



Get the Big Picture of the **ABAP RESTful PROGRAMMING MODEL**

CAA103

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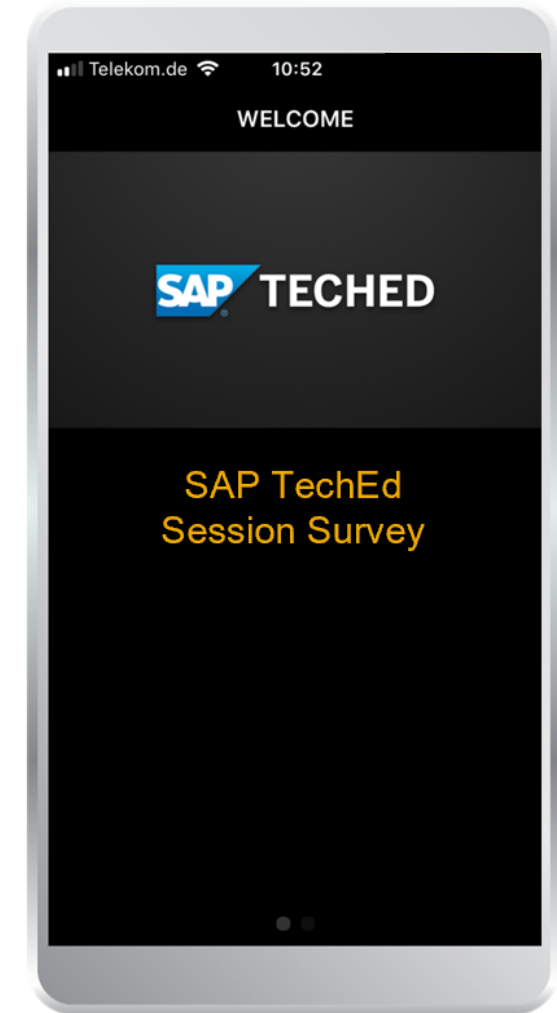
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Agenda

