

# SAP API Management and API Business Hub

## Overview



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SAP Cloud Platform

*Customer*

# Overview

## Accelerate your digital transformation with APIs



APIs are digital building blocks for modern apps and open integrations. API Management supports full-lifecycle management of your APIs

The screenshot shows the SAP API Business Hub homepage. It features a central search bar with placeholder text "Search the SAP API Business Hub to find the right content. Find the right APIs, Integration Flows and sample apps". Below the search bar are sections for "APIs", "Business Services", and "Integration". The "APIs" section includes links to "Test APIs from SAP S/4HANA, SAP SuccessFactors, HanaCloud, and others" and "Browse". The "Updates" section links to "Explore, Discover and Consume APIs". The "Highlights" section links to "Explore, discover and consume APIs, pre-packaged integrations and sample apps". The "Community" section links to "Exchange experiences with your peers". The "Learn More" section links to "Access documentation about SAP API Business Hub".

Discover, Copy and Manage APIs

Leverage pre-packaged best practices



### SAP API Business Hub APIs from SAP and partners

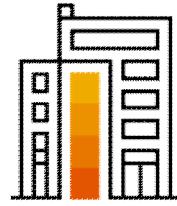
Public catalog of all SAP APIs + selected partner APIs for customers and ecosystem to innovate on top of SAP

### SAP API Management for customers to manage APIs

Manage full-lifecycle of APIs for integration, B2B, app development and new channels & revenue streams

# SAP API Management

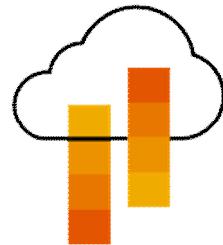
## Offerings



### On-premise

Q4/2014

- Supports on-premise/private data centers
- Core-based licensing
- Focus Scenarios: regulated industries, Banking, Telecom



### Public Cloud

on SAP Cloud Platform

Q3/2015

- Fully managed public cloud service
- Priced on #API Calls
- Focus Scenarios: Open Integration, Business Collaboration, Mobile



### Hybrid

Q1/2017

- Supports flexibility in deployment of APIs (cloud, private data centers)
- API Management on cloud, API Gateway (end-points) on-premise/private data center

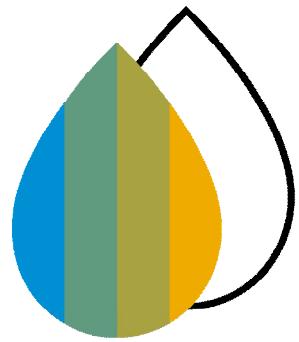


### Managed Cloud

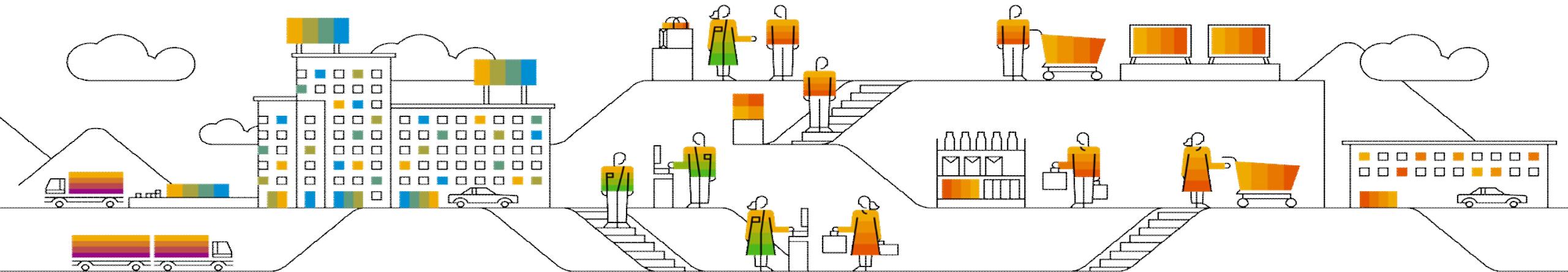
on SAP HANA Enterprise Cloud

Q3/2015

- Managed Cloud offering
- Focus Scenarios: Customers with S4/business suite, HANA on HANA Enterprise Cloud



