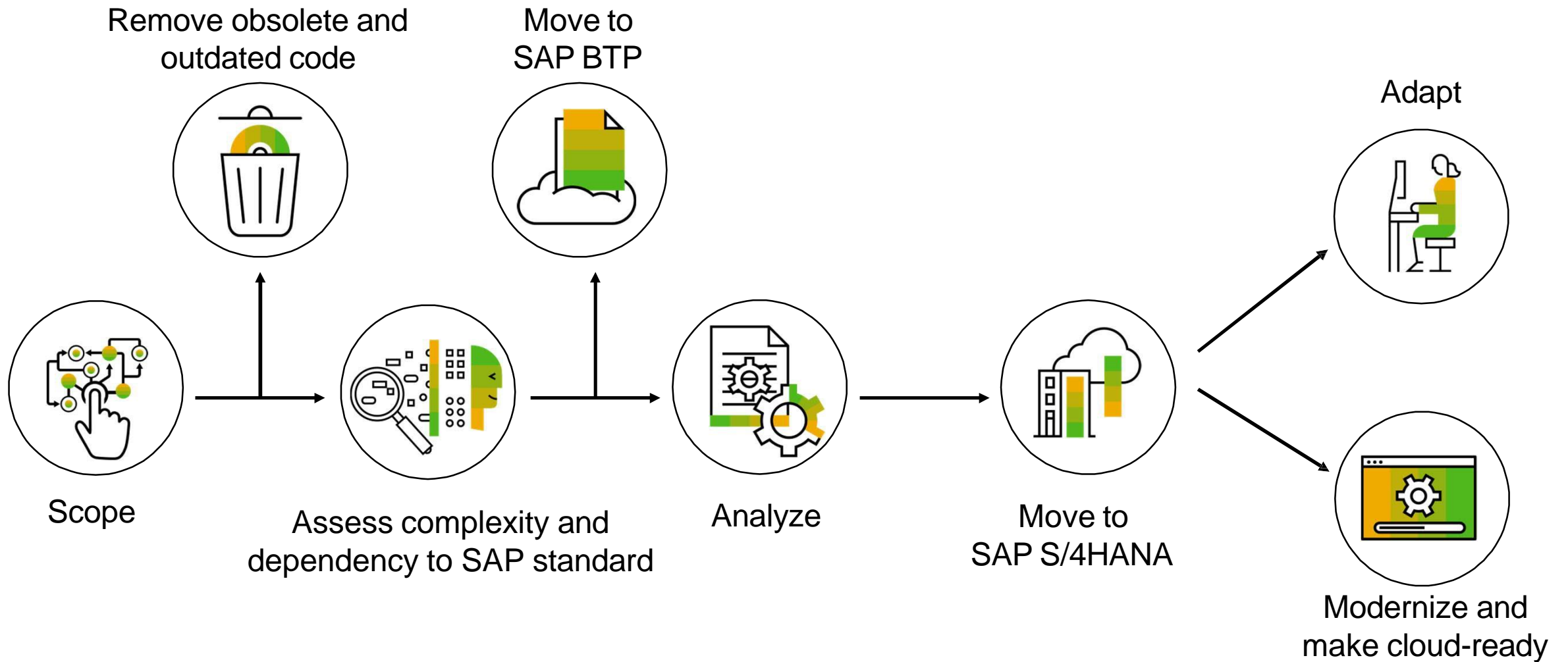


Clean Core is **NOT** a one-time action item – it's a philosophy that requires

- Governance Model
- Clear extension guidelines
- Ongoing custom code analysis and assessment

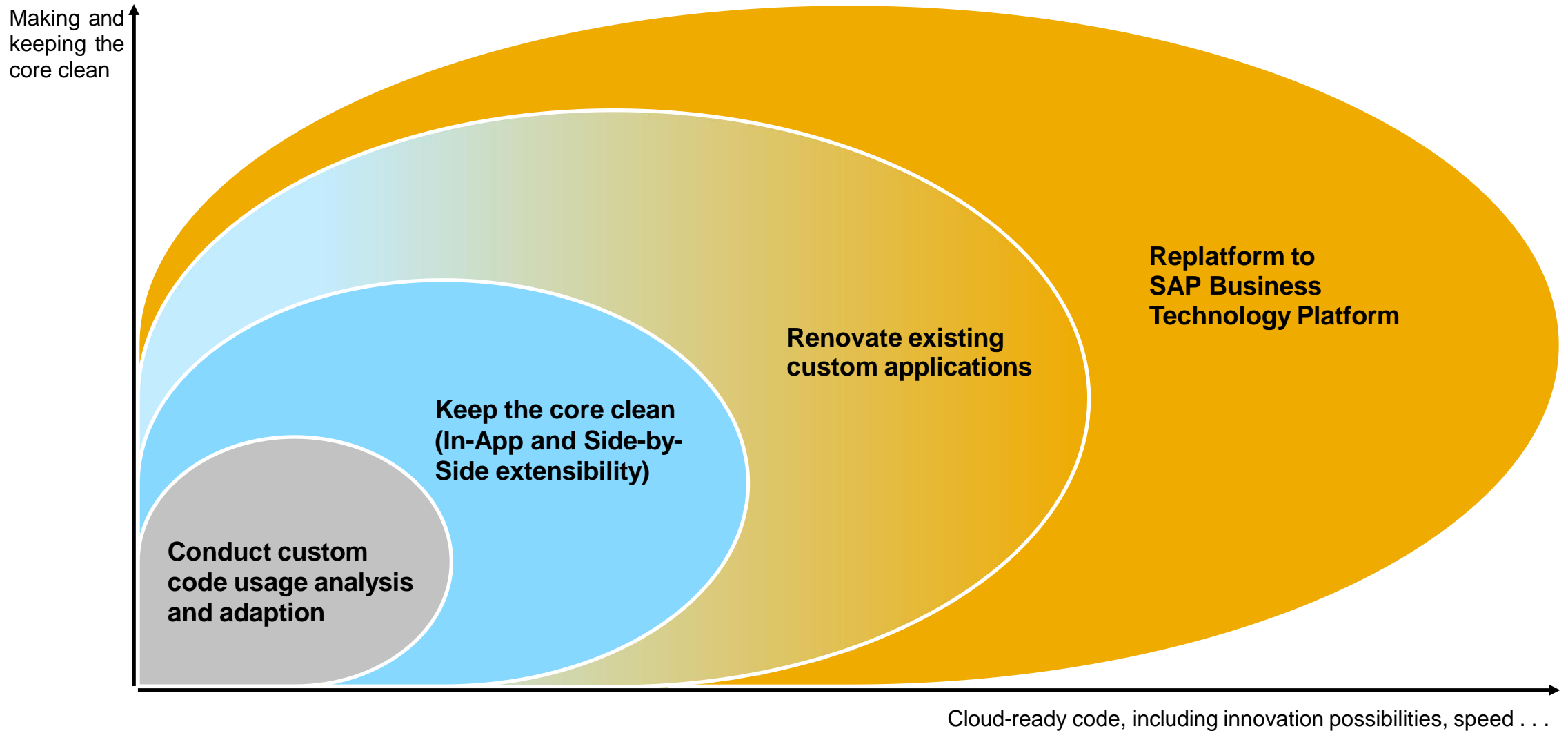
Migration to SAP S/4HANA

The process of handling Custom Code



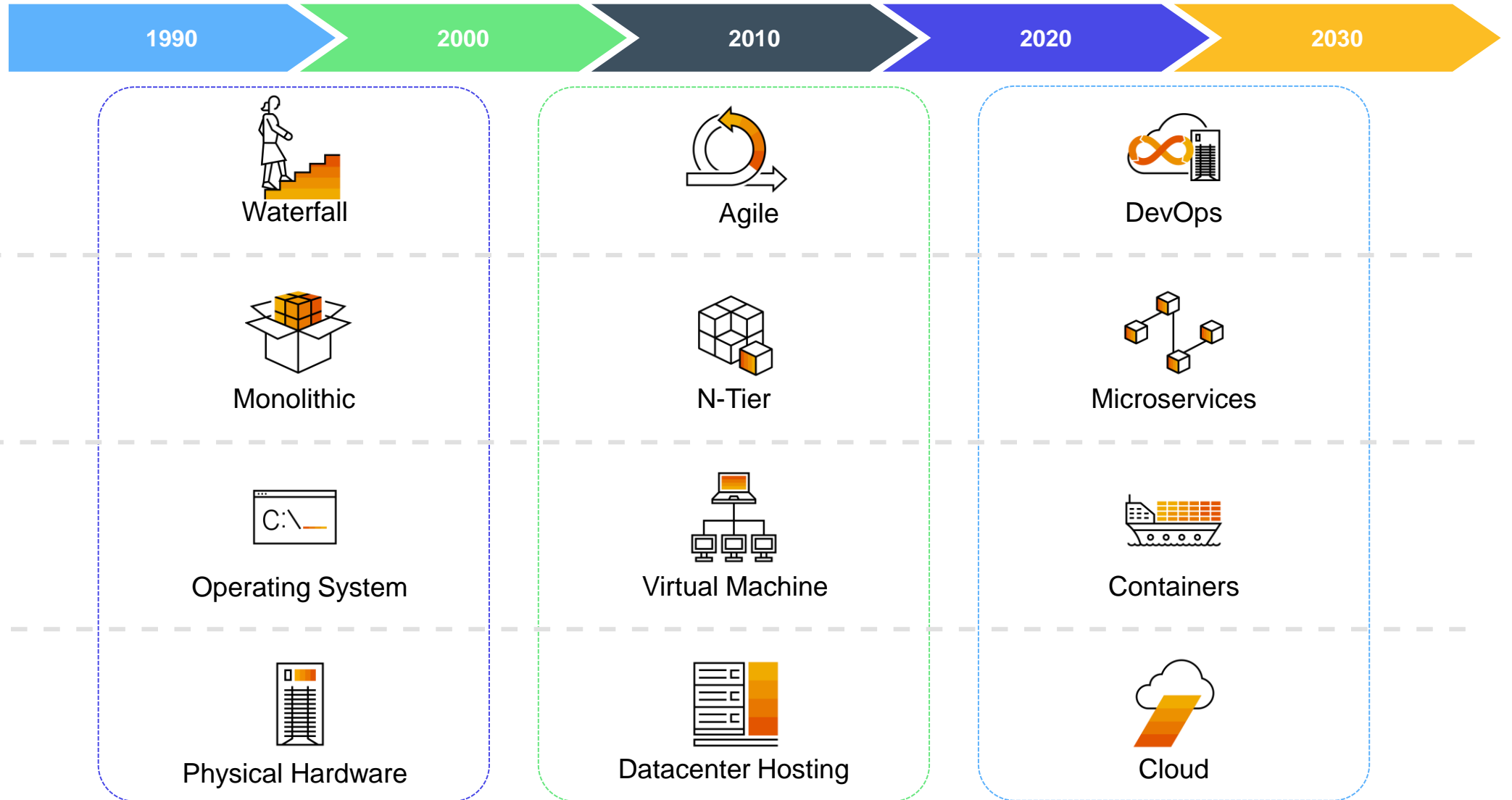
KEEP THE CORE (C)LEAN

with Decoupled Extensions

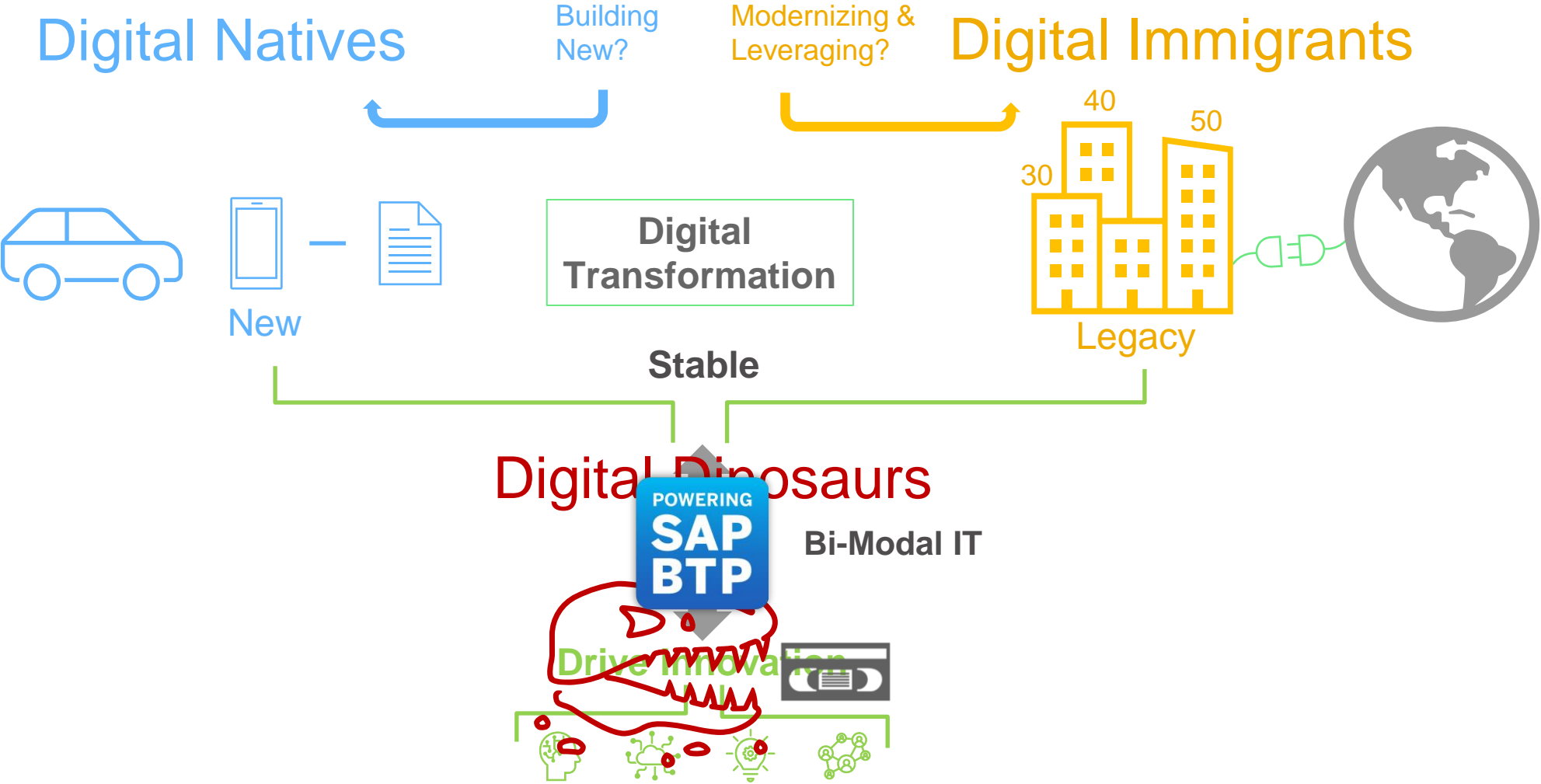


Why BIP?