Overview

Business Objects

Business Services

Demo

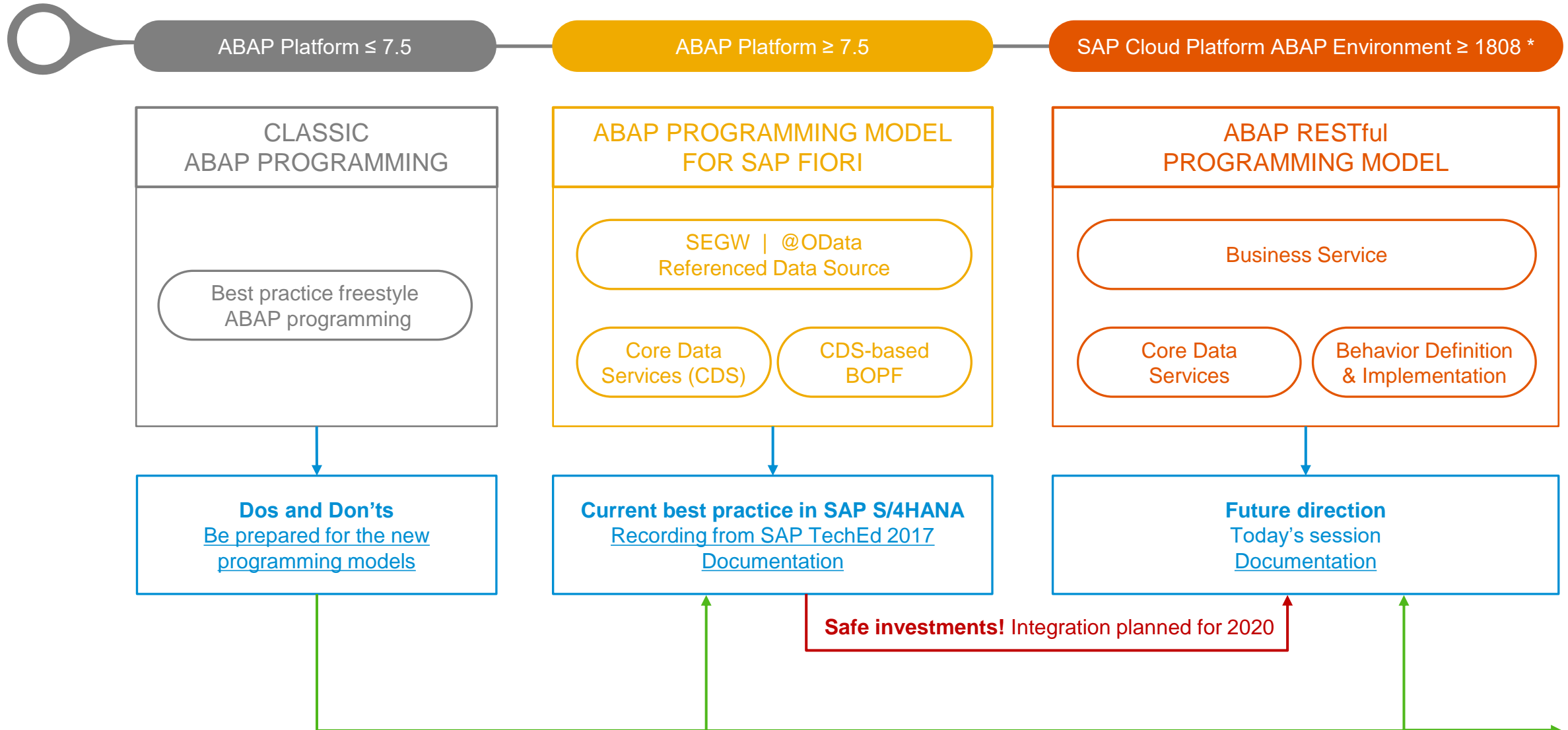
Summary and Outlook



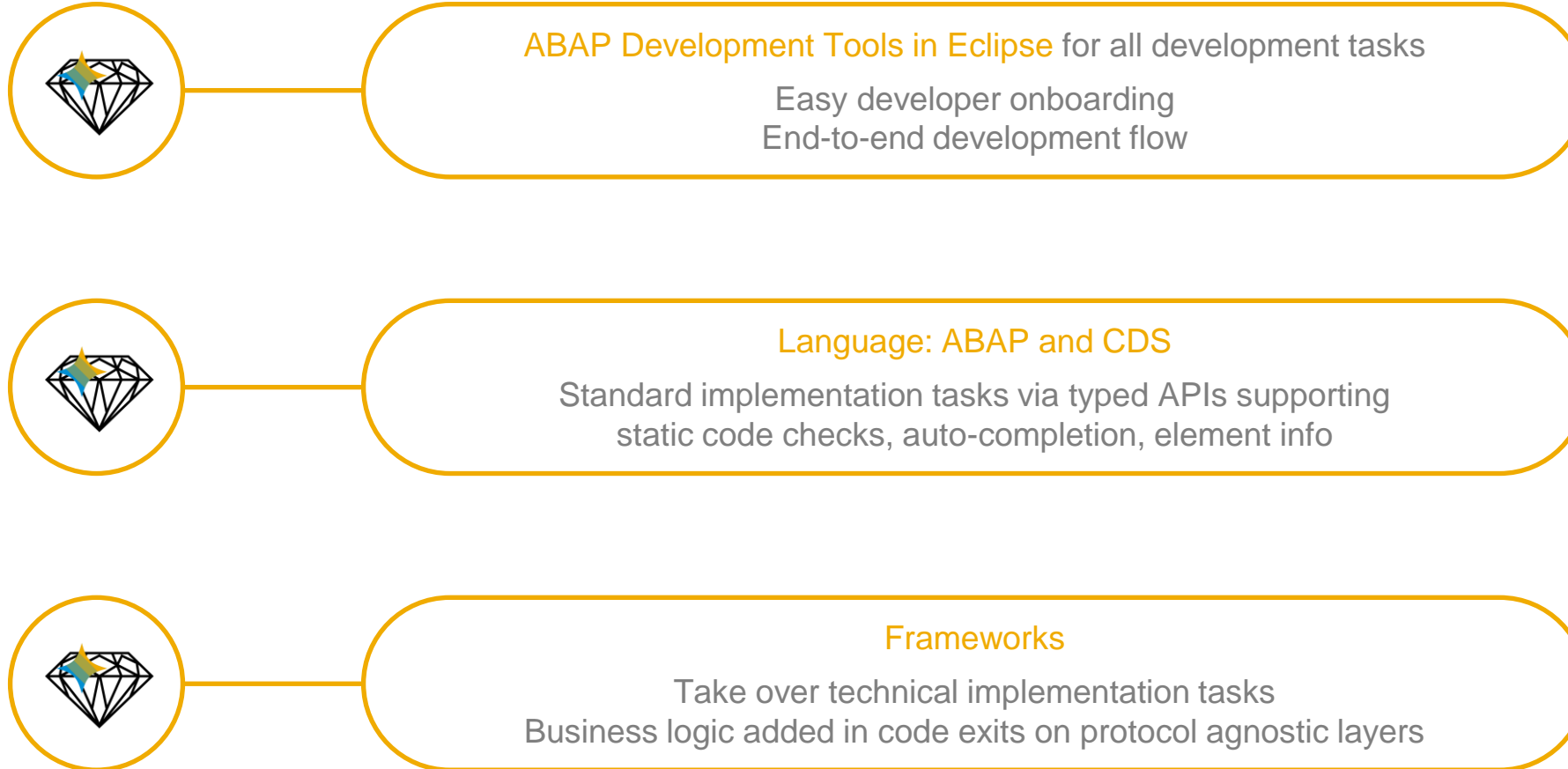
Overview



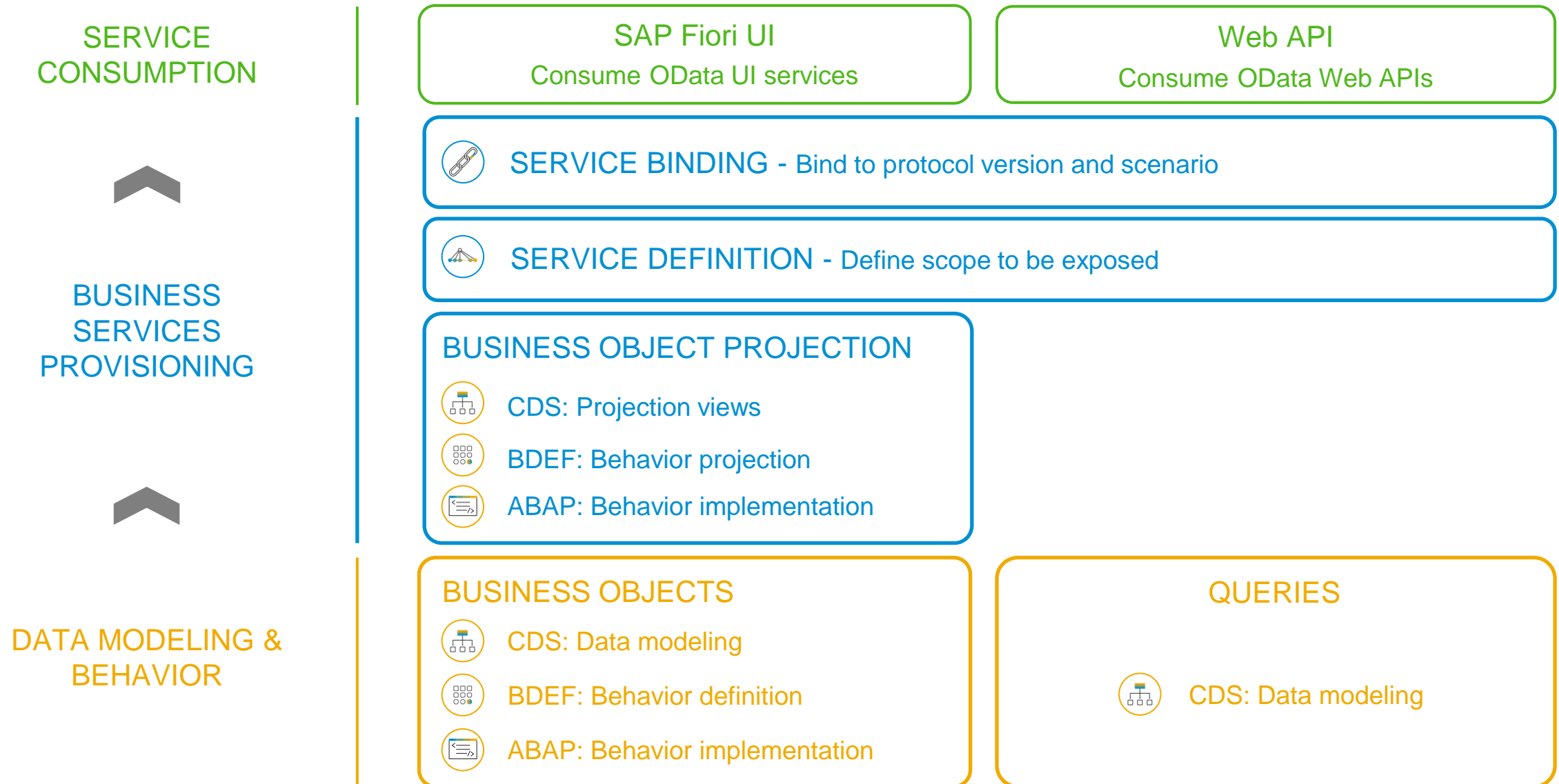
Evolution of the ABAP programming model



