

# **The Universe of BTP in a Nutshell**

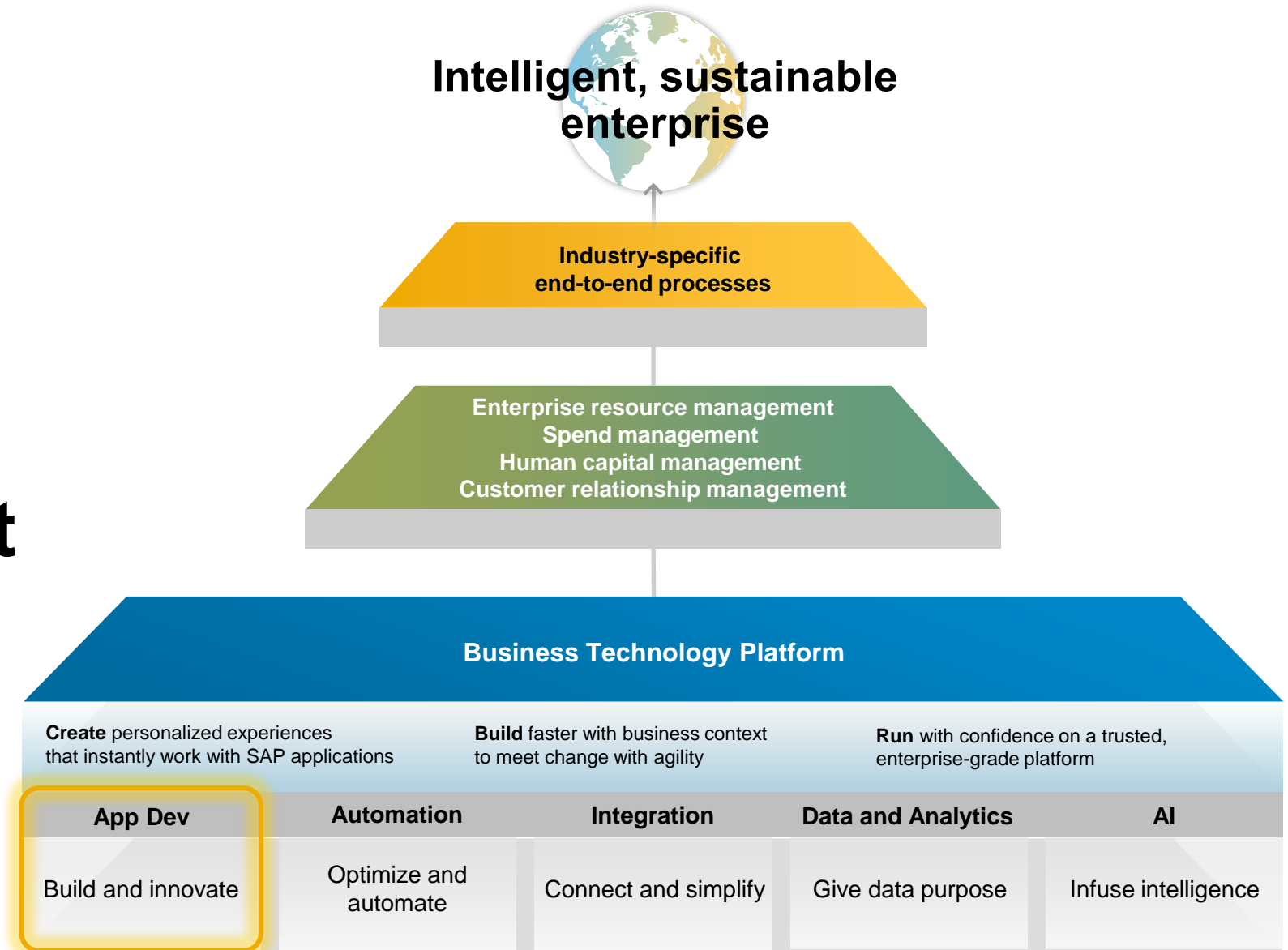
## **proCode based Development with SAP BTP**

November, 02 2022

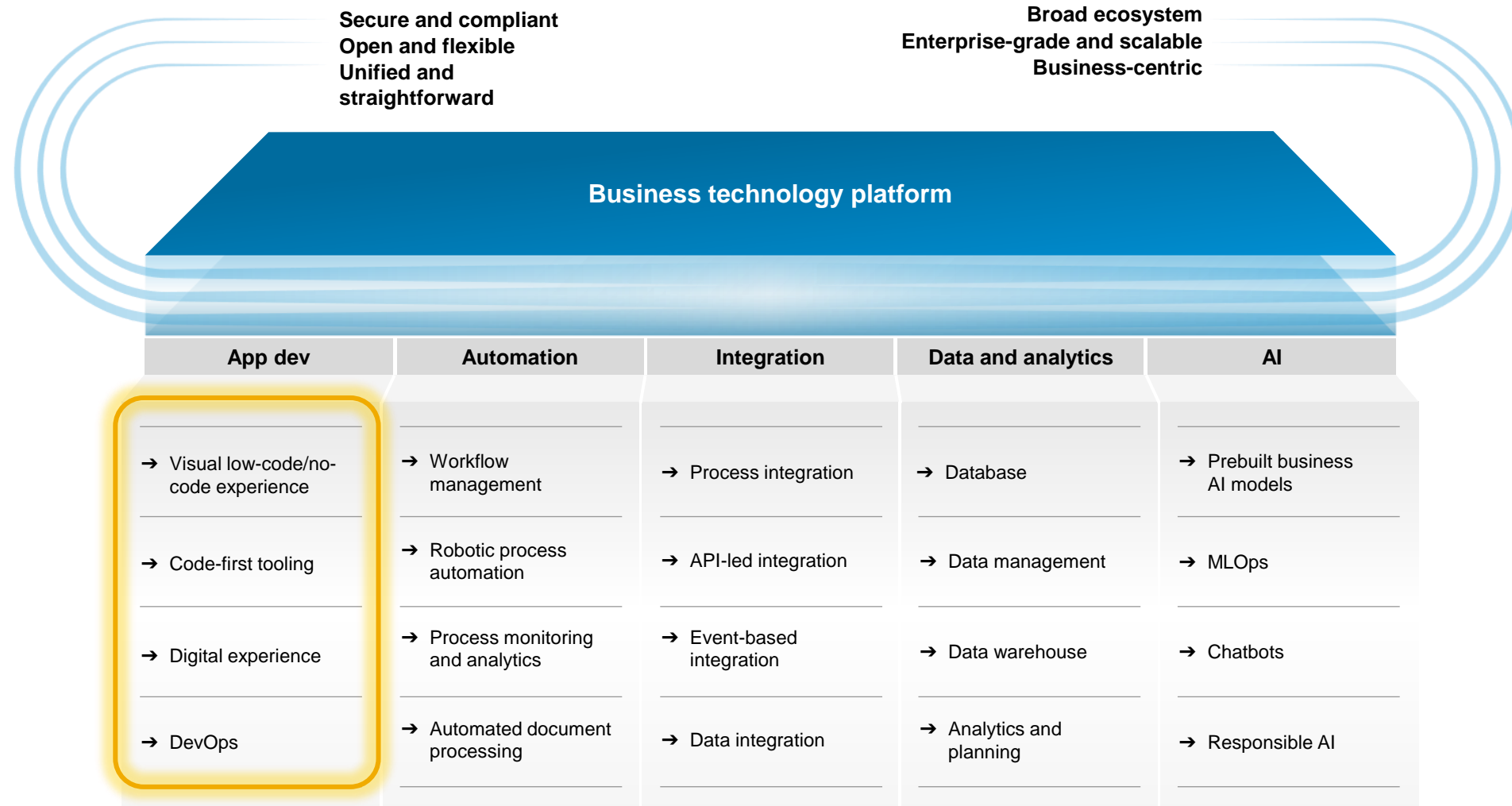
INTERNAL

# **Business Technology Platform Overview**

# SAP BTP is the foundation of the Intelligent Sustainable Enterprise

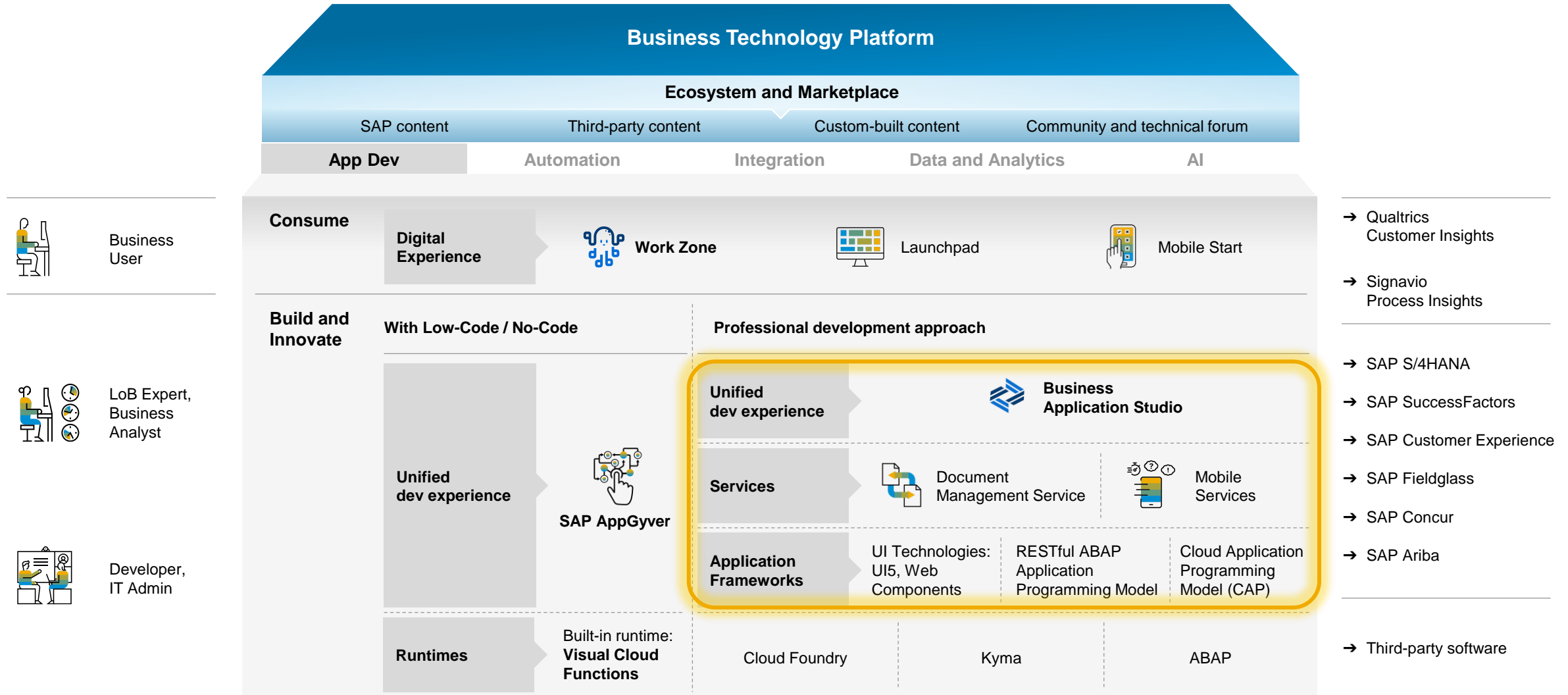


# SAP Business Technology Platform (SAP BTP) cloud capabilities



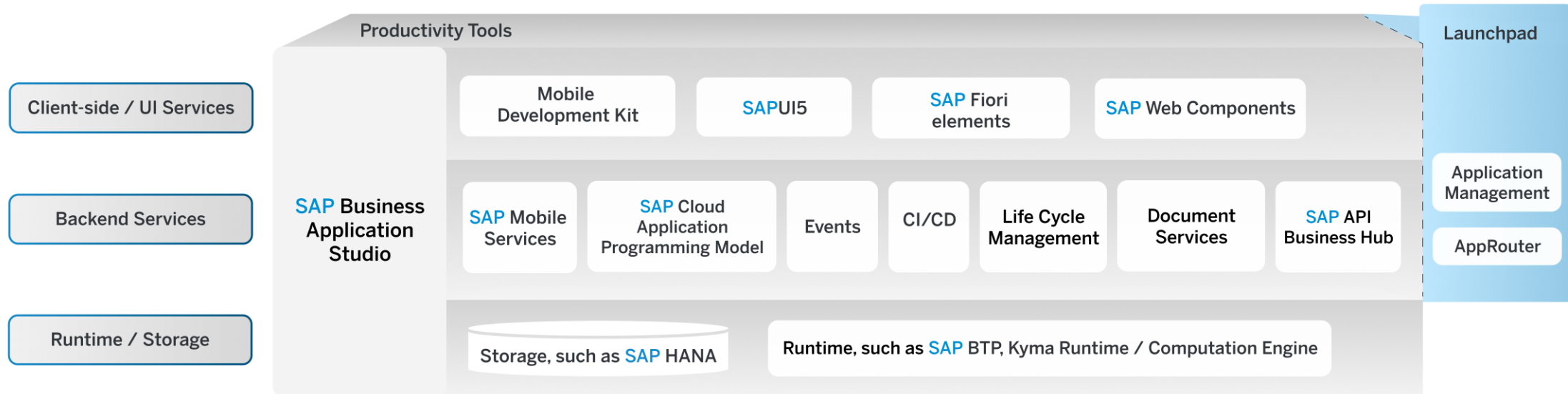
# Application Development

## Application Development and Digital Experience



# Productivity tools for a comprehensive pro-code offering on SAP BTP

Quickly build enterprise-ready applications based on opinionated technologies from SAP

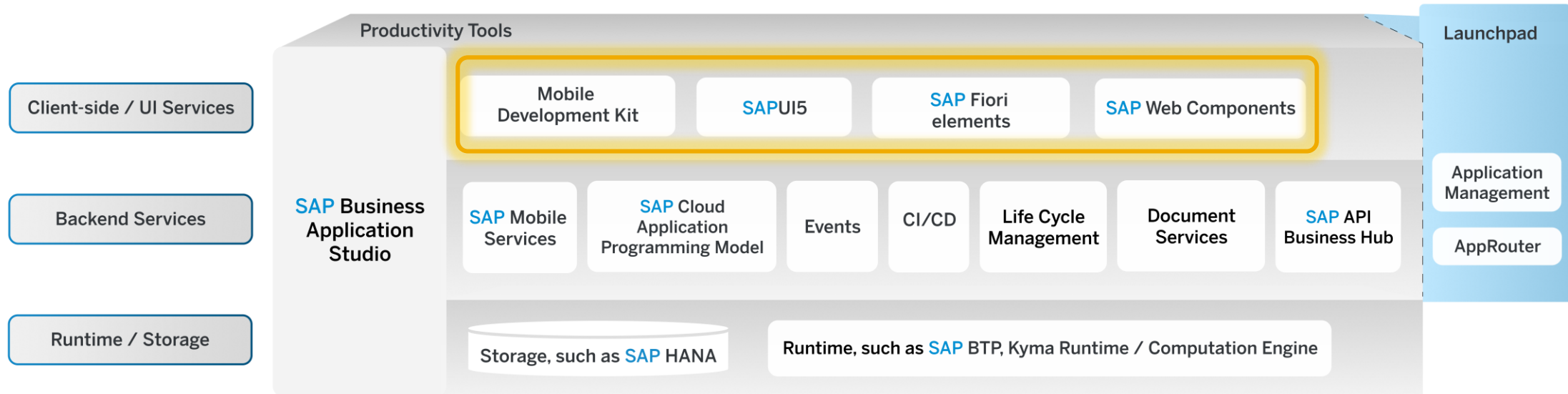


- **SAP Business Application Studio**, the preferred IDE to develop applications and extensions on SAP BTP
- Core technologies from SAP in one development environment with all necessary design-time and runtime services
- Fully flexible developer experience – from application composition through graphical productivity tools to command line; code-exit possible at any time
- Optimal integration to SAP data for consumption and deployment (cloud and on premise)
- Provision of content, support for best practices, and delivery of tools for guiding developers
- Complement to ABAP and SAP BTP, Kyma runtime for UI and mobile development

# The Frontend

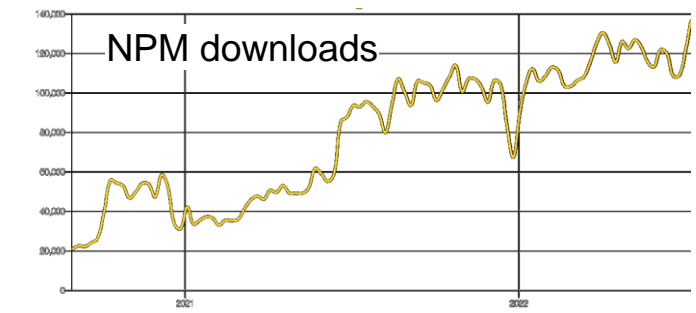
# Productivity tools for a comprehensive pro-code offering on SAP BTP

Quickly build enterprise-ready applications based on opinionated technologies from SAP