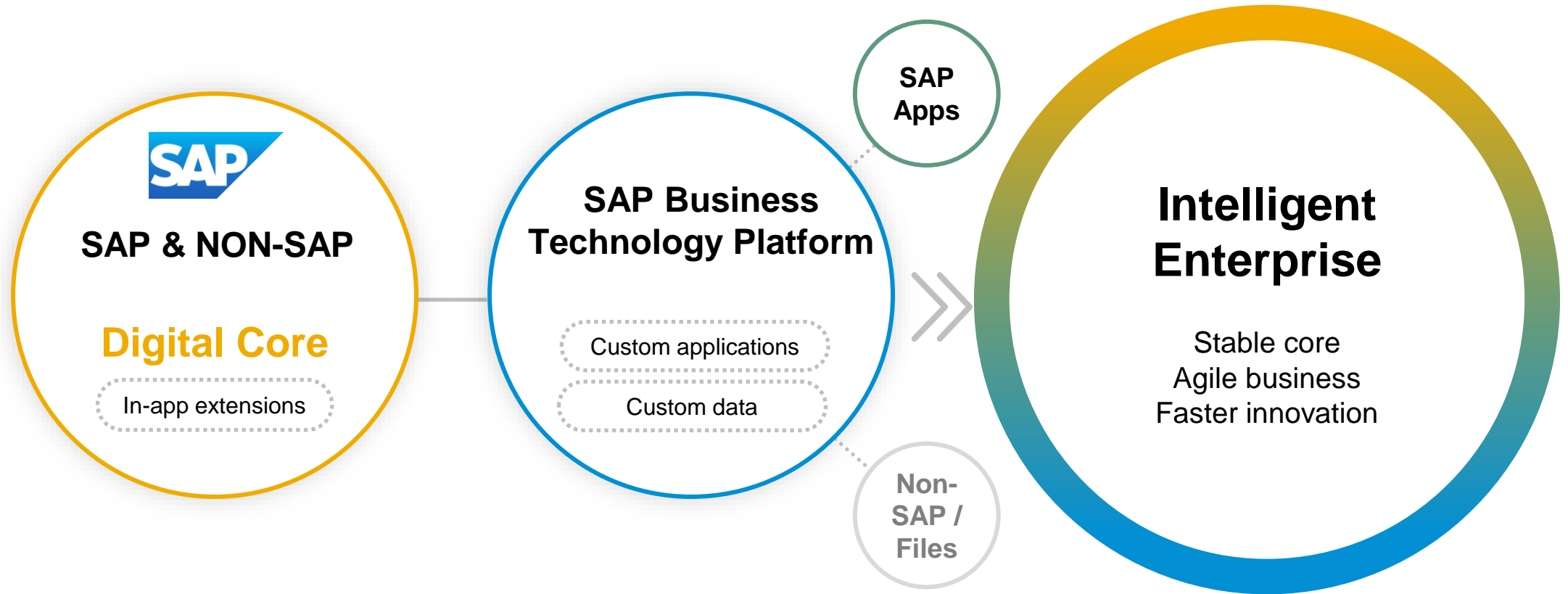
THE EVOLUTION



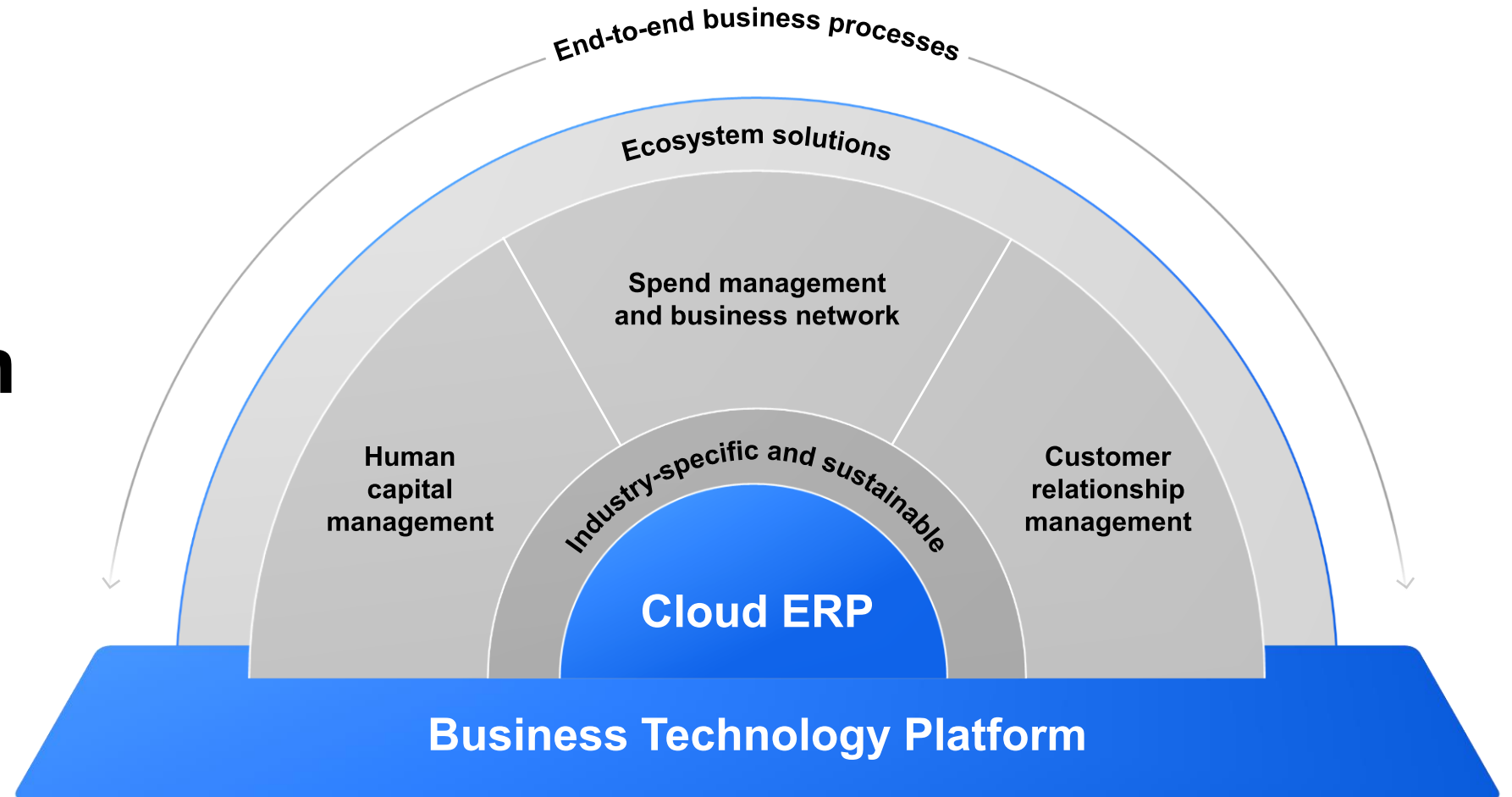
DIGITAL NATIVES & DIGITAL IMMIGRANTS



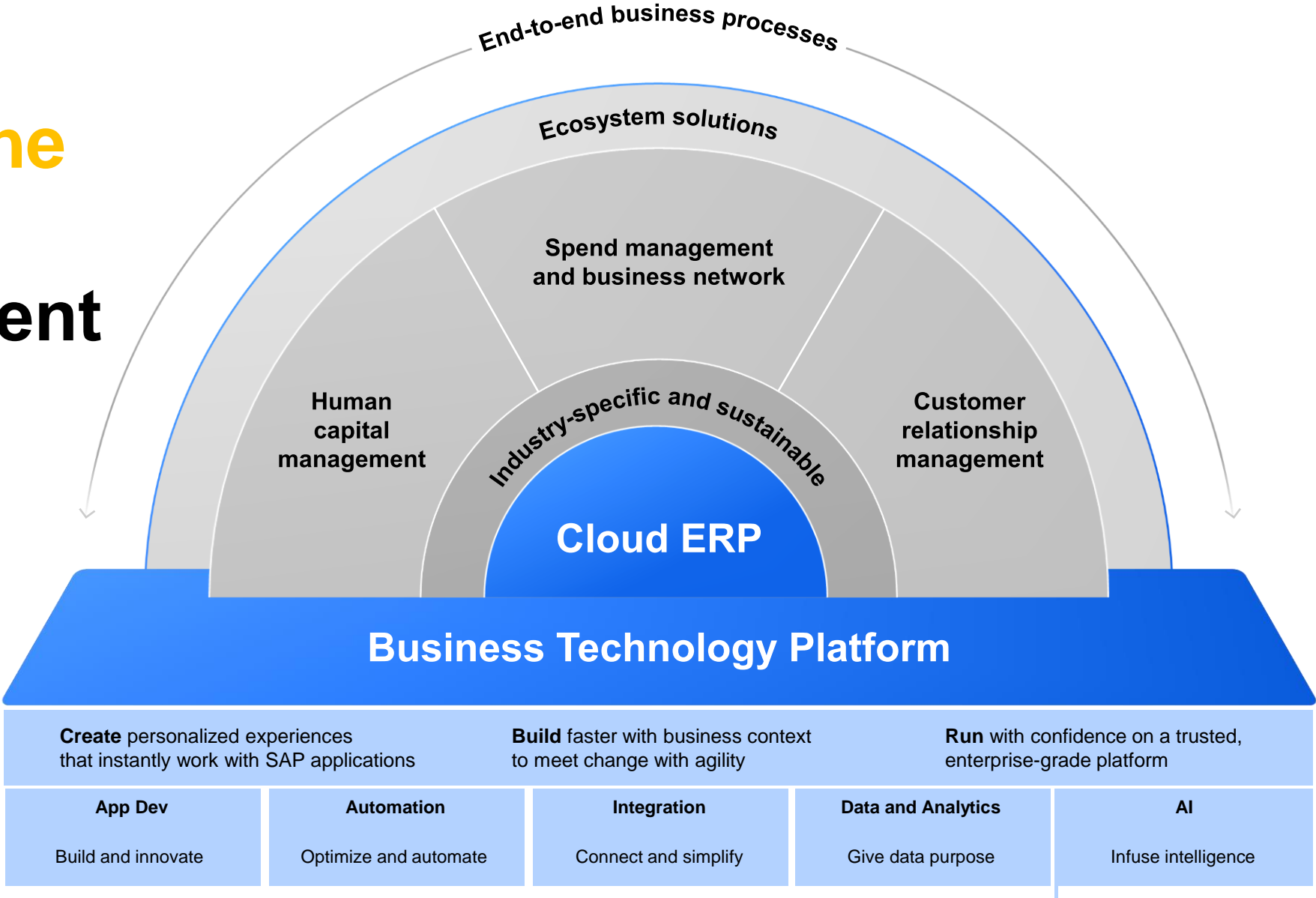
BI-MODAL IT



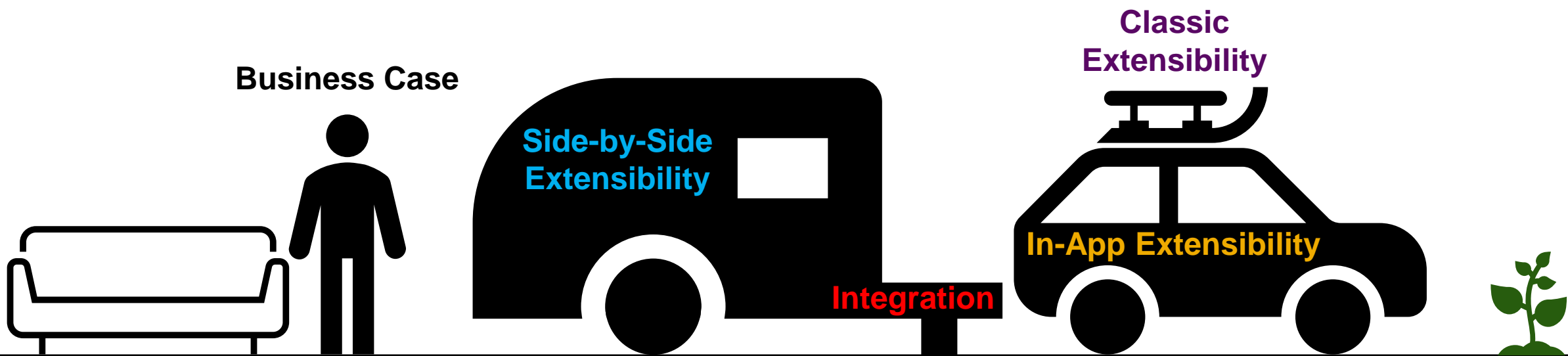
Enable every
enterprise
to become an
**intelligent,
sustainable
enterprise**



SAP BTP is the foundation of the Intelligent Sustainable Enterprise



Extensibility Overview



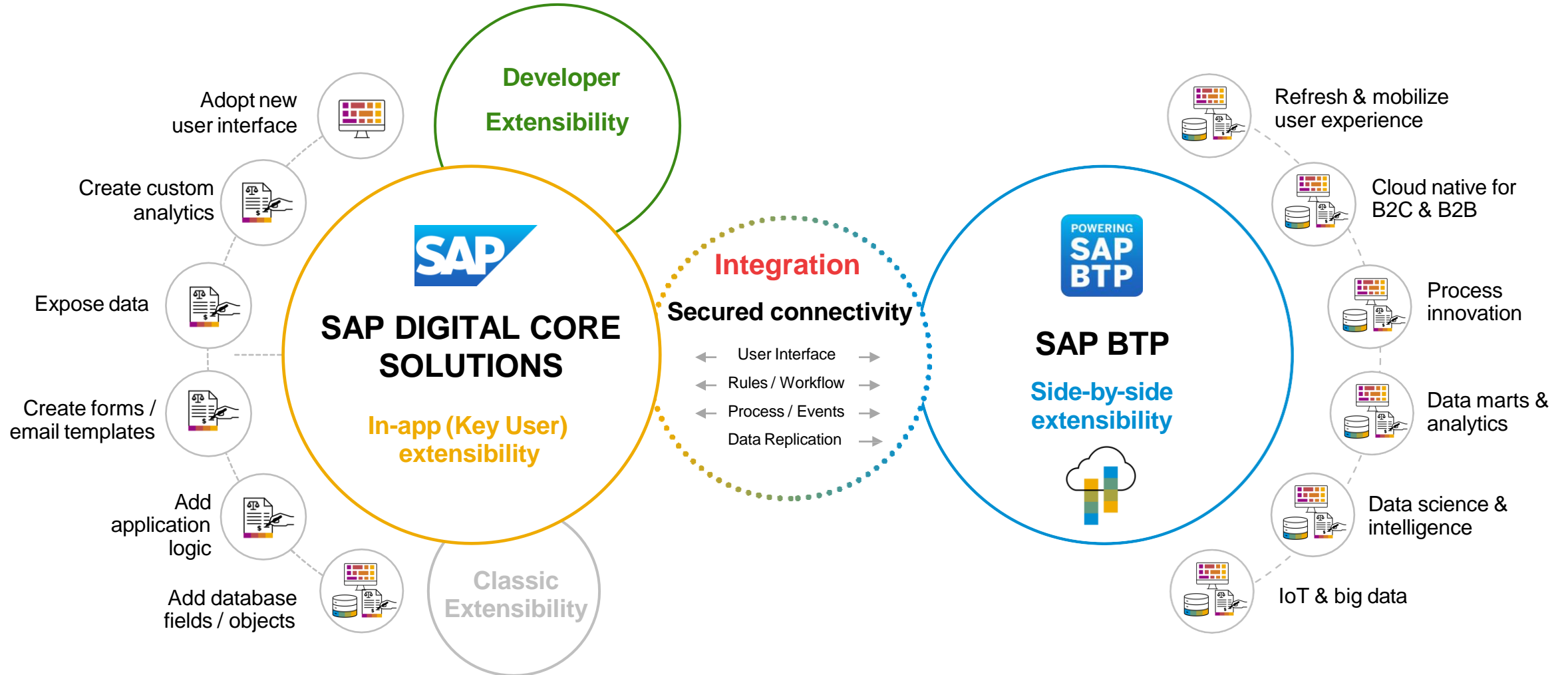


SAP EXTENSIBILITY BIG PICTURE

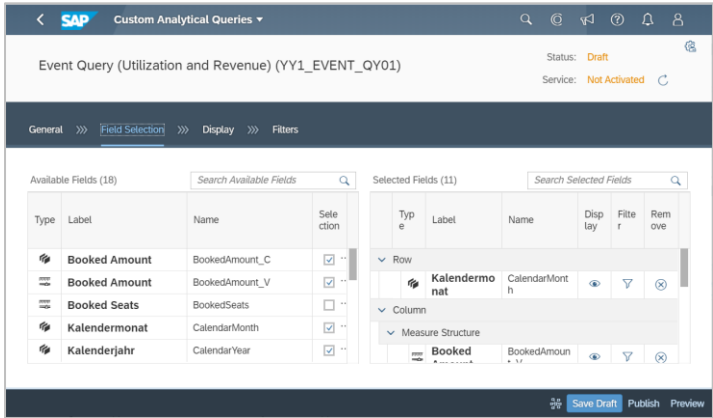
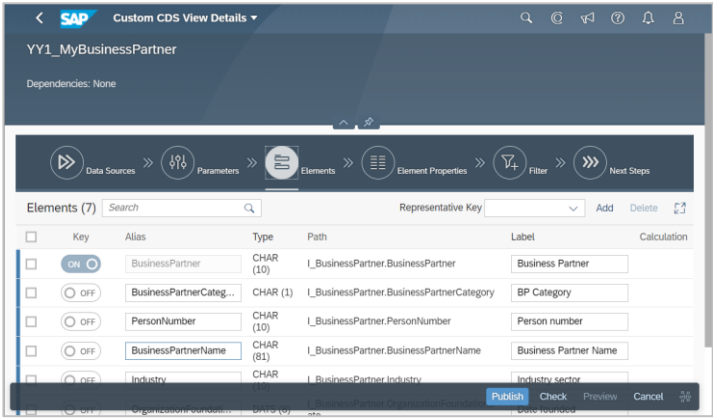
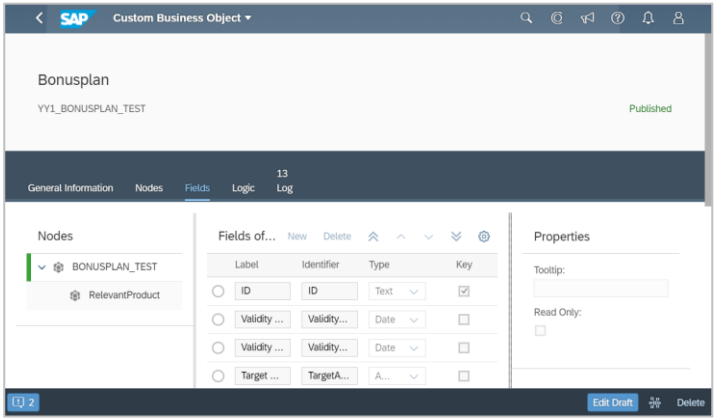
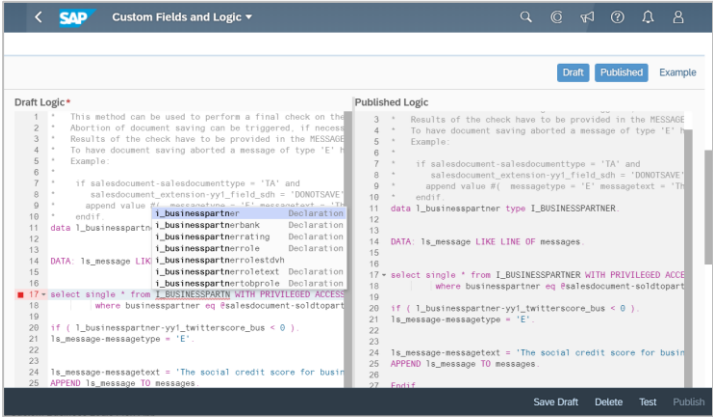
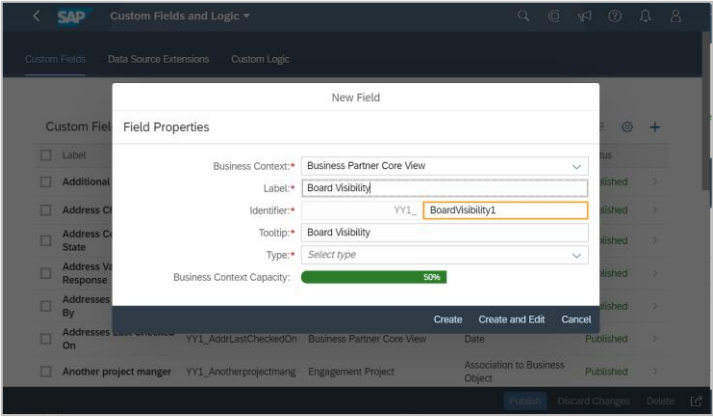
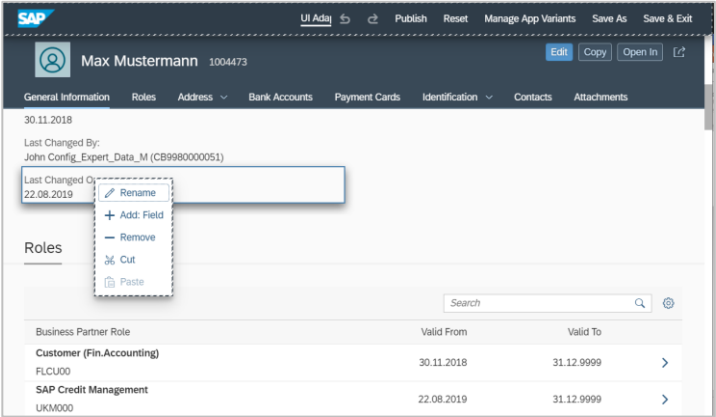
In-App Extensions