ABAP RESTful Programming Model – The key players



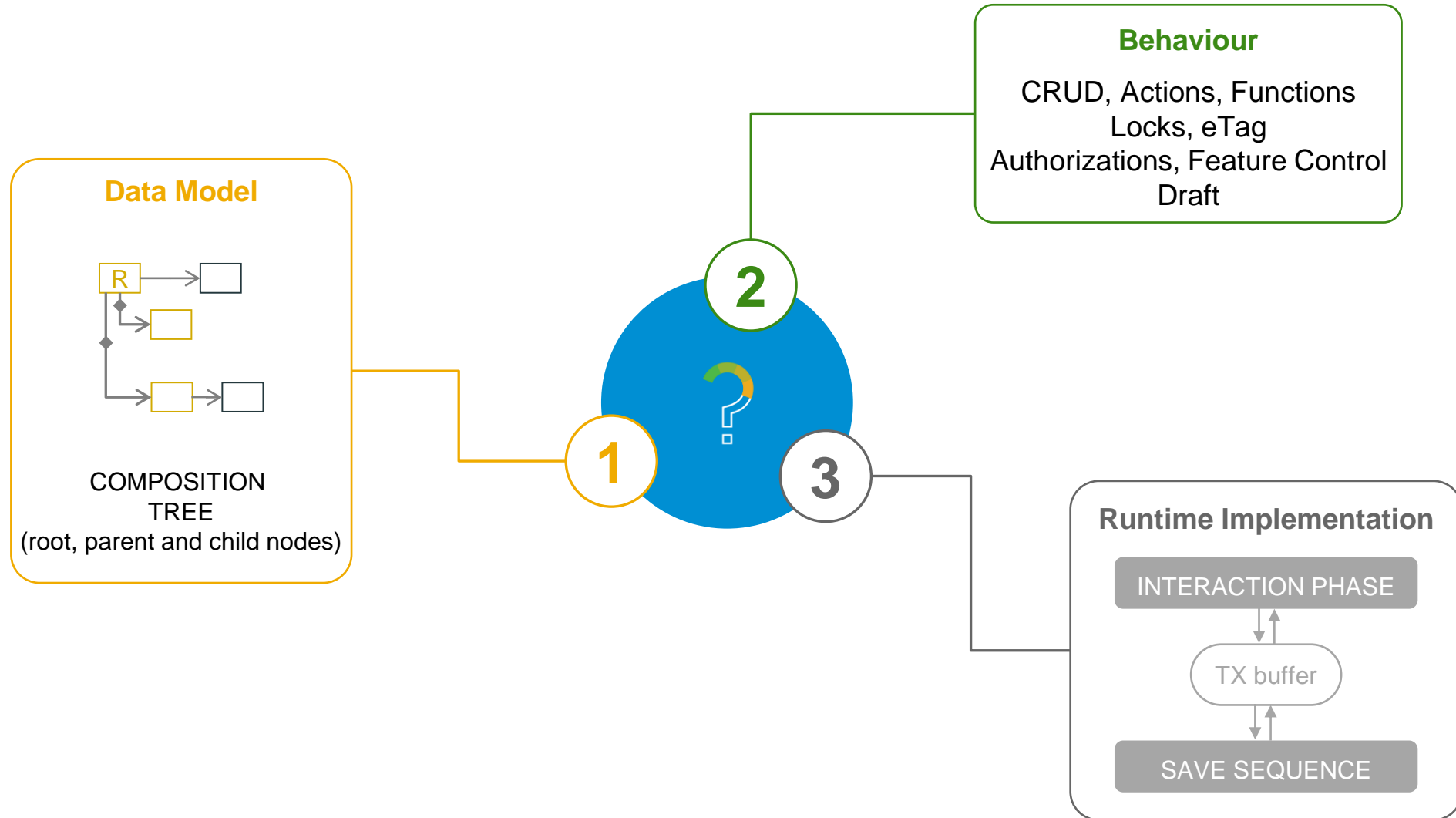
ABAP RESTful Programming Model – The big picture



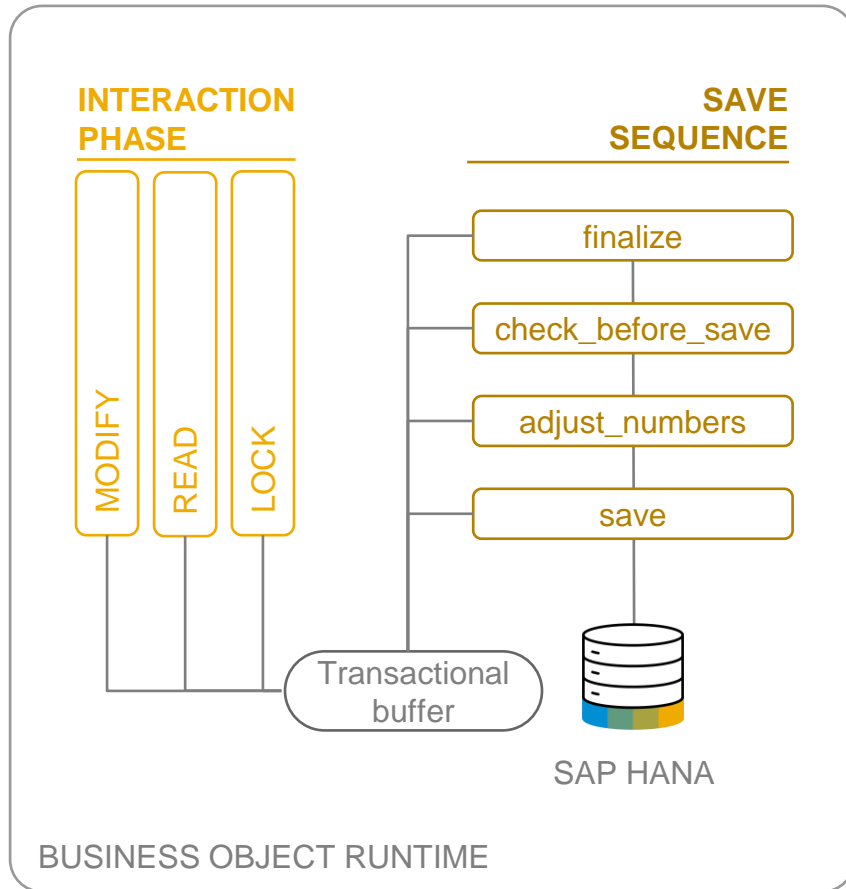
Business Objects (BOs)



What is a business object?