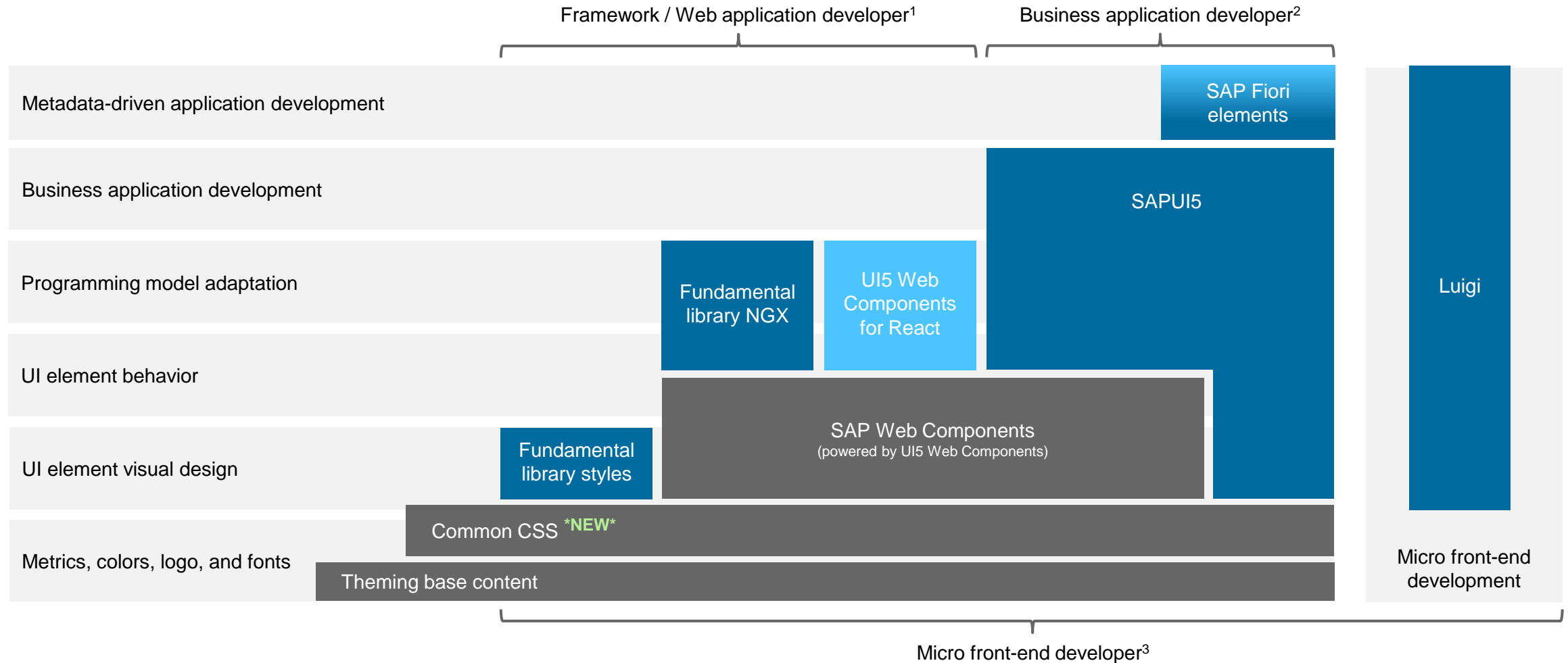
**SAP Cloud Application Programming Model** is the most adopted framework in SAP (non-ABAP hemisphere).

- **100+** internal stakeholders
  - **100+** customers and partners
  - **500+ blogs** featuring SAP Cloud Application Programming Model
- All growing steadily...





# A tailored pro-code approach for everybody!



- UI technology option from SAP
- Reuse UI technologies
- Inner source UI technology options from SAP

1. Works with HTML/CSS, using component tool kits, free framework choice, special requirements, limited lifetime of apps
2. Works with UI components, using app framework, built-in connectivity, preconfigured UI flexibility, fulfill enterprise qualities
3. Works with multiple UI components, built in different technologies and put together in a micro front-end with Luigi

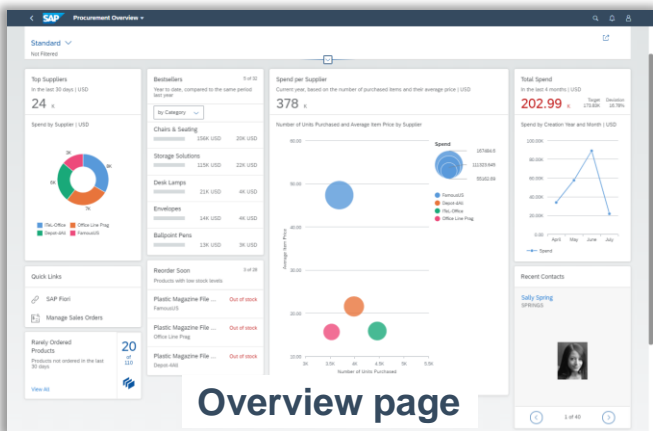
# **The Frontend**

## **SAP Fiori elements**

# SAP Fiori elements ensures consistent layout, navigation

Most use cases in the enterprise space involve providing an **overview**, **lists** of business objects and management of these business **objects**.

Provide **overview** on business relevant data



Overview page

Work on a **list** of business objects

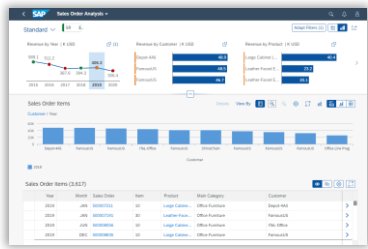
The screenshot shows the 'SAP Manage Product Catalog' Fiori app. It displays a list of products with columns for 'Product', 'Name & Description', 'Category', 'Supplier', 'Star Ratings', and 'Price'. The list is filtered by 'All' categories. The bottom right corner shows a '20' icon and a 'View' button.

List report page

Manage individual business **objects**

The screenshot shows the 'SAP Product' Fiori app. It displays the details of a 'Bookmark Sticky Notes - assorted' product. The page is divided into sections: 'General Information', 'Reviews', and 'Technical Data'. The 'Reviews' section shows a list of reviews with star ratings and text. The bottom right corner shows a '20' icon and a 'View' button.

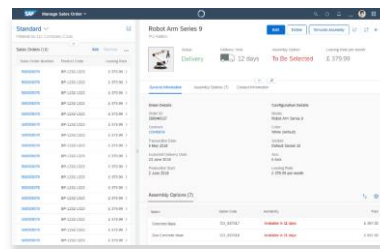
Object page



Analytical list page

The screenshot shows the 'SAP My Worklist' Fiori app. It displays a list of worklist items with columns for 'Worklist Item Number', 'Worklist Item Date', 'Worklist Item Type', 'Worklist Item Status', and 'Worklist Item Amount'. The list is filtered by 'All' categories. The bottom right corner shows a '20' icon and a 'View' button.

Worklist page



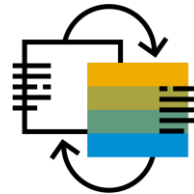
Flexible Column Layout

# SAP Fiori elements boosts SAPUI5 development efficiency



## Developer Productivity

- Focus on **business logic** and back-end services
- Write **less UI code**
- **Reduce** development and maintenance **costs**



## UX Consistency

- Comply with the **latest SAP Fiori design** specification
- Deliver a **centrally managed** user experience
- Include **uniform** fonts, colors, layout, navigation, actions, search, filtering, and more



## Enterprise Readiness

- Deliver **high quality** SAPUI5 applications to end-users
- Ensure **stable, optimized** UI code out of the box
- Include **standard enterprise features** (accessibility, mobile, translation support, ...)

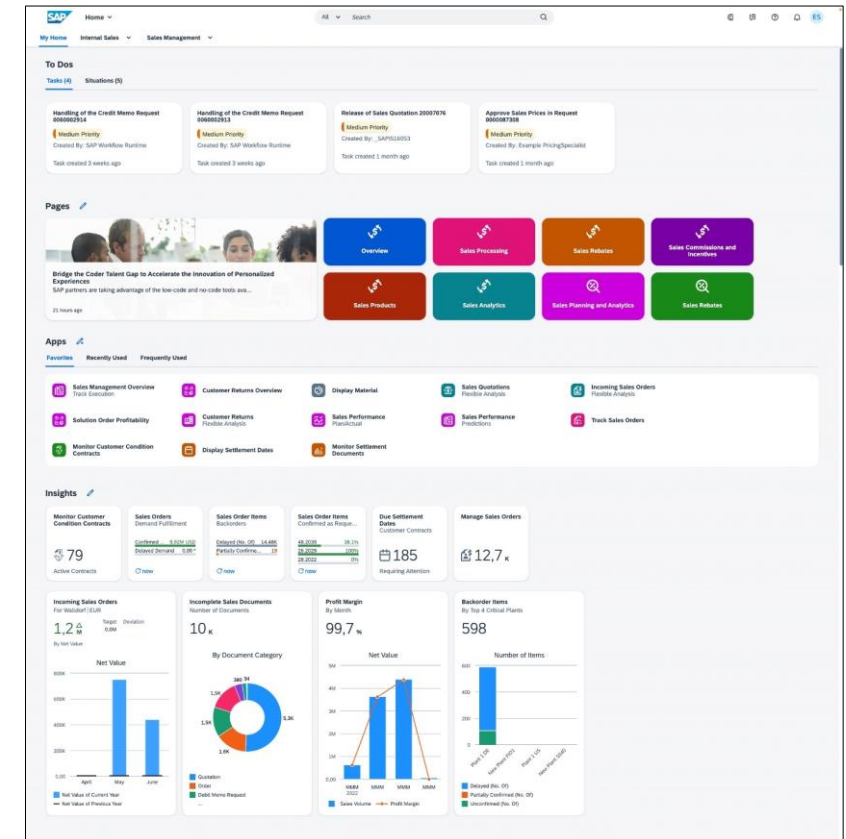
**The Frontend**

**SAPUI5 and SAP Web Components**

# Building modern Web applications with SAPUI5 and Web components

SAPUI5 is an HTML5 framework for creating cross-platform, enterprise-grade applications

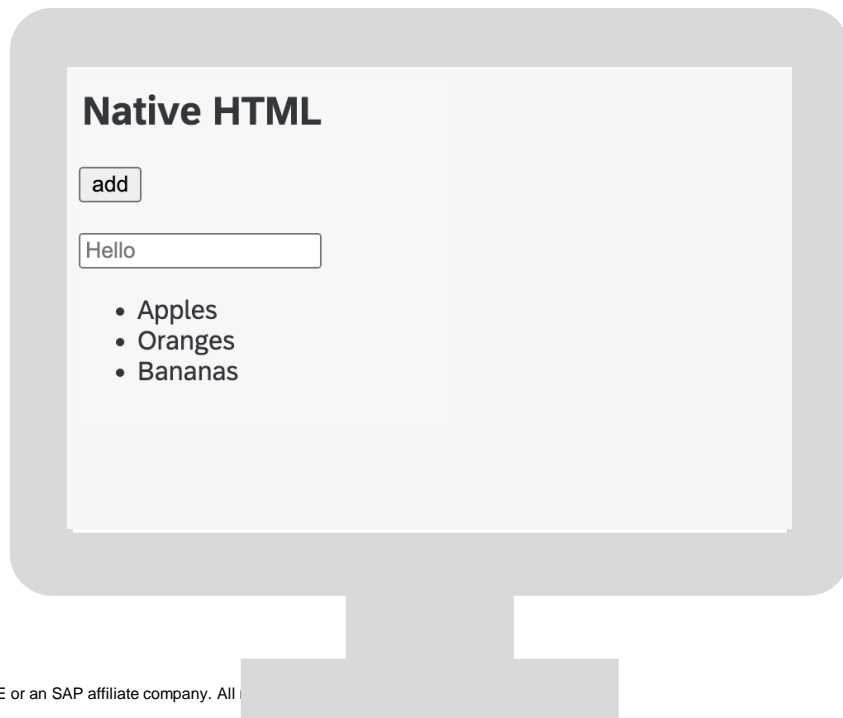
- **Consistent UX:** SAPUI5 enables the SAP Fiori design system evolution across SAP solutions (and beyond).
- **Anywhere use:** SAPUI5 allows a single, responsive app implementation for all browsers, platforms, and devices.
- **Hundreds of enterprise UI elements** to build professional UIs: UI5 Web Components extend UI5 to all Web technology stacks.
- **Powerful extension options:** You can adapt SAP standard apps and customize UIs without coding.
- **Flexible tools for any developer:** SAPUI5 comes with tools to efficiently build, test, and deploy apps, including SAP Business Application Studio, which is our recommended IDE.
- **Innovations:** SAPUI5 brings a separation of apps and framework to centrally innovate while staying upgrade compatible.
- **Open source:** SAPUI5 qualities are available as OpenUI5.



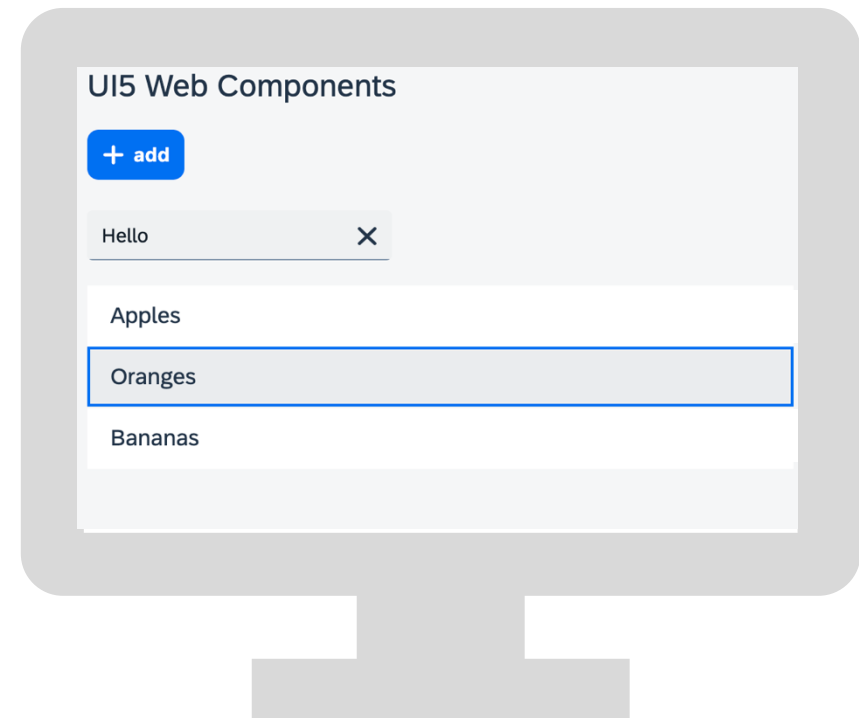
[Video: What is SAPUI5?](#)

