Streamline Transformation with Custom Code Migration Tools in RISE with SAP

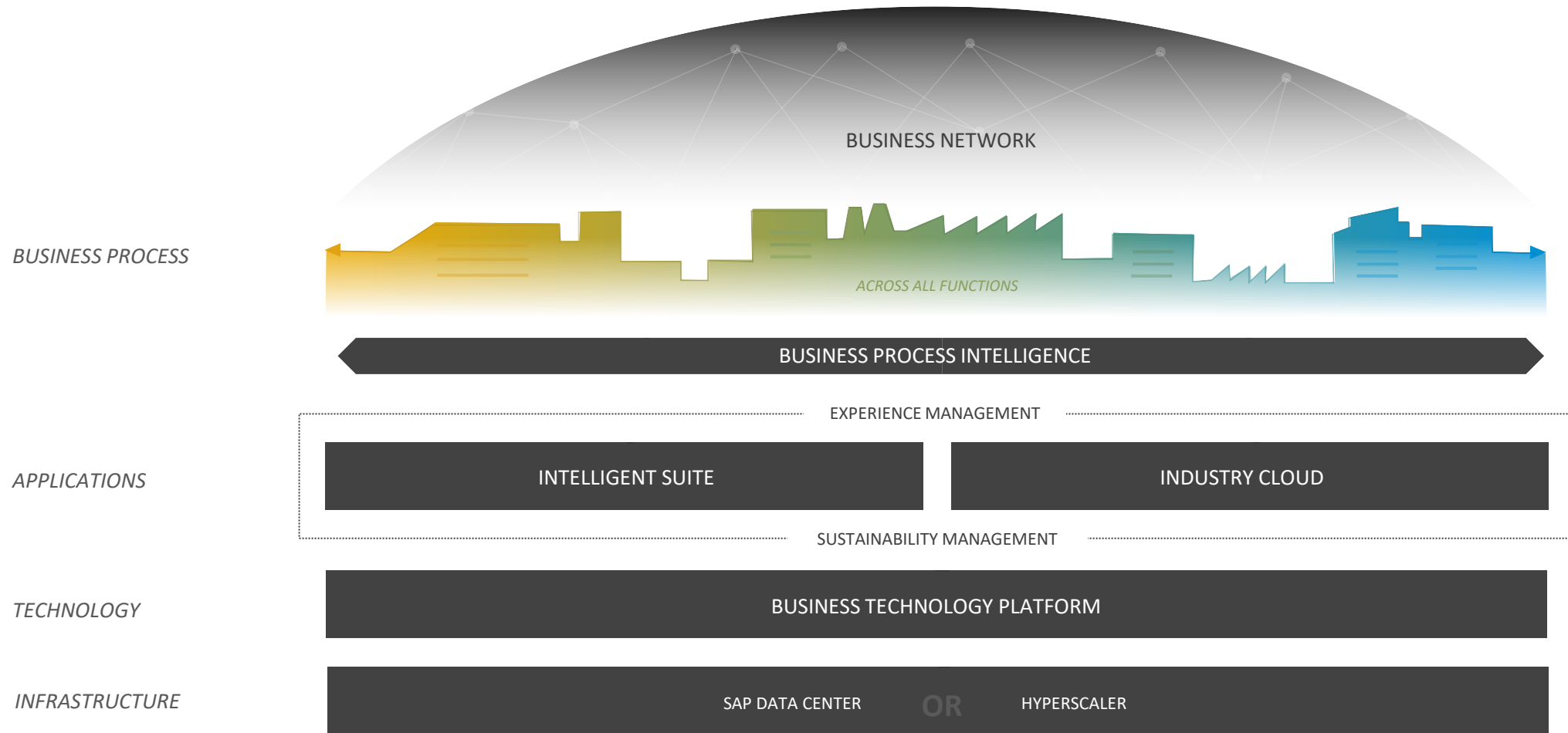Olga Dolinskaja, SAP
April 05, 2022

Public

# INTELLIGENT ENTERPRISE
Evolved Vision.

BUSINESS NETWORK

BUSINESS PROCESS

ACROSS ALL FUNCTIONS

BUSINESS PROCESS INTELLIGENCE

EXPERIENCE MANAGEMENT

APPLICATIONS

INTELLIGENT SUITE

INDUSTRY CLOUD

SUSTAINABILITY MANAGEMENT

TECHNOLOGY

BUSINESS TECHNOLOGY PLATFORM

INFRASTRUCTURE

SAP DATA CENTER   OR   HYPERSCALER

RISE with SAP – Building your intelligent enterprise

Comprehensive, intelligent, customer-specific offering
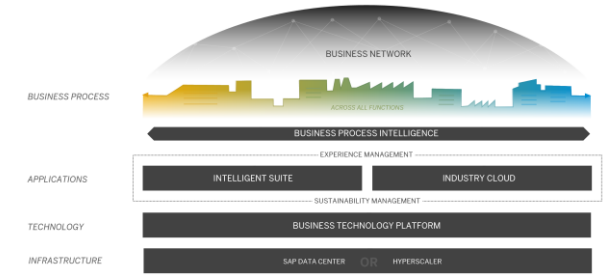
Offering components

- Process Discovery report

- SAP Business Technology Platform (CPEA credits)

- SAP Business Network Starter Pack

- **Custom Code Migration app**, SAP Readiness Check, SAP Learning Hub

- SAP S/4HANA, with deployment model of choice (public or private)

- On infrastructure provider of choice**

Optional components

- Additional services

Analyze how processes perform, get tailored recommendations, and benchmark against industry standards

Complement, extend and integrate with SAP, partner, or third-party solutions using the same data model and business services as SAP applications

Digitize collaboration with all of your trading partners

Support your whole journey using tools and services from SAP that can be augmented by SAP's strong ecosystem

---

Premier value

Guided journey

Simplified engagement

**Embrace program terms apply

Challenges for custom code on the road to the Intelligent Enterprise

Over past years, SAP customers have heavily extended and modified SAP solutions. There are systems running the SAP ERP applications with a few million lines of custom code. SAP customers want to reuse custom code.
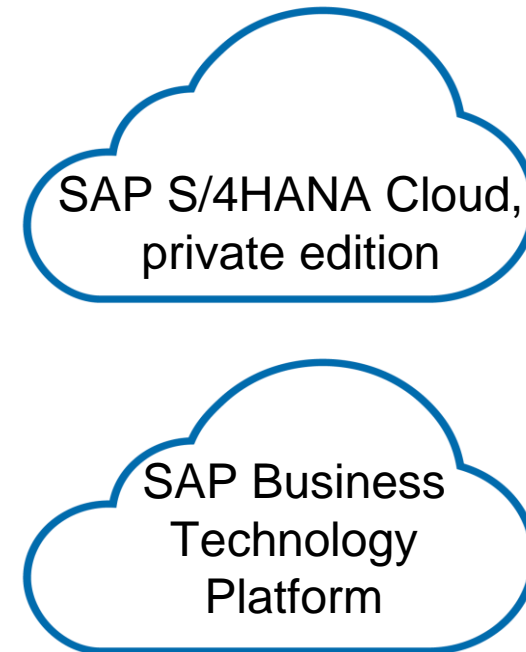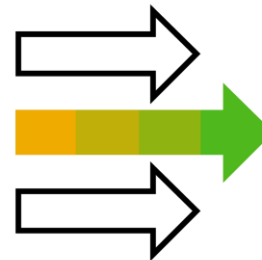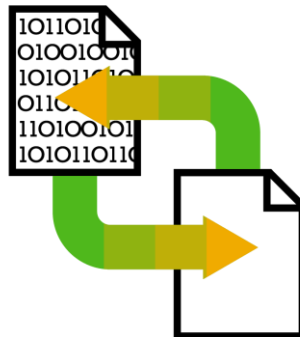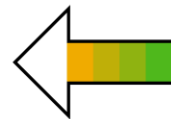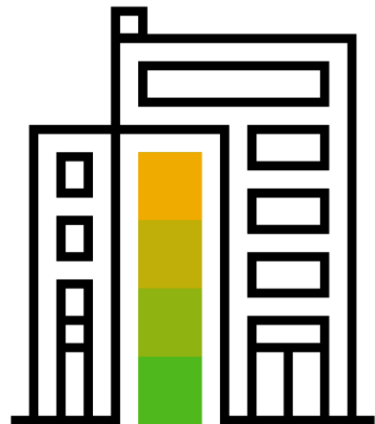
Challenges and business drivers

