



SAP Online Track
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Supporting *girls who*
code

<http://bit.ly/saponlinetrack-fundraiser>

[SOT102]

S/4HANA Custom Code Adaptation

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May 30th, 2020

13:05 - 14:05 UTC

How can i create s/4hana ready custom code or adapt existing code to S/4HANA. Overview of the Process and Tools. Simplification List. ATC. Custom Code Fiori Demo. Eclipse Quick Fixes. Examples from Real World.



Sponsored by **openSAP**



SAP PRESS

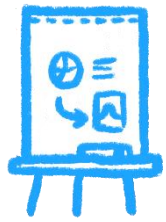
ESPRESSO TUTORIALS



Agenda

- What needs to be changed (and why)
- Custom Code Adaptation Process
- Tools
 - Code Usage Analysis
 - ABAP Test Cockpit
 - Eclipse Quick Fixes
 - Custom Code Migration Fiori
- Where should I start today
 - (also in SAP ECC)
- Q & A (Youtube Chat)

4 Main Questions for S/4 Transformation Projects



What



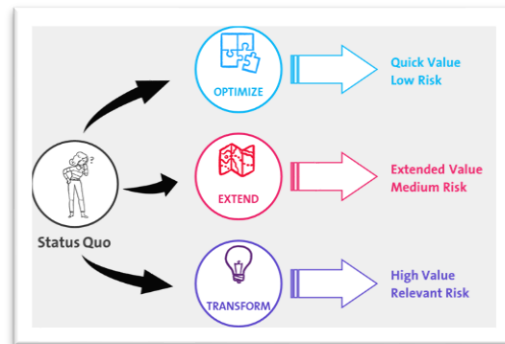
Why



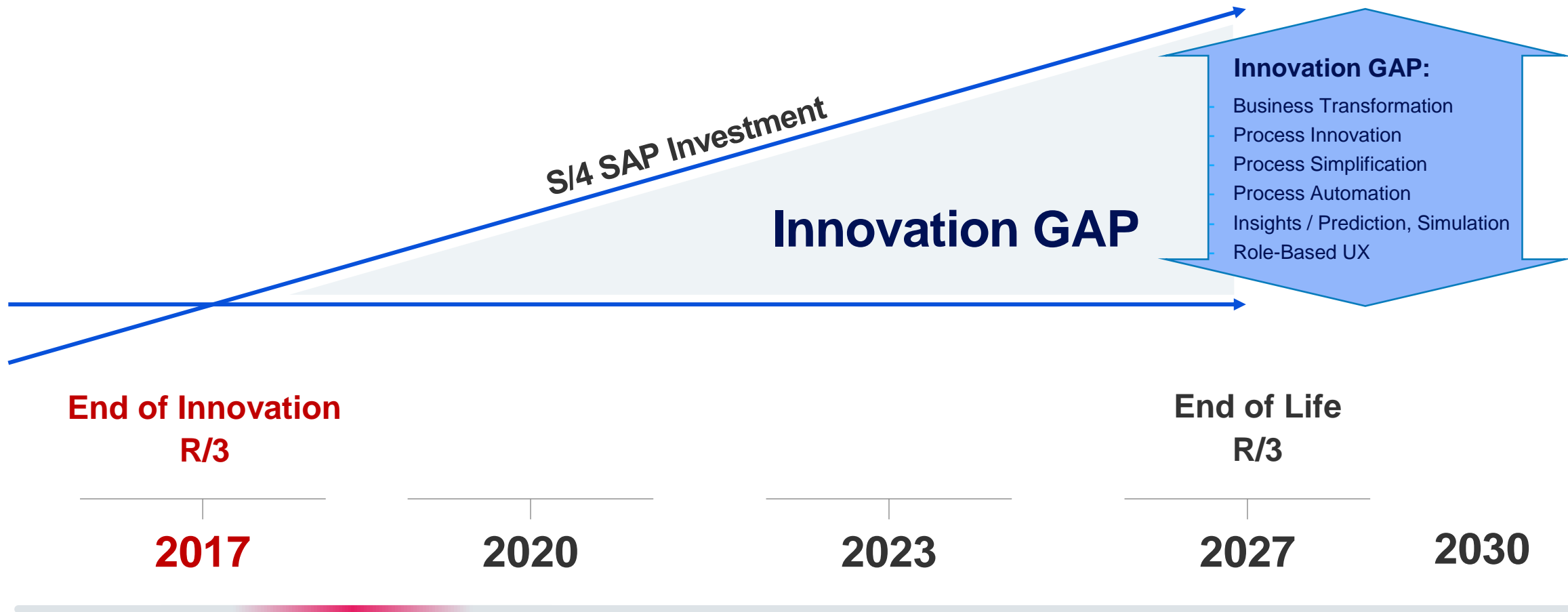
How



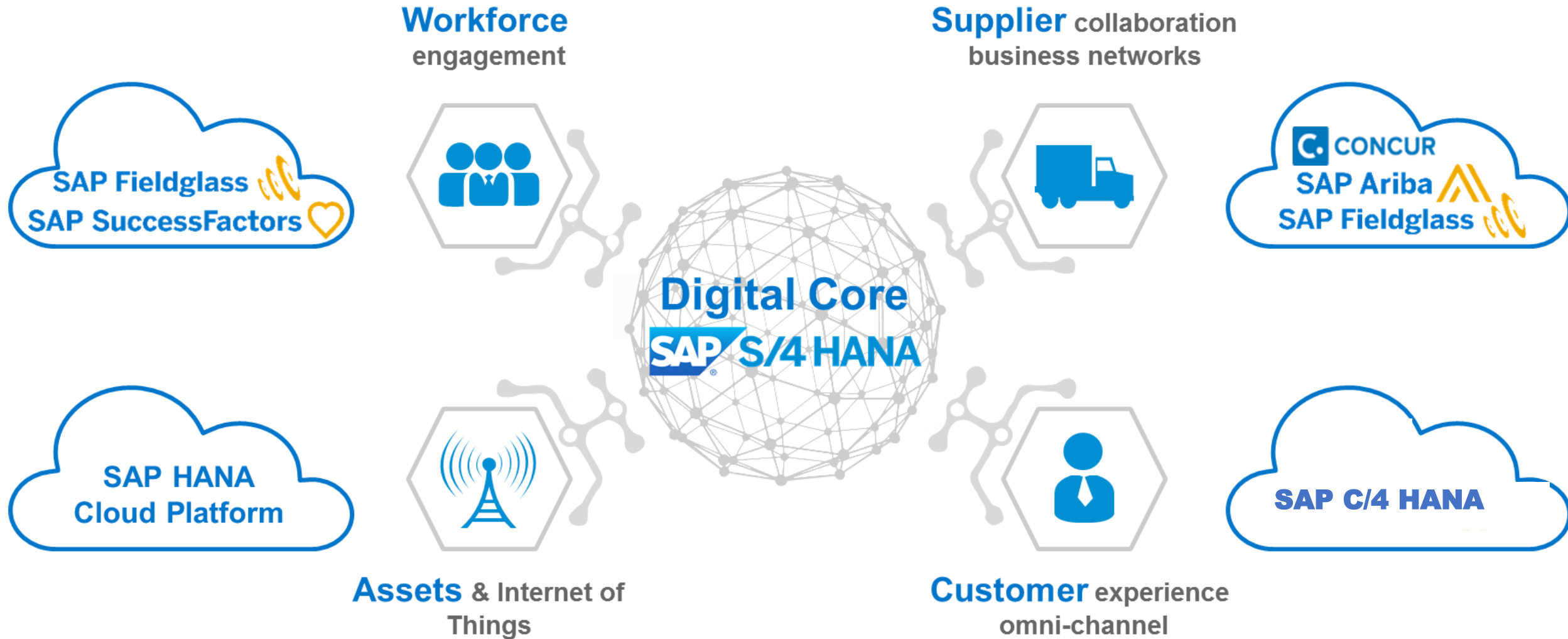
When



It's not only 2027...



