



Menschen Methoden Lösungen

ABAP is dead: long live SAP CAP(M)



■ Seit 2008
Gründung der BridgingIT GmbH Anfang 2008 als IT-Beratungsunternehmen

■ Über 520 Mitarbeiter
Kundennähe durch ausgeprägten regionalen Fokus. Standorte: Mannheim, Karlsruhe, Frankfurt, Stuttgart, Köln, München, Zug (CH), Nürnberg und Berlin

■ Erfolg
Unabhängigkeit und Stabilität durch Eigenfinanzierung und durchgängigen wirtschaftlichen Erfolg

■ CraftingIT
Gründung der Tochter CraftingIT GmbH Anfang 2014 als IT-Service Unternehmen in Magdeburg

■ Beratungspartner
Neutral, ohne Produkt- oder Vertriebsbindung

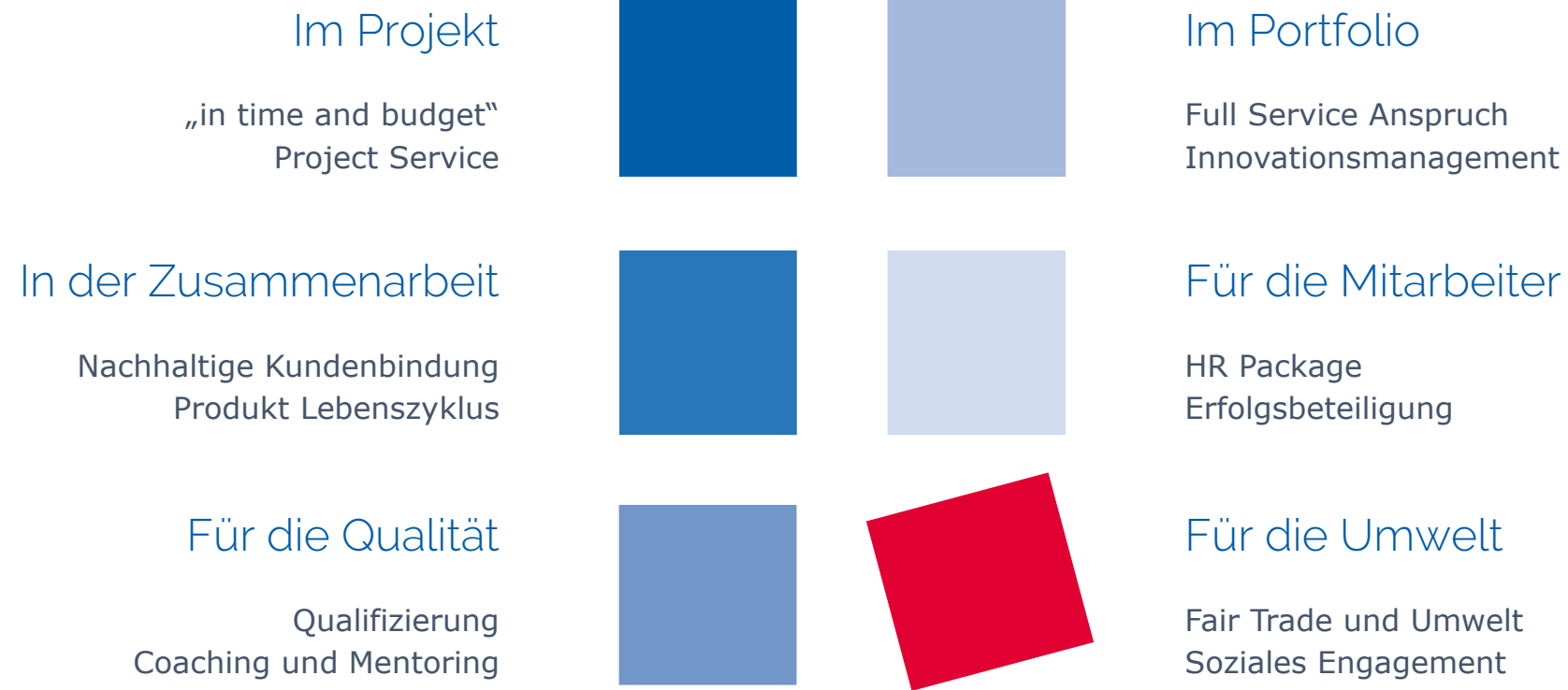
■ Netzwerk
Gut ausgebautes Netzwerk aus Applikations- und Technologiepartnern

■ Preis-/Leistung
Attraktives Preis-/Leistungsverhältnis durch geringen Overhead, komfortable Mitarbeiter-Self-Services und konsequentes Outsourcing bei Support Prozessen

■ Qualität
Fokus auf Qualität und Nachhaltigkeit durch hohe Beteiligung der Mitarbeiter an der Unternehmensentwicklung

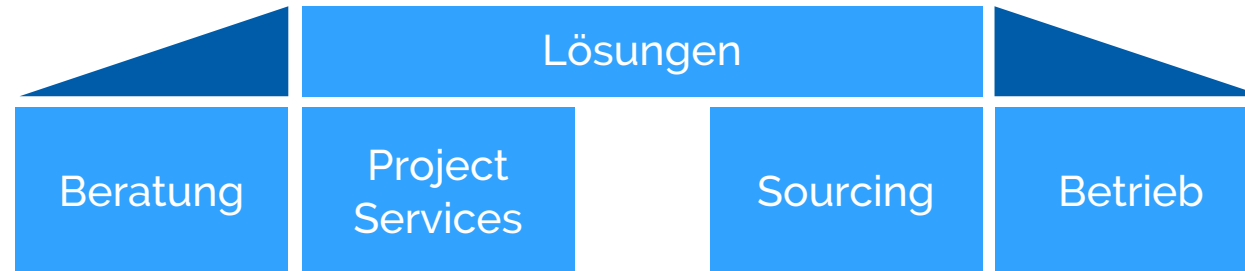
Wir übernehmen Verantwortung

aufmerksam – positiv – zeitgemäß



Portfolio

Unser Full-Service-Ansatz



Beratung

Beratung von der Strategie über die Gestaltung von Geschäftsprozessen bis hin zur Bewertung und Einführung von neuen IT-Systemen und -Anwendungen

Project Services

Unterstützung und Projektsupport bei der Gestaltung von Projekten über den gesamten Lebenszyklus durch Anforderungs-, Projekt- und Testmanagement

Lösungen

Umsetzung von fachlichen und technischen Anforderungen unserer Kunden in bedarfsgerechte, kosteneffiziente und langfristig stabile Lösungen auf der Basis von Standardtechnologien- und Produkten

Sourcing

Unterstützung von der Bereitstellung und Ergänzung von Projektteams über die Beratung in Near-/Offshore-Vorhaben bis hin zum umfassenden Lieferantenmanagement durch CraftingIT GmbH

Betrieb

Dienstleistungen rund um den Betrieb von IT-Systemen und Anwendungen wie Betriebsprozesse, operative Betriebsführung, Beratung zu Fragen der Betriebssicherheit und Wartung

About Me

Tobias Hofmann
Senior Consultant



METHODEN

- Fiori
- Cloud
- Portal
- Mobile
- Architect
- Multicloud

BERUFSFELD

- Twitter: @tobiashofmann
- E-Mail: tobias.hofmann@bridging-it.de

About Me

Tobias Hofmann
Senior Consultant

COMMUNITY

- SAP Inside Tracks Rio, Sao Paulo, Sao Leopoldo
- SAP Meetup Rio de Janeiro
- Topic Lead SCN SAP Portal (3x)
- Speaker: SIT, Meetups, SAP TechEd, SAP Forum, UI5Con, HANA Night
- SAP InnoJam
- Old SCN: Top 100 contributor (15931 Karma Credits)
- Founder: SAP Stammtisch Karlsruhe Baden
- Founder : SAP Stammtisch Bruchsal (merged)
- SAP Stammtisch Stuttgart
- Hackathon (SAP UA, bIT)
- Blogger
- Twitter disturber
- SAP Mentor



4 Guys, 1 City



#SAP Stammtisch Karlsruhe



Tourdaten

17/12/2018	Weihnachtsmarkt Karlsruhe	Vogelbräu Durlach	30/01/2019
20/02/2019	Litfaß	Kühler Krug	21/03/2019
11/04/2019	Café Galerie	Carls Wirtshaus	09/05/2019
06/06/2019	Erste Fracht	Vogelbräu Karlsruhe	11/07/2019
01/08/2019	Badisch Brauhaus	Multi Kulti	05/09/2019
02/10/2019	Marktlücke	TBA	00/11/2019
00/12/2019	Weihnachtsmarkt Karlsruhe	TBA	00/01/2020

Auswärtstour 2018/2019 Weltherrschaft, Schritt 1: Konsularische Vertretungen

Oktober 2018	München	Augustiner, Hofbräuhaus, Schneider Bräuhaus, Hacker-Pschorr
Februar 2019	Berlin	BrewDog, Stone Brewing Tap Room, Hofbräuhaus, Mikkeller, Lemke am Alex, Brauhaus Lemke am Hackeschen Markt

SAP Stammtisch Bruchsal

20/05/2018 - Wallhall

25/05/2018 - Wallhall

Agenda

01

ABAP

02

CLOUD

03

EXAMPLE

04

CODE

05

LESSONS LEARNED

A person is holding a tablet computer, displaying a webpage with a car image. The background shows a desk with papers and a pen. The entire image is overlaid with a semi-transparent blue filter.