Cloud Extensions

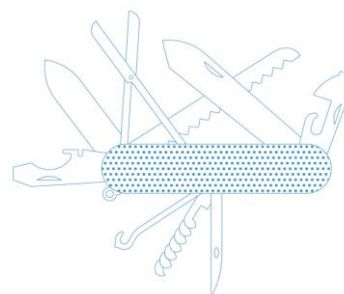


Examples of Key-User tools



SAP BTP Cloud Capabilities

Secure & compliant
Open & flexible
Unified & simple



Broad ecosystem
Enterprise-grade & scalable
Business-centric

Business Technology Platform

Cloud Platform Enterprise Agreement / Pay-As-You-Go

Solution Areas Outcomes	App Dev	Automation	Integration	Data and Analytics	AI
	Build and innovate	Optimize and automate	Connect and simplify	Give data purpose	Infuse intelligence
Capabilities	→ Visual Low-Code / No-Code experience	→ Workflow Management	→ Process integration	→ Database	→ Pre-built business AI models
	→ Pro-code tooling	→ Robotic Process Automation	→ API led integration	→ Data management	→ MLOps
	→ Digital experience	→ Process monitoring & analytics	→ Event based integration	→ Data warehouse	
	→ DevOps	→ Automated document processing	→ Data integration	→ Analytics & planning	→ Responsible AI

40% cost savings
New business models
unlock full business potential

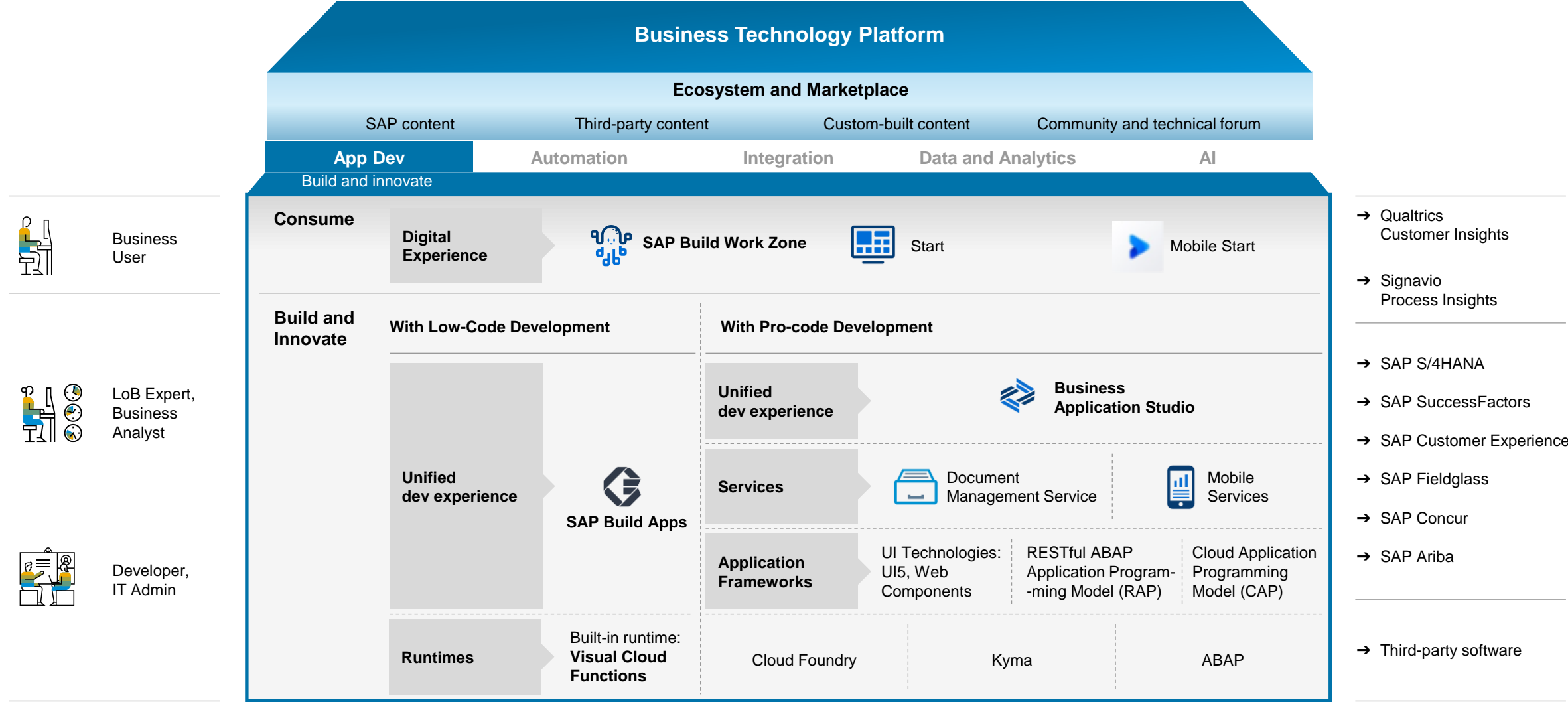
40% reduction
In TCO across integration
landscapes

4–5 hours saved
Generating reports each
month

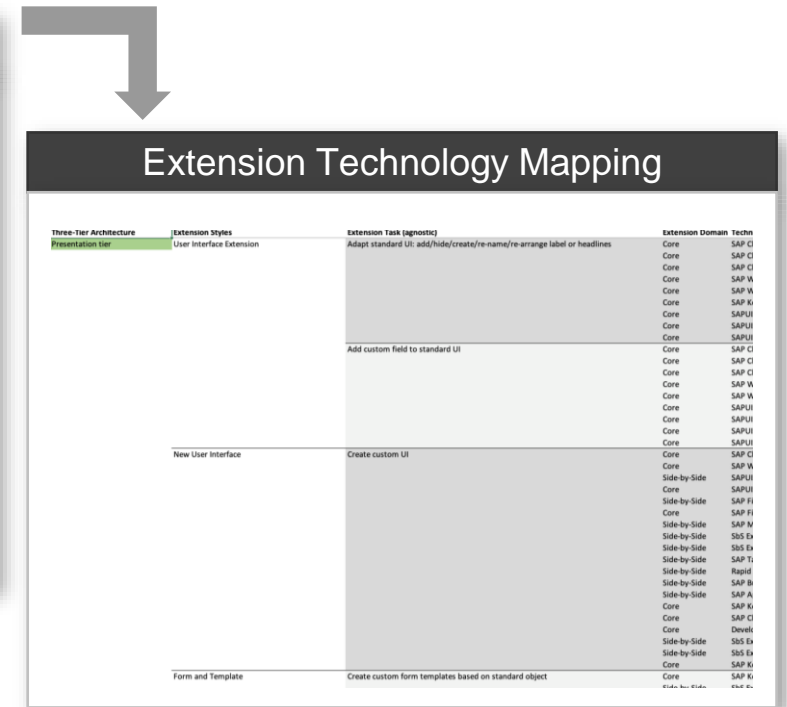
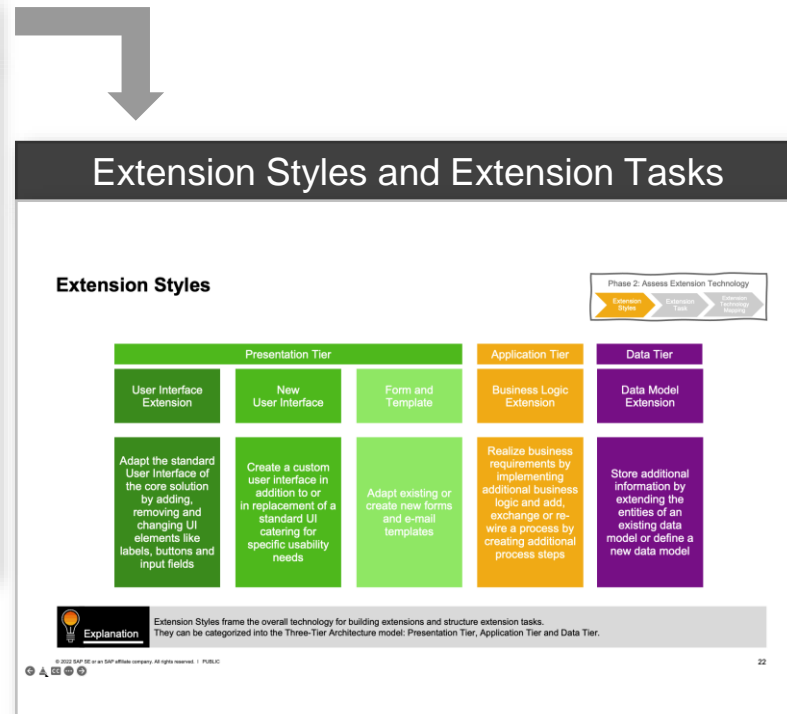
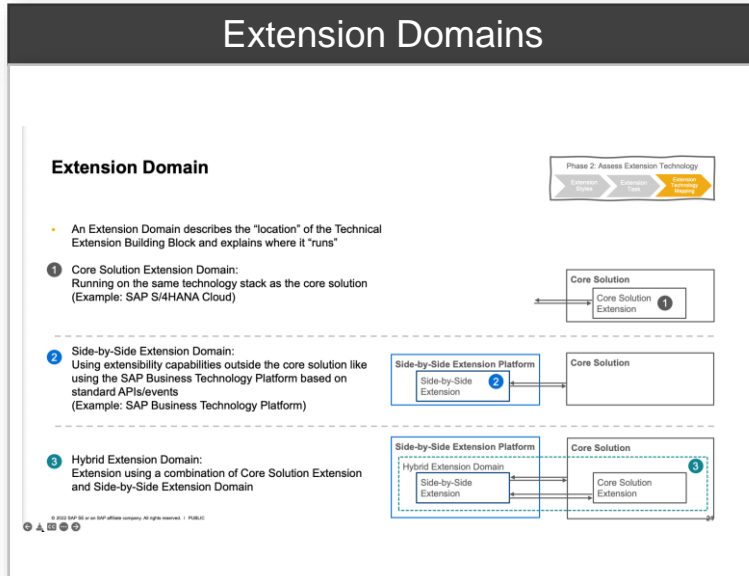
40–50%
Less IT spend with SAP
BTP

APPLICATION DEVELOPMENT

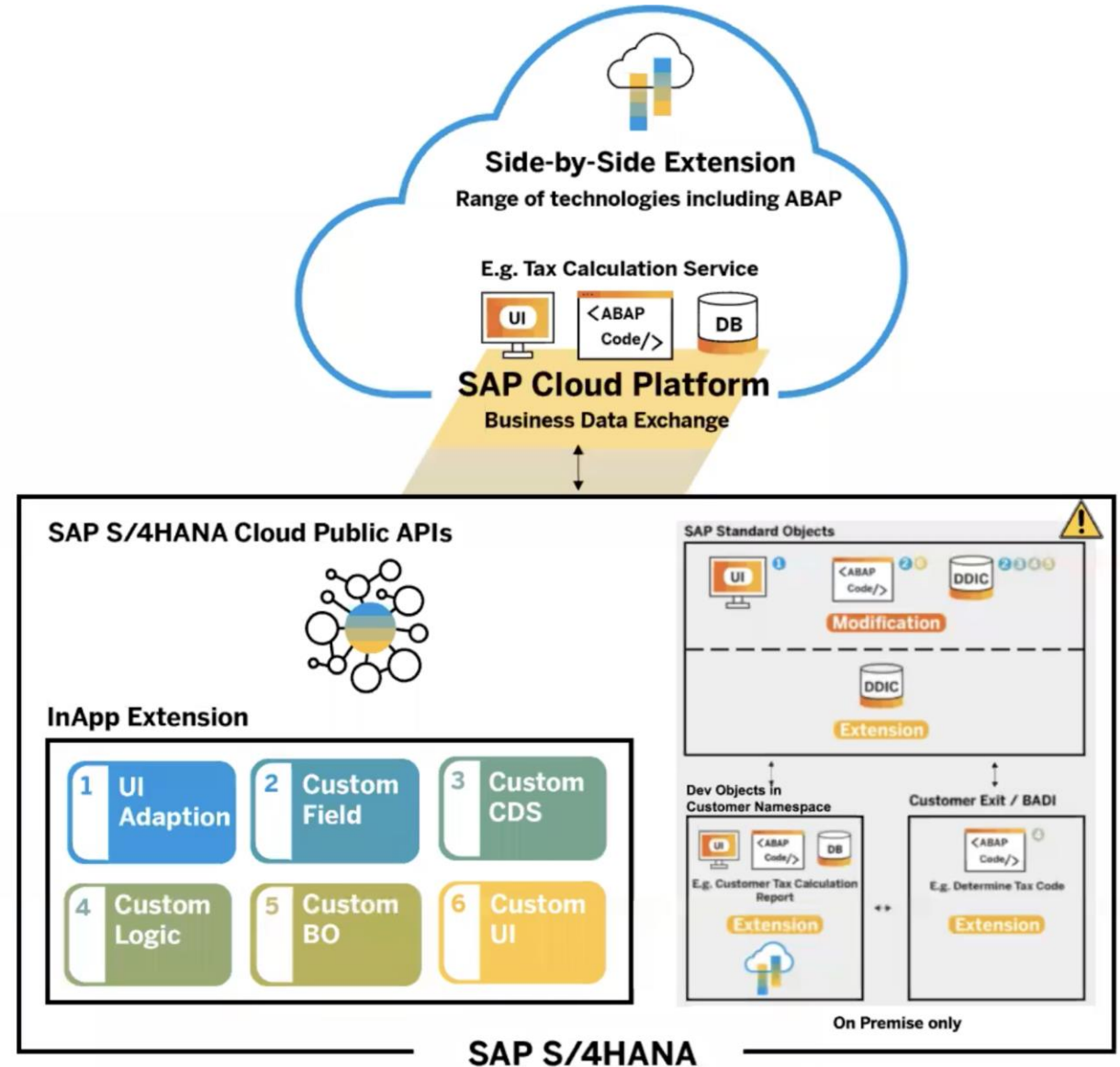
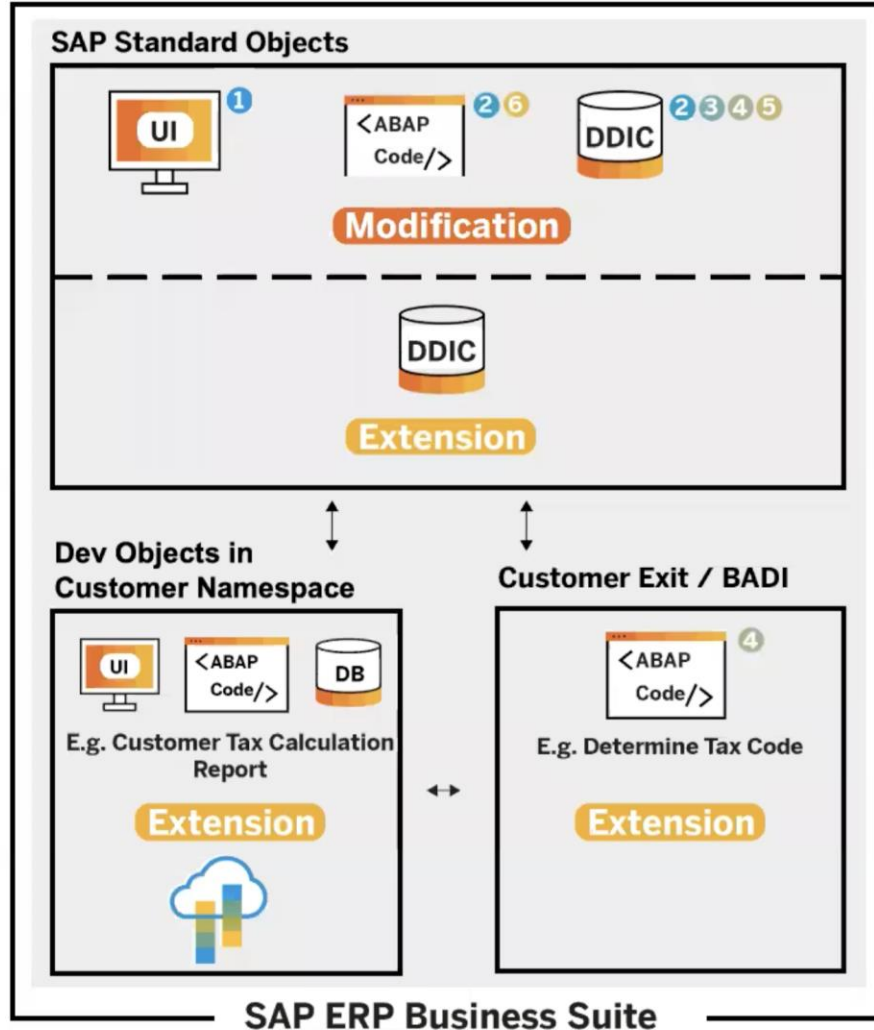
Build and Innovate