# Motivation



# Digital businesses deliver simple connected digital experiences to customers, partners and employees



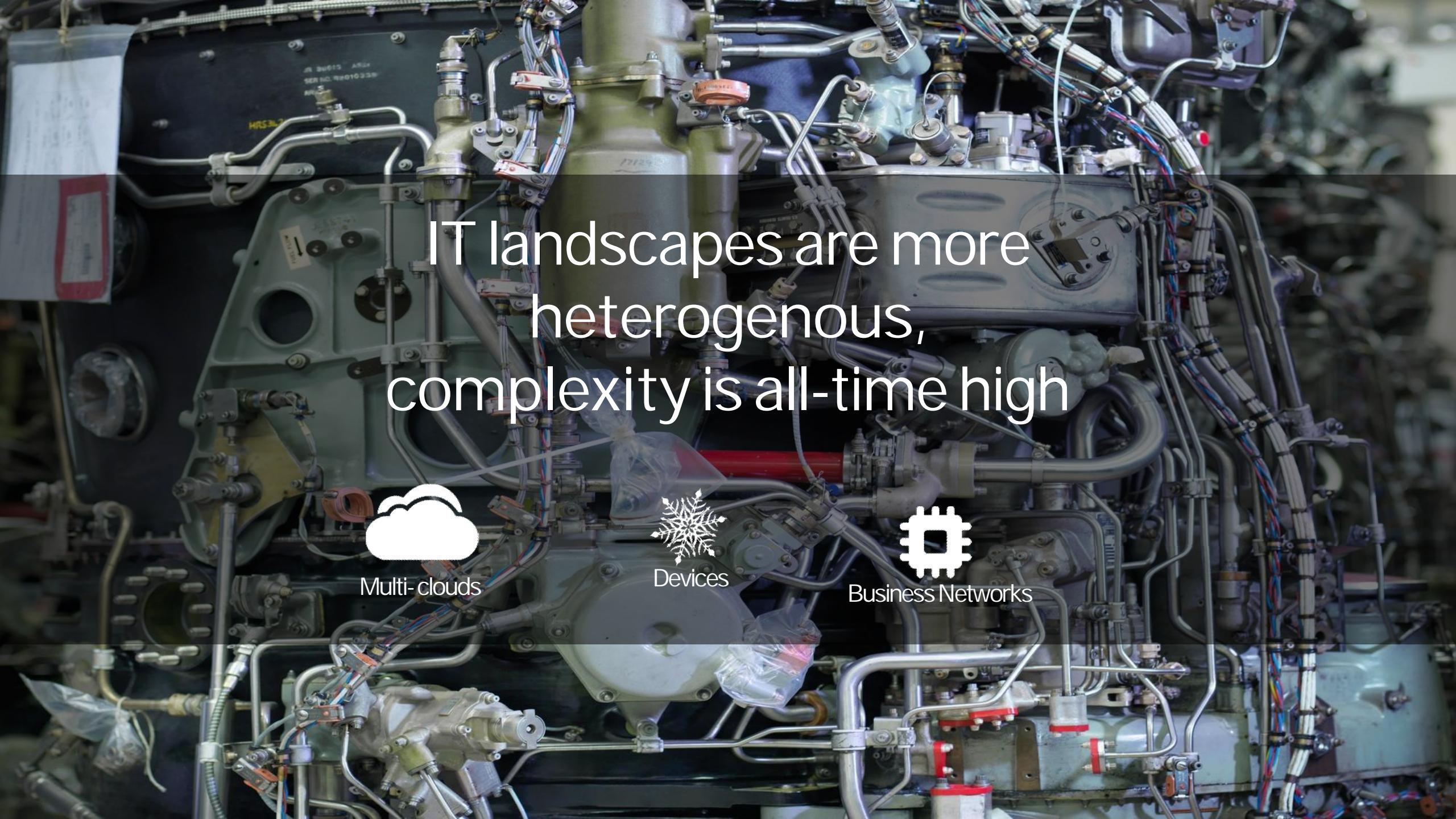
contextual



real-time  
digital interactions



new business  
models



IT landscapes are more  
heterogenous,  
complexity is all-time high



Multi-clouds

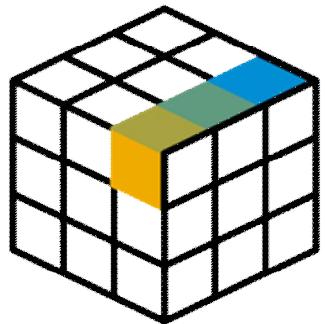


Devices

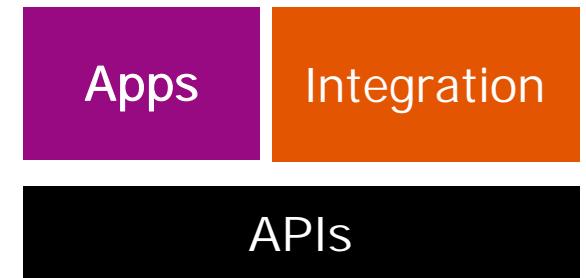


Business Networks

# APIs support simple digital experiences by hiding complexity



APIs = building blocks  
for digital businesses



unlock your data

empower users  
with self-service

connect and  
innovate

# we are talking about Web APIs (over HTTP)

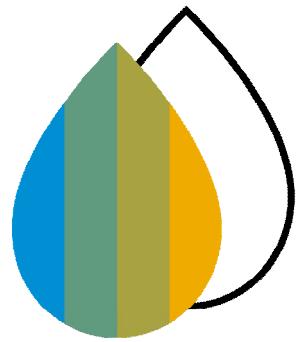
REST

Open API Specification  
(OAS) fka. Swagger  
RAML

OData

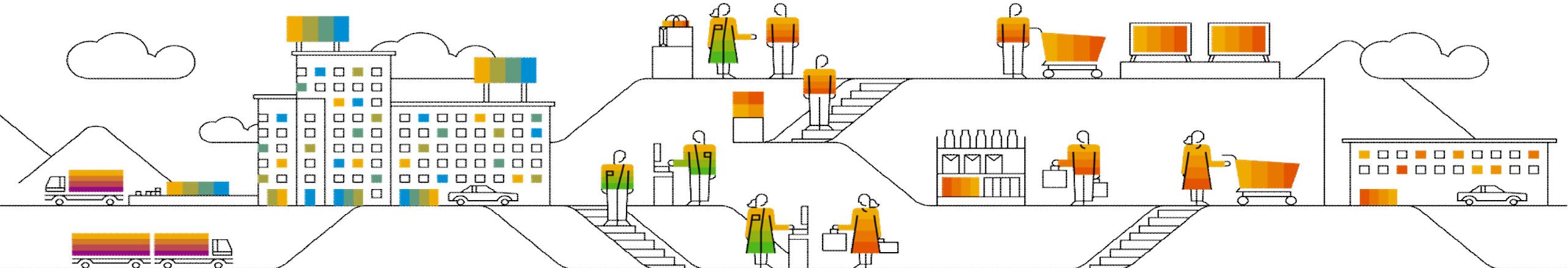
(Hypermedia)

SOAP/WSDL

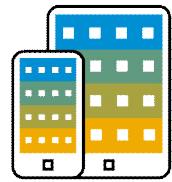


# API Management

## Use-Cases

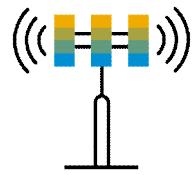


# Customer Use-Cases



## Accelerate Enterprise Digital Apps

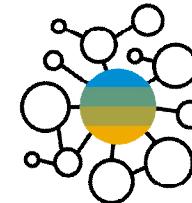
Secure and managed APIs for Enterprise Digital Apps for:  
employees  
(Field  
Sales/Services/Support)  
customers  
partners



## Real-time Data Sharing/ API Integrations

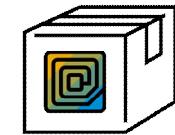
Share enterprise data from data lakes or business system to suppliers, partners and customers

Expose enterprise transactions and processes as APIs for suppliers and customers



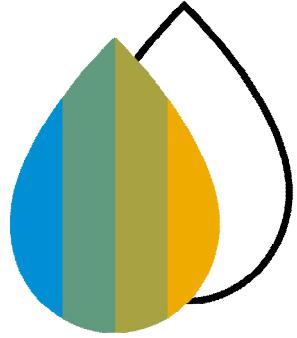
## Enterprise Microservices

Build and manage API-first microservices.  
Enable DevOps of microservices



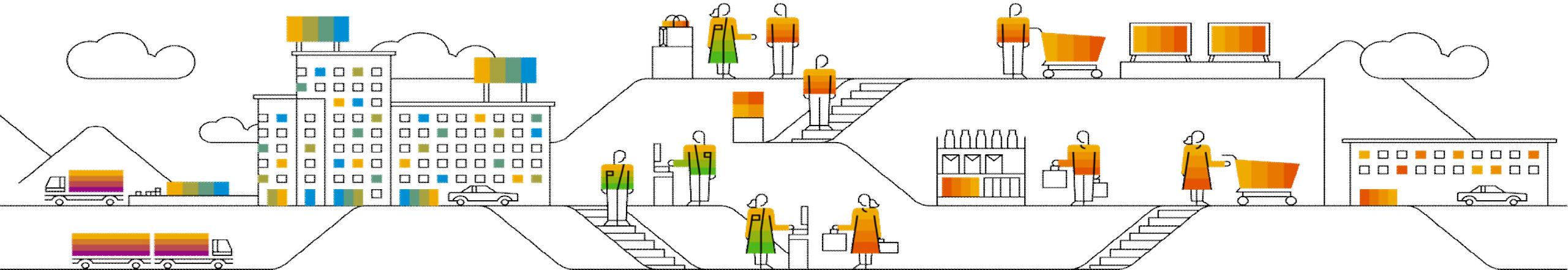
## API Products/ Monetization

Use API Products to monetize data and capabilities in a pay-per-use model



# API Management

## Big Picture

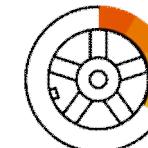


# SAP API Management

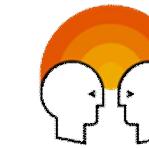
Speed up Digital Apps, Open Integrations and Innovations with APIs



