Innovate, Differentiate and Win
with SAP Cloud Platform

SAP
October, 2017

CUSTOMER

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Technical Market Trends

Artificial intelligence and machine learning, IoT, insights

By 2018, **75%** of enterprise and ISV development will **include AI or ML**.
– IDC

Embedded machine learning, analytics providing built-in guidance

By 2019, **APIs** **will be the primary mechanism** to connect data, algorithms, and decision services.
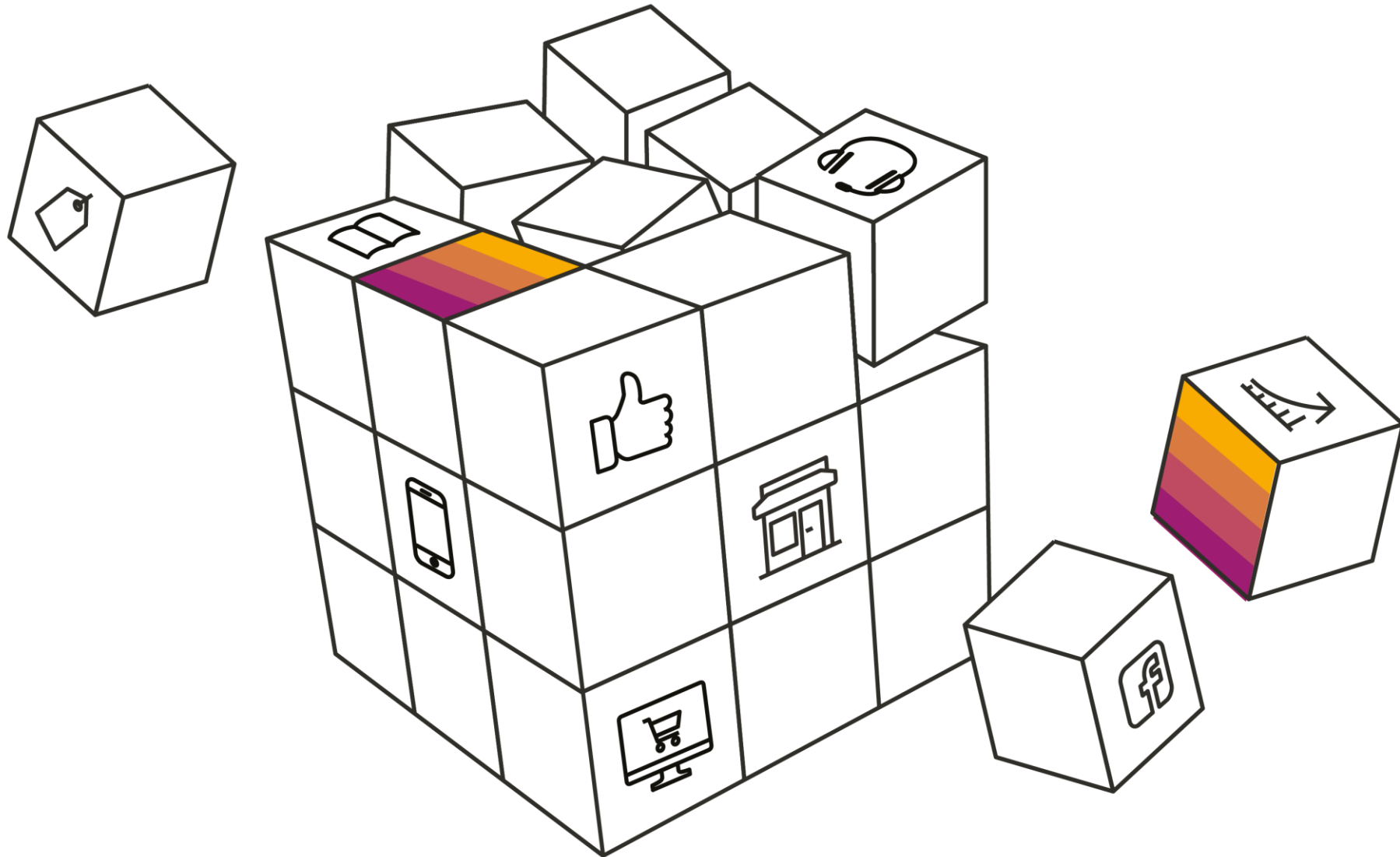– IDC

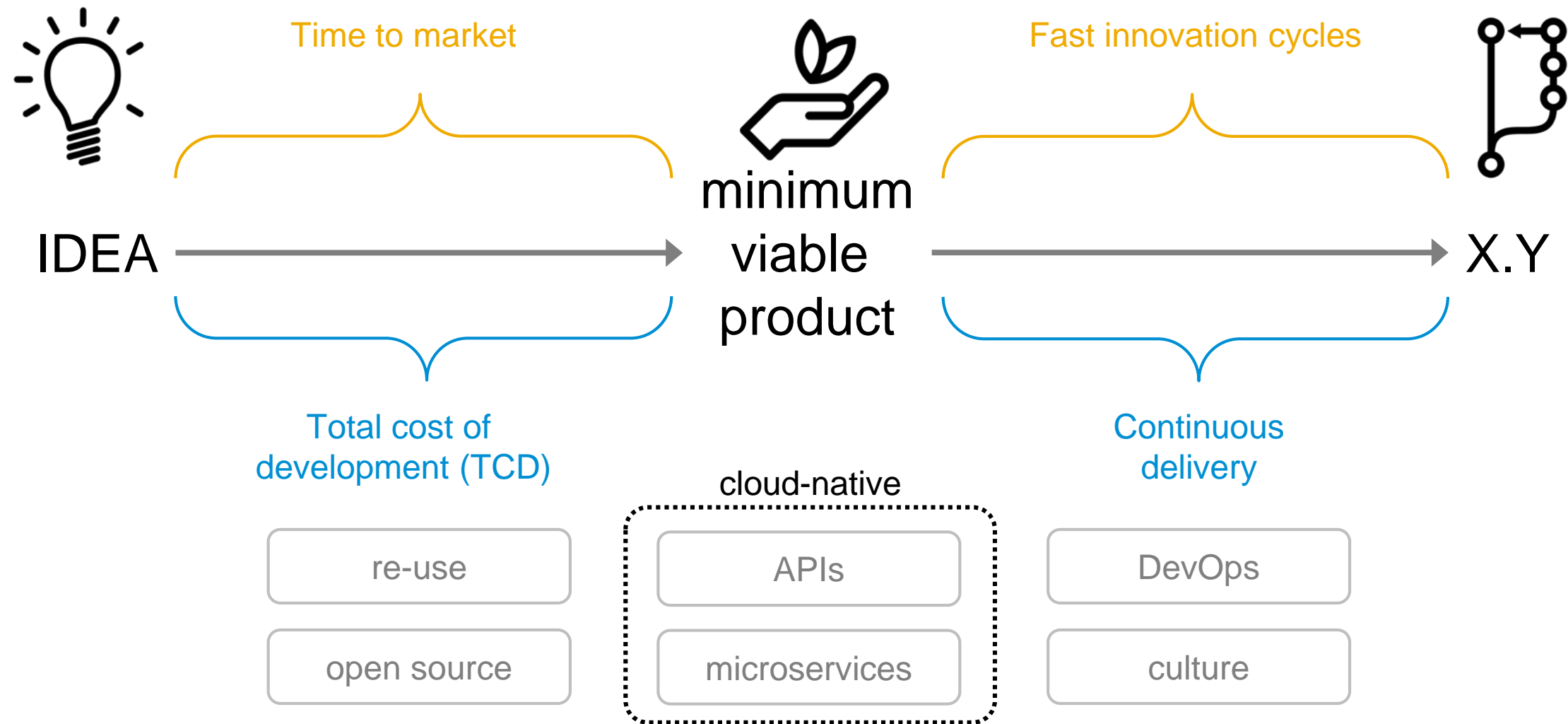**Conversational applications: the new user experience**

By 2019, **natural-language generation** will be a standard feature of **90%** of modern BI platforms.
– Gartner

Innovate again and again to be as agile as your customers

Why cloud? → Business Agility

Time to market

Fast innovation cycles

IDEA → minimum viable product → X.Y

Total cost of development (TCD)

Continuous delivery

cloud-native

| re-use | APIs | DevOps |
| open source | microservices | culture |

How to steer your company?

How to run your company?

run

win

How to engage?

How to sense?

How to decide?

Setting the foundation

1 0 1 1 1 0 1 1 1 1 0 1 0 0 0 1 0 1 0 0

Cloud

SAP S/4HANA

SAP Hybris (¥)   **C.** CONCUR
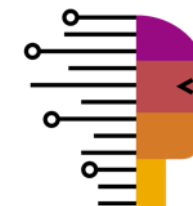
SAP Fieldglass

SAP SuccessFactors ♡

SAP Ariba

SAP Cloud Platform

IoT   Analytics

Machine learning

Big Data   Blockchain

run / buy   win / build

Standardization   Differentiating

SAP Leonardo

SAP S/4HANA

SAP Business Suite

SAP Business Warehouse

On premise

Cloud

SaaS

Sensors/Things

Business /
Social Networks

run / buy

SAP Cloud Platform

win / build

Standardization

Differentiating

Business
Intelligence

on-premise

(Big) Data
Sources

On premise

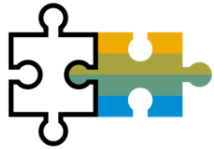# Use Cases

SAP Cloud Platform
Key Use Cases

Connect
People & Data

Deliver delightful user experiences across various digital touchpoints enabling innovation, without disrupting core business processes

Extend
Cloud & On-Prem Apps

Quickly add new functionality to your existing cloud and on-prem apps to optimize your existing investments

SAP Cloud Platform

Build
Differentiating Digital Apps

Rapidly build and run new cloud apps, business services and APIs to solve new problems, engage new customers, and drive new revenue

Integrate
Apps, Data & Processes

Connect your cloud and on-prem apps to eliminate data silos and make digital access simple, secure, and scalable

The Platform-as-a-Service Powering Enterprise Business

7500+

SAP Cloud Platform
Customers

780+

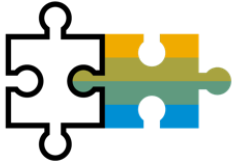Partners Building Apps
on SAP Cloud Platform

50+

SAP Enterprise Apps
Delivered on
SAP Cloud Platform

1,000+

Apps Available on
the SAP App Center

Extend Cloud and On-Premise Apps

Extensibility puts innovation & agility in the hands of our customers

Extend your current cloud apps to add new features and personalization unique to your business, your people and goals

Run your business on all devices, at all times through beautiful, engaging mobile experiences your team can use right now

Deploy pre-built apps created by SAP and partners to quickly and easily achieve results

"*SAP Cloud Platform is **a strong, scalable foundation for agile, composable infrastructure and development**. Our success with JobPts from Semos is a perfect example of its powerful support – and just the first step.*"

Harish Lade, Vice President for Information Technology, Asian Paints Limited

Integrate your Apps, Data & Processes

Integrate Anything Anywhere

Connect your apps, data, and business processes — regardless of who built them or where they are deployed

....

Get the right information into the right hands on the right device at the right time

....

Integrate on-premises and cloud applications to deliver hybrid solutions with real-time data and event streams

*"SAP Cloud Platform Integration is becoming increasingly popular among customers, particularly when they have bought **an SAP cloud application and are looking to integrate it with their existing cloud and on-premise SAP solutions**."*

Ian Vincent, Consulting Director, AgilityWorks Limited

Build differentiating applications

Build modern cloud apps and microservices using open standards and the skills you already have

Build brand-new apps and microservices to meet new challenges, attract new customers and drive new business for you and your customers

Build on open standards and open-source to leverage your existing skillset and reduce the total cost of development

Leverage low code development tools to speed up application creation and expand the developer talent pool

Extend Business Reach and New revenue streams
Offer value-added services and data to e-commerce partners
New business models delivering additional digital revenue streams

Connect People and Data

Connecting People to the Digital Business World

Maximize the value of digital experiences with tools and content in one integrated and comprehensive offering

....

Manage user engagement across all channels, enabling innovation without disrupting core business processes

....

Rapidly deliver new multichannel applications to drive faster processes and deliver delightful user experiences

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FairPrice

With SAP Cloud Platform, **NTUC FairPrice** has enabled collaboration and contextual engagement for its huge supplier network, and mobilized its workforce, achieving real-time sales visibility and improved productivity
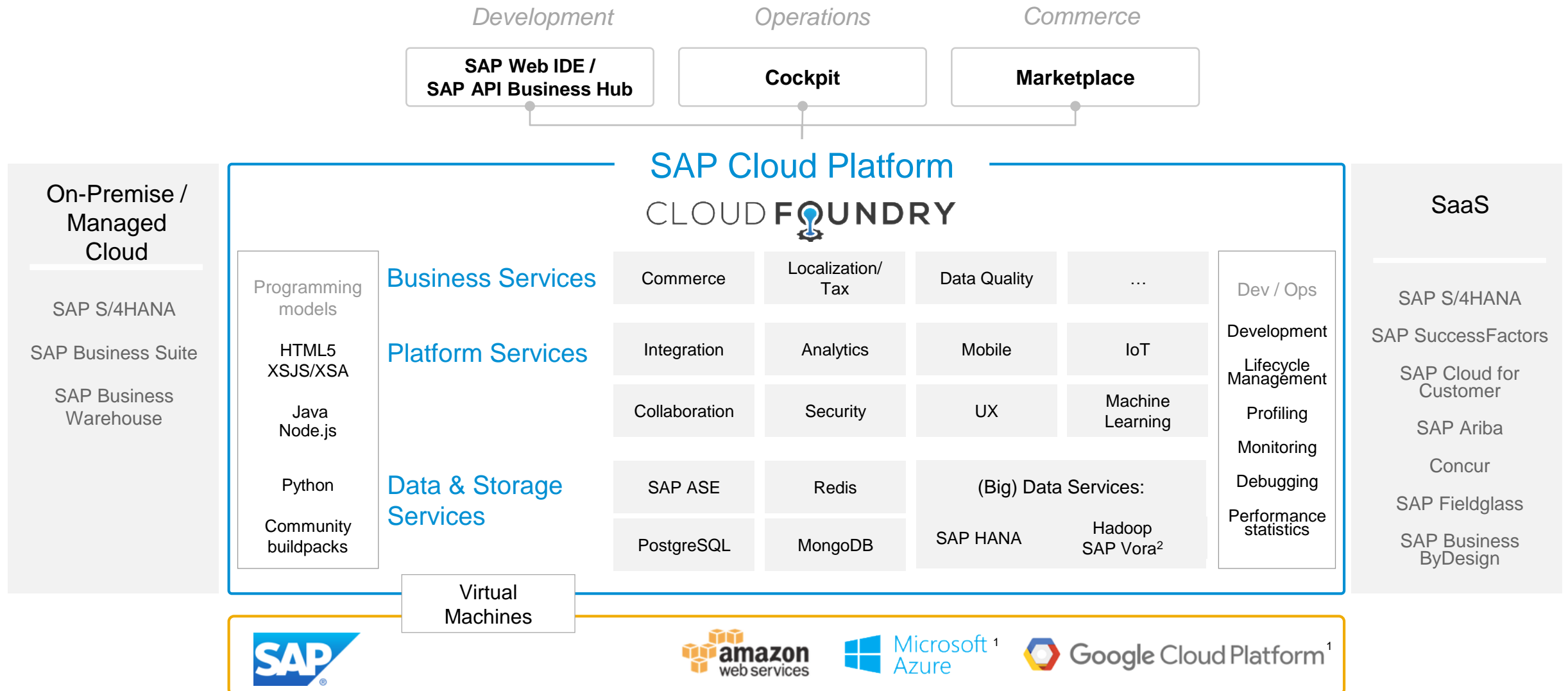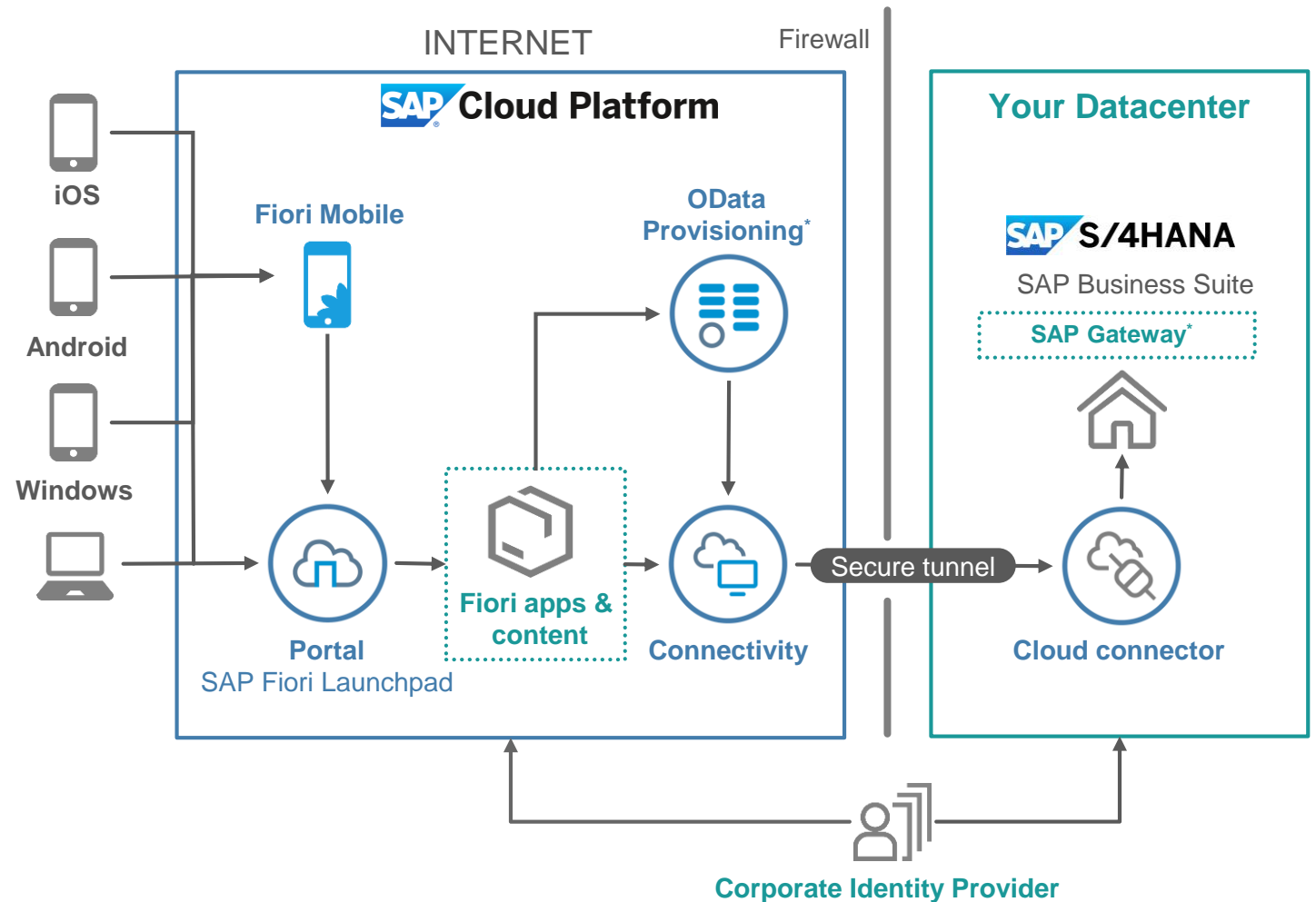
Architecture Blueprints