# UI5 Web Components in a nutshell

```
28 <body class="sapUiBody">
29   <h2>UI5 Web Components</h2>
30
31   <button>add</button><br>
32   <input placeholder="Hello"></input>
33   <ul>
34     <li>Apples</li>
35     <li>Oranges</li>
36     <li>Bananas</li>
37   </ul>
38 </body>
```



```
28 <body class="sapUiBody">
29   <h2>UI5 Web Components</h2>
30
31   <ui5-button>add</ui5-button><br>
32   <ui5-input placeholder="Hello"></ui5-input>
33   <ui5-list>
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```



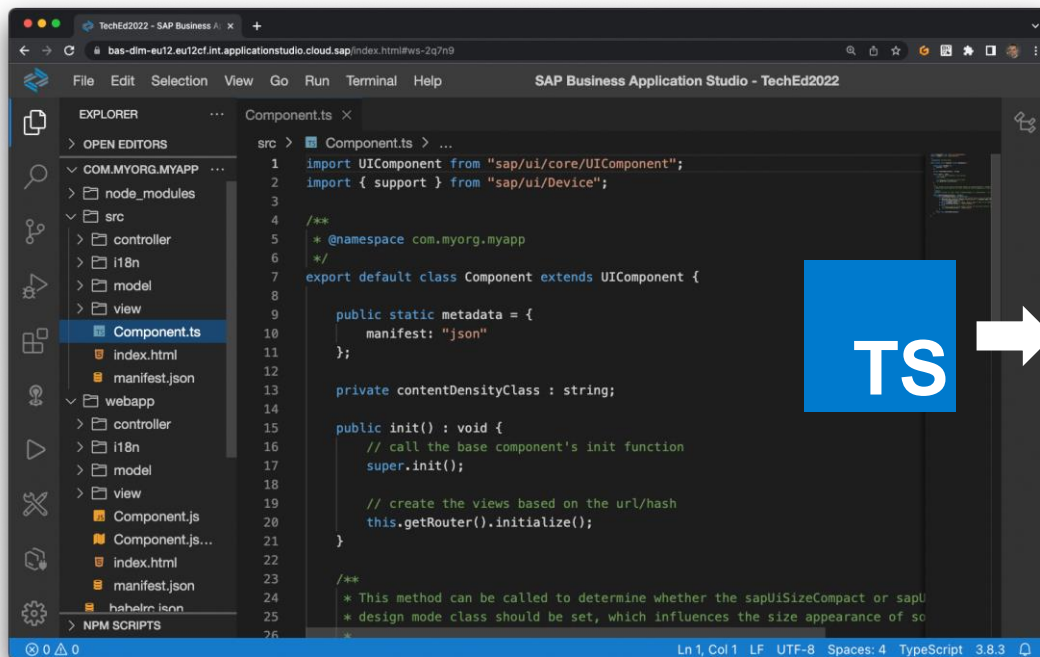
# TypeScript for SAPUI5: Professional application development

Modern ES language features for SAPUI5

Support in **SAP Business Application Studio** and **Visual Studio Code**

Transpiled into SAPUI5 runtime code

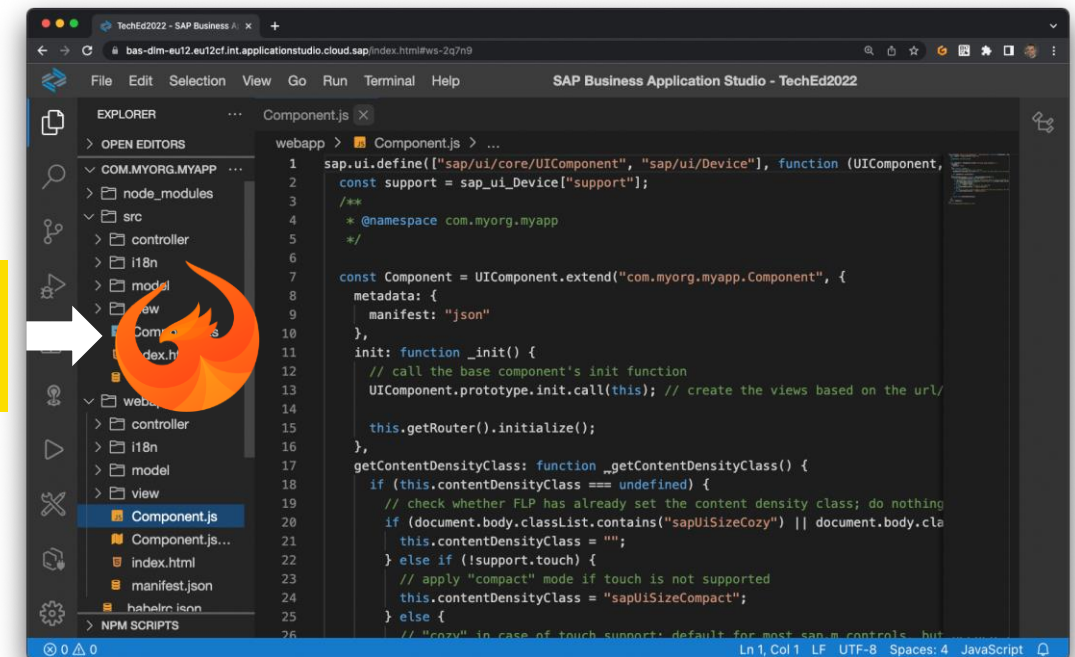
TypeScript as a fully optional layer on top



TS



ES





# Flexible programming model blends SAP Fiori elements and SAPUI5 freestyle

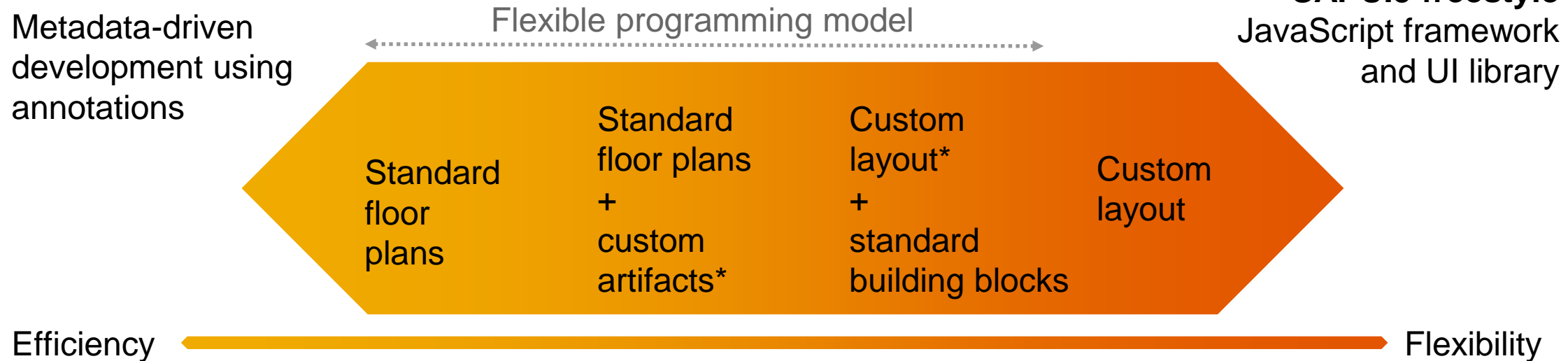
Developers have a continuum of options instead of an either/or decision

## SAP Fiori elements

Metadata-driven  
development using  
annotations

## SAPUI5 freestyle

JavaScript framework  
and UI library



\*Leveraging standard building blocks and/or SAPUI5 controls and custom code

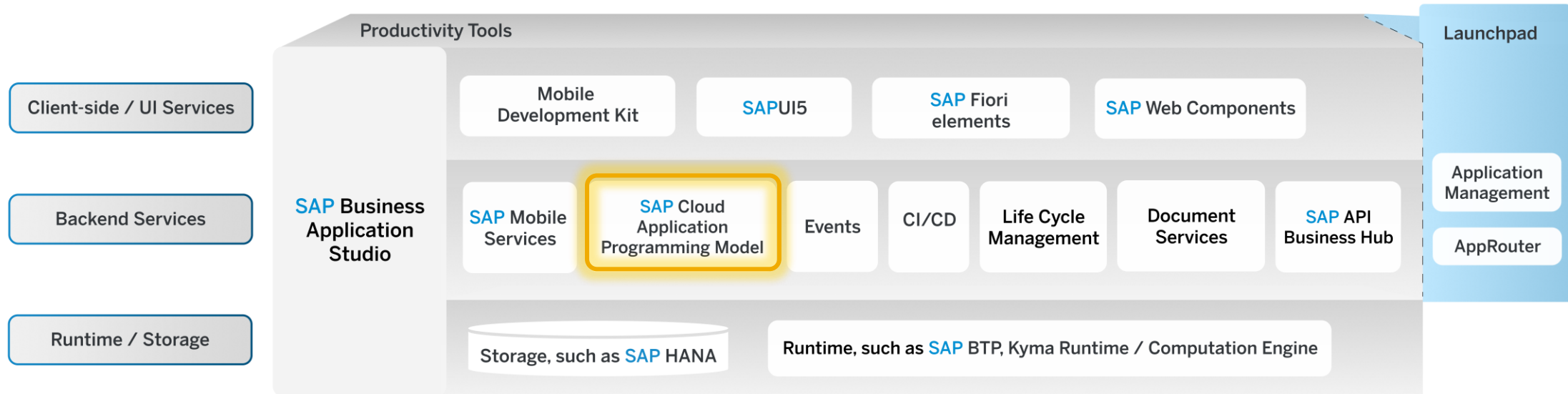
# **The Backend**

# **Cloud Application Programming Model**

# **(CAP)**

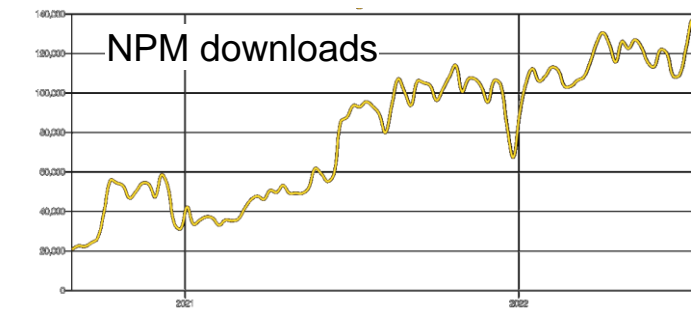
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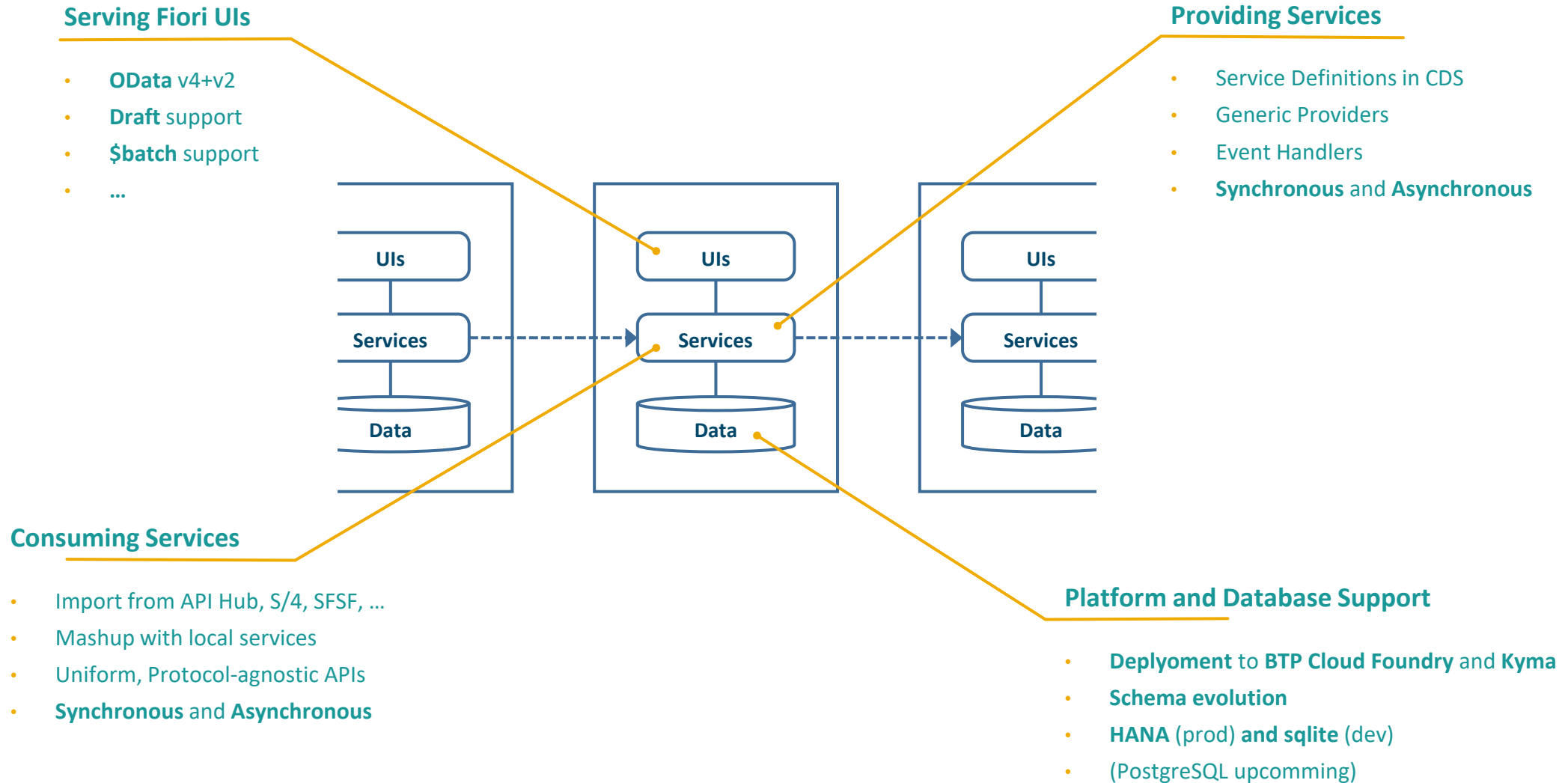
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# CAP Cloud Application Programming Model

## Features Overview



# CAP Modeling through CDS: What ,not How

```
Data Model Editor  schema.cds ×
namespace user001;

using { API_BUSINESS_PARTNER } from '../srv/external/API_BUSINESS_PARTNER.cds';

using {
  Country,
  Currency,
  Language,
  User,
  cuid,
  extensible,
  managed,
  temporal
}
from '@sap/cds/common';

entity Capex
{
  key ID : UUID
    @Core.Computed;
  description : String(100);
  totalcost : Integer;
  category : Association to one Category;
  BusinessPartner : Association to one API_BUSINESS_PARTNER.A_BusinessPartner;
}

entity Category
{
  key ID : Integer;
  name : String(100);
}
```

- **Data Model Definition** creating or importing entities

```
service.cds ×
using { API_BUSINESS_PARTNER } from '../external/API_BUSINESS_PARTNER.cds';

using { user001 as my } from '../db/schema';

using user001 from '../db/schema';

@path : 'service/user001'
service user001Service
{
  @odata.draft.enabled
  entity Capex as
  {
    projection on my.Capex
    {
      *
    };
  }

  entity Category as
  {
    projection on my.Category
    {
      *
    };
  }

  entity BusinessPartner as
  {
    projection on API_BUSINESS_PARTNER.A_BusinessPartner
    {
      BusinessPartner,
      FirstName,
      LastName
    };
  }
}