SAP S/4HANA, the next generation business suite



S/4 HANA Simplification List Highlights

LOB	Function	Function	New Function
FI/SD	Customer / Vendor	XD01 usw.	Business Partner / CVI
SD	Credit Management	Replaced by new Functionality	FSCM Credit Management
MM	Material Master	New Data Model	Material Number 40 Characters
SD	Sales Activities	Replaced by C/4	S/4HANA Customer Management or C/4
SD	Foreing Trade	Some Functionalities Replaced	SAP GTS on separate Instance or 3rd Party
SD	Rebate Processing	Replaced by new Functionality	Settlement Management
MM	Classic MM Transactions ME21, ME27, ME51 etc.	Not available	Use new Transaction Codes ME21n etc.

Examples

Simplification list on help.sap.com



help.sap.com/viewer/product/SAP_S4HANA_ON-PREMISE/1909/en-US?task=imple...

SAP SAP Help Portal SAP S/4HANA

SAP S/4HANA 1909 Latest ▼

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Conversion & Upgrade Assets

[Simplification Item Catalog](#)

Search and browse the Simplification List online

[Simplification List for SAP S/4HANA](#)

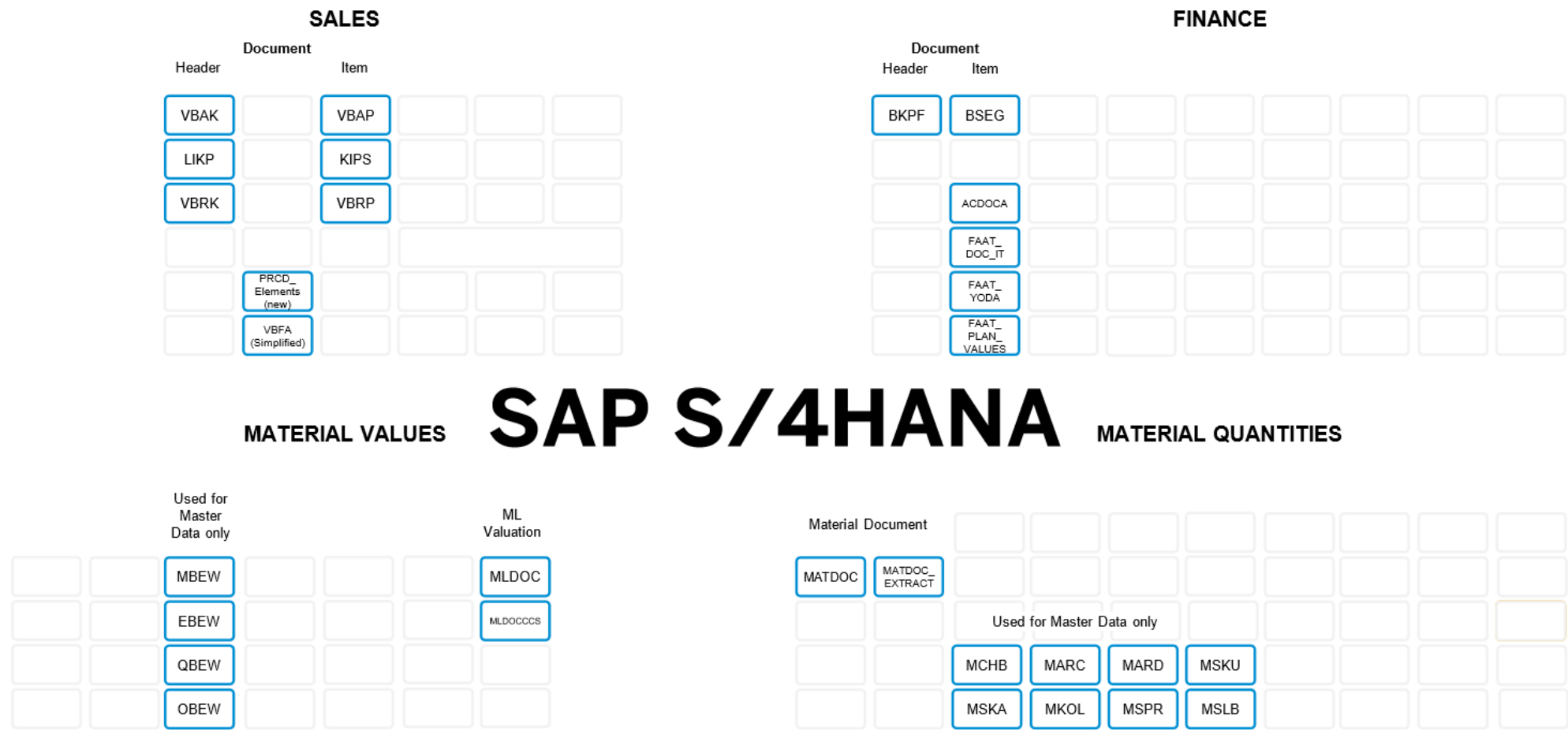
(PDF)

Focuses on needs to be considered in an implementation / migration project from SAP ERP 6.X to SAP S/4HANA

New Data Model

SAP S/4HANA Architecture and Components

Simplified data model



Compatibility View



SAP General Table Display

SE16H

Database Connection:

Table: MSEG

Text table:

Layout:

Maximum no. of hits: 500

Proxy Object: NSDM_V_MSEG

Document Segment: Material

No texts

Maintain entries

MSEG Compatibility View

- Read Access is still possible for most Tables
- Example: Select on MSEG uses Compatibility CDS View (Proxy) to read data from MATDOC Table
- Old Table is not a Structure but still a Table in Data Dictionary
- No INSERTS/UPDATES on old Tables

SE11

Transparent Table: MSEG Active

Short Description: Document Segment: Material

Attributes Delivery and Maintenance Fields Input Help/Check Currency/Quantity Fields Indexes

M19(1)/600 Display Replacement Object for MSEG

Table: MSEG

Replacement Object: NSDM_E_MSEG

Cancel (F12)

Table

Edit

Goto

Utilities

Extras

Environment

System

Help

SAP GUI settings and actions

Table Length...

Global Search...

Hierarchy Display (Ctrl+Shift+F12)

Search Help for Table...

Activation Type...

Change/Display Table Category

Enhancement Category...

Replacement Object...