⟩ Assessment of impact of custom code very early in a custom code migration project will save costs.

⟩ Unused and obsolete code should be identified and removed.

⟩ All impacted custom code objects must be adapted.

⟩ Automated adaptation capabilities are required.

⟩ Complex custom code causes high adaptation and maintenance costs.

⟩ Lift and shift custom code migration approach causes high adaptation and maintenance costs.

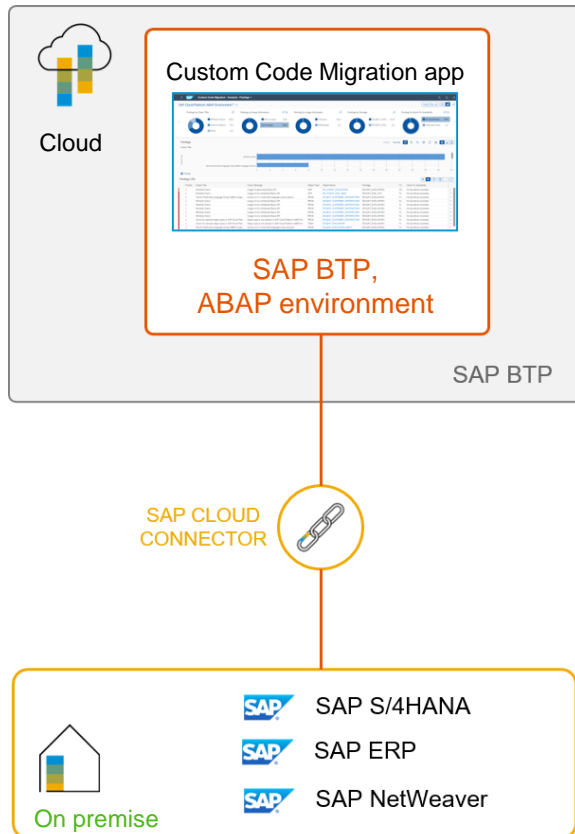# Technical migration with the Custom Code Migration app

Custom Code Migration app

Assess custom code impact and reenforce clean-core principle during SAP S/4HANA software conversions and migration to SAP Business Technology Platform (SAP BTP)

SAP Business Suite

Custom Code Migration app – Overview

Cloud

Custom Code Migration app

SAP BTP,
ABAP environment

SAP BTP

SAP CLOUD
CONNECTOR

On premise

SAP S/4HANA

SAP ERP

SAP NetWeaver

Solution overview

Analysis of custom code for SAP S/4HANA or SAP BTP readiness

Simplified custom code remediation

Obsolete custom code removal based on usage data

Identification of custom code candidates for back-to-standard and redesign

Evaluation of custom code for semiautomated adaptation (quick fixes)

Automated setup and configuration in SAP BTP ABAP Environment

Check out RISE with SAP and custom code migration - What is included
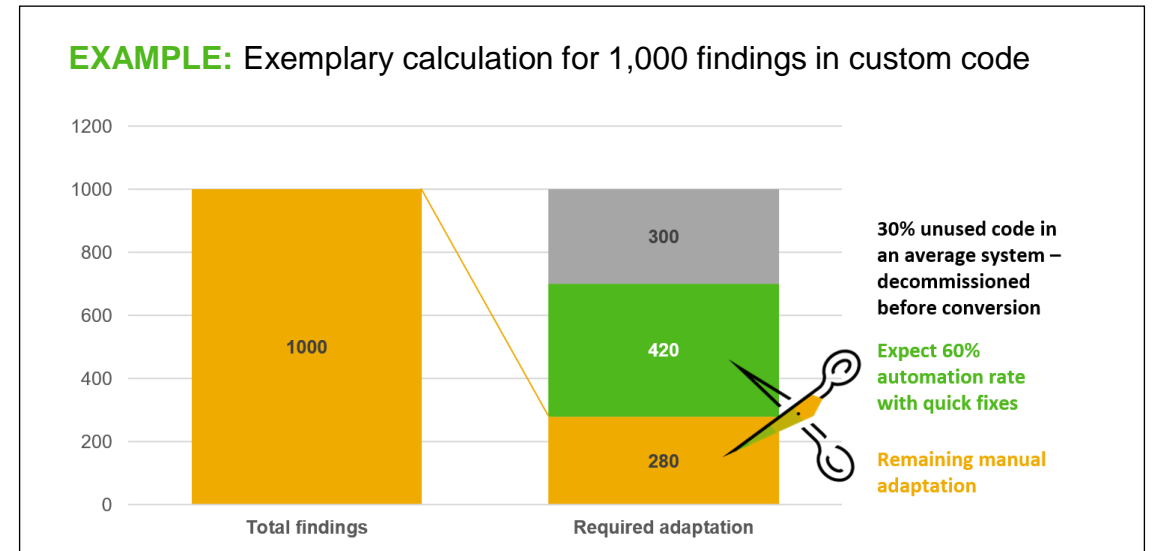
Custom Code Migration app – Reinforcing clean core

Clones

Modifications

Enhancements

SAP Business Suite

Extensions

Add-ons

Clean core dashboard

Mandatory

Recommended

Optional

Clean core

SAP S/4HANA Public Cloud
- In-app extensions
- On-stack extensions

SAP S/4HANA Private Cloud
- In-app extensions
- On-stack extensions
- Classic extensions*