annotate user001Service with @requires :
[
  'authenticated-user'
];
```

- **Service Definition** creating projections on the data model

## Accelerated development

- Jump-start: **x hrs**    **1 min**
- Turnaround: **x min**    **1 sec**
- First app:    **x days**    **25 min**
- *Grow-as-you-go* with mocked cloud environment    **Minimized costs**

## Focus on domain

- *What, not how* → through CDS
- Capturing **intent** in close collaboration of **developers** and **domain experts**
- Rapid prototyping for reqs analysis (from **months** → **days**)

## Proven support for **best practices**

- Served **preconfigured** by generic runtimes, eliminating recurring tasks
- Clear guidance along **golden paths**
- **Minimized code**  
(**100s** → **0–10** lines of code)

## Cloud scale by design

- **Services** and **event**-centric paradigm
- Memory            **~100 mb**
- Response times **~10 ms**
- Requests           **~5.000**

## Intrinsic **extensibility**

- **Customizations** by SaaS tenants
- **Verticalization** by partners
- **Feature-toggled** extensions by SaaS providers

## Safeguarded investments

- **Minimized lock-ins** to platform, protocols, and databases
- **Higher-level APIs**, shielding users from utterly technical disciplines

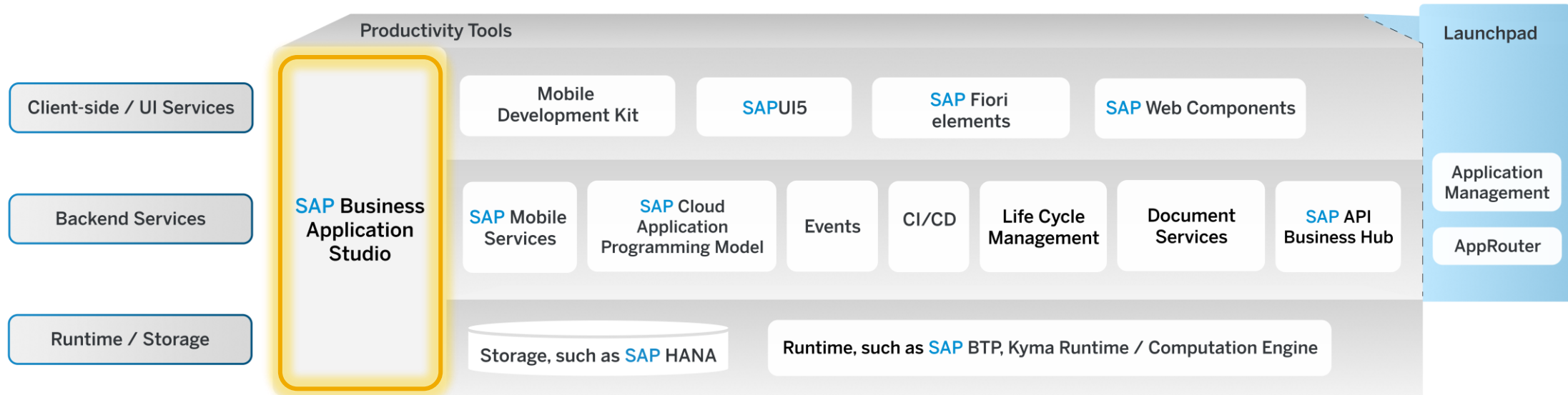
# **SAP Business Application Studio**

The high-productivity approach for  
professional developers



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# SAP Business Application Studio: The high-productivity approach for professional developers

Scale your development and build smarter enterprise apps



- **Visual development environment**, tailored for efficient development of business applications for the Intelligent Enterprise
- Intuitive path **from visual tools to professional development tools**



- **Modern and intuitive** Web user interface
- **Simplified, faster setup** of the development environment
- **Tight integration** with SAP services, technologies, and systems



- **Accelerated time to market** with high-productivity development tools
- Based on **industry best-of-breed IDE and tools**, providing full, tool-independent, developer flexibility

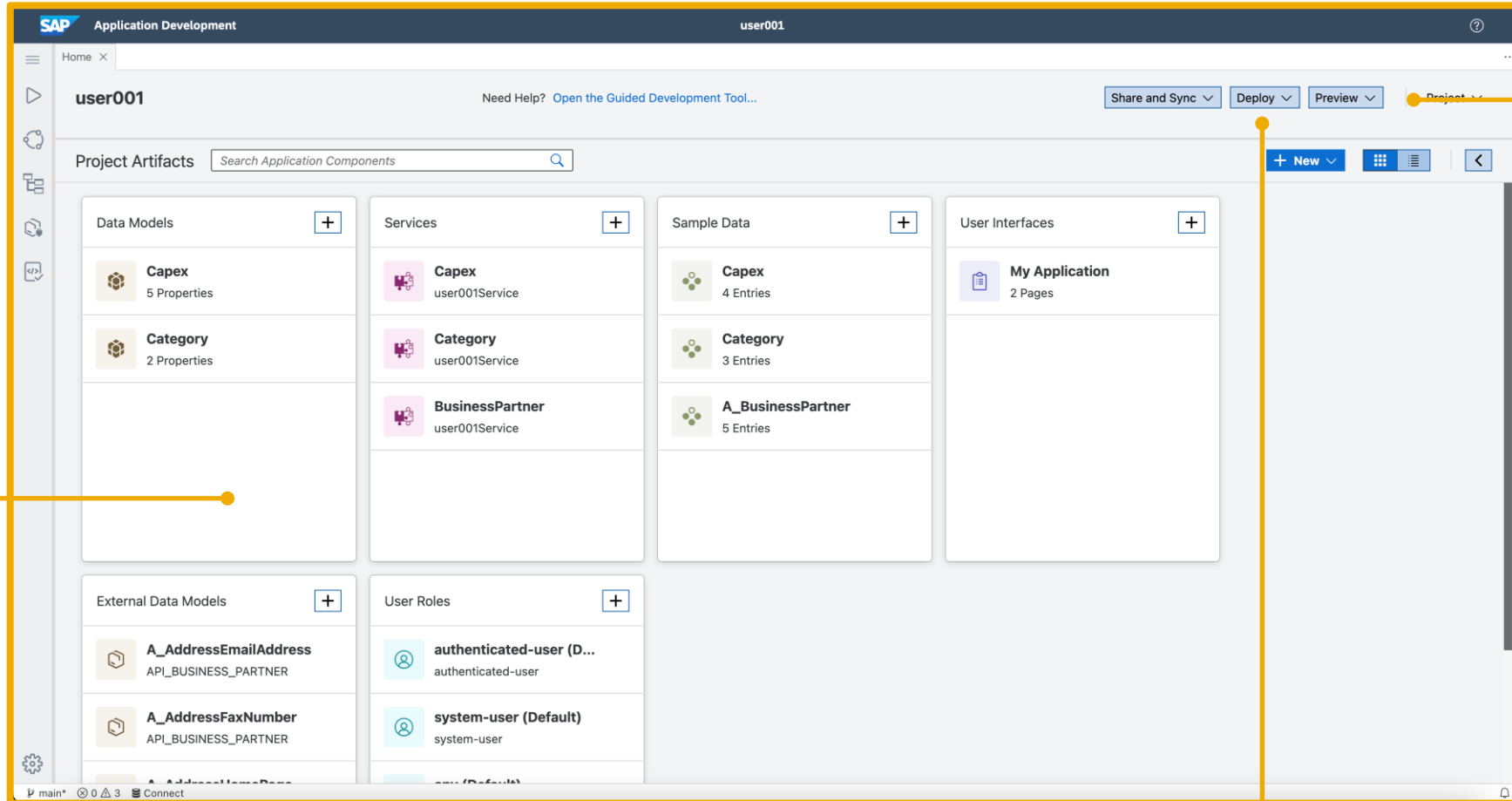


- **Highly adopted SAP BTP service**, across all channels, with thousands of paying customers
- Serves as the official tool of choice for **thousands of internal SAP developers**

# Simplify Application Development for Professional Developers

Enhanced development environment and user experience

- **Visual overview of all assets of a project** combining
  - CAP data models and services
  - Fiori elements applications
  - Mobile Development (MDK) Applications
  - External Services like S/4 HANA APIs

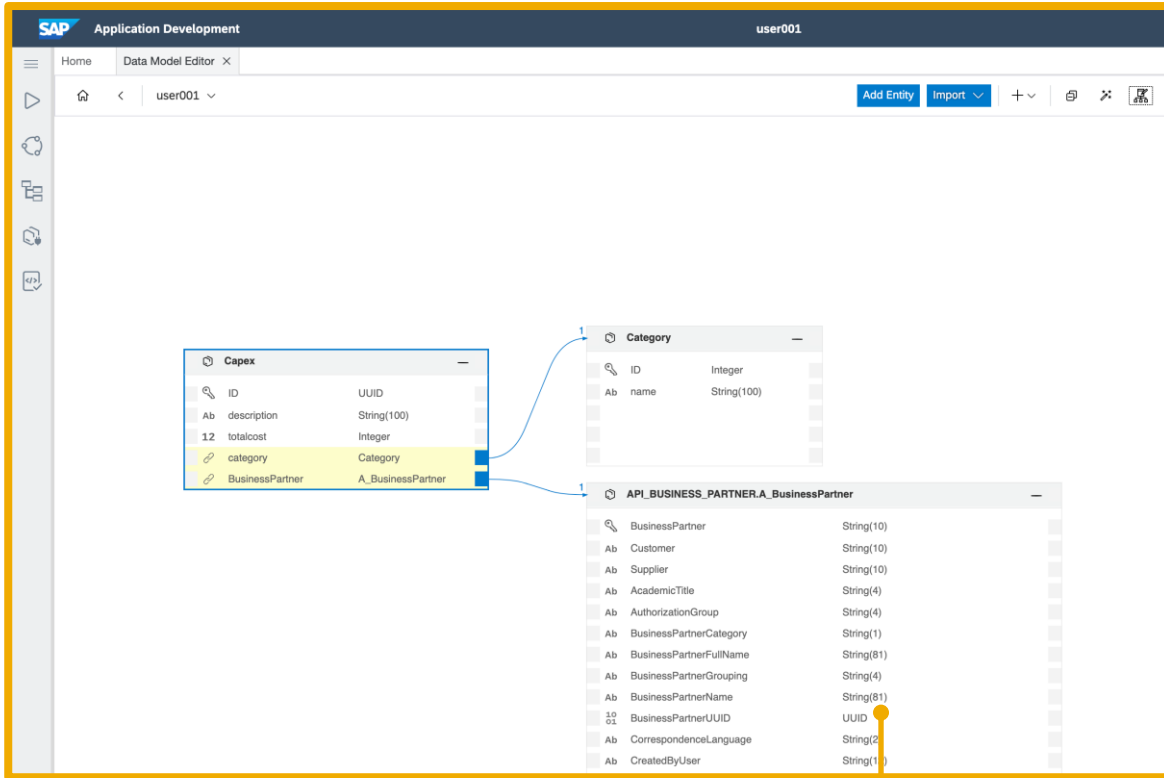


- **Preview** for fast development turnaround times

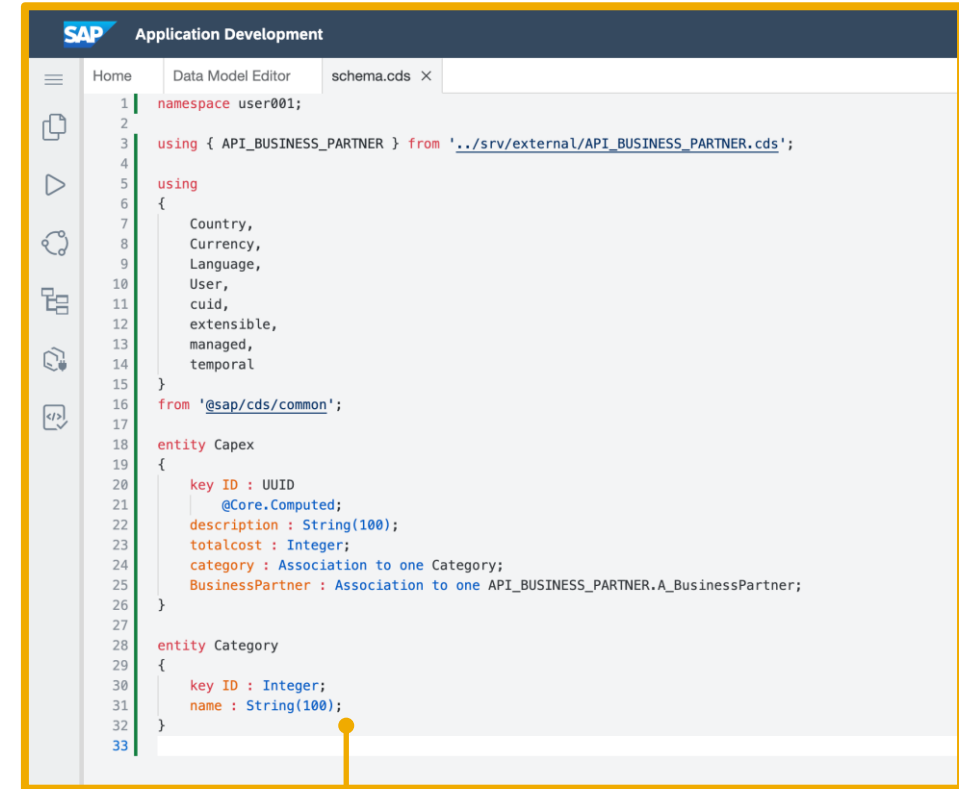
- **One Click Deployment** to the BTP by generating all the necessary configurations

# Simplify Application Development for Professional Developers

Visual Data Modeling: Switch from visual tools to textual editors



• **Visual editors** provide high productivity but create standard code with 0 additional meta data




• **Switch** possible for all editors: CDS/CAP, Fiori elements, MDK + Deployment Config

• **Textual code editors** to allow developers to continue with normal coding for the last mile of the app

## Application Business Logic: CAP Handlers

- **Application Business Logic** stub generators for CAP

Application Logics(1) 

NoDevService.Capex

**capex-logic**  
No description

## capex-logic

NoDevService.Capex  
No description

CONFIGURATION

DETAILS

### Phase

Events are processed in three phases that are executed consecutively: **Before**, **On**, and **After**.

☐ Before ☐ On ☒ After

### Standard Event


A standard event is built-in and comes packaged along with the runtime.

☐ Create ☒ Read ☐ Update ☐ Delete

### Custom Event

A custom event is a user-defined action or function.

Add

Visual Flow Logic 

Logics (5)

app\_logic-1

Entity: ServiceManagement.Risks  
Event: CREATE  
Phase: on

app\_logic-2

Entity: ServiceManagement.Risks  
Event: UPDATE  
Phase: on

app\_logic-3

Entity: ServiceManagement.Mitigations  
Event: READ  
Phase: after

SAP Application Development

New Project

Visual Flow Logic X

### Logics (5)

- app\_logic-1**
  - Entity: ServiceManagement.Risks
  - Event: CREATE
  - Phase: on
- app\_logic-2**
  - Entity: ServiceManagement.Risks
  - Event: UPDATE
  - Phase: on
- app\_logic-3**
  - Entity: ServiceManagement.Mitigations
  - Event: READ
  - Phase: after
- app\_logic-4**
  - Entity: ServiceManagement.Mitigations
  - Event: UPDATE
  - Phase: after
- app\_logic-5**
  - Entity: ServiceManagement.Mitigations
  - Event: CREATE
  - Phase: after

#### logic-1

Entity: ServiceManagement.Risks  
Event: Create,Update  
Phase: on

Editor JS

Code Editor

```
SELECT FROM sap.ui.riskmanagement.Mitigations WHERE id = $ data.miti_ID ONE true TO miti
IF miti.status IS "ACTIVE"
```

then