Business objects – Implementation types



UNMANAGED

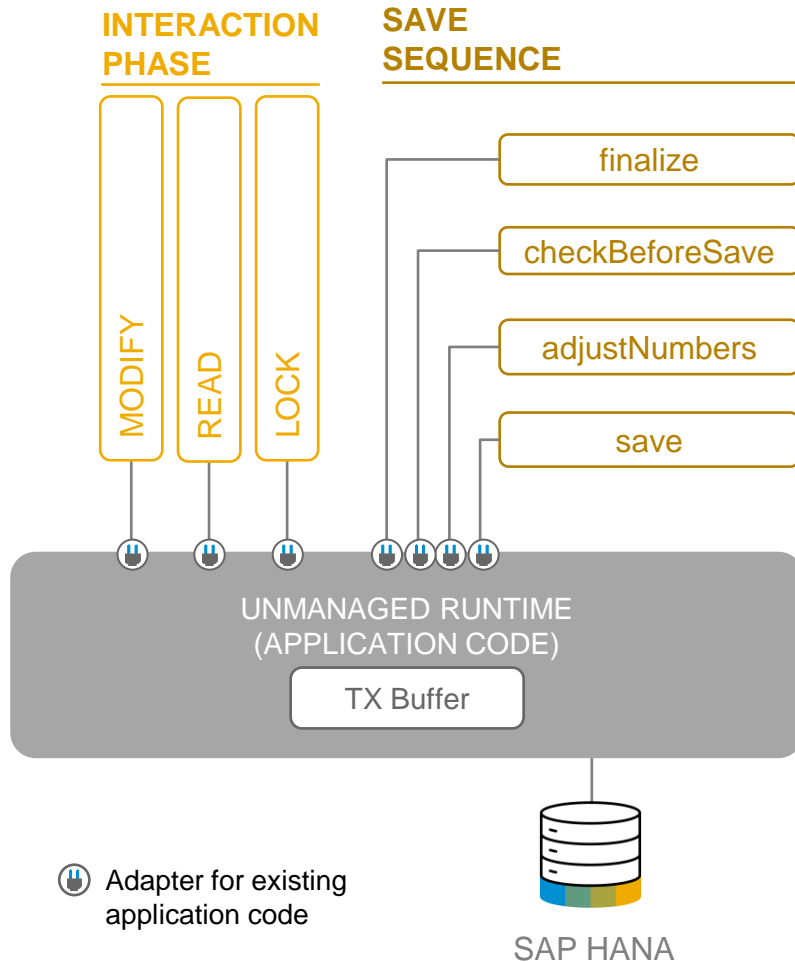
Brownfield development with application coding fully available:
Interaction phase + Transactional buffer + Save sequence

MANAGED*

Greenfield development with standard implementation
(opt. unmanaged appl. components: DB tables, lock/PFCG object, update task FM)

* Currently only available in SAP CP ABAP Environment

Business objects – Unmanaged implementation



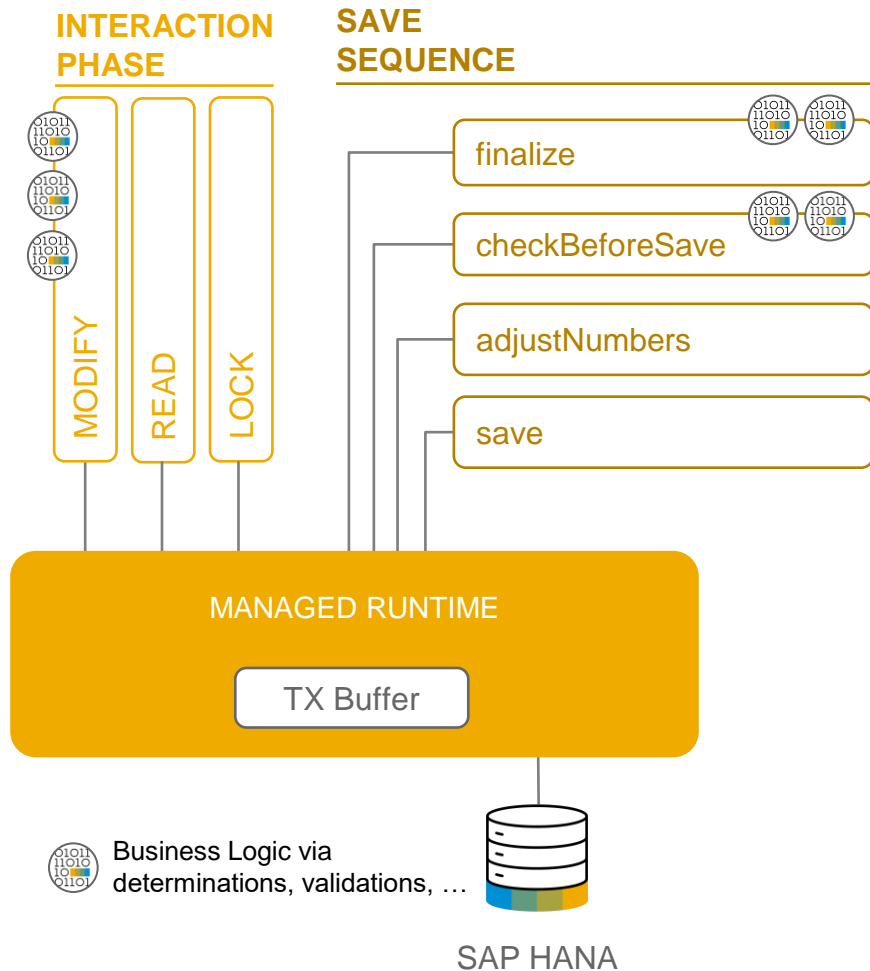
Application coding

- Already available
- For interaction phase, transactional buffer and save sequence
- Decoupled from UI technology