SAP APPLICATION EXTENSION METHODOLOGY (AE-M)



The Natural Migration Path

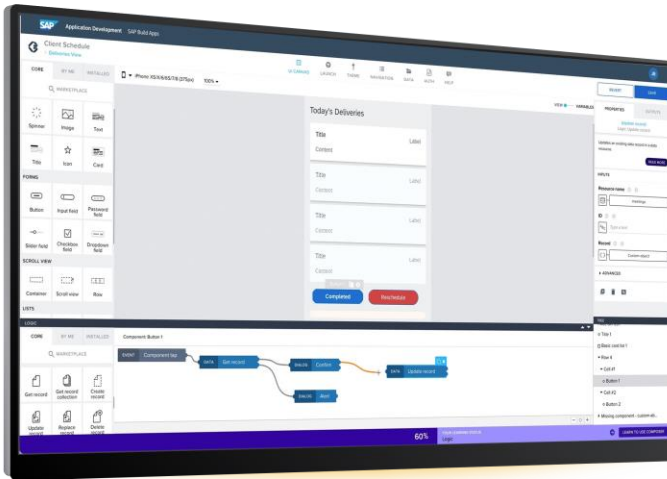


⚠ Not really in line with the „Principle of Decoupling“

SAP BUILD

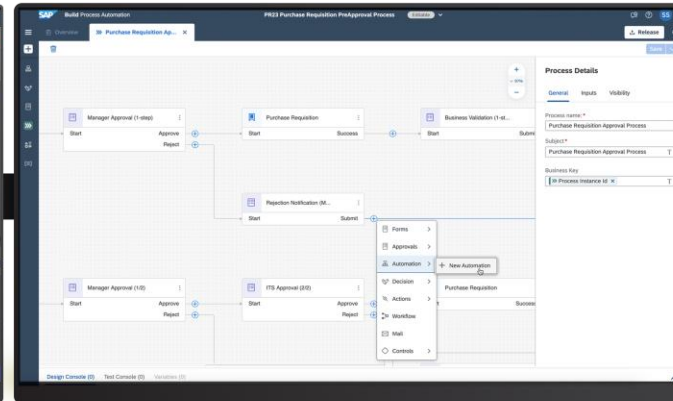
Create and augment enterprise apps, automate processes, and design business sites, all visually

Compose apps



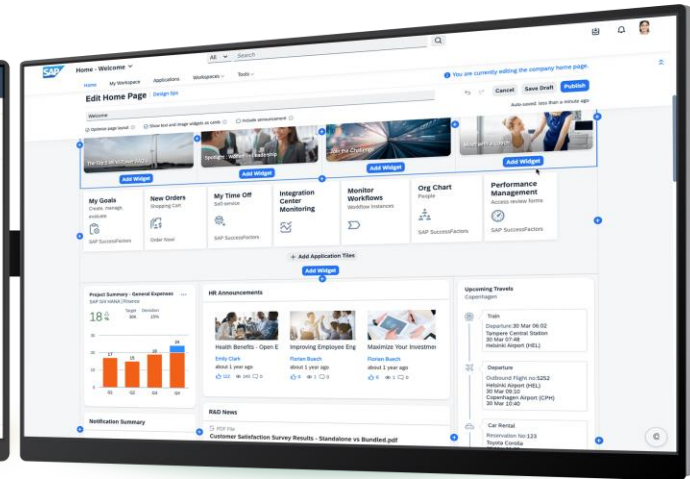
SAP Build Apps

Automate processes



SAP Build Process Automation

Design business sites



SAP Build Work Zone

Build Visually
Integrate Seamlessly
Collaborate Securely

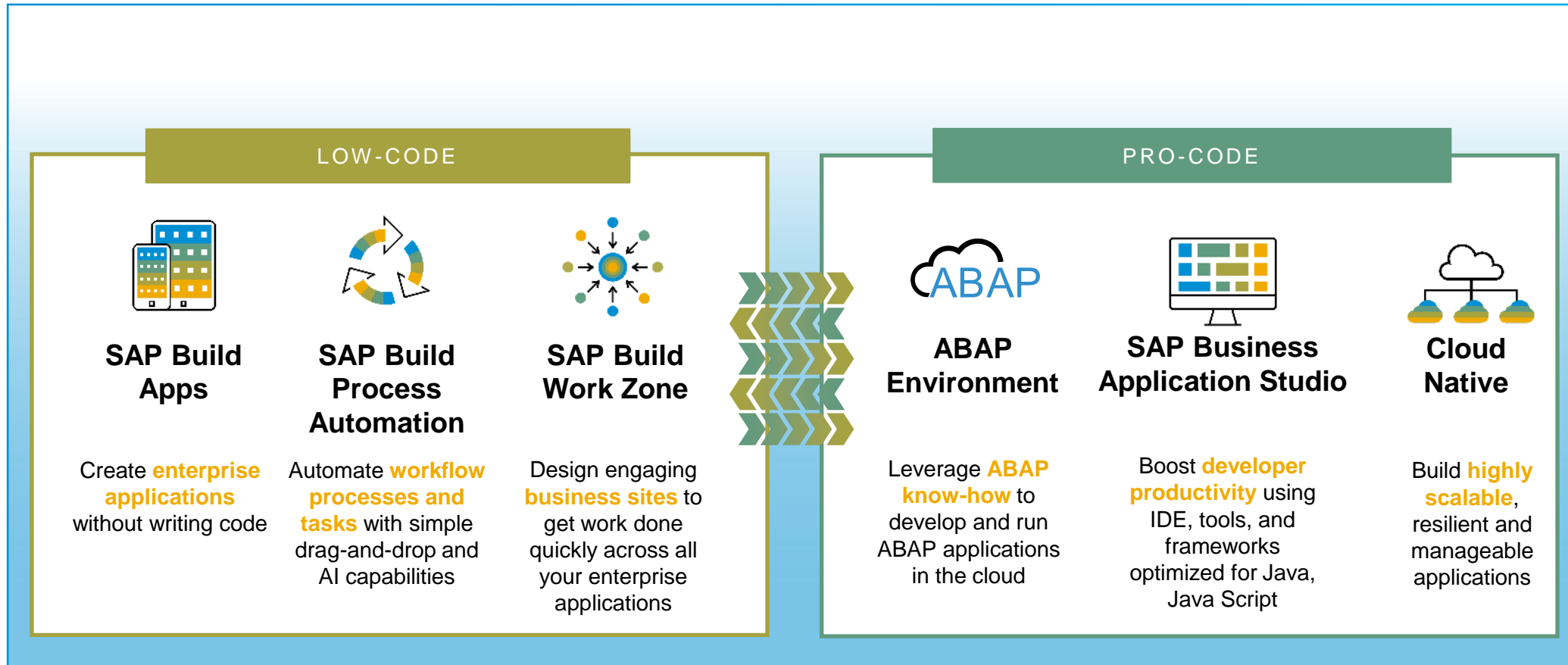
SAP Business Technology Platform

Low Code / No Code for Everyone



For business users and professional developer

With low-code and pro-code tools



How to achieve rapid time
to value with SAP Build?

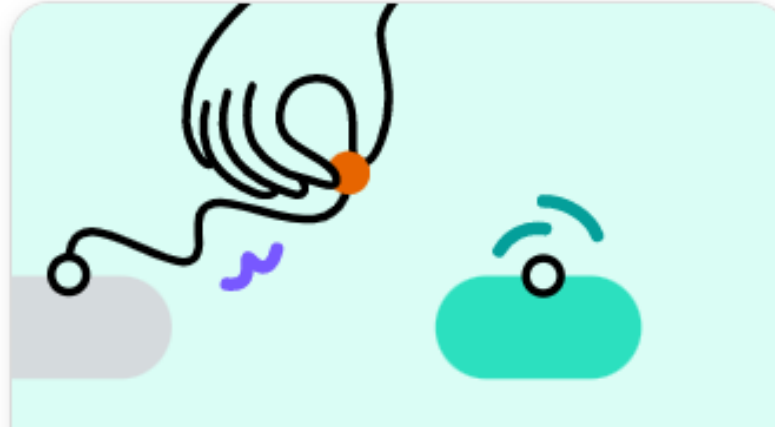
Low-Code No-Code



Build an Application

Use SAP Build Apps to create web and mobile applications, including cloud-based backends for data and business logic.

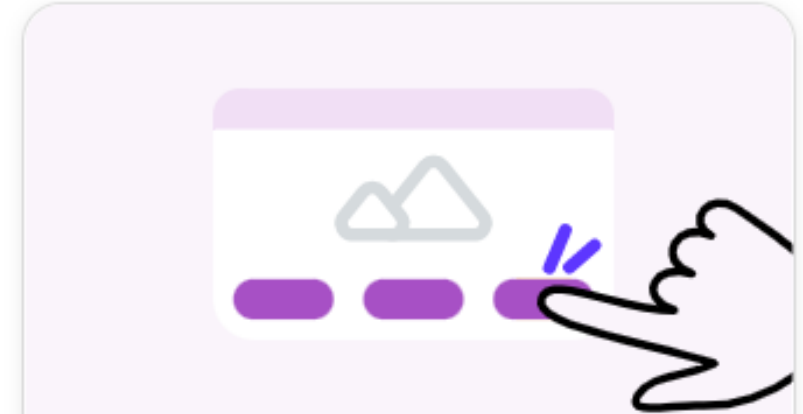
[Learn More](#)



Build an Automated Process

Use SAP Build Process Automation to automate processes and tasks with drag-and-drop simplicity.

[Learn More](#)




Build a Business Site

Create and customize business sites with an easy no-code experience.

[Learn More](#)


SAP Build Apps



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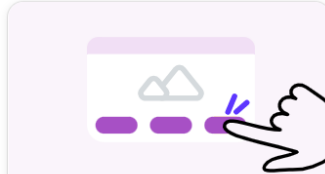
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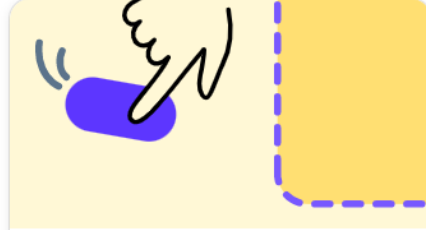
SAP **Build** Process Automation



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SAP Build Work Zone



Build a Business Site

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[Learn More](#)



Build an Application

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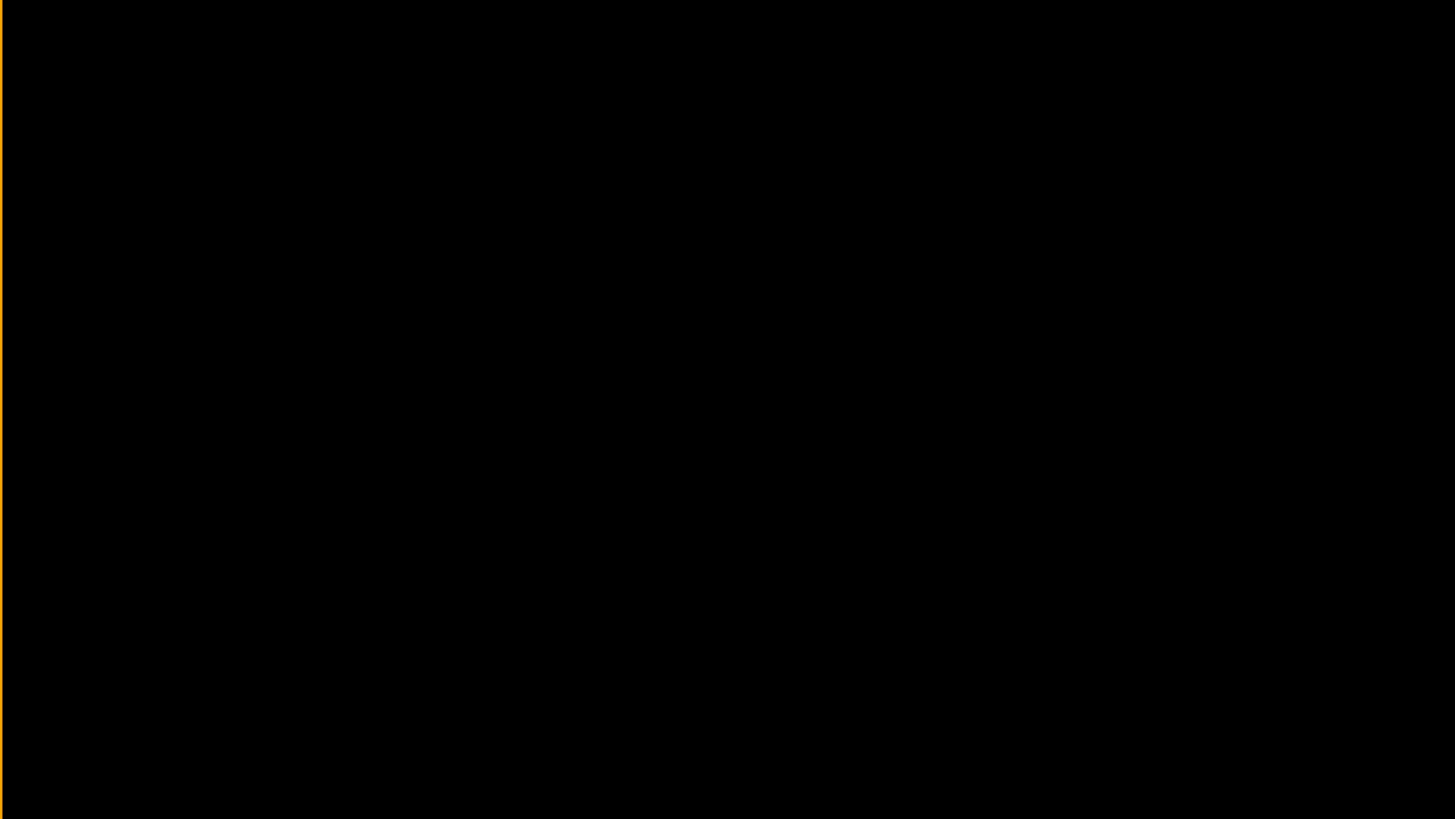
[Learn More](#)