ABAP

ABAP

Allgemeiner Berichtsaufbereitungsprozessor



Advanced Business Application Programming

ABAP is DEAD

„Niemand hat die Absicht, eine Mauer zu errichten!“

Walter Ulbricht, 15. June 1961

ABAP is DEAD

Die Mauer stand 28 Jahre und 88 Tage

<https://www.bundesregierung.de/breg-de/themen/deutsche-einheit/-niemand-hat-die-absicht-eine-mauer-zu-errichten--393932>

ABAP is DEAD

ABAP:
Started: 1983

End of support
NW ABAP 7.52 ABAP: 31.12.2025

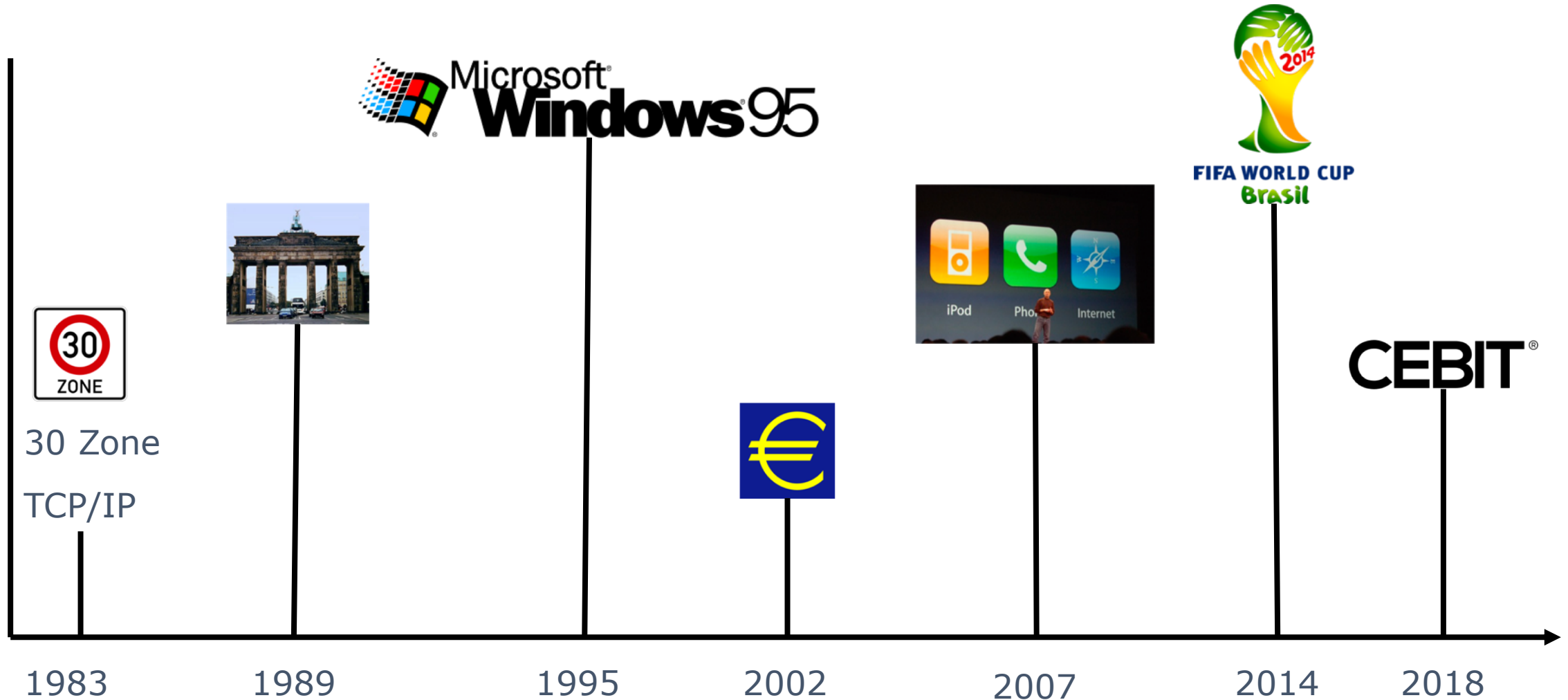
Time:
1983 – 2025: 42 Years



ABAP is close to the dream of a german company worker:
Abschlagsfreie Rente
(needs 45 years, still missing 3 more years)

ABAP is DEAD

What happened during the last years



ABAP is DEAD

DEAD*

*Don't Ever Admit Defeat

ABAP ~~killed~~ survived



ABAP is flexible and it works

Why SAP and ABAP is so great: ABAP as a pizza (AaaP)



Standard



Gives: What you need

Add: What you want



<https://de.wikipedia.org/wiki/Pizza>

<https://imgur.com/gallery/oGLJt>

ABAP as a Pizza

Tudo acaba em pizza
- Milton Peruzzi

Brazilian Proverb
Translation: All's well that ends well

Tobias' law: **All ABAP projects will end as Brazilian Pizza**

Keep the core clean

Problem: cleaning up the mess

SAP Standard transaction does not start with Z

SAP offers solutions for a specific business problem, not a programming platform

Process may stay over releases, underlying technology not

Do not depend too much on SAP code

Problems

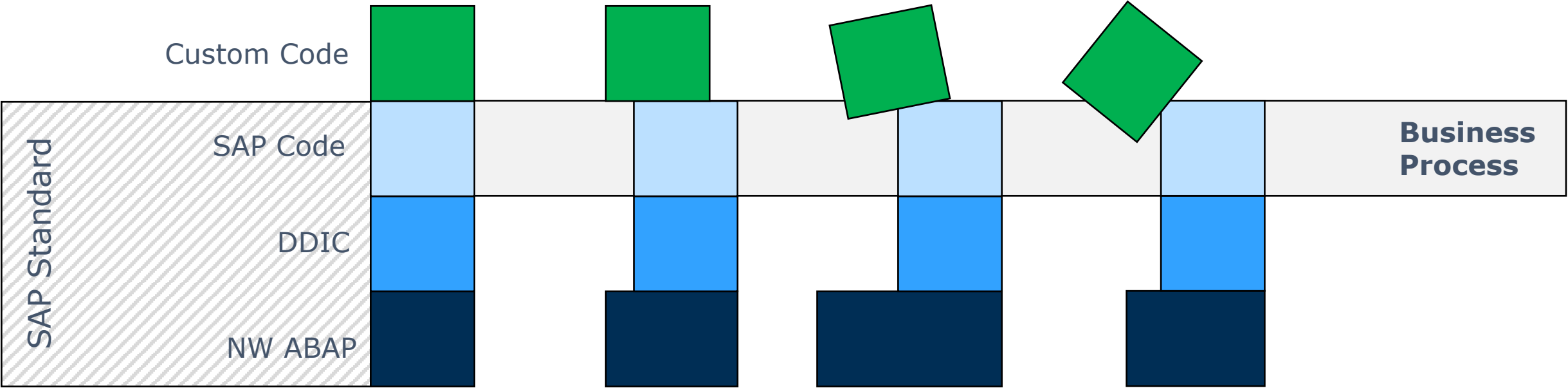
SAP did not do a lot in the last decades to prevent technical debt

API driven development discovered only since a few years

20+ year old programming techniques are still new

Allocation of resources, long term assignments, projects, SI, customers, governance, ...

SAP Standard



A person is holding a tablet computer, displaying a website with a car image. The background shows a desk with papers and a pen. The entire image is overlaid with a semi-transparent blue filter.