Inverted Hash/Individual

S/4 Conversion Project

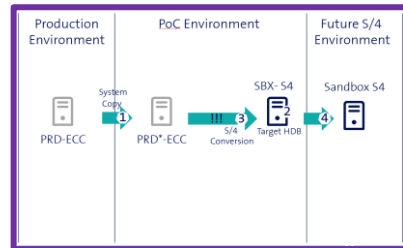


System
Transformation

On Premise /
Cloud

Explore

Sandbox S4



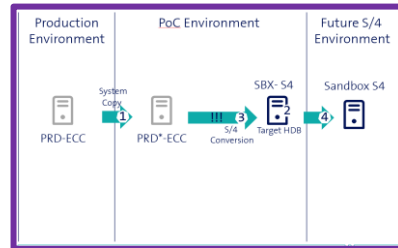
System
1. Conversion



PRD*-ECC

Realize

DEV-S4

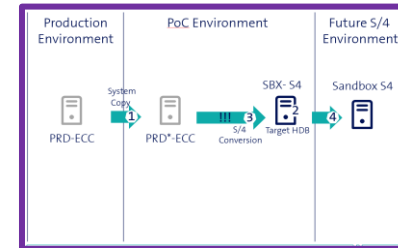


System
2. Conversion



DEV-ECC

QAS-S4



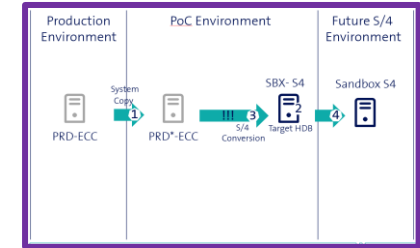
System
3. Conversion



QAS-ECC

Deploy

PRD-S4



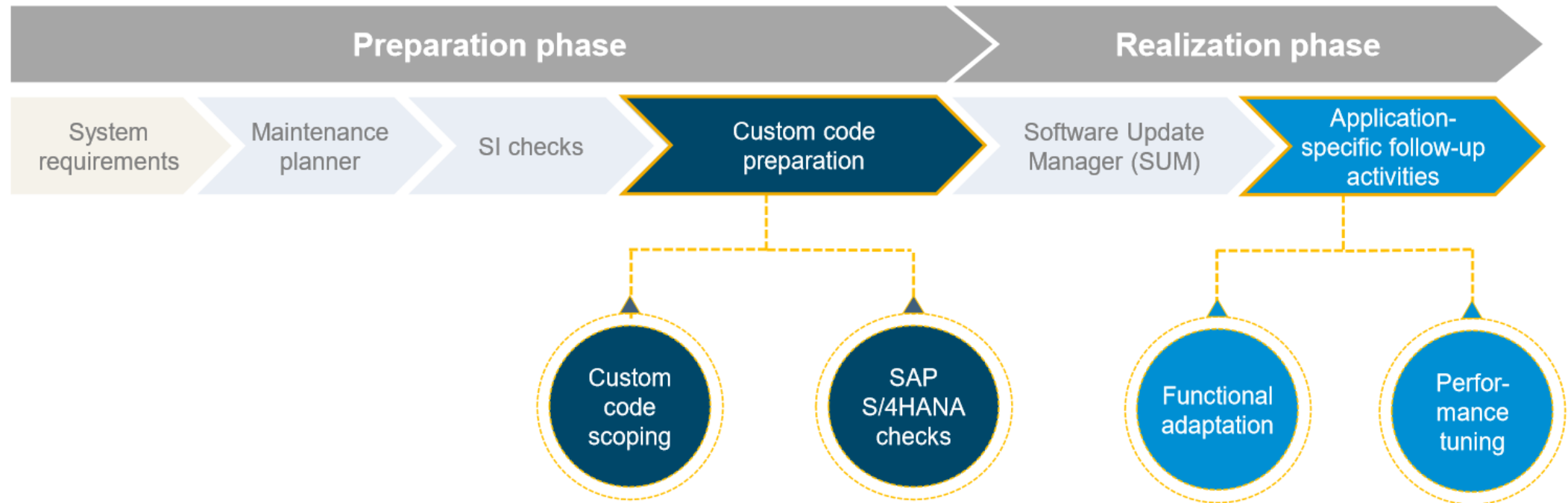
System
4. Conversion



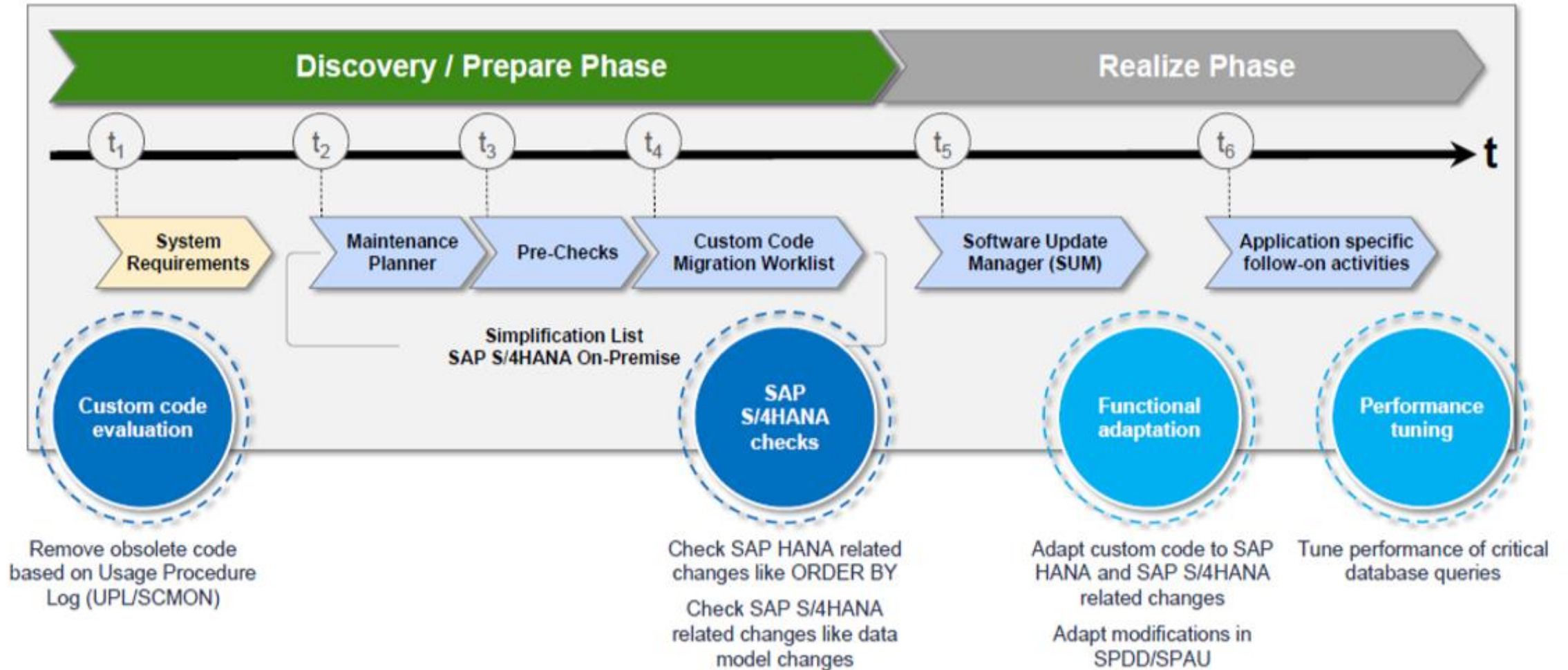
PRD*-ECC

Run

Conversion Procedure



Custom Code Adoption Process



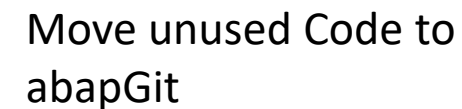


Summary: What needs to be changed

- Unicode
 - /NUCCHECK
- SQL Statements, if not already on HANA
 - Code Inspector FUNCTIONAL_DB and FUNCTIONAL_DB_ADDITION
(Performance optimization optional)
- Coding changes related to Simplification List
 - ATC Check Variant S4HANA_READINESS