SAP S/4HANA
- Classic extensions

SAP BTP
- Side-by-side extensions
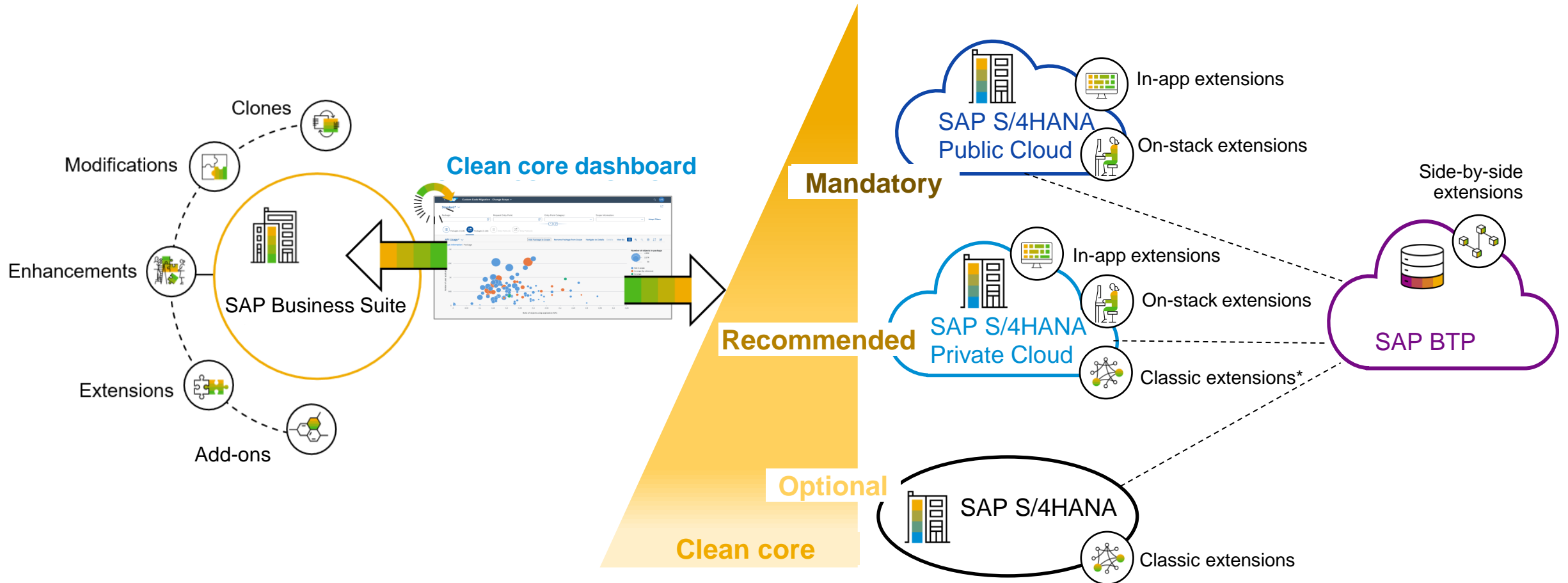
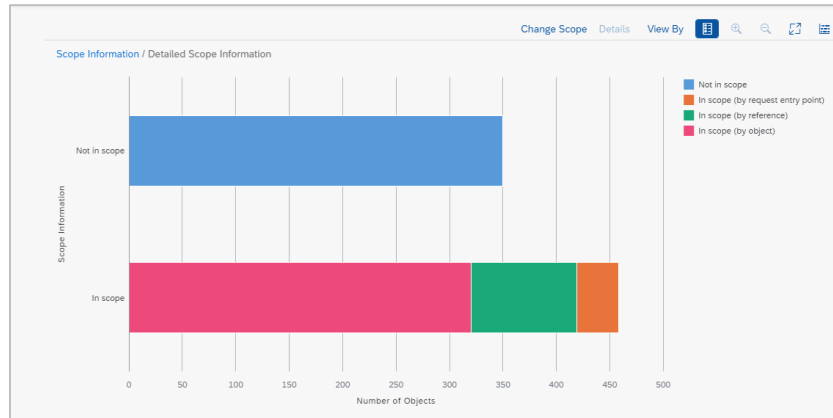*Not recommended anymore

Custom Code Migration app – Benefits

Benefits and business value

◆ Estimation of issues in custom code in advance will help better plan adaptation efforts.

◆ Identification and automated removal of obsolete code will significantly save costs for the adaptation and future maintenance of custom code.

◆ Advanced analysis capabilities will help better understand custom code impact.

◆ Automation of custom code adaptation will reduce manual work (quick fixes).

◆ Identification of complex custom developments will drive back-to-standard and redesign activities.

EXAMPLE: Exemplary calculation for 1,000 findings in custom code

Total findings: 1000

Required adaptation:
- 300
- 420
- 280

30% unused code in an average system – decommissioned before conversion

Expect 60% automation rate with quick fixes

Remaining manual adaptation

Custom Code Migration app – High-level features
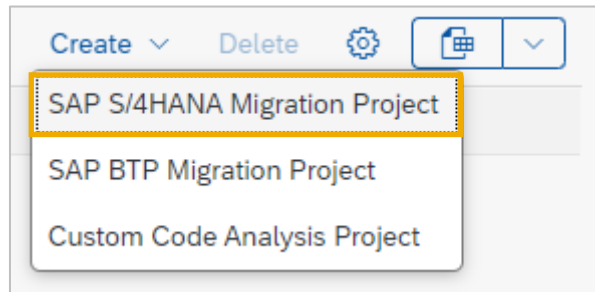
Scoping

- Upload usage data for custom code
- Define custom code migration scope based on usage data
- Adjust scope manually
- Identify and remove complex custom code from scope
- Save scope as transport request

Analysis
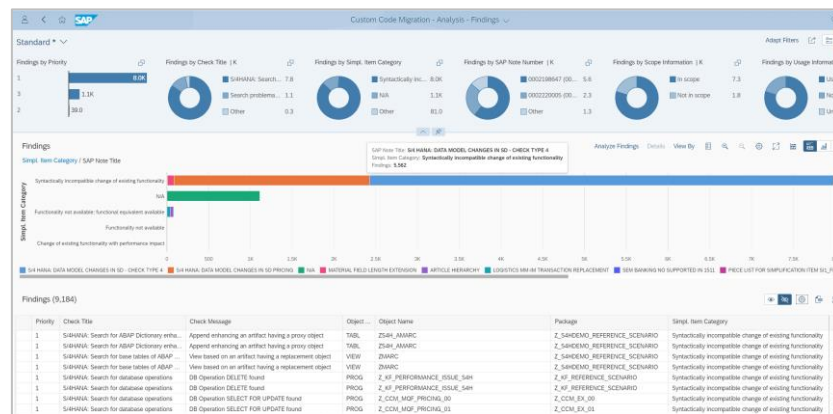
- Remote ABAP Test Cockpit infrastructure
- Analytical representation of custom code analysis results
- Burndown chart – distribution of analysis results over time
- Compact and visual filters to customize analysis results view
- Identification of custom code for semiautomated adaptation (quick fixes)
- Detailed analysis of a custom code finding
- Direct navigation to source code

Custom Code Migration app – Use cases for migration of custom code

Create ⌄   Delete   ⚙   [▣|⌄]

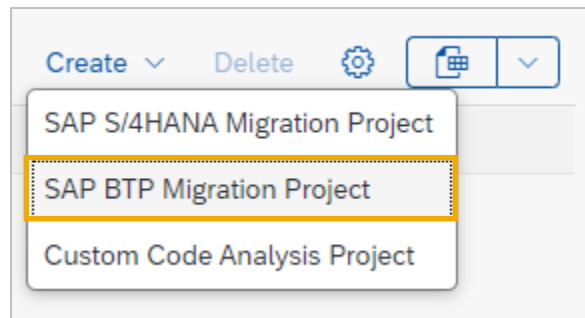| SAP S/4HANA Migration Project |
| SAP BTP Migration Project |
| Custom Code Analysis Project |

For tightly coupled custom code extensions

Analysis of custom code for migration to SAP S/4HANA

Check out Custom code analysis for SAP S/4HANA with SAP Fiori app Custom Code Migration