CLOUD

SAP CLOUD

SAP Cloud Application Programming Model

ABAP will stay around for a long time: as core

The future is cloud



Clean core

Cloud SDK

ABAP is just an option

Many first class citizen

Idea

Add what you want

Don't touch the recipe

Stay sane

SAP Cloud SDK with SAP Cloud Application Programming Model (SAP CAP)

ABAP@Cloud: Cloud Restful Application Programming (ABAP CRAP) © SAP Stammtisch KA

Both do the same

- Use CDS to create a service
- Display information with Fiori (Elements)

SAP CLOUD

SAP as japanese Food



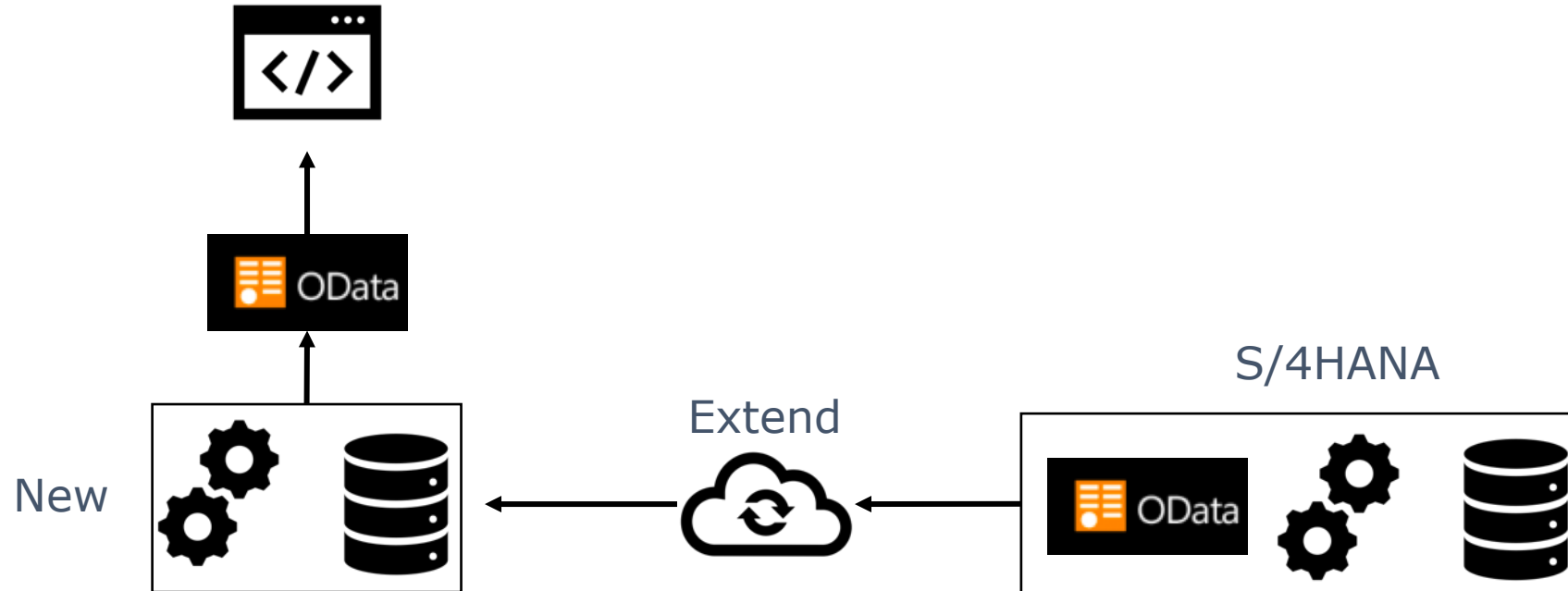
https://en.wikipedia.org/wiki/List_of_Japanese_dishes

SAP Cloud SDK

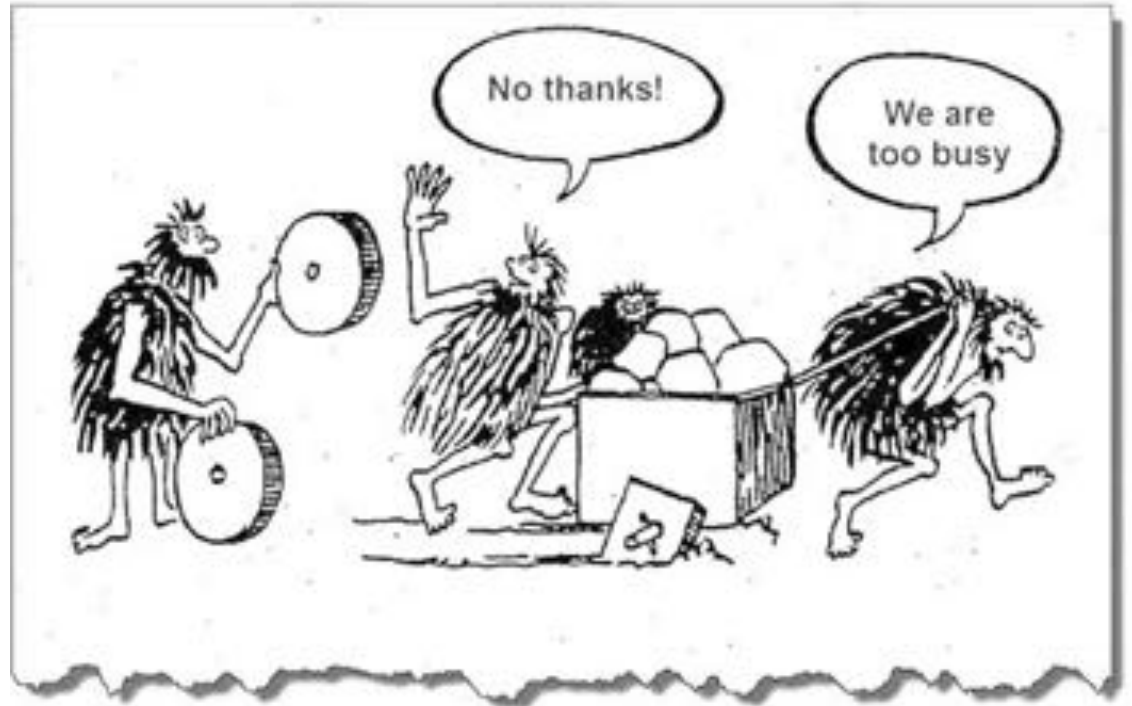
SAP Cloud Application Programming Model

High Level

- Flavors: Java, Javascript / Node.JS
- Create / Extend SAP Services / Apps
- Develop and run on SAP Cloud / HANA



HANA Architecture



<https://www.creativityatwork.com/2014/06/10/busy-innovate/>

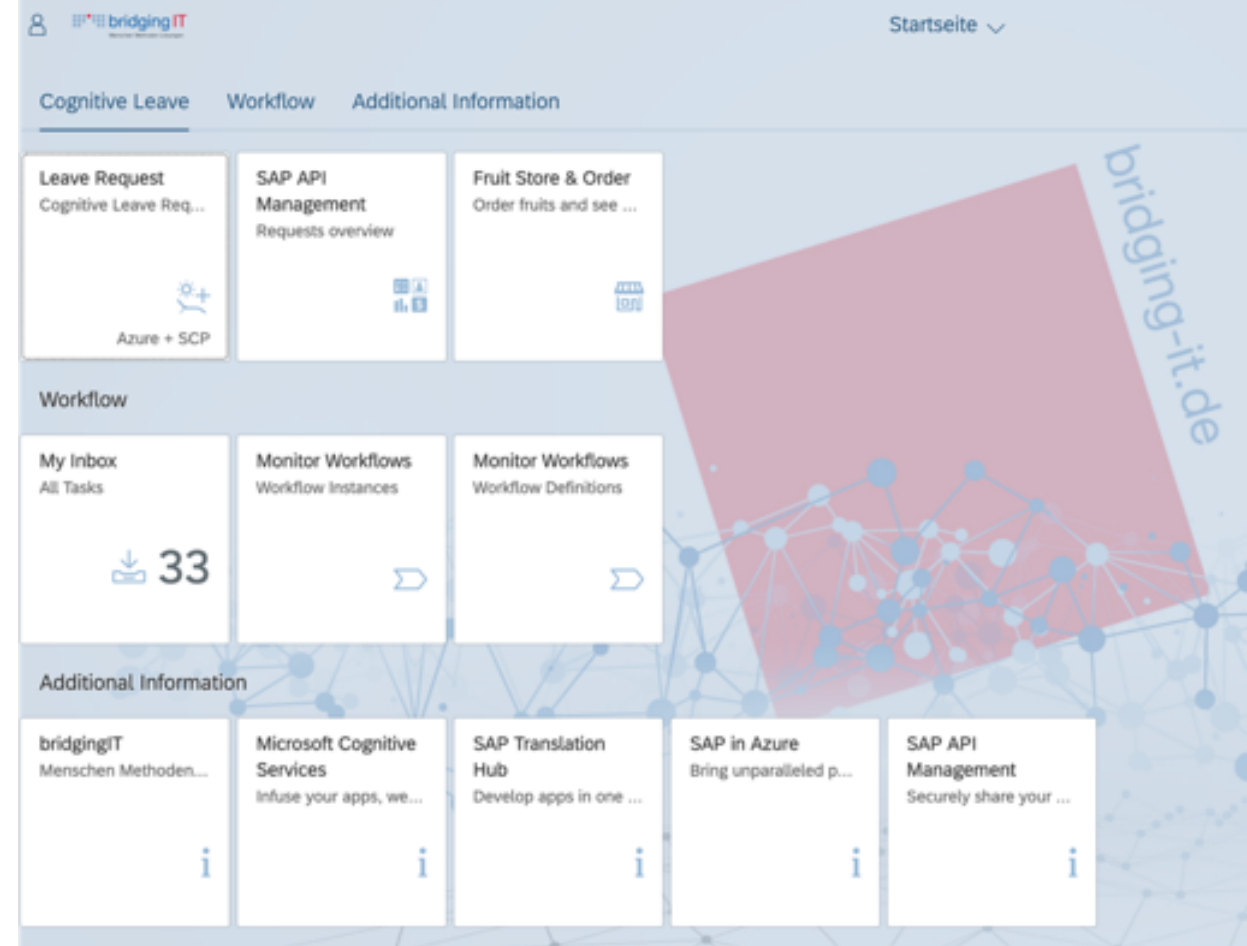
A person is holding a tablet computer, displaying a website with a car image. The background shows a desk with papers and a pen. The entire image is overlaid with a semi-transparent blue filter.