<https://blogs.sap.com/2019/06/25/custom-code-adaptation-for-sap-s4hana-faq>

SAP		Daten zum Linkg & Procedure Logging anzeigen			10.03.2020 10:02							
UPL-Exec		More >										
UPL-Exec - Opening Objects List		Run-Object	Version/Variant	Link: Kask-Objekttypen-Objekt-Passet Kask-Obj-Proc-Code								
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0001	SAP	SAP	ENR	61				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/ENR_HASK	SAP	SAP	ENR	76				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0000	SAP	SAP	ENR	61				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0001	SAP	SAP	ENR	66				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0000	SAP	SAP	ENR	30				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0001	SAP	SAP	ENR	2418				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0001	SAP	SAP	ENR	61				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/ENR_HASK	SAP	SAP	ENR	61				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/EN0000	SAP	SAP	ENR	66				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/ENR_HASK	SAP	SAP	ENR	15				
19.03.2020 PUGR	/ICODEN/ENR/BLD/EN0000	/ICODEN/ENR/BLD/EN0000	PJAC	ENDEUR/BLD/ENR_HASK_SCHSD	SAP	SAP	ENR	2419				
19.03.2020 PUGR	/ICODEN/ROSP/EN0000	/ICODEN/ENR/ROSP/EN0000	PJAC	ENDEUR/ROSP/EN0001	SAP	SAP	ENR	2424				
19.03.2020 PUGR	/ICODEN/ENR/PM/EN0000	/ICODEN/ENR/PM/EN0000	PJAC	ENDEUR/PM/ENR_HASK_CTC	SAP	SAP	ENR	48				
19.03.2020 PUGR	/ICODEN/ENR/PM/EN0000	/ICODEN/ENR/PM/EN0000	PJAC	ENDEUR/PM/ENR_HASK_CTC	SAP	SAP	ENR	52				
19.03.2020 PUGR	/ICODEN/ENR/PM/EN0000	/ICODEN/ENR/PM/EN0000	PJAC	ENDEUR/PM/ENR_HASK_CTC	SAP	SAP	ENR	48				
19.03.2020 PUGR	/ICODEN/ENR/PM/EN0000	/ICODEN/ENR/PM/EN0000	PJAC	ENDEUR/PM/ENR_HASK_CTC	SAP	SAP	ENR	51				
19.03.2020 PUGR	/ICODEN/ENR/LT/EN0000	/ICODEN/ENR/LT/EN0000	PJAC	ENDEUR/LT/ENR_HASK	SAP	SAP	ENR	30				
19.03.2020 PUGR	/ICODEN/ENR/LT/EN0000	/ICODEN/ENR/LT/EN0000	PJAC	ENDEUR/LT/ENR_HASK	SAP	SAP	ENR	30				
19.03.2020 PUGR	/ICODEN/ENR/LT/EN0000	/ICODEN/ENR/LT/EN0000	PJAC	ENDEUR/LT/ENR_HASK	SAP	SAP	ENR	30				
19.03.2020 PUGR	/ICODEN/ENR/LT/EN0000	/ICODEN/ENR/LT/EN0000	PJAC	ENDEUR/LT/ENR_HASK	SAP	SAP	ENR	30				



The diagram illustrates the migration of SAP Fiori app custom code. It features three main components:

- SAP Cloud Platform ABAP Environment:** On the left, a screenshot of the **ABAP Test Cockpit (ATC)** interface is shown. Below the screenshot is an orange box labeled **ABAP Test Cockpit (ATC)**. The bottom of this section is labeled **SAP CLOUD PLATFORM ABAP ENVIRONMENT**.
- Cloud Connector:** A central vertical grey bar labeled **CLOUD CONNECTOR** connects the two environments.
- Backend System:** On the right, a blue box contains an icon of a document with code symbols and the text **ABAP custom code**. Below this, it is labeled **BACKEND SYSTEM** with examples: *e.g. SAP ERP, SAP S/4HANA, SAP NetWeaver AS ABAP*.

 Arrows indicate the flow of data from the SAP Cloud Platform ABAP Environment, through the Cloud Connector, to the Backend System.

S/4HANA checks

Check	Status	Icon
S/4HANA Readiness	Green checkmark	Green icon
S/4HANA: Field length extensions	Green checkmark	Green icon
S/4HANA: Search for database applications	Green checkmark	Green icon
S/4HANA: Search for usages of simplified objects	Green checkmark	Green icon
S/4HANA: Search for ABAP Dictionary enhancements	Green checkmark	Green icon
S/4HANA: Search for base tables of ABAP Dictionary views	Green checkmark	Green icon
S/4HANA: Search for S/4 related syntax errors	Green checkmark	Green icon

HANA checks

Check	Status	Icon
Critical Statements	Yellow warning	Yellow icon
Search DB Operations in Pool/Cluster Tables	Yellow warning	Yellow icon
Search problematic statements for result of SELECT/OPEN CURSOR without ORDER BY	Yellow warning	Yellow icon

Database

☐ ROLLBACK WORK

☒ Native SQL

☒ DB Hints

[illegible]

Eclipse ADT and Quickfixes

SCMON



Monitor usage of your custom code via [ABAP Call Monitor](#) (recommended) or Usage Procedure Logging (UPL)

ABAP Call Monitor
[Activate](#) | [Collect Data](#) | [Display Data](#) | [Display Call Graph](#)

State

Status	◆ Inactive
Records	0
Daily Time Slices	0 of 7 Slices Used
Scheduled Data Collection	Not scheduled
Scheduled Deactivation	Not scheduled
Deactivate Above	0

ABAP Call Monitor: Data Browser - 2533 entries

Req. Type	Calling Request Entry Point Name	Called Program Name	Obj. Type	Called Object Name	Proc. Type	Called Procedure Name	Called Class Name	Num. Calls
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_CLASSDESCR-----CP	CLAS	CL_ABAP_CLASSDESCR	METH	CLASS_CONSTRUCTOR	CL_ABAP_CLASSDESCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_CLASSDESCR-----CP	CLAS	CL_ABAP_CLASSDESCR	METH	LOAD_CLASS	CL_ABAP_CLASSDESCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_ELEMDSCR-----CP	CLAS	CL_ABAP_ELEMDSCR	METH	CLASS_CONSTRUCTOR	CL_ABAP_ELEMDSCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_ELEMDSCR-----CP	CLAS	CL_ABAP_ELEMDSCR	METH	CREATE_ELEMDSCR_OBJECT	CL_ABAP_ELEMDSCR	10
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_ELEMDSCR-----CP	CLAS	CL_ABAP_ELEMDSCR	METH	GET_C	CL_ABAP_ELEMDSCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_ELEMDSCR-----CP	CLAS	CL_ABAP_ELEMDSCR	METH	GET_X	CL_ABAP_ELEMDSCR	3
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_ELEMDSCR-----CP	CLAS	CL_ABAP_ELEMDSCR	METH	LOAD_CLASS	CL_ABAP_ELEMDSCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_ELEMDSCR-----CP	CLAS	CL_ABAP_ELEMDSCR	METH	VAR_LEN_DESC_TO_XTYP	CL_ABAP_ELEMDSCR	4
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_INTFDESCR-----CP	CLAS	CL_ABAP_INTFDESCR	METH	CLASS_CONSTRUCTOR	CL_ABAP_INTFDESCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_INTFDESCR-----CP	CLAS	CL_ABAP_INTFDESCR	METH	LOAD_CLASS	CL_ABAP_INTFDESCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_LIST_PARSER-----CP	CLAS	CL_ABAP_LIST_PARSER	METH	CLASS_CONSTRUCTOR	CL_ABAP_LIST_PARSER	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_LIST_PARSER-----CP	CLAS	CL_ABAP_LIST_PARSER	METH	REFRESH_LSR_CONTAINER	CL_ABAP_LIST_PARSER	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_LIST_UTIL_INTERNAL-----CP	CLAS	CL_ABAP_LIST_UTIL_INTERNAL	METH	LSR_INIT	CL_ABAP_LIST_UTIL_INTERNAL	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_REFDESCR-----CP	CLAS	CL_ABAP_REFDESCR	METH	CLASS_CONSTRUCTOR	CL_ABAP_REFDESCR	1
Batch Job	Z_CDM_DASHB_TRANSACTIONS_00	CL_ABAP_REFDESCR-----CP	CLAS	CL_ABAP_REFDESCR	METH	LOAD_CLASS	CL_ABAP_REFDESCR	1

<https://blogs.sap.com/2017/04/06/abap-call-monitor-scmon-analyze-usage-of-your-code/>

