Hands-On Lab: Key Preparations for Moving to SAP S/4HANA Using Readiness Checks, SAP Tools, BTP, and Fiori UI

Your Lab Team:

- Kurt Hollis, SAP Architect, Manager (LAB 1)
- Gopinath Gadde, SAP Senior Manager (LAB 2)
- Deepanshu Mishra, SAP Specialist (LAB 2)
- Indraneel Sen, SAP Technical Lead (LAB 3)

Overview Discussion:

- Mahesh Saswade, SAP Technology Director

Deloitte.

SAPinsider
Las Vegas

2024

SAPinsider

In This Session

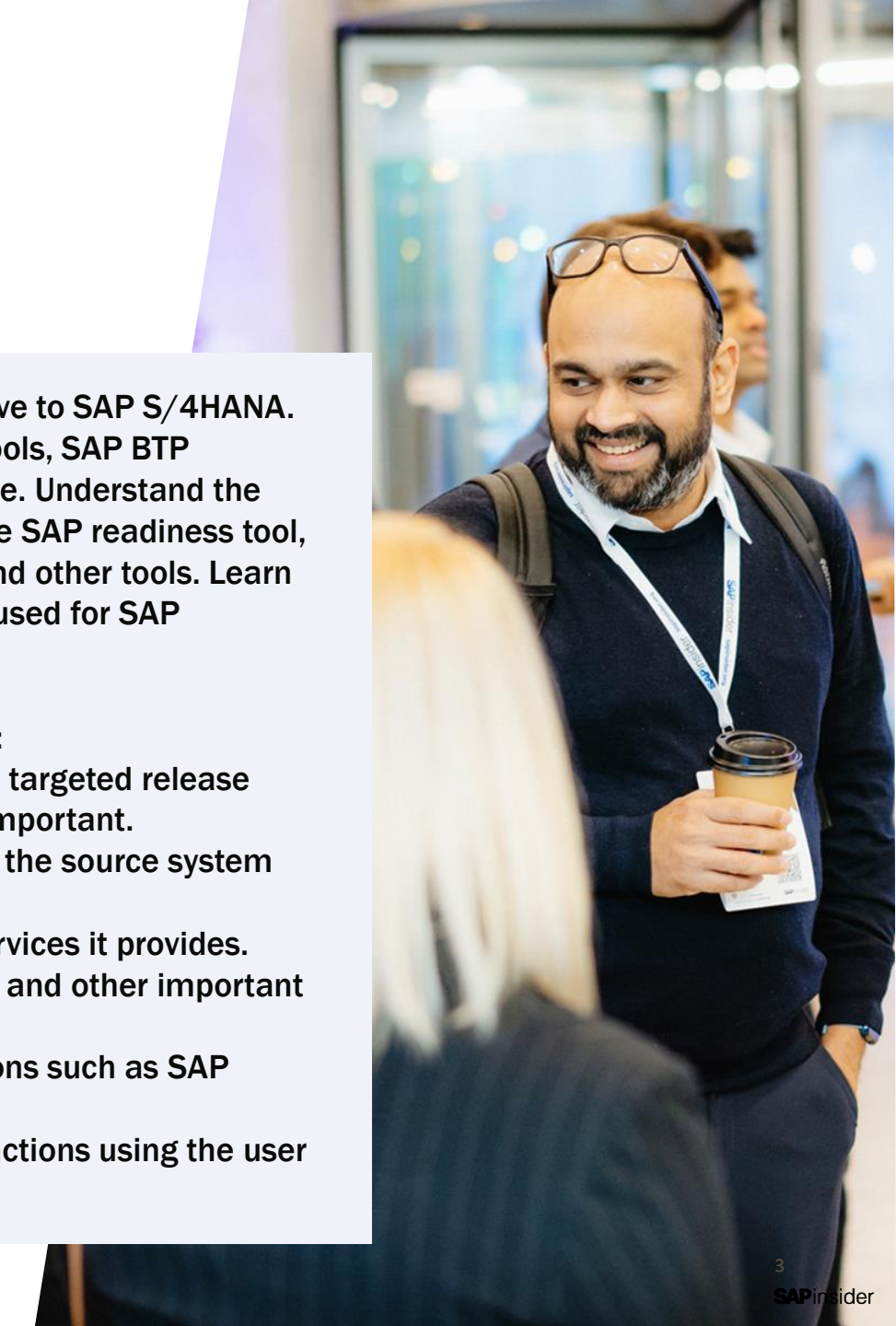
- **HANDS-ON LAB including Demonstrations and Lecture**
- **Lab exercises divided into sections where you will gain practical instruction to utilize SAP S/4HANA tools**
- **Overview of Deployment models including Greenfield, Brownfield, and Selective data migration**
- **Tools for SAP S/4HANA, Simplification, Readiness Checks, and Conversions**
- **How to leverage the BTP – Business Technology Platform**
- **Fiori Launchpad and Content for SAP S/4HANA**
- **Review the tools available for new implementations using SAP Enable Now and Focus Build.**
- **Speed up the process of converting and upgrading your system to SAP S/4HANA while learning how to use important tools and capabilities based on real customer project knowledge**

Session Description

This session is a detailed review of the SAP tools for making the move to SAP S/4HANA. Understand the tools such as Readiness and Simplification Check tools, SAP BTP (Business Technology Platform), and preparing for Fiori user interface. Understand the tools used for SAP S/4HANA system upgrade and conversion like the SAP readiness tool, migration cockpit, custom code Migration tool, simplification tool, and other tools. Learn the details tools available for new SAP S4/HANA implementations. used for SAP S/4HANA system upgrade and conversion.

Attendees will learn the following along with the hands-on exercises:

- Search and browse upgrade relevant simplification items for the targeted release using the Simplification Item Catalog and understand why it is important.
- Review the capabilities of the SAP Readiness Checks to analyze the source system and how to view the resulting reports.
- How to utilize the SAP Business Technology Platform and the services it provides.
- Delve into high-level custom code analysis, add-on compatibility, and other important items.
- Review the tools available for new SAP S4/HANA implementations such as SAP Enable Now and Focus Build.
- Understand the Fiori Launchpad and managing the business functions using the user interface of Fiori.



What We'll Cover

Topic 1 – SAP S/4HANA Release Information and Overview of the three methods for moving to SAP S/4HANA

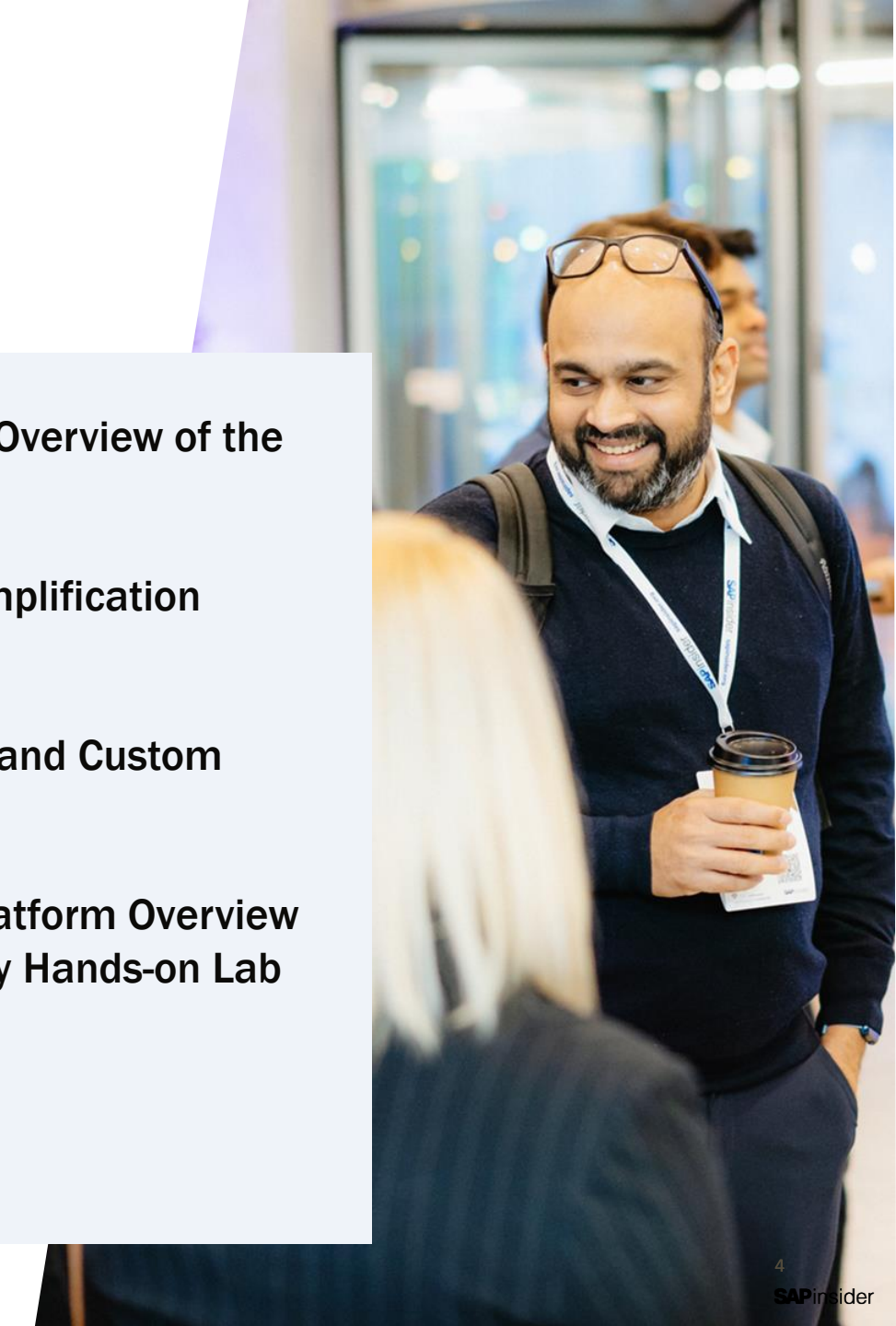
Topic 2 and Lab 1 - SAP Readiness checks and Simplification Checks Discussion followed by Hands-On Lab

Topic 3 - Customer Vendor Master and Conversion and Custom Code Conversion

Topic 4 and Lab 2 – "BTP" Business Technology Platform Overview and Demonstration of Code Conversion followed by Hands-on Lab

Topic 5 Fiori Launch Pad and Business Content

Topic 6 - Sizing for SAP S/4HANA (Optional)



LAB SECTIONS

Lab Section 1: Kurt Hollis

SAP Readiness checks and Simplification Checks to analyze the source system and viewing the resulting reports files

Lab Section 2: Gopinath Gadde, Deepanshu Mishra

SAP Business Technology Platform services for SAP S/4HANA upgrades and conversions including custom code Analysis and Add-on Compatibility

Lab Section 3: Indraneel Sen

Instructor Led – Fiori Launchpad and managing the business functions using the user interface of Fiori

Topic 1 - Overview and Introduction

SAP S/4HANA Release Information

Overview of the three methods for moving to SAP S/4HANA

Why move to SAP S/4HANA from SAP ERP 6.0?

Why move to SAP S/4HANA from SAP ECC?

- Support ending for SAP ECC in 2027, strategic direction
- S/4HANA is designed to make ERP more modern
- Faster and easier to use through a simplified data model
- Lean architecture and a new user experience built on the tile-based SAP Fiori user interface (Web based)
- Integrated with advanced technologies including AI, machine learning, IoT and advanced analytics
- Integration with SAP HANA

Support for SAP S/4HANA until the end of 2040

SAP will also provide mainstream maintenance for core applications of SAP Business Suite (ECC 6.0) software until the end of 2027 followed by optional extended maintenance until the end of 2030

Good to know → Support for SAP BW 7.5 until 2027 and SAP BW/4HANA until 2040.

Choices for S/4HANA – On-Premise, Cloud Private with Rise, or Cloud Public

SAP S/4HANA is available for On-premise or Cloud editions

SAP S/4HANA Cloud Public Edition: Based on SAP S/4HANA Cloud Edition. This is SaaS public cloud which means that the software is licensed on a subscription basis and is accessed via the Internet. Completely managed by SAP with frequent updates to the software.

SAP S/4HANA Cloud Private Edition (Usually managed by SAP Rise).

SAP S/4HANA On-Premise: On-Premise or on own managed Cloud providers (AWS, Azure, GCP, etc)

About SAP Rise:

- Runs the SAP S/4 HANA Cloud Private Edition which is similar versioning as the On-premise edition. SAP Rise takes care of many tasks including installation and upgrades.
- SAP Rise is basically the SAP systems running on Azure/AWS/GCP/SAP datacenter with server management supported by SAP internal personnel.
- It frees customers from the difficulties of maintaining a dedicated infrastructure and server management team.

NOTE → SAP S/4HANA Cloud extended edition (no longer positioned for new customers)

Links to documentation:
https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE
https://help.sap.com/docs/SAP_S4HANA_CLOUD_PE
https://help.sap.com/docs/SAP_S4HANA_CLOUD

SAP S/4HANA Versions and Release Dates

SAP S/4HANA On-Premise, Private or Public Cloud Versions

- Versioning is different - Example SAP S/4HANA Public Cloud “2401” where Private Cloud or on-premise version is “2023” with FPS01

SAP S/4HANA Public Cloud Versions

- In 2023 it has four main releases with “HFC” Hot Fix Collections releases in between. Updates take about 12 hours on Weekends.
- Releases are done monthly releases like 2401 to 2412 (see diagram)
- Yearly major releases

SAP S/4HANA On-Premise and Private Cloud Versions

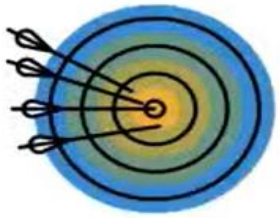
- 7 Years Mainstream Maintenance per Release
- Moving to a two-year release cycle starting with SAP S/4HANA 2023 (prio was every year)
- SAP statement since 2023 version → “No customer left behind” with software capabilities
- The 2023 release of SAP S/4HANA is a new chapter with next-generation technology and many alternative SAP S/4HANA capabilities for legacy compatibility scope items for SAP’s legacy software.
- New Extended Maintenance Option for SAP S/4HANA 1709, 1809, 1909 (4% fee) or free extended maintenance with Rise with SAP

Release Timelines

Release	Test Upgrade	Productive Upgrade
2401 (HFC03*)	—-	Jan 20, 2024
2402	Feb 3, 2024	Feb 17, 2024
2403 (HFC02*)	—-	Mar 16, 2024
2404 (HFC03*)	—-	Apr 20, 2024
2405	May 4, 2024	May 18, 2024
2406 (HFC02*)	—-	Jun 22, 2024
2407 (HFC03*)	—-	Jul 20, 2024
2408	Aug 3, 2024	Aug 17, 2024
2409 (HFC02*)	—-	Sep 21, 2024
2410 (HFC03*)	—-	Oct 19, 2024
2411	Nov 2, 2024	Nov 16, 2024
2412 (HFC02*)	—-	Dec 14, 2024

* - indicates weekend deployment

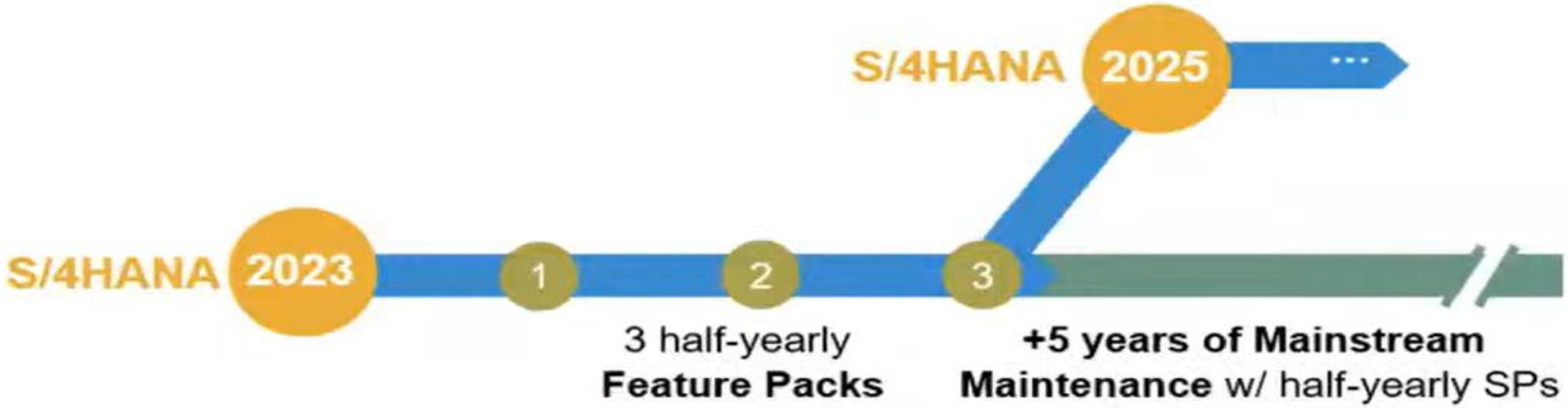
New Release Schedule for SAP S/4HANA On-Premise or Private Cloud Versions



As of October 12th, SAP has delivered eight SAP S/4HANA releases

Next level of product maturity: SAP S/4HANA 2023
Delivering completeness on Compatibility Scope alternatives and concluding major renovations.