---

Create ⌄   Delete   ⚙   [▣|⌄]

| SAP S/4HANA Migration Project |
| SAP BTP Migration Project |
| Custom Code Analysis Project |

For loosely coupled custom code extensions

Analysis of custom code for migration to SAP BTP

Check out How to check your custom ABAP code for SAP BTP, ABAP environment

Migration to SAP S/4HANA – The process

Remove obsolete and outdated code

Move to SAP BTP

Adapt

Scope

Assess complexity and dependency to SAP standard

Analyze

Move to SAP S/4HANA

Modernize and make cloud-ready
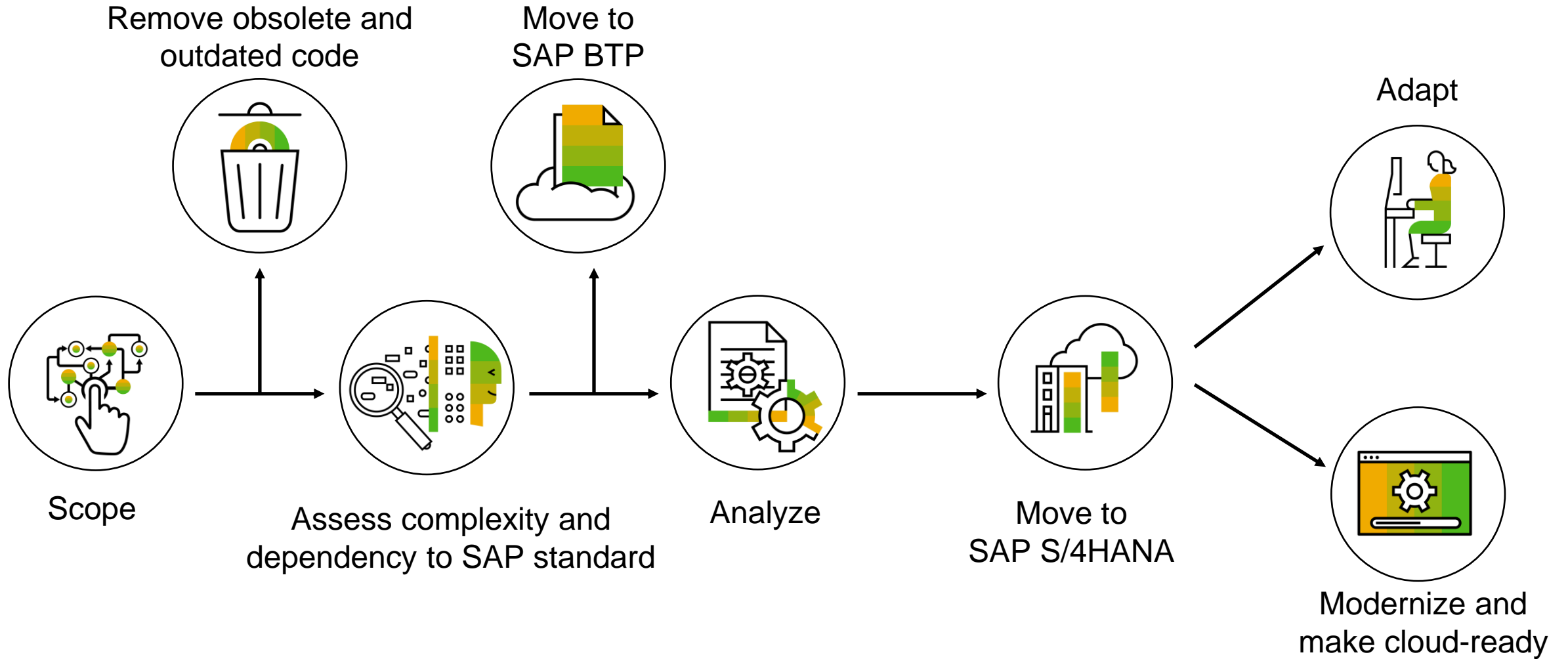
Migration to SAP S/4HANA – Scoping of custom code

Aggregate usage data with SUSG

Usage Data: Aggregation State	
✏ Activate ✏ Deactivate 📄 Create Snapshot 🖫 Manage Snapshots 🟨 Display Log ℹ Application Help	
State	
Aggregation	🟩 Active (Aggregation scheduled at: 26.02.2019 02:30:00)
Aggregation Period	From: 13.12.2018 To: 24.02.2019
Aggregated Days	Days available: 74, Days missing: 0
Aggregated Records	Data records: 191.508, Object data records: 41.576, Request data records: 1.017
Aggregation Log	Errors: 0, Warnings: 74, Deactivation Warnings: 0
ABAP Call Monitor	⚠ GET_LOG_STATUS not installed, see note 2701371

Scoping for SAP S/4HANA
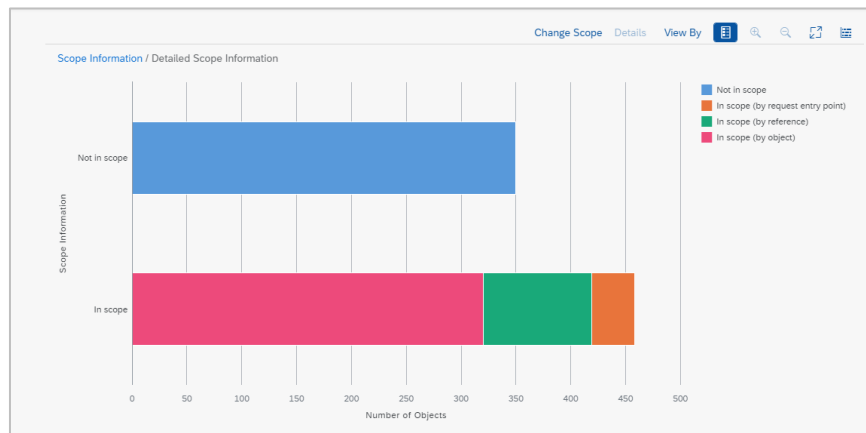
1. **Collect** usage data of custom code in your productive system (transactions SCMON and SUSG)

2. **Upload** usage data to Custom Code Migration app to define initial custom code migration scope

3. **Adjust** custom scope manually (if needed)

4. **Create** deletion transport for unused code in your productive system

5. **Remove** unused code during the SAP S/4HANA conversion automatically through the Software Update Manager tool or backup it using gCTS
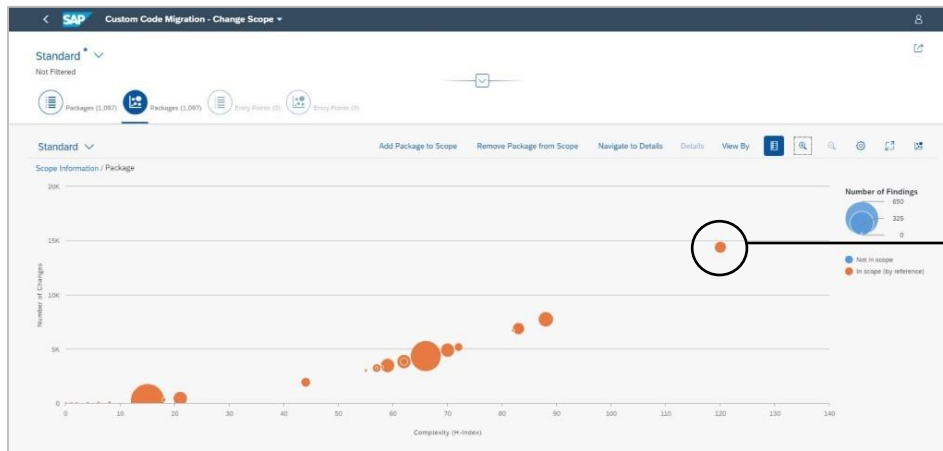
☞ Check out Custom code backup with gCTS