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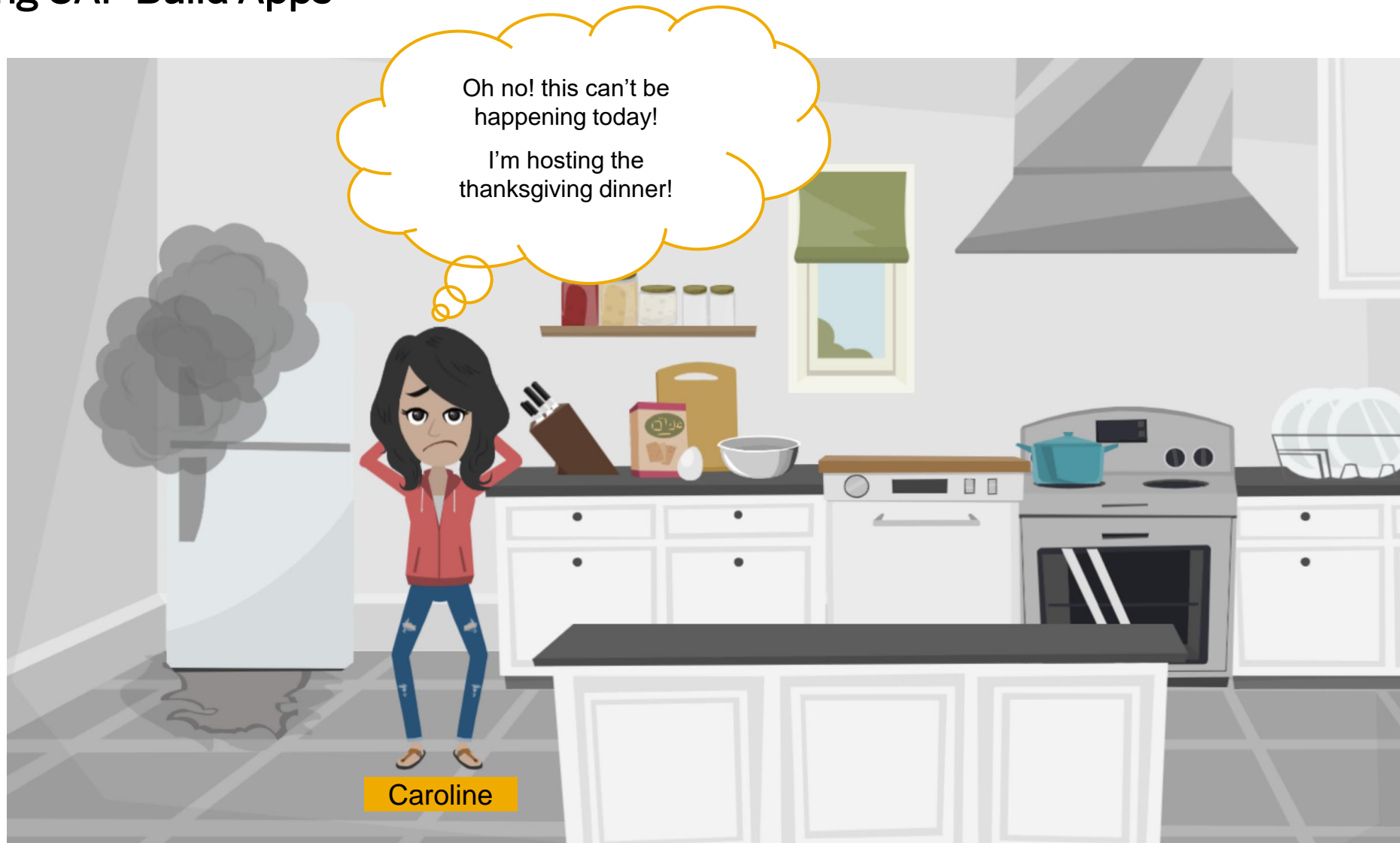


Have you ever come across a situation where you're in a hurry to buy something and you forgot your wallet...?



In-Store Shopping - Retail Use Case

Leveraging SAP Build Apps



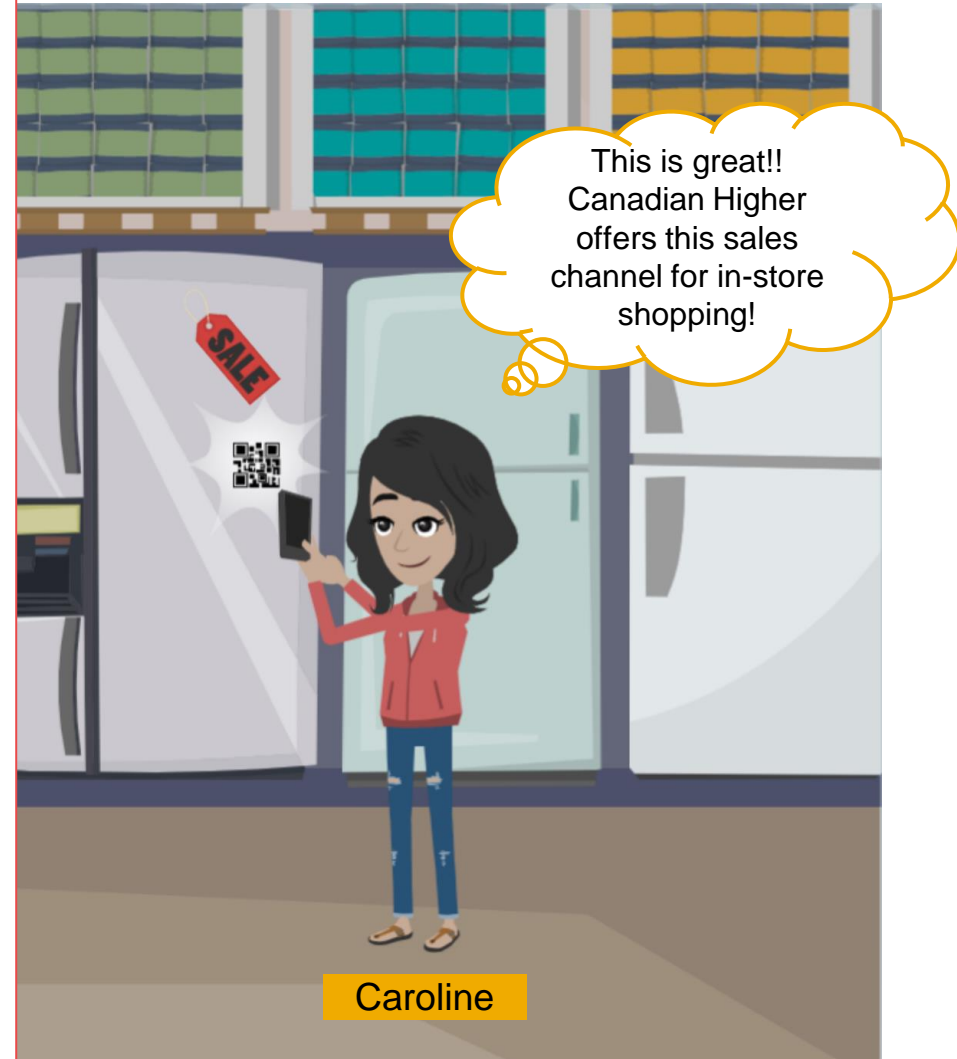
In-Store Shopping - Retail Use Case

Leveraging SAP Build Apps



In-Store Shopping - Retail Use Case

Leveraging SAP Build Apps

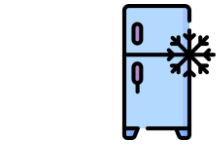


In-Store Shopping - SAP Build Apps and 3rd party connectors

Demo Scenario

Benefits:

- New channel/way to sell faster, leveraging low-code/no-code capabilities
- Better customer experience
- Smooth and quick integration leveraging prebuilt connectors



Build Apps



stripe



Sales and Service Core
by SAP Customer Experience



twilio

- Customer scans the fridge QR code using a custom LC/NC built mobile application
- Proceeds to buy it with the pre-saved payment configuration.

- Payment transaction being done by Stripe's platform.

- A Sales Order is created and available to process it, leveraging the OData adapter.

- A SMS notification with the order Id is sent to the customer.

Other BTP use cases

Customer Proof Points

App Dev

Hertha BSC

70% lesser e-mails

With mobile connectivity and information sharing with SAP Build Work Zone

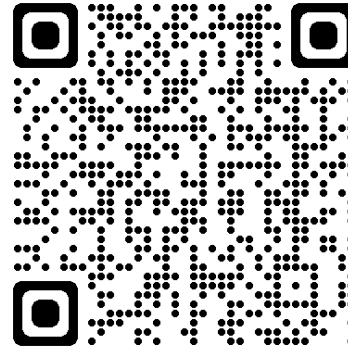
[→ more information](#)

DHL

Increased reliability

In reporting damages during inspections with SAP Build Apps

[→ more information](#)



Process Automation

Rehau

Transforming an entire day's work for one employee into a two-minute task for a bot

Process Automation to automate upload of financial documents and process orders

[→ more information](#)

SunRice

>400 growers accessed the portal during harvest

Automation of key processes and workflows, delivering an end-to-end experience for rice growers with timely access to information

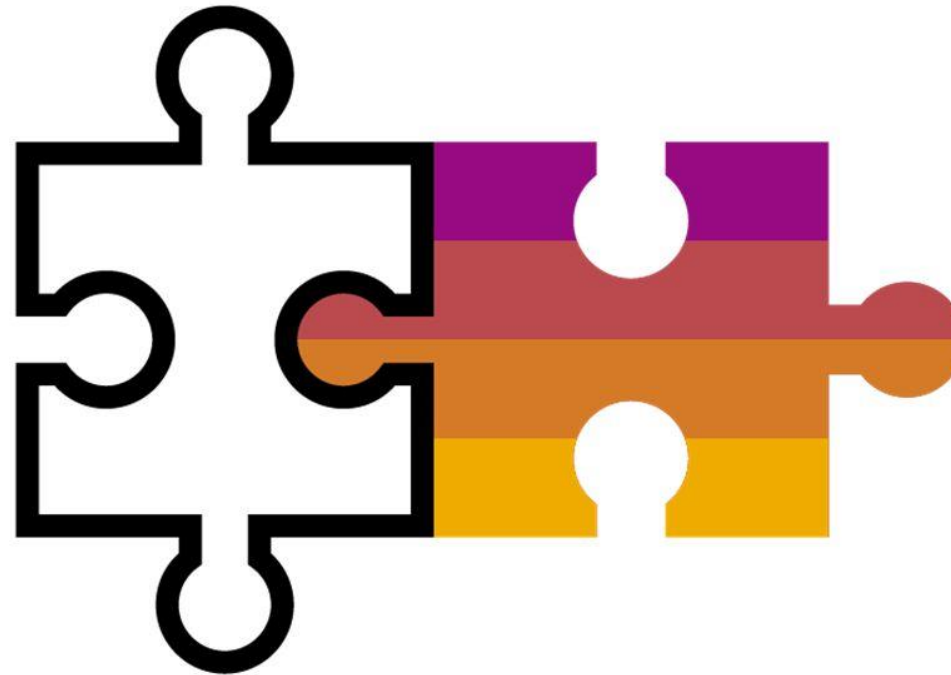
Villeroy & Boch

Intelligent bots processing 6,000 documents each year

Process Automation: Intuitive functionality to create RPA bots (both attended and unattended) that follow predefined workflows based on set business rules [→ more information](#)

To: SAP BTP

You complete me.



Yours truly,
SAP S/4HANA

<https://discovery-center.cloud.sap/>



<https://www.sap.com/products/technology-platform/trial.html>



<https://learning.sap.com/>





Dev & Ops with SAP Business Technology Platform



Today's Speaker

Dev & Ops with SAP Business Technology Platform



Mariajose Martinez, “Majo” (pronounced Maho)

Sr. Solution Advisor for SAP Business Technology Platform, SAP Canada



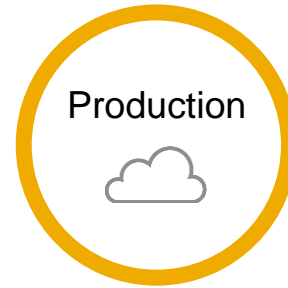
Why DevOps?

Challenge of conflicting goals

DEV 

“I own the application!”

“I need to change it fast!”



 OPS

“I own the application runtime!”

“I need to keep it stable!”





“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/>

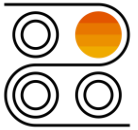
DevOps key principals



Culture



Automation



Lean



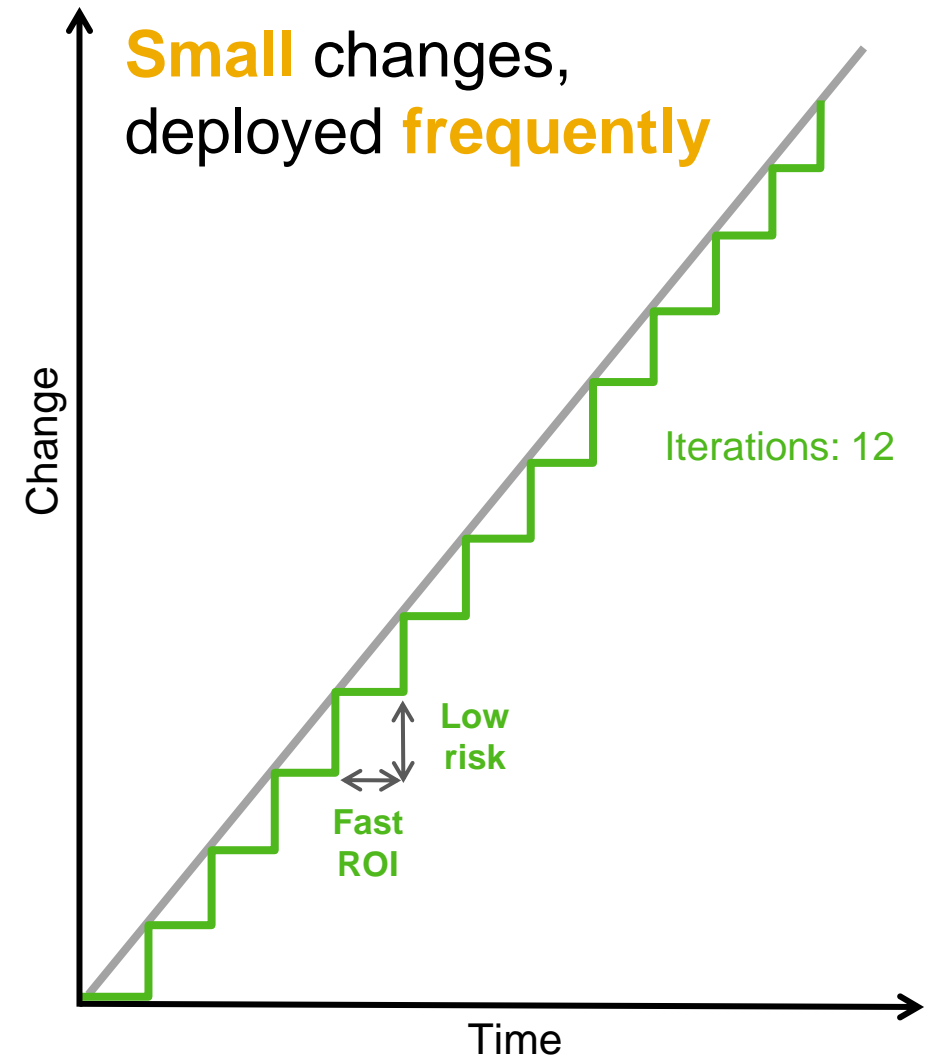
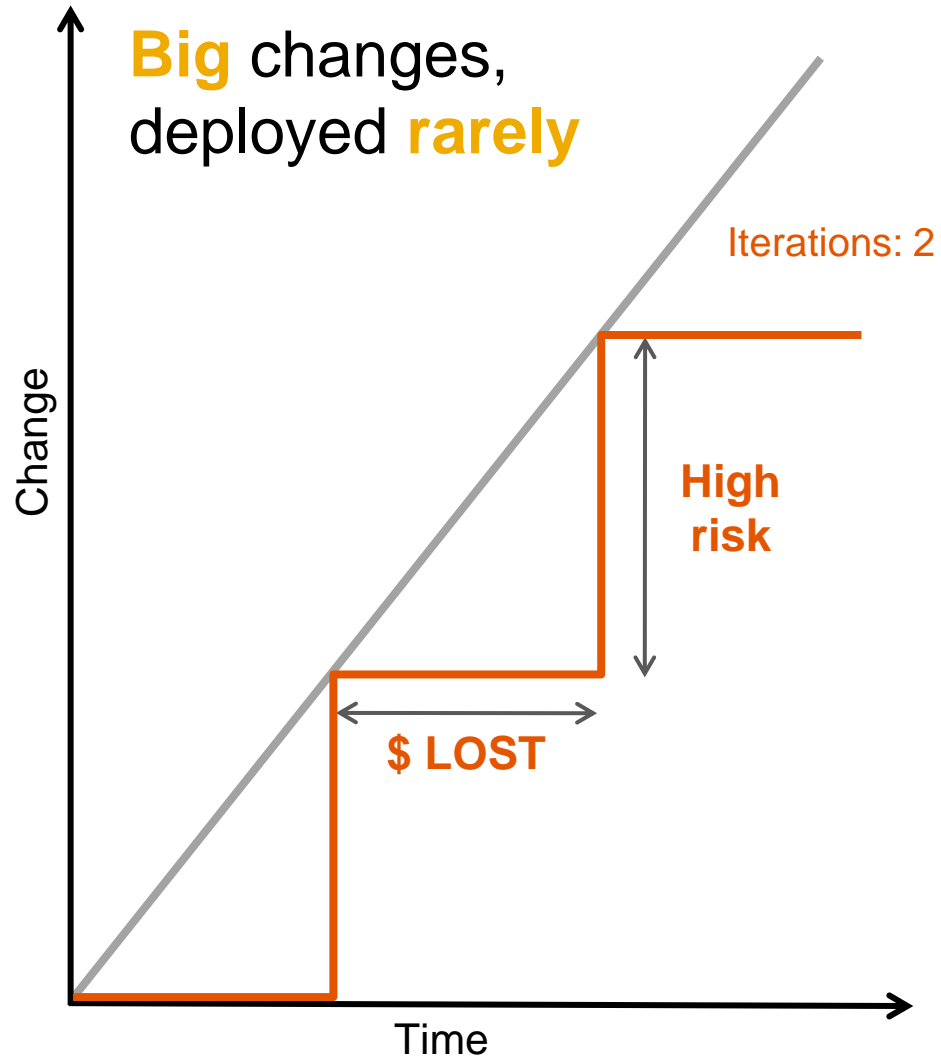
Measurement