Taking the **next evolutionary step towards a release strategy, which better supports our customer base.**



Source: SAP

Difference between Release and Feature Pack

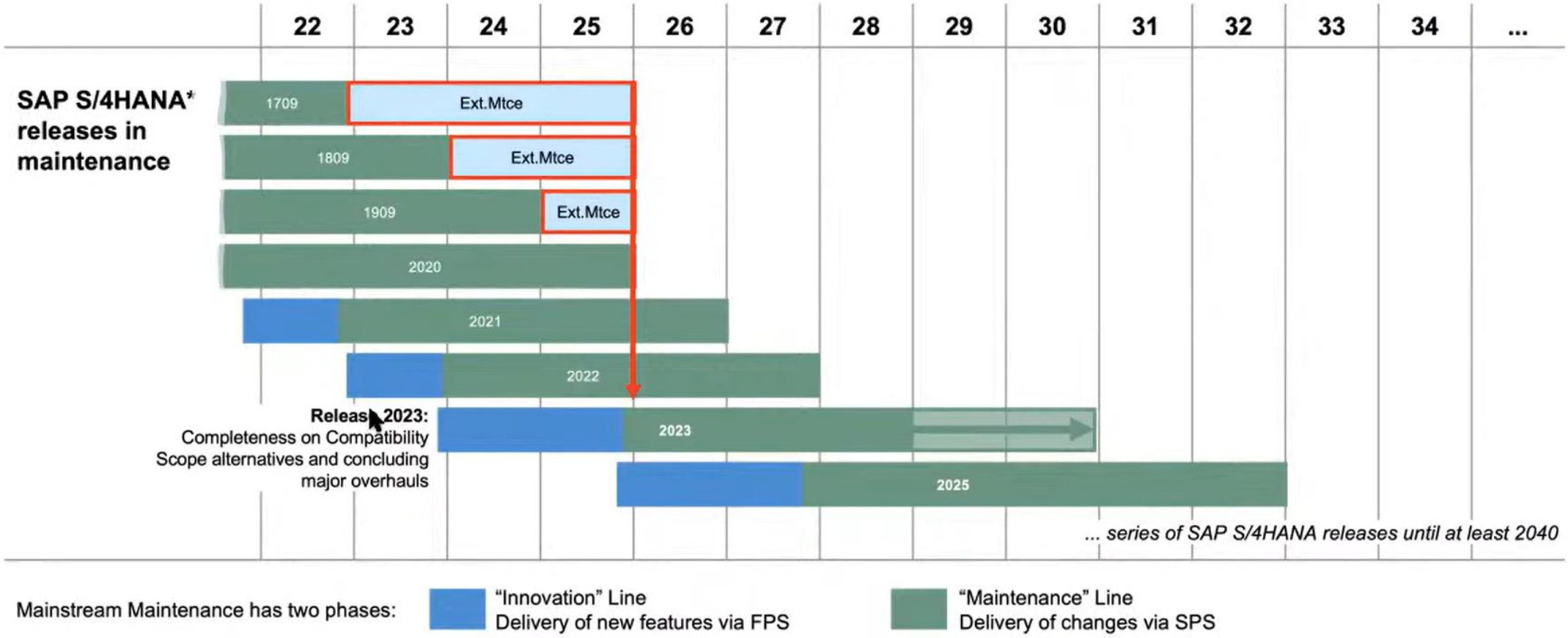
Releases:

- Requires an upgrade
- Heavy-lift with data model changes, new ABAP platform version , new Kernel, new DDIC Version
- Adoption of ABAP core Enhancements is possible
- Upgrade requires thorough testing, some adjustments, and training
- Heavily modifying development is possible
- Status of apps may change from deprecated or revoked
- Covers 300 development projects delivering ~600 innovations
- Includes the flush re-delivery of public cloud developments

Feature Pack:

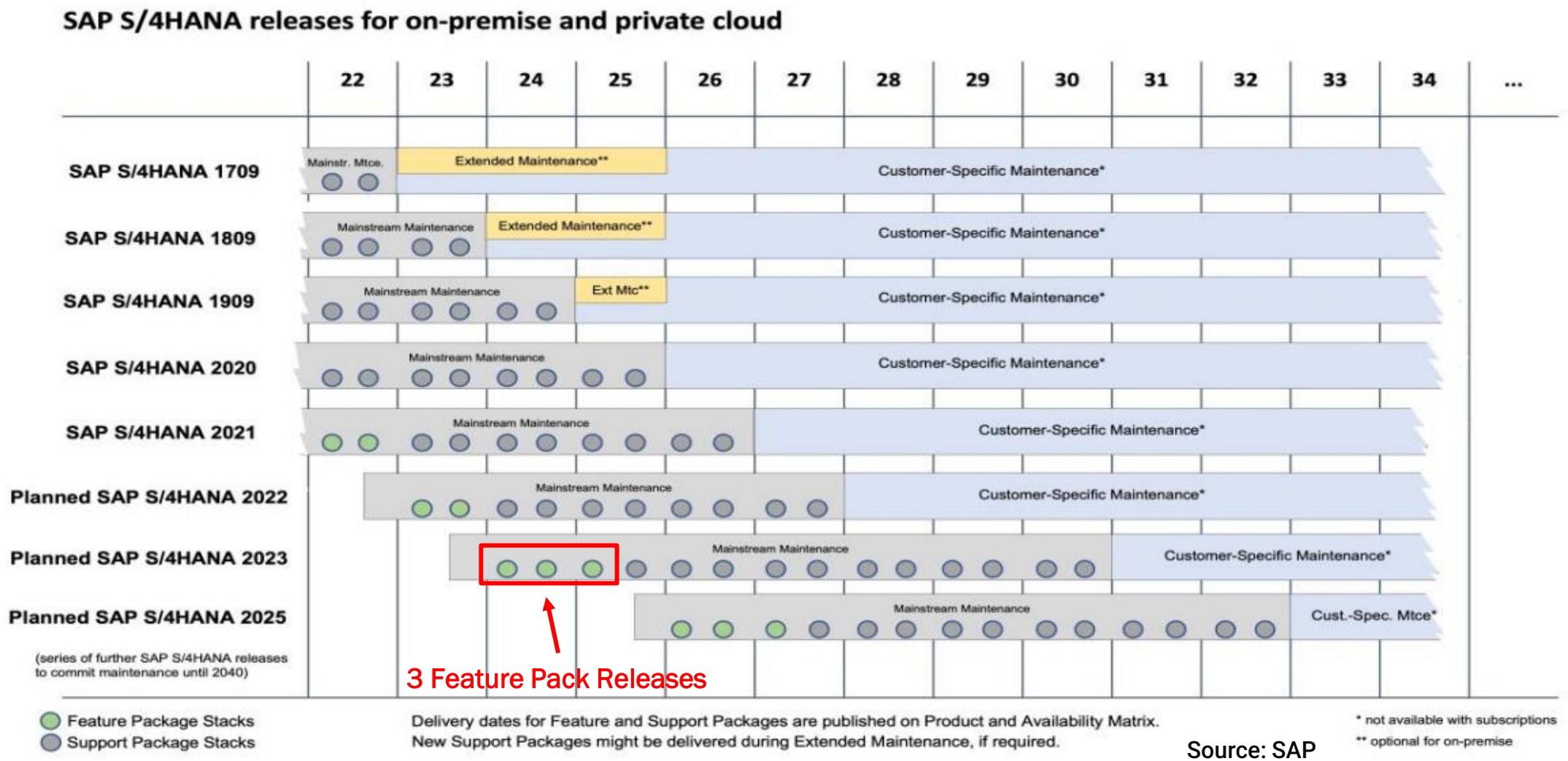
- Requires an update
- Technically it is a support package with new enhancements and features deployed on the previously delivered base release
- ABAP platform stays on previous release
- Enhanced and/or modified features need to be switched for minimal disruption of the feature pack
- This update is easier to consume that the upgrade
- Additive new application innovation
- No new deprecation and no revocation with feature packs
- Covers 50-100 projects with 50-130 innovations
- Scope is cherry picking based on actual needs

SAP S/4HANA Releases in Maintenance



Source: SAP

SAP S/4HANA Release Schedule



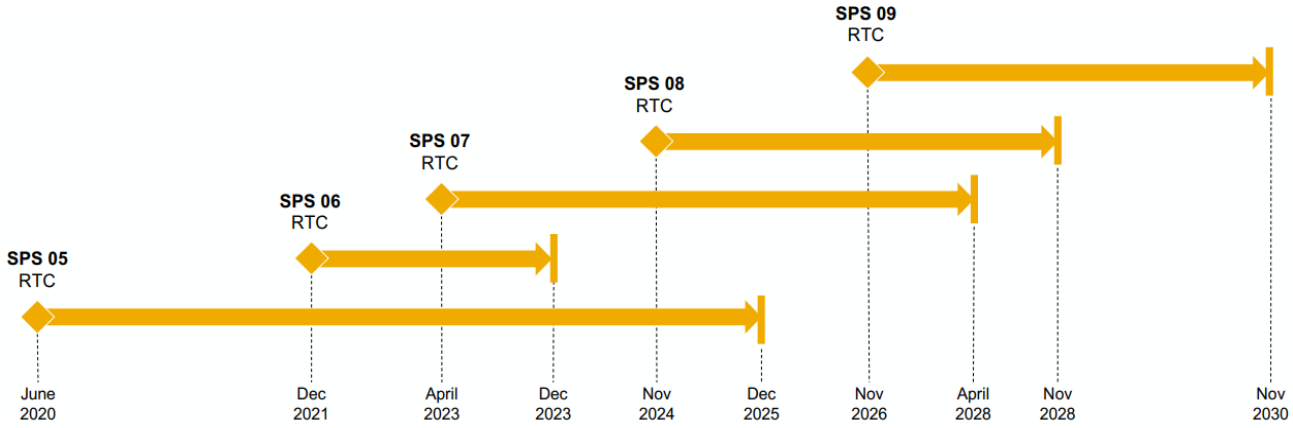
Source: SAP

SAP HANA Release Schedule and Support

- SAP S/4HANA runs on SAP HANA exclusively. New capabilities are introduced every time a new SAP HANA 2.0 Support Package Stack (SPS) is released.
- SAP is providing bug fixes and security patches for regular SPS for 2 years after RTC
- The SAP HANA maintenance cycle is independent from the SAP application maintenance cycles running on SAP HANA
- Can upgrade to any available Revision of a new SPS at any point in time.
- SAP HANA cockpit delivery cycle is independently from the HANA Platform with yearly sync points to the OnPrem Version.
- The SAP HANA Client version number is distinct from, and generally will not match, that of the SAP HANA server

Maintenance Revisions:

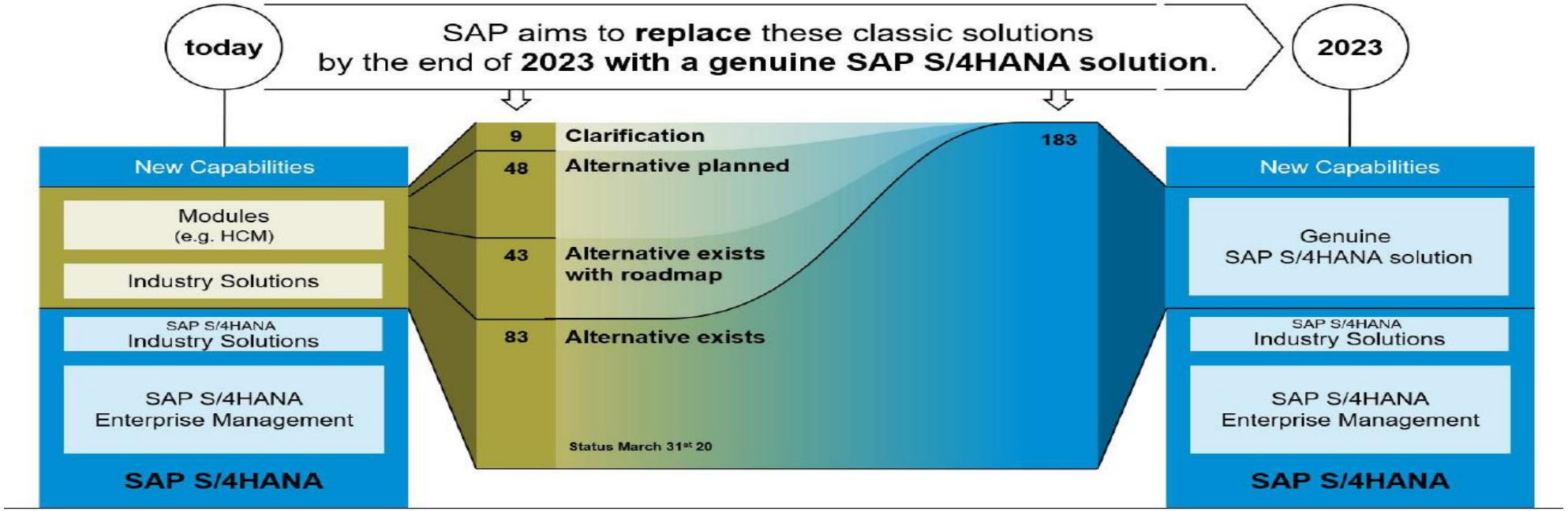
- SAP HANA 2.0 SPS05 for a period of 5 years after RTC
- SPS06 (current version SPS66) for 2 years
- SPS07 (not yet released) for a period of 5 years after RTC
- Starting with HANA 2.0 SPS08, SAP will provide new SPS every 2 years with a 4-year maintenance period
- ***SAP HANA 2.0 SPS08 is currently planned for Q4/2024.***