Digital apps



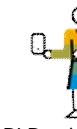
Business Networks



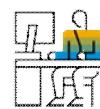
Partners/Customers



App Developers



API Product Manager



API Developer

## API Management



Design



Security



Traffic Management



Mediation



Caching



Notification



Analytics



Developer Engagement



Monetize

## API Development



API Design



API Implementation



SAP HANA



DevOps



SAP Cloud Platform  
CLOUD FOUNDRY

## API Backends



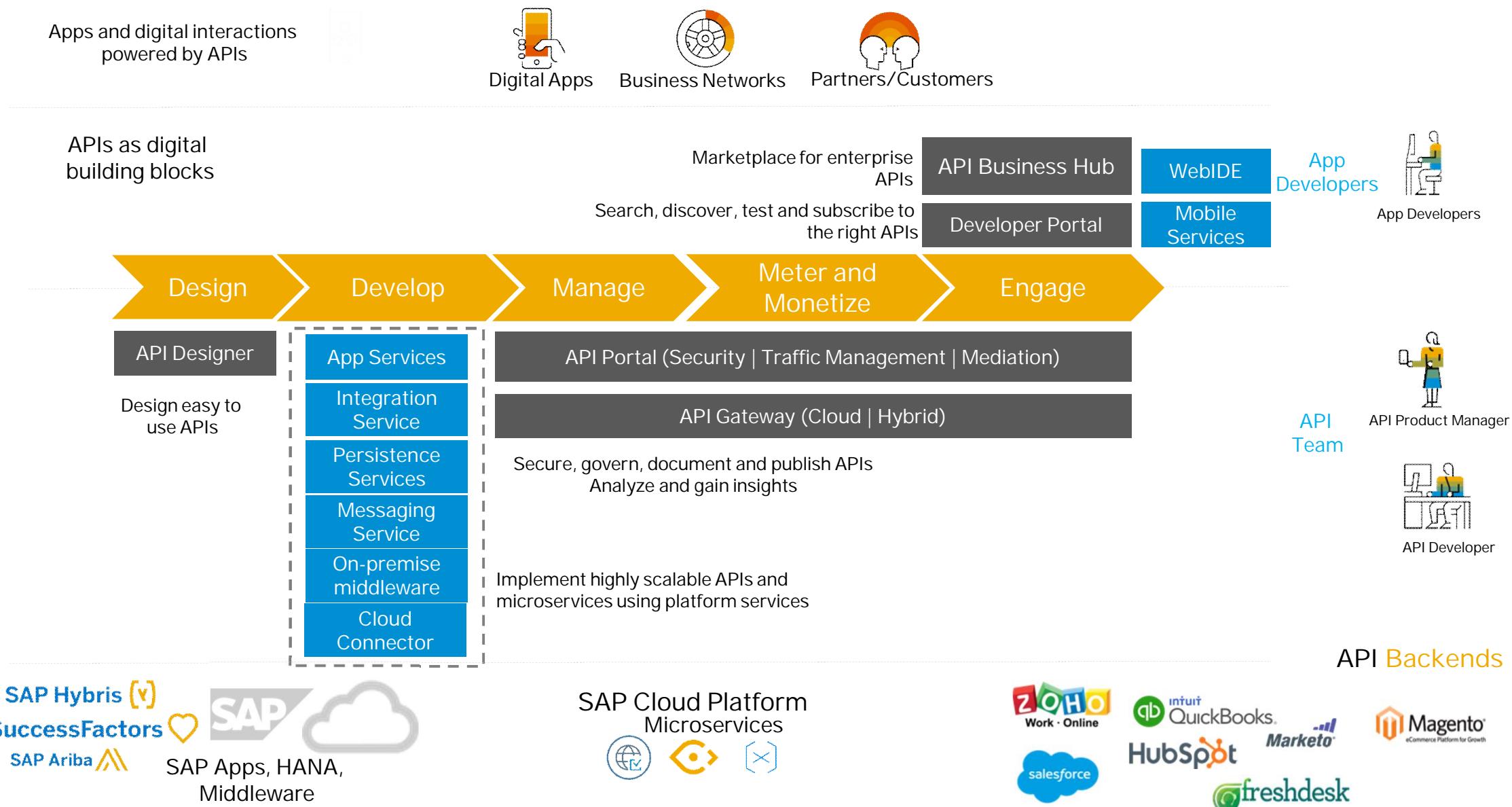
SAP Apps, HANA,  
Middleware



SAP Cloud Platform  
Microservices



# Full-Lifecycle API Management with SAP



# Personas and Components



API  
Developer

Design, Implement and Document API



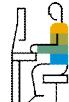
API Admin/Product  
Manager

Manage, Secure, Monetize and Publish



App Developers

Discover, Test and Subscribe



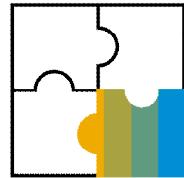
App Developers

Consume APIs



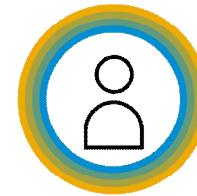
API Designer

- Open API Support
- Generate server-code in JAX-RS, Spring and NodeJS
- Generate multi-target applications (-mtar)



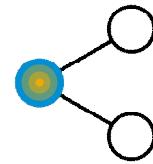
API Portal

- Easy API discovery
- Add security, manage traffic, compose APIs
- API monitoring and analytics
- Monetize API products



Developer Portal

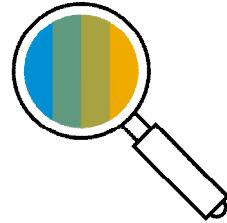
- Turn-key Developer Portal with discover, explore and test experience with self-service on-boarding
- Custom Developer Portal based on SAP Cloud Platform Portal Service



API Gateway

- Enterprise-grade API security with end-to-end user propagation
- Integration with SAP Web IDE and other consumption tools

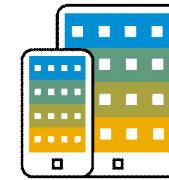
# Demo: Accelerate App Development with APIs



1

## Discover, Manage and Publish APIs

Find the right APIs from your apps and platforms: **ERP, HANA S4HANA, Successfactors, Hybris SAP Gateway, SAP Process Orchestration**



2

## Build Apps

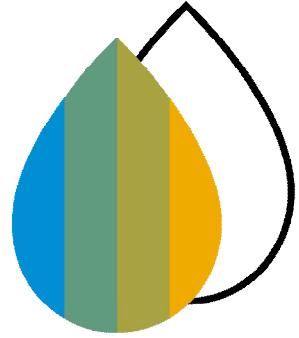
Build Fiori Apps, Portals and native mobile apps leveraging the tools integration: **SAP WebIDE, SAP Mobile IOS SDK, Build**



3

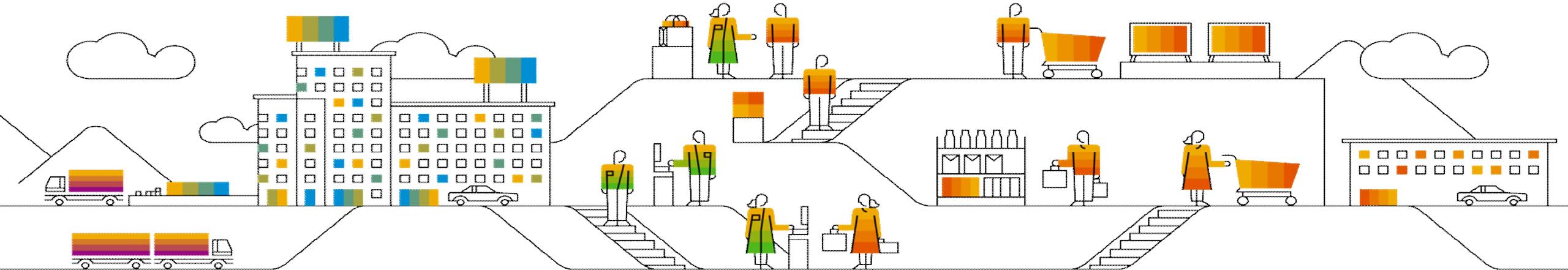
## Monitor APIs/ Apps

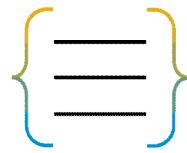
Monitor the APIs to ensure that the App user experience is not impacted



# API Management

## Features





# API Designer: API-first development of microservices

## Overview

API Designer allows a developer to iteratively design an API using an outside-in approach. Combined with the API Portal, the API developer can mock his APIs and help app developers test and validate the design

## Capabilities

- Design your API with Open API Specification
- Import RAML and OData APIs
- Generate server-side code in JAX-RS, Spring and NodeJS

The screenshot shows the SAP API Designer interface. On the left, a code editor displays a Swagger specification for a 'Product Service'. The specification includes details about the service's purpose, its role as a master-of-record repository, and various integration points. On the right, a detailed product service page provides a summary, usage examples, and a 'Paths' section with a 'GET /{tenant}/products' endpoint.

**Product Service**

The Product service is the core API for managing your product content. It supports back-office and administrative tasks using REST calls to list, view, create, edit, and delete product records. The API separates public, consumer-facing access, which is limited to listing, querying, and viewing products marked as public, from the seller-side administrative operations that require authorization.

The Product API is intended to be the master-of-record repository for structured product content. It provides a scalable, fast, and easy-to-use back end for:

- \* Storefronts (web and native apps) serving product content
- \* Back-office PCM and data editing tools for products
- \* Systems integration using a flexible and rich information set that is centrally available through a well-defined API

You can use a mashup service that consolidates data from multiple services and sources to serve up the presentation in customer-facing systems. You can also use the Product Details service to merge category and price information with the core product record.

**Version v2**

Filter operations by a tag:

**Paths**

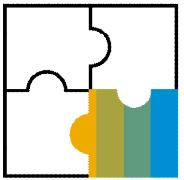
/ {tenant} / products

**GET / {tenant} / products**

**Description**

Get all products.