Examples

- Sales Order, Purchase Order

Business objects – Managed implementation



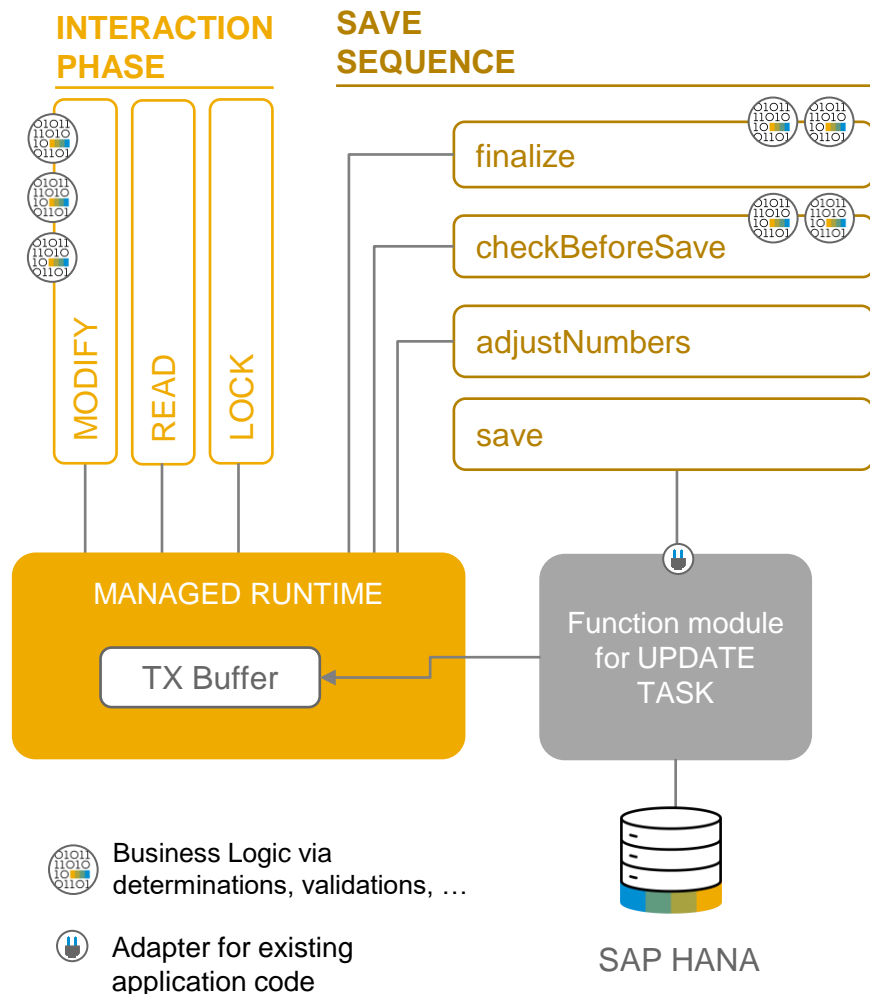
Application coding

- Not yet available or fine granular reusable code available
- Technical implementation tasks taken over by BO infrastructure
- Developer focus on business logic, implemented via code exits: determinations, validation, actions,...

Examples

- New applications in SAP Cloud Platform ABAP Environment

Business objects – Managed impl. with unmanaged appl. components



Application coding

- “update-task function module” available
- Coding for interaction phase not available (e.g. highly coupled in older UI technology: DYNP - PBO / PAI)
- Technical implementation aspects to be taken over by BO infrastructure

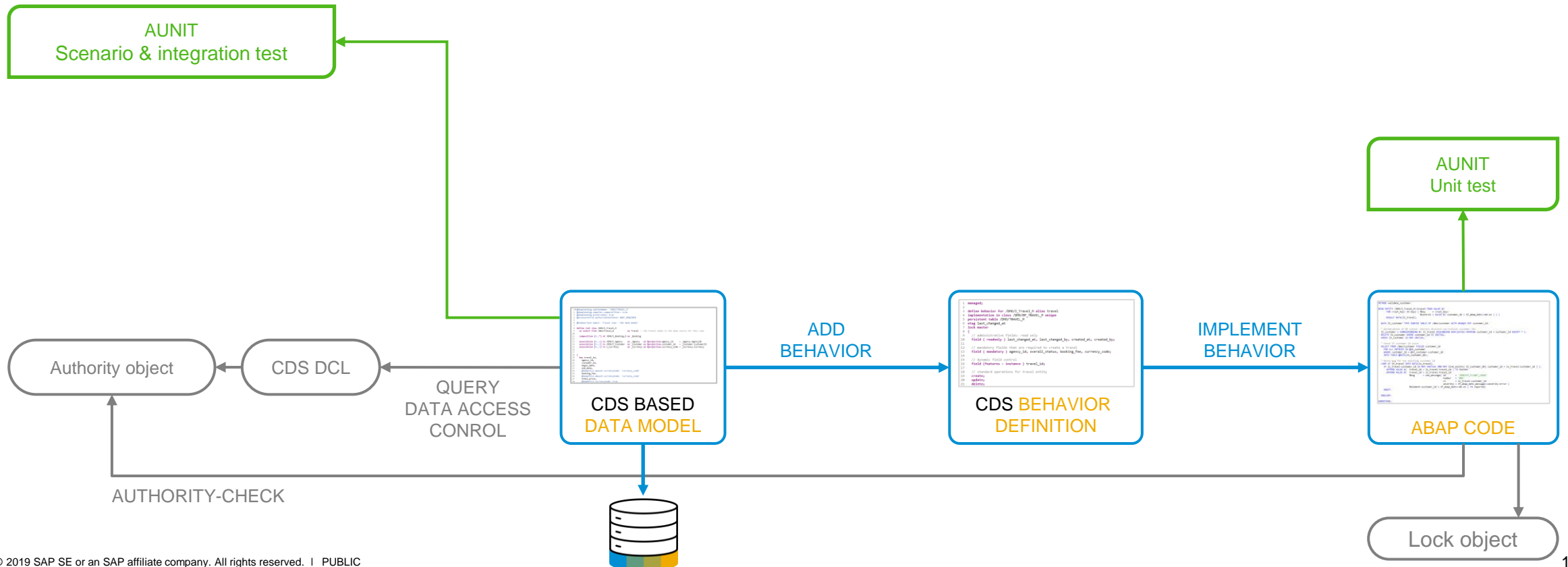
Examples

- Business Partner, Product

Optional unmanaged application components

- Update task FM: *unmanaged save*
- Own lock object: *unmanaged lock*
- Mapping between old and new world (e.g. DB tables): type mapping
- Old PFCG Object: *authorization master*