Source: SAP

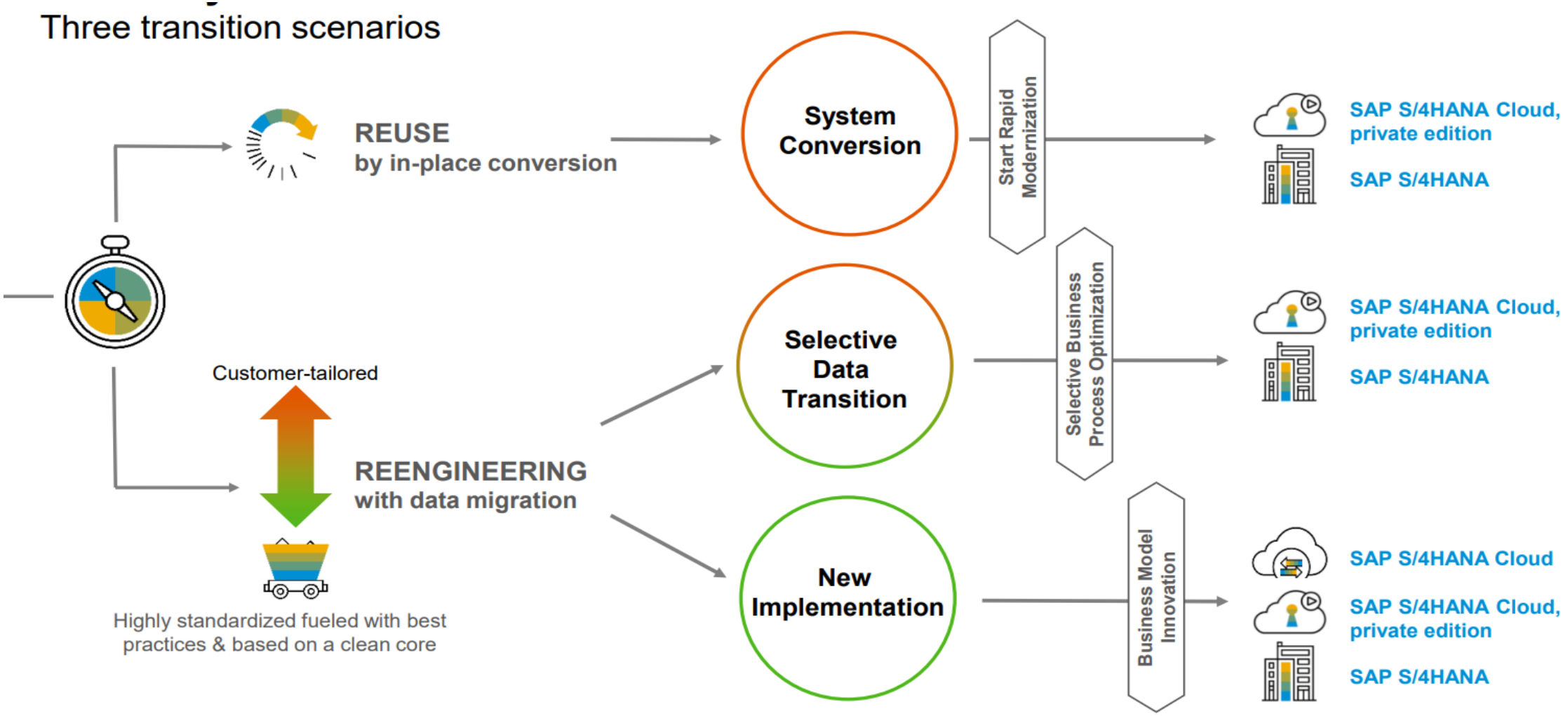
New Capabilities in SAP S/4HANA 2023

- More Compatibility packs are transformed into SAP S/4HANA solutions as of 2023 version.
- HCM was available as standard in SAP S/4HANA 2022 edition
- Add-ins may be available with SAP Cloud solutions and S/4HANA on-premise or Cloud Editions
- Support stops for Compatibility Scope items after December 31, 2025, use relevance check via the report /SDF/RC_START_CHECK



https://help.sap.com/doc/9f8b1e91e4a442499364d2b49c8d4bdb/2023/en-US/FSD_CLOUD_PE_2023_latest.pdf

Moving to SAP S/4HANA - Transition Scenarios

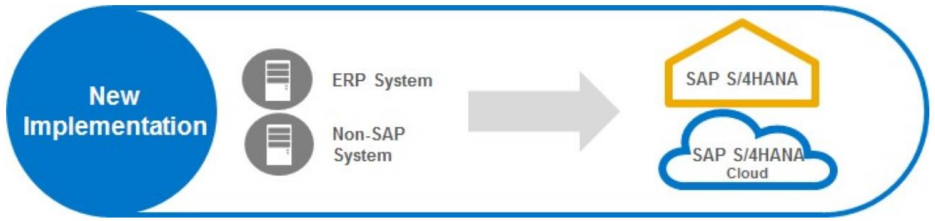


Three Methods to use for Moving to SAP S/4HANA - Scenario 1

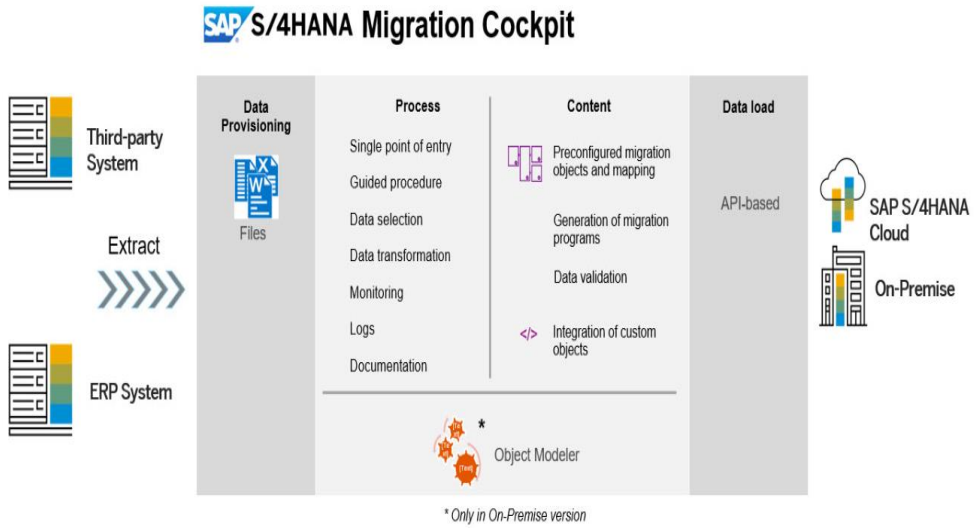
Greenfield (new build or implementation)

- Used for new installations of SAP (not upgrading)
- It can also be used for a complete rebuild and configuration for many reasons such as:
  - Current systems have incompatible or not supported add-ons for moving to SAP S/4HANA so new installation is required. Selective Migration is another alternative method.
  - Opportunity to completely clean up the system and start from scratch and fully leverage the new capabilities of SAP S/4HANA.
  - Migrate in one step to a leaner and company-wide uniform system that is close to the SAP standard. Increases flexibility to move to new releases and help lower operating costs.
  - Major changes like mergers, acquisitions, system consolidations, global support reasons.

Scenario 1 – New Implementation (Greenfield)



- Key Considerations
  - Necessary and Quality of Data to be migrated from source system to S/4 HANA
- Use of Tools
  - SAP Data Services
  - SAP Information Steward
  - SAP S/4 HANA Migration Cockpit (MC)



Phases of MC

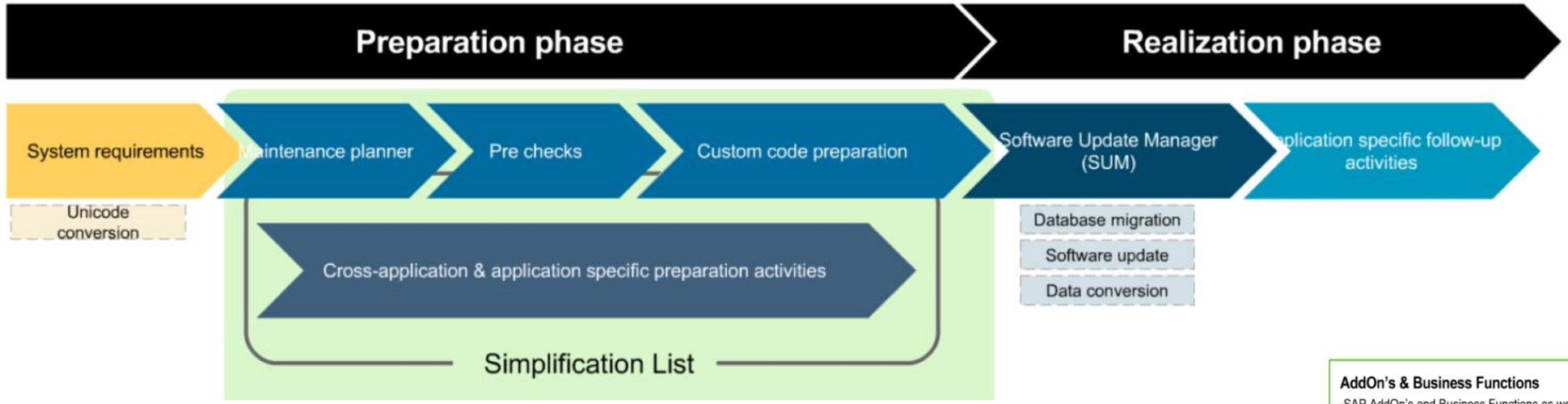
1. Download Template
2. Upload File
3. View and Edit (On-premise only)
4. Activate or Deactivate File
5. Start the Transfer – Data Validation, Value Conversion, Import Simulation, Import Execution

Three Methods to use for Moving to SAP /4HANA - Scenario 2

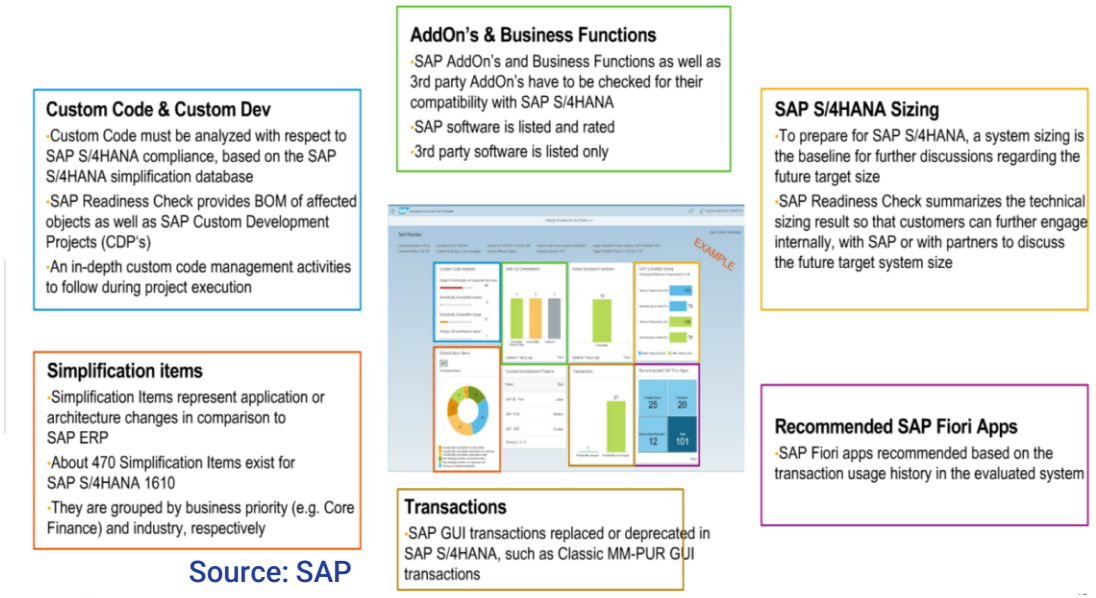
Brownfield (traditional upgrade)

- Convert, upgrade, and migrate from existing ERP 6.0 system (ECC) to SAP S/4HANA bringing over all existing configuration and data
- Reduced effort and duration as compared to selective transformation approach
- Reduction in complexity as there is no need to perform process redesign or transformation
- All data, including historical transaction data, is accessible in the new S/4HANA system

Scenario 2 - System Conversion (Brownfield)

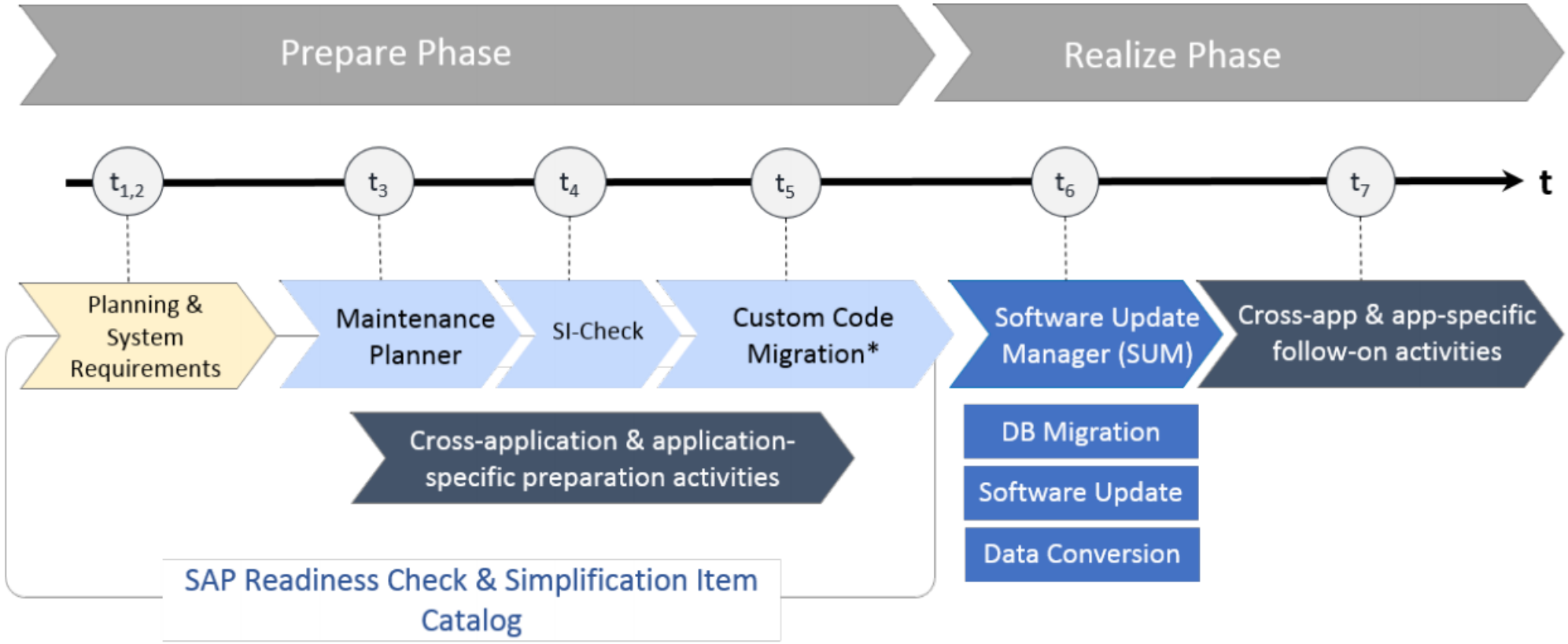


- Simplification List is SAP S/4 version dependent. Describes what happens in SAP S/4 HANA to individual transactions and solution capabilities.
- Custom Code Check is needed against the Simplification Database to understand the compatibility of the custom code in SAP S/4 and if it is required in SAP S/4 HANA version.