```
ERROR JOIN "Mitigation" miti.ID "is not active"
```

else

- **Visual Flow Logic** Future Enhancement to ease creation of logic

# Simplify Application Development for Professional Developers

## Choice of UI Application types in Productivity Perspective: Fiori elements and Mobile Development Kit

- **Fiori elements apps** responsive, works on all devices but optimized for Desktop

- **MDK apps** responsive, works on all devices but optimized for Mobile

UI Application Type

What kind of application do you want to create? \*

**Template-Based, Responsive Application**

Create a browser-based application with standard yet extensible floorplans, runs on desktop and mobile. It is derived from your data structures and metadata, automatically applies the latest SAP Fiori

[More Information](#)

**Mobile-Centric, Freestyle Application**

Create an application to run natively on mobile (Android & iOS) with device specific features such as biometric authentication and barcode scanning. It also runs on desktop browsers.

[More Information](#)

[Back](#) [Next](#)

Page Editor - MyApplication

Page Map

Show descriptions ☒ Search properties

CapexObjectPage

Header

Actions

Header Sections

Page Layout

Sections

General Information

Form

Fields

description

totalcost

category

BusinessPartner

Footer

Actions

**category**

Value: category\_ID Type: Int32

**Label** (Annotation)

Define text to be displayed as a field label.

category

**Text** (Annotation)

Choose string property describing field value. It will be displayed along or instead of the field value depending on the value of the Text Arrangement property.

None

**Text Arrangement** (Annotation)

Set text position relative to the field value. When set to none, the default positioning will be used as designed in SAP Fiori elements runtime.

**Display Type** (Annotation)

Define how the field is represented in the create and edit mode. Available options depend on the value type. For most value types, Value Help can be defined if service metadata contain entities with the list of eligible options. For string values, also Text Area representation is available.

Value Help

[Edit properties for Value Help](#)

**Restrictions** (Annotation)

Define whether the field input in create/edit mode is mandatory, optional or read-only. Depending on the field configuration in the service, some options might be not available. For example,

- **Page Map for Fiori elements apps** no manual writing of annotations, lots of configs e.g. for creating value helps

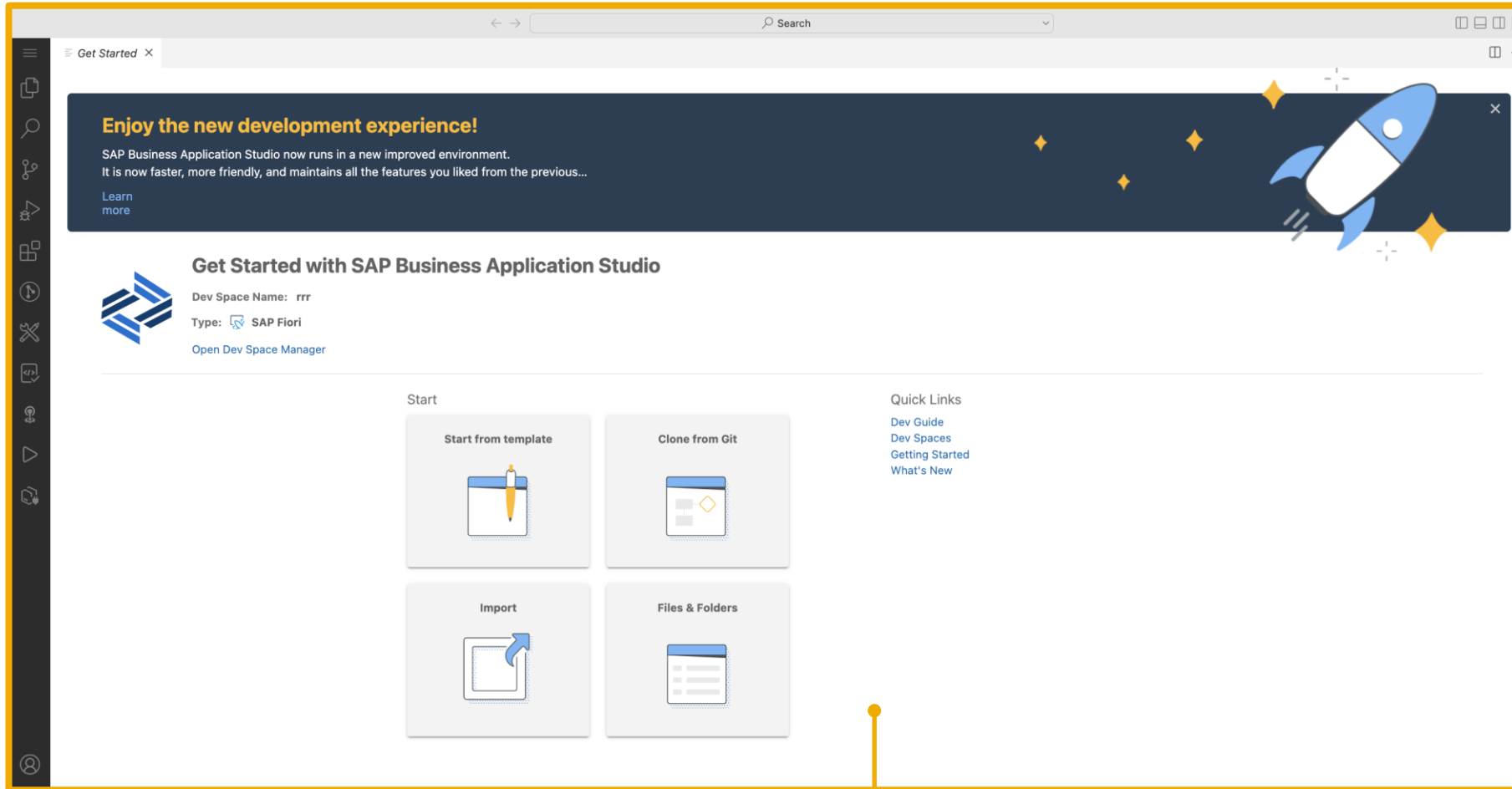
# Service Center – Discovery and Connectivity to External Services

The screenshot displays the SAP Service Center interface. On the left, a sidebar lists various services under 'SAP API BUSINESS HUB', with 'Sales Order (A2X) (V2)' selected. The main area shows the details for 'Sales Order (A2X)' from 'SAP S/4HANA'. It includes a description: 'Create, read, update, and delete sales orders with this synchronous OData API'. A button 'Create Project from Service' is visible. Below, the 'Service Properties' section lists: Service Name: Sales Order (A2X), Protocol: OData V2, Status: Available, Product: SAP S/4HANA, Package: SAP S/4HANA, and URL: [https://api.sap.com/api/OP\\_API\\_SALES\\_ORDER\\_SRV\\_0001](https://api.sap.com/api/OP_API_SALES_ORDER_SRV_0001). At the bottom, the 'Entity: A\_SalesOr...' section has tabs for 'ENTITY DETAILS' and 'LIVE DATA'. The 'ENTITY DETAILS' tab shows a table with columns 'Property Name', 'Kind', and 'Data Type'. The 'LIVE DATA' tab is currently active and shows a table with columns 'Property Name', 'Kind', and 'Data Type'.

Property Name	Kind	Data Type
SalesOrder	key	string

- **Service center** provides the developer a single entry point for discovery and consumption of SAP APIs, originating from any SAP data sources (Destinations to S/4 HANA, Ariba, C4C, API Hub, SAP API Hub enterprise)

# BAS Platform



- Get VS Code's latest and greatest and better performance
- BAS extensibility – 100% VSCode compatibility, community extensions working out of the box
- Better performance, stability

• **SAP Business Application Studio** includes **Visual Studio code** compatibility powered by Microsoft Code OSS Client

# DevOps with BTP



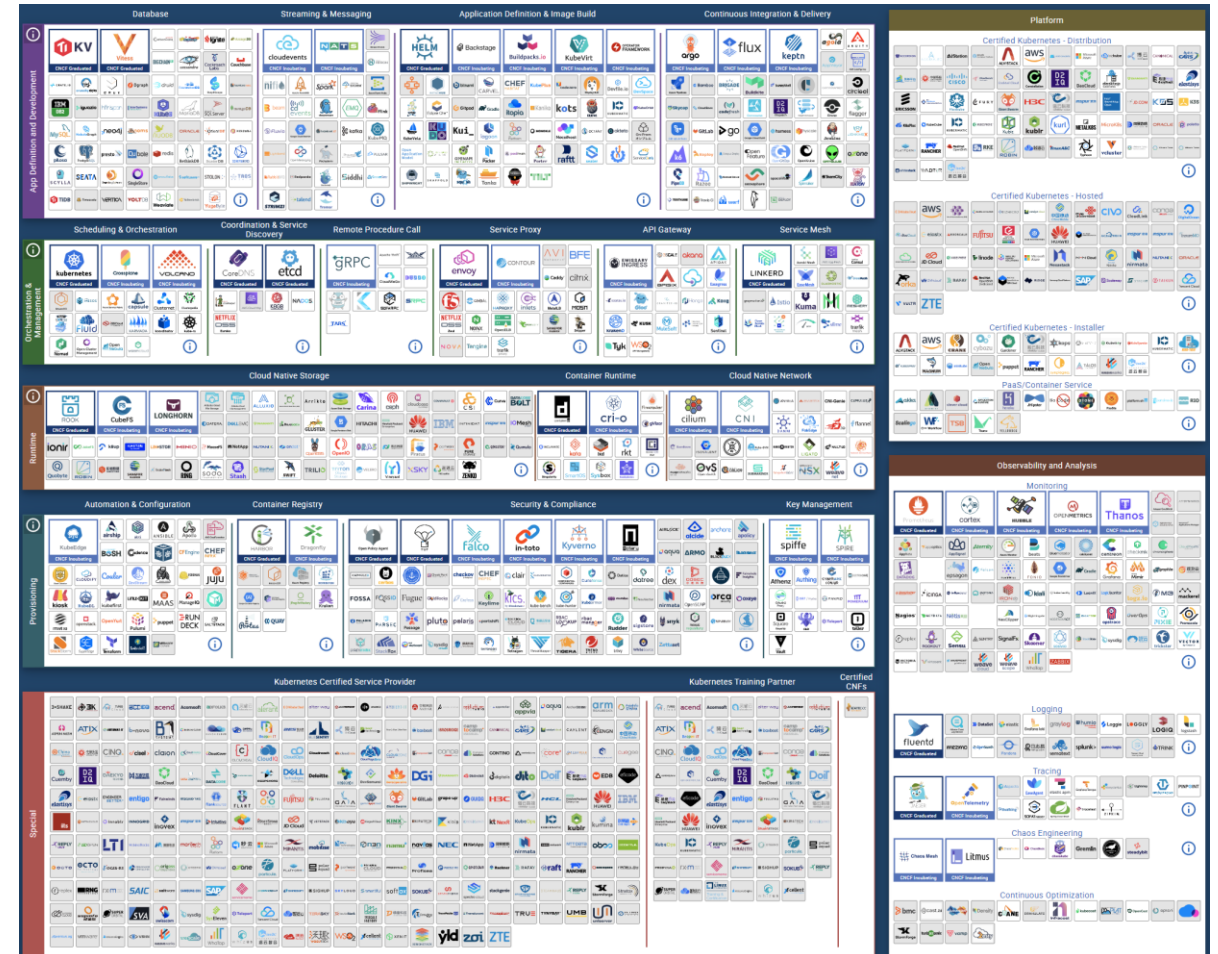
# Implied complexity for finding the right DevOps approach

Finding the right approach and toolset can be a long, complex and challenging task

- Manifold toolchain options and variants
- Where to find a good starting point – taking you where you are today?
- How to reduce cognitive load of your teams and avoid overburdening them right from the start?

Especially if approached as part of bigger cloud transformation, concentrate on quick wins first

- Confirm and verify the value an agile DevOps approach can bring – in your environment, for your boundary conditions
- Start opinionated for SAP use cases
- If required, adapt and evolve by time



[CNCf Cloud Native Interactive Landscape](#)

# DevOps with SAP BTP – easy start + highly integrated

SAP BTP makes it easy for you to benefit from DevOps principles for your apps running on SAP BTP, as part of your cloud transformation

- Provides opinionated approach focused especially for SAP-centric scenarios and use cases
- Respects existing ops processes – integrate into change management and operations, as needed
- If you should bring DevOps expertise and existing infrastructure, we support you to bring in SAP-specific aspects
- Examples:

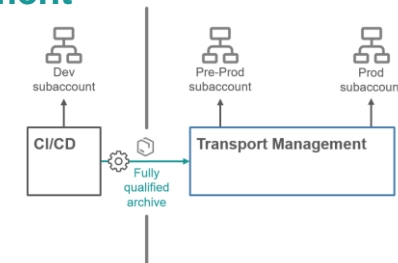
**‘Pipeline-as-a-Service’ + golden paths – running CI/CD pipeline for SAP-specific use cases in minutes, with direct support from SAP**



**Respects existing ops processes – integrate into change management and operations, as needed; such as running on SAP Solution Manager or SAP Cloud ALM**



**Highly integrated standard setup for agile development on SAP BTP – covering the complete lifecycle from development to operations; example: automated hand-over of qualified changes into transport management**



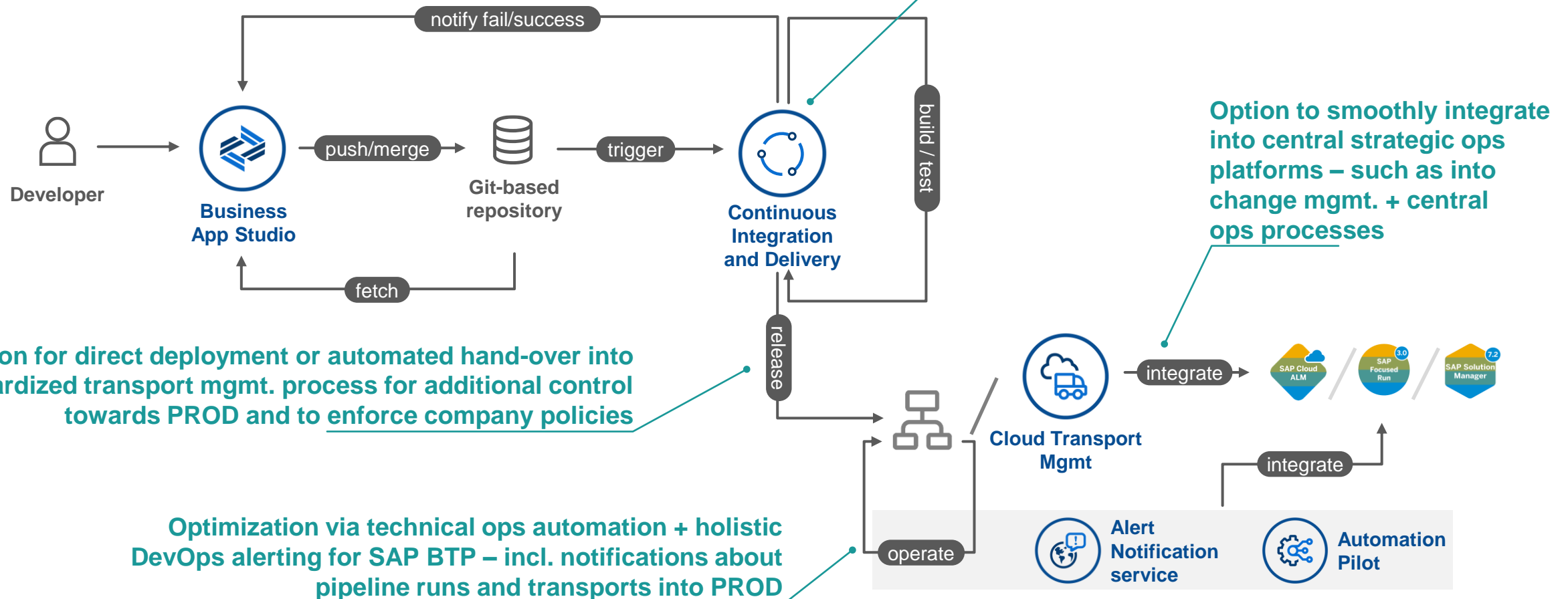
# How to enable DevOps with SAP BTP?

Benefit from highly integrated standard setup especially for SAP-centric dev use cases

**Tighter feedback loops**  
**Reduced risk, better code quality**

Container-Based Applications  
SAP Cloud Application Programming Model  
SAP Fiori in the Cloud Foundry environment  
SAP Fiori in the Neo environment  
SAP Integration Suite Artifacts

**'Pipeline-as-a-Service' + golden paths – running CI/CD pipeline for SAP-specific use cases in minutes**



# Out of the box CI/CD Integration in BAS' Productivity Tools

The screenshot displays the SAP Continuous Integration and Delivery (CI/CD) interface. On the left, a table lists various jobs under different categories. On the right, a detailed view of the 'bookshop' pipeline is shown, including its configuration and build retention settings.

Name	State	Branch	Timed Triggers	Pipeline