Accepted scopes:



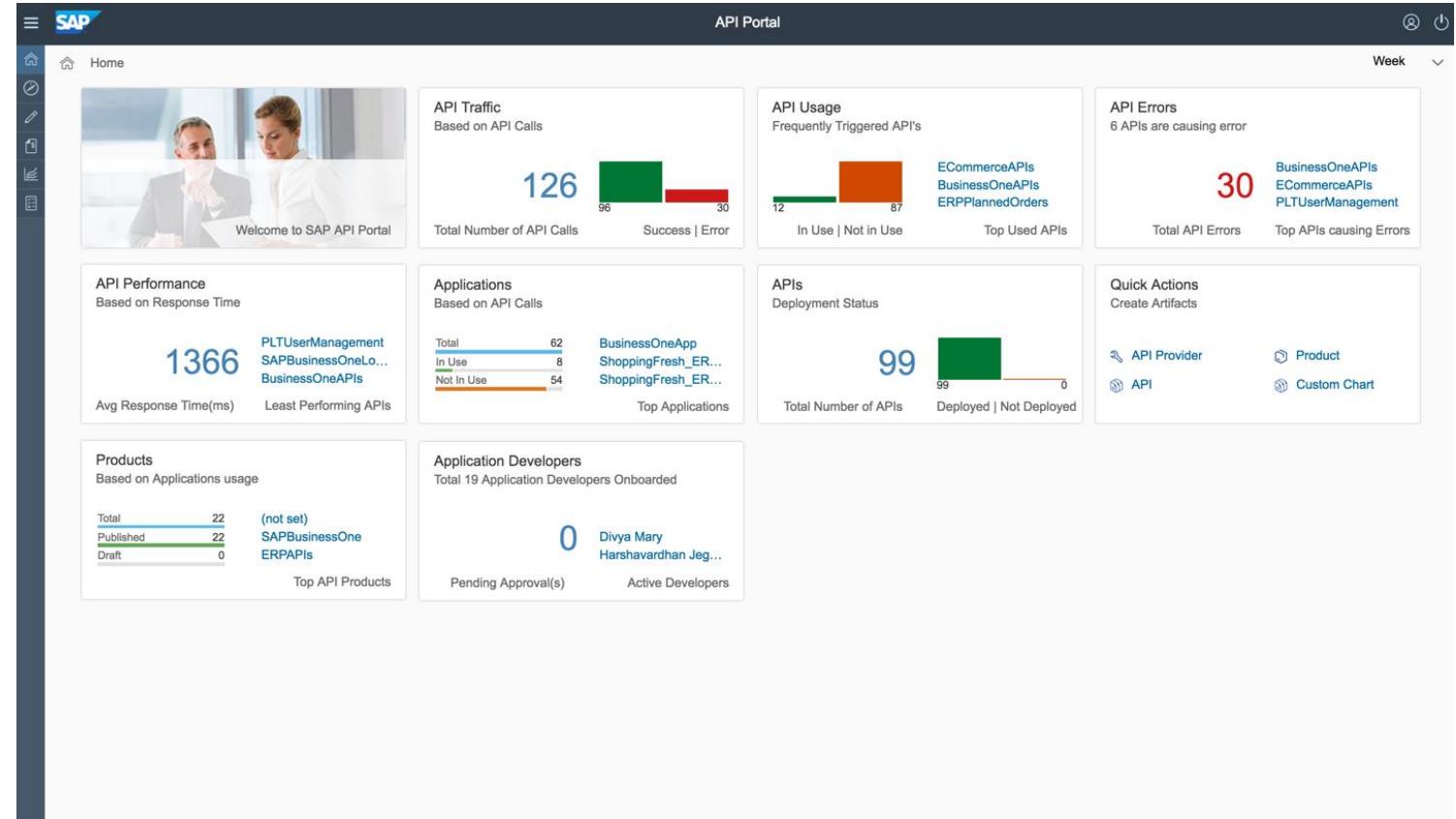
# API Portal: Overview of APIs

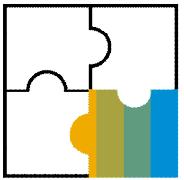
## Overview

API Portal Home page provides a quick overview of all the APIs – traffic, performance, frequently used APIs as well as API Errors

## Capabilities

- View API Traffic, Usage and Errors
- View API Performance and deployment statuses
- View developer on-boarding status
- Perform quick actions





# API Portal: Discover and Copy APIs/Policy Templates

## Overview

API Portal allows an API developer to copy and re-use out-of-the-box APIs as well as best practice policy templates from API Business Hub to accelerate API development

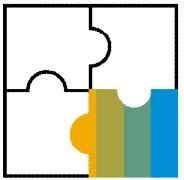
## Capabilities

- Search and Discover APIs and best practice policy templates
- Test APIs in API Business Hub
- Copy APIs as well as policy templates for re-use

The screenshot shows the SAP API Portal interface. At the top, there's a navigation bar with icons for search, refresh, and user profile, followed by the text "API Portal". Below the navigation is a breadcrumb trail: "Discover / SAP SuccessFactors Foundation/Platform /". On the right side of the header, there are links for "View in API Business Hub" and a power button icon.

The main content area features a title "SAP SuccessFactors Foundation/Platform" with a network icon. A brief description follows: "SAP SuccessFactors Foundation/Platform contains a core set of capabilities that are utilized across the entire SAP SuccessFactors HCM Suite." To the right, product details are listed: Vendor: SAP, Version: 1.0, Mode: Editable, and Published: 13 Jul 2017. A "Average User Rating" section shows 4.0 out of 5 (1 Rating) with a star icon.

Below the details, tabs for "OVERVIEW", "ARTIFACTS (9)", "DOCUMENTS (0)", and "TAGS" are visible. The "OVERVIEW" tab is selected. A "Description" field contains text about the platform's capabilities across the SAP SuccessFactors HCM Suite. A "Supported Platform" field lists "SAP API Management", and a "Category" field lists "APIs". A "Created" field shows the date "17 May 2017".



# API Portal: Create APIs by discovering interfaces from backends

## Overview

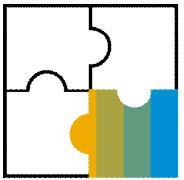
API Portal allows the API Developer/API Admin to create an API either outside-in (with API Designer) or inside-out by easily discovering the interfaces from backend systems

## Capabilities



- Create API Provider to establish connectivity to backends, use cloud connector for on-premise connectivity
- Discover backend interfaces and services and create API (proxy)
- Add policies for security, traffic management, mediation, service composition (40+ out-of-the-box policies)

The screenshot shows the SAP API Portal interface. The top navigation bar includes links for API PROVIDERS (22), CERTIFICATES (0), APIS (99), PRODUCTS (22), APPLICATIONS (62), and POLICY TEMPLATES (29). The APIS tab is selected. Below the navigation is a toolbar with buttons for Create, Import API, Create in API Designer, Filter, and search. The main area displays a table of APIs with columns for Name, Status, Type, Last Updated, Description, Calls For This Month, and Action. One row is highlighted for the 'Employee' API, which is described as "API to access information about a system user including log in user name, password, and". A modal dialog is open for creating a new API, titled "Create API". It contains fields for \*Name, \*Title, and Description, along with a rich text editor. The "Description" field includes a note about API Discovery services. At the bottom of the dialog are "Create" and "Cancel" buttons.