Migration to SAP S/4HANA – Complexity analysis

Clean core dashboard

- Spot the top TCO drivers in your custom code
- Identify candidates for redesign to save adaptation effort and future maintenance costs
- Remove complex development packages from scope

Check out Custom Extensions in SAP S/4HANA Implementations – A Practical Guide for Senior IT Leadership
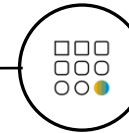
Reevaluate functionality
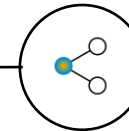Remove old and orphaned business logic
Evaluate SAP and partner solutions

Back-to-standard
Clean up modifications and enhancements
Reset as much as possible to SAP standard

In-app extensibility scope
Small low- and no-code extensions

Side-by-side extensibility scope
Loosely coupled extensions and applications
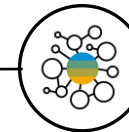
Lift and shift
Tightly coupled extensions and applications
Optimization and modernization

Migration to SAP S/4HANA – Analysis of custom code

Analysis results

Findings burndown chart
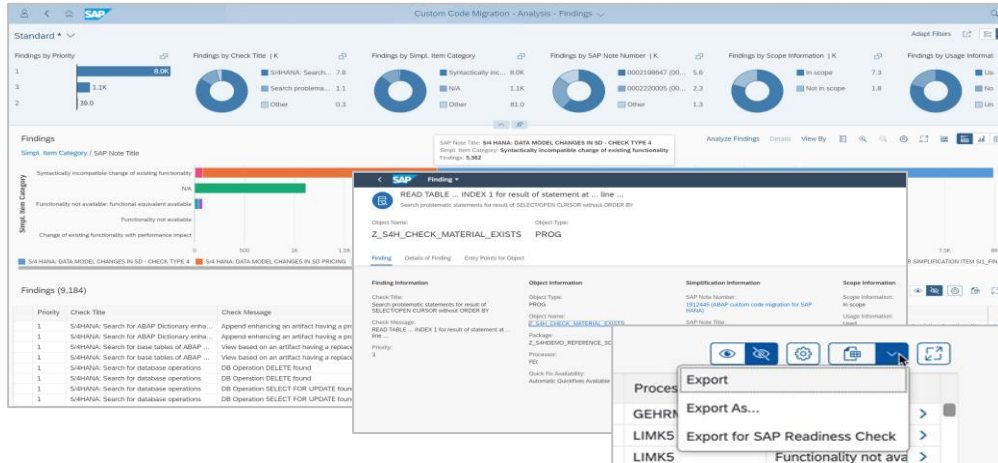
Use of predefined filters

Findings by SAP Note
In which simplification areas of SAP S/4HANA are the most findings?

Findings by scope
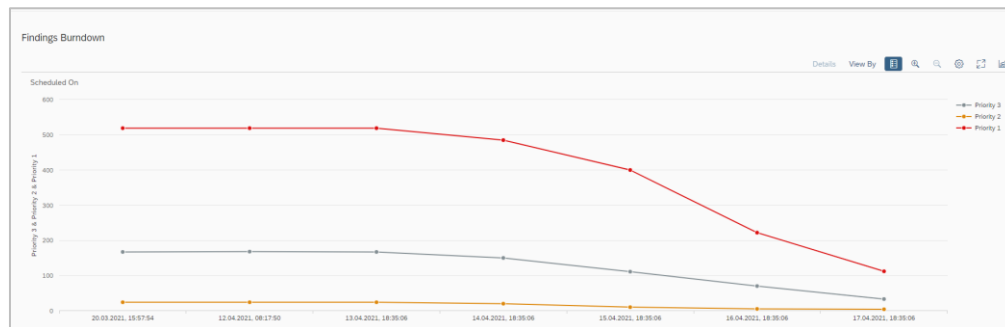How many findings are in the code scoped for SAP S/4HANA?

Findings by priority
What are the most important (urgent) findings?

Findings by quick fix availability
Which findings can be fixed automatically?

Detailed analysis of a finding

Use of findings burndown chart

Download of analysis results (also for SAP Readiness Check 2.0)

Migration to SAP S/4HANA – Automated adaptation with quick fixes
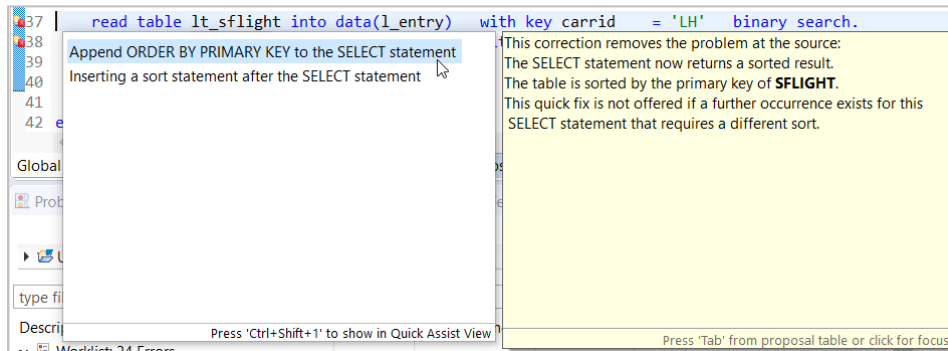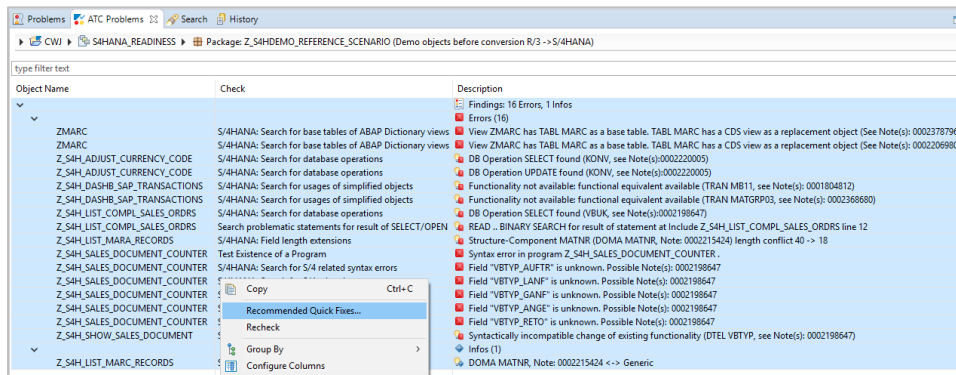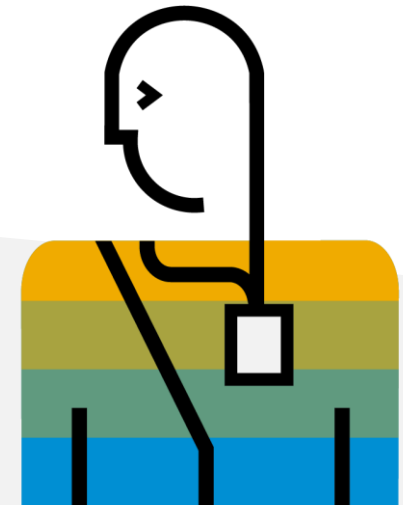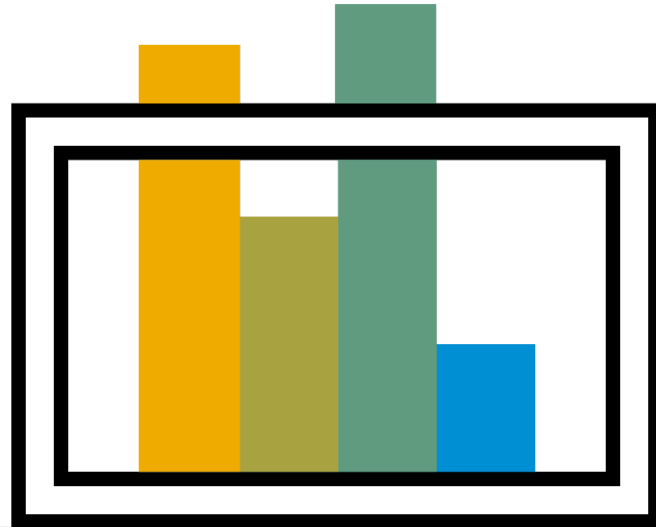
Single quick fix in editor