Example

Fruit Checker

Fruit Checker

Store Manager



SAP Cloud Fiori Launchpad





SAP Fiori 2.0

SAP CAPM App ausgeführt in Microsoft Azure Kubernetes

Odata v4 Backend

Fruit Checker

Manage store



Home / Bridging IT / Microsoft / Azure / Fruit Checker Admin Dashboard

Business Area: Retail

Technical Area: Innovation


Cost Center: Machine Learning

Availability: Only during SAPPHIRE NOW

Available stores (4)

Store	Address	Orders
BridgingIT Frankfurt	Solmsstraße 4 60.486 Frankfurt am Main	2 >
BridgingIT Köln	Martinsstraße 3 50.667 Köln	1 >
BridgingIT Mannheim	N7 5-6 68.161 Mannheim	3 >
BridgingIT Stuttgart	Marienstraße 17 70.178 Stuttgart	3 >

Overview / Store summary page



BridgingIT Stuttgart

Kleiner City Store

Tobias Hofmann

I do the best to have the best fruits

+04912377889965

+49 0721 3434567

tobias.hofmann@bridging-it.de

Marienstraße

70.178 Stuttgart

Long/Lat: 9.172568/48.772248

ORDERS

MAP

Orders

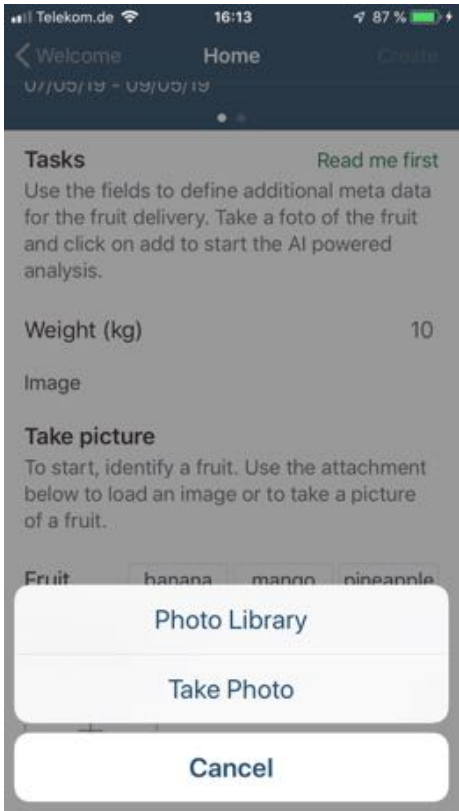
Fruit	Description	Delivery Date	Amount	Status
banana	Dringender Bedarf an Bananen	01.01.2019	12 kg	Submitted
pineapple	Brauchde mal wieder Ananas	01.01.2019	2 kg	Submitted
banana	Wie go Bana	21.05.2019	25 kg	Information

Liste der verfügbaren Supermärkte in einer Tabelle mit Suche
Auswahl eines Supermarkts für die Anzeige der Bestellungen
Detailansicht der Liste der Bestellungen