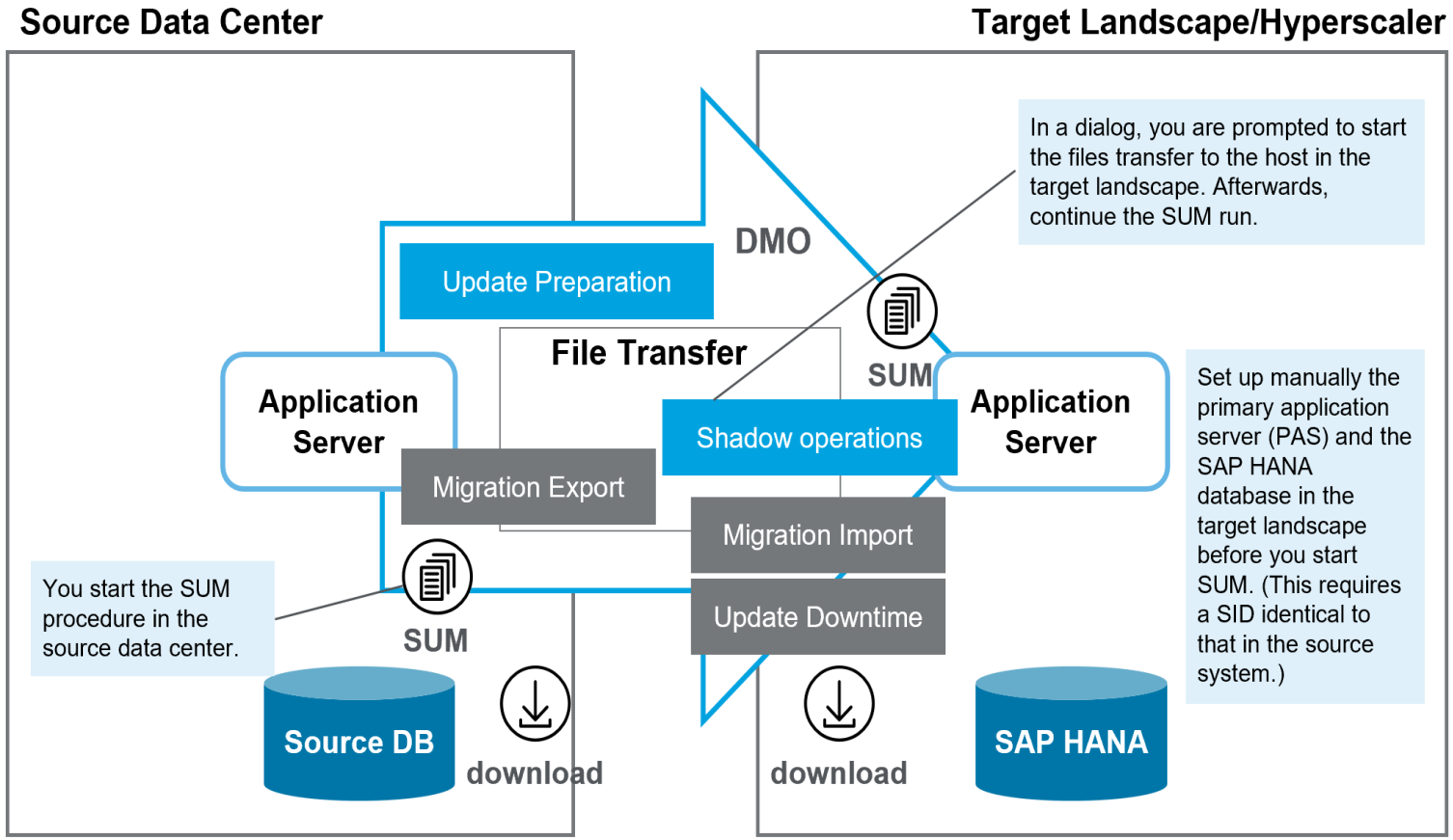
Source: SAP

System Conversion Phases - Brownfield



*Consists of preparatory analysis and post-SUM adaptation of custom code.

SAP S/4HANA Upgrade for Brownfield - SUM/DMO with Move Option

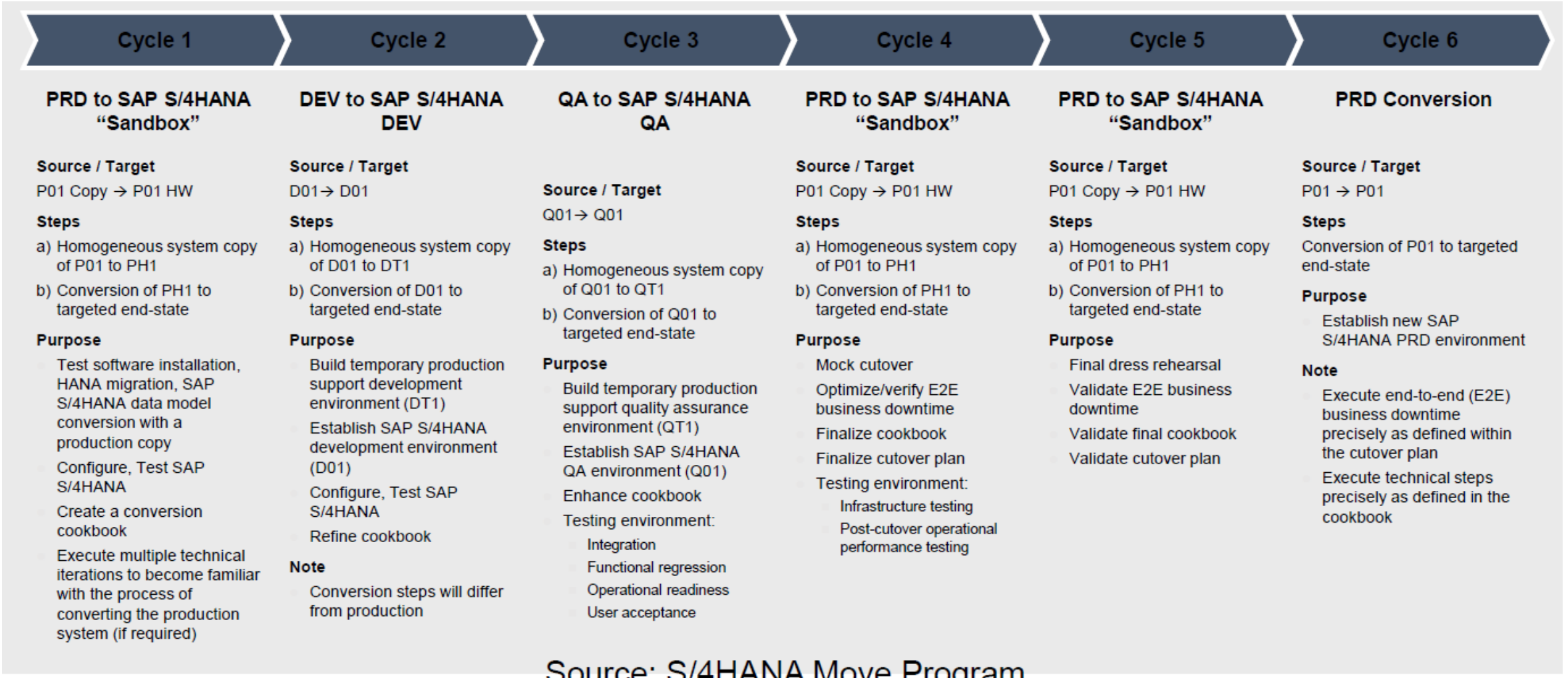


The Software Update Manager offers the Database Migration Option (DMO), which is the combination of the SAP software update with the database migration. Supports changing O/S and DB types. Target is HANA 2.0.

Steps to be followed :

1. Start the SUM tool on PAS of the source system and executes the first part, including the export of the database content into files.
2. The SUM directory along with export files are transferred to the target system.
3. The remaining part of the procedure happens on the target system that changes in the subsequent procedure from downtime to uptime for productive use.

Typical Cycles for Conversion (Brownfield Example)



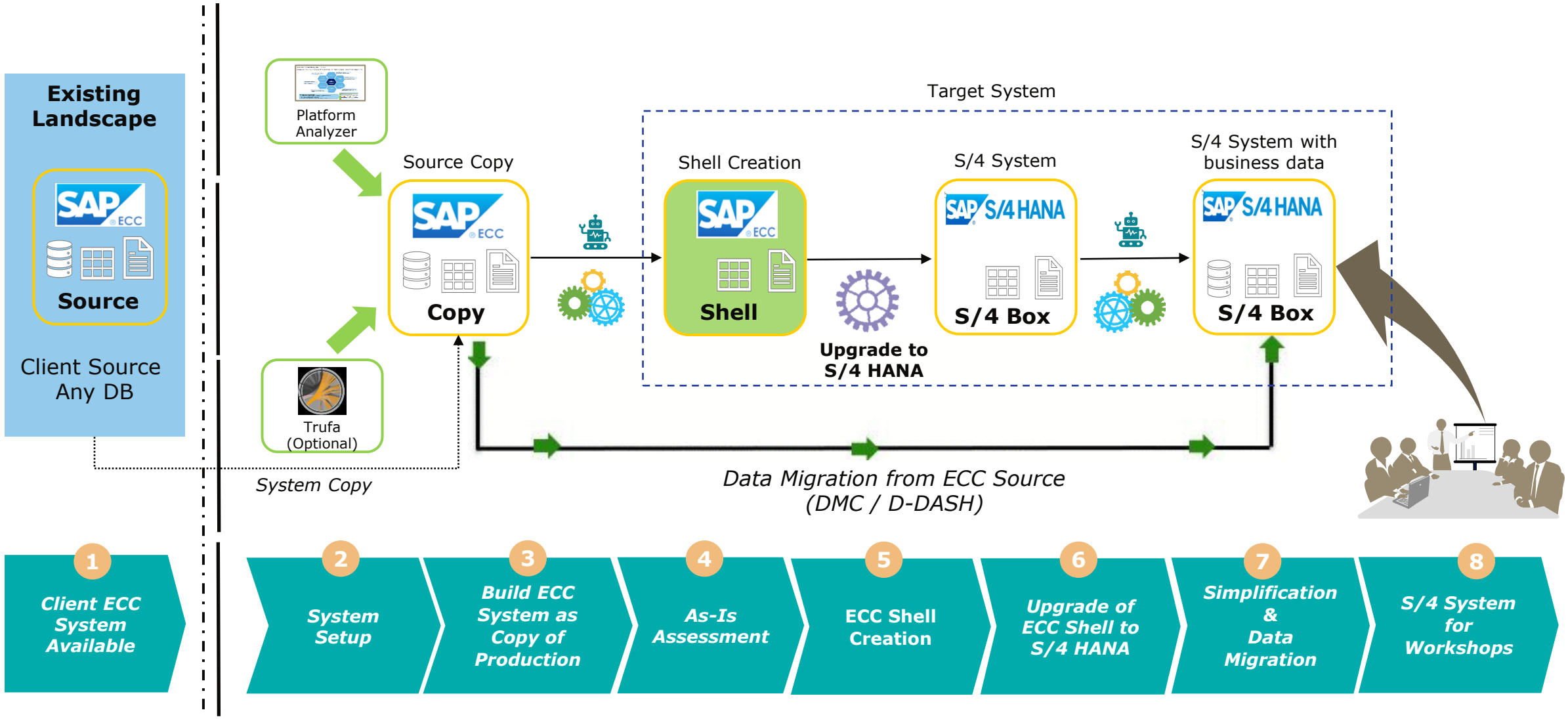
Source: S/4HANA Move Program

Three Methods to use for Moving to SAP /4HANA - Scenario 3

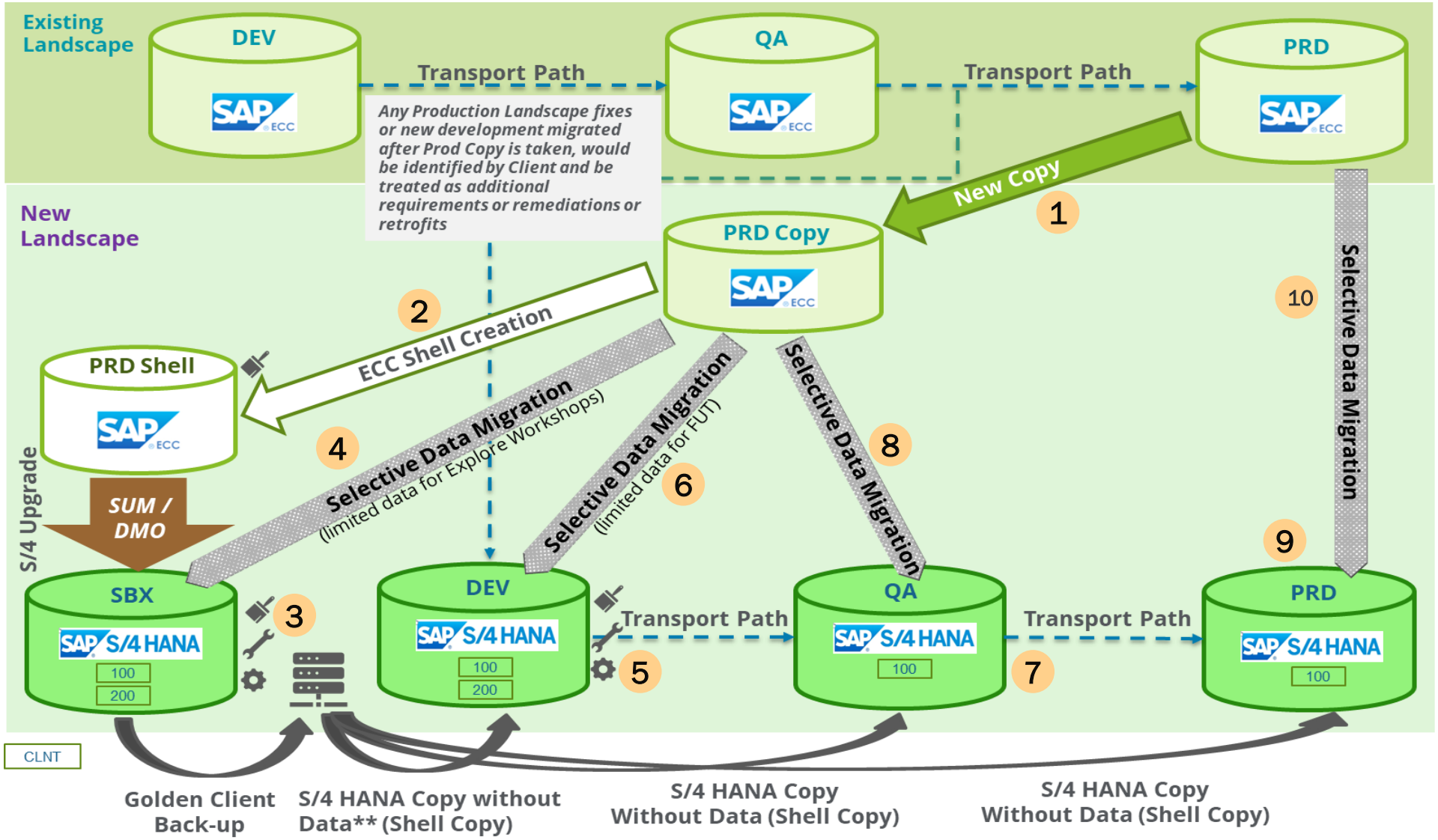
Selective Migration (Data is migrated selectively using tools)

- Opportunity to "carve out" data from existing system and migrate both data and application selectively to the new SAP S/4HANA system
- Great opportunity to redesign in the new system utilizing the full capabilities of SAP S/4HANA
- Similar to a new system implementation with master data load (must use tools to load the data)
- Existing configuration is brought over to help minimize rework of the configuration