<b>cicd-api</b>				
bookshop	ON	master	0	SAP Cloud Application Programming Model 1.0
cicd-api	ON	main	0	SAP Cloud Application Programming Model 1.0
<b>cicdtest</b>				
cicdtest	ON	main	0	SAP Cloud Application Programming Model 1.0
<b>riskmanagement</b>				
riskmanagement	ON	main	0	SAP Cloud Application Programming Model 1.0

**bookshop** pipeline details:

- Repository: cicd-api
- Server: https://github.tools.sap
- Pipeline: SAP Cloud Application Programming Model
- Builds: No builds yet
- General Information: Description, Repository, Branch, Pipeline, Version, State
- Build Retention: Keep logs for: 7 days, Keep maximum: 50 build items
- Stages

- **Out of the box integration with SAP Continuous Integration and Delivery** for CAP based apps to assist with pipeline configuration and quick access to pipelines

# SAP S/4HANA CLOUD ABAP ENVIRONMENT (Embedded Steampunk) + UI Applications on BTP

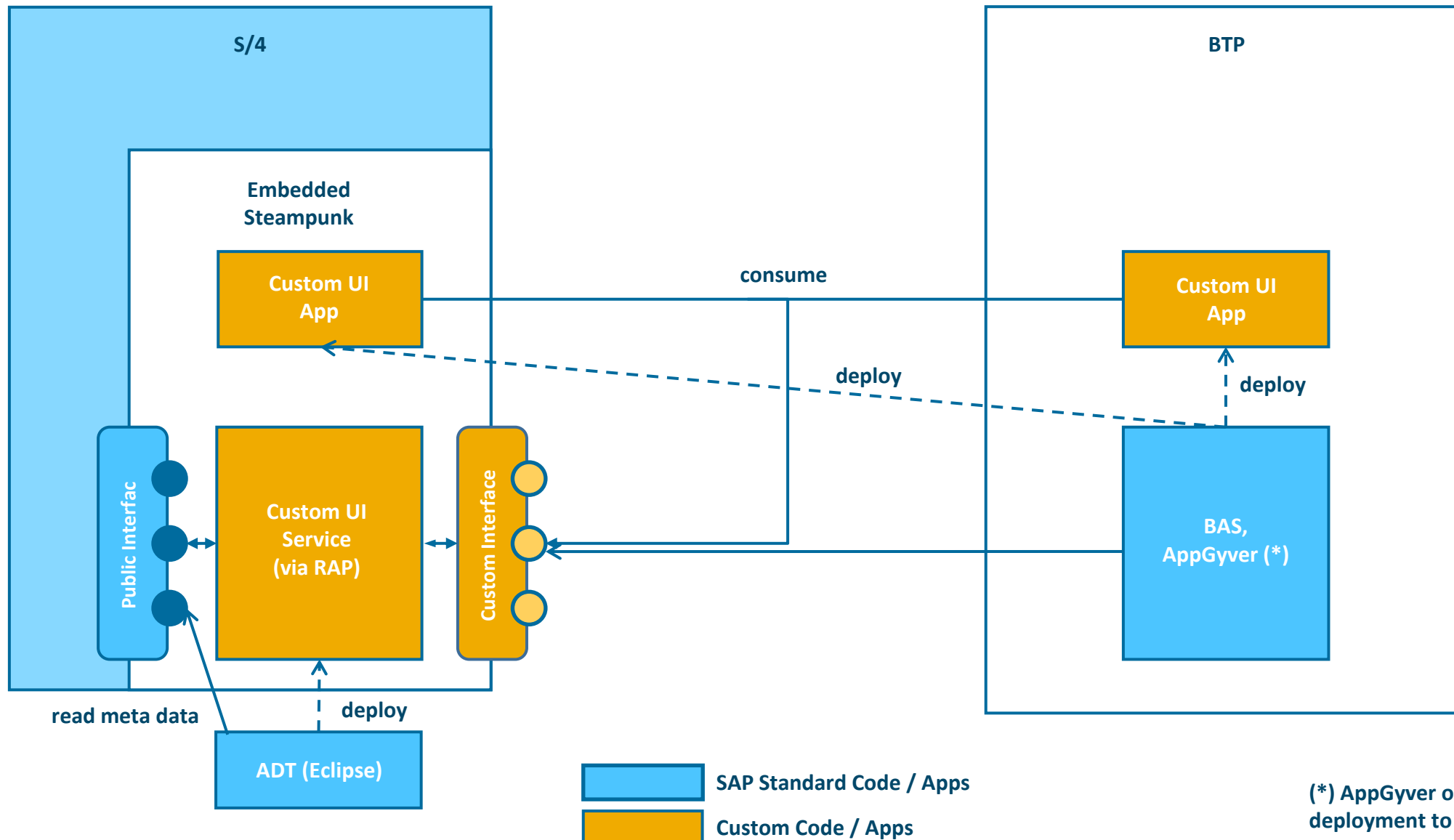
# SAP S/4HANA CLOUD ABAP ENVIRONMENT + BTP UI Apps

There are around 700 public remote APIs from S/4 HANA on API Hub

These are not necessarily optimized for usage in new UI apps

“Embedded Steampunk” on S/4 HANA Cloud can be used by customers to create optimized APIs making use of additional public S/4 HANA interfaces also

# New UI app (customized experiences) on existing S/4 business entites

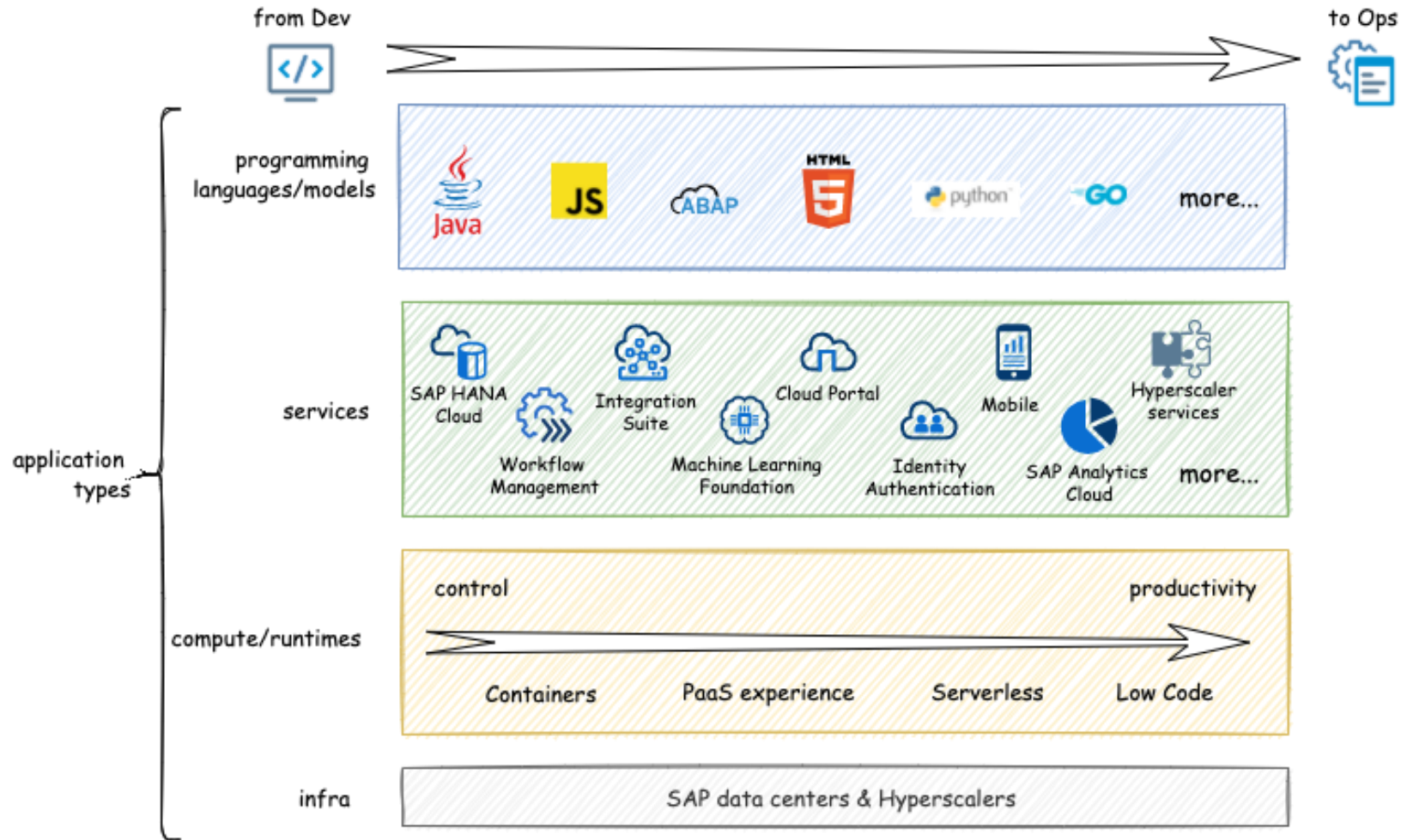


# Unified Runtime



# Application Types

What are your application types?



# Unified Runtime Strategy

(1) SAP BTP, Neo environment is **not** strategic anymore

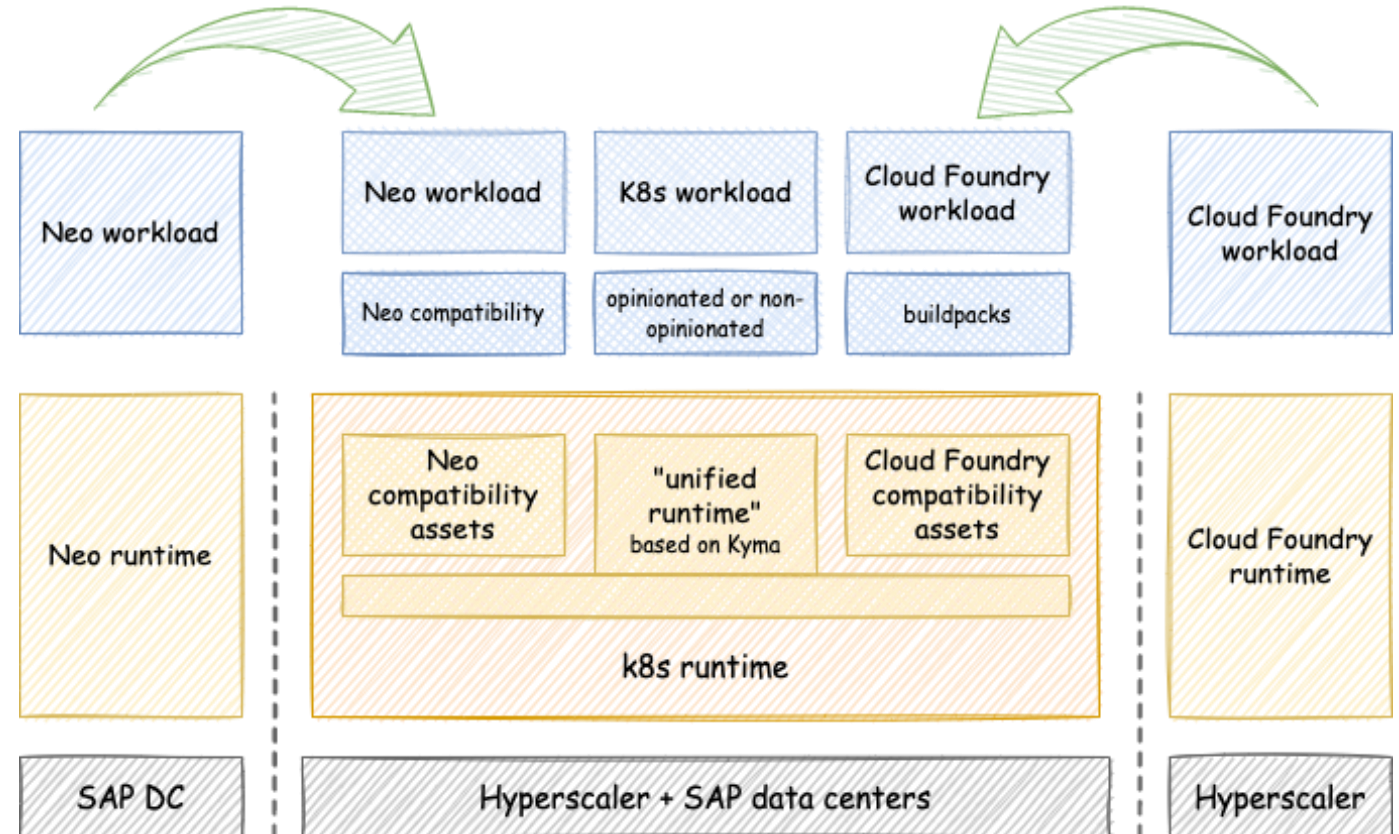
(2) The current **Cloud Foundry runtime on hyperscaler is strategic** for all customers and stays as is (100% compatibility) on hyperscalers

(3) Innovate with an additional runtime available everywhere, that allows all kind of workloads.

(4) ...adding compatibility tooling for smoother migration of Neo workload

(5) Enable Cloud Foundry workload to run in SAP data centers

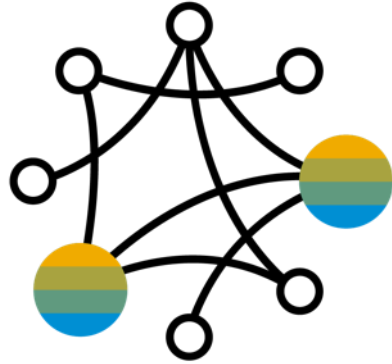
**(6) MOST IMPORTANT: THE CURRENT MULTICLOUD SERVICE ECOSYSTEM IS CONSUMABLE FROM ALL RUNTIMES**



# Unified Runtime Strategy | Key pillars



Your investment is  
protected



From runtime to  
services centricity



Choice of infrastructure  
anytime



Unlock the full potential  
of current & future  
cloud-native

# Your investment is protected | SAP BTP, Neo environment

- Is there a strict timeline for off Neo migration & push to urgently plan a migration?
- Will my existing Neo applications stop working?



No end of maintenance date has been set for SAP BTP, Neo environment.



No new regions will be added. Selected improvements for investment protection like infrastructure modernization.



Neo-based services will continue to be maintained, so that existing scenarios remain operational. Existing contracts can be renewed.



SAP BTP will provide assets for existing Neo customers that want to move towards multi-cloud foundation.

# Your investment is protected | SAP BTP, Cloud Foundry environment

- Should I migrate my existing solution from Cloud Foundry to Kyma/Unified Runtime?
- Should I stop developing on Cloud Foundry and wait until Unified Runtime is ready?
- Would this new strategy impact the applications running on Cloud Foundry?



Full access to current & future multi-cloud foundation service portfolio.



Introduction of cloud-native buildpacks; transparently benefit from cloud-native practices.



Cloud Foundry community & SAP engagement - we're #2 & raised our investment last year.



New regions build-outs, functional, non-functional & business roadmap.



# Unified Runtime Strategy | From runtime to service centricity

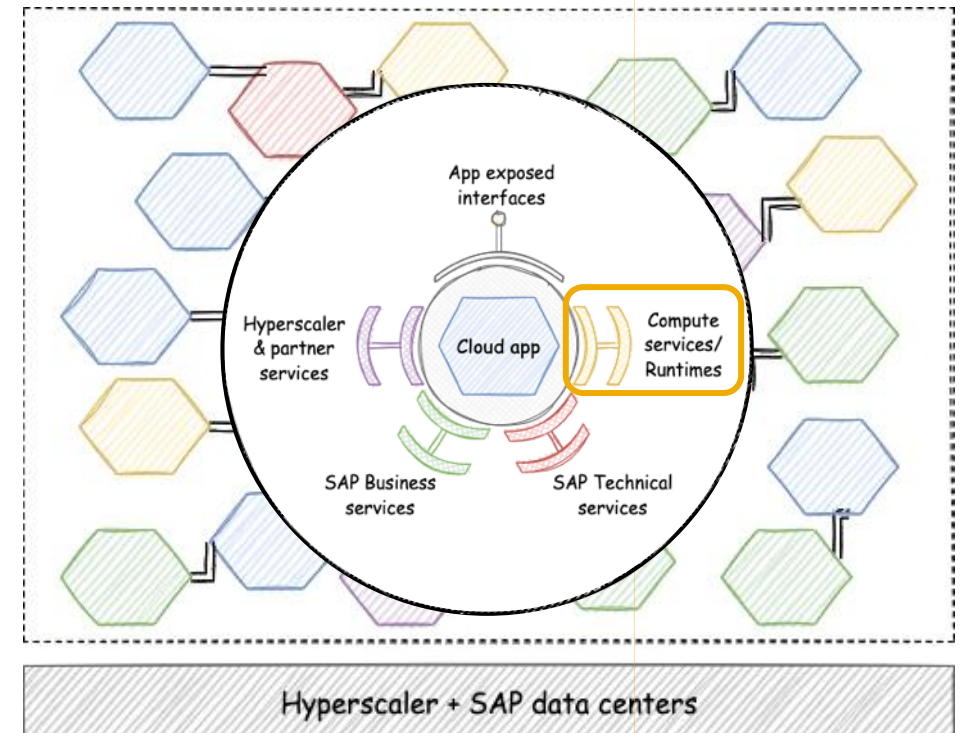
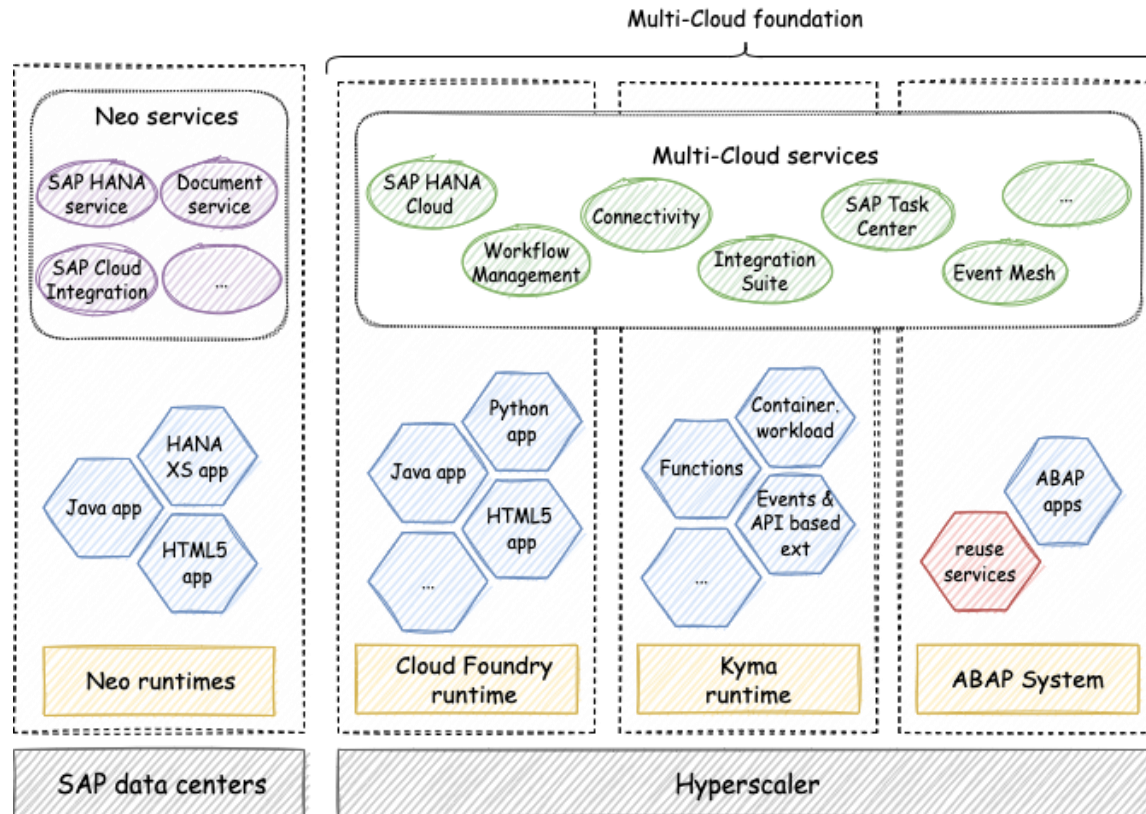
## Today: Separate Environments

Technically separated environments  
Environment defines the set of services



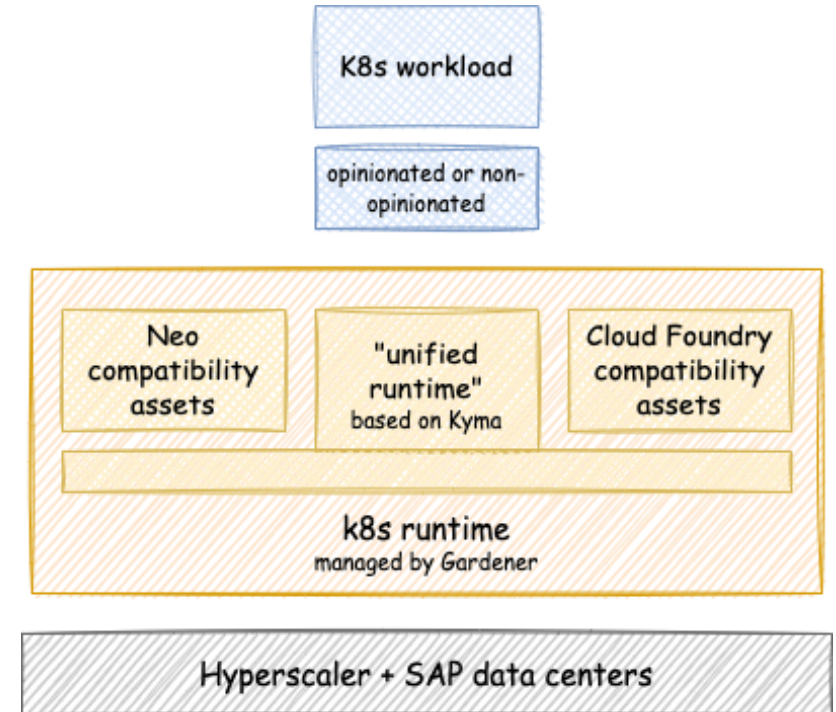
## Tomorrow: A Single Platform

An ecosystem of runtime independent services  
Run your applications anywhere



# Unified Runtime Strategy | Choice of infrastructure anytime

- Planned availability on all major hyperscalers & SAP data centers
- Based on Kubernetes, Kyma and their ecosystem as the underlay
- Convergence of all operational models from all platforms
- Compatibility assets provide a simple path while keeping options to be creative in the cloud-native world
- Allowing for both opinionated or non-opinionated approach



# Unified Runtime Strategy | Unlock the full potential of cloud-native (now & future)

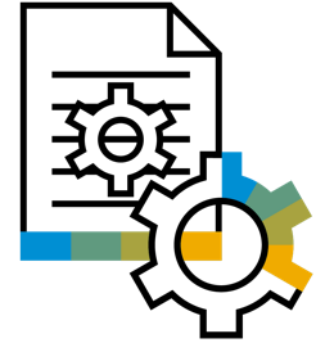
- The simplicity of PaaS abstractions combined with operational excellence, control & flexibility
- Continue to enrich with the opportunities of the evolving cloud-native world\*:
  - 6.8 million cloud-native developers exist around the globe
  - 5.6 million developers use Kubernetes [as platform]
  - 4 million developers use serverless architectures & cloud functions



Platform that is open for evolution and innovation at your own pace



Compatibility “promise” allowing for non-disruptive evolution - plan & spend your innovation budget wisely



Automation & operational excellence with k8s as underlay, allowing quick time to market

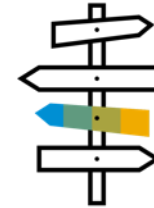
\*Source: [“The State of Cloud-Native Development”, Q4 2021, SlashData Ltd.](#)



# Unified Runtime Strategy | Key messages



Unified runtime is not “another” environment to “replace” the existing BTP environments. It is a **strategy** to continue support for the current runtimes while adding more capabilities and options.



The unified runtime strategy provides **options, not a prescription**, for building & running applications. It is a unified foundation upon which all services and runtimes can operate.



**Timelines and details of the technical components are still being worked out.** More information will become available over the next months as we refine our plans.

# Way Forward | Value add capabilities on top of standard Kubernetes

*This is our plan – can we get your feedback?*

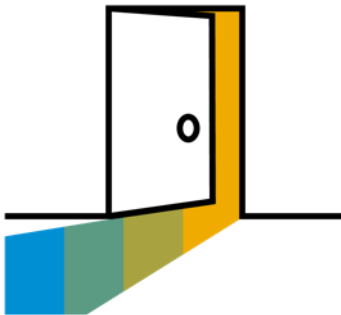


**Ready-to-use** Kubernetes runtime with modularized add-ons: API Gateway, Eventing, Service Mesh, Serverless engine, Monitoring & Logging, etc.



Not just the pure compute power, but **a complete setup** including load-balancer, bandwidth, IP addresses. Optimized for scaling needs & availability.

## Your door to the SAP world



Consumption of SAP-provided services.  
Connectivity to SAP cloud & on-premise solutions.  
While keeping the door open for hyperscaler & 3<sup>rd</sup> party services & solutions.

**All covered by premium support** a.k.a. SAP Enterprise Support Cloud Edition.

# Off Neo Migration | Some Questions Already

- I am currently planning an off Neo migration - what do you recommend?
- We are in the process of migrating from Neo to Cloud Foundry – should I stop this?
- We already migrated from Neo to Cloud Foundry, will we have to migrate our solution again?