Fruit Checker

App

Picture



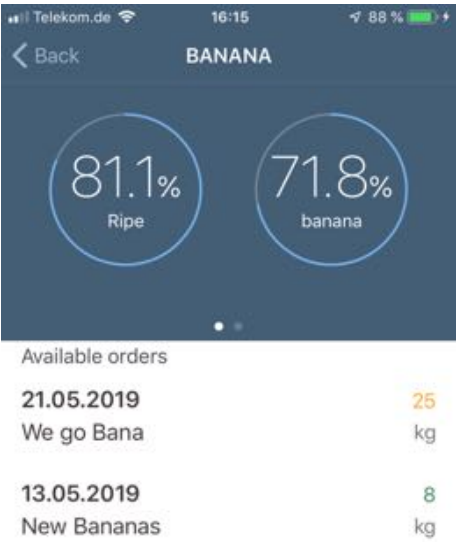
Take Picture



Edge Processing



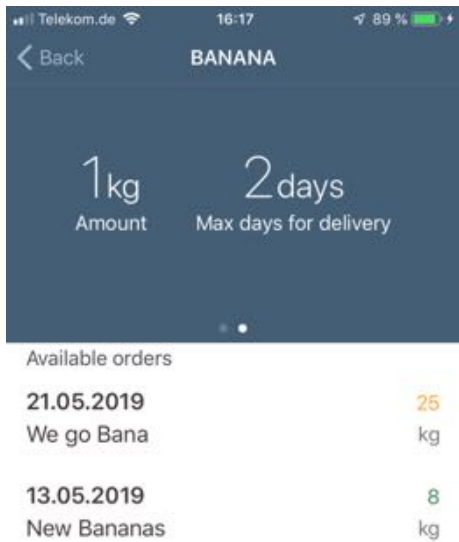
Analyse



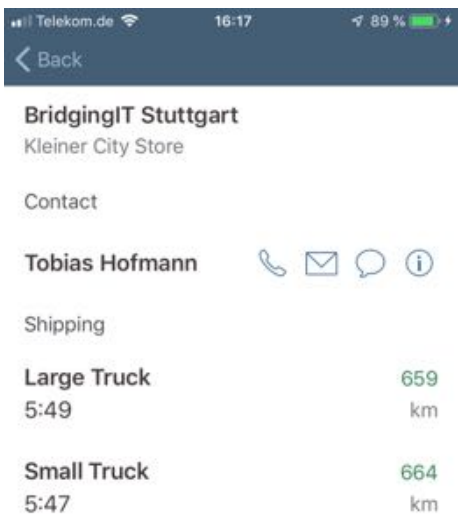
Fruit Checker

App

Analyse



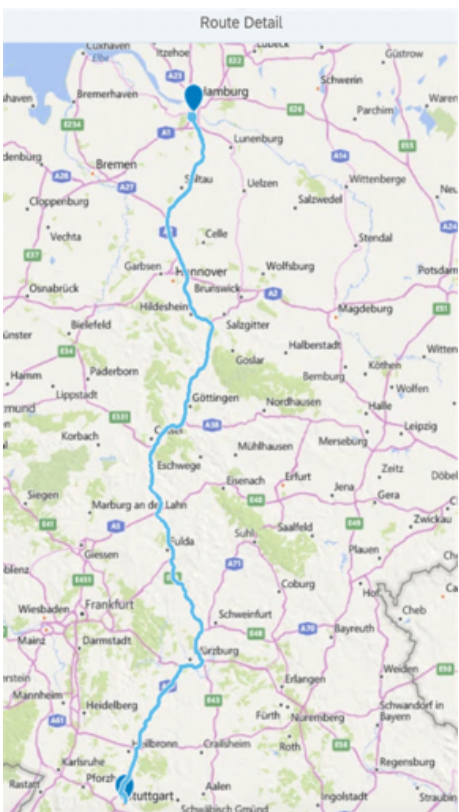
Select Route



Microsoft Truck API



Web





Yours is without a doubt the worst code I've ever run



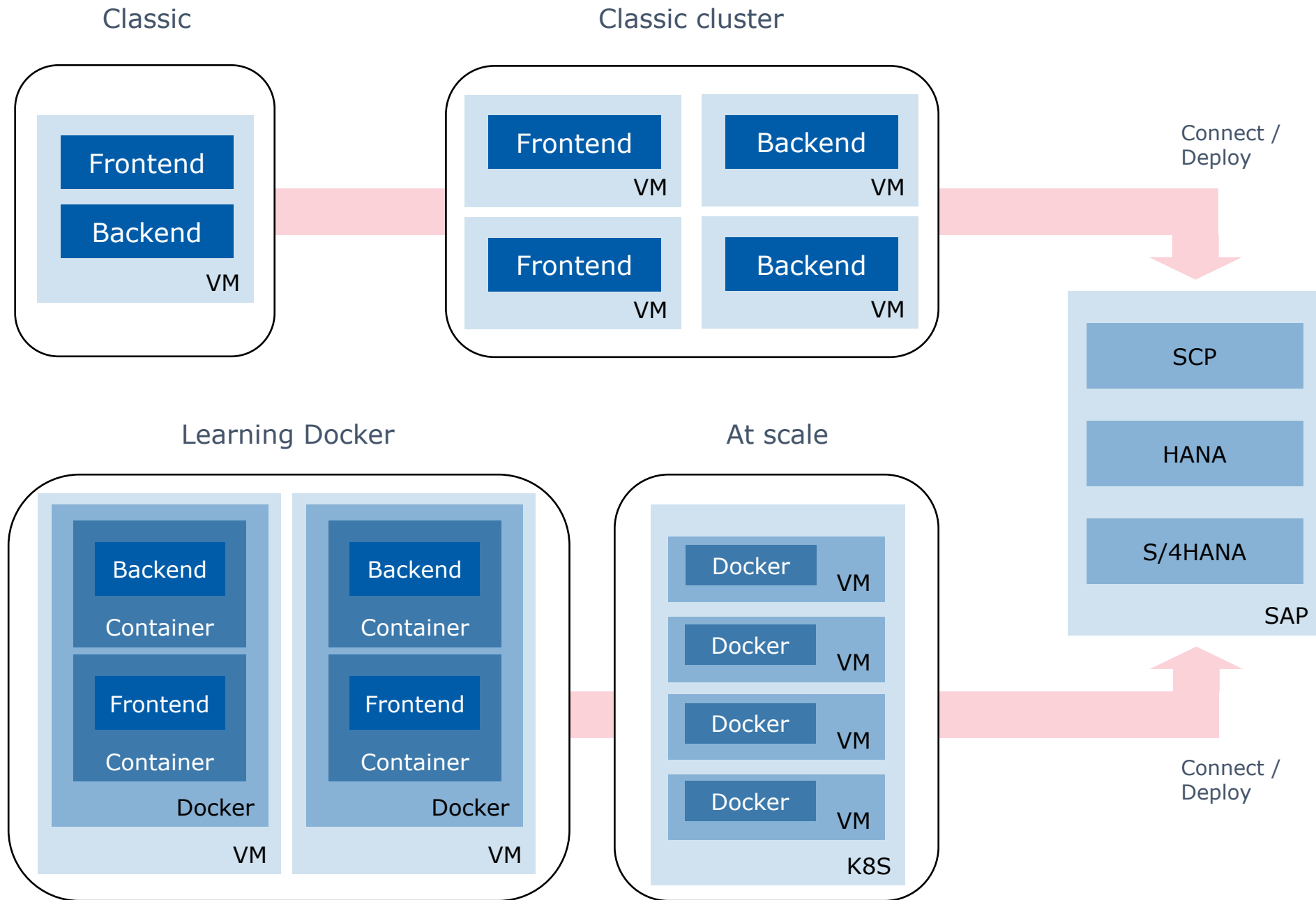
But it runs

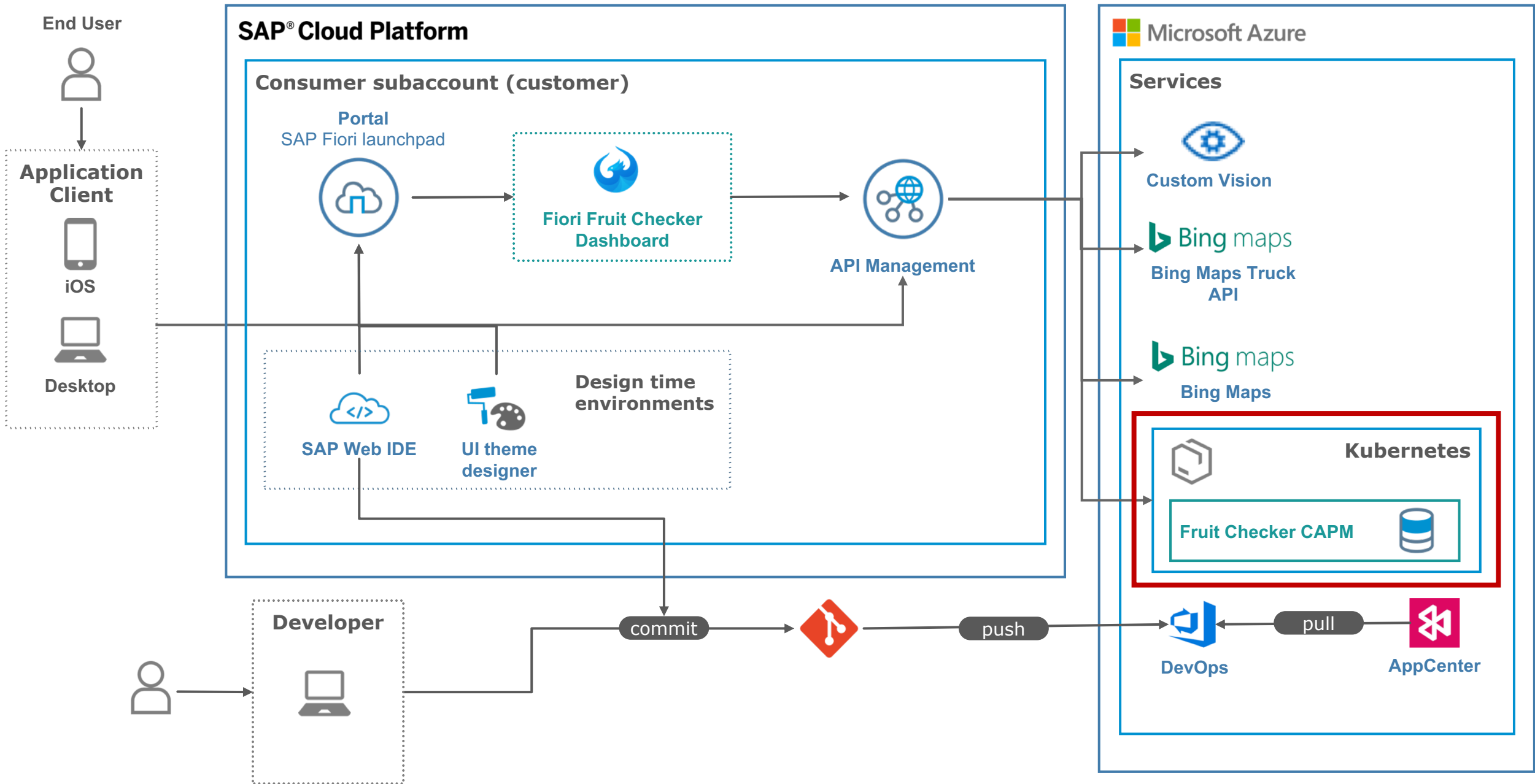
Most Innovative Project IA4SP



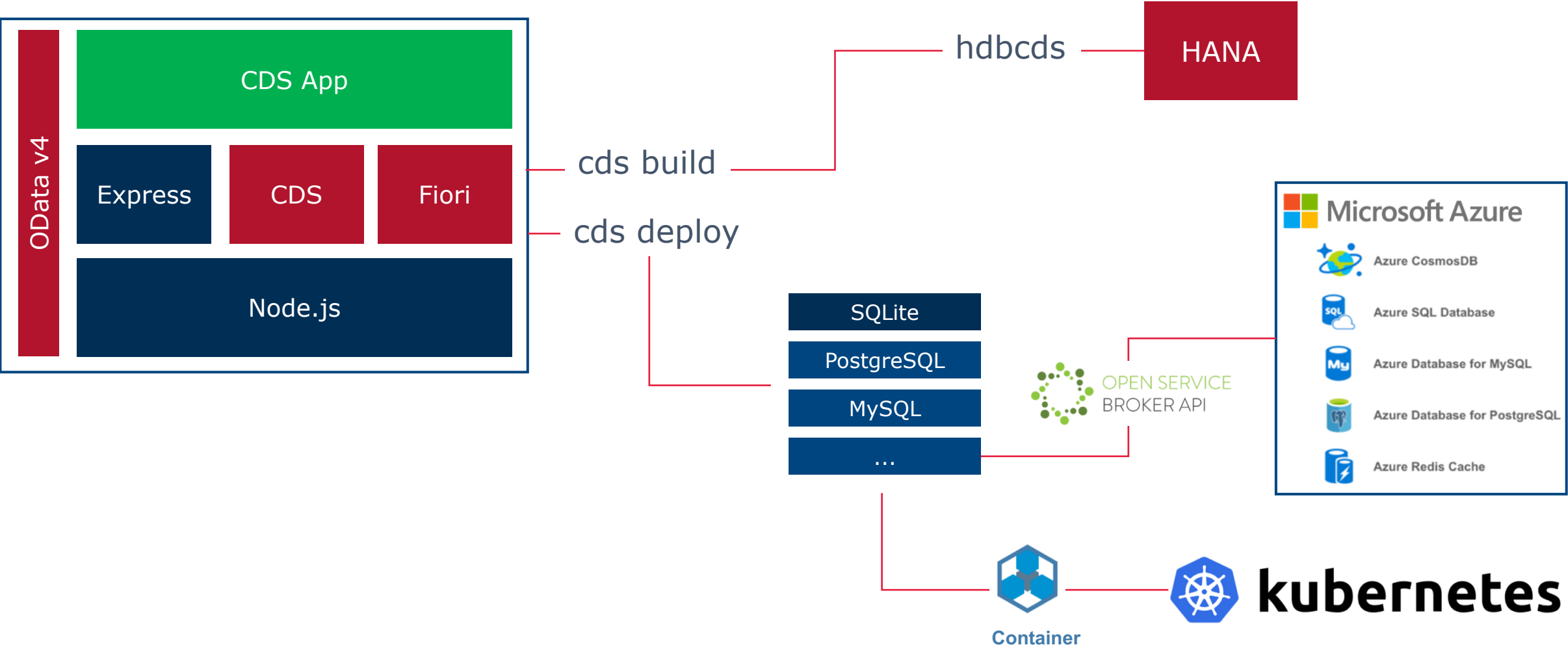
CAPM

Deployment





SAP CAP





SAP CAP Possibilities

Depends 100% on SAP and its plans with CAP

Create native cloud applications

Use your SAP CAP knowledge to create other apps

Full stack development with CDS & Fiori

Talk a language people understand: Node.js, Javascript, NPM, Container, K8S

Run everywhere: real multicloud

Java devs can understand CDS: JPA, annotations

Extend with Open Source Tools

Cost efficiency. Go to HANA when it offers value to you

A person is holding a tablet computer, displaying a webpage with a car image. The scene is overlaid with a solid blue color. The word "CODE" is written in white, uppercase letters in the center of the image.

CODE

What we are going to develop

OData Service

Welcome to *cds.services*

These are the paths currently served ...

[/domain / \\$metadata](#)

- [Domains ...in Fiori](#)

[/product / \\$metadata](#)

- [Domains ...in Fiori](#)
- [ProductDetails ...in Fiori](#)
- [Products ...in Fiori](#)
- [Statuses ...in Fiori](#)
- [Vendors ...in Fiori](#)

[/status / \\$metadata](#)

- [Status ...in Fiori](#)

[/vendor / \\$metadata](#)

- [Vendors ...in Fiori](#)

Fiori Elements App

Preview - List of ProductService.Products

Search Editing Status: Product: Domain: Vendor: Status:

Products (4)

<input type="checkbox"/>	Product	Short Name	Vendor	Domain	Status	
<input type="checkbox"/>	SAP Mobile Platform	SAP	SAP	Mobile	GA	>
<input type="checkbox"/>	Business Suite	ERP	SAP	Portal	GA	>
<input type="checkbox"/>	IoT Enablement					
<input type="checkbox"/>	Fiori					

SAP Mobile Platform
https://mp.sap.com

Details Releases

Product: SAP Mobile Platform
Short Name: SAP
Homepage: https://mp.sap.com
Status: GA (0980d4-b-1e58-45f1-8362-b3d29719e884)
Vendor: SAP (078ba304-86c1-4a0e-8a1a-346e952771e2)
Domain: Mobile (0980d4-b-1e58-45f1-8362-b3d29719e885)

Releases

Releases (2)

Version	Status	Documentation
3.0.0	GA	>
3.1.0	Planned	>

Project Setup

CAP is available via npm

Global

```
npm set @sap:registry=https://npm.sap.com
```

Installation

```
npm i -g @sap/cds
```

Local

NPM Registry Configuration: .npmrc

```
@sap:registry=https://npm.sap.com
```

CLI

```
npm config set @sap:registry https://npm.sap.com
```

```
npm install @sap/<node_package>
```

<https://help.sap.com/viewer/4505d0bdaf4948449b7f7379d24d0f0d/2.0.03/en-US/726e5d41462c4eb29eaa6cc83ff41e84.html>

Project Setup

Basic commands

CDS CLI

`cds init <project name>`

`cds deploy`

`cds run`

Install SQLite database