SUSG

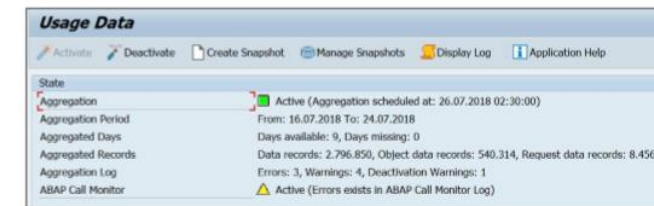


Aggregate Usage Data

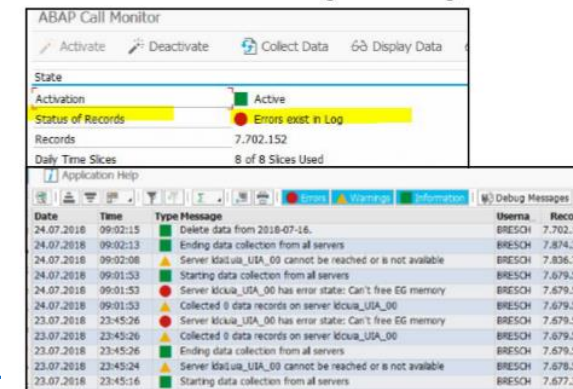
Transaction SUSG aggregates usage data collected by ABAP Call Monitor (transaction SCMON) within production system

- ▶ No Solution Manager system is necessary
- ▶ Aggregated usage data can be transferred between ABAP systems via remote function calls or file download/upload
- ▶ Downport to releases \geq SAP_BASIS 7.00 available

SUSG Transaction



SCMON: errors and warnings in the log



<https://launchpad.support.sap.com/#/notes/2643357>

<https://blogs.sap.com/2019/02/25/susg-how-to-aggregate-and-analyze-the-results-of-scmmon-abap-call-statistics-to-do-s4hana-custom-code-housekeeping/>



UPL (old version before SCMON)

- **Activate UPL with /NCC_APPS**
- **Usage of UPL in Codeinspector**
 - <https://blogs.sap.com/2015/01/18/using-upl-for-doing-just-the-needed-rework/>

Object Set Z_USE_UPL_DATA_TO_WORK_LESS Vers. 001 Person Responsible MATHEILE

Deleted On Changed On 16.01.2015 Last Changed By MATHEILE

Description Z_USE_UPL_DATA_TO_WORK_LESS_001 Number of Elements 0

Select Object Set Edit Object Set Object Set fr. Result Obj.Set from Request **Obj.Collectors**

☒ Save Selections Only

Click to select object collector

Object Collector

Set Filter

Object Type	<input type="text"/>	to	<input type="text"/>	
Object Name	<input type="text"/>	to	<input type="text"/>	
Package	<input type="text"/>	to	<input type="text"/>	
Person Responsible	<input type="text"/>	to	<input type="text"/>	

Code Inspector: Adopt SQL for HANA DB



Code Inspector: Ergebnisse von Z_FUNCTIONAL_DB 001 20105016

Verantwortlicher: 20105016 Inspektion: Z_FUNCTIONAL_DB Version: 1

Meldungen

	D..	...	A..	Tests	Fehler	Warn...	Infor...
▼	!			Liste der Prüfungen	167	975	196
▶	!			Allgemeine Fehler	95	0	0
▶	!			Sicherheitsprüfungen	0	1	0

Code Inspector: Ergebnisse von Z_FUNCTIONAL_DB_ADDITION 001 20105016

Verantwortlicher: 20105016 Inspektion: Z_FUNCTIONAL_DB_ADDITION Version: 1

Meldungen

	D..	...	A..	Tests	Fehler	Warn...	Infor...
▼	!			Liste der Prüfungen	426	29	101
▶	!			Allgemeine Fehler	95	0	0
▶	!			Performance-Prüfungen	331	27	77
▶	!			Robuste Programmierung	0	2	24

FUNCTIONAL_DB

FUNCTIONAL_DB_ADDITION

SQLM: SQL Monitor



The screenshot displays the SAP SQL Monitor web interface. At the top, a navigation bar includes the SAP logo, a back arrow, and the title 'SQL Monitor'. Below this is a menu bar with options: 'Application Help', 'Servers', 'Log', 'Data', 'Job Overview', 'More', and 'Exit'. The main content area, titled 'State', provides the following information:

- Records: 265.117
- Last State Change: 28.04.2020 / 14:07:39 (CET) by user TAAROLU3
- Last Data Action: 28.04.2020 / 13:08:38 (CET) by user TAAROLU3 (refresh data)
- Time Series: Enabled / Time Period 1 Hours
- Time Series Records: 508.449
- Overall Time Series Records: 834.982
- Activation State: ◆ Inactive (1 servers available)

The interface includes a search bar at the top left of the main area and a blue 'Enter' button at the bottom right.

Performance Tuning
Also for Dynamic Statements

S/4HANA Code Check Options



Remote ATC with SAP GUI

Central ATC check system
(**SAP_BASIS 7.52**) to analyze
custom code in the whole
system landscape

Custom **code evaluation**
separately based on and
SCMON/UPL usage data and
Solution Manager CCLM tools

Analysis of SAP S/4HANA findings with
Statistics View, simplification information
in ATC result, **navigation** capabilities

Remote ATC with SAP Fiori Custom Code Migration App

Central ATC check system
(**SAP S/4HANA 1809**) to
analyze custom code in the
whole system landscape

Custom **code scoping in the**
Custom Code Migration App
based on SCMON/UPL usage data
incl. **deletion of unused code**

Detailed analysis of SAP S/4HANA findings
incl. **analytical representation of** ATC
result, **filtering by scope and usage data**,
simplification information in ATC result,
navigation capabilities

Remote ATC with SAP Fiori Custom Code Migration App as a service in SAP Cloud Platform

Central ATC check system (**in SAP**
Cloud Platform ABAP Environment)
to analyze custom code in **on premise**
system landscape

SAP S/4HANA checks are executed
remotely via Cloud Connector on
customer system





Setup Remote Checks

- <https://launchpad.support.sap.com/#/notes/0002241080> Download CCMSIDB
- /NSYCM Choose Simplification Database Import from ZIP File
- ATC Setup <https://blogs.sap.com/2016/12/13/remote-code-analysis-in-atc-technical-setup-step-by-step/>

Change View "RFC Object Providers": Overview

New Entries

Dialog Structure

- System Groups
- RFC Object Providers
- Correction Systems

ID	Description	System Group	RFC Destination
LOCAL		CURRENT	NONE
Y5R	Y5R	BASIS_751	Y5R_ATC
Y7A	Test System 7.02	702	Y7A_SLIN_RMT_700
Y7C	Correction system 7.02	702	Y7C_ATC

- Note [2364916](#) remote functionality
- In your local system the ATC central check system must be maintained by your administrator in the Code Inspector (*Goto->Management of-> Reference check system*):

Code Inspector: Initial Screen

RFC-Destination: Y51_ATC_TEST



SAP S/4HANA Readiness Checks

Simplification use cases

- Functionality not available anymore
- Data model changes
- Data type changes

HANA use cases

- Use of DB vendor specifics (native SQL)
- DB operations on pool/cluster tables
- SELECT/OPEN CURSOR statements without ORDER BY

Use check variant

S4HANA_READINESS_REMOTE

S/4HANA checks

S/4HANA Readiness		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S/4HANA: Field length extensions
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S/4HANA: Search for database operations
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S/4HANA: Search for usages of simplified objects
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S/4HANA: Search for ABAP Dictionary enhancements
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S/4HANA: Search for base tables of ABAP Dictionary views
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	S/4HANA: Search for S/4 related syntax errors

HANA checks

☒ Critical Statements → **Database**

- ☐ ROLLBACK WORK
- ☒ Native SQL
- ☒ DB Hints

☒ Search DB Operations in Pool/Cluster Tables

☒ Search problematic statements for result of :
SELECT/OPEN CURSOR without ORDER BY