Sharing

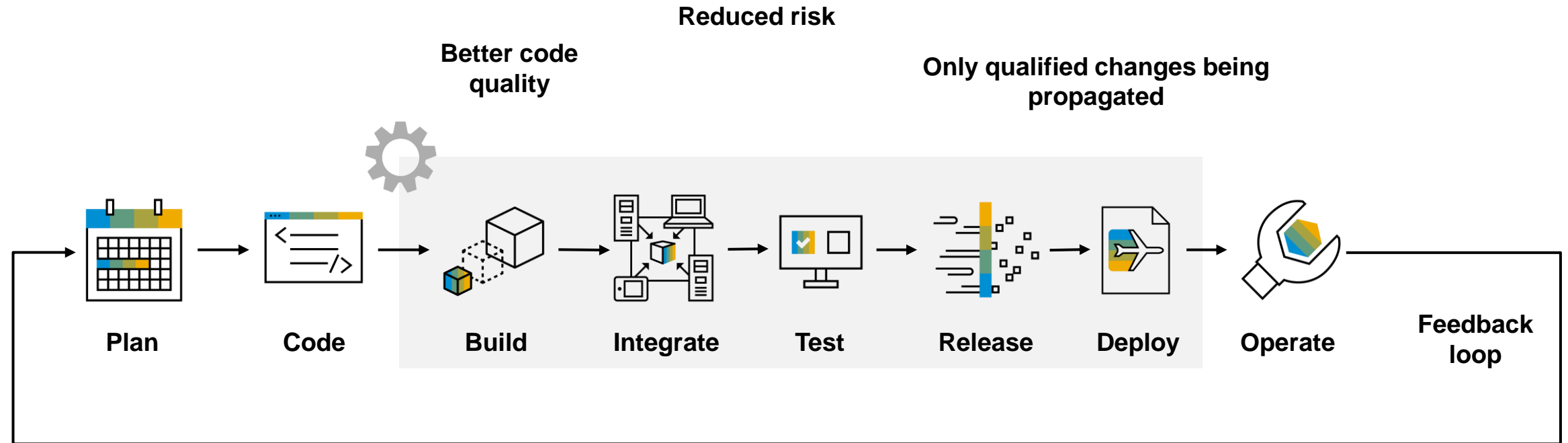


Benefits of continuously delivering software changes



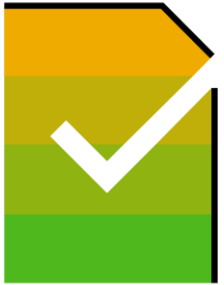
Continuous Integration and Continuous Delivery (CI/CD)

The deployment pipeline

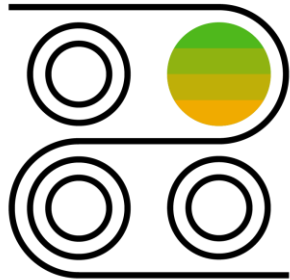


Continuous Integration and Continuous Delivery (CI/CD)

The goal of continuous delivery



Build quality in



Faster deployment



Faster feedback



Better software

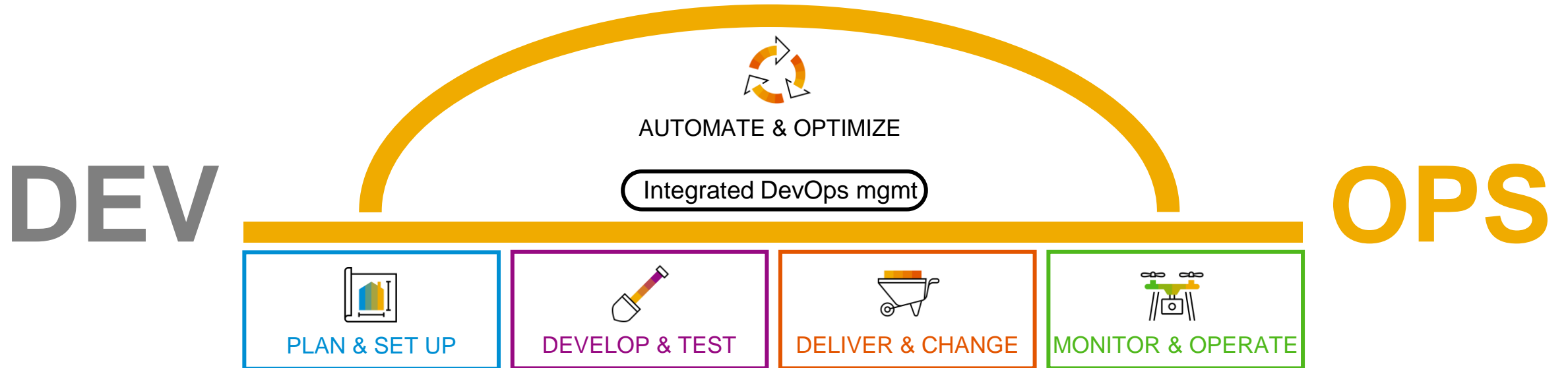


Happier customer



DevOps with SAP BTP

Categories



DevOps with SAP BTP

Plan & set up

DEV

OPS



PLAN & SET UP

Guidance

Account setup

Toolchain setup

CI/CD enablement

Best Practices for SAP BTP guide

Guidance

The screenshot shows the SAP Help Portal interface. At the top, the header includes the SAP logo, 'SAP Help Portal', and 'SAP Business Technology Platform (SAP BTP)'. Navigation links for 'Browse by Product', 'Learning Journeys', and a search icon are present. The main title is 'Best Practices for SAP BTP' with a language dropdown set to 'English'. A search bar contains the text 'This document' and a placeholder 'Enter keywords or a product name'. A 'Download PDF' button is visible. The left sidebar shows a 'Table of Contents' with a tree structure. The main content area is titled 'Setting Up Your Security and Compliance Model' and includes a summary paragraph, a 'Security Concepts' section, and several sub-sections: 'Setting Up Authentication', 'Setting Up Authorization', 'Setting Up Identity Propagation', 'Complying with Data Protection and Privacy Requirements', and 'Giving Access Rights to Platform Users'. The right sidebar contains icons for previous/next navigation, copy, share, font size, and a thumbs up icon.

SAP Help Portal SAP Business Technology Platform (SAP BTP)

Best Practices for SAP BTP English

This document Enter keywords or a product name Advanced Search

Download PDF

Home / Set Up and Plan /

Table of Contents

- Best Practices for SAP BTP
 - Basic Platform Concepts
 - Shared Responsibility Model Between You and SAP
 - Getting Started Checklist
 - Set Up and Plan
 - Creating a Governance Model
 - Setting Up Your Account Model
 - Setting Up Your Security and Compliance Model**
 - Security Concepts
 - Setting Up Authentication
 - Setting Up Authorization
 - Setting Up Identity Propagation
 - Complying with Data Protection and Privacy Requirements
 - Giving Access Rights to Platform Users
 - Planning Failover on SAP BTP
 - Develop and Build
 - Deploy and Deliver
 - Integrate and Test
 - Go Live and Monitor
 - Improve and Retire

< Previous

Setting Up Your Security and Compliance Model

Next >

Applications on SAP BTP are exposed to the Internet and should therefore fulfill the highest possible security requirements to prevent unauthorized access.

Security Concepts

The level of security you implement may vary depending on your use case and your company's general security requirements. However, there are a few best practices that we recommend, regardless of your implementation.

Setting Up Authentication

SAP BTP provides various options for implementing user authentication.

Setting Up Authorization

SAP BTP provides various options for implementing user authorization.

Setting Up Identity Propagation

SAP BTP provides various options for identity propagation.

Complying with Data Protection and Privacy Requirements

All companies must respect data protection and privacy rights of individuals. Data protection and privacy most likely influences your architecture and the functionalities of your application and should be considered as early as possible in your development process.

Giving Access Rights to Platform Users

If you've set up a staged development environment using different subaccounts or spaces, such as for development, testing, and production, we recommend that you grant the Cloud Development Team access to development subaccounts and spaces, but that you grant only the Cloud Administration Team access to the testing and production subaccounts or spaces.

Set up **CI/CD** efficiently for SAP environments

CI/CD enablement

Our mission

... is to enable the implementation of CI/CD for the development of business solutions on SAP BTP and thereby, strongly focus on our customers' and partners' needs.

You can choose from two different solutions, depending on your level of **expertise** and the level of **flexibility** you require:



SAP Continuous Integration and Delivery



- Simplify and speed up your CI/CD setup through predefined pipelines that are ready-to-use
- Follow SAP recommendations and best practices
- Don't worry about the underlying CI/CD infrastructure

Simplicity

for typical SAP business application
developers

Onboard SAPUI5
and CAP apps

Connect
with
GitHub

Monitor
Build
Status

Integrate
with TMS

...

Set up CI/CD efficiently for SAP environments

CI/CD enablement

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SAP Continuous Integration and Delivery



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- Follow SAP recommendations and best practices
- Don't worry about the underlying CI/CD infrastructure

Simplicity

for typical SAP business application developers



Project "Piper"



- Build custom pipelines with the help of our shared library
- Reuse your own CI/CD infrastructure
- Simplify your tool setup through our set of Docker images



CI/CD Best Practices Guide



Apply CI/CD principles to SAP-specific technologies

Flexibility

to automate complex and customer-specific development scenarios

Continuous Integration and Delivery

Continuous Integration and Delivery Best Practices Guide

CI/CD enablement

The screenshot shows the SAP Help Portal interface. The browser address bar displays the URL: `help.sap.com/viewer/3324745951b44b578bd65221d2ff8f9a/Cloud/en-US`. The page title is "Continuous Integration and Delivery Best Practices Guide". A search bar is located below the title. On the left, a "Table of Contents" sidebar lists the guide and its sections. The main content area features a "Note" box stating that the guide is under construction. Below this, the section "What Is This Guide About?" explains the guide's purpose. At the bottom, a diagram illustrates the CI/CD pipeline stages: Build, Test, Deploy, and Extend, with a legend indicating that the first three stages are for "Set Up Your Pipeline" and the last stage is for "Extend Your Pipeline".

Continuous Integration and Delivery Best Practices Guide

Table of Contents

- Continuous Integration and Delivery Best Practices Guide
 - Procedures for CI/CD Pipelines
 - Apply CI/CD to SAP Fiori Development on SAP Cloud Platform
 - Integrate SAP Cloud Platform Transport Management Into Your CI/CD Pipeline

Continuous Integration and Delivery Best Practices Guide

Send feedback

Implement continuous integration for SAP-specific development projects.

Note

This new edition of the Continuous Integration and Delivery Best Practices Guide is still under construction. For more procedures, see the original [Continuous Integration \(CI\) Best Practices with SAP](#).

What Is This Guide About?

The Continuous Integration and Delivery Best Practices Guide provides simple procedures to implement continuous delivery (CD) pipelines on any CI/CD stack. It does not describe fully fledged pipelines, but rather demonstrates how to apply the principles of CI/CD to SAP-specific technologies.

In this guide, each procedure describes one specific SAP scenario and either focuses on the core stages of a pipeline (build, test, and deploy) or helps you extend your existing pipeline with SAP Cloud Platform services. See [Procedures for CI/CD Pipelines](#).

Build **Test** **Deploy** **Extend**

Legend

- Set Up Your Pipeline
- Extend Your Pipeline

Set Up Your Pipeline vs. Extend Your Pipeline

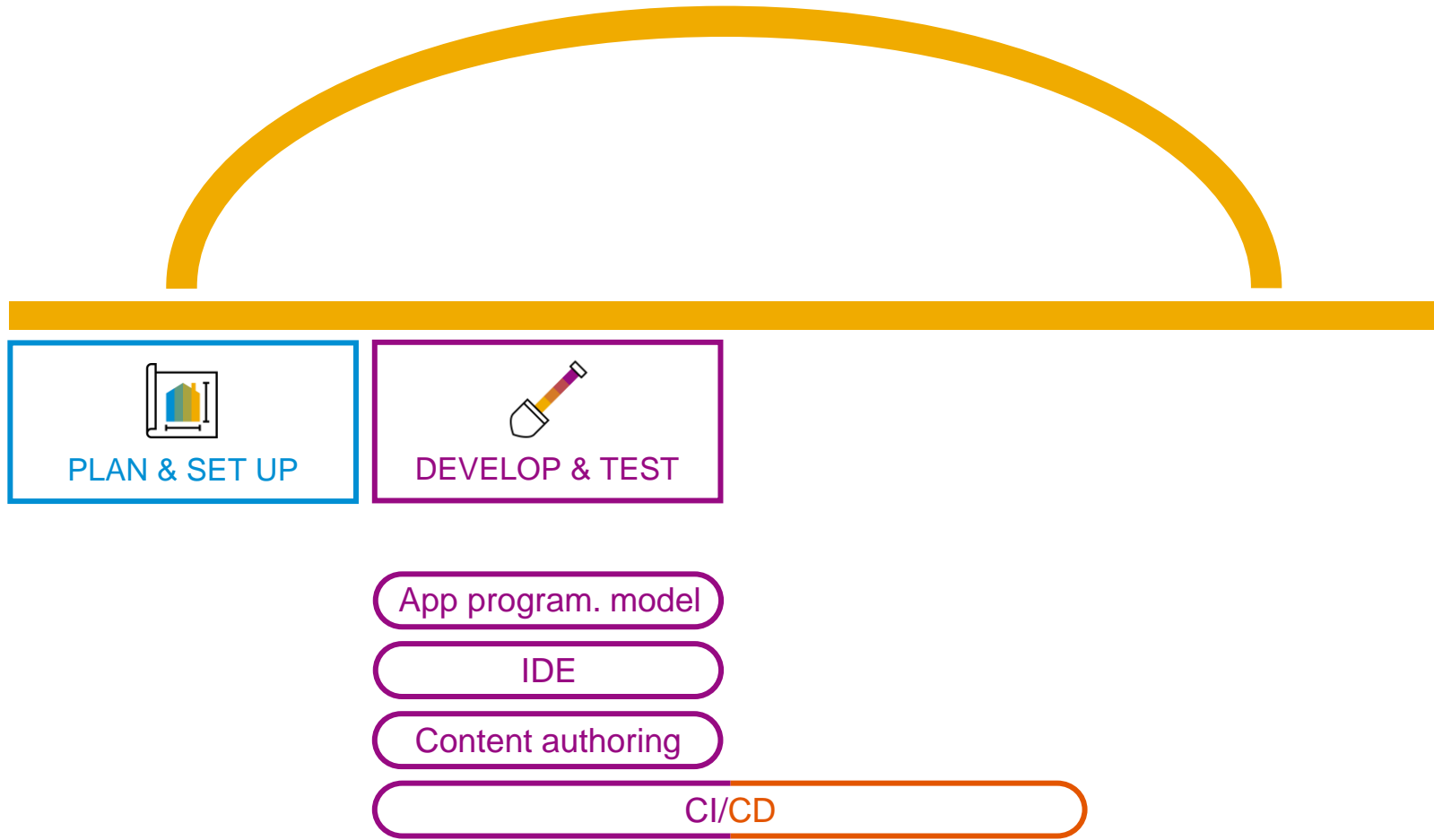
- Provides simple procedures to implement continuous delivery pipelines **on any CI/CD stack**
- Demonstrates how to apply principles of CI/CD to **SAP-specific technology**