`npm i sqlite3 -D`

`cds deploy --to sqlite:db/<database name>.db`

npm start

package.json:

```
"start": "cds deploy && cds run",
```

<https://developers.sap.com/tutorials/cp-apm-nodejs-create-service.html>

Add Entities

```
namespace de.bit.eol;  
using { managed, cuid, sap.common.CodeList as CodeList } from  
 '@sap/cds/common';
```

```
entity Product: managed, cuid {  
  Name: String not null;  
  ShortName: String not null;  
  Homepage: String;  
  SupportStatus: Association to Status;  
  Vendor: Association to Vendors;  
  Domain: Association to Domains;  
  Items: Composition of many ProductDetail on Items.Parent = $self;  
}
```

```
entity Vendors : managed, cuid {  
  Name: String not null;  
  Homepage: String not null;  
}
```

```
entity Domains : managed, cuid {  
  Name: String not null;  
  Description: String not null;  
}
```

```
entity ProductDetail: managed, cuid {  
  Parent: Association to Product not null;  
  Version: String;  
  Status: String not null;  
  Documentation: String;  
}
```

Enhance Entities

entity Product: managed, cuid {

Name: String not null @(
title: '{i18n>productName}',
description: '{i18n>productNameDescription}',
Common.FieldControl: #Mandatory
);

ShortName: String not null @(
title: '{i18n>productShortName}',
description: '{i18n>productShortNameDescription}',
Common.FieldControl: #Mandatory
);

Homepage: String @(
title: '{i18n>productHomepage}',
description: '{i18n>productHomepageDescription}',
Common.FieldControl: #Mandatory
);

...

db/_i18n/i18n.properties

Product

productDetails=Product details
productName=Product
productNamePlural=Products
productNameDescription=Name of the product
productShortName=Short Name
productShortNameDescription=Short name of
product
productHomepage=Homepage
productHomepageDescription=Homepage of the
product

Expose as Service

```
using de.bit.eol as eol from '../db/data-model';

service VendorService {
    entity Vendors as projection on eol.Vendors;
    annotate Vendors with @odata.draft.enabled;
}

service DomainService {
    entity Domains as projection on eol.Domains;
    annotate Domains with @odata.draft.enabled;
}

service StatusService {
    entity Status as projection on eol.Status;
    annotate Status with @odata.draft.enabled;
}

service ProductService {
    entity Products as projection on eol.Product;
    entity ProductDetails as projection on eol.ProductDetail;
    entity Vendors @readonly as projection on eol.Vendors;
    entity Domains @readonly as projection on eol.Domains;
    entity Statuses @readonly as projection on eol.Status;
    annotate Products with @odata.draft.enabled;
}
```

cds run



Welcome to cds.services

These are the paths currently served ...

/domain / \$metadata

- [Domains ...in Fiori](#)

/product / \$metadata

- [Domains ...in Fiori](#)
- [ProductDetails ...in Fiori](#)
- [Products ...in Fiori](#)
- [Statuses ...in Fiori](#)
- [Vendors ...in Fiori](#)

/status / \$metadata

- [Status ...in Fiori](#)

/vendor / \$metadata

- [Vendors ...in Fiori](#)