Scenario 3 - Selective Transformation Journey



Example of an Actual Selective Transformation Approach



KEY CALLOUTS

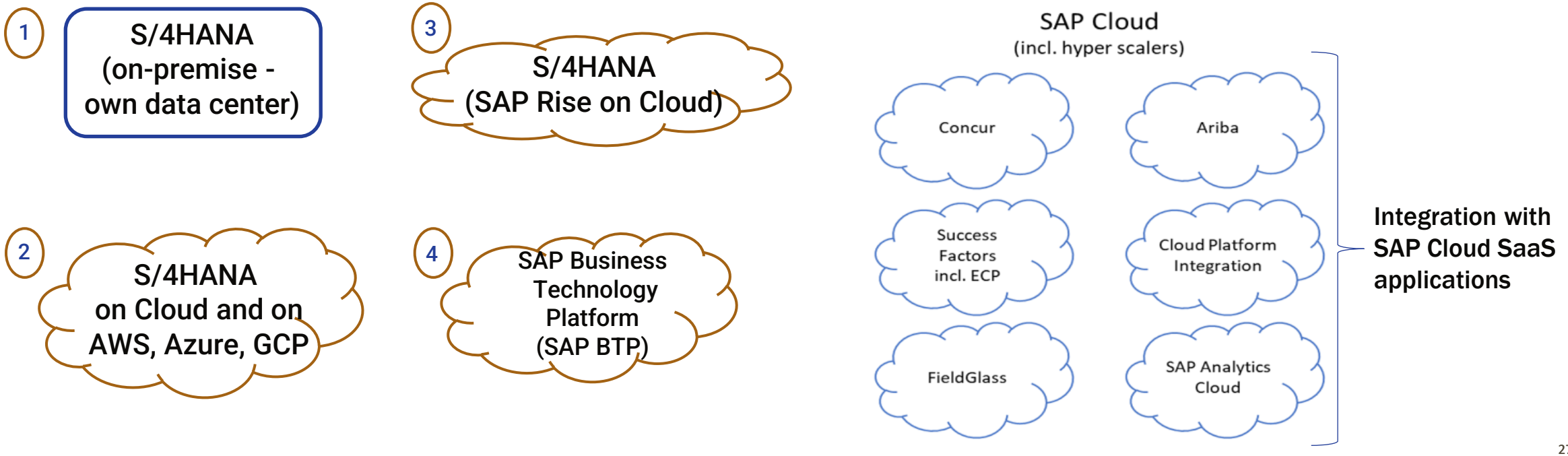
- **Faster** Approach
- **New Dev Box** - Dev gets refreshed from Production
- **Clean Dev Box –** Contains only Production Code & Config
- Any Non Prod Code & Config still required - **needs to reimplemented**
- Only **1 Technical Upgrade** (or at most 2 if Dev is recreated using latest PRD Copy**)

** - Another option would be to build **DEV** from latest copy of existing **PRD** similar to SBX build (especially if there is considerable time lag between SBX & Dev Build or final version of SBX is not satisfactory

Clean Code & Config
Remediate Code
Adjust Config

Hybrid Architecture - Choices for Running SAP S/4HANA

1. S/4HANA On-premise edition
2. S/4HANA Cloud or Cloud Private Edition
3. Managed Systems – SAP Rise, SAP HEC, Other services providers
4. SAP Business Technology Platform (SAP BTP) brings together data and analytics, artificial intelligence, application development, automation, and integration



Topic 2 and Lab 1

SAP Readiness checks and Simplification Checks Discussion followed by Hands-On Lab

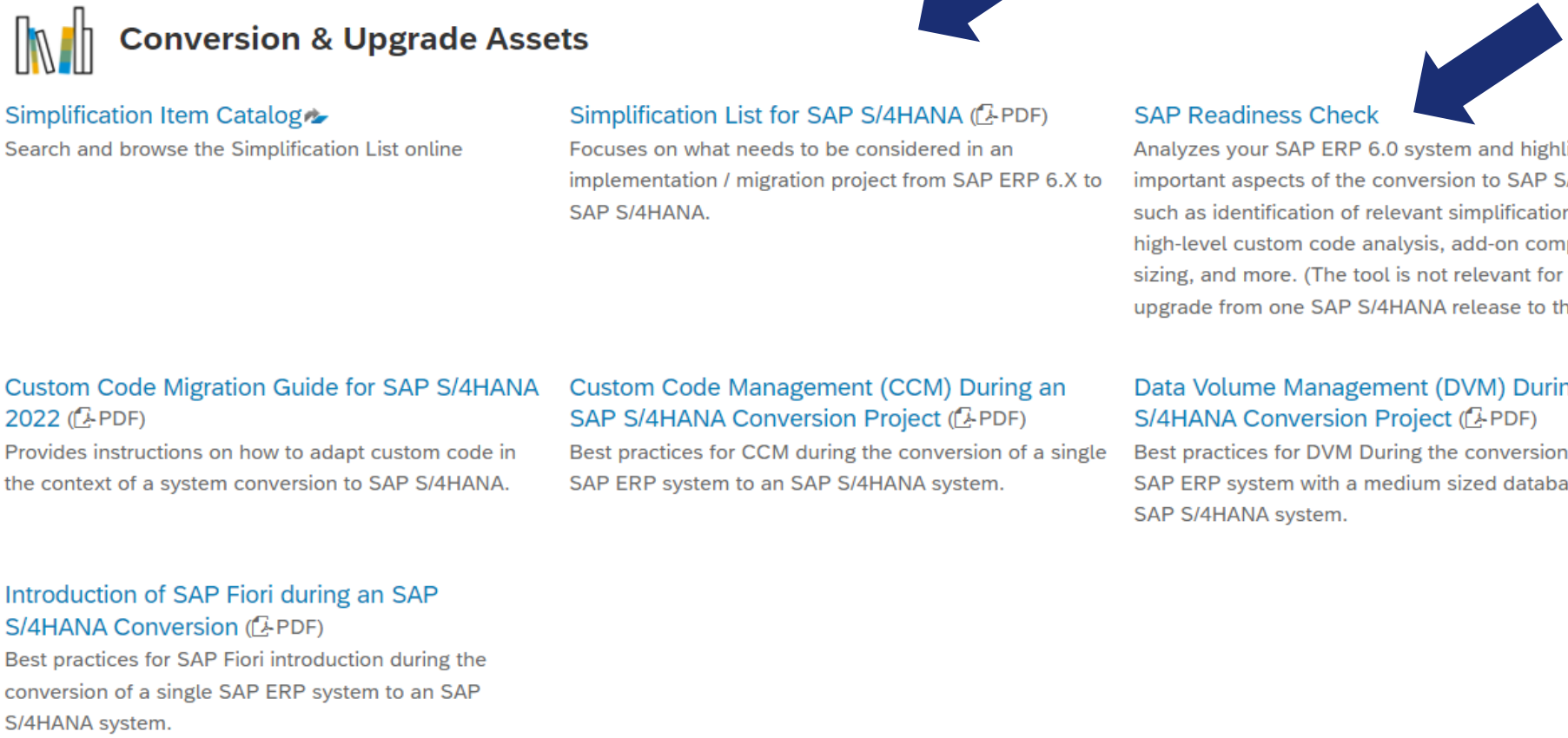
- FOCUS → Upgrade/Conversions “Brownfield” move to SAP S/4HANA
- Analyze the source system and viewing the resulting reports files.

Steps and Tools to Prepare for Upgrade to SAP S/4HANA

1. Review the current software releases, components, add-ins, and ECC switch framework enabled features to verify the compatibility for SAP S/4HANA.
2. Perform a complete detailed system review for the source systems and target systems including connectivity, networking, and storage systems for space needed for the conversion process. Verify that all the hardware and baseline software requirements as published in the relevant SAP documents and SAP notes are met.
3. Simplification Item Catalog - Search and browse upgrade relevant simplification items for targeted release.
4. SAP Readiness Checks - Analyze the source system and identify simplification items, high-level custom code analysis, add-on compatibility, and other items:
   - Implement CVI to synchronize the Customer Master and Vendor Master objects with SAP Business Partner objects
   - Relevance check produces a customized list of relevant simplification items for the ECC system determined on rules maintained in the simplification item catalog
   - Consistency check to analyze the consistency of the system in preparation for the conversion or upgrade using Software Update Manager
   - Utilize the ABAP Test Cockpit (ATC)
5. Custom Code Migration Guide for adapting custom code. as part of the readiness check for the ABAP program.
6. Maintenance Planner used for software components preparation, download, and stack XML file creation
7. Software Update Manager 2.0 - SAP SUM/DMO tool to perform the software upgrade and migration

SAP S/4HANA Tools – Getting the Documentation

- These are the tools for conversion and upgrade
- https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE



SAP Readiness Checks

SAP Readiness checks tool build a platform to analyze the source system and viewing the resulting reports files.

SAP Readiness Check for SAP S/4HANA provides a pre-conversion overview, useful for identifying current system landscape preparation steps, well in advance of SAP S/4HANA system conversion project start date.

The following checks are available in SAP Readiness Check for SAP S/4HANA and ECC upgrades:

- ✓Simplification Items
- ✓Recommended SAP Fiori Apps
- ✓Integration
- ✓Custom Code Analysis
- ✓SAP Innovative Business Solutions
- ✓Add-On Compatibility

Simplification Checks

Search and browse upgrade relevant simplification items for the targeted release using the Simplification Item Catalog

The Simplification Item Check consists of a report /SDF/RC_START_CHECK and a related check framework which you shall run on your SAP ERP system as preparation for a system conversion to SAP S/4HANA

If upgrading from one SAP S/4HANA release to another, same checks should be run again. The Simplification Item Check is not required or applicable when doing a Support Package or Feature Package update within an SAP S/4HANA release.

The Simplification Item Check serves two purposes:

- Relevance check: Determine which Simplification Items are relevant for the specific system in which you are running the Simplification Item Check. This shall help you to assess the functional and technical impact of the system conversion on your system.
- Consistency check: During the conversion process your system will be migrated to the new data structures and new processes. The conversion routines rely on consistent data in the system in order for this to happen automatically. If the Simplification Item Check identifies data inconsistencies or missing mandatory preparation activities which could cause the system conversion to fail, it will make you aware of these issues so you can correct or exempt them before the actual system conversion starts.

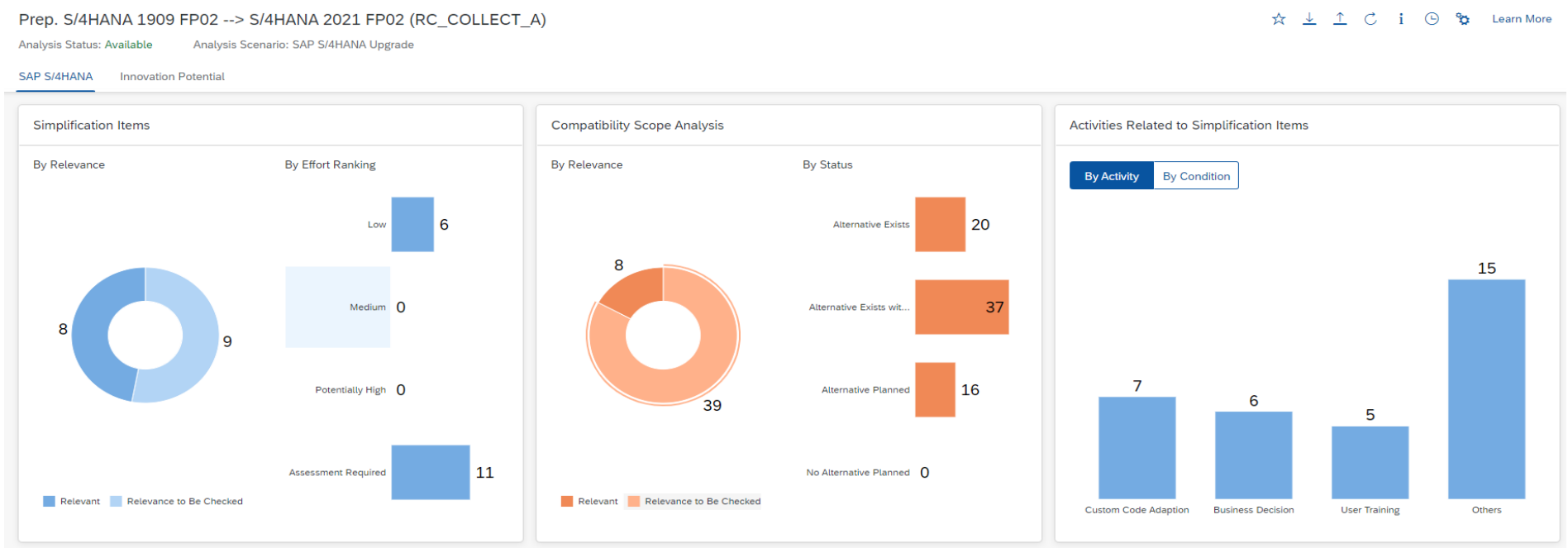
Collecting the Data - Readiness Checks Data Collector

- There are SAP Readiness Data Collector report for ECC and SAP S/4HANA systems which pulls the readiness analysis.

  Readiness Check Report: RC_COLLECT_ANALYSIS_DATA

  Simplification Item Report: /SDF/RC_START_CHECK

- Readiness test results for S/4 HANA 1909 to S/4 HANA 2021 below:



Reviewing the SAP Readiness Checks Reports

STEP 1 – Run the collection for the readiness checks on the source system (ECC), execute the program RC_COLLECT_ANALYSIS_DATA via transaction SA38.

STEP 2 – Download the collected data and upload into the Readiness Check Analysis site → link to https://rc.cfapps.eu10.hana.ondemand.com

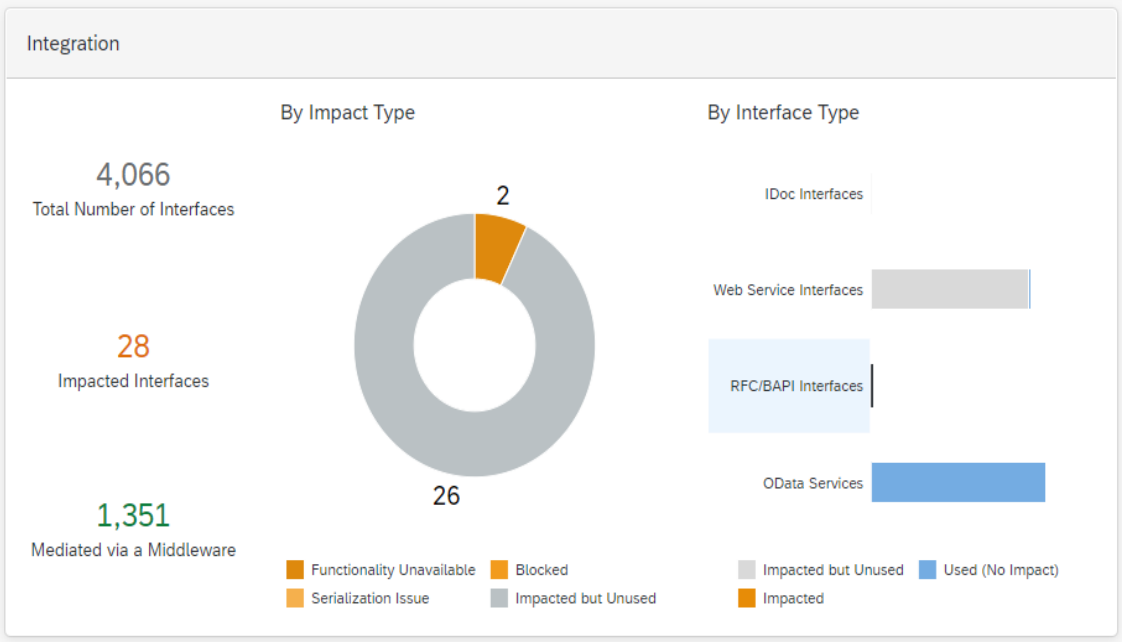
STEP 3 – Perform the analysis and review the reports. Reference the SAP documentation for more details.