Mass quick fixes

- Quick fixes available in ABAP Development Tools in Eclipse

- Minimization of efforts through automated adaptation

- Typical simplification use cases of SAP S/4HANA covered:

  - MATNR and amount filed length extension

  - Field length extension of field VBTYP (SD document category) and elimination of field VBTYP_EXT

  - Reduced findings for VBRK and VBRP

  - Data model changes (for example, KONV, VBUK/VBUP, BSEG)

- Mass-enabled quick fixes to adapt whole packages at one shot

Check out Semiautomatic custom code adaptation

Demo

Custom code analysis for SAP S/4HANA

Migration to SAP BTP – The process

Scope → Analyze → Move to SAP BTP → Adapt
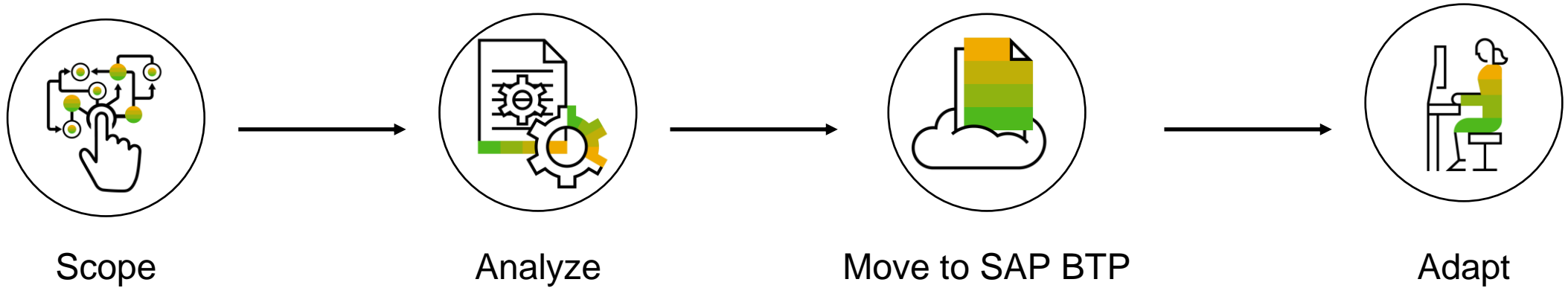
Migration to SAP BTP – Scoping of custom code
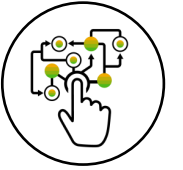
Scoping for SAP BTP
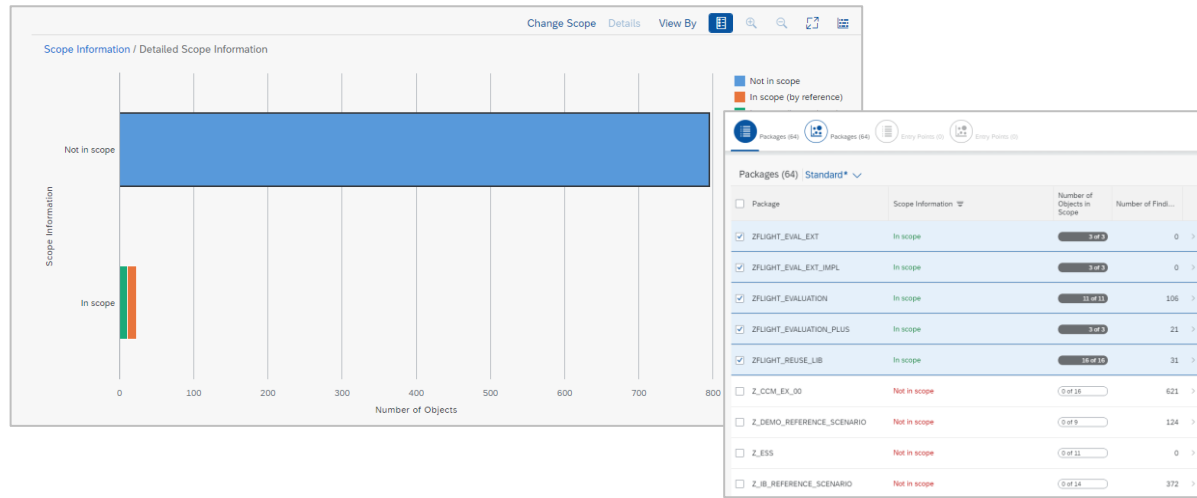
Defining custom scope manually (which custom code you want to take over to SAP BTP)