S4HANA_READINESS_REMOTE

includes **S/4HANA** and **HANA** checks

Error Categories



Error	Example
S/4HANA: ABAP-Dictionary-Enhancements	Append structures
S/4HANA: Base Tables of ABAP-Dictionary-Views	If a Table is now a Redirect View itself, avoid views on views
S/4HANA: Field Length changes	MATNR = 40 Characters, Currency Fields are longer
S/4HANA: unsupported Database Operations	UPDATE/INSERTS to compatibility Views not possible
S/4HANA: Simplified Objects / Simplification List	find missing or unsupported Objects (Transactions, Functions, Structures...)
Critical SQL Statements	Adopt SQL Statements to HANA (Native DB Statements)
SQL Statements with Missing order by	Column-Store might result in different sorting, add Order by Primary Key if needed
Objects with Syntax Errors	If already a syntax error, code cannot be checked

Data Dictionary



SAP Dictionary: Change Table

Transparent Table: **ZCUST_TABLE** New(Revised)

* Short Description: Customer Table

Attributes Delivery and Maintenance **Fields** Input Help/Check Currency/Quantity Fields Indexes

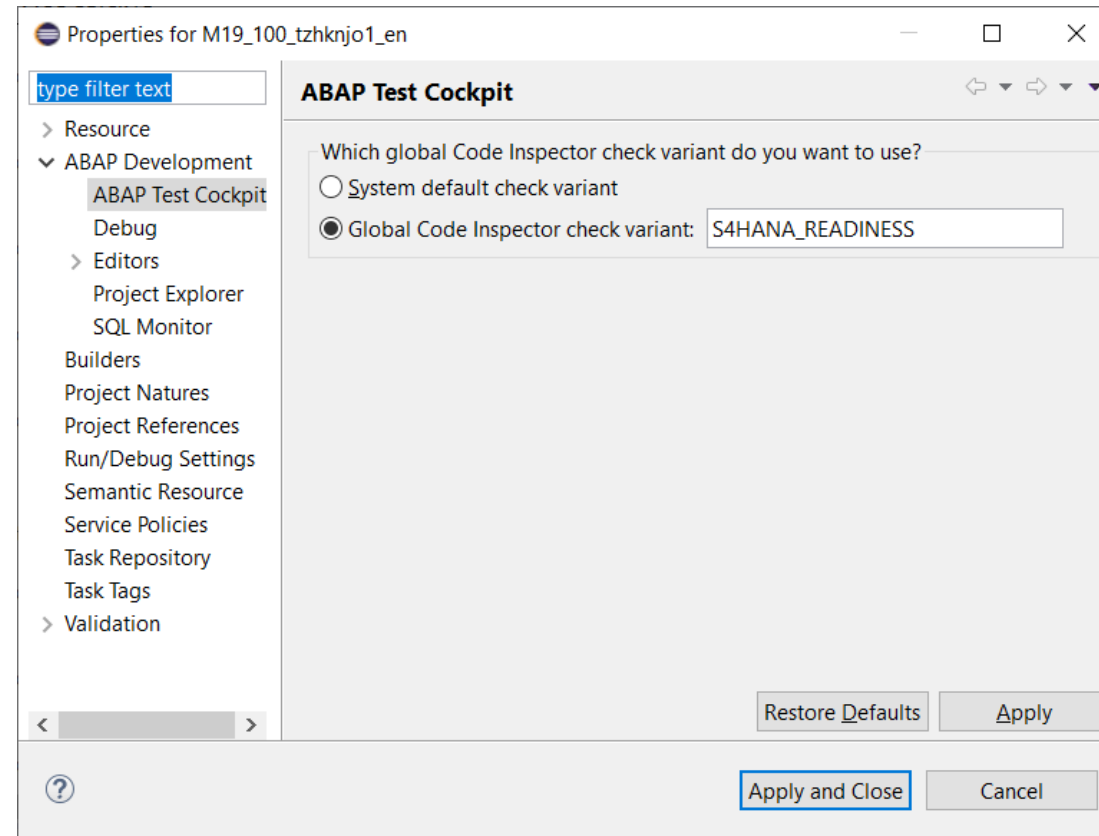
Field	Key	Initi...	Data element	Data Type	Length	Decima...	Coordinate	Short Description
<input type="checkbox"/> MANDT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MANDT	CLNT	3	0		0 Client
<input type="checkbox"/> MATNR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MATNR	CHAR	40	0		0 Material Number
<input type="checkbox"/> MYDATE	<input type="checkbox"/>	<input type="checkbox"/>	/BEV2/EDZDATA		0	0		0
<input type="checkbox"/> MATKL	<input type="checkbox"/>	<input type="checkbox"/>	MATKL	CHAR	9	0		0 Material Group
<input type="checkbox"/> ERNAM	<input type="checkbox"/>	<input type="checkbox"/>	ERNAM	CHAR	12	0		0 Name of Person who Created the
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

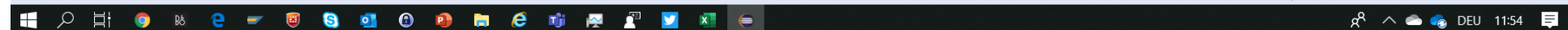
Save Cancel

In Custom Tables, sometimes there have been Data Elements been used, which don't exist any more. For Example from the /BEV/ Beverage Solution

It is easy to adjust this by copying the Element in ECC to a Z-Custom Data element and it will not be lost when moving to S/4HANA.

ATC in Eclipse





Quick Fix

Select the fix for 'SELECT ... FOR (former) cluster table KONV without ORDER BY found: Search problematic statements for result of SELECT/OPEN CURSOR without ORDER BY'.

Select a fix:

Append ORDER BY PRIMARY KEY to the SELECT statement

Problems:

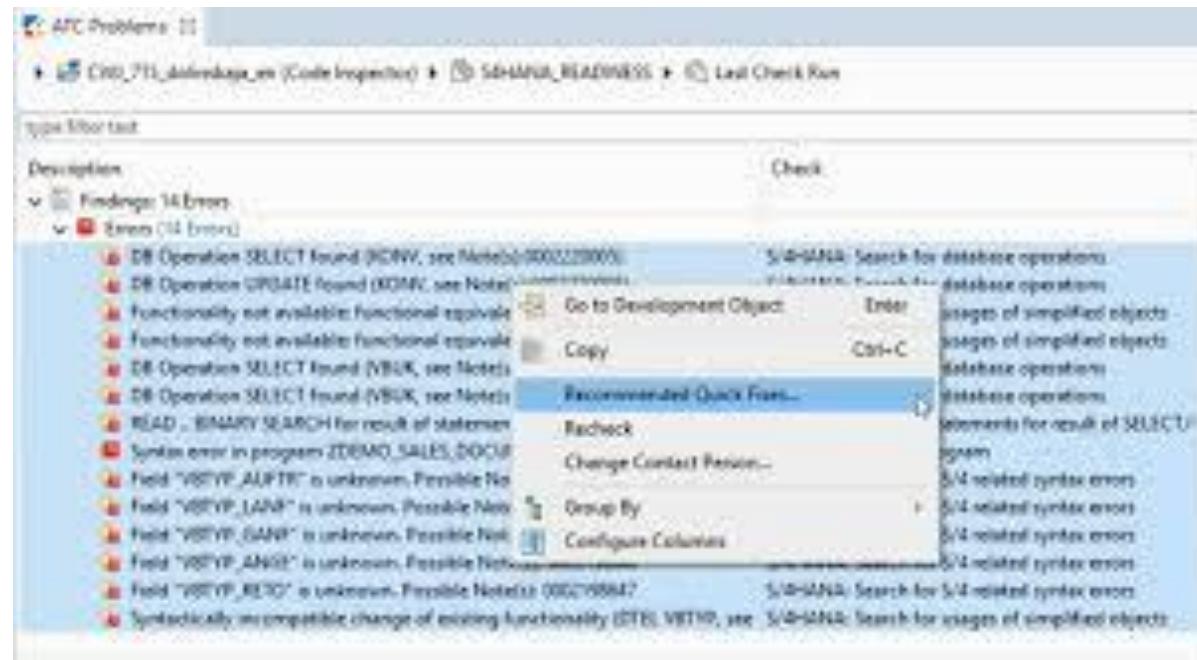
Resource	Location
<input checked="" type="checkbox"/> i ZMW_S4HANA_PRICING (Program)	line 286

Select All

Deselect All



Mass Quick Fixes (Eclipse ABAP)



- > ORDER BY PRIMARY Key
- > SELECT FROM VBUK...
- > SELECT FROM KONV..