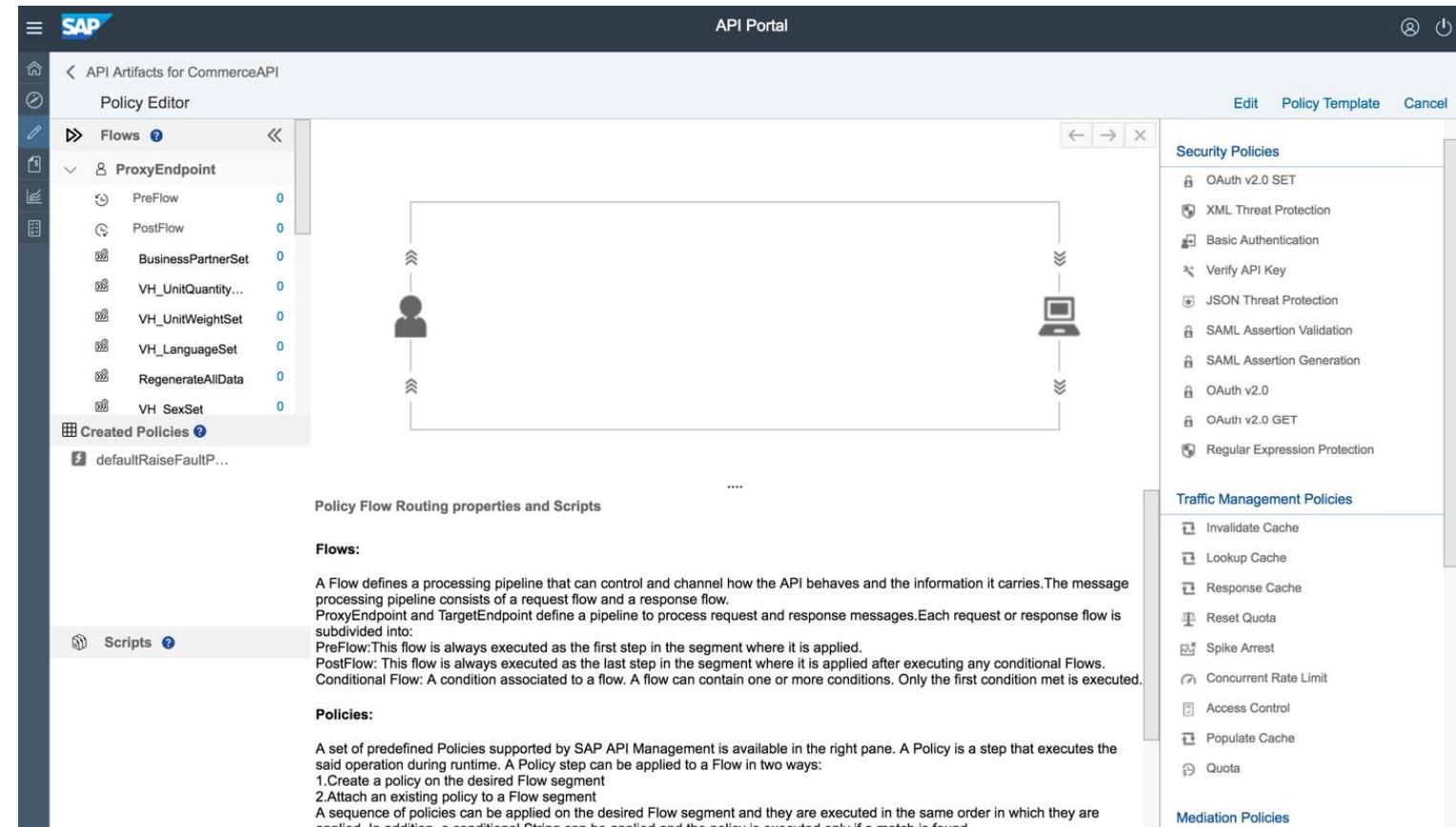
# API Portal: Manage APIs with rich set of 40+ in-built Policies

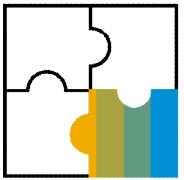
## Overview

API Portal's Policy Designer provides 40+ in-build policies to support traffic management, security, mediation, caching as well as service composition

## Capabilities

- **Security:** Protect against OWASP top-10 threats (see [here](#))
- **Traffic Management:** Protect your backends from traffic surges, use from spikes and manage quotas. Use caching to improve performance
- **Mediation:** Do simple transformations and service composition, script with JavaScript or Python to change request/response





# API Portal: Monetize with Rate Plans and API Products

## Overview

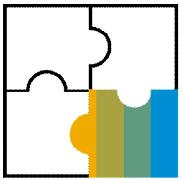
Create Rate Plans (simple, tier-based) and add it to API Products. API Products are a collection of related APIs with usage quotas applied

## Capabilities

- Package and Publish **API Products** to the Developer Portal for developers to test and consume
- Create **Rate Plans** (simple, tier-based) and assign it to API Products
- Create **Bills** based on API Usage for developers

API Name	API State
EABOrders	Deployed
ECommerceAPIs	Deployed
Employee	Not Deployed
ERPPlannedOrders	Deployed
ERPPublishingOrders	Deployed
EventReceiverForCE	Deployed
FleetTracker	Deployed
GeocodingAPI	Deployed
Geolocation	Deployed
GigyaLoginHandler	Deployed

Name	Description	Action
SilverPlan	Silver plan for E-commerce	
GoldPlan	Gold Plan	



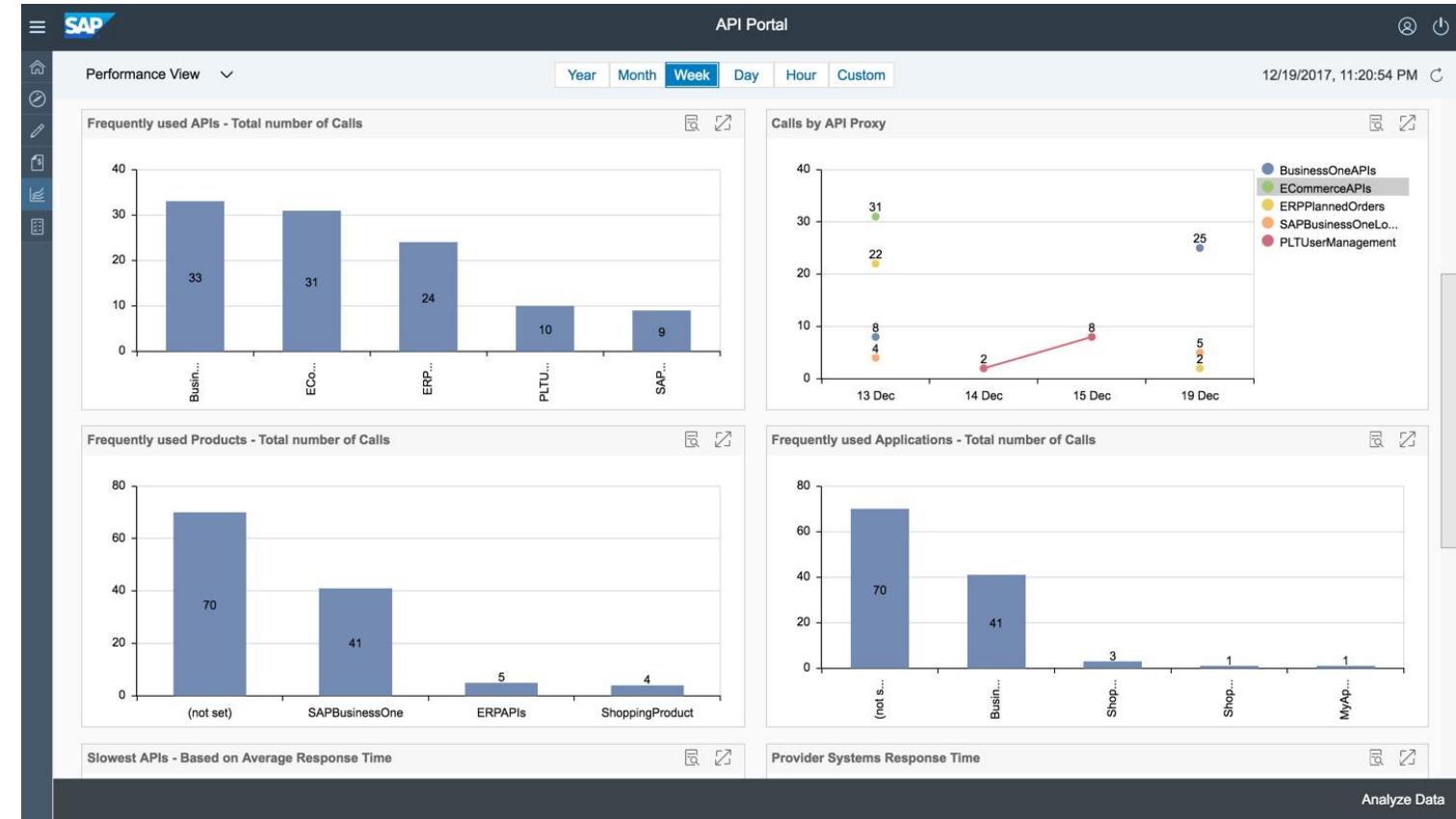
# API Portal: Comprehensive API Analytics

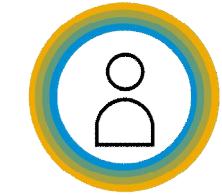
## Overview

API Portal allows the API Product Manager and API admin to view comprehensive API analytics – usage, errors and and performance