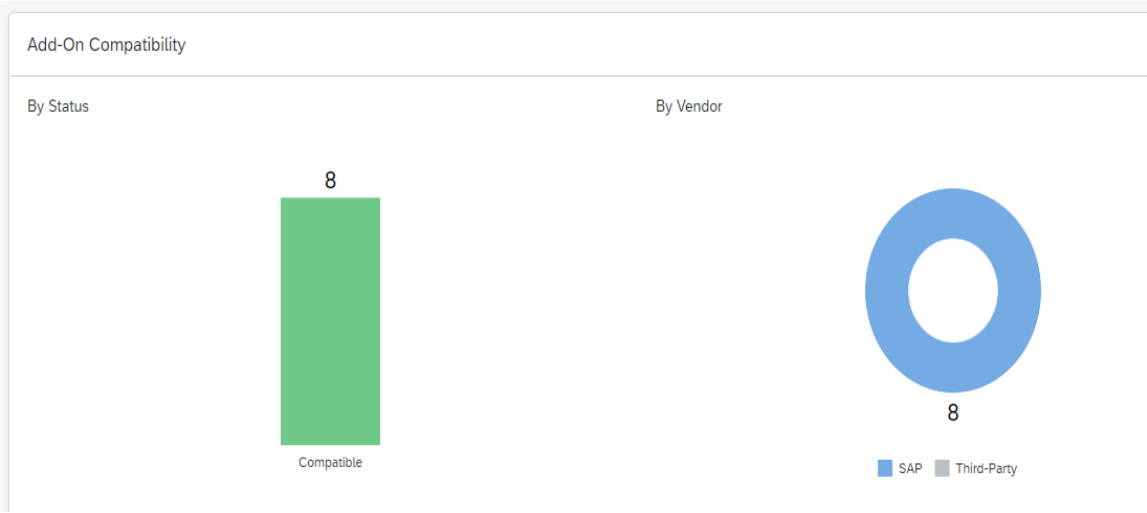
Recent Analysis

Available	SAPinsider Project	SAP S/4HANA Conversion	3/7/2023 4:30:37 PM	ES8 (950)	SAP S/4HANA 2021 (03 (11/2022))
Available	SAP S/4 HANA Readiness Check	SAP S/4HANA Upgrade	11/9/2022 10:06:00 AM	DEF (100)	SAP S/4HANA 2022 (01 (02/2023) FPS)
Available	Wichita S4H Redinesscheck	SAP S/4HANA Upgrade	8/1/2022 1:02:55 PM	S4H (100)	SAP S/4HANA 2021 (02 (05/2022) FPS)
Available	OMP	SAP S/4HANA Conversion	7/25/2022 1:59:05 PM	CRH (300)	SAP S/4HANA 2021 (02 (05/2022) FPS)

Viewing the Reports from the Readiness Checks

- Reports are grouped by area
- Drill down is possible by clicking on items and more details will display





https://rc.cfapps.eu10.hana.ondemand.com/comsaprcweb/index.html

Readiness and Simplification Checks

Lab Section 1:

- Readiness
- Simplification
- Demonstration

Readiness Checks Roadmap Viewer

SAP offers an implementation Roadmap Viewer tool for SAP S/4 HANA upgrade used to navigate the phases, deliverables, tasks, and accelerators related to the SAP Activate methodology.

Below Road Map Viewer link for SAP S/4 HANA upgrade and product integration can provide the detailed overview:

https://go.support.sap.com/roadmapviewer/#group/AAE80671-5087-430B-9AA7-8FBE881CF548/roadmapOverviewPage/MATS4HANA

Demonstration and Hands-On Lab

Readiness and Simplification Demo

- Steps on how to run the readiness checks in ECC or SAP S/4HANA systems
- Downloading the results files for use in the SAP Readiness Checks Support Portal

LAB 1 - Perform the Readiness and Simplification Hand-On Lab in Workbook

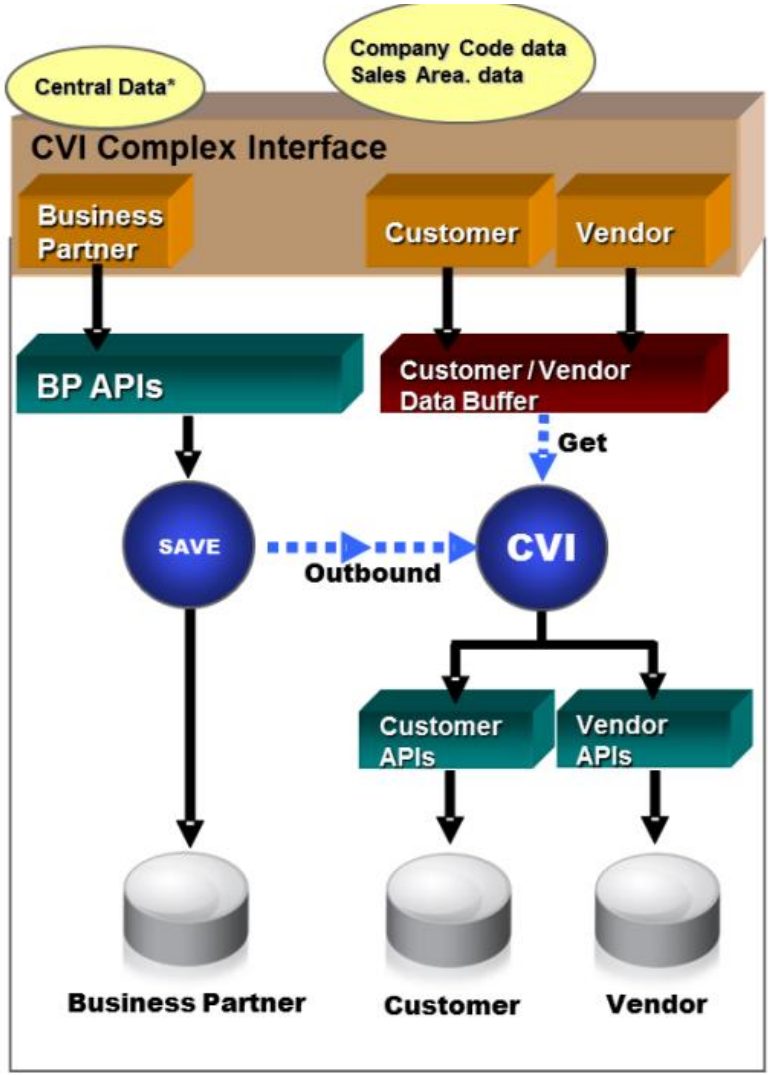
Topic 3

Customer Vendor Master and Conversion

Custom Code Conversion

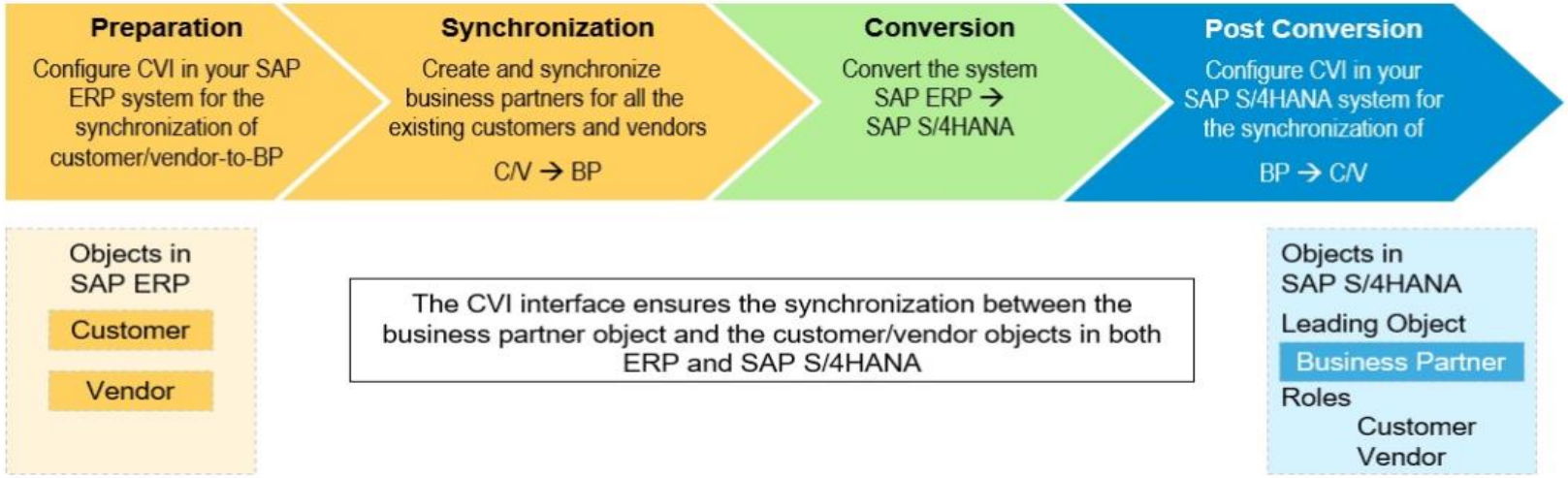
Customer/Vendor Master - CVI Check

- CVI is an automated procedure supported by the Master Data Synchronization Cockpit tool and is part of the Readiness Check for SAP S/4HANA..
- Used to synchronize Customer Master and Vendor Master objects with SAP Business Partner objects.
- CVI assigns every Customer and Vendor master data object to a newly created SAP Business Partner object and vice versa.
- It is mandatory to have completed the Customer/Vendor integration to move to SAP S/4HANA, on-Premise edition 1909, 2020, 2021, 2022, 2023 and onwards (System Conversion approach).

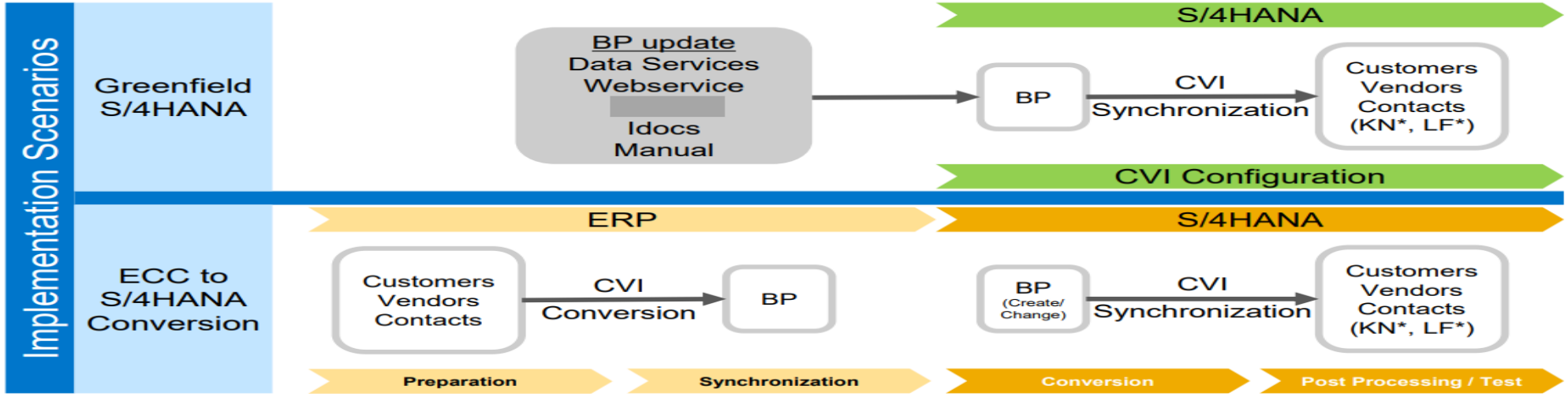


Source: SAP

CVI Conversion Steps and Scenario's



- CVI conversion is performed using the Master Data Synchronization Cockpit tool
- The synchronization happens in both the ECC and then in the SAP S/4HANA systems.



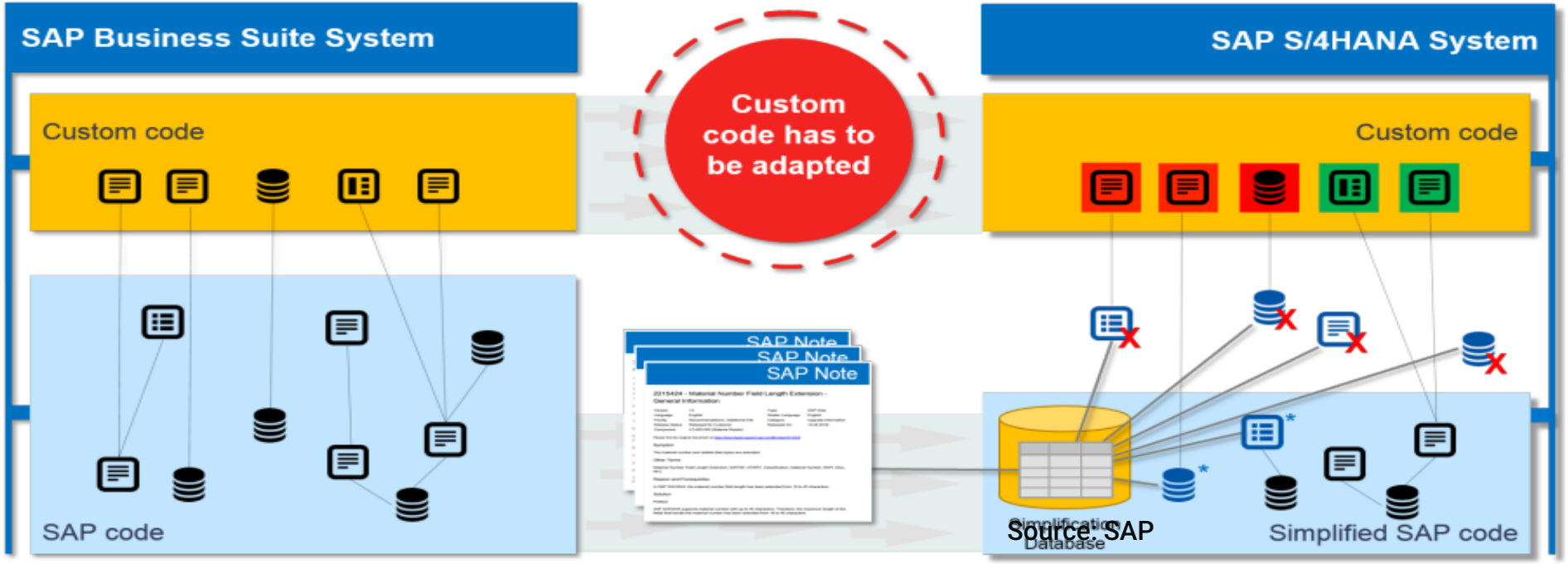
Source: SAP

CVI Conversion Steps and Scenario's

STEP	SYSTEM
CVI implementation	ECC
Activate customer/vendor to BP	ECC
Convert existing customers/vendors to BPs	ECC
Continue using XD01/XK01 etc. (lock tcode BP)	ECC
Monitor automated BP creation using MDS_PPO2	ECC
Convert to S/4HANA	S/4HANA
Post conversion activities – activate BP to customer/vendor; adjust number range; test	S/4HANA

Custom Code Conversion Overview

- Custom Code must be adapted before upgrading. Use the Custom Code Migration app. Refer to the custom code conversion guide.
- Run the SAP S/4HANA checks to analyze which custom code needs to be adapted to get information about the findings for the development objects that need to be adapted.
- Run the SAP S/4HANA checks based on the ABAP Test Cockpit (ATC).