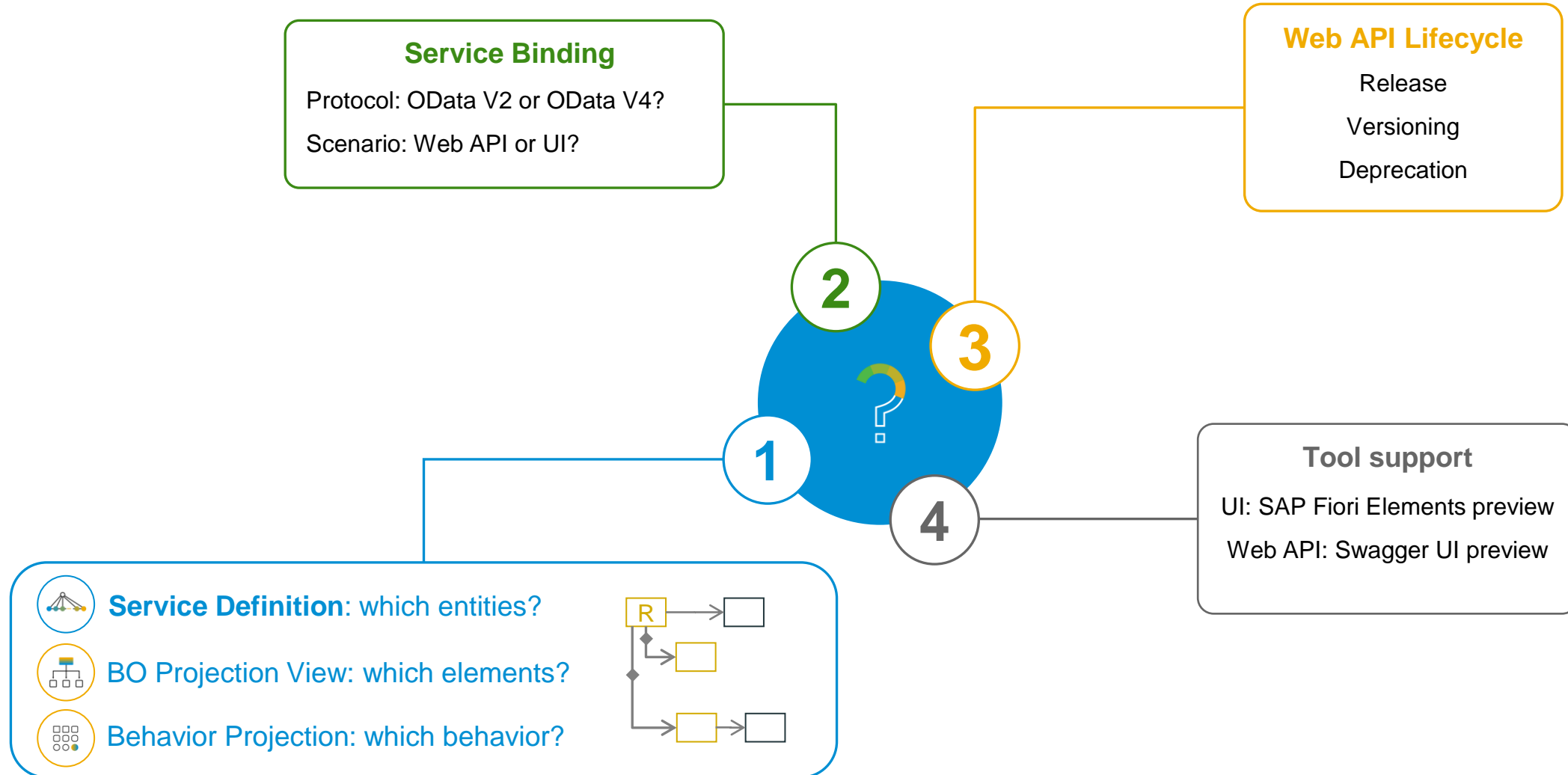
ABAP RESTful Programming Model – Development flow