## Capabilities

- View API performance and usage – frequently used APIs, API calls and average response times
- View API Errors to help the admin deep-dive and troubleshoot problematic APIs and backends
- Define custom charts and drill-downs





# Developer Portal: Out-of-the-box Developer Portal for Engagement

## Overview

Out-of-the-box developer portal to engage with internal, partner or ecosystem developers. Developers can search and find the right APIs, test the APIs, subscribe and consume the APIs

## Capabilities

- Search and View API Products and APIs
- Onboard and manage App Developers
- Test and Subscribe to API Products/API
- View Usage Analytics and Bills

The screenshot shows the SAP Developer Portal homepage. At the top, there's a banner with the SAP logo and the text "Developer Portal". Below it, a central message reads "SIMPLE, SCALABLE AND SECURE DIGITAL ACCESS" and "SAP API Management enables provisioning, governance, security and scalability of enterprise information for digital access". A "LEARN MORE" button is located next to a graphic of a person icon surrounded by clouds. Below the banner, there are two tabs: "NEW (10)" and "ALL (22)". The main area displays a grid of 10 API product cards:

API Product	Version	Published
ERP APIs	a37442951 Version: 1	7 days ago
Shopping Product	a37442951 Version: 1	7 days ago
Shopping Fresh	a37442951 Version: 1	8 days ago
Business One APIs	a37442951 Version: 1	12 days ago
Costco API for Contract Management	a37442951 Version: 1	27 days ago
Costco Invoice Management API	a37442951 Version: 1	7 days ago
Costco Order Fulfillment	a37442951 Version: 1	7 days ago
GWDemoProd	a37442951 Version: 1	7 days ago
Suncor APIs for Mobile App, Partner Integration, and Web Portal Development	a37442951 Version: 1	7 days ago



# Developer Portal: Custom Developer Portal

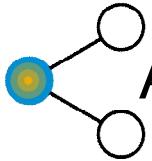
## Overview

Using SAP Cloud Platform, Portal service a custom-developer portal can be built to help organizations theme and brand their developer portals. Additional capabilities such as SAP Jam can be combined to support developer communities

## Capabilities

- Full corporate theming and branding is supported to enable public app developer engagement programs
- Add collaboration capabilities to support a developer community with SAP Jam

The screenshot shows the homepage of the Apricot Developers Portal. At the top, there's a navigation bar with the Apricot logo, Home, Learn How, API Catalog, Create App, and Community links. The main title "Apricot Developers Portal" is prominently displayed. Below it, a subtitle reads "All your API needs in one place - easily discover, explore, test, and subscribe to APIs offered by Apricot. Get all the tools and resources you need to create simple, scalable, and secured apps". Two buttons are visible: "Learn How" (purple) and "Create Apps" (orange). At the bottom, there are three call-to-action cards with icons: "Run Apricot interfaces from our API Catalog" (showing a smartphone and laptop icon), "Create apps that meet your specific needs" (showing a gear and chart icon), and "Be part of our growing developer community" (showing a person icon).



# API Management: Platform APIs to support CI/CD and tools integration

## Overview

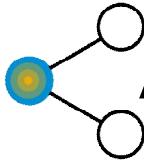
API Management provides [platform APIs](#) to help integrate with continuous integration and delivery (CI/CD) tools as well as developer tools and reporting tools

## Capabilities

- API Portal APIs allow API deployment from CI/CD tools
- Billing and Metering APIs allows integration with 3<sup>rd</sup> party billing systems
- Developer Portal APIs allow integration with developer tools for API discovery and consumption

The screenshot shows the SAP Cloud Platform API Management interface. At the top, there's a navigation bar with the SAP logo, a search bar, and links for Register and Login. Below the header, the page title is "Discover (APIs) / SAP Cloud Platform API Management /". The main content area features a section titled "SAP Cloud Platform API Management" with a brief description: "API Management facilitates consumer engagement anywhere, any time. It reduces complexity by leveraging a single provisioning platform (API Platform) to provide unified access of APIs across a heterogeneous landscape". To the right of this description are details about the vendor (SAP), version (1), mode (Editable), and publication date (25 Oct 2017). An average user rating of 4.0 out of 5 (1 Rating) is also displayed. Below this, there are tabs for OVERVIEW, ARTIFACTS (4), DOCUMENTS (0), TAGS, and RATINGS. The ARTIFACTS tab is selected, showing a table with four rows of data. The columns are labeled Name, Type, Version, and Actions. Each row contains a link icon in the Actions column. The data in the table is as follows:

Name	Type	Version	Actions
API Portal APIs Enables you to build, test, and deploy APIs to share data and processes with customers, partners , and employees.	ODATA API	1	<a href="#">[ ]</a>
Billing APIs Enables you to view bill details for API Products and Applications .	REST API	1	<a href="#">[ ]</a>
Dev Portal APIs Enables you to manage APIs, API Products and Applications developer portal.	ODATA API	1	<a href="#">[ ]</a>
Metering APIs Enables you to view metering data for APIs, API Products, and Applications .	REST API	1	<a href="#">[ ]</a>



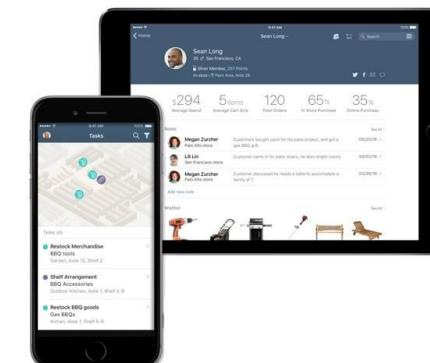
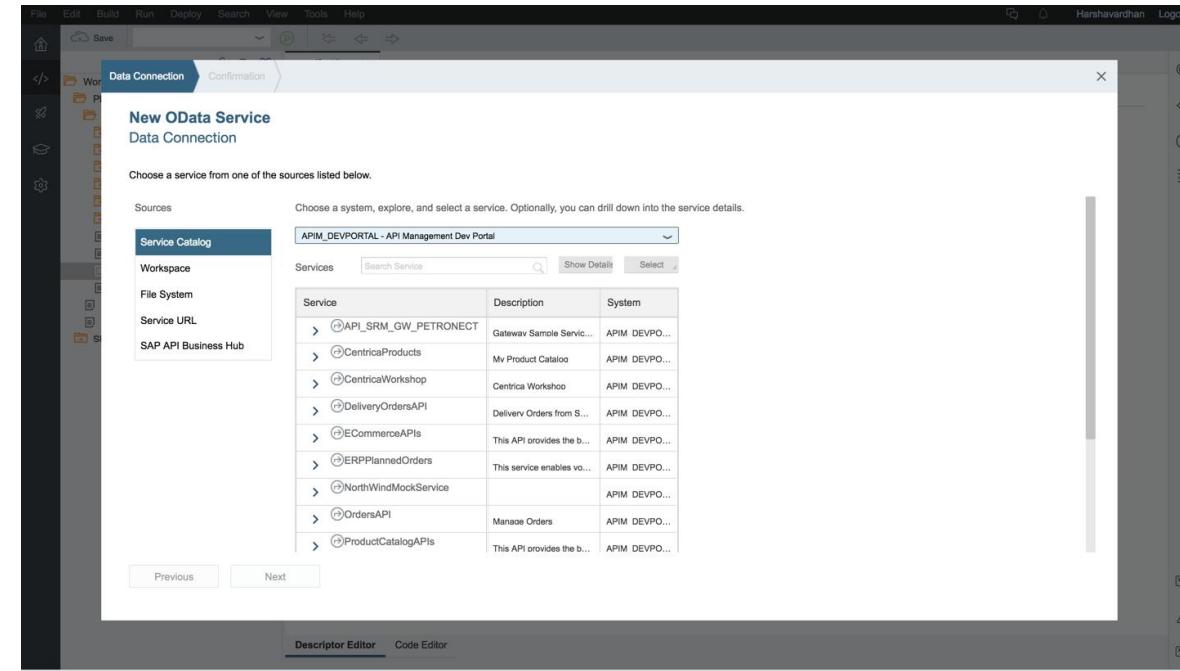
# API Management: Consume APIs with pre-built tools integration