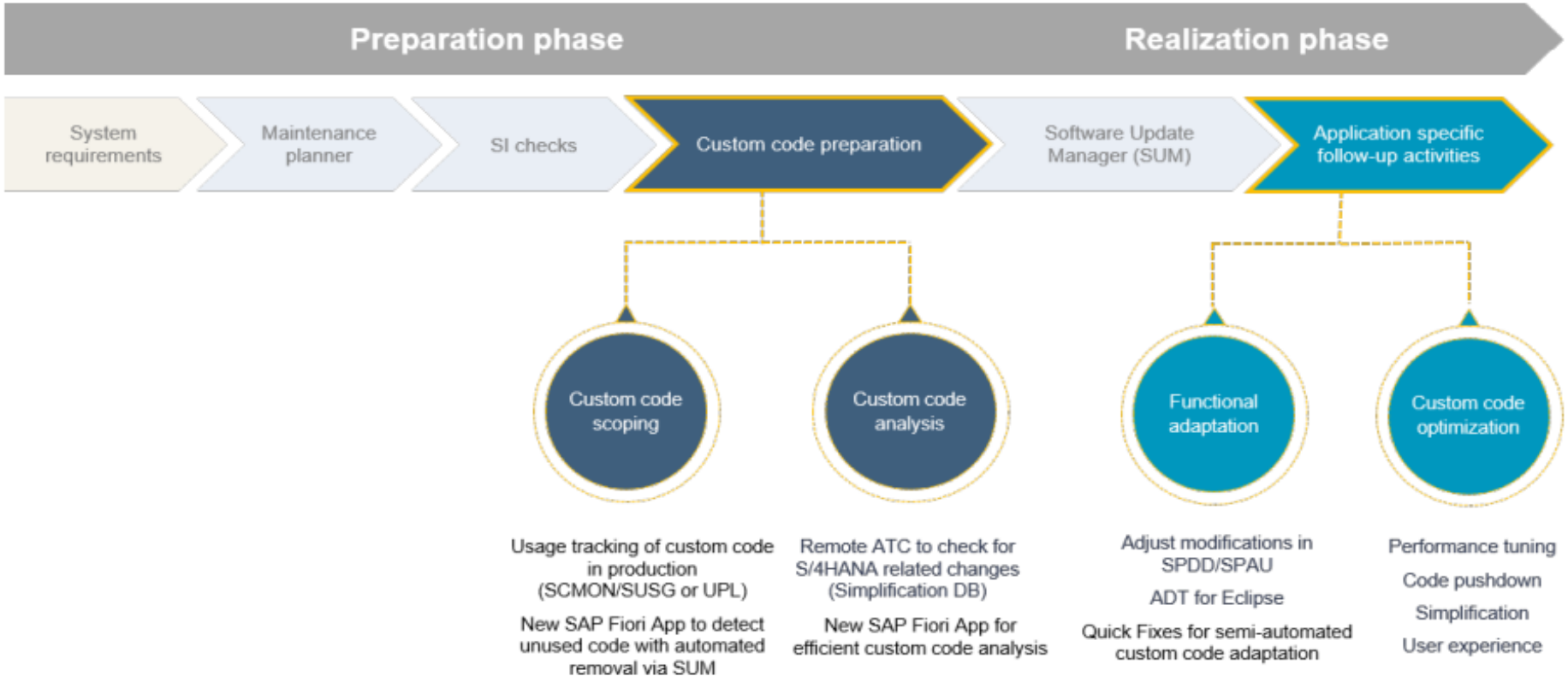


Source: SAP

Source: SAP

Custom Code Conversion Phases

Custom Code Preparation Overview



Overview of the conversion process that is divided into the preparation phase and the realization phase

Source: SAP

Custom Code Conversion Analysis Options

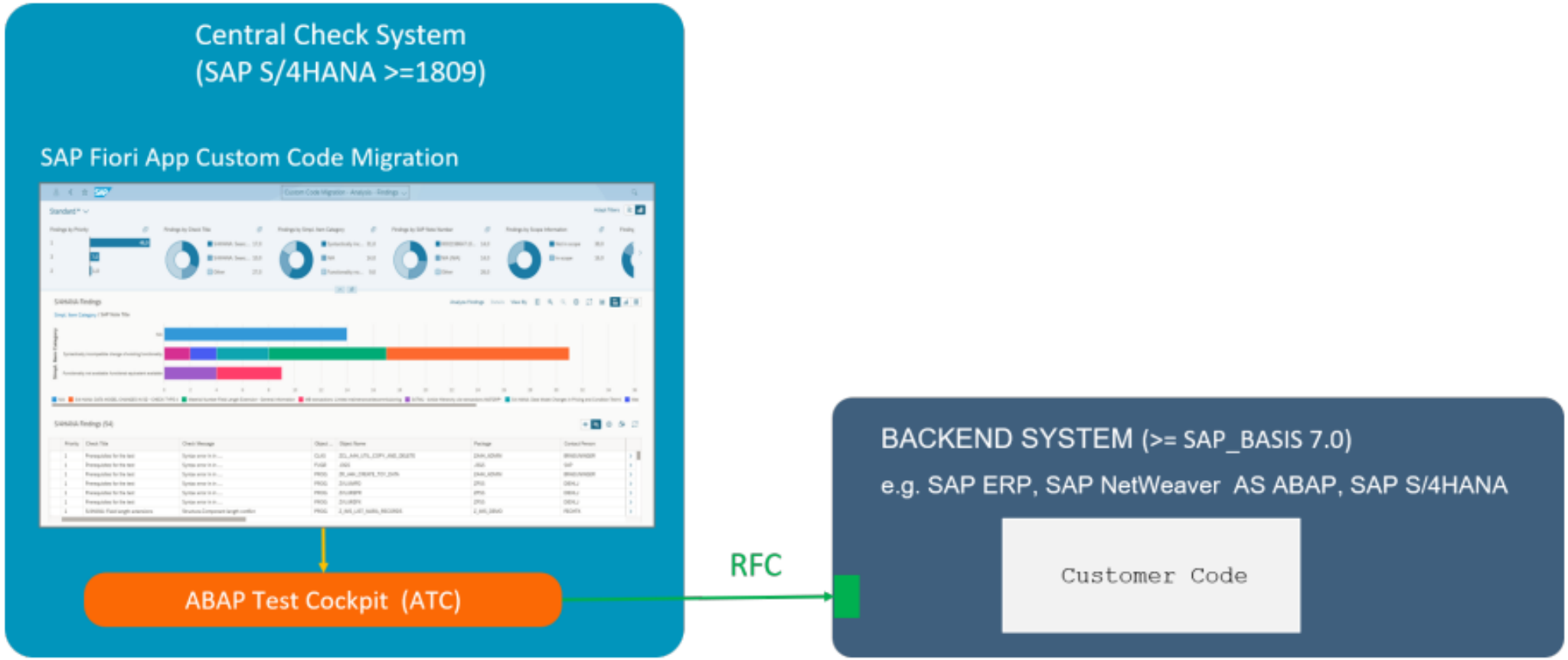
Custom Code Analysis Options:

1. With Remote ATC with SAPGUI
2. Fiori Custom Code Migration App
3. SAP BTP ABAP Environment

	Remote ATC with SAP GUI	SAP Fiori Custom Code Migration App	SAP Fiori Custom Code Migration App in SAP BTP ABAP Environment
Required system	Central ATC check system **(SAP_BASIS 7.52)**	Central ATC check system **(SAP S/4HANA >=1809)**	SAP BTP ABAP Environment
System location	in customer landscape	in customer landscape	cloud
Remote connectivity	via RFC	via RFC	via RFC and SAP Cloud Connector
Technical configuration	manual	manual	with CIAS
Analyze Cloud findings	✓	✓ (only >= SAP S/4HANA 1909)	✓
Analyze SAP S/4HANA findings	✓	✓	✓
Simplification information in ATC result	✓	✓	✓
Filter results by scope and Quick Fix availability	✗	✓	✓
Define custom code migration scope based on usage data	✗	✓	✓
Remove unused code during system conversion via SUM	✗	✓	✓

Source: SAP

Custom Code Conversion using Fiori App



Source: SAP

Custom Code Pre-Conversion Steps

Steps to be performed Pre-Conversion:

- Execute SCMON and SUSG in ECC system.
- Establish connectivity between S/4 >=1809 and ECC System.
- Setup ATC in S/4 >= 1809 System
- Setup custom Migration App in S/4 >=1809 System
- Import Simplification Database in S/4>=1809 System
- Perform the conversion analysis

Custom Code Post Conversion Steps

Custom Code Adaptation

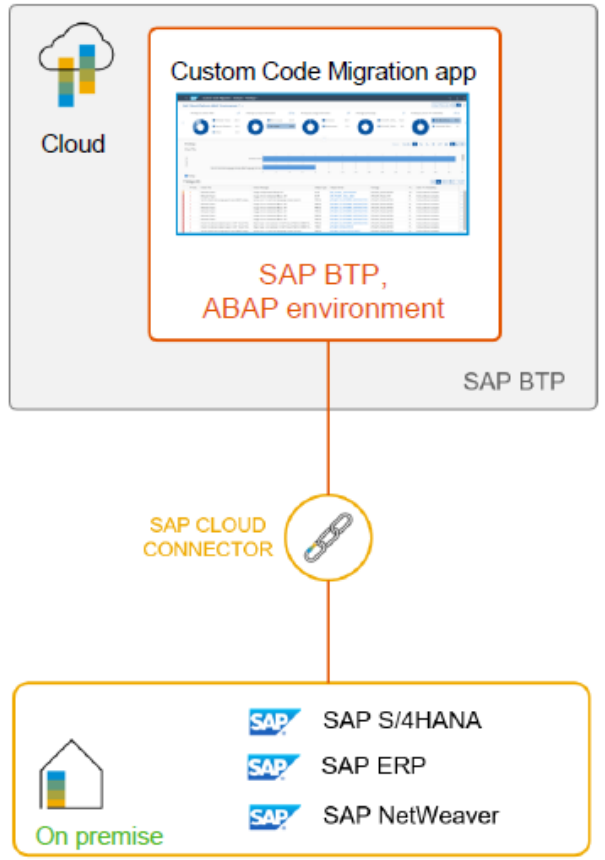
Steps to be performed post conversion:

- Running Transactions SPDD, SPAU, and SPAU_ENH.
- Running Local SAP S/4HANA Checks.
- Importing the Simplification Database.
- Configuring Local ATC Run Series.
- Scheduling Local ATC Run Series.
- Adapting Custom Code in ADT.
- Applying quick fixes and optimization of the code.

Custom Code Migration - Overview

Solution Overview

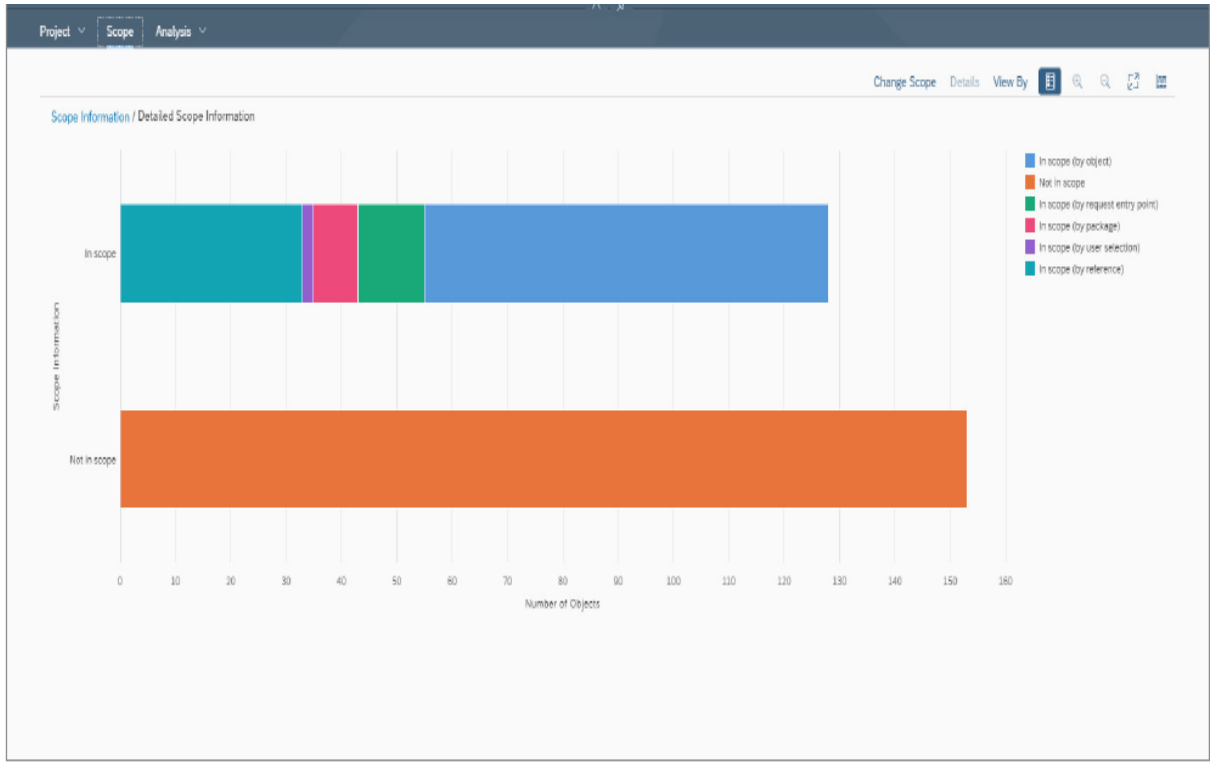
- Analysis of custom code for SAP S/4HANA or SAP BTP readiness
- Simplified custom code remediation
- Obsolete custom code removal based on usage data
- Identification of custom code candidates for back-to-standard and redesign
- Evaluation of custom code for semiautomated adaptation (quick fixes)
- Automated setup and configuration in SAP BTP ABAP Environment