DevOps with SAP BTP

Develop & test

DEV

OPS






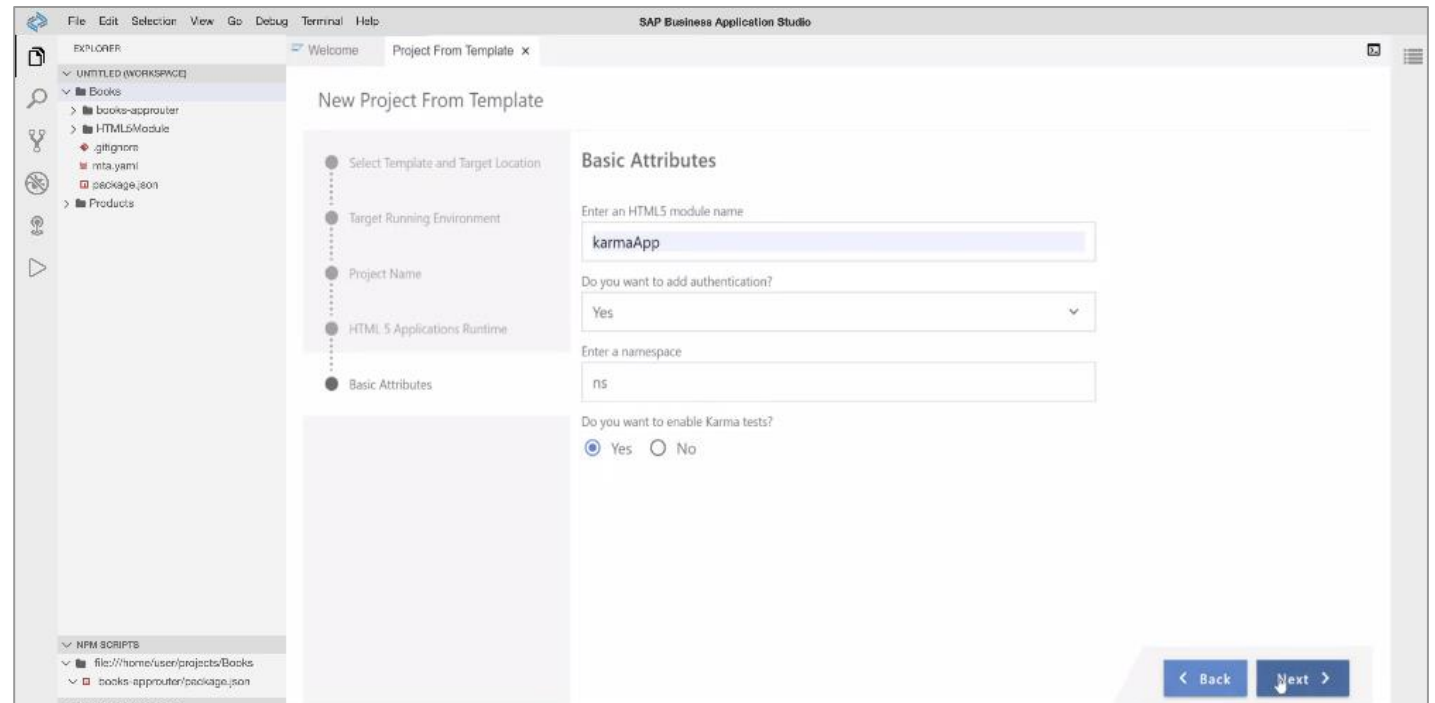
Develop your application

Development environments

IDE

Create & use your application **development environment**:

- Local environment, such as  eclipse + plugin/toolkit or Microsoft's  Visual Studio Code
-  SAP Business Application Studio:



Develop your application

Creation and handling of content

Content authoring

When developing apps (that is, creating or changing code), you normally also come up with **content** that is relevant for your business application:

- **Security** roles
- **Destinations**
- **Application-specific content**

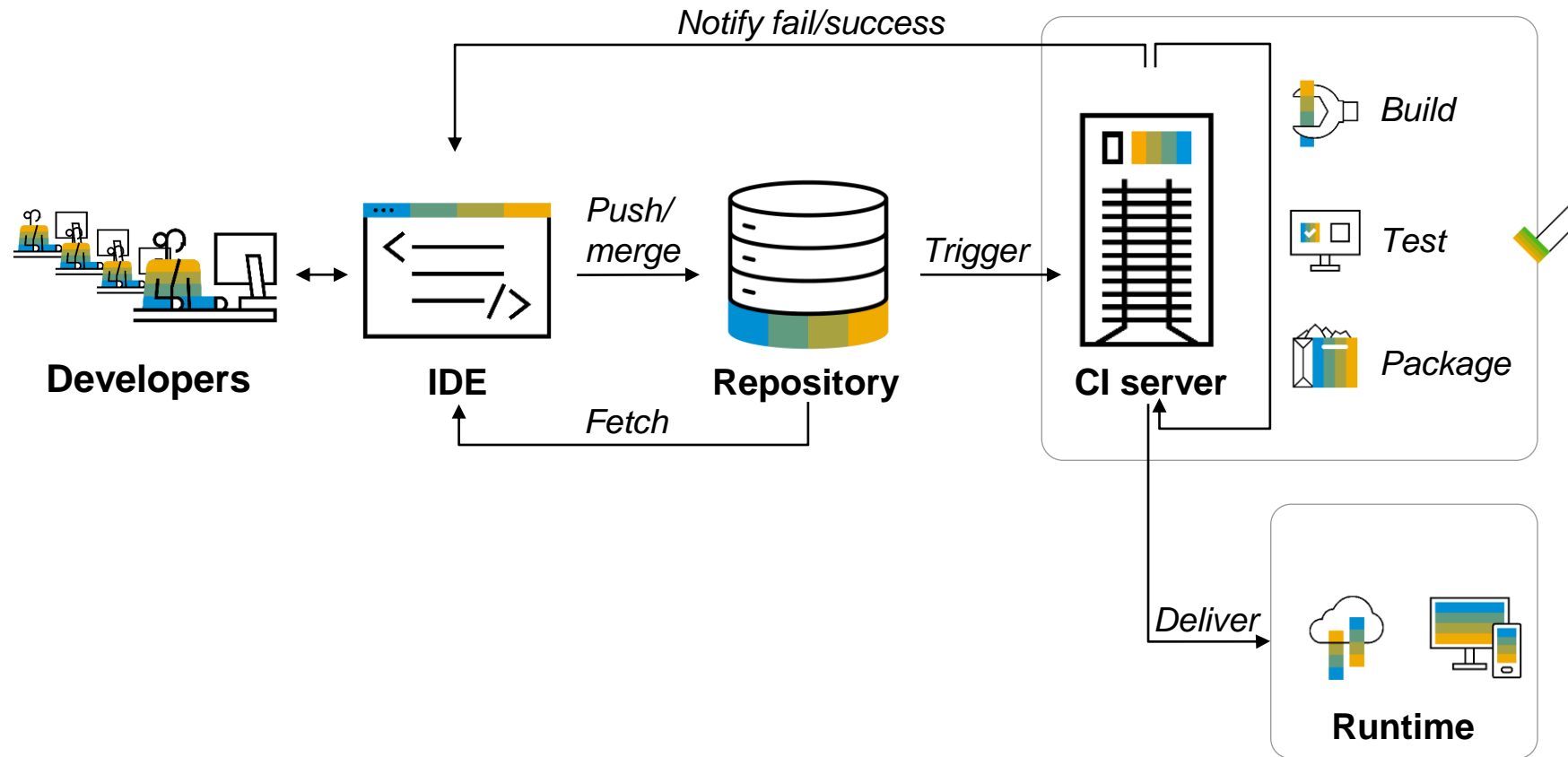


...

Agile development

CI/CD

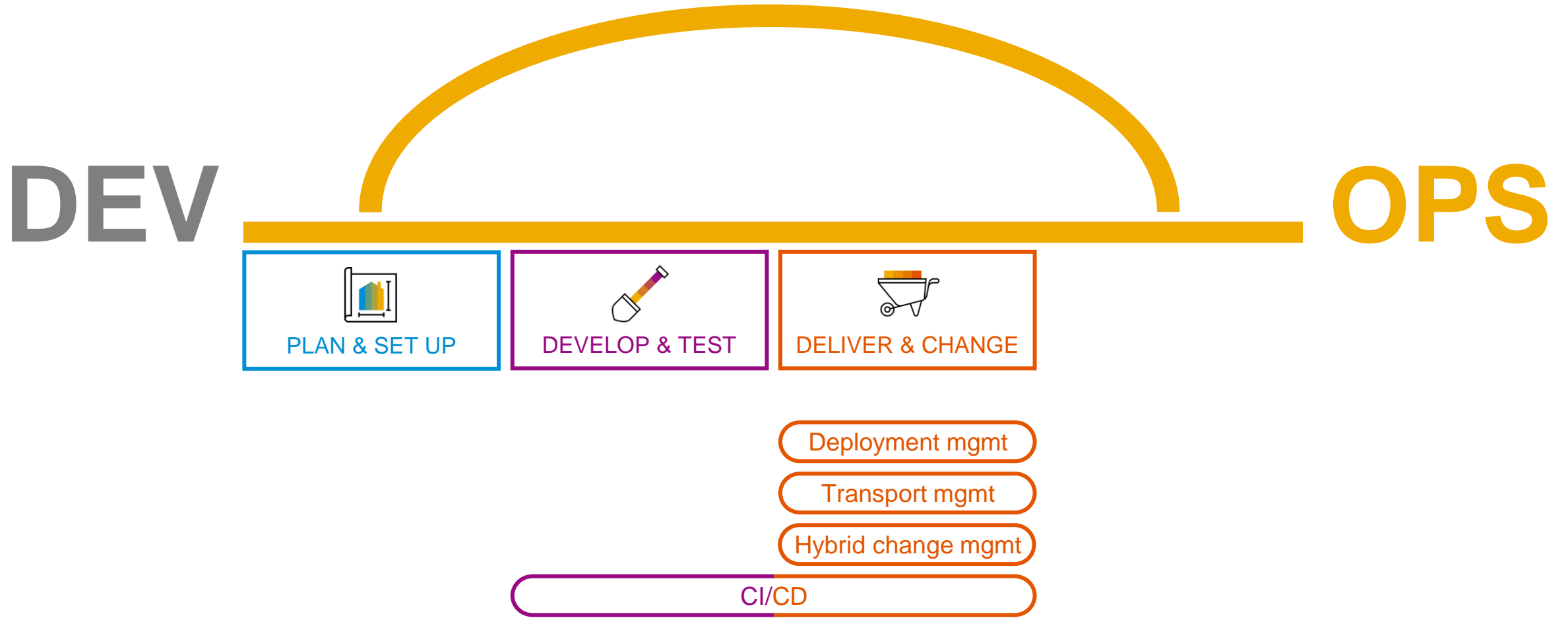
Using automated Continuous Integration and Continuous Delivery pipelines



Continuous Integration and Delivery (CI/CD)

DevOps with SAP BTP

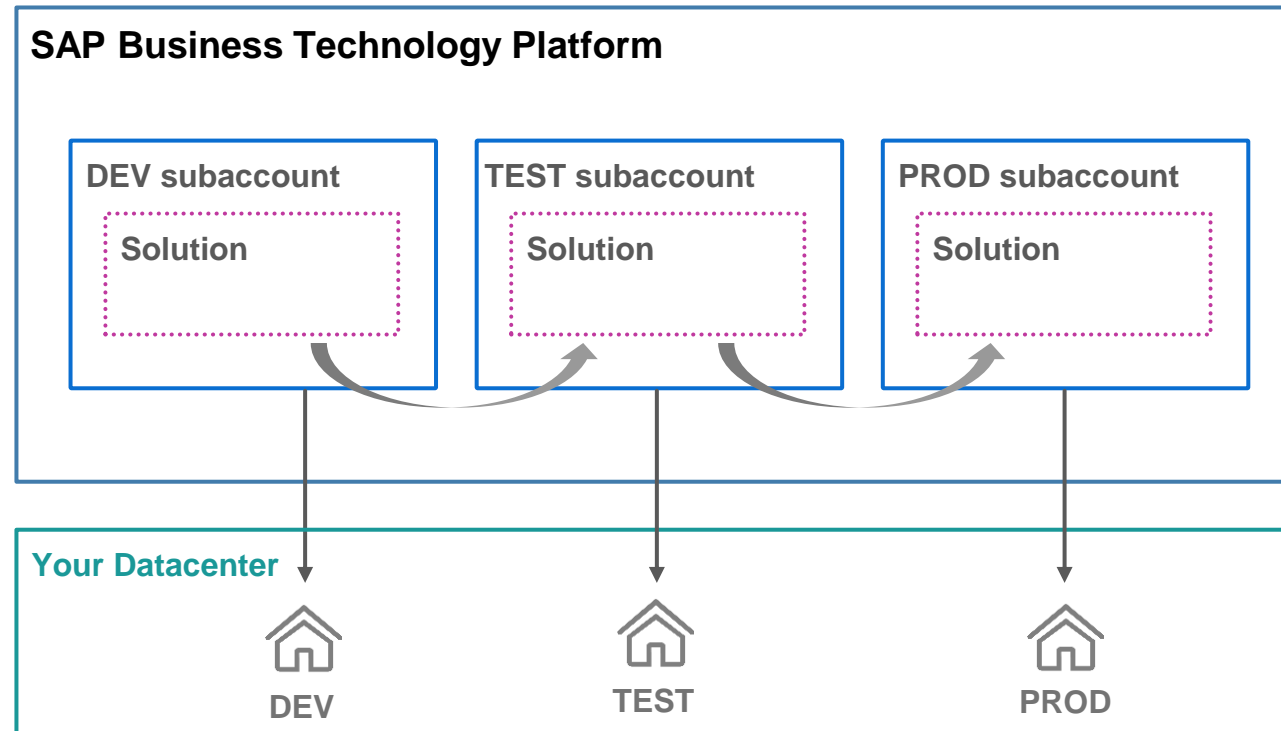
Delivery & change



Deliver your changes toward production

Example app

Transport mgmt



Deliver your changes toward production

Combining agility + control

Transport mgmt

Development landscape

- Based on *Continuous Integration* principles, managed by DevOps team
 - Verification of single developer change
 - Typically fully automated



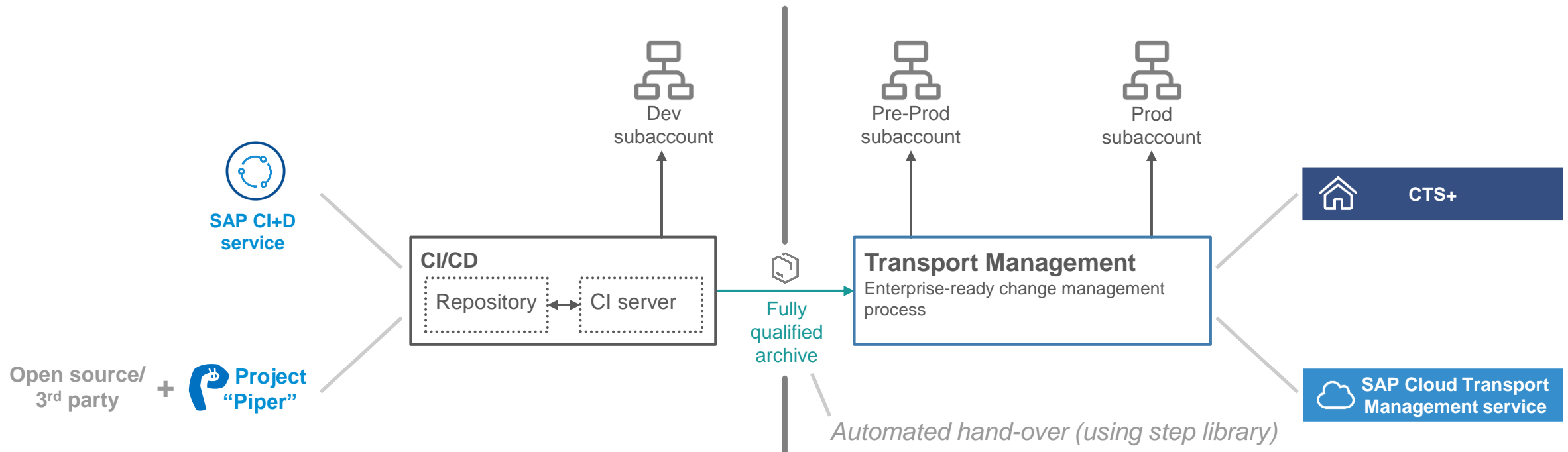
Developer User



Basis User

Delivery landscape

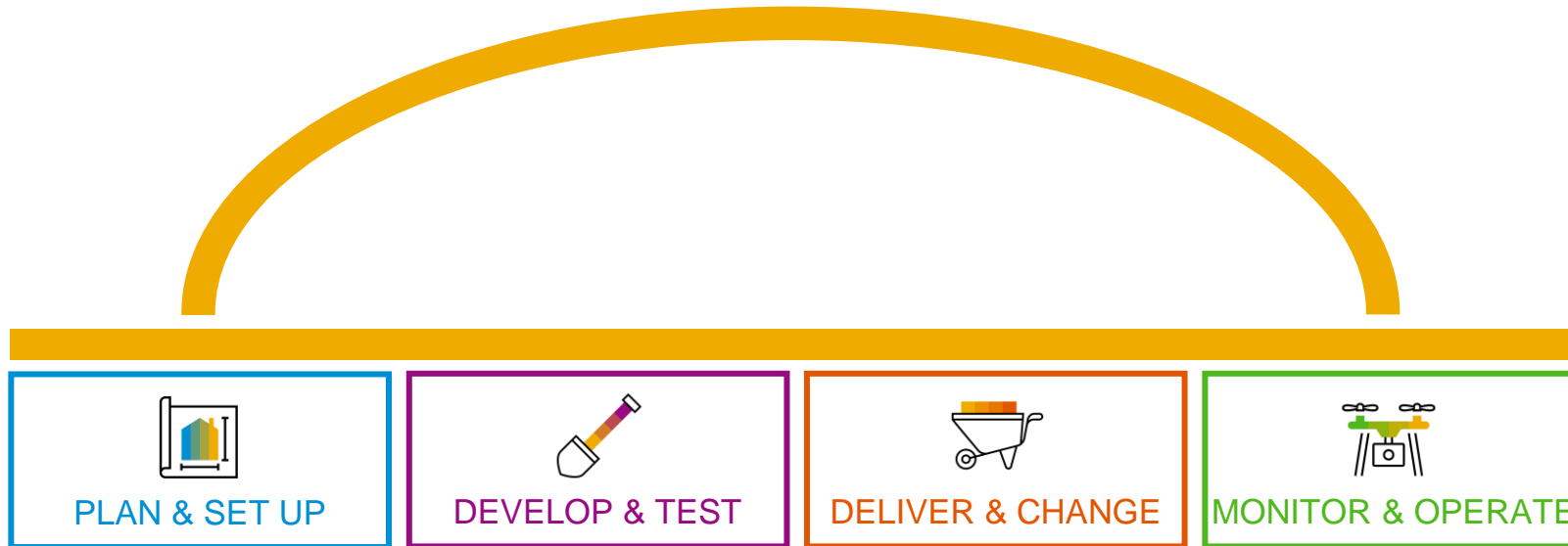
- Based on strict *Transport Management* rules (policies, schedules), managed by ops/approvers
 - Verification of release candidate version
 - Typically done with manual confirmation