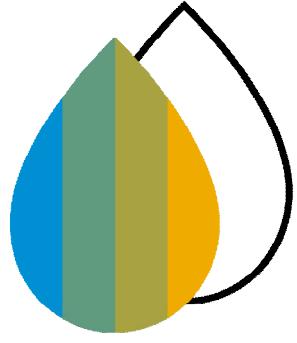
## Overview

API Management integrates with tools such as SAP WebIDE, SAP Mobile IOS SDK and Mobile Services to easily consume APIs to build desktop and mobile apps

## Capabilities

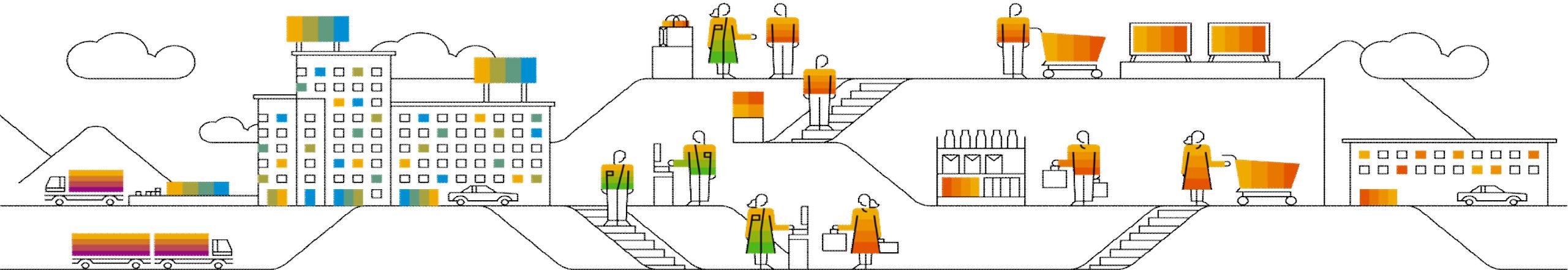
- SAP WebIDE integration allows easy search of APIs, subscription and consumption
- SAP Cloud Platform IOS SDK allows connection to API Management, discover APIs and generate Swift SDK for mobile app development





# API Management

## Roadmap



# SAP Cloud Platform API Management

## Product Roadmap Overview

### Recent Innovations

#### API Lifecycle Management

- § Discover and Consume APIs and Policy Templates from API Business Hub
- § Auto-Repair of API Proxies and Products
- § Encrypted key-value storage
- § Data Privacy and GDPR compliance

#### API Development

- § API Designer: API-first microservices development with generation of multi-target archives for cloud foundry
- § Could Foundry Service Broker to manage microservices APIs
- § Integration with SAP IOS SDK

#### SAP API Business Hub

- § Integration with IOS SDK to develop applications with APIs
- § Deep-Search of APIs and other digital artifacts

#### Multi Cloud & Resilience

- § Support for Cloud Peering with 3<sup>rd</sup> party cloud providers

### Planned Q1/2018

#### API Lifecycle Management

- § Role-based access control for API Products
- § Low-touch customer onboarding
- § Where-used list for Policy Templates
- § Approval workflows for API product subscriptions in developer portal
- § Simplified User Propagation

#### API Development

- § Local Chaining of API Proxies
- § API creation via WSDL import
- § Support for Open API Spec 3.0
- § Wizard-based API Design and Documentation

#### SAP API Business Hub

- Generate Client SDKs (Java, NodeJS)
- Generate iFlows templates
- Integration with SAP Build to support citizen developers
- Industry-specific pre-packaged digital content
- Restricted Content Package Shipment

#### Multi Cloud & Resilience

- § AWS deployment of API Gateway

### Planned Q2/2018

#### API Lifecycle Management

- § Accelerated API Connectivity with Successfactors, Hybris, S4HANA
- § Enhanced version management
- § Support for Advanced Analytics
- § CTS+ Integration for Transport management

#### API Development

- § Simplified API Discovery for tools integrations
- § Custom-developer portal based on SAP Cloud Platform Portal Service

#### API Development

- § API mocking to accelerate app development and validation
- § OData Exploration

#### SAP API Business Hub

- § Publisher Cockpit for content publishers to manage and distribute digital content products

#### Multi Cloud & Resilience

- § Support for multi-region Premium disaster recovery (DR)
- § Integration with SAP Cloud Availability Center

### Product direction

#### API Lifecycle Management

- § Support for business reporting
- § API Health Diagnostics
- § API Monitoring and Alerting
- § API Monetization integration with SAP Revenue Cloud

#### API Development

- § Support for micro-gateways for federated API Management
- § Code-generation with persistency support for mongo DB, PostgreSQL and Redis

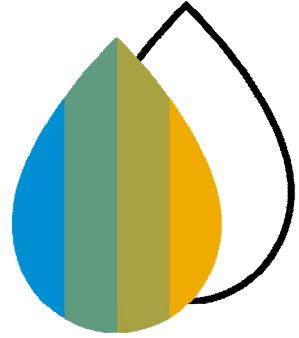
#### SAP API Business Hub

- § Request an API
- § Support API Deprecation
- § API Hub for Customer – Host your own digital content repository.
- § Integration with marketplaces – SAP App Center and SAP Store

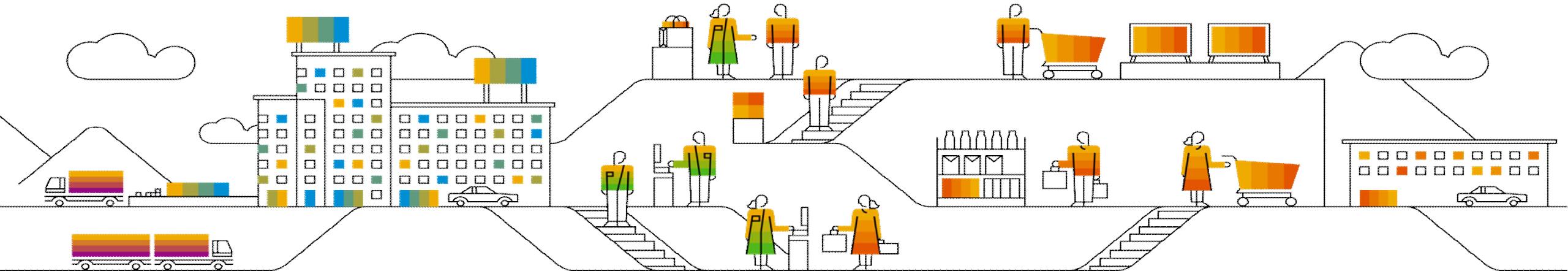
#### Multi Cloud & Resilience

- § Multi-Region deployment of APIs
- § Support for APIs built on Kubernetes architecture

This is the current state of planning and may be changed by SAP at any time.

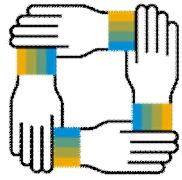


# API Business Hub



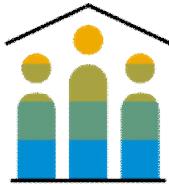
# APIfication of SAP

Grow platform business and business networks with Cloud APIs



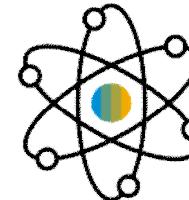
## Global API Program

API Program reporting to board office, establishing lightweight governance



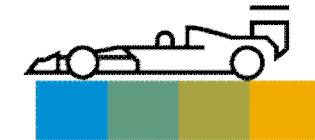
## Makers Community

Community to share best practices with API design, architecture and development



## SAP API Business Hub

Public catalog of APIs and accelerators from SAP and partners



## Pre-Packaged Accelerators

Pre-packaged best practices, policy templates and integration packages



## Predictive Services



## Localization APIs



## SAP Banking API



## Commerce Services



## Machine Learning



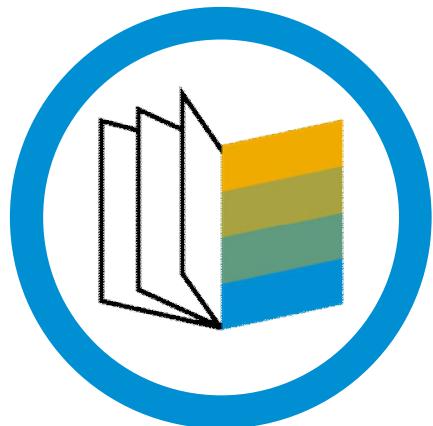
## Internet Of Things



# SAP API Business Hub

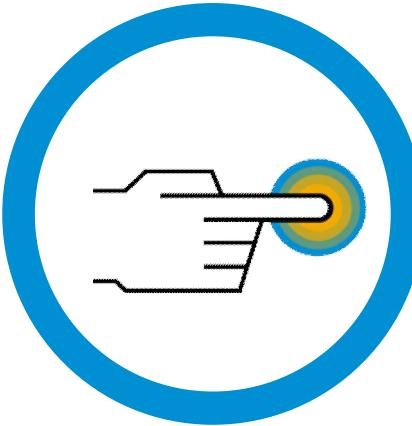
## Build Apps and Integrations easily with APIs