High-level Overview

Development   *Operations*   *Commerce*

**SAP Web IDE /
SAP API Business Hub**   **Cockpit**   **Marketplace**

SAP Cloud Platform

CLOUD F**O**UNDRY

On-Premise / Managed Cloud							SaaS

On-Premise / Managed Cloud

SAP S/4HANA

SAP Business Suite

SAP Business Warehouse

Programming models	**Business Services**	Commerce	Localization/ Tax	Data Quality	…	Dev / Ops
HTML5 XSJS/XSA	**Platform Services**	Integration	Analytics	Mobile	IoT	Development
Java Node.js		Collaboration	Security	UX	Machine Learning	Lifecycle Management
Python	**Data & Storage Services**	SAP ASE	Redis	(Big) Data Services:		Profiling
Community buildpacks		PostgreSQL	MongoDB	SAP HANA	Hadoop SAP Vora[2]	Monitoring

Dev / Ops

Development

Lifecycle Management

Profiling

Monitoring

Debugging

Performance statistics

SaaS

SAP S/4HANA

SAP SuccessFactors

SAP Cloud for Customer

SAP Ariba

Concur

SAP Fieldglass

SAP Business ByDesign

Virtual Machines

SAP®   amazon web services   Microsoft[1] Azure   Google Cloud Platform[1]

1) BETA

SAP Fiori Cloud

- Enable modern and intuitive user experience for SAP users

- Quickly deploy packaged content for SAP S/4HANA and SAP Business Suite

- Design, develop, extend and mobilize SAP Fiori apps in the cloud

- Extend apps using SAP Web IDE Fiori extension model

- Connect securely via internal or external access point

- Operations and updates by SAP

INTERNET   Firewall

SAP Cloud Platform

iOS

Android

Windows

Fiori Mobile

OData Provisioning*

Portal
SAP Fiori Launchpad

Fiori apps & content

Connectivity

Secure tunnel

Your Datacenter

SAP S/4HANA

SAP Business Suite

SAP Gateway*

Cloud connector

Corporate Identity Provider

* OData services via SAP CP OData provisioning or SAP Gateway
  details about deployment options in SAP Enterprise Architecture Explorer (#11115)
** Internal and External Access Points options are described in the documentation

Internet of Things Innovation

**SAP Cloud Platform
Internet of Things**

- Device lifecycle management
- IoT Gateway for data preprocessing
- IoT protocol support

SAP Edge Services

- Compute
- Storage
- Business critical functions

SAP IoT Application Enablement

- Digital twin builder
- IoT app development & mashup
- Data management

*Support of SAP Vora planned.
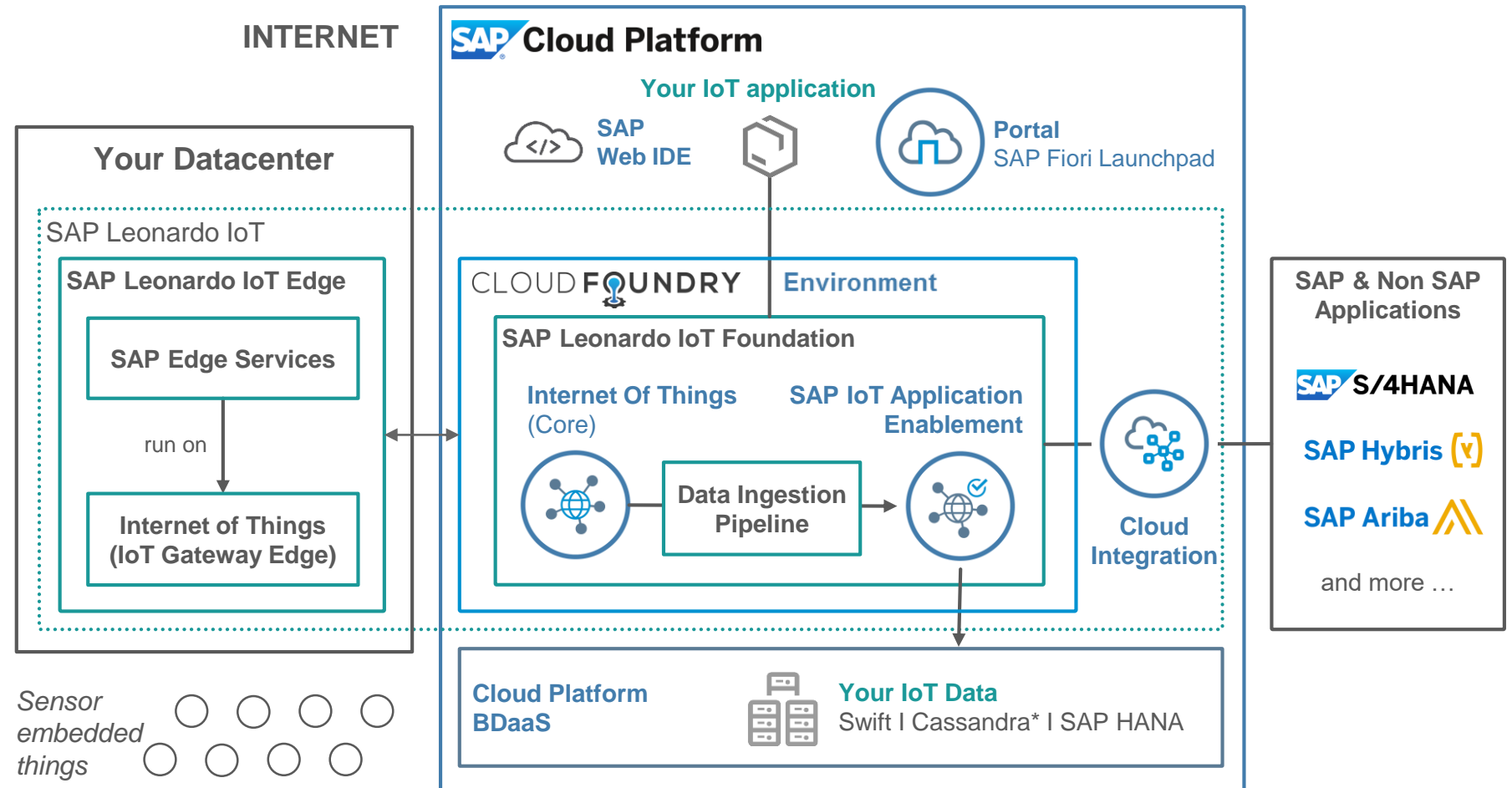
Leverage Cloud Foundry to build new apps & microservices

Leverage a wider range of data storage / messaging options:
- HANA
- MongoDB
- Redis
- Rabbitmq
- Object Store – unstructured storage

Leverage a wider range of programming models:
- XSA
- Java
- Node.js

Leverage open source CF buildpacks - more languages[1]

Embrace a microservices architecture in your applications

INTERNET   Firewall

SAP Cloud Platform

Your Application any buildpack

Your Service 1 using SAP HANA / ASE

Your Service 2 using redis

Your Service 3 using MongoDB

Connectivity service

Secure tunnel

Your Datacenter

SAP S/4HANA or Business Suite

Cloud Connector

Corporate Identity Provider

[1] Open source CF buildpacks are community supported   [2] Beta component
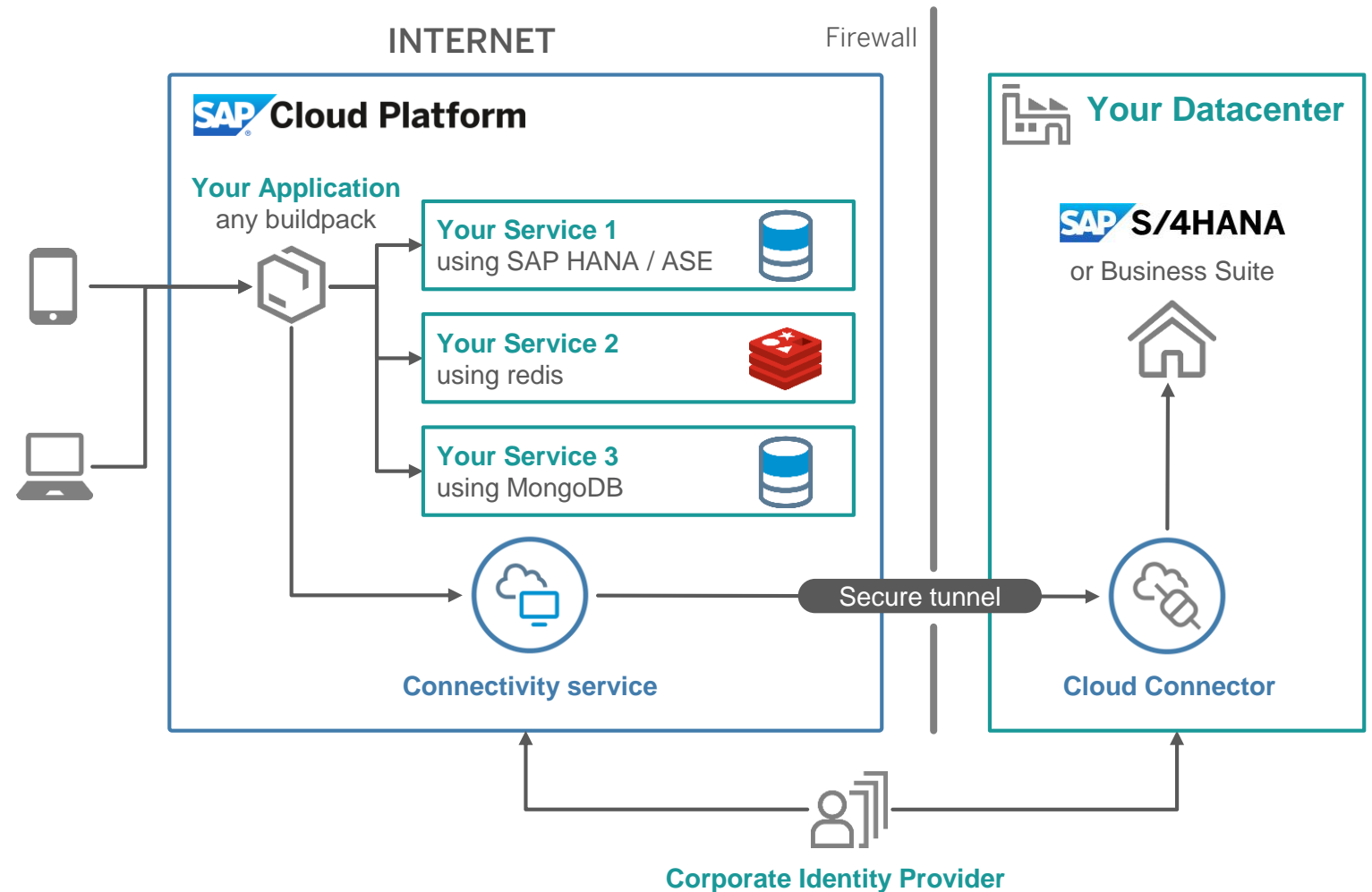
Extend SAP Cloud Applications