Automatic scoping of dependent custom code objects

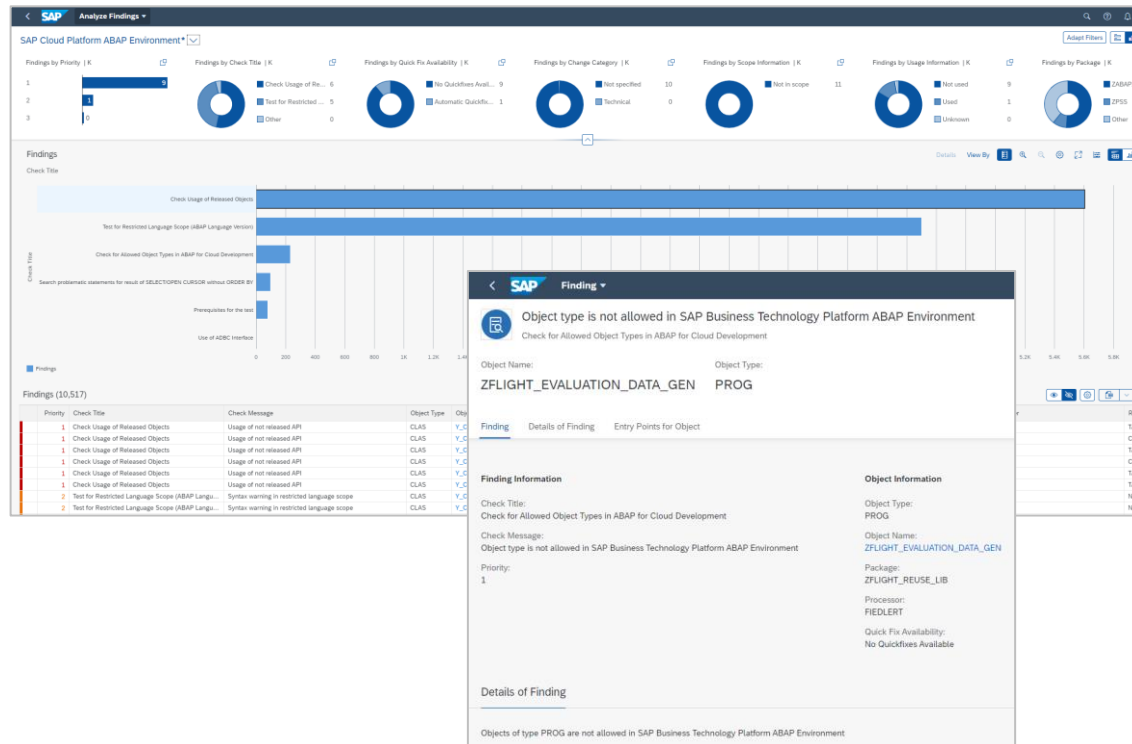**Evaluation** of dependency to SAP standard (through DB accesses and application API calls)

Dependency analysis

Migration to SAP BTP – Analysis of custom code

Analysis results

Finding out if your custom code uses:

- Unsupported technologies (for example, Dynpro)
- Unreleased objects for SAP BTP, ABAP environment
- Noncompatible ABAP statements with ABAP language version cloud

Detailed analysis of a finding

Evaluation for automated code adaptation (quick fixes)

Use of findings burndown chart

Download of analysis results

Migration to SAP BTP – Move custom code to SAP BTP

2 PUSH

3 PULL

abapGit

git

ABAP Development Tools

ABAP custom code

ABAP custom code

4 ADAPT

Custom Code Migration App

CLOUD CONNECTOR

1 ANALYZE

BACKEND SYSTEM
e.g. SAP ERP, SAP S/4HANA,
SAP NetWeaver AS ABAP

SAP BTP ABAP ENVIRONMENT
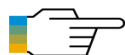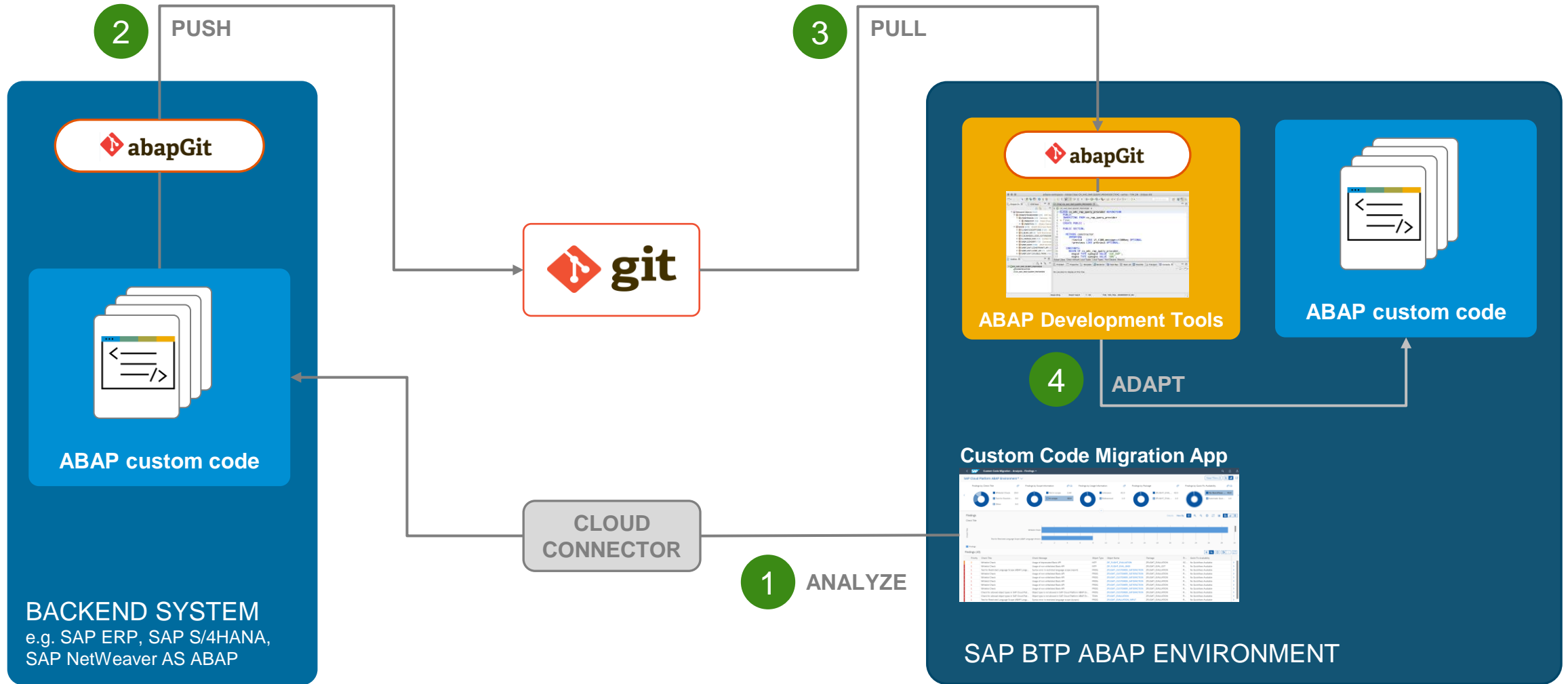
Check out How to bring your ABAP custom code to SAP BTP ABAP Environment