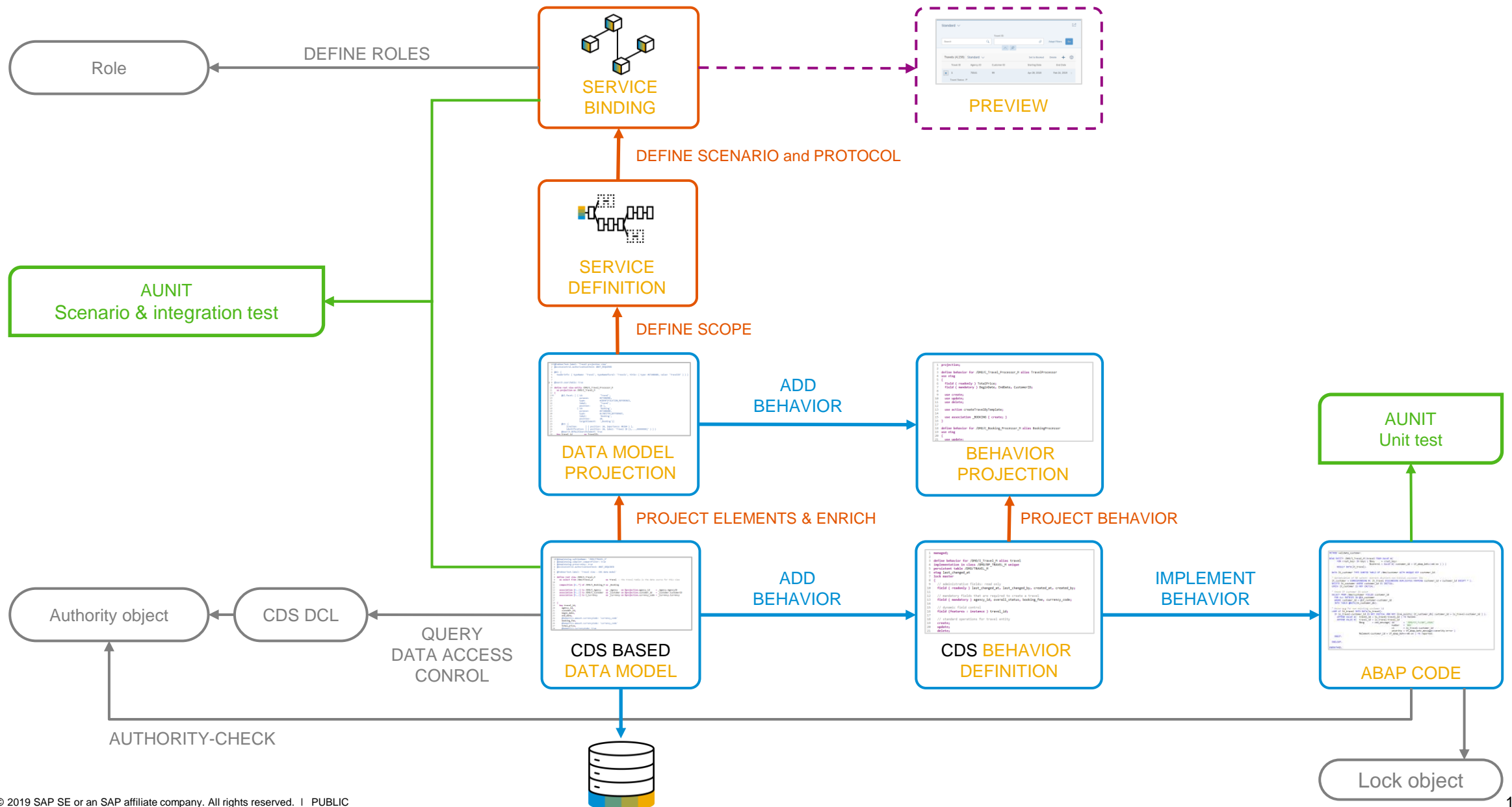
Business Services



What is a business service



ABAP RESTful Programming Model – Development flow



Demo

Get the idea: Managed runtime implementation



Modern ABAP development in Eclipse

ABAP DEVELOPMENT TOOLS (ADT)

MODERN DEVELOPMENT TOOLSET

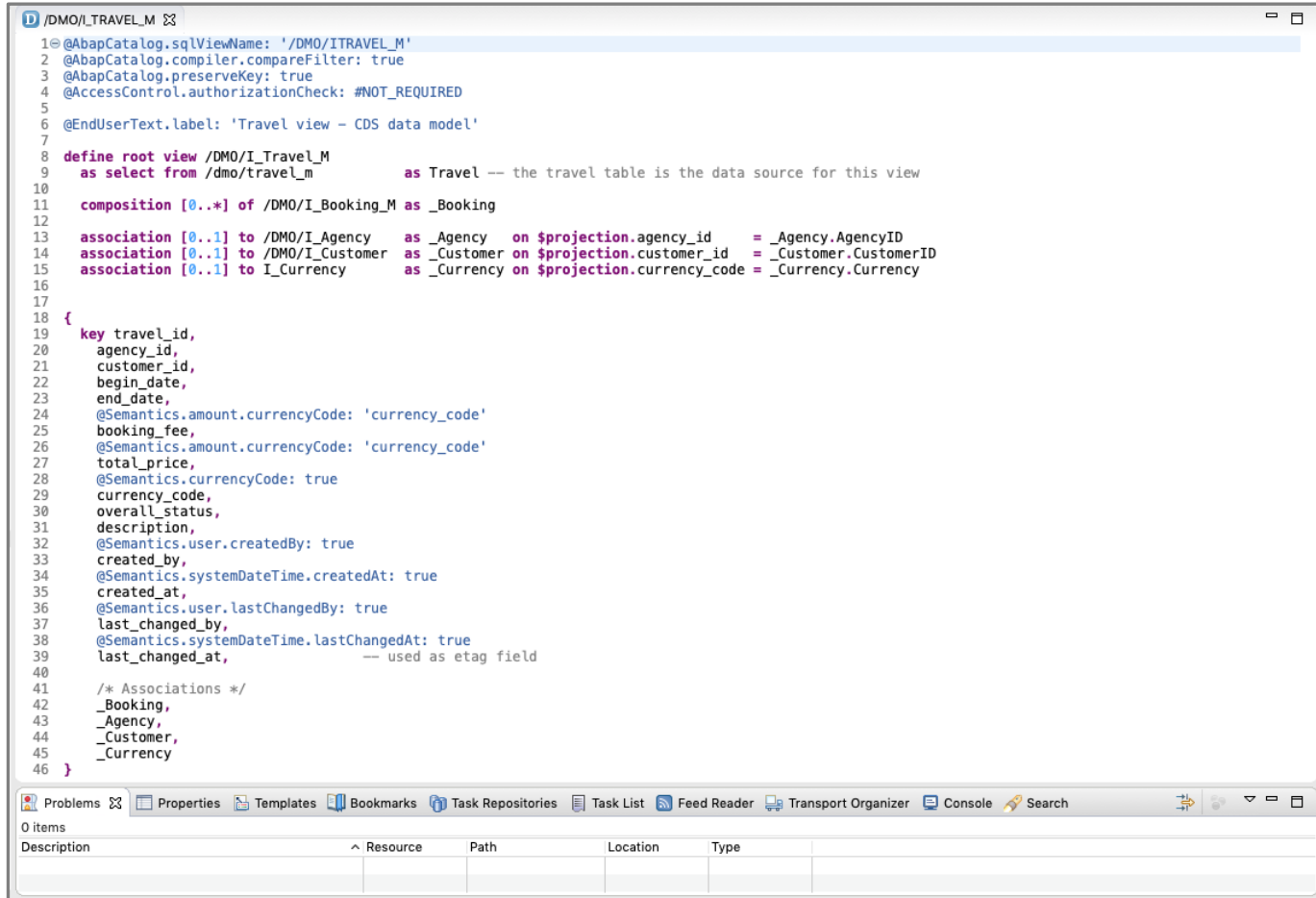
Fully eclipse-based
Syntax check, Code completion
Syntax highlighting, Pretty printing
Navigation, Search, Quick Fixes

QUALITY ASSURANCE

Static code checks (CVA, ATC) with
remote and local scenarios
Unit testing incl. isolation frameworks
Test seams and injections