Create custom applications leveraging SAP's Cloud applications

- SAP SuccessFactors
- SAP Hybris / CEC
- SAP Ariba
- Concur
- SAP Fieldglass

Mash up data from multiple cloud and on-premise data sources

Applications to differentiate your lines of business

SAP Cloud Platform

Mobile services

Your Application
Java or SAPUI5

Connectivity service

OData

Custom Data
SAP HANA instance

SAP Cloud Applications

SAP Ariba
CONCUR.
SAP Fieldglass
SAP Hybris
SAP SuccessFactors

Corporate Identity Provider
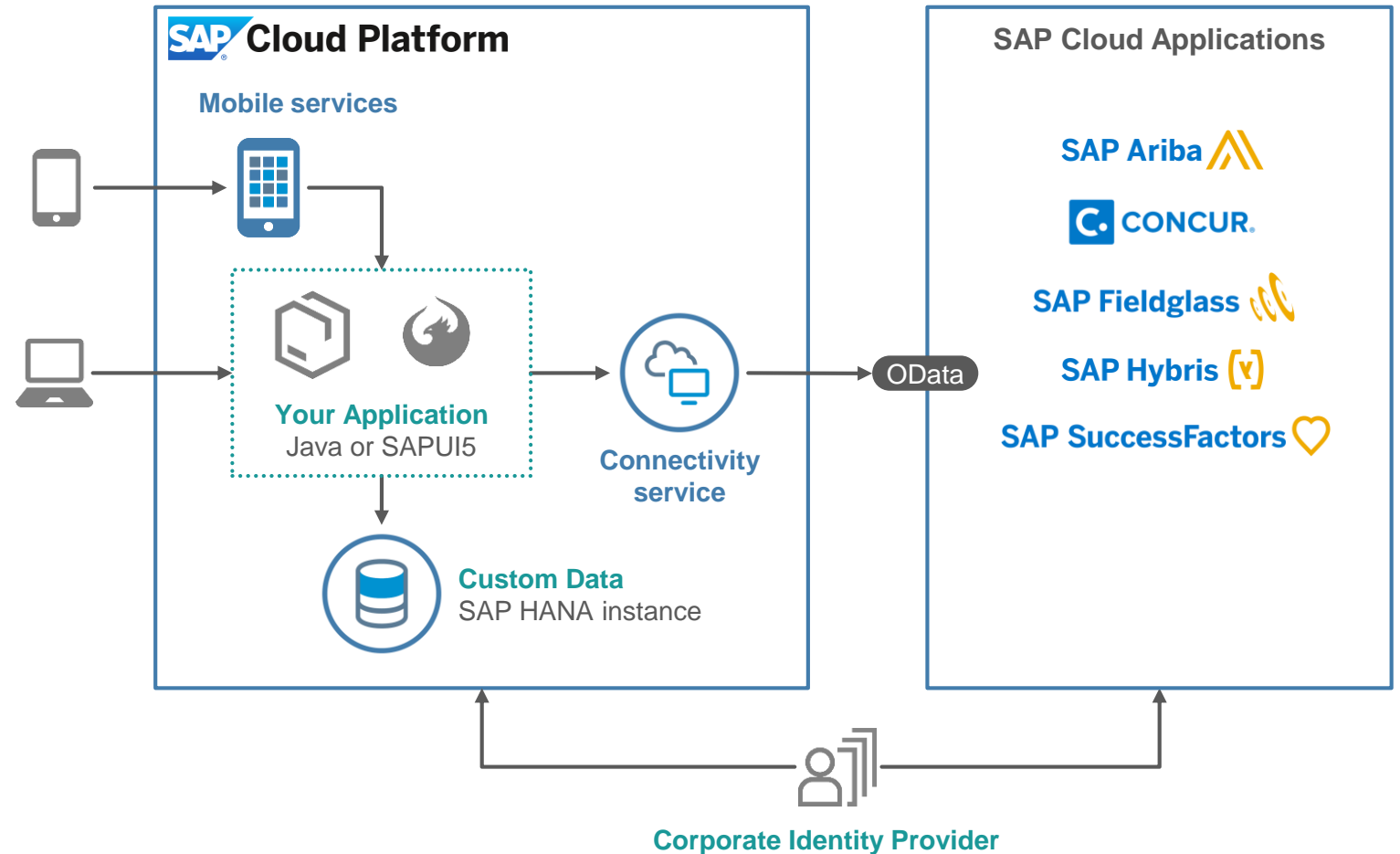
SAP Cloud Platform in Action
Demo

How would you like to use computers in 10 years?

Console: for more control

Web Page: for compatibility between all the devices you use

Dedicated application for a single task for a complete functionality

Digital Assistant that understands your words and can perform your assignments

Functionality

Usability
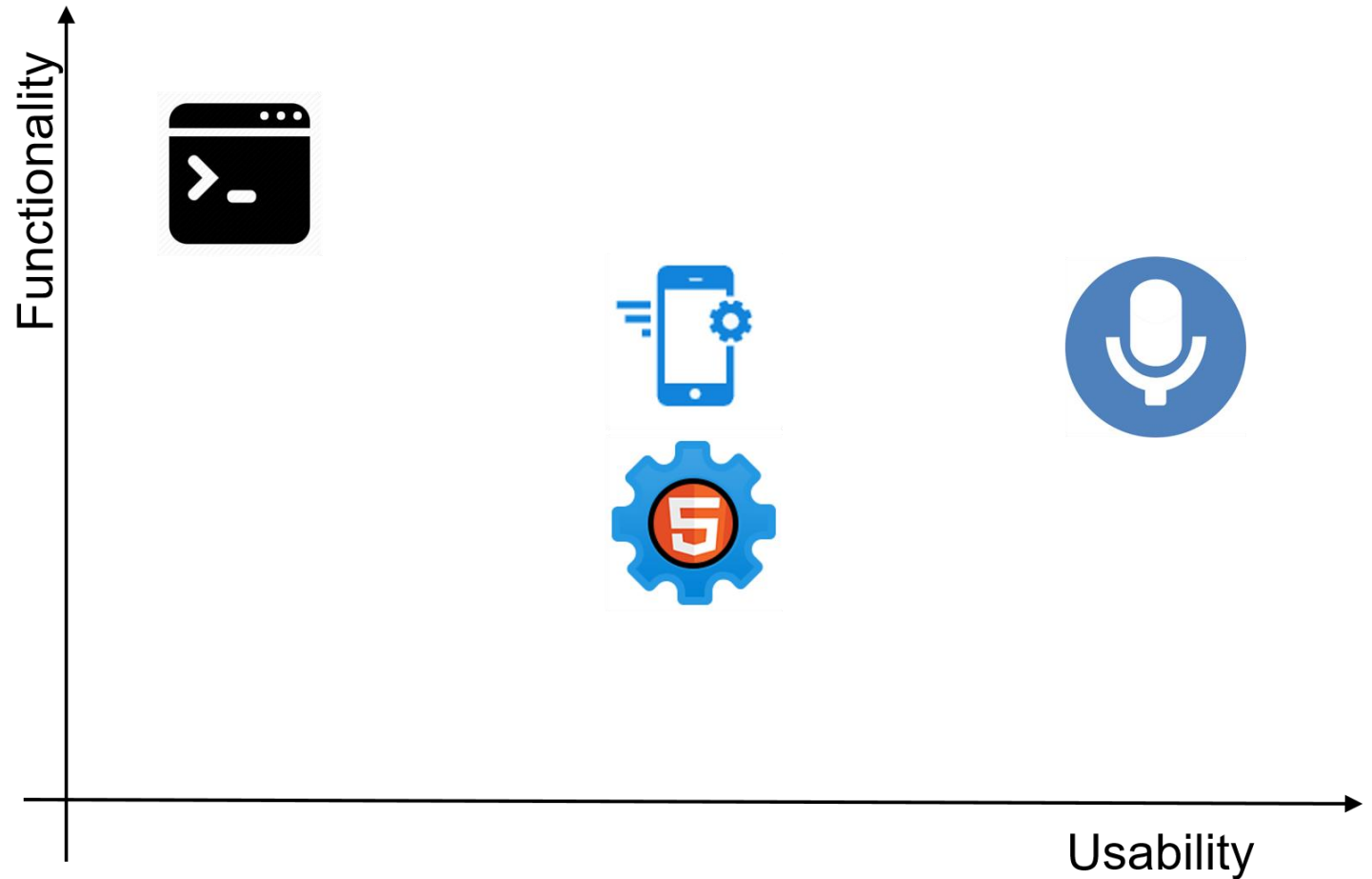
Digital assistants for the end-users

Amazon: Alexa

Google: Ok Google

Apple: Siri

Microsoft: Cortana

"Ok Google"

Hi, I'm Cortana.
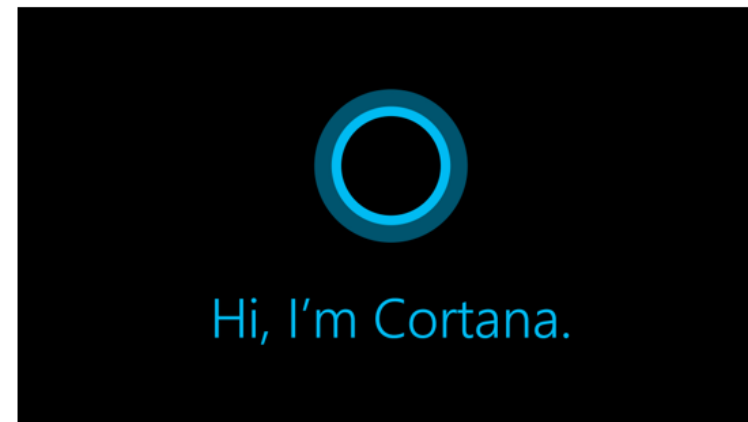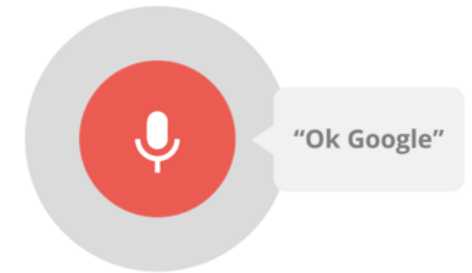
What is Alexa?

Cloud service for recognizing voice commands

Used by Amazon products:
Echo, Echo Dot, Fire TV, Amazon Tap

Includes numerous skills:

- playing music
- setting up alarms
- calendar and task lists
- searching the Internet
- finding local news and weather forecast

Provides a platform for developing custom skills:
Alexa Skill Kit (ASK)

How does Alexa work?

Spoken Responses

Voice commands

Voice audio for processing/ audio responses

Echo Device

Amazon Alexa Service Platform

Tokenized JSON Request /Response

Custom Skill code (AWS Lambda, or other HTTPS endpoint)

Response Cards

Alexa Companion Phone App

- Handless speech recognition
- Handless text to speech
- Map voice commands to JSON intents
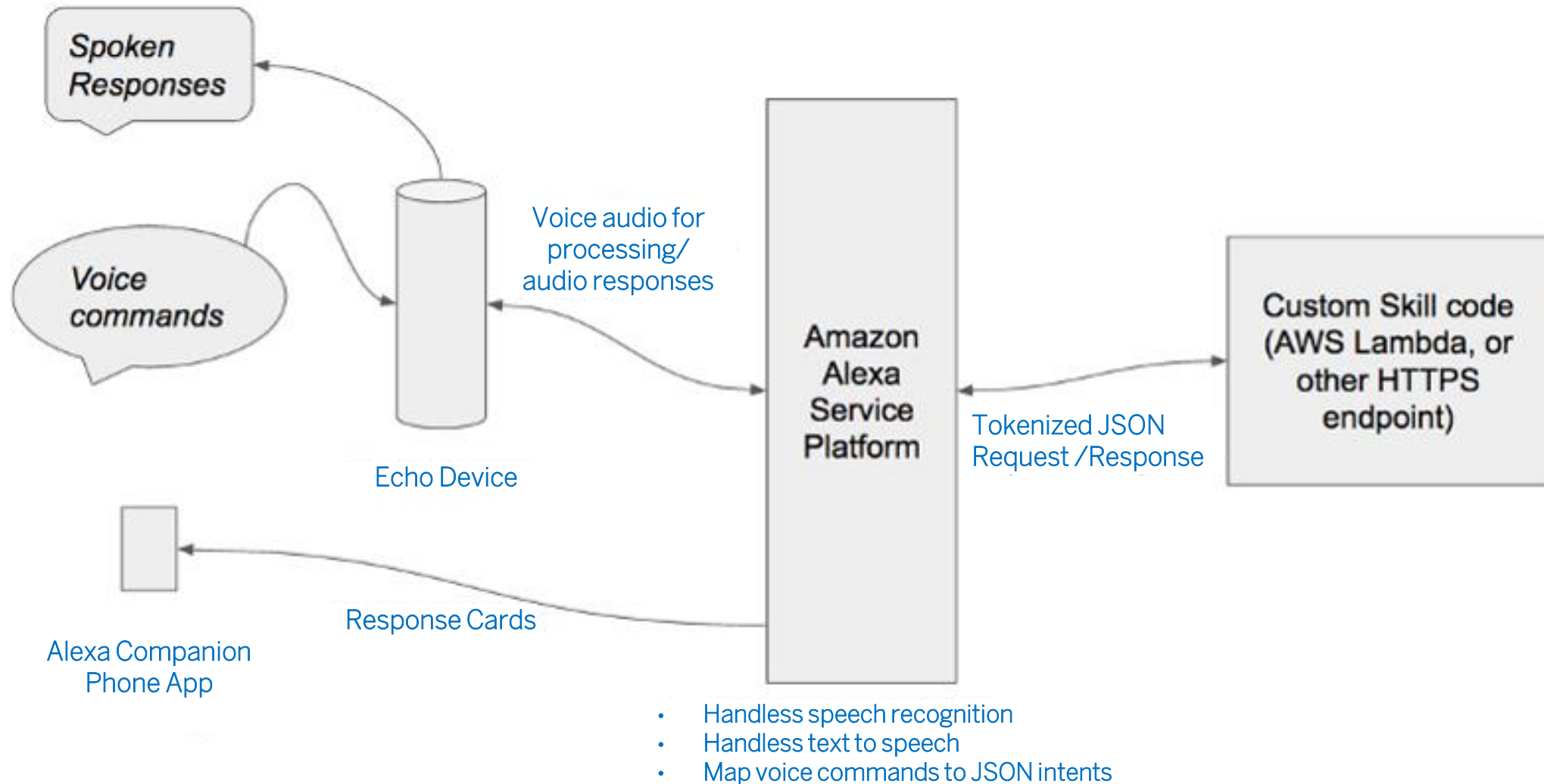
Digital assistant with SAP Ariba
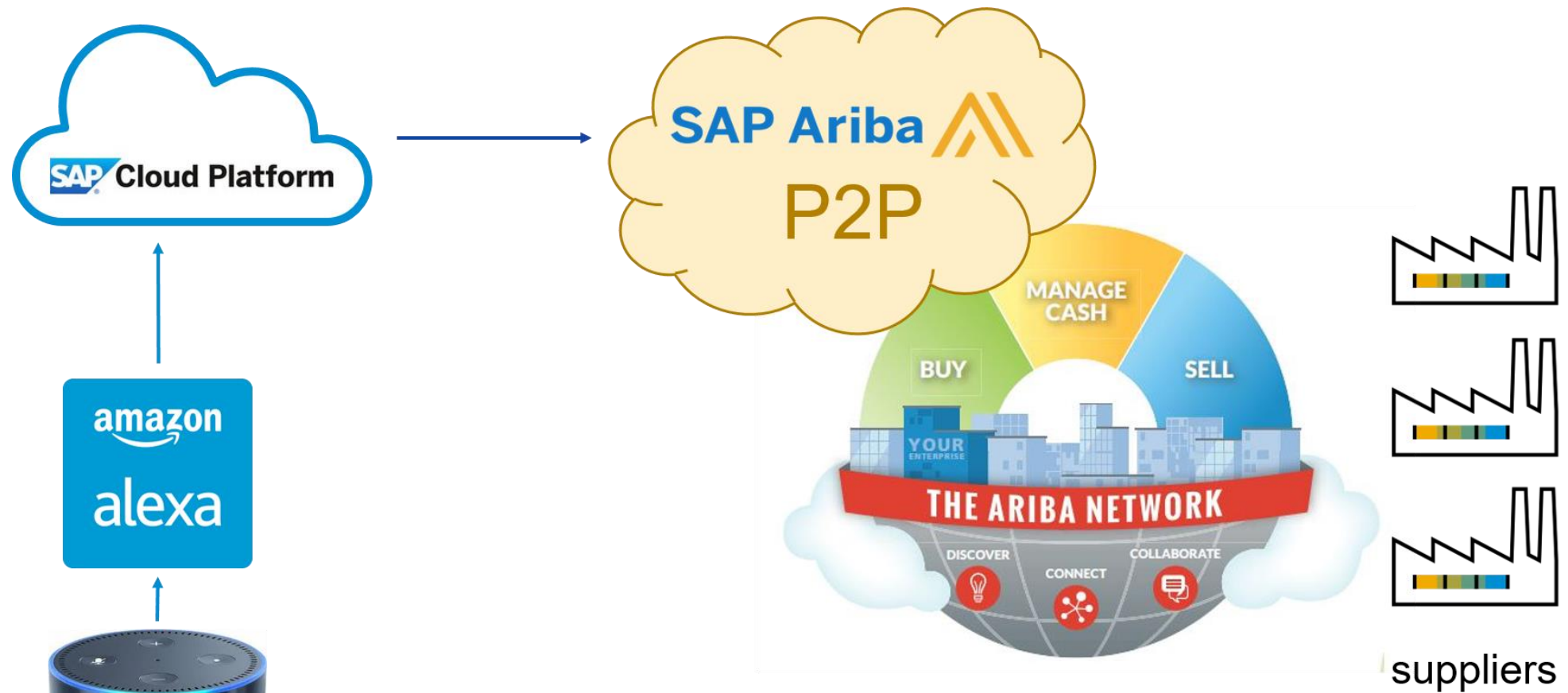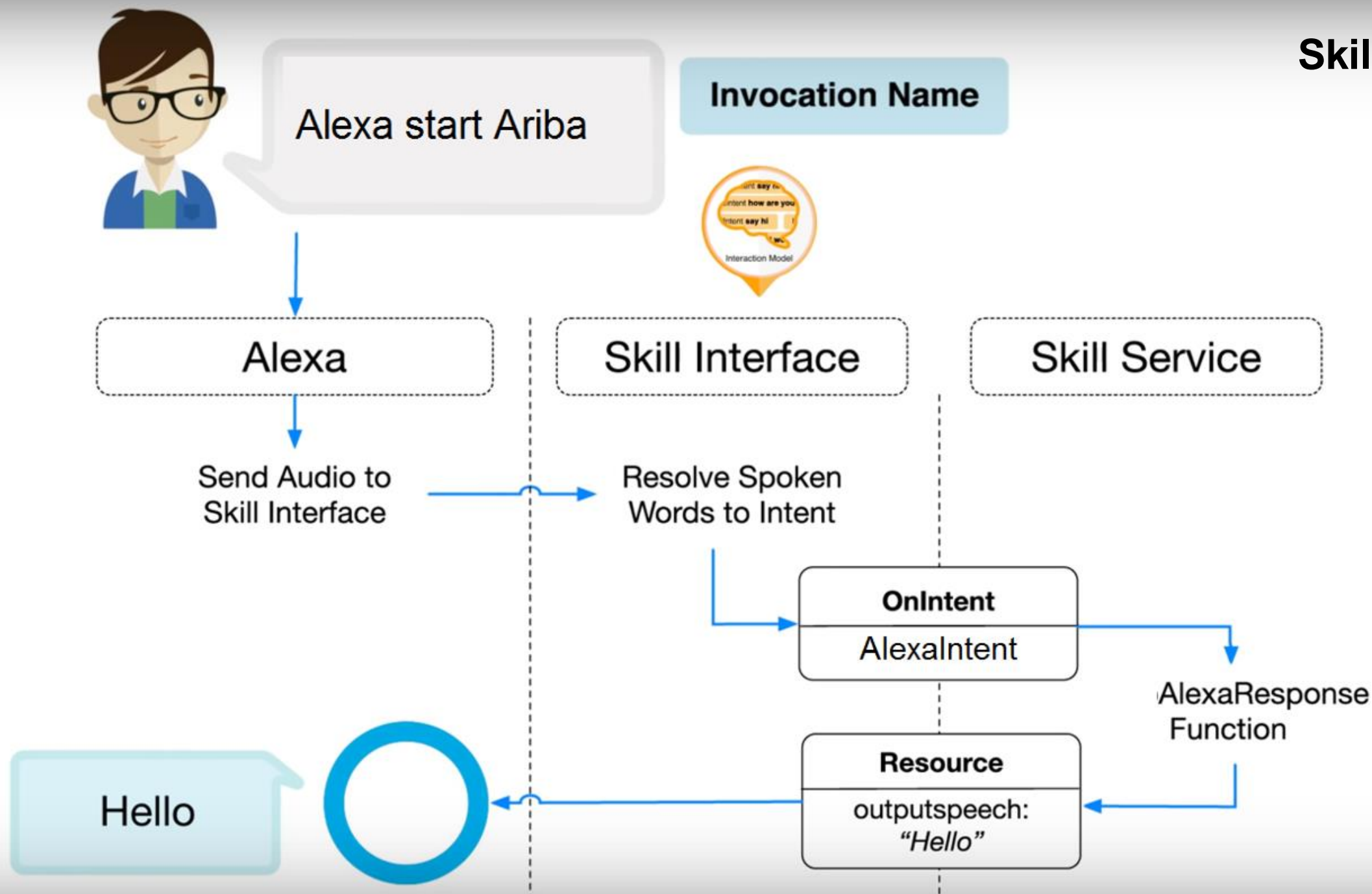
Include the requisition application as a skill