Search, discover, experience and consume to right APIs from SAP and select partners for your digital transformation projects



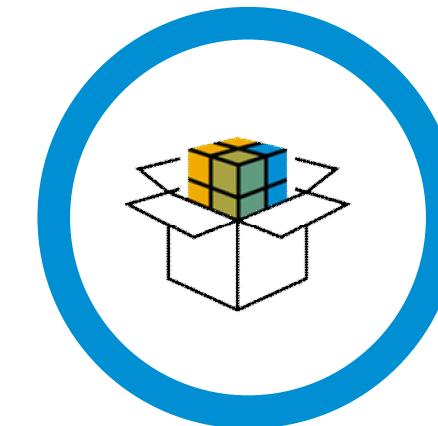
Catalog

Central Place for APIs  
from SAP and its  
Partners

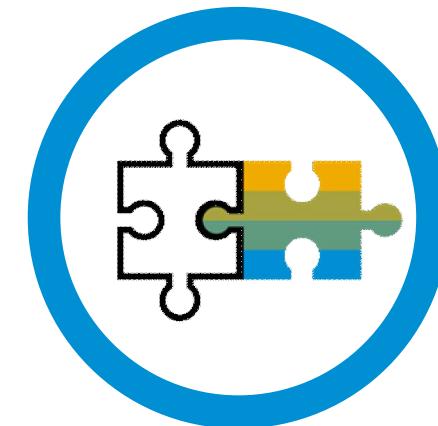


API Sandbox

One click-test experience for  
developers via API Sandbox



Pre-packaged  
accelerators  
Integration packages  
to integrate APIs



Easy Consumption

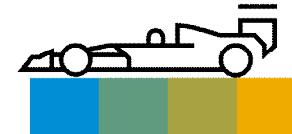
Integration with Developer  
IDE and Code Generations

# Demo: Search, Discover and Consume APIs



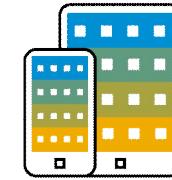
## 1 Search & Discover

Find the right APIs for your apps/integrations



## 2 Test Drive

Test the APIs in the API Sandbox/your own environments

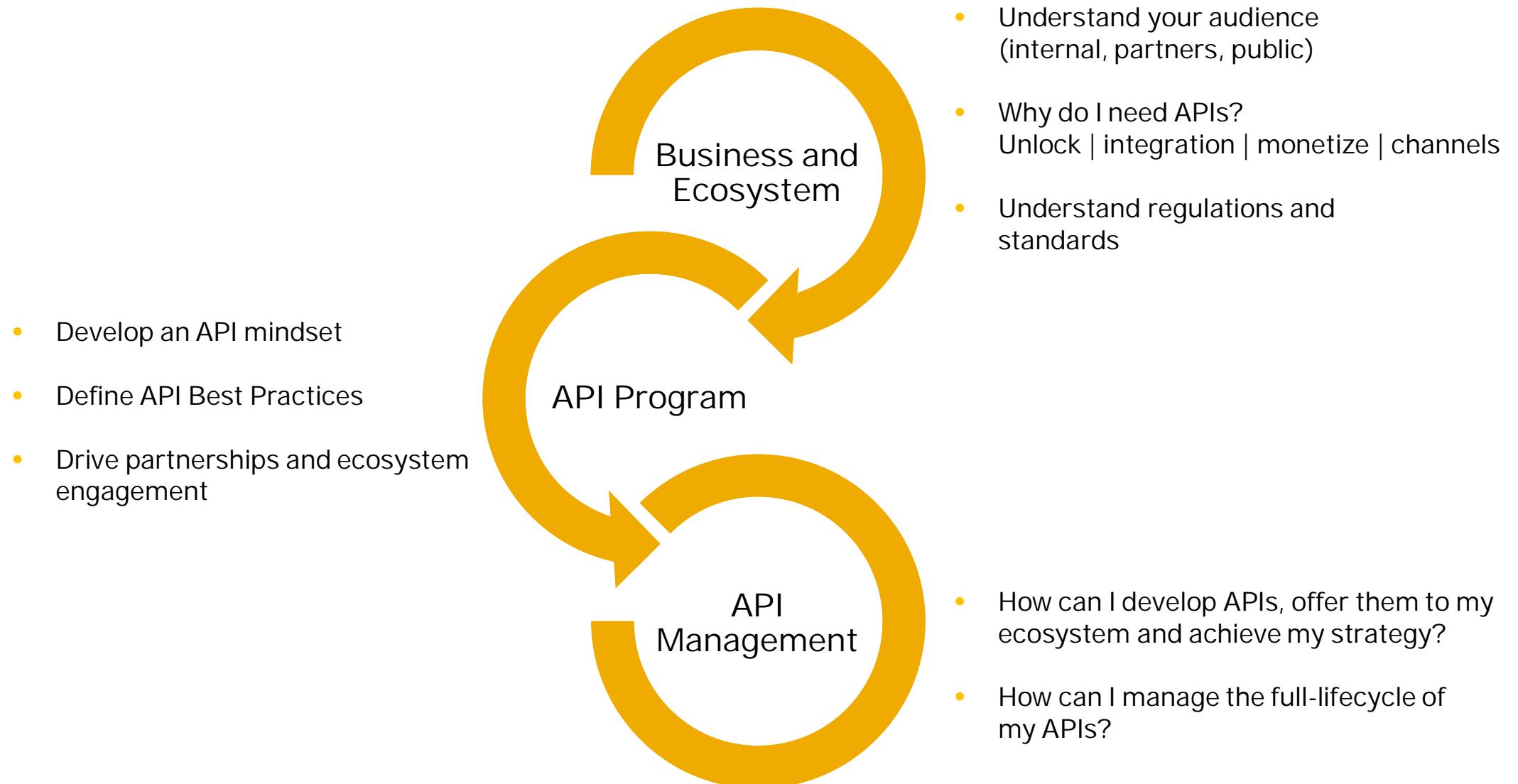


## 3 Consume

Build Apps with these APIs in development tools

Copy and manage APIs in API Management

# Crafting and Executing your Enterprise API Strategy



# Summary and Key Takeaways

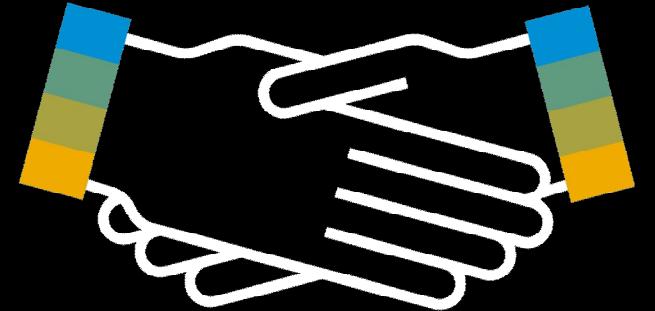
- 1 Always use API Management to securely expose your OData services/interfaces to the cloud for apps or integrations
- 2 Secure your APIs against security vulnerabilities and protect your backends from traffic surges with spike arrest, quotas or caching
- 3 Monitor and analyze your API Usage, performance and errors and constantly improve your customer experiences.

# Call for Action

- Join our Customer Engagement Initiative and influence the product strategy and direction
- Contact: Arti Gopalan ([arti.gopalan@sap.com](mailto:arti.gopalan@sap.com))
- Getting Started [blog](#)
- Get your hands dirty with our [free trial](#) on the SAP Cloud Platform
- Learn more:  
<https://cloudplatform.sap.com/capabilities/integration.html>
- Reach out if you would like to run a Craft and Execute your Enterprise API Strategy session



Thanks for attending this session.



Contact information:

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