DevOps with SAP BTP

Monitor & operate

DEV



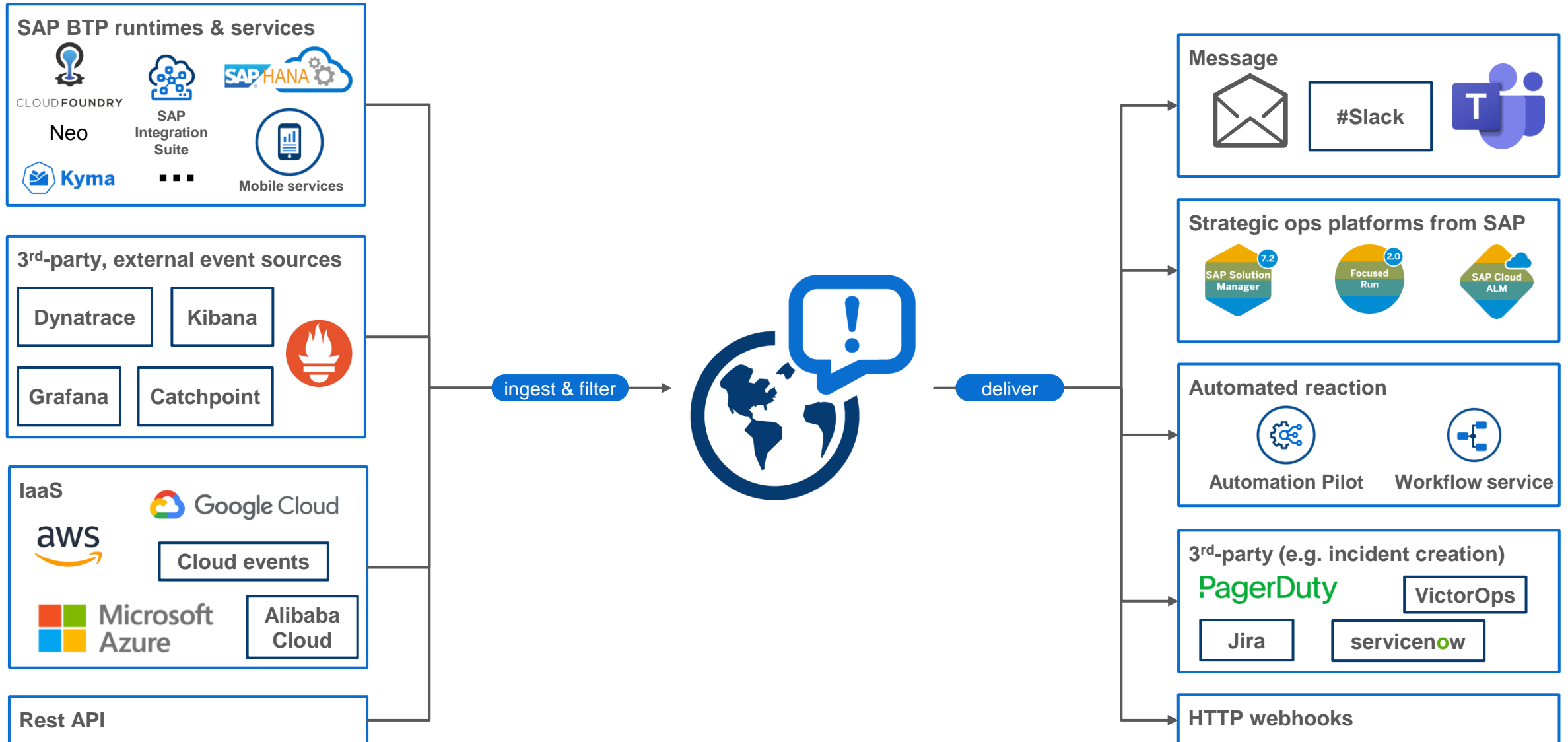
OPS

- Monitoring/logging
- Alerting
- Ops automation
- Hybrid supportability

Operations for SAP BTP

SAP Alert Notification service for SAP BTP

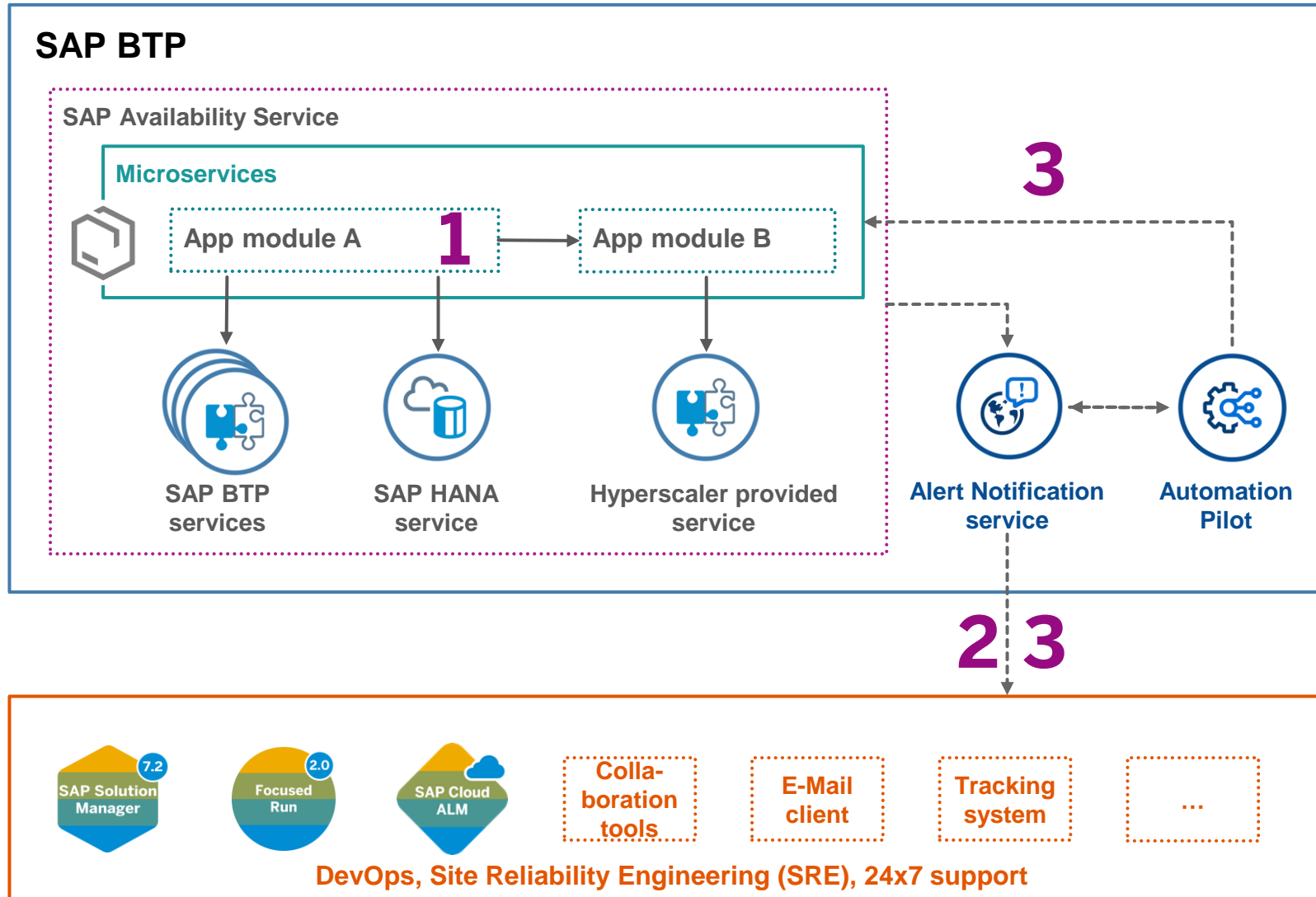
Alerting



Operations for SAP BTP

Example: complement alerts with automation

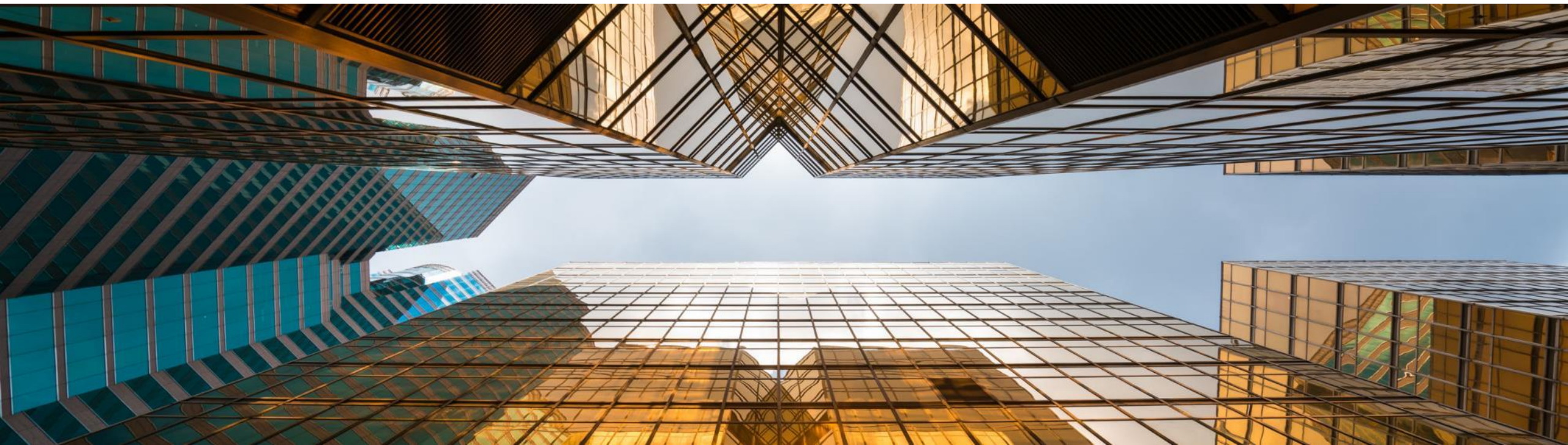
Ops automation



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

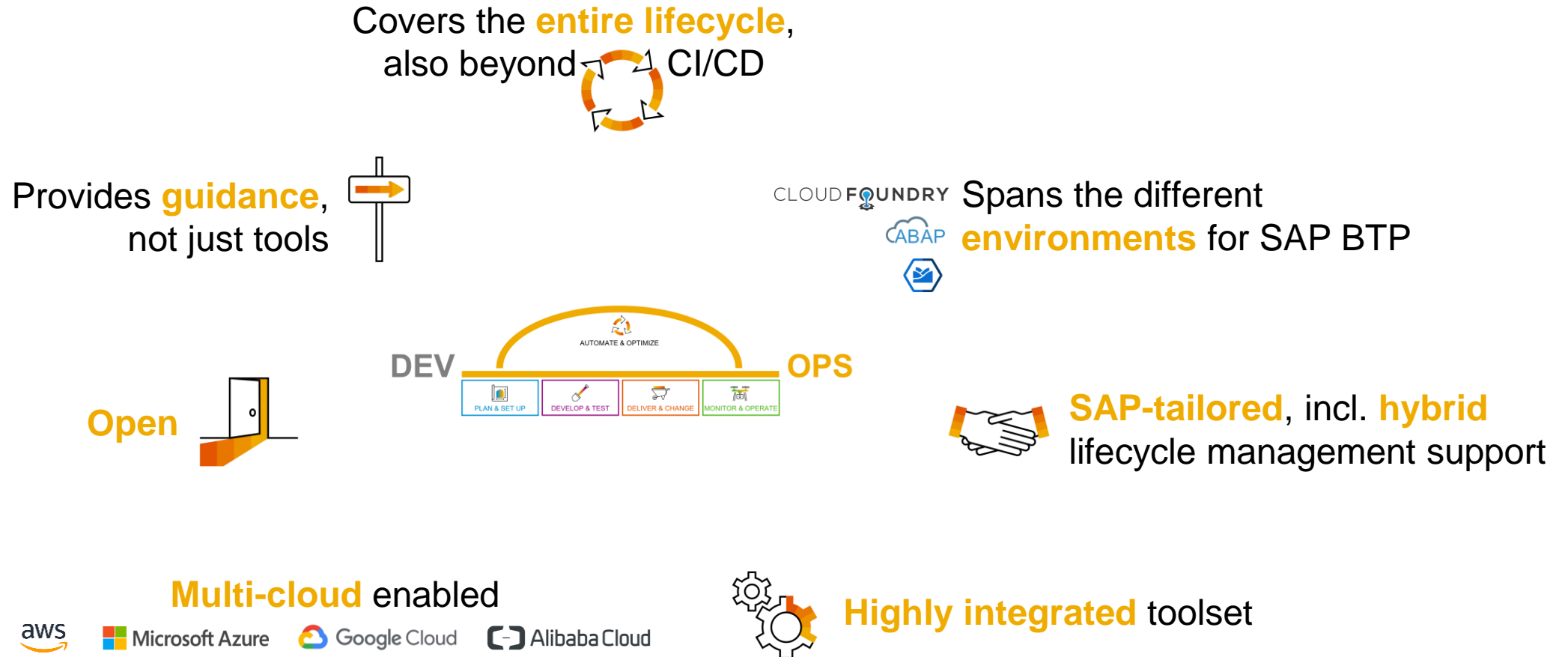


Summary



DevOps with SAP BTP

Corner stones of our offering



[Blog post](#)

openSAP course Efficient DevOps with SAP

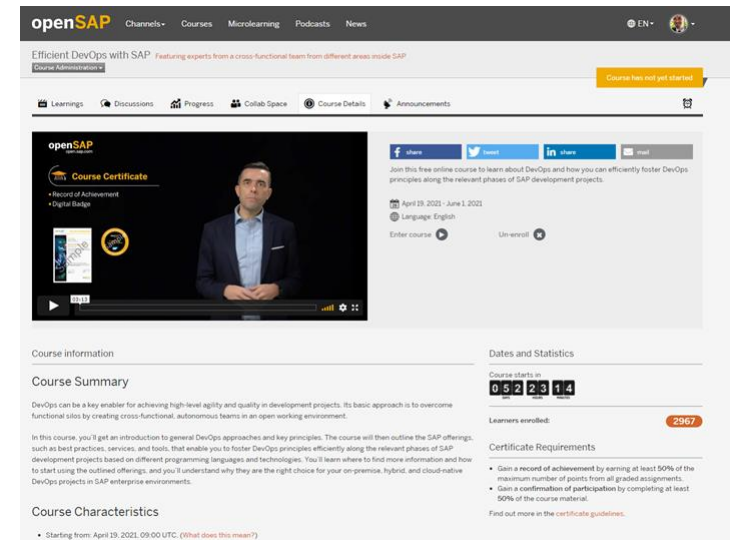
Available as self-paced course

Course language: English

Course content:

- Week 1: Introduction to DevOps
- Week 2: CI/CD with ABAP (On-Premise)
- Week 3: Delivery of Cloud Applications
- Week 4: Hybrid Change and Test Management
- Week 5: Operation of Your Solution and Summary

<https://open.sap.com/courses/devops1>





Thank You for Joining! 😊