Implementation steps:

Give the skill a name: SAP Ariba Requisition Application

Define an "interface": what kind of tasks does the skill perform, search a catalog of items and make an order

Develop the application that provides the logic for the skill
- HTTPS accessible
- accept and return JSON files

Register the skill in Amazon Developer Portal

Test the result

Try it out

Source:

- https://github.wdf.sap.corp/AribaExtensions/cloud-ariba-alexa-requisition-sample-ext

Deployed application:

- https://alexasamplea9c25ffaf.hana.ondemand.com/AlexaServlet

Integration Layers in Details

SAP Cloud Platform Extensions – Integration Layers
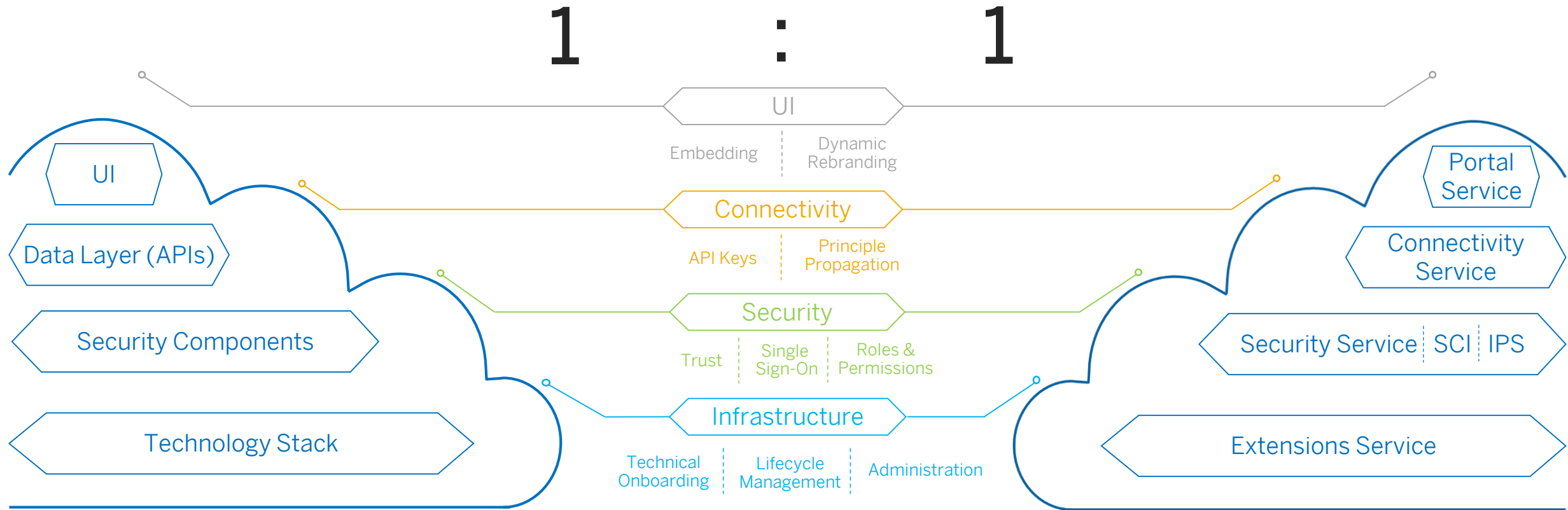
SAP Cloud Platform Extensions – Building Blocks

Front End (UI)

Business Logic

Persistency

Connectivity

Extension Solution's Layers
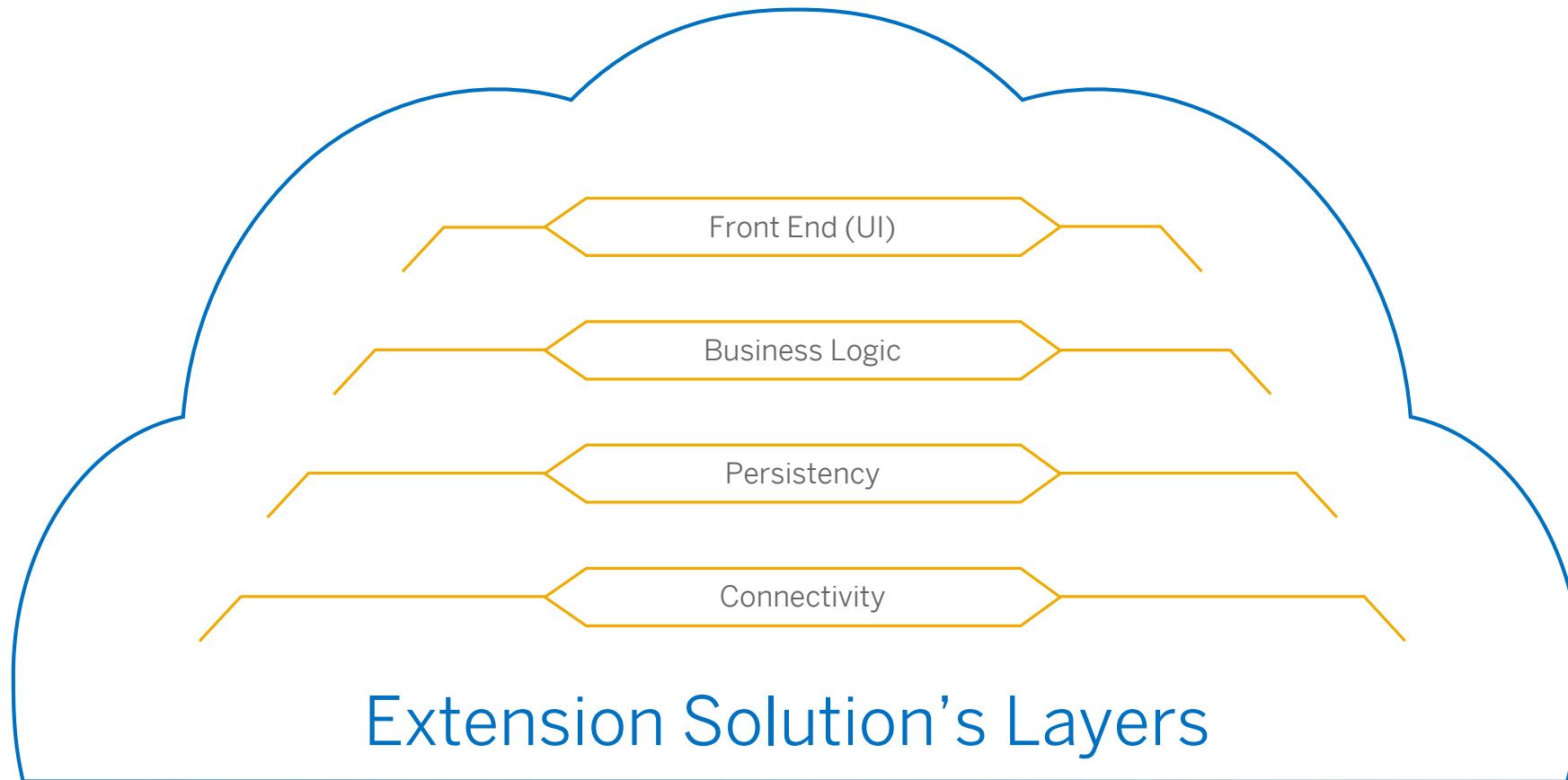
SAP Cloud Platform Extensions – Building Blocks
Connectivity
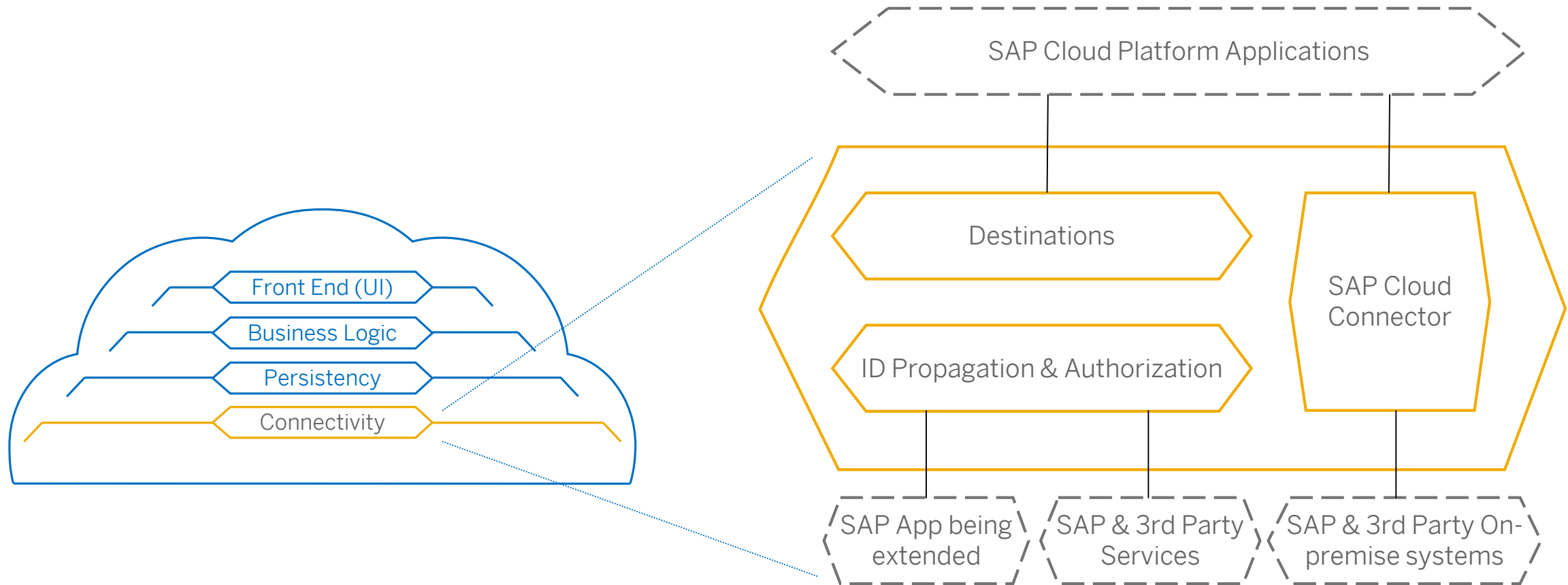
SAP Cloud Platform Extensions – Building Blocks