<https://blogs.sap.com/2018/10/02/semi-automatic-custom-code-adaptation-after-sap-s4hana-system-conversion/>



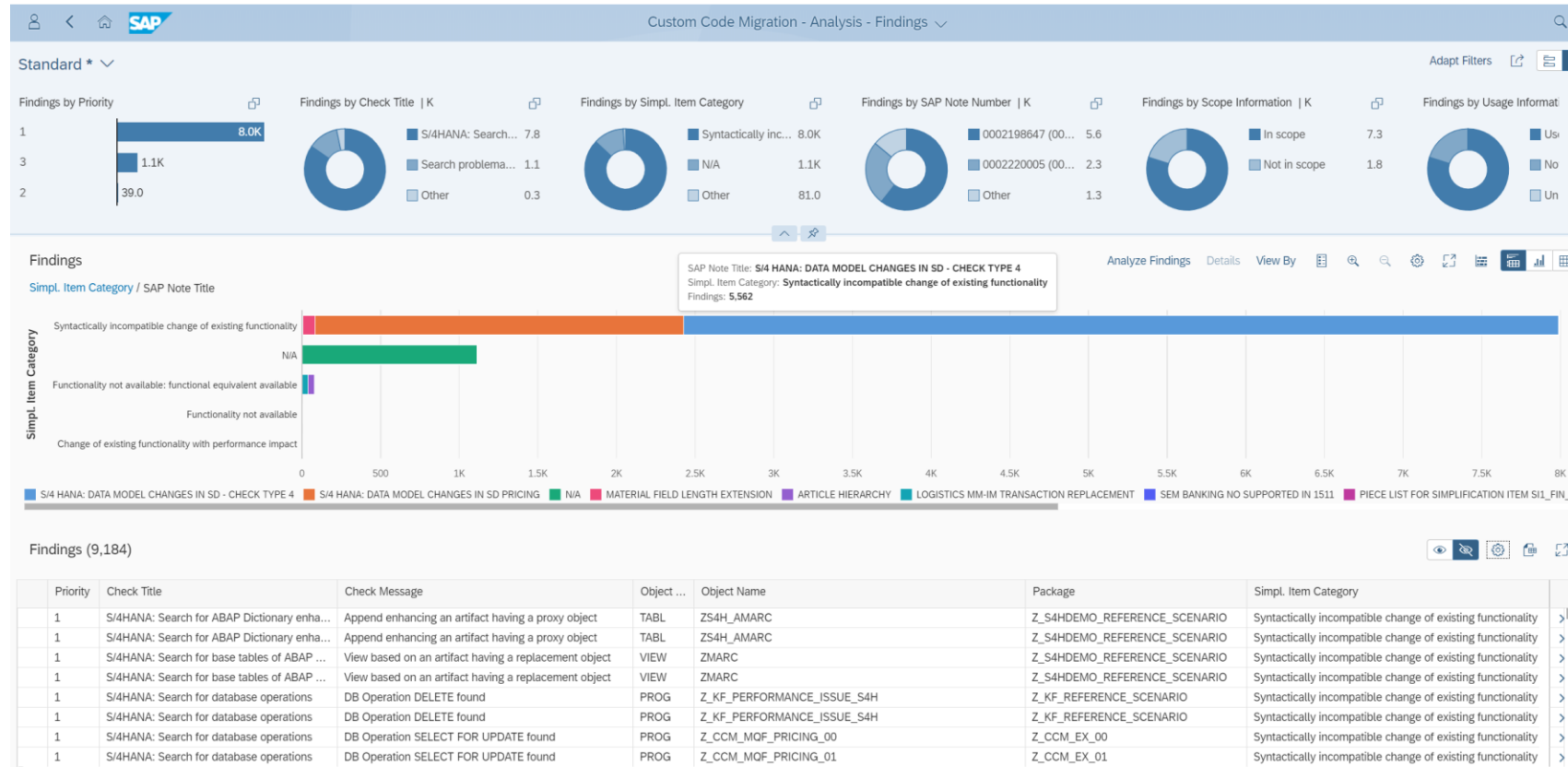
Quick Fixes: Examples & Comments

- <https://blogs.sap.com/2020/05/18/comments-for-the-adt-quick-fixes/>

Original Source	Refactored Source
<pre>11 i_kposn like konv-kposn, 12 i_stunr like konv-stunr, 13 i_zaehek like konv-zaehk. 14 15selection-screen skip. 16 17parameters: i_waersn like konv-waers obligatory default 'EUR'. 18 19select single * from konv where knumv = i_knumv 20 and kposn = i_kposn 21 and stunr = i_stunr 22 and zaehek = i_zaehek. 23 24if sy-subrc = 0.</pre>	<pre>19 TRY. 20 21 CL_PRC_RESULT_FACTORY=>GET_INSTANCE()->GET_PRC_RESULT()->GET_PRC_RESULT() 22 EXPORTING IT_SELECTION_ATTRIBUTE = VALUE #(23 (fieldname = 'KNUMV' value = I_KNUMV) 24 (fieldname = 'KPOSN' value = I_KPOSN) 25 (fieldname = 'STUNR' value = I_STUNR) 26 (fieldname = 'ZAEHK' value = I_ZAEHK) 27) 28 IMPORTING ET_PRC_ELEMENT_CLASSIC_FORMAT = DATA(ETL19C0R7986)). 29 KONV = ETL19C0R7986[1]. 30 CATCH CX_PRC_RESULT CX_SY_ITAB_LINE_NOT_FOUND . 31 SY-SUBRC = 4. 32 ENDTRY.</pre>

Original Source	Refactored Source
<pre>27 * for all entries in lt_vbuk 28 * where vbeln = lt_vbak-vbeln and gbstk = 'C'. 29 30 31select * from vbuk 32into table lt_vbuk 33for all entries in lt_vbak 34where vbeln = lt_vbak-vbeln and gbstk = 'C' ORDER BY PRIMARY KEY. 35* End of Quick Fix 36 37 38loop at lt_vbak into data(ls_vbak). 39 40 read table lt_vbuk with key vbeln = ls_vbak-vbeln binary search transporting no fi</pre>	<pre>31 32 * Quick Fix Replace VBUK table access with the access of compatibility view V_VBUK_S4 33 * Transport CUK900919 Demos 34 * Replaced Code: 35 * select * from vbuk 36 * into table lt_vbuk 37 * for all entries in lt_vbak 38 * where vbeln = lt_vbak-vbeln and gbstk = 'C' ORDER BY PRIMARY KEY. 39 40 SELECT FROM V_VBUK_S4 FIELDS * FOR ALL ENTRIES IN @LT_VBAK WHERE VBELN = @LT_VBAK-VBELN AND GBSTK = 'C' ORC 41 * End of Quick Fix 42 43 * End of Quick Fix 44</pre>

Fiori Custom Code Migration



<https://blogs.sap.com/2019/02/27/custom-code-analysis-for-sap-s4hana-with-sap-fiori-app-custom-code-migration/>



SAP Fiori Custom Code Migration

Use display criteria (“View by”):