OData Service

```
<?xml version='1.0' encoding='utf-8'>
<edmx:Edmx xmlns:edmx="http://docs.oasis-open.org/odata/ns/edmx" Version="4.0">
  <edmx:Reference Uri="https://oasis-tcs.github.io/odata-vocabularies/vocabularies/Org.OData.Capabilities.V1.xml">
    <edmx:Include Alias="Capabilities" Namespace="Org.OData.Capabilities.V1"/>
  </edmx:Reference>
  <edmx:Reference Uri="https://wiki.scn.sap.com/wiki/download/attachments/448470974/Common.xml?api=v2">
    <edmx:Include Alias="Common" Namespace="com.sap.vocabularies.Common.v1"/>
  </edmx:Reference>
  <edmx:Reference Uri="https://oasis-tcs.github.io/odata-vocabularies/vocabularies/Org.OData.Core.V1.xml">
    <edmx:Include Alias="Core" Namespace="Org.OData.Core.V1"/>
  </edmx:Reference>
  <edmx:Reference Uri="https://wiki.scn.sap.com/wiki/download/attachments/448470968/UI.xml?api=v2">
    <edmx:Include Alias="UI" Namespace="com.sap.vocabularies.UI.v1"/>
  </edmx:Reference>
  <edmx:DataService>
    <Schema xmlns="http://docs.oasis-open.org/odata/ns/edm" Namespace="ProductService">
      <EntityContainer Name="EntityContainer">
        <EntitySet Name="Domains" EntityType="ProductService.Domains"/>
        <EntitySet Name="ProductDetails" EntityType="ProductService.ProductDetails">
          <NavigationPropertyBinding Path="Parent" Target="Products"/>
          <NavigationPropertyBinding Path="SiblingEntity" Target="ProductDetails"/>
        </EntitySet>
        <EntitySet Name="Products" EntityType="ProductService.Products">
          <NavigationPropertyBinding Path="SupportStatus" Target="Statuses"/>
          <NavigationPropertyBinding Path="Vendor" Target="Vendors"/>
          <NavigationPropertyBinding Path="Domain" Target="Domains"/>
          <NavigationPropertyBinding Path="Items" Target="ProductDetails"/>
          <NavigationPropertyBinding Path="SiblingEntity" Target="Products"/>
        </EntitySet>
        <EntitySet Name="Statuses" EntityType="ProductService.Statuses"/>
        <EntitySet Name="Vendors" EntityType="ProductService.Vendors"/>
      </EntityContainer>
      <EntityType Name="Domains">
        <Key>
          <PropertyRef Name="ID"/>
        </Key>
        <Property Name="modifiedAt" Type="Edm.DateTimeOffset"/>
        <Property Name="createdAt" Type="Edm.DateTimeOffset"/>
        <Property Name="createdBy" Type="Edm.String" MaxLength="255"/>
        <Property Name="modifiedBy" Type="Edm.String" MaxLength="255"/>
        <Property Name="ID" Type="Edm.Guid" Nullable="false"/>
        <Property Name="Name" Type="Edm.String" Nullable="false"/>
        <Property Name="Description" Type="Edm.String" Nullable="false"/>
      </EntityType>
    </Schema>
  </edmx:DataService>
</edmx:Edmx>
```

OData v4

Fiori annotations

using ProductService as product from './eol-service';

annotate product.Products with @(

UI: {Identification: [{ Value:Name}]},

UI.SelectionFields: [Name, Domain_ID, Vendor_ID, SupportStatus_ID],

UI.LineItem: [

{ \$Type: 'UI.DataField', Value: Name },

{ \$Type: 'UI.DataField', Value: ShortName },

{ \$Type: 'UI.DataField', Value: Vendor.Name },

{ \$Type: 'UI.DataField', Value: Domain.Name },

{ \$Type: 'UI.DataField', Value: SupportStatus.Name },

],

UI.HeaderInfo: {

TypeName: '{i18n>productName}',

Title: { Value: Name},

Description: { Value: Homepage}

},

UI.Facets: [

{ \$Type: 'UI.ReferenceFacet', Label: '{i18n>details}', Target: '@UI.FieldGroup#ProductDetails'},

{ \$Type: 'UI.ReferenceFacet', Label: '{i18n>releases}', Target: 'Items/@UI.LineItem'},

],

UI.FieldGroup#ProductDetails: {

Label: '{i18n>productDetails}',

Data: [

{ \$Type: 'UI.DataField', Value: Name },

{ \$Type: 'UI.DataField', Value: ShortName },

{ \$Type: 'UI.DataField', Value: Homepage },

{ \$Type: 'UI.DataField', Value: SupportStatus_ID, Label: '{i18n>status}' },

{ \$Type: 'UI.DataField', Value: Vendor_ID },

{ \$Type: 'UI.DataField', Value: Domain_ID },

]

}

);

Fiori annotations

Preview – List of ProductService.Products

Search

Editing Status: All

Product:

Domain:

Vendor:

Status:

Products (4)

Create

Delete

<input type="checkbox"/>	Product	Short Name	Vendor	Domain	Status	
<input type="checkbox"/>	SAP Mobile Platform	SAP	SAP	Mobile	GA	>
<input type="checkbox"/>	Business Suite	ERP	SAP	Portal	GA	>
<input type="checkbox"/>	IoT Enablement	IoT	Microsoft	IoT	GA	>
<input type="checkbox"/>	Fiori	Fiori	Oracle	Cloud	GA	>

UI.SelectionFields

UI.LineItem

Fiori annotations

SAP Mobile Platform
https://smp.sap.com

UI.HeaderInfo

BearbeitenLöschen

DetailsReleases

UI. Facets

Product:
SAP Mobile Platform

Homepage:
https://smp.sap.com

Vendor:
SAP (378ba304-863-4a0e-8a6a-346e85277ad)

Short Name:
SMP

Status:
GA (0980d4c6-1e0-4b0a-8a6a-346e85277ad)

Domain:
GA (0980d4c6-1e0-4b0a-8a6a-346e85277ad)

UI.FieldGroup#ProductDetails

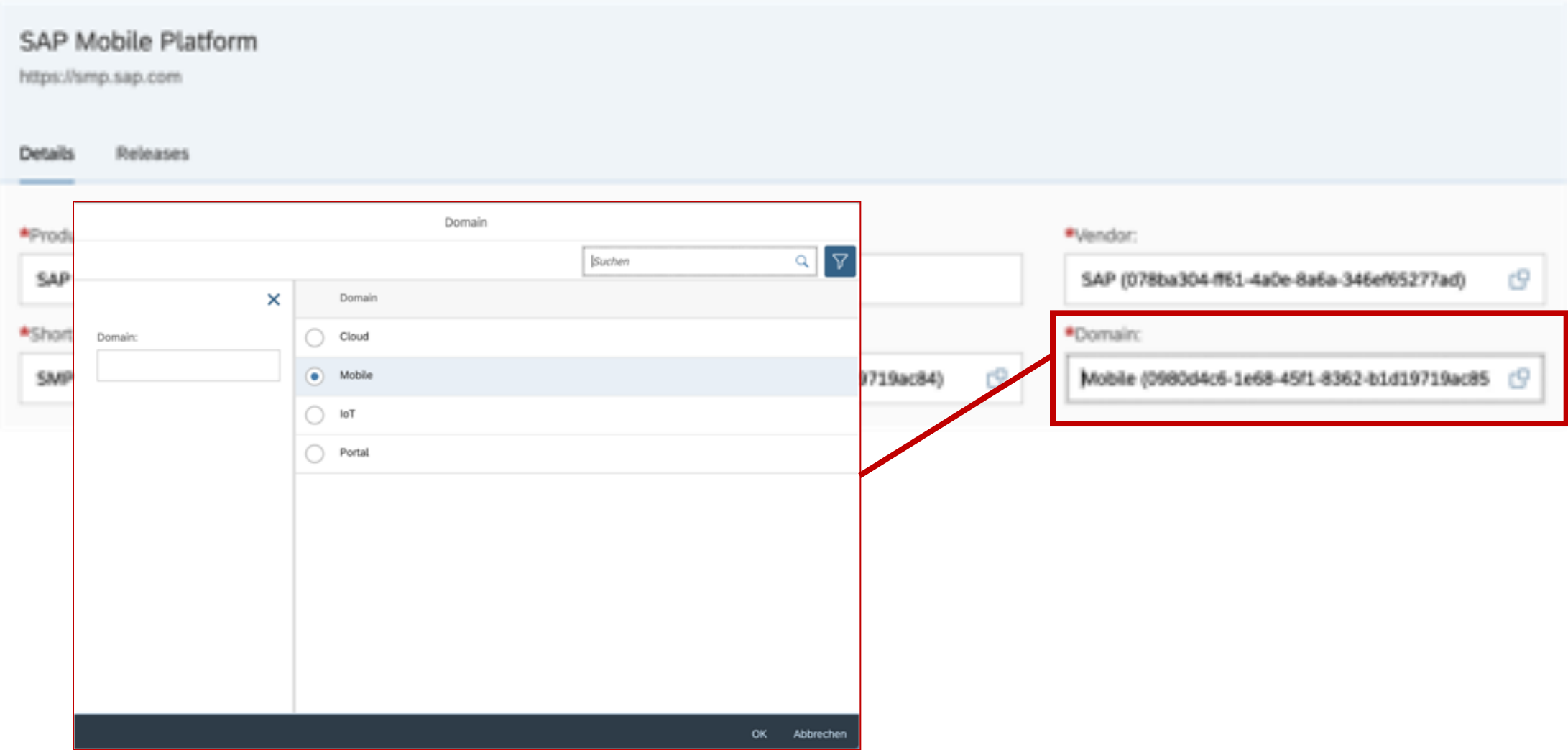
Releases

Releases (1)

Version	Status	Documentation
3.0.0	GA	somewhere

{ \$Type: 'UI.ReferenceFacet', Label: '{i18n>releases}', Target: 'Items/@UI.LineItem' }