Persistency
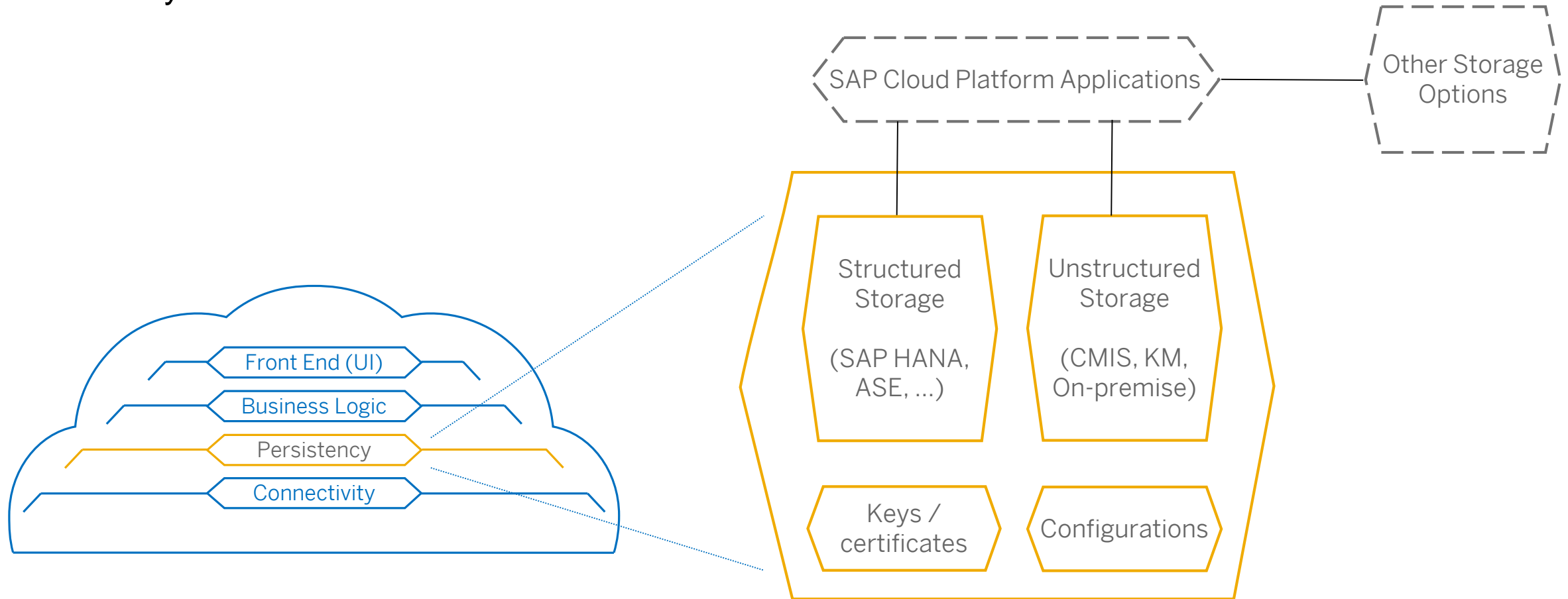
SAP Cloud Platform Extensions – Building Blocks
Business Logic
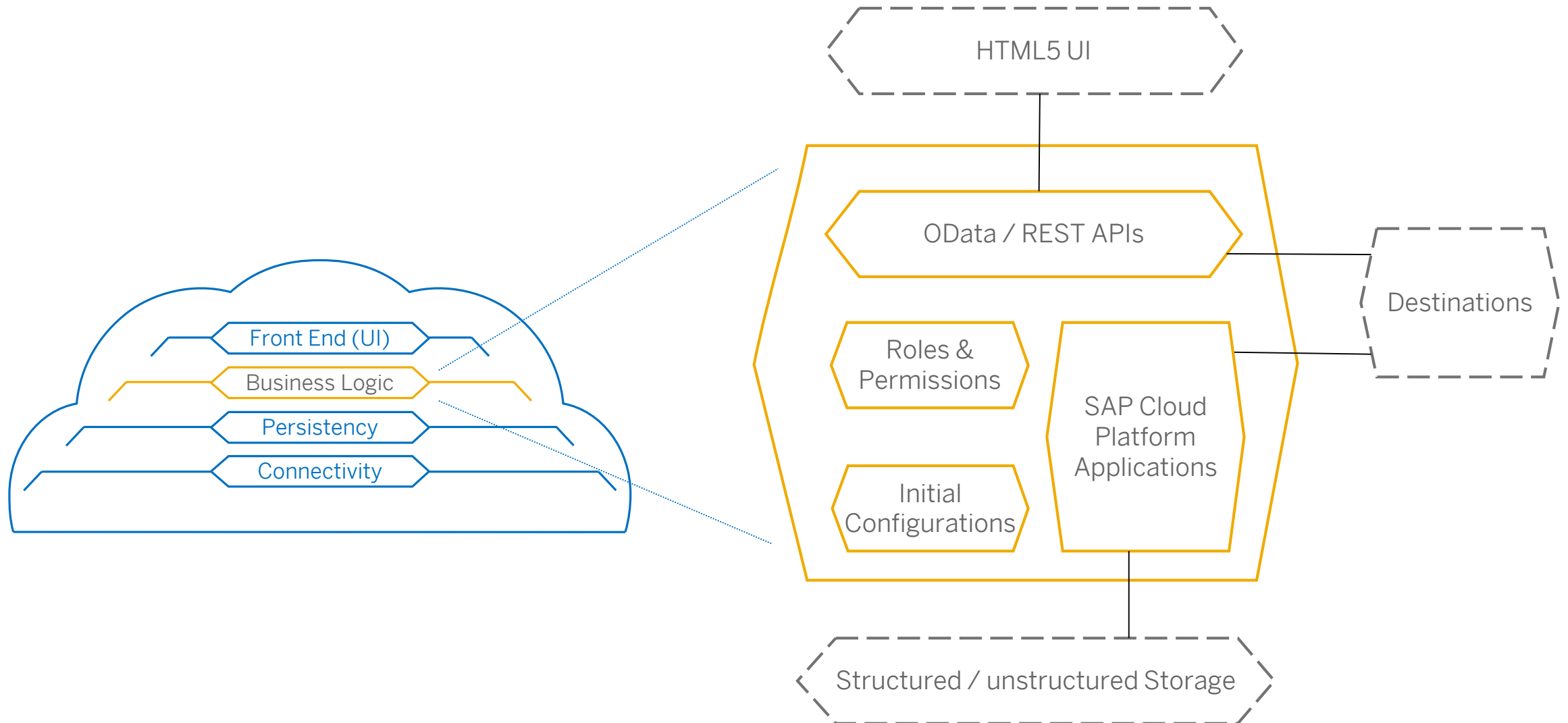
SAP Cloud Platform Extensions – Building Blocks
Front End (UI)
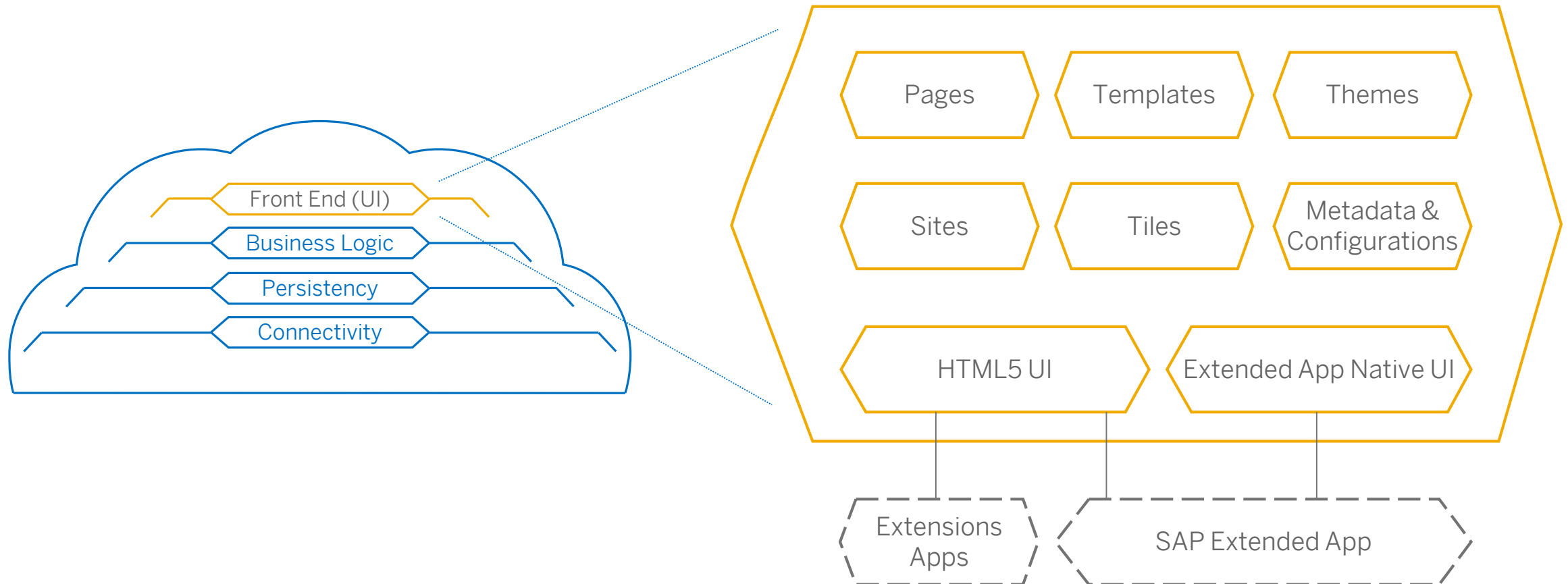
Ready to Use Development Environment

Domain Model
Current Scope

*Note: Global accounts can be two types: trial and enterprise

40
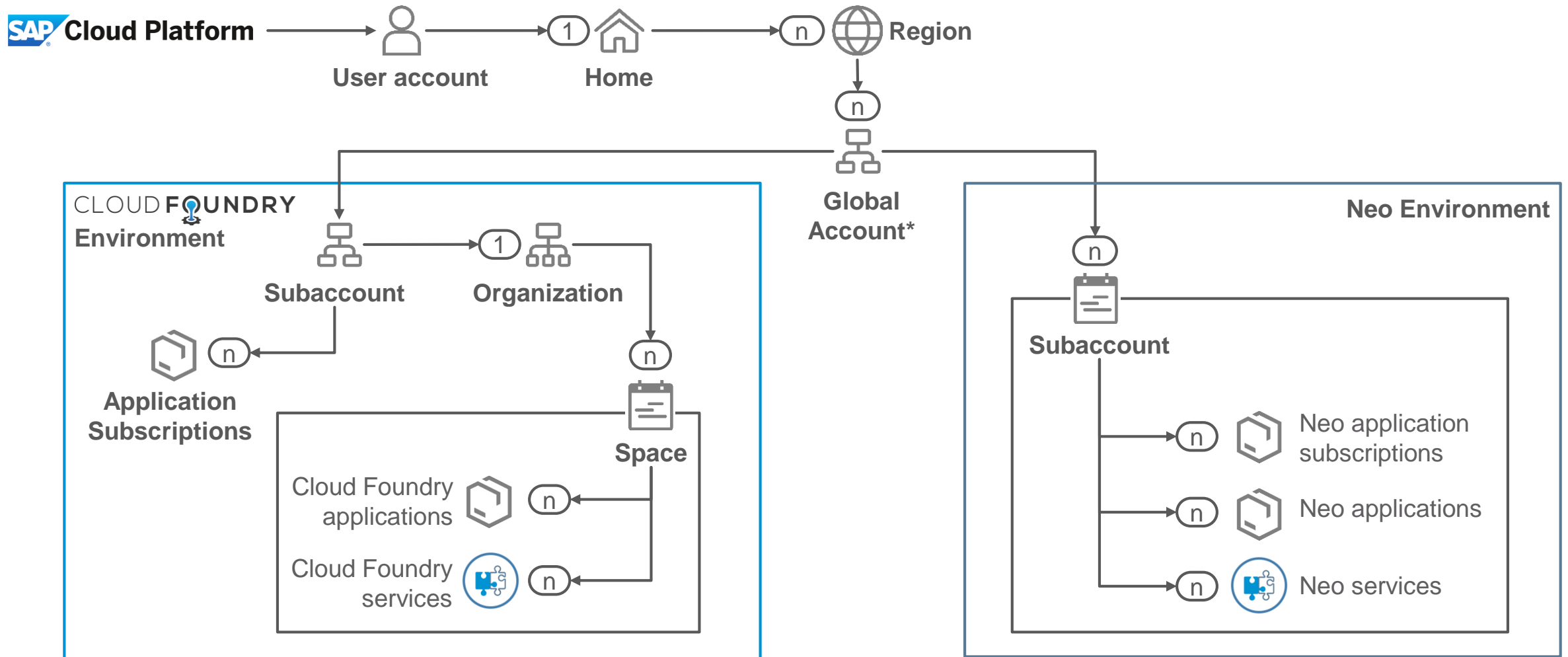
Understanding SAP Cloud Platform Subaccounts
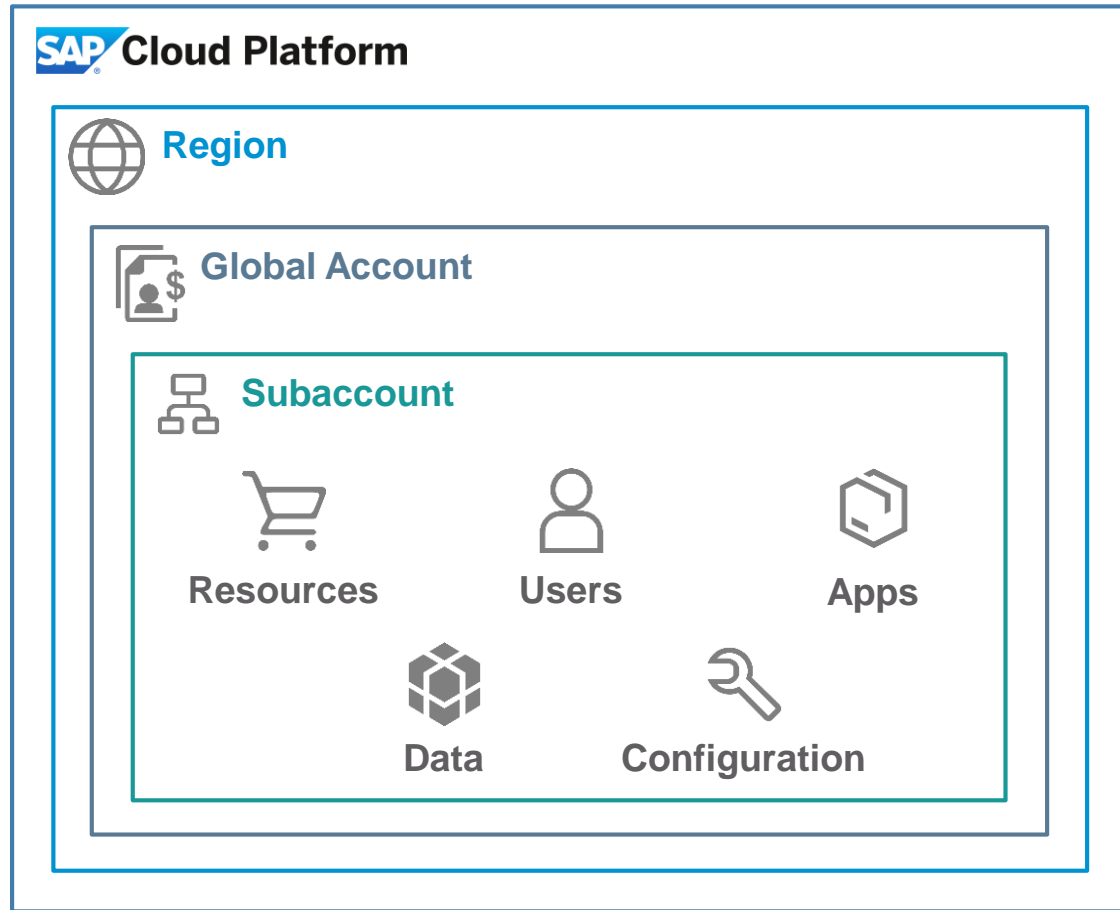
Each subaccount holds:

- Resources that can be consumed by apps

- Users allowed to work in the subaccount

- Apps deployed and running in the subaccount

- Data written by apps running in the subaccount

- Configuration for apps running in the subaccount

Each subaccount is assigned to a Global account and resides in a Region.