Migration to SAP BTP – Automated adaptation with quick fixes
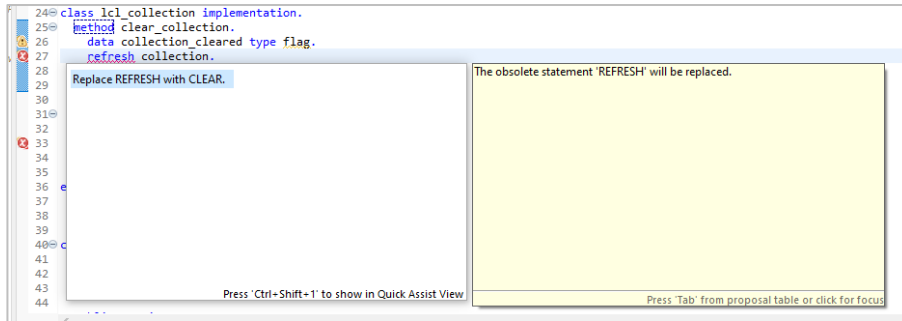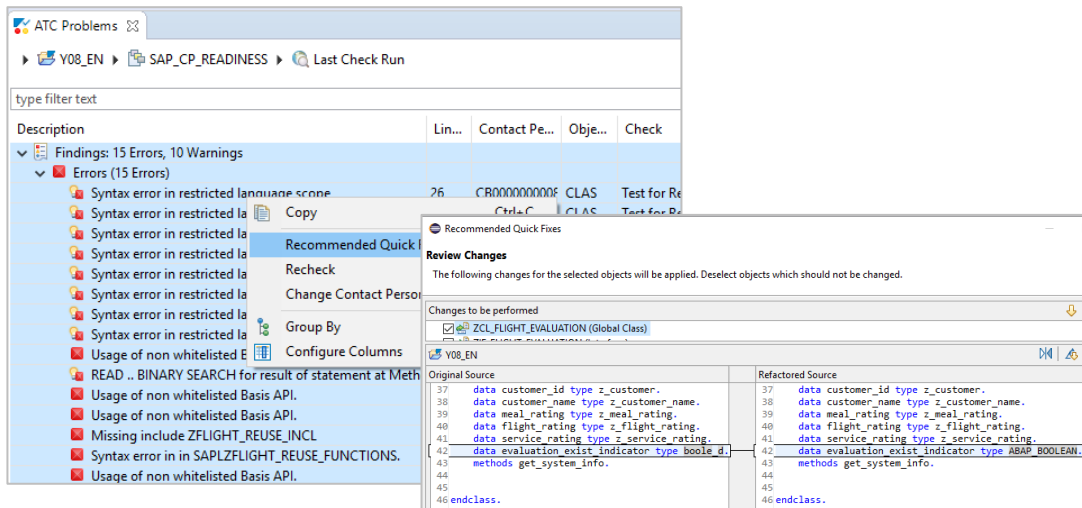
Single quick fix in editor

Mass quick fixes

- Quick fixes available in ABAP development tools in Eclipse

- Minimization of efforts through automated adaptation

- Adaptation to ABAP language version cloud

- Adaptation to usage of released objects

- API calls instead of direct access to SY fields

- Examples – Use cases for quick fixes:

  - Replace data element by released data element (for example, ABAP_BOOLEAN)

  - Replace syntax element by new syntax element (for example, MOVE)

- Mass-enabled quick fixes to adapt whole packages at one shot

Check out Semiautomatic custom code adaptation for SAP BTP, ABAP environment

Demo

Custom code analysis for SAP Business Technology Platform

Custom Code Migration app – Get started

SAP Discovery Center site: Mission
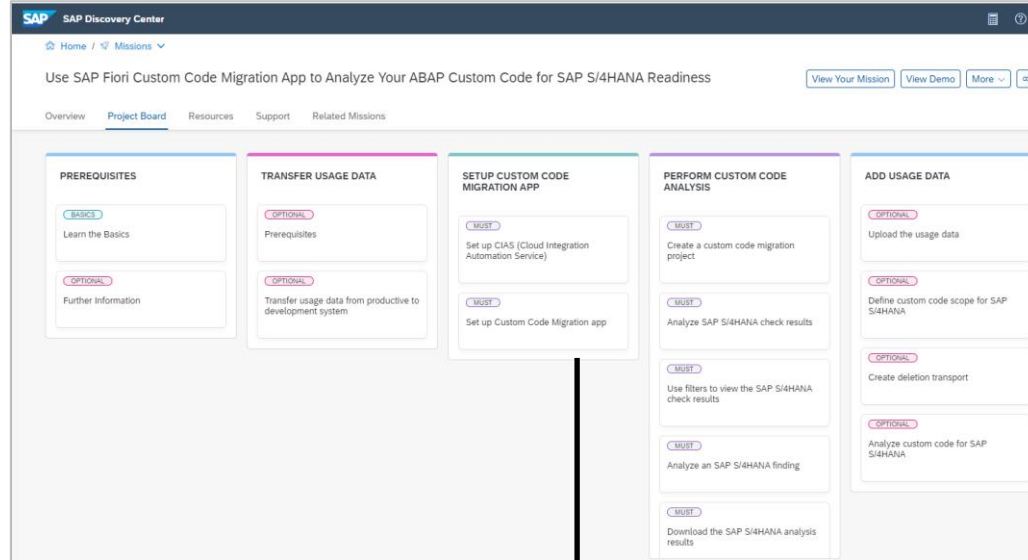
- Custom Code Migration app in SAP BTP ABAP Environment
- Automated setup and configuration with workflow guided by Cloud Integration Automation service
- Step-by-step guided custom code analysis

Cloud Integration Automation service workflow for Custom Code Migration app
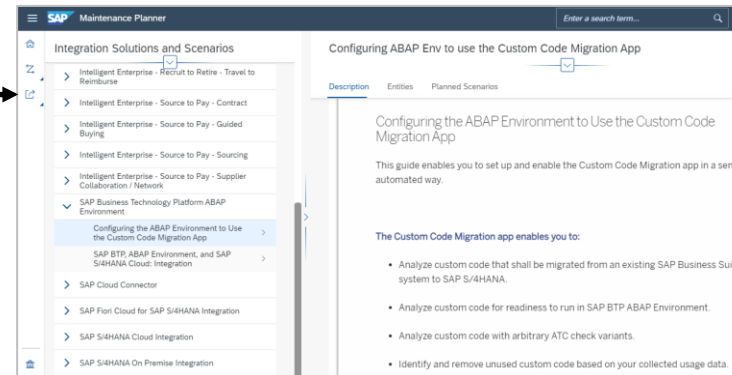
Further information

SAP Community: ABAP testing and analysis
https://www.sap.com/community/topics/abap-testing-analysis.html

Featured Content

Custom code adaptation for SAP S/4HANA

Find out how to adapt your custom code for SAP S/4HANA and which tools to use.

Read the blog

Read the FAQ

RISE with SAP and Custom Code Migration

Custom code analysis for Cloud

Learn how to analyze your custom code for SAP S/4HANA and for cloud using SAP BTP ABAP Environment

ABAP custom code analysis

Try It For Free: Custom Code Migration App

ATC in the Cloud

Usage analysis for your custom code

Collected usage data is the basis for transition of your custom code to SAP S/4HANA.

Collect usage data with ABAP Call Monitor (SCMON)

Aggregate usage data with SUSG

Start writing ABAP Unit Tests

Get recommendations how to write maintainable and readable ABAP Unit tests.

OpenSAP course: Writing testable code for ABAP

Writing ABAP Unit tests

Custom code adaptation for SAP S/4HANA

All relevant processes, recommendations, and tools for handling your custom code for the transition to SAP S/4HANA and during the upgrades within the SAP S/4HANA product family.

Challenge for your custom code

Make custom code ready for SAP S/4HANA

Adaptation for SAP S/4HANA

Adaptation for SAP HANA

Analysis with SAP Fiori App Custom Code Migration

Semi-automatic adaptation with ADT Quick Fixes

FAQ

Custom code analysis for cloud

Custom code analysis options for SAP S/4HANA and cloud using SAP Business Technology Platform

Analysis options

Analysis for SAP S/4HANA

Analysis for cloud

Move custom code to SAP BTP ABAP Environment

Semi-automatic adaptation for cloud

ATC in the Cloud - What is already possible

Thank you.

Contact information:

Olga Dolinskaja
ABAP Platform Product Management, SAP
olga.dolinskaja@sap.com

Follow us

www.sap.com/contactsap

THE BEST RUN SAP