Fiori annotations



Fiori annotations

```
annotate product.Products with {  
    Vendor @(  
        Common: {  
            Text: Vendor.Name,  
            FieldControl: #Mandatory  
        },  
        ValueList.entity:'Vendors',  
    );  
    Domain @(  
        Common: {  
            Text: Domain.Name,  
            FieldControl: #Mandatory  
        },  
        ValueList.entity:'Domains',  
    );  
};
```


Fiori annotations

```
service ProductService {  
    entity Products as projection on eol.Product;  
    entity ProductDetails as projection on eol.ProductDetail;  
    entity Vendors @readonly as projection on eol.Vendors;  
    entity Domains @readonly as projection on eol.Domains;  
    entity Statuses @readonly as projection on eol.Status;  
    annotate Products with @odata.draft.enabled;  
}
```



Docker

```
.dockerignore
.git
node_modules
npm-debug.log
```

```
Dockerfile
FROM node:8

LABEL website="www.bridging-it.de"

WORKDIR /usr/src/app

COPY . .

RUN npm config set @sap:registry https://npm.sap.com
RUN npm install

EXPOSE 4004

CMD [ "npm", "start" ]
```

Docker

```
.dockerignore  
  .git  
  node_modules  
  npm-debug.log
```

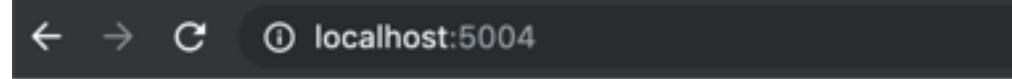
```
Dockerfile  
  FROM node:8  
  
  LABEL website="www.bridging-it.de"  
  
  WORKDIR /usr/src/app  
  
  COPY . .  
  
  RUN npm config set @sap:registry https://npm.sap.com  
  RUN npm install  
  
  EXPOSE 4004  
  
  CMD [ "npm", "start" ]
```

Docker

```
docker build -t technight:ma .
```

```
docker run -p 5004:4004 technight:ma
```

<http://localhost:5004/>



Welcome to *cds.services*

These are the paths currently served ...

[/domain / \\$metadata](#)

- [Domains](#) ...in Fiori

[/product / \\$metadata](#)

- [Domains](#) ...in Fiori
- [ProductDetails](#) ...in Fiori
- [Products](#) ...in Fiori
- [Statuses](#) ...in Fiori
- [Vendors](#) ...in Fiori

[/status / \\$metadata](#)

- [Status](#) ...in Fiori

[/vendor / \\$metadata](#)

- [Vendors](#) ...in Fiori

Kubernetes

YAML configuration for Azure

```
apiVersion: apps/v1beta1
kind: Deployment
metadata:
  name: sapcapm
spec:
  replicas: 1
  strategy:
    rollingUpdate:
      maxSurge: 1
      maxUnavailable: 1
  minReadySeconds: 5
  template:
    metadata:
      labels:
        app: sapcapm
    spec:
      containers:
        - name: scpcapm
```

```
    - name: scpcapm
      image: appcontainer.azurecr.io/scpcapm:v1
      imagePullPolicy: "Always"
      ports:
        - containerPort: 4004
      resources:
        requests:
          cpu: 250m
        limits:
          cpu: 500m
```

```
---
apiVersion: v1
kind: Service
metadata:
  name: sapcapm
spec:
  type: LoadBalancer
  ports:
    - port: 80
  selector:
    app: sapcapm
```

A person's hands are shown holding a tablet computer. The tablet screen displays a webpage with a large image of a car and some text. Below the tablet, there is a document with a table and some charts. The entire scene is overlaid with a semi-transparent blue filter. The text "LESSONS LEARNED" is centered in white, uppercase letters.

LESSONS LEARNED

Odata v4

Events	
Summary	
Event	Description
parseError	The 'parseError' event is not supported by this model. <i>Since: 1.37.0.</i>
propertyChange	The 'propertyChange' event is not supported by this model. <i>Since: 1.37.0.</i>
requestCompleted	The 'requestCompleted' event is not supported by this model. <i>Since: 1.37.0.</i>
requestFailed	The 'requestFailed' event is not supported by this model. <i>Since: 1.37.0.</i>
requestSent	The 'requestSent' event is not supported by this model. <i>Since: 1.37.0.</i>
sessionTimeout	The 'sessionTimeout' event is fired when the server has created a session for the model and this session ran into a timeout due to inactivity. <i>Since: 1.66.0.</i>

The model does not support the methods `getData`, `getObject`, `getOriginalProperty`, `getProperty`. For data access, use the context API instead of methods on the model.

OData operations executed via binding: Model does not support the method `callFunction`.

No CRUD methods on model: Model does not support the methods `create`, `read`, `remove`, `update`.

No metadata access via model: Model does not support methods `getServiceAnnotations`, `getServiceMetadata`, `refreshMetadata` as well as methods corresponding to the events `metadataFailed`, `metadataLoaded`.

**NOT
SUPPORTED**

Odata v4

Goal

Simplification

Access data via bindings & controls



Incompatibility

Going from Odata v2 to v4 breaks code

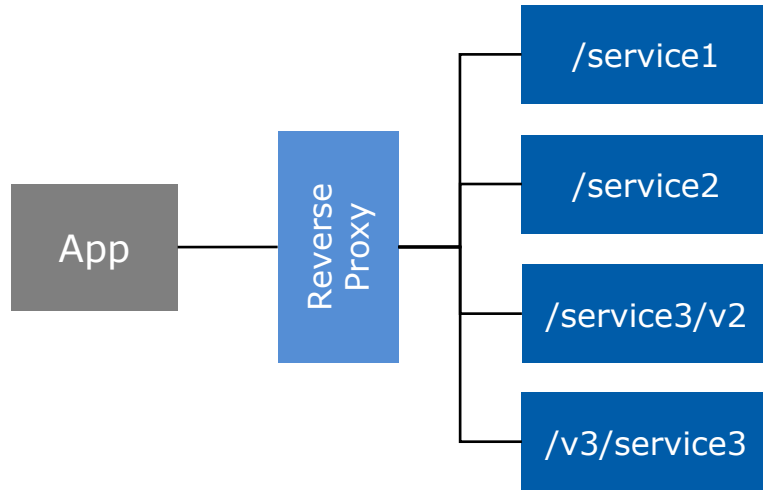
Limitations for established patterns

Odata v2 !== Odata v4

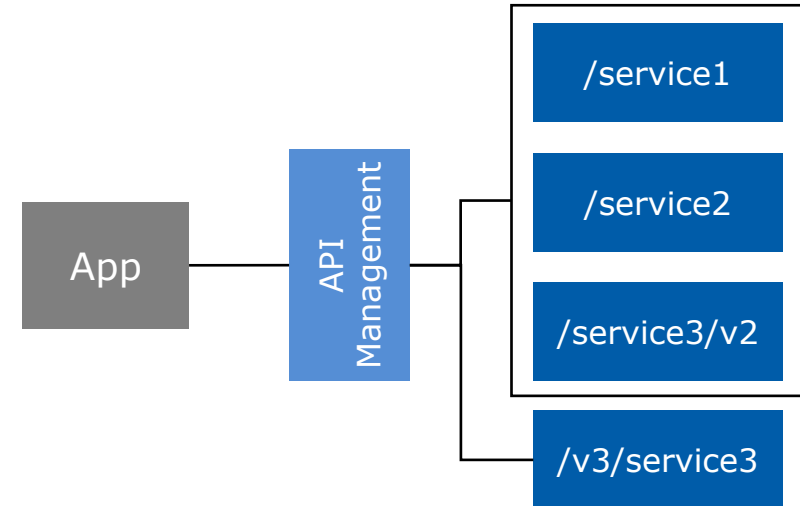
Do NOT use Odata v4 in UI5 app if you can avoid it

<https://openui5.hana.ondemand.com/#/api/sap.ui.model.odata.v4.ODataModel>
<https://openui5.hana.ondemand.com/#/topic/abd4d7c7548d4c29ab8364d3904a6d74.html>

API Management



Make APIs available



Bundle APIs into a product
Manage & control access

APIKey in HTTP Header **← Not with Odata v4!**
Alter requests
Transform API into a service

Enterprise Ready

Monitoring

Know if the app meets user expectation: based on numbers and real data

Important: faster is not a number

Example: Distributed tracing with Elastic APM



Kubernetes

Monitoring

Leverage multi cloud

Deploy & Run in Container on K8S

Select container runtime of your choice

Example: Azure K8S

Clusterkapazität gesamt

Kerne 2 vCPUs

Arbeitsspeicher 7 GiB



1

x Standard DS2 v2 (2 vcpus, 7 GiB Arbeitsspeicher)



Clusterkapazität gesamt

Kerne 2 vCPUs → 200 vCPUs (neu)

Arbeitsspeicher 7 GiB → 700 GiB (neu)



100

x Standard DS2 v2 (2 vcpus, 7 GiB Arbeitsspeicher)



Wir freuen uns auf Sie!

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