SUPPORTABILITY

Debugging, profiling
Static and dynamic logging
Runtime monitoring and analysis

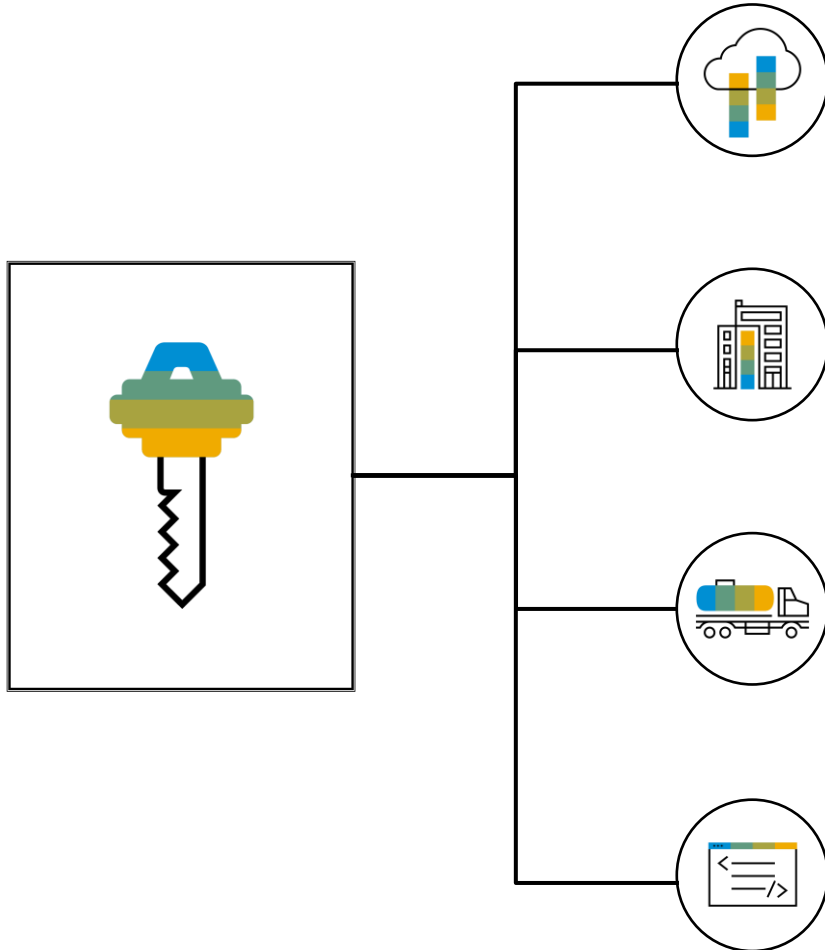


```
1 @AbapCatalog.sqlViewName: '/DMO/ITRAVEL_M'
2 @AbapCatalog.compiler.compareFilter: true
3 @AbapCatalog.preserveKey: true
4 @AccessControl.authorizationCheck: #NOT_REQUIRED
5
6 @EndUserText.label: 'Travel view - CDS data model'
7
8 define root view /DMO/I_Travel_M
9   as select from /dmo/travel_m           as Travel -- the travel table is the data source for this view
10
11   composition [0..*] of /DMO/I_Booking_M as _Booking
12
13   association [0..1] to /DMO/I_Agency      as _Agency on $projection.agency_id = _Agency.AgencyID
14   association [0..1] to /DMO/I_Customer   as _Customer on $projection.customer_id = _Customer.CustomerID
15   association [0..1] to I_Currency        as _Currency on $projection.currency_code = _Currency.Currency
16
17 {
18   key travel_id,
19   agency_id,
20   customer_id,
21   begin_date,
22   end_date,
23   @Semantics.amount.currencyCode: 'currency_code'
24   booking_fee,
25   @Semantics.amount.currencyCode: 'currency_code'
26   total_price,
27   @Semantics.currencyCode: true
28   currency_code,
29   overall_status,
30   description,
31   @Semantics.user.createdBy: true
32   created_by,
33   @Semantics.systemDateTime.createdAt: true
34   created_at,
35   @Semantics.user.lastChangedBy: true
36   last_changed_by,
37   @Semantics.systemDateTime.lastChangedAt: true
38   last_changed_at, -- used as etag field
39
40   /* Associations */
41   _Booking,
42   _Agency,
43   _Customer,
44   _Currency
45 }
46 }
```

Summary and Outlook



Summary – Key takeaways



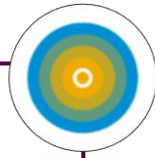
The **ABAP RESTful Programming Model** is available as of SAP Cloud Platform, ABAP Environment 1808: Cloud-first delivery.

The **ABAP RESTful Programming Model** is now available on-premise with SAP S/4HANA 1909 – with reduced feature scope: *UNMANAGED BO IMPLEMENTATION*.

The feature scope of the **ABAP RESTful Programming Model** is enhanced on a quarterly basis in SAP CP ABAP Environment and on-premise on a yearly basis in SAP S/4HANA.

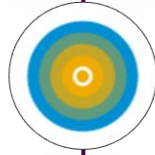
The **ABAP Programming Model for SAP Fiori WITH DRAFT SUPPORT** is available as of AS ABAP 7.5 and remains the current best practice in SAP S/4HANA.

Outlook – Next steps planned for SAP Cloud Platform ABAP Environment



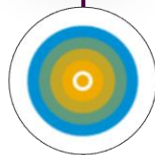
Business objects

Enhanced managed scenario: unmanaged appl. components, draft handling, managed early numbering, late numbering



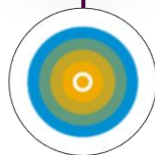
Business Services

Service binding for OData V4 Web APIs



Web API consumption

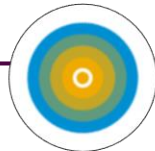
Support for OData V4, REST
Actions & functions



Cross topics

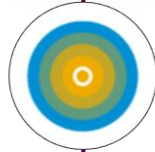
Extensibility
Supportability
Documentation

Outlook – Next steps planned for SAP S/4HANA



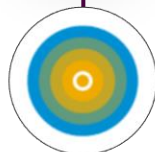
Business objects

Managed scenario with CRUD based on determinations, validations, actions and functions, eTag, locks, feature control, authorization, draft
Migration of existing CDS-BOPF based BOs



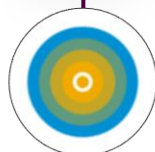
Business Services

Service binding for OData V4 WebAPIs



Web API consumption

Support for OData V4, REST
Actions & functions



Cross topics

Extensibility
Supportability
Documentation

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CAA361

HANDS-ON SESSION: BUILD A
TRANSACTIONAL SAP FIORI APP WITH THE
ABAP RESTFUL PROGRAMMING MODEL



AppSpace

MISSION: SAP CLOUD PLATFORM ABAP
ENVIRONMENT
(Developer Garage area)



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- CAA800 - ROAD MAP: ABAP PLATFORM
- CAA102 - CUSTOMER SUCCESS WITH SAP CLOUD PLATFORM ABAP ENVIRONMENT
- **CAA103** - GET THE BIG PICTURE OF THE ABAP RESTFUL PROGRAMMING MODEL
- **CAA361** - BUILD A TRANSACTIONAL SAP FIORI APP WITH THE ABAP RESTFUL PROGRAMMING MODEL
- **MU99443** - DEVELOPING SAP FIORI APPS AND WEB APIS WITH ABAP RESTFUL PROGRAMMING MODEL
- CAA260 - MOVE YOUR ABAP CODE TO THE CLOUD
- CAA104 - OPTIMIZE YOUR CUSTOM ABAP CODE FOR SAP HANA
- CAA388 - SAP CLOUD PLATFORM ABAP ENVIRONMENT: EXTENSION AND INTEGRATION SCENARIO
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