# SAP Business Technology Platform - Off Neo Transition Support:



## Program Overview

Following its core principles of openness and strategic direction to integrate with hyperscalers like AWS, MS Azure, Google Cloud Platform and Alibaba Cloud, SAP has decided that SAP BTP **Neo** environment that is solely based on SAP infrastructure is **not strategic** anymore. Neo environment doesn't have end of maintenance date and customers and partner investment is protected. However SAP plans to stop (re)selling Neo and recommends its clients to utilize SAP BTP Multi-Cloud with its Unified Runtime strategy that steps on Kubernetes/**Kyma** and **Cloud Foundry** environments.

This program describes the characteristics of the Multi-Cloud Unified Runtime, shows its differences and advantages compared to the Neo environment, and **helps you decide on your migration path**. It presents a strategic approach to handling your migration, helps you get started, and during the process, improves your expertise in working with the new environment.

### Expected outcome:

We will assign an SAP BTP Expert to help you get started with planning your migration journey. The assessment team will provide some baseline analysis needed to understand how you are using the Neo environment today and detail this in a customer specific roadmap which will outline the steps to migrate each of the scenarios and services used on Neo environment. This roadmap will be presented back to your team along with the opportunity to discuss your migration plan with our experts who can act as a single point of contact for migration topics during the migration execution.

## Prerequisites

- CPEA or Subscription customers
- SAP BTP, Neo Environment subaccounts
- Access given to subaccounts that will be analysed for migration

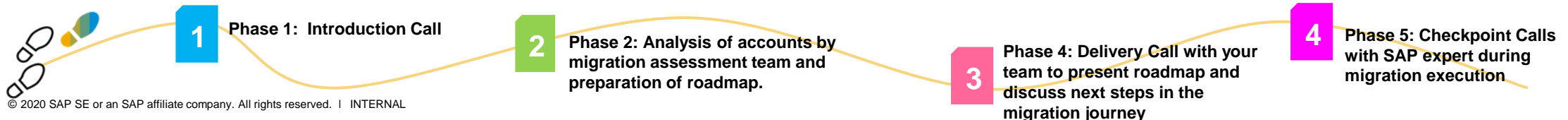


## Phases

- **Phase 1 (Optional)** – An initial kick off call, giving an overview of the program and migration process.
- **Phase 2a** – An SAP BTP Expert will analyze the used services, applications, configured destinations & security items in the Neo environment.
- **Phase 2b** – An SAP BTP Expert will develop a migration roadmap report detailing the system scope and a migration journey from Neo to Multi-Cloud Environment.
- **Phase 3** – A presentation call between the SAP BTP Expert and customer presenting the roadmap and planning the next steps in the migration journey.
- **Phase 4** – Customers can avail of support calls with the SAP BTP Experts to help with any migration queries they may have.

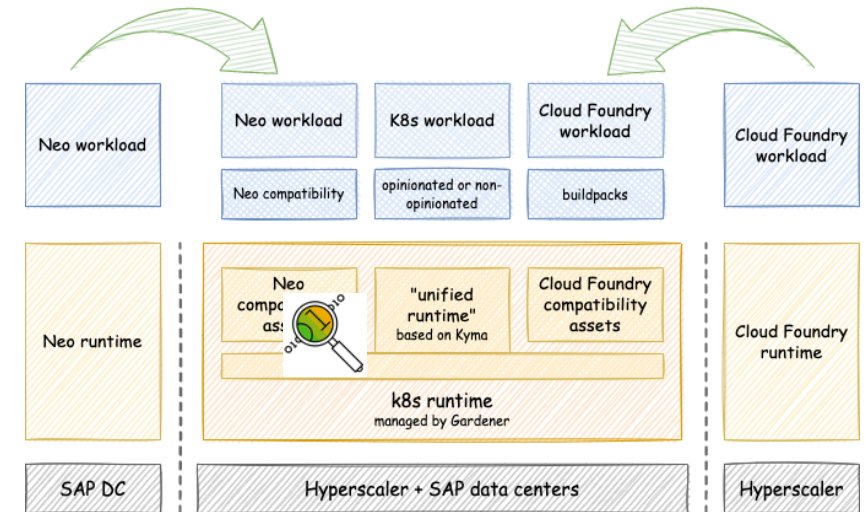
## Next Steps

Contact the [sap.btp.migration@sap.com](mailto:sap.btp.migration@sap.com) mailbox to get in contact with the team and start your migration journey. Program [help page](#)



# SAP BTP Neo Compatibility assets

- XS Compatibility layer
  - Based on [XSK](#) Open Source project
- Java Compatibility layer
  - SAP KNeo Java runtime based on [Cloud Native Buildpacks](#)
- Java Migration pack
  - Guideline how to migrate to SAP BTP, CF env
- HTML5 Migration pack
  - One time wizard based migration to SAP BTP, CF env
- Neo services migration packs
  - E.g. SAP Cloud Integration, API Management, Mobile Service, etc. Full [list](#)



# Off Neo Migration | Some Questions Already

- I am currently planning an off Neo migration - what do you recommend?
- We are in the process of migrating from Neo to Cloud Foundry – should I stop this?
- We already migrated from Neo to Cloud Foundry, will we have to migrate our solution again?



Get in touch with us  
[sap.btp.migration@sap.com](mailto:sap.btp.migration@sap.com)



Your investment is protected  
No need to stop existing process  
or worry about migrating twice

# Next Steps...

## You can start TODAY...

Cloud native and operations

- [Getting started with SAP BTP, Kyma runtime](#)
- [Learning Journey – SAP BTP, Kyma runtime](#)
- [Build an application with CAP on Kyma](#)
- [Kyma open source project](#)
- [Cloud Native Buildpacks project](#)

Neo applications compatibility

- [XSK open source project](#)
- [Migration Packs documentation](#)



## Let's COLLABORATE

- ✓ Neo compatibility & migration tooling
- [sap.btp.migration@sap.com](mailto:sap.btp.migration@sap.com)
- ✓ Messaging & strategy feedback loop
- ✓ Understanding of your application types
- ✓ Greenfield scenarios exploring Kyma & k8s
- Get in touch with us via your SAP representative (SAP AE, SAP CEE, SAP partner managers)



# **Steampunk and BTP**



# ... The need for Simplified & Collaborative Extension Story

## Background:

‘**Keep the core clean**’ is a clear message that resonates with SAP customers. And **Extensions** are critical to ‘keep the core clean’ !

For **Extensions**, there are many options that exists to solve this challenge. Though they lack clarity and that brings in additional challenges of various personas (from ABAP developers , UI developers, process experts to citizen developers ...).

Our **competition** leverages this opportunity by providing the **LCNC tools** to quickly build extension applications and **attracting partners** to build product extensions on their platform with agility and ease of use driven LCNC tools.

**While we @SAP have the recipe and the ingredients :**

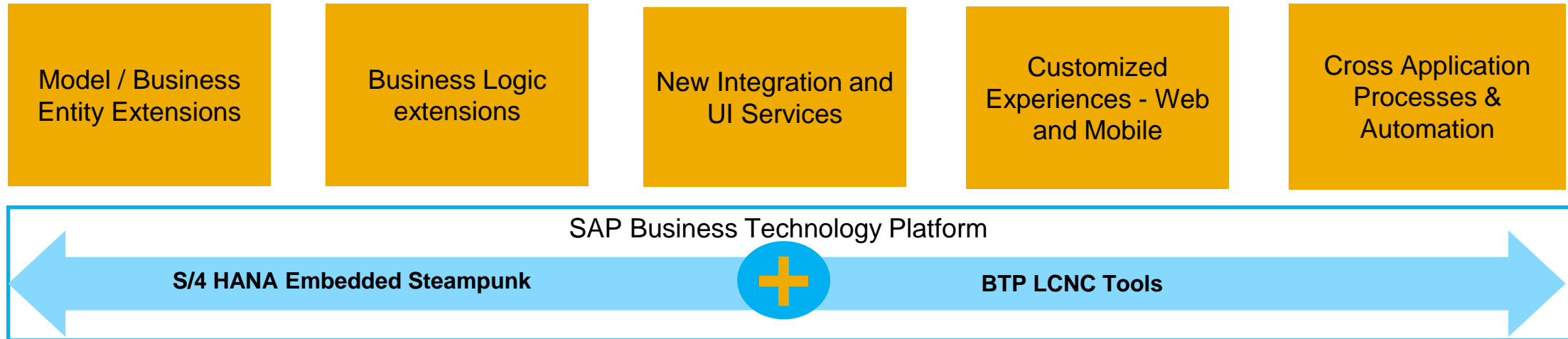
- ❑ Domain Expertise with Business System/Intelligent Enterprise
- ❑ Process expertise
- ❑ Technology with innovation of Embedded Steampunk and LCNC tools

*Disclaimer : There are many options for extensions scenarios (Key-User, BTP CF, ABAP...) ; the goal of this presentation is to discuss Embedded Steampunk and BTP LCNC together and not focus on comprehensive view of all extensibility options.*

# Benefits of Embedded Steampunk together with BTP Low-No Code Solution

- ❑ **Embedded Steampunk** allows development with modern cloud programming (RAP). E.g. No BAPI's , user exits...
- ❑ Embedded Steampunk opens up S/4HANA Cloud and RISE PCE , S/4 HANA on-premise to build business logic custom code extensions without polluting /modifying /altering the core S/4HANA ; thereby allowing the updates and upgrades of S/4 seamless
- ❑ Embedded Steampunk reduces total cost of ownership for end customer by leveraging existing infrastructure and additional software and tapping into existing ABAP Developers
- ❑ Partners can build add-on's on Embedded Steampunk
- ❑ Deliver modern Mobile and Responsive Web application with Citizen Developers via with **Low-No Code BTP Solution**
- ❑ Provide **collaborative environment** from Citizen/Business developers building modern mobile/responsive UI with BTP Low-No Code solution to ABAP Developer for extending the business logic with Steampunk
- ❑ Expand the use of BTP Low-No code solution to leverage **SAP process automation** for citizen/process developers
- ❑ Automate mundane tasks leveraging BOT's with **SAP Process automation** and embedding within the Low-No-Code solution and still keeping the backend logic on embedded steampunk