- SAP Note number
- Referenced simplified Object
- Application component

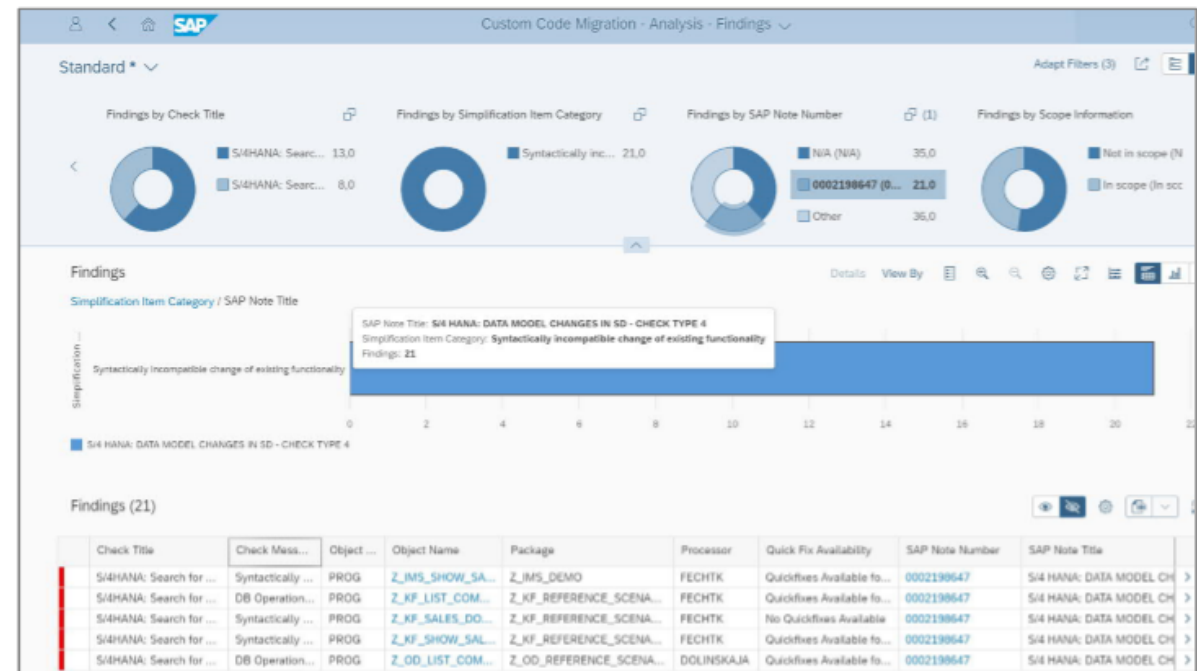
Use filters (“Findings by”) and simplification information in ATC result list

- SAP Note number incl. title
- Referenced simplified object
- Application component

Use double-click navigation from ATC result

- Navigate to SAP Notes, Referenced Objects, ATC findings

Analysis in SAP Fiori Custom Code Migration App





Enable Fiori

Enable App for Access in SAP Fiori Launchpad

1. Add business **catalog SAP_BASIS_TCR_T** to the user roles that will use the Custom Code Migration app (PFCG)
2. Assign the user role to all users that will use the Custom Code Migration app.
3. Activate ODATA Services:

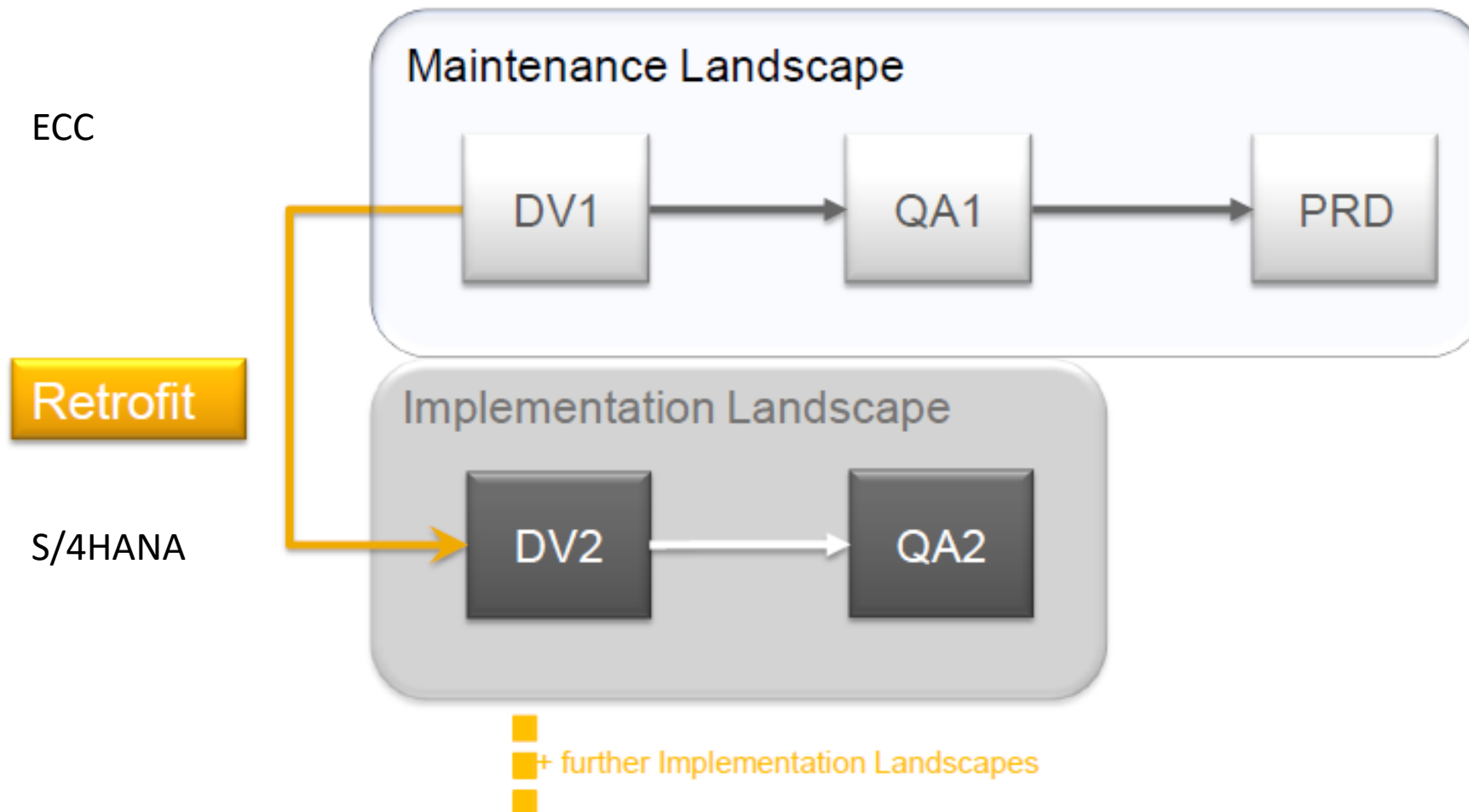
Component	External Service Name
Custom code migration projects	SYCM_APS_C_PROJECT_CDS
Analysis of SAP S/4HANA custom code check findings	SYCM_APS_C_ATC_FIND_ALP_CDS
Custom code scoping by request entry points	SYCM_APS_C_SCP_BY_EP_CDS
Custom code scoping by packages	SYCM_APS_C_SCP_BY_PK_CDS



What you can do today

You should	You could
Collect productive Usage	Start to adapt your code in DEV System
Create new Code S/4HANA-ready (Setup Remote ATC)	Estimate Adaptation efforts
Developer-Training in S/4HANA and new Tools (CDS, OData, Eclipse...)	Transform custom code to Cloud Platform

System Freeze vs. Dual Maintenance



Minimum Changes during Project

Sandbox to shorten Time of Dual Maintenance

Changes need to be done in ECC and S/4 by Dual-Maintenance (Manual or with Solution Manager RetroFit)

Thank you



I will be available for Questions in the Chat

- <https://www.linkedin.com/in/joerg-knaus-39910a6/>
- <https://twitter.com/JoergKnaus>



Jörg Knaus