Apps can be subscribed from other subaccounts

Landscape Design

SAP Cloud Platform

Region

Global Account

Subaccount - DEV

Resources
Apps
Users
Data
Configuration

Subaccount - QA

Resources
Apps
Users
Data
Configuration

Subaccount - PROD

Resources
Apps
Users
Data
Configuration

Ready to use development environment for every company

SAP Customers use the platform to develop and run applications

SAP Cloud Platform

Region

Global Account owned by an SAP Customer

Subaccount

Resources   Users   Apps

Data   Configuration
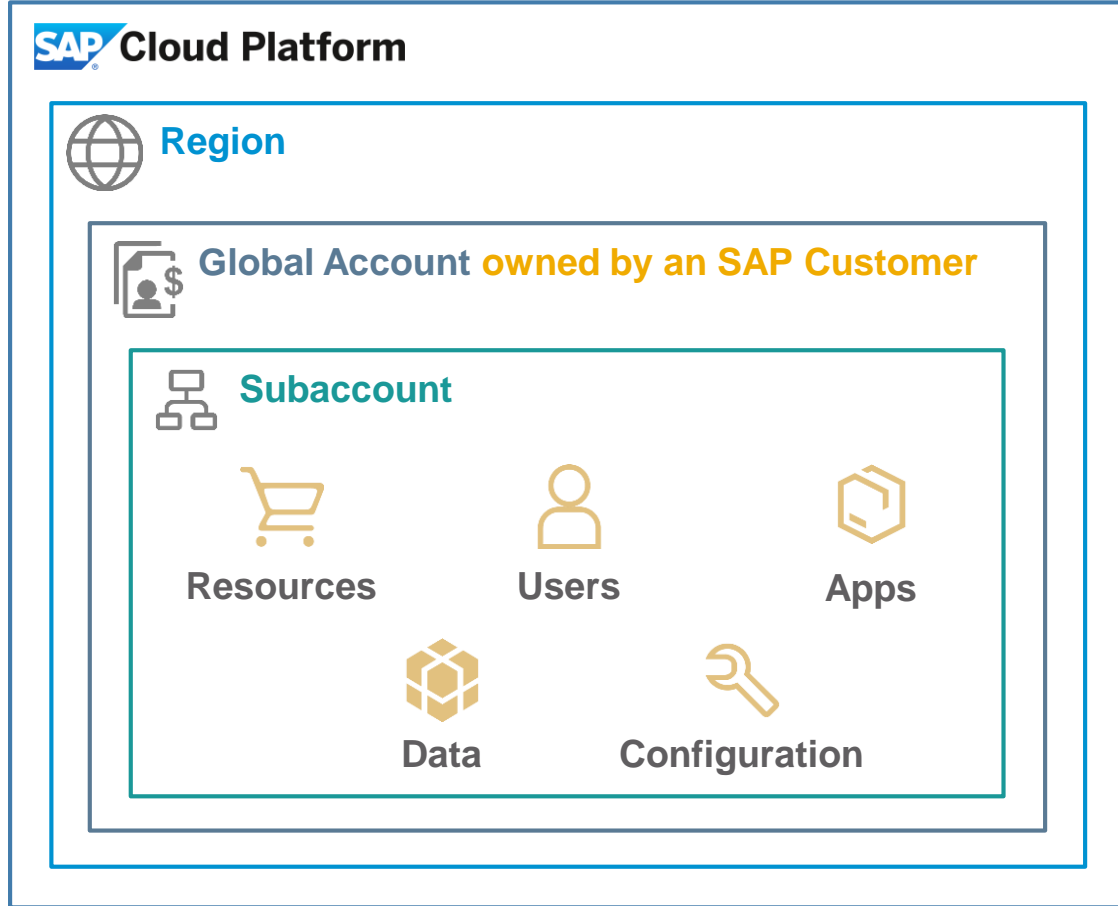
Custom solution:

- Developed by: **Customer**
- IP owned by: **Customer**
- Deployed by: **Customer**
- Running in: **Customer** subaccount
- Platform resources managed by: **Customer**
- Configurations and User Management controlled by: **Customer**
- Operated by: **Customer**

# SAP Customers use the platform also to run SAP Partner solutions
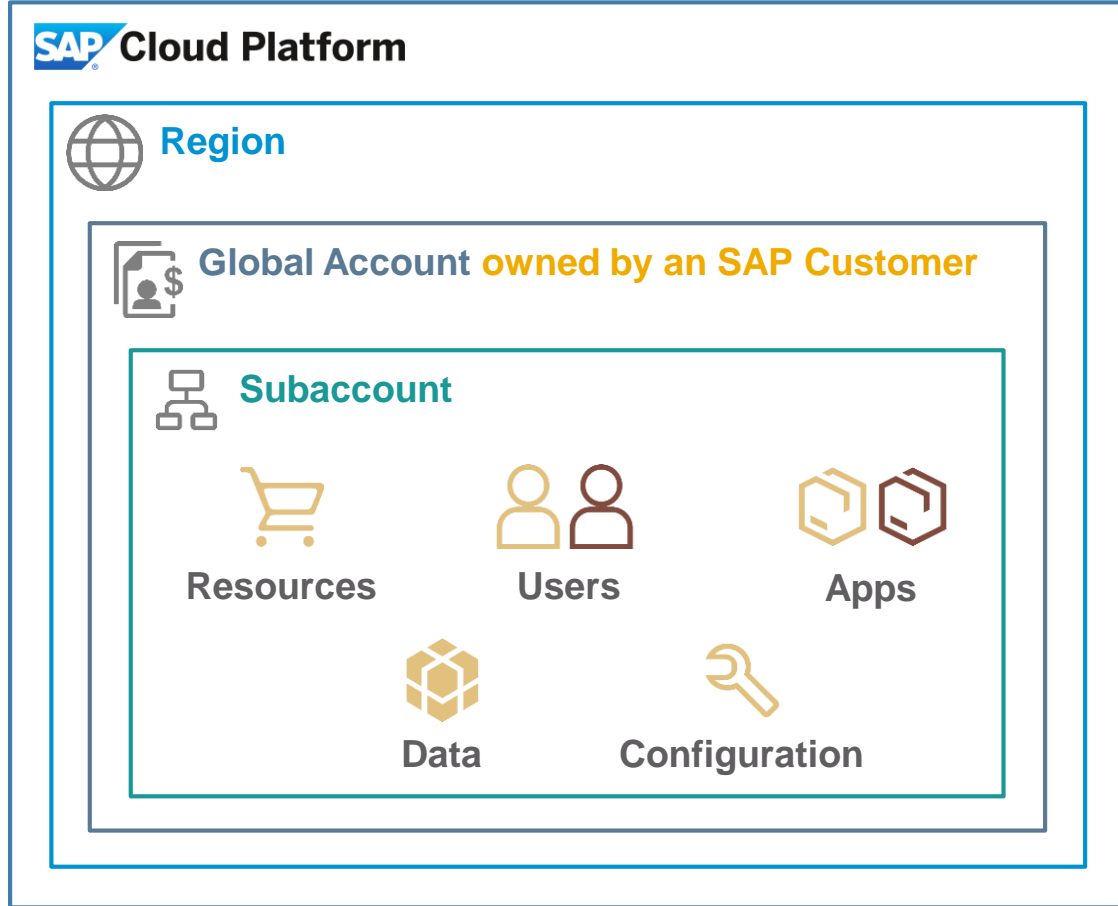
Partner solution deployed and running in the customer subaccount:

- Developed by: **SAP Partner**

- IP owned by: **Customer** or **SAP Partner**

- Deployed by: **Customer** or **SAP Partner**

- Running in: **Customer** subaccount

- Platform resources managed by: **Customer**

- Configurations and User Management controlled by: **Customer**

- Operated by: **Customer** or **SAP Partner**

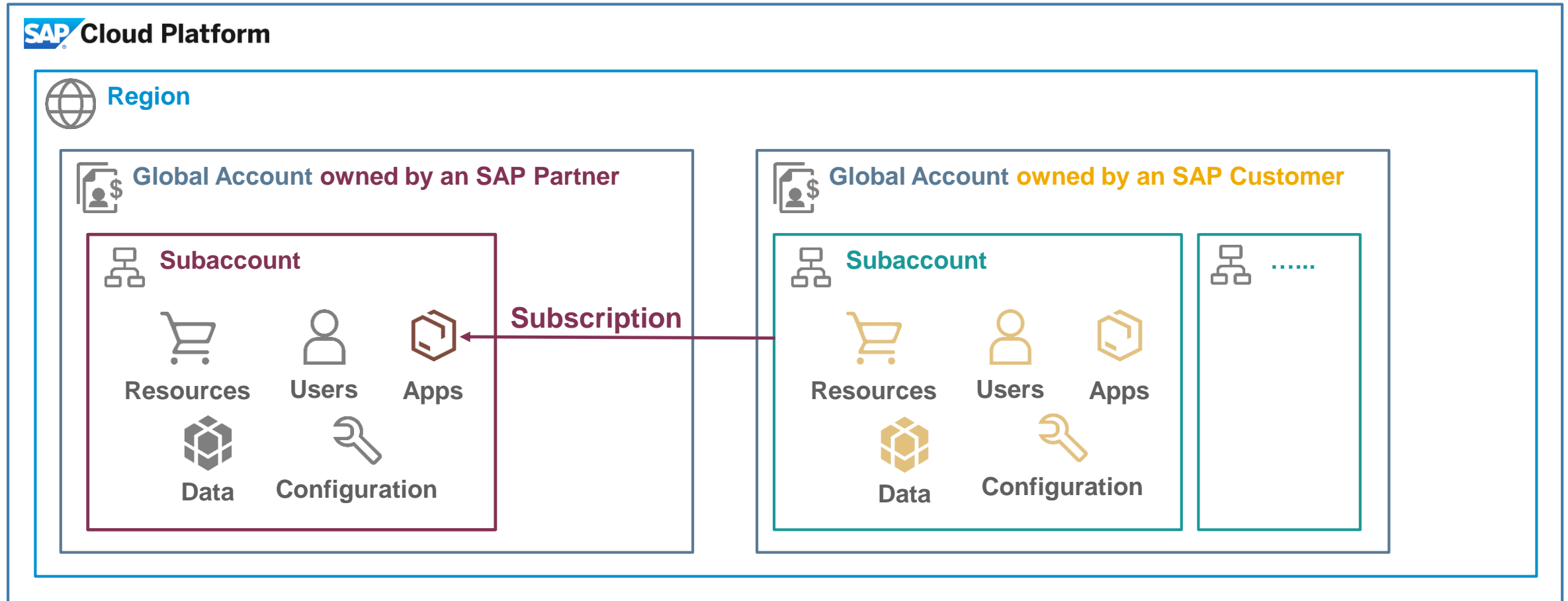 Partner application   Partner operations team

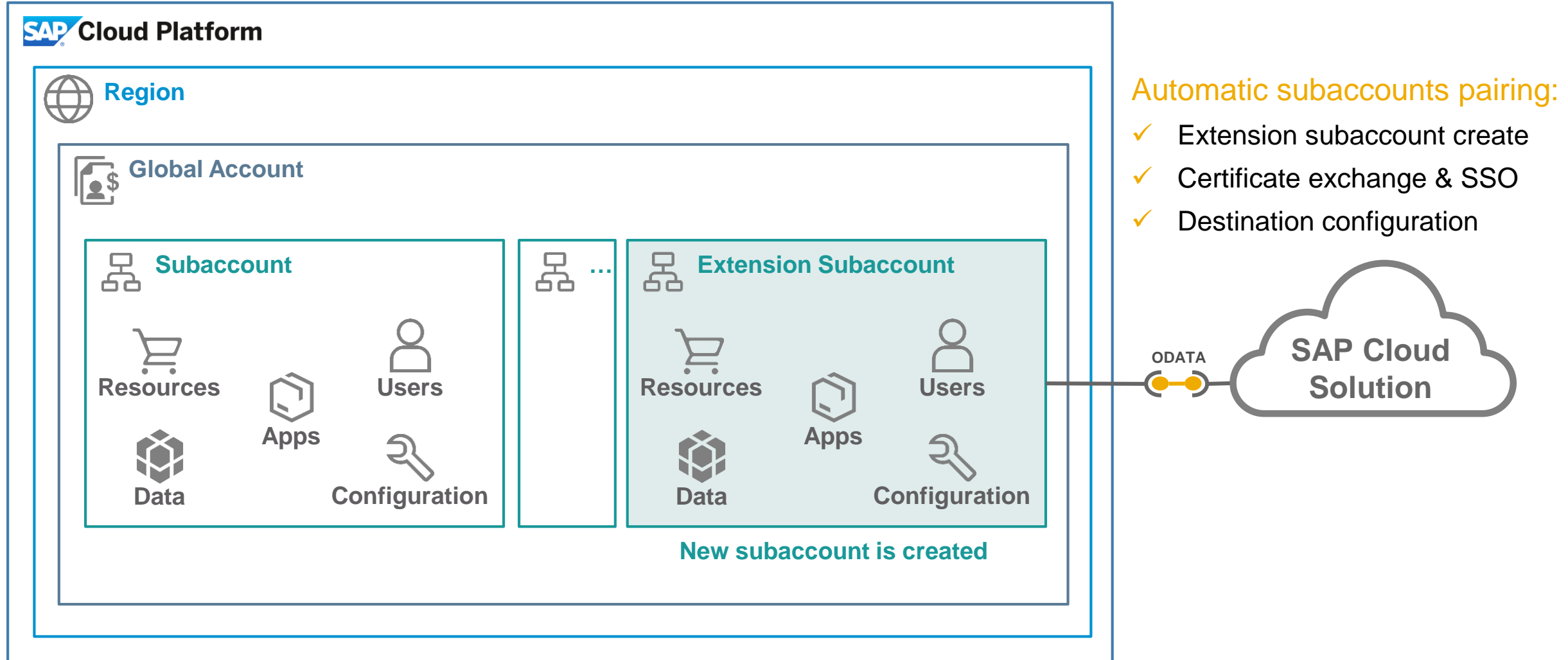# SAP Partners develop and host their solutions on the platform

SAP Cloud Platform

Region

Global Account owned by an SAP Partner

Subaccount

Resources

Users

Apps

Data
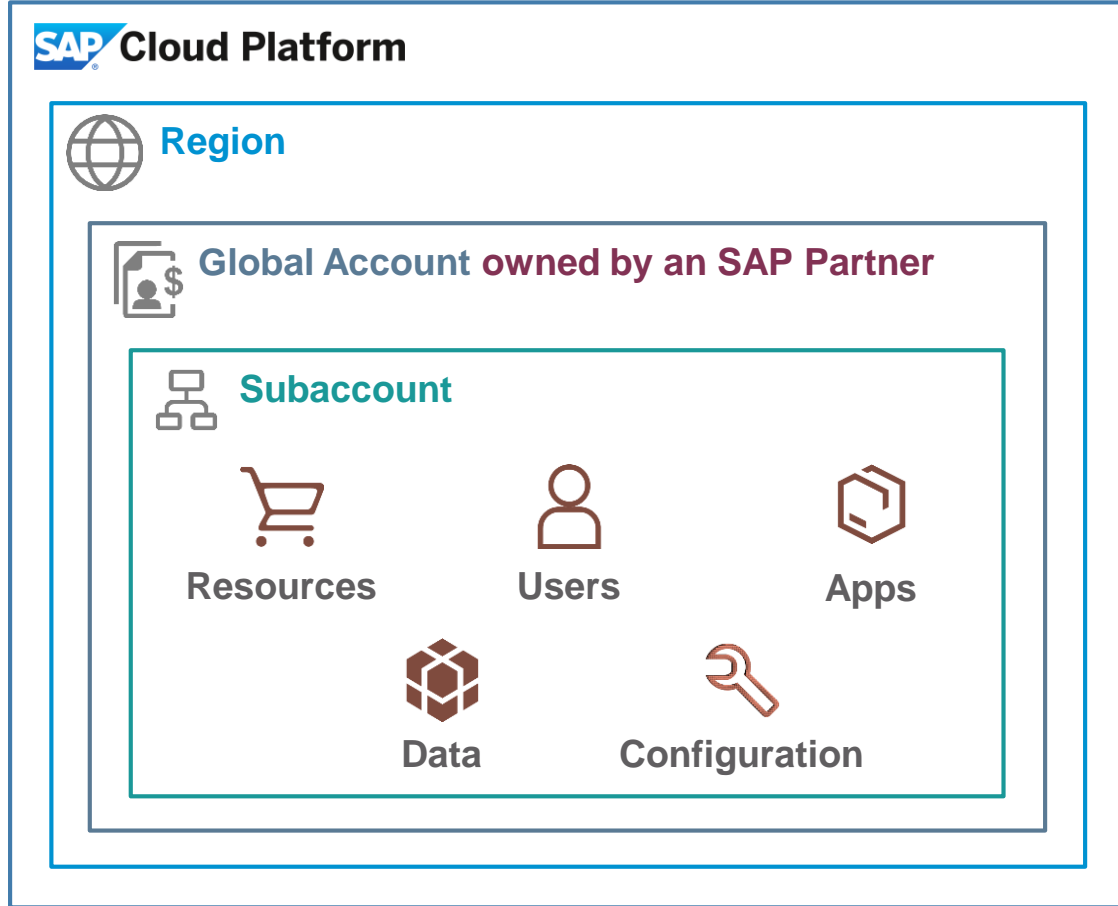
Configuration

Partner solution offered as SaaS:

- Developed by: **SAP Partner**

- IP owned by: **SAP Partner**

- Deployed by: **SAP Partner**

- Running in: **SAP Partner** subaccount

- Platform resources managed by: **SAP Partner**

- Configurations and User Management **inherited** from the subscribed Customer subaccount

- Operated by: **SAP Partner**

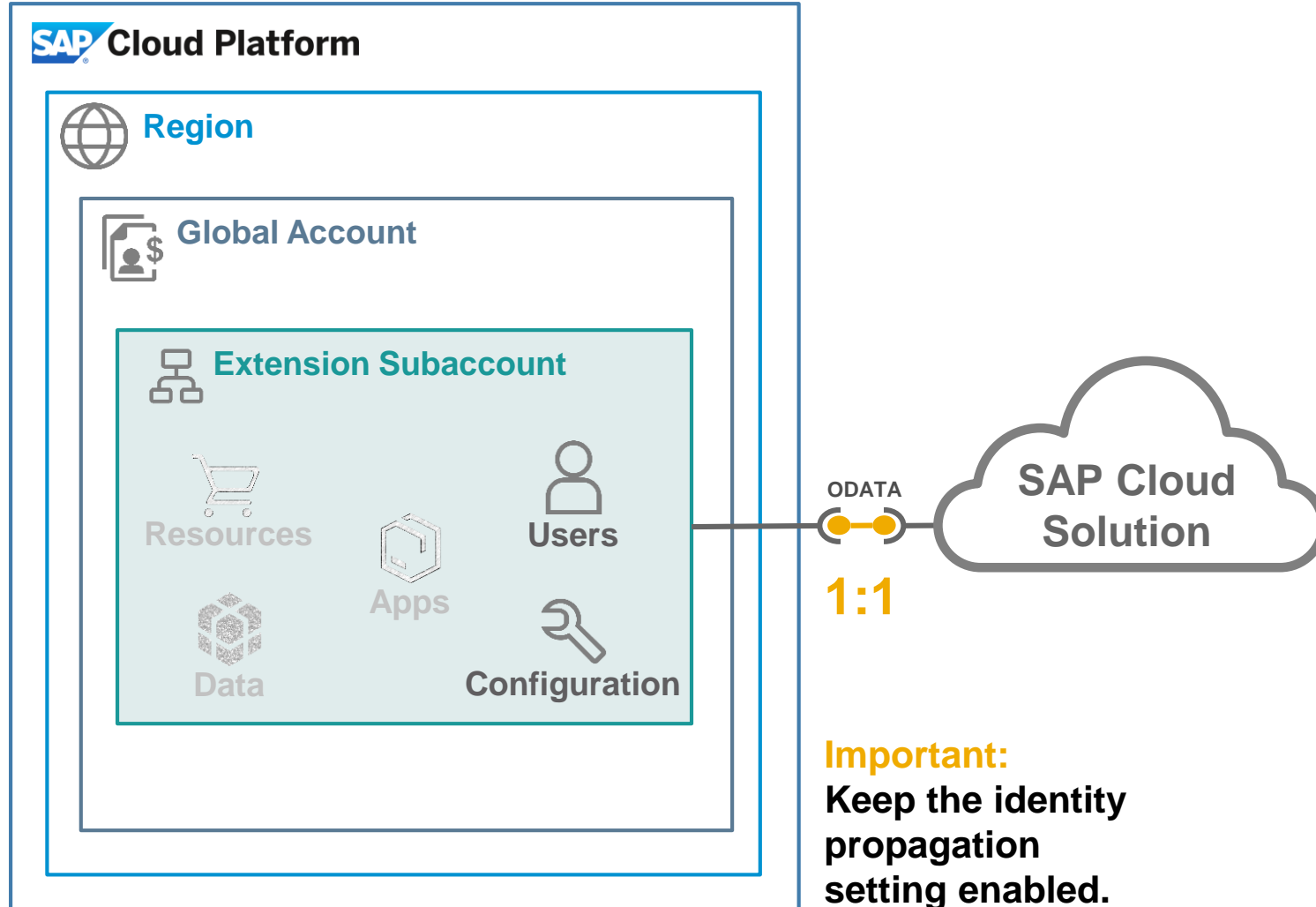# Provider – Consumer deployment model

Pairing Subaccounts

SAP Cloud Platform

Region

Global Account

Subaccount

Resources

Apps

Users

Data

Configuration

...

Extension Subaccount

Resources

Apps

Users

Data

Configuration

New subaccount is created

ODATA

SAP Cloud Solution

Automatic subaccounts pairing:

✓ Extension subaccount create

✓ Certificate exchange & SSO

✓ Destination configuration

Pairing Subaccounts

Extension subaccount is a customer or partner SAP Cloud Platform subaccount which is configured to interact with a particular SAP solution through standardized connectivity configuration.

Configuration settings that are important for the extension solutions are configured and available for use only via the extension subaccounts:

- Destinations settings
- Theming and Branding
- Security settings

Recommendation: Use the extension subaccounts as central containers of the configurations required for an extension solution.

Extension subaccount – a central container for configurations
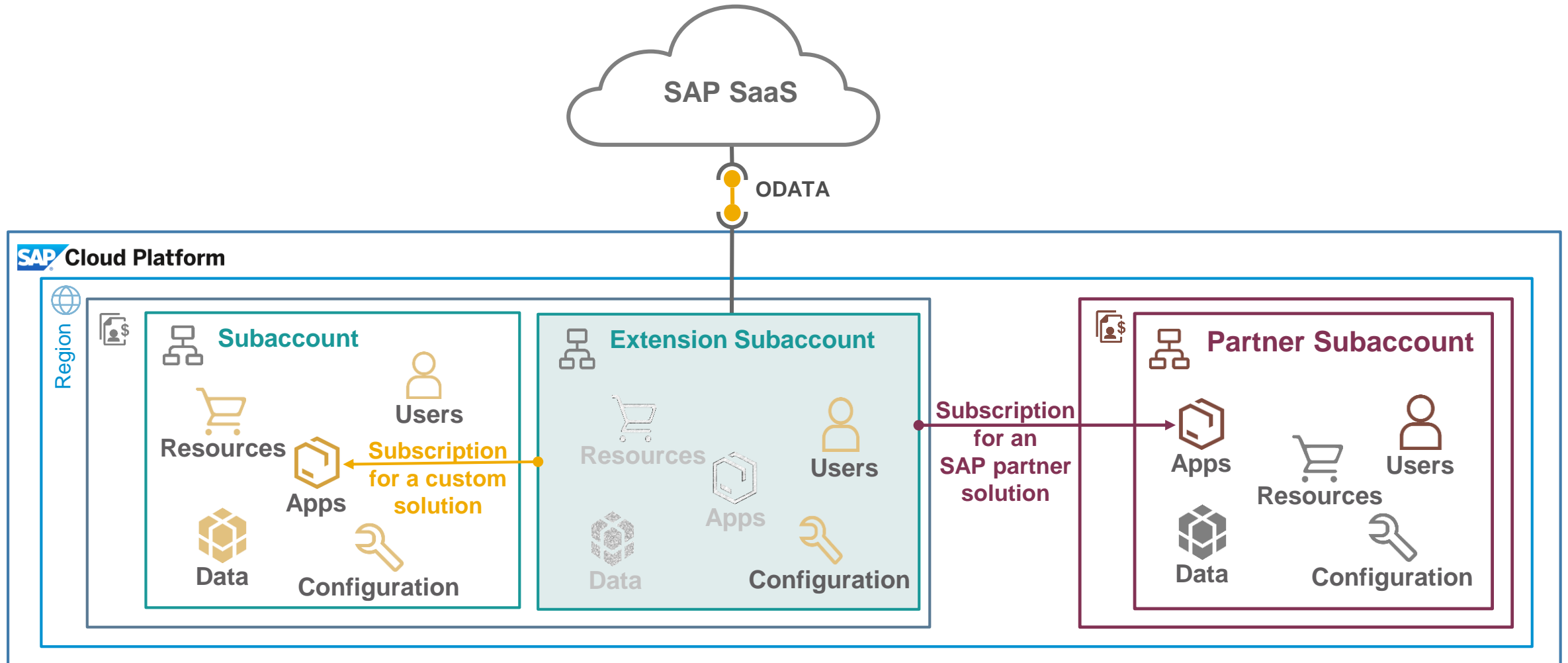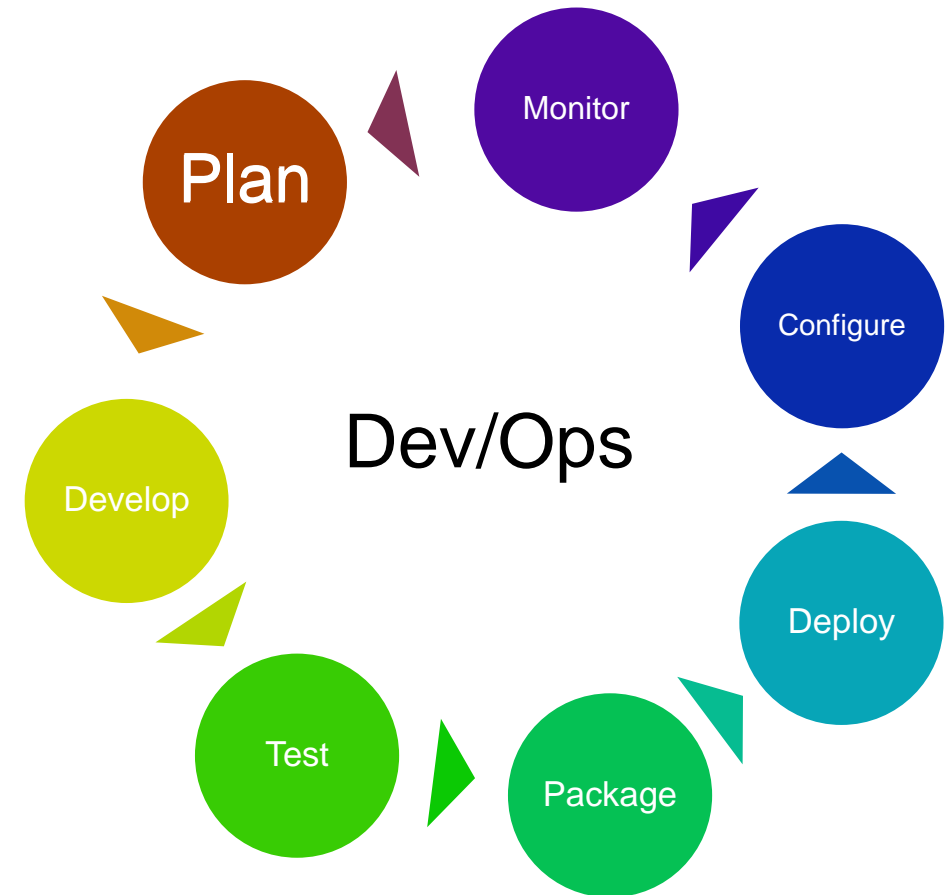
Lifecycle Management

SAP Cloud Platform

Continuous innovation for your applications using simplified Dev/Ops activities

Simplified Development

- SAP Web IDE - Web-based integrated development solution for end-to-end full-stack SAP application development

- Rapid application development tooling:
  - Wizards
  - Templates
  - Graphical editors
  - Code assist
  - Validations and more

- Build & deploy from the SAP Web IDE directly to SAP Cloud Platform Neo and Cloud Foundry Environments