- ❑ Leverage LCNC together with Business Application Studio for Low or Professional Coding and/or Fiori Elements

# S/4HANA Cloud ABAP environment together with BTP LCNC for Extensibility



**Extensibility requires investment by customers & Partners at various components :**

*Most of the solutions developed by partners and customers require a combination of these extensibility mechanisms. As SAP we can deliver a strong and differentiated offering by enabling customers to use Embedded Steampunk AND BTP LCNC products together to deliver new solutions on top of S/4*

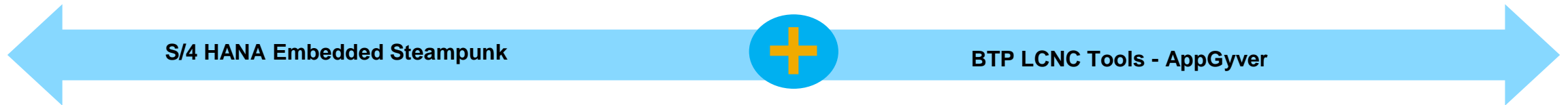
- **Embedded steampunk** is most ideal for **business entity extensions**. S/4HANA has the domain, business semantics and their relationships. Building extension applications outside S/4HANA is complex undertaking and hence these extensions need to be closer to these business objects. Embedded Steampunk allows enrichment of public API's by extending the business logic to customer specific requirements; while keeping the core clean. And creating the services for UI , Integration or UI adaptations based on these extensions.
- And **BTP LCNC** provides the solution for **customized experiences for mobile/web** developed by citizen developers or professional developers. Many partner and customer solutions **include automations and cross application processes** spanning S/4 and other SAP and non-SAP systems. Competitors like ServiceNow, PowerApps are using LCNC tools for these types of extensions on top of SAP.

***By combining the power of Embedded Steampunk and BTP LCNC capabilities, SAP gets an unfair advantage as we can leverage our business domain knowledge along with easy to use tools to support all extensibility use cases and address needs of both business experts and developers.***

# Use Case#1 – Embedded Steampunk together with AppGyver for no code apps

## Benefits of Embedded Steampunk together with BTP

- ❑ Leverage existing S/4 HANA , **Embedded Steampunk** to keep the core clean and with no additional infrastructure requirements and with existing resources
- ❑ **Embedded Steampunk** allows development with modern cloud programming (RAP) for extending business objects and creating services
- ❑ BTP LCNC tools enable quick turnaround of responsive web or **mobile application** development
- ❑ Using **both capabilities together** enable Collaboration between citizen developer and professional developers (ABAP or any opensource developers) aka Fusion teams



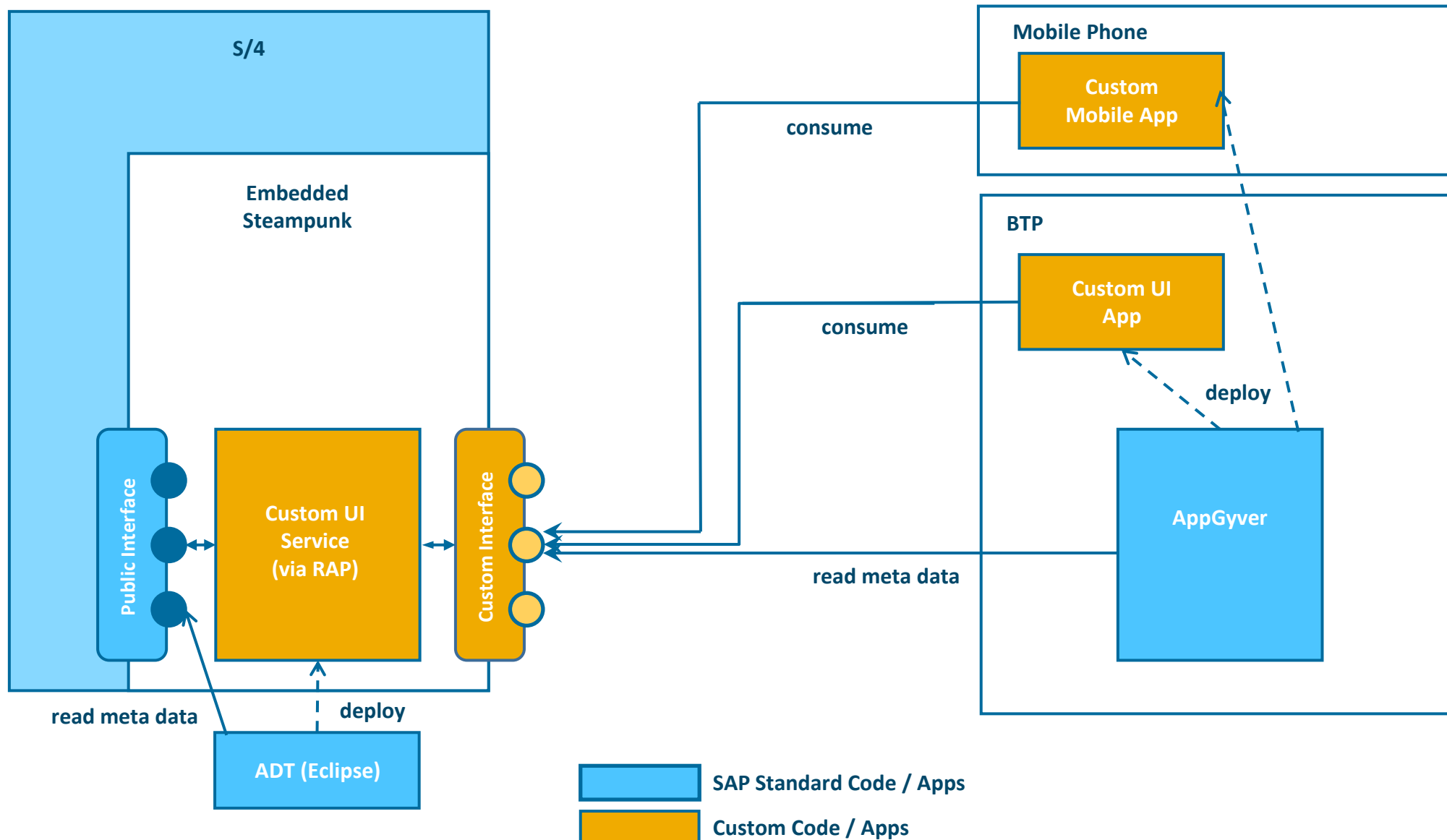
### Leverage Steampunk for

- ✓ Business Entity Extensions
- ✓ Additional Business logic that is part of same transactions unit. Keep core clean with No BAPI's , user exits...
- ✓ No/Low-Latency application access via local Public API's as opposed to remote API's allowing to build tightly coupled S/4 HANA extension application
- ✓ S/4 HANA UI adaption

### And utilize AppGyver to Build no-code application for

- ✓ Visual Application UI composition for citizen developers with No Code based drag/drop editor Reuse existing widgets from marketplace
- ✓ Built-in OData/REST connectivity for utilizing RAP Services
- ✓ Publish Mobile apps to Apple Store & Google Play
- ✓ BTP identity service integration and deployment to CF Runtime

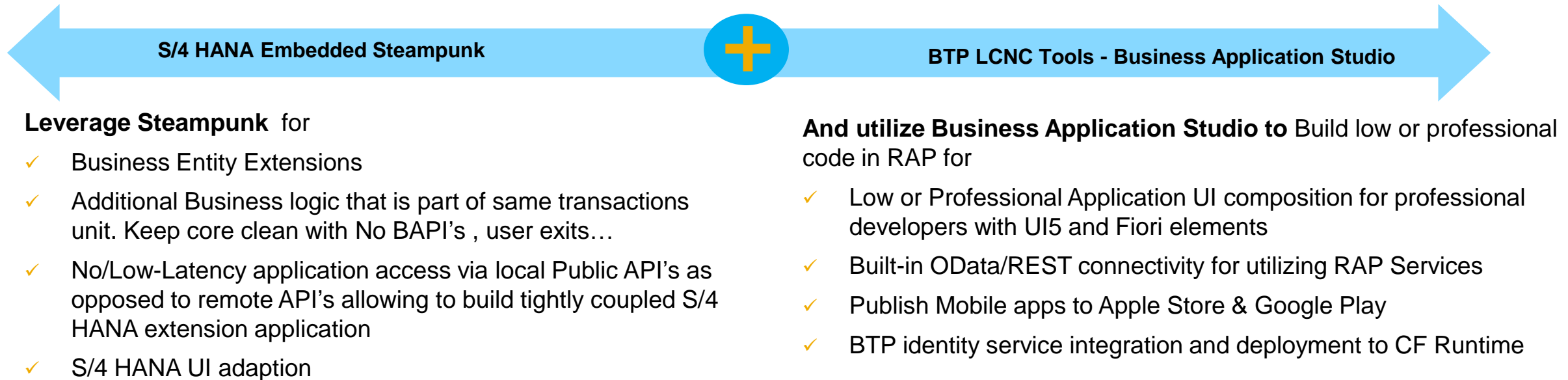
# New UI app on existing S/4 business entites using AppGyver



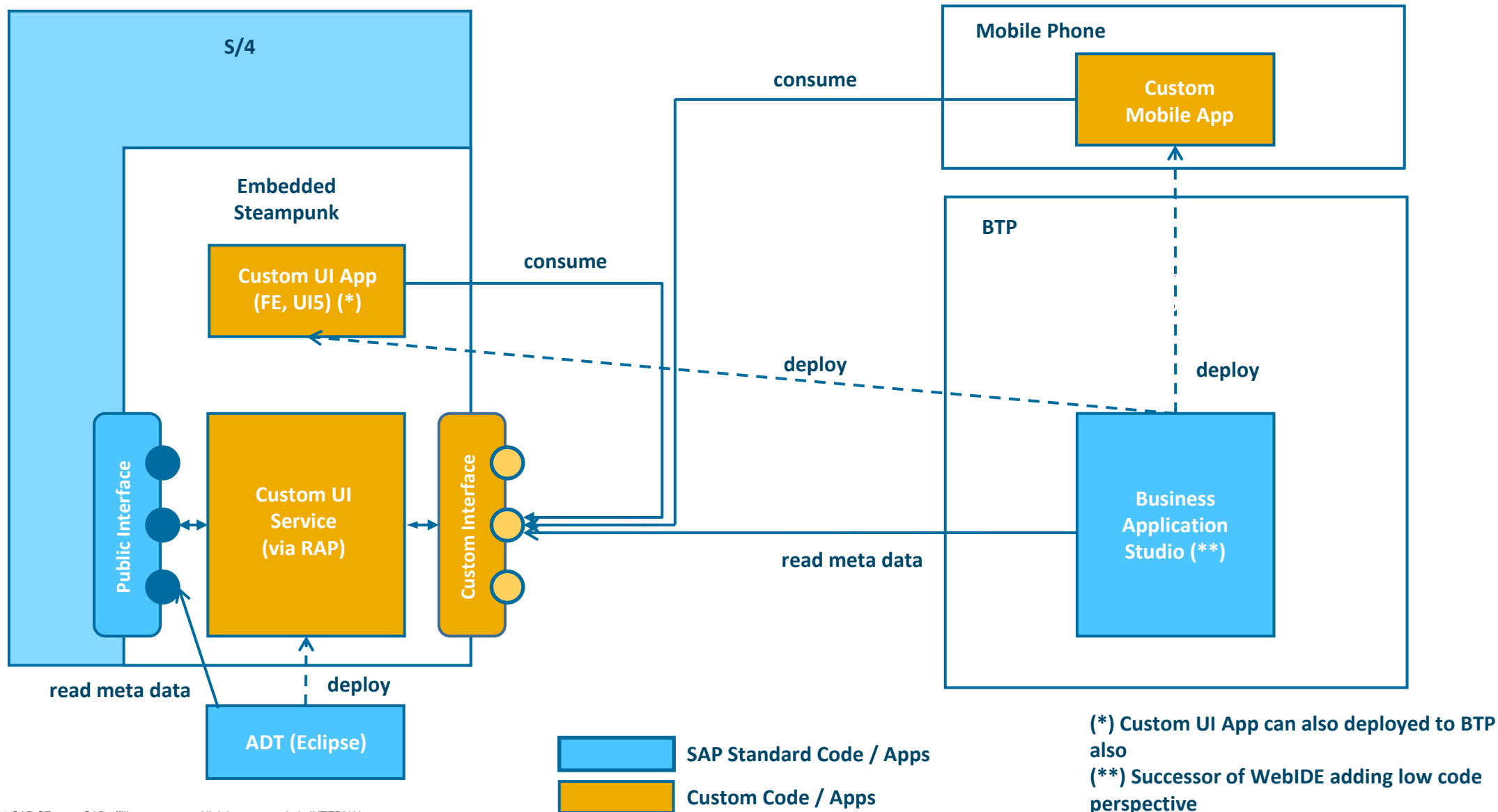
# Use Cases#2 - Embedded Steampunk together with BAS for UI and RAP

## Benefits of Embedded Steampunk together with BTP

- ❑ Leverage existing S/4 HANA , **Embedded Steampunk** to keep the core clean and with no additional infrastructure requirements and with existing resources
- ❑ **Embedded Steampunk** allows development with modern cloud programming (RAP) for extending business objects and creating services
- ❑ BTP Business application studio tools allows to utilize standardized templates for UI5, Fiori elements for responsive web application development and **for mobile application** development
- ❑ Using **both capabilities together** enable Collaboration between citizen developer and professional developers (ABAP or any opensource developers) aka Fusion teams



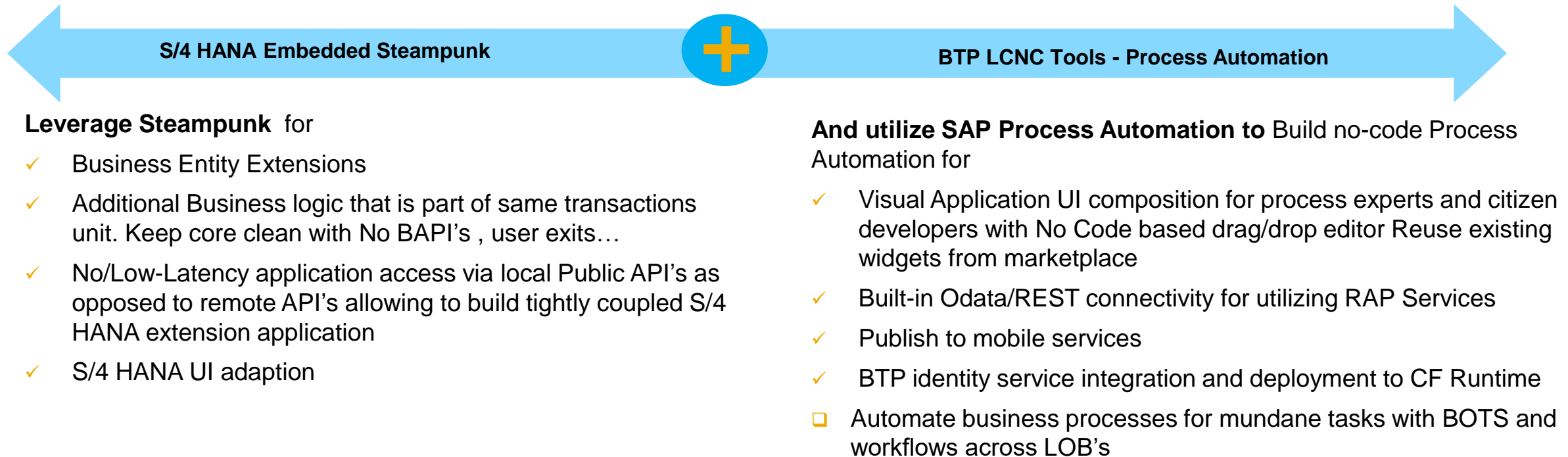
# New UI app on existing S/4 business entities using **BAS**



# Use Case#1 – Embedded Steampunk together with SPA for cross LOB processes

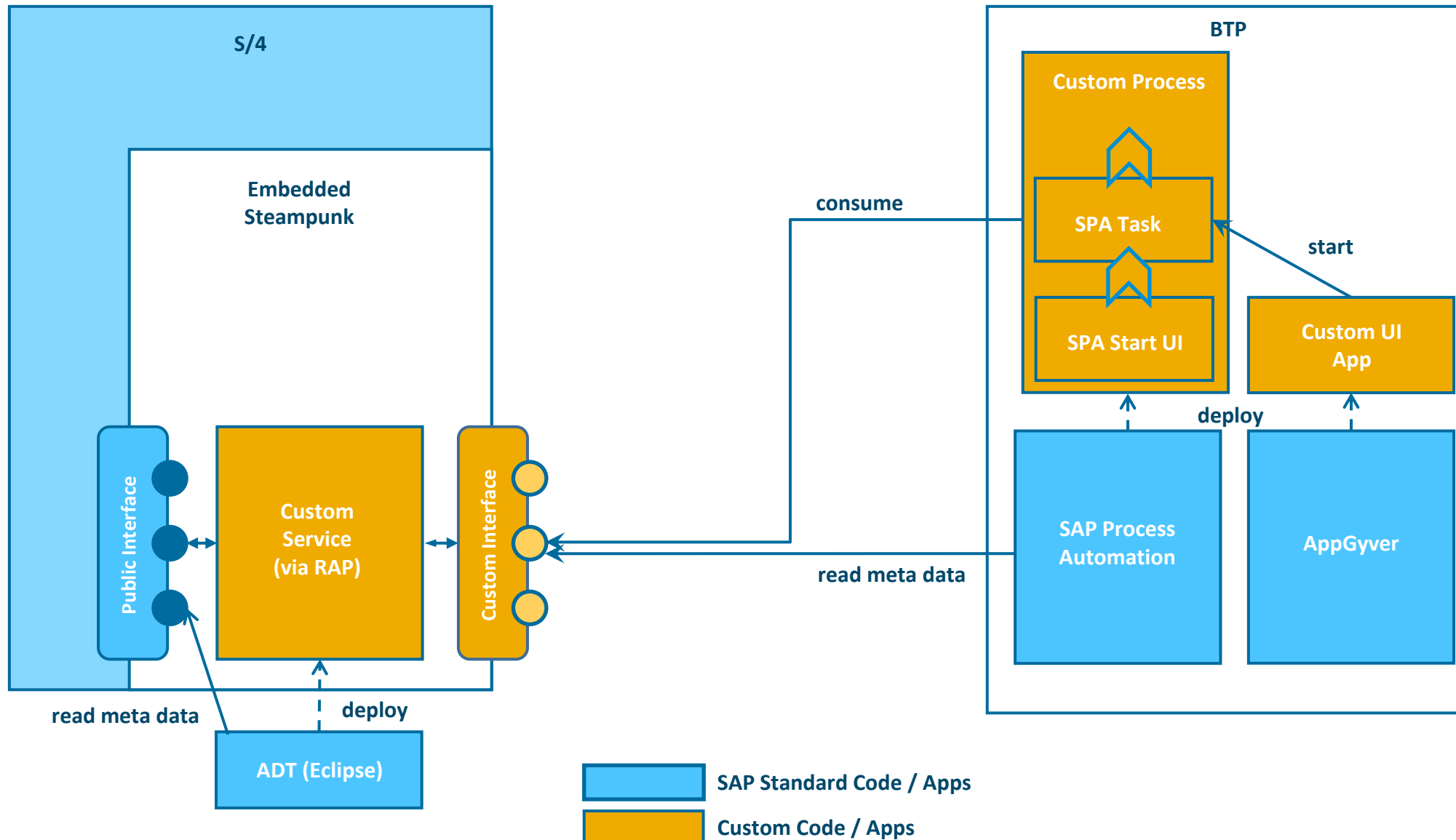
## Benefits of Embedded Steampunk together with BTP

- ❑ Leverage existing S/4 HANA , **Embedded Steampunk** to keep the core clean and with no additional infrastructure requirements and with existing resources
- ❑ **Embedded Steampunk** allows development with modern cloud programming (RAP) for extending business objects and creating services
- ❑ BTP LCNC tools enable quick turnaround of responsive web or **mobile application** development
- ❑ Using **both capabilities together** enable Collaboration between citizen developer and professional developers (ABAP or any opensource developers) aka Fusion teams





# New UI app on existing S/4 business entites using **SPA / AppGyver**



# Rough Edges That Would Need To Be Cleaned Up Together

## **Exposure of Embedded Steampunk APIs From S/4HANA Cloud to BTP is very complicated even in development**

- Developer needs to create an S/4 Communication Scenario for the API
- Developer needs to create an S/4 Communication Arrangement for the API
- Developer needs to configure a Destination in BTP pointing to the API

For S/4HANA Cloud and BTP to work more seamless and to have a competitive advantage against hyperscalers this should be made much easier at least for development

## **Integration of BTP Apps into S/4's ABAP FLP is needed**

- Currently apps that are deployed to BTP cannot be included in the S/4 ABAP FLP and therefore need to be in a separate launchpad

## **BAS supports RAP enabled services since 2020 and in fact is integral part of the UI story on top of Steampunk to create UI5 and Fiori element applications**

- Streamlined currently in BAS using the more basic and text based editors, giving more flexibility (for example decide whether to deploy the UI app to Steampunk or BTP) but less comfort
- The comfort solution of the low code / productivity editors at this point still goes via CAP to RAP, here RAP should be connected to the UI. Also the deployment to Steampunk is missing here

# An Edge against the market - Embedded Steampunk together with BTP LCNC Tools

## Build competitive advantage

- Discover API's , communication within BTP AppGyver
- Leverage S/4 HANA backend service directly accessible from BTP LCNC Tools
- Utilize IDP on BTP across the enterprise
- Deployment of UI to Embedded Steampunk
- Enriched Life cycle management aka one central transport management together of UI (and other LCNC tools) and embedded steampunk
- Utilize events in RAP for SAP Process Automation
- Expose Application within FLP