Dev/Ops

Plan

Monitor
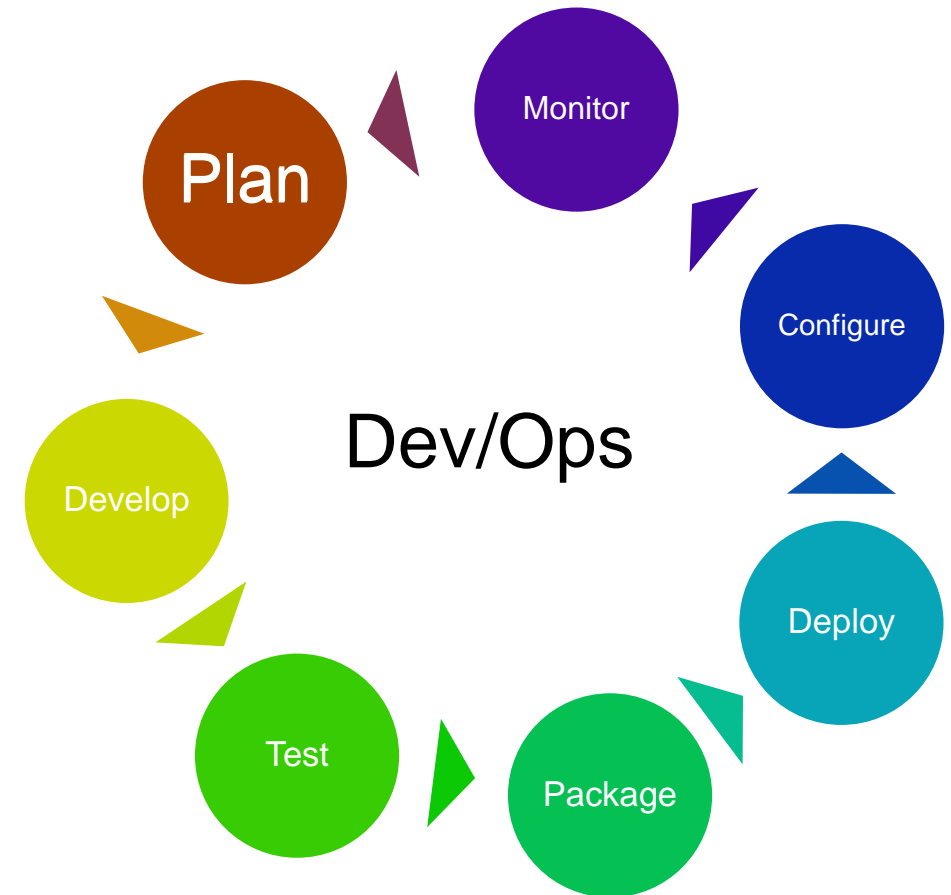
Configure

Deploy

Package

Test

Develop

SAP Cloud Platform

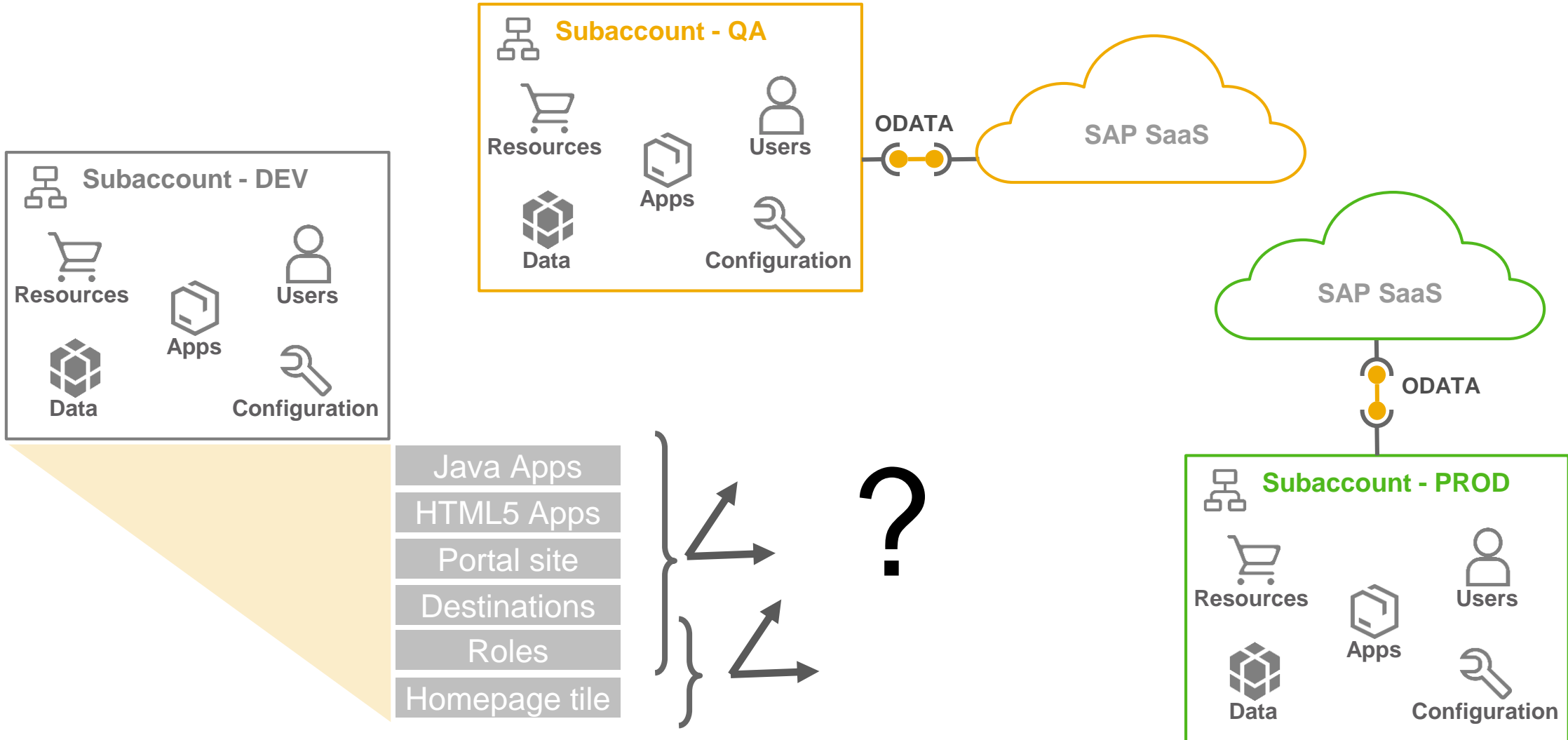Continuous innovation for your applications using simplified Dev/Ops activities

Simplified Operations

- Unified and consistent deployment process for your projects, including alignment with the on-premise development processes when necessary

- Flexible properties configuration with no need for re-deployment

- Simple and easy start and stop for your applications

- Comprehensive and configurable monitoring and alerting for an easily health check of your solutions

- Quick and easy problem troubleshooting via the detailed and configurable application log

- Transparency for the resource usage of your SAP Cloud Platform accounts

Dev/Ops

Plan
Monitor
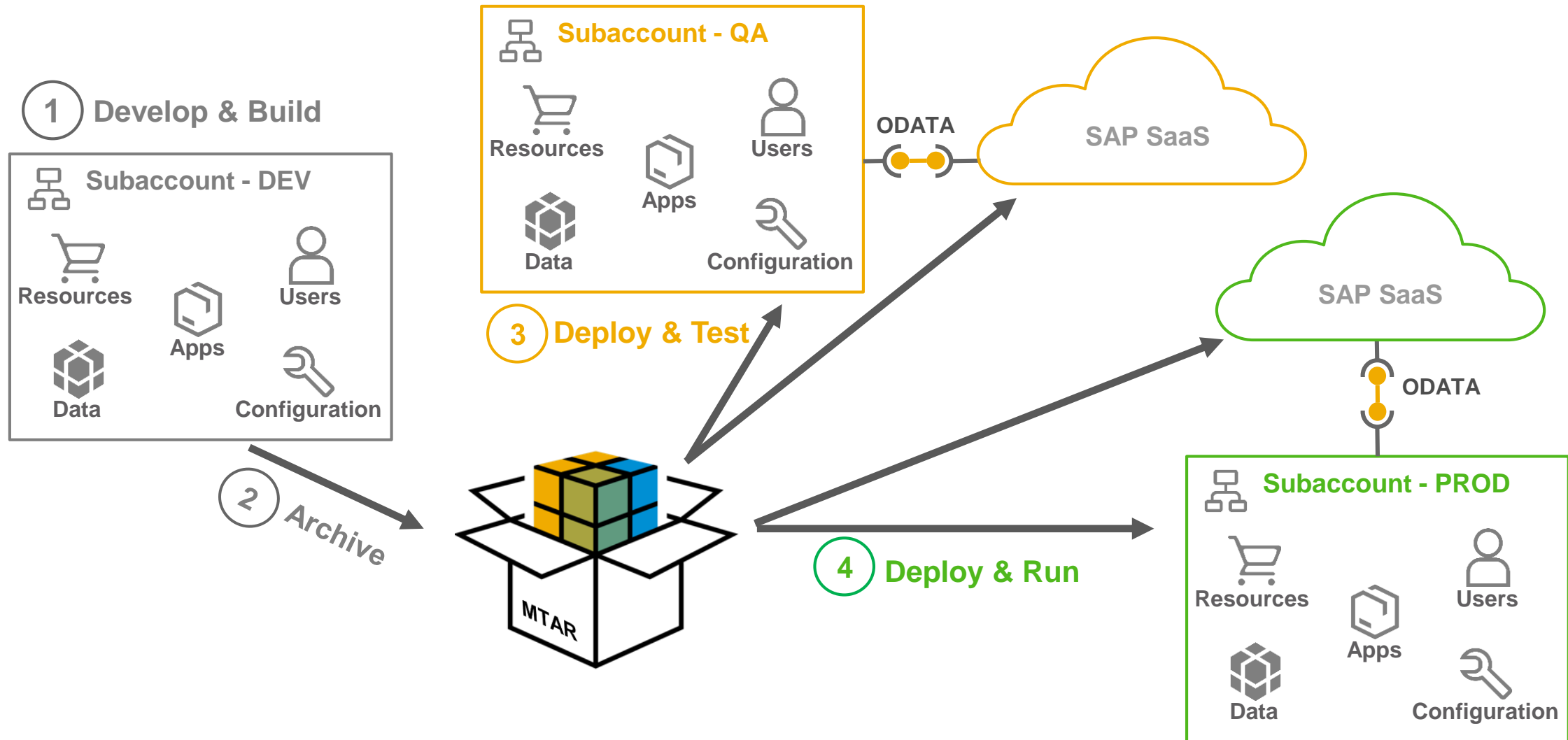Configure
Deploy
Package
Test
Develop

Lifecycle Management
Transporting Development Components

Subaccount - QA
Resources
Apps
Users
Data
Configuration

ODATA

SAP SaaS

Subaccount - DEV
Resources
Apps
Users
Data
Configuration

Java Apps
HTML5 Apps
Portal site
Destinations
Roles
Homepage tile

?

SAP SaaS

ODATA

Subaccount - PROD
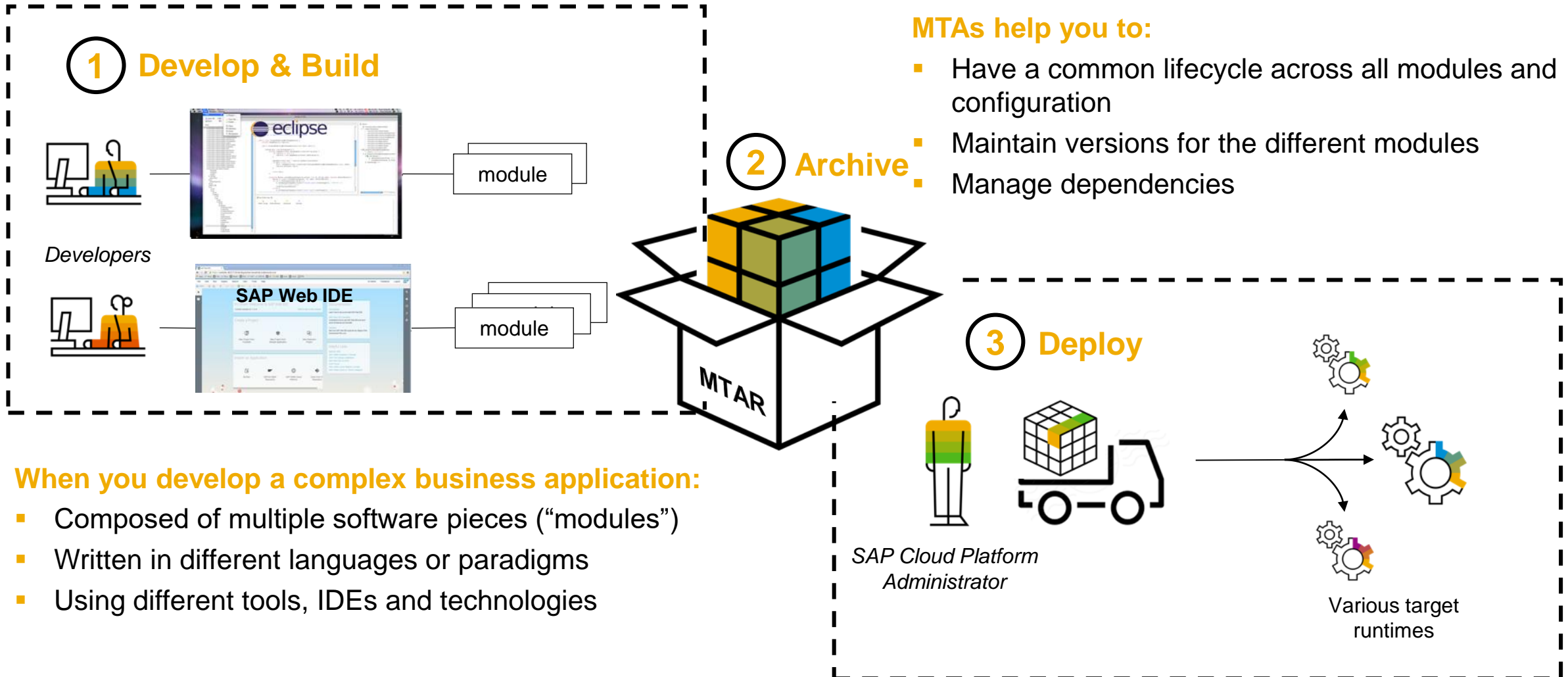Resources
Apps
Users
Data
Configuration

Lifecycle Management

Multi-target Applications in Cloud Foundry environment

Multi-Target Applications

Enable you to overcome lifecycle management challenges

1 **Develop & Build**

Developers

module

SAP Web IDE

module

2 **Archive**

MTAR

MTAs help you to:

- Have a common lifecycle across all modules and configuration
- Maintain versions for the different modules
- Manage dependencies

3 **Deploy**

SAP Cloud Platform Administrator

Various target runtimes

When you develop a complex business application:

- Composed of multiple software pieces ("modules")
- Written in different languages or paradigms
- Using different tools, IDEs and technologies

Provider – Deployment with entitlements

Grant permissions for subscription to consumers via entitlement

4 **Provider:** Create entitlements for the solution to the licensed customers

Provider Admin

107 - SAP Employee Benefits Management Sample
Entitlements: 1, Subscribers: 0

+ Create Entitlement

Entitlements

Status	Global Account GUID	Granted
Available	hcpExtTechEd	1

Subscribers

Global Account GUID

Overview

Applications

Services

Solutions

Persistence

Connectivity

Security

Repositories

Document Repositories

Git Repositories

Resource Consumption

Members

🏠 Home ∨ / 🌐 US West ∨ / 🖧 HCP Ext for TechEd ∨ / DEV@salesdemo4.successfac

DEV@salesdemo4.successfactors.com - Solutions

All: 1

⬆ Deploy

Solutions Available for Subscription

107 - SAP Employee Benefits Management Sample Application

This is a sample extension application for SuccessFactors Employee Central. The application can be used by employees to...

Available

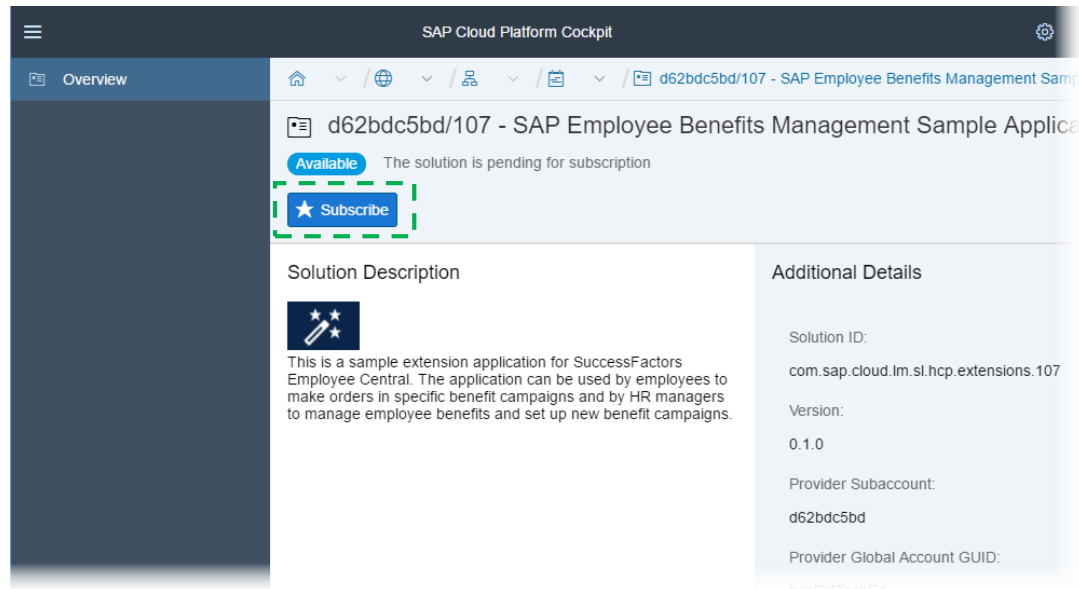**5** **Solution appears as "available" for subscription to consumers**

Provider – Consumer scenario
Provision to consumers via subscription

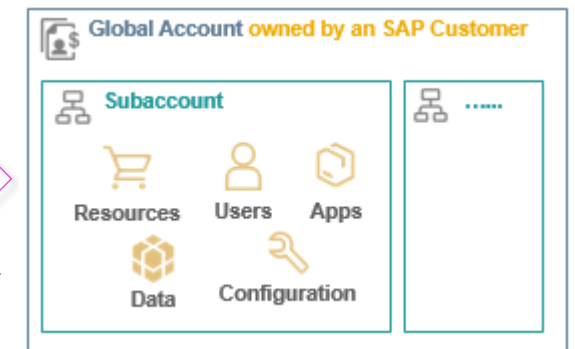**6** **Consumer:** Subscribes for the solution

Consumer Admin

7 [Optional] Solution components can get automatically deployed in the consumer subaccount as part of the subscription process (if necessary).

Provider content

Deployed automatically

Open innovation

Open standards

Openness:
Provider/DC of choice

SaaS

Marketplace / Ecosystem

Business Services / Enterprise APIs

Platform services

CLOUD FOUNDRY

Thriving
enterprise ecosystem

Differentiating business
services

Best integrated services
+ comprehensive set of
platform capabilities

only multi-cloud enterprise
platform in the market

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Questions & Answers

Thank you.

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SAP Run Simple