Source: SAP

Custom Code Migration - Scoping

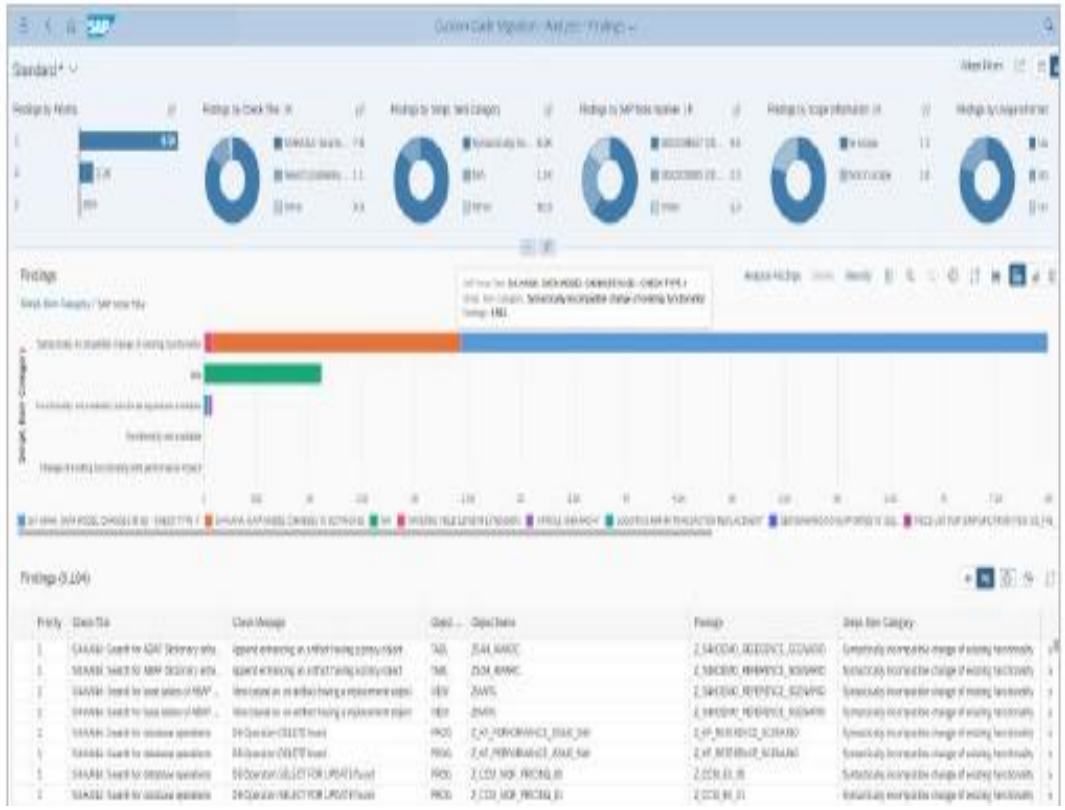
- Upload usage data for custom code
- Define custom code migration scope based on usage data
- Adjust scope manually
- Identify and remove complex custom code from scope
- Save scope as transport request



Source: SAP

Custom Code Migration - Analysis

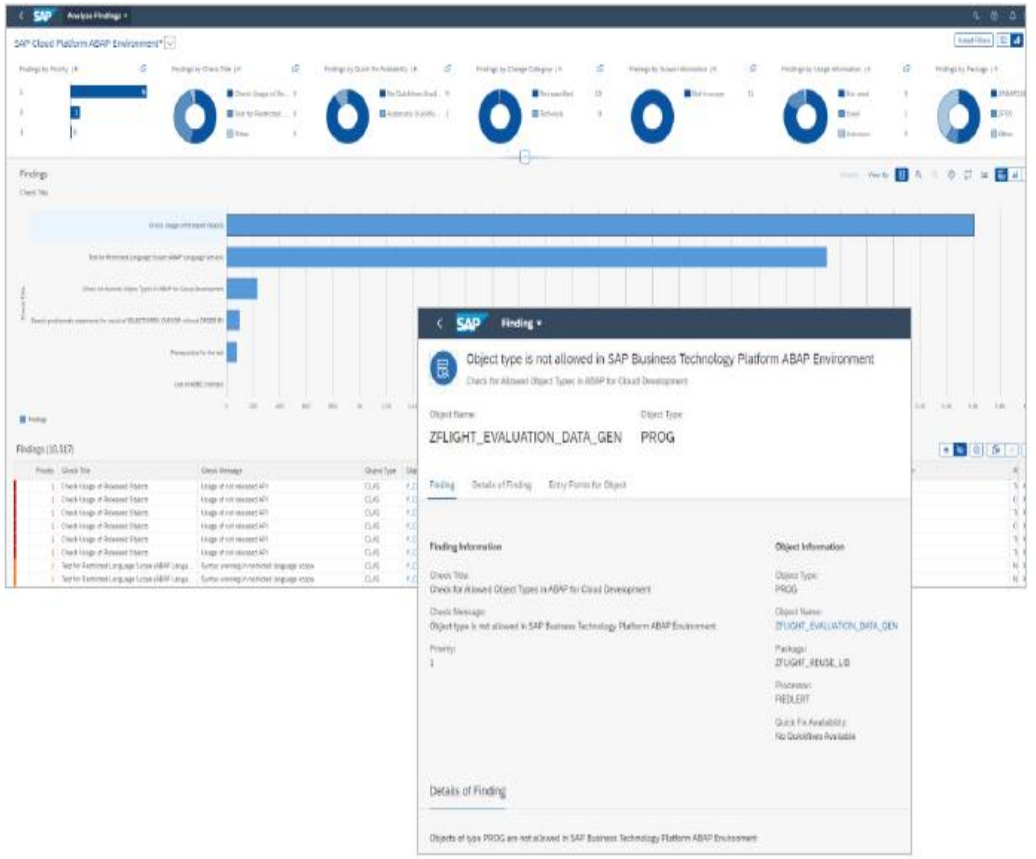
- Remote ABAP Test Cockpit infrastructure
- Analytical representation of custom code analysis results
- Burndown chart distribution of analysis results over time
- Compact and visual filters to customize analysis results view
- Identification of custom code for semiautomated adaptation (quick fixes)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



Source: SAP

Analysis of Custom Code

- Finding out if your custom code uses:
  - Unsupported technologies (for example,
  - 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



Source: SAP

Topic 4 and Lab 2

BTP – Business Technology Platform Overview

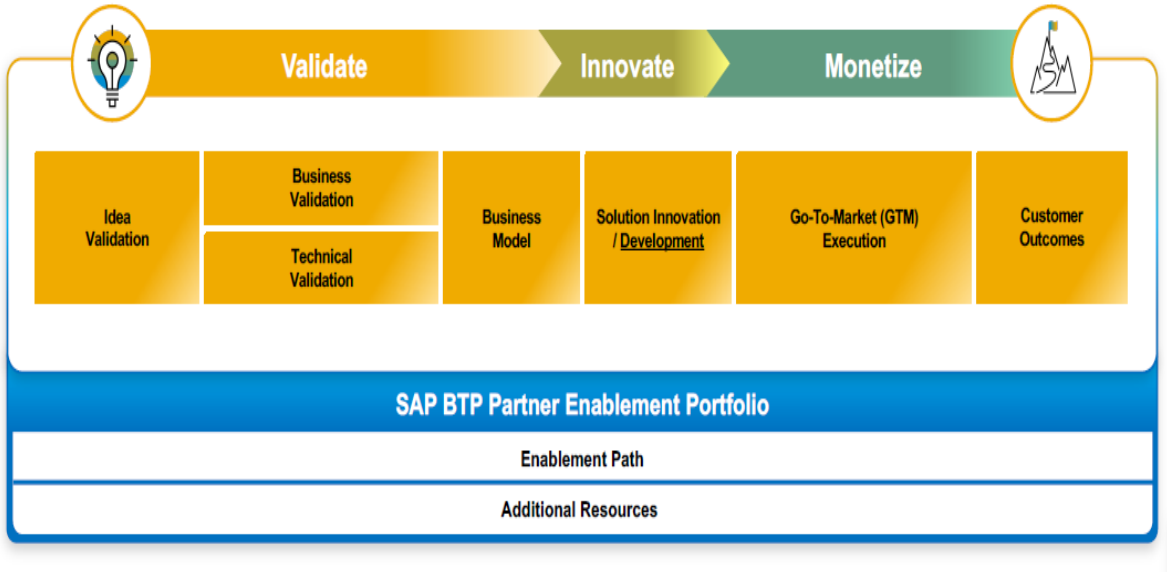
BTP – Demonstration of Code Conversion

BTP – Hands-on Lab

SAP BTP – Your Path to Monetization

Solution Overview

- SAP BTP (Business Technology Platform) is a comprehensive cloud platform that enables customers to create, extend, and integrate business applications quickly, securely, and cost-effectively.



Source: SAP

SAP “BTP” Business Technology Platform

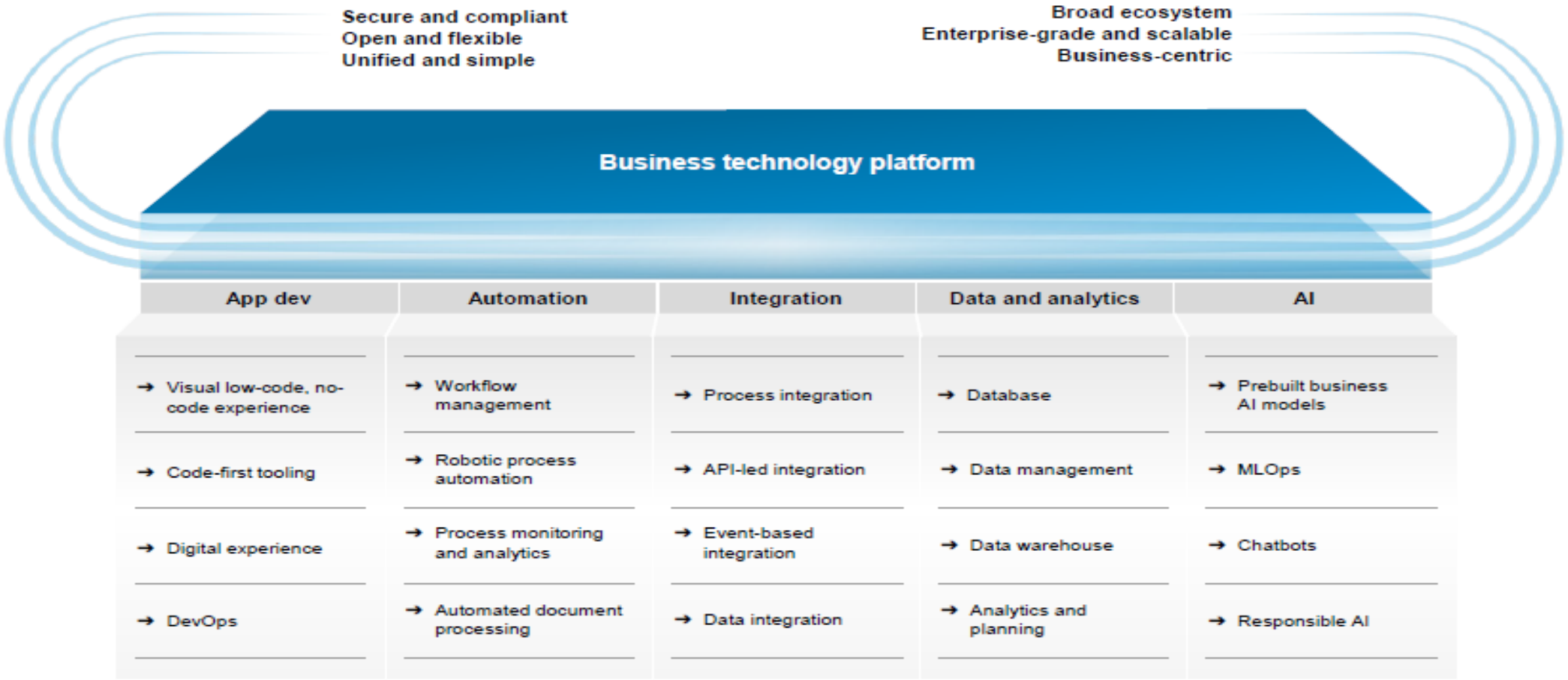
BTP is useful for application development, data and analytics, integration, automation, and AI capabilities in one unified environment.

- User Experience: SAP Fiori common look and feel of many SAP solutions
- Security and Identity Management: SAP Cloud Identity services on SAP BTP and provides SSO
- SAP Cloud Identity Services on SAP BTP
- Aligned Domain Models, APIs, and Events: Master Data Integration across a hybrid landscape
- Embedded Analytics across Solutions: Analytical insights and Embedded analytics from SAP Analytics Cloud
- One Workflow Inbox: Unified view tasks across SAP solutions in both mobile and desktop environments
- Coordinated Lifecycle Management: Harmonized provisioning, setup and operations, and monitoring solutions
- End-to-End Process Blueprints: Process blueprints that follow the Industry Reference Architecture standard

Basic Steps for Setup:

1. Setup SAP Cloud Connector to Connect to the “BTP” platform
2. Configure the connection to get access to the “BTP” capabilities.
3. Users access the platform using defined “subaccounts” and launch the services.

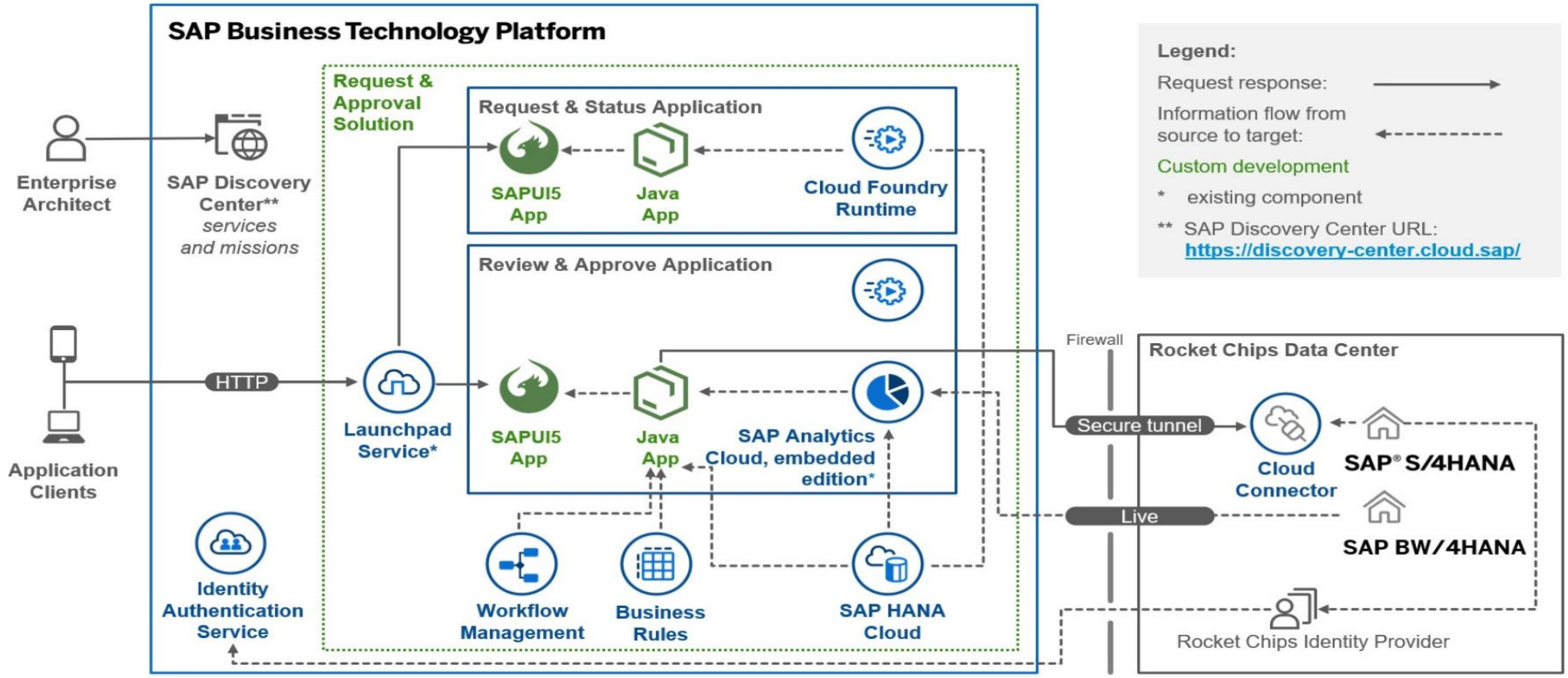
SAP BTP – Five Areas of Capabilities



Source: SAP

SAP “BTP” Business Technology Platform Diagram

Create business processes, build applications, analytics, and integrations faster, and run mission-critical innovation on major cloud provider infrastructure fully managed by SAP



Source: SAP

BTP Demonstration

Demonstration of BTP (Business Technology Platform) and review of services related to SAP S/4HANA upgrade and migration

- Leverage Integration Suite
- Review BTP Capabilities

BTP Hands-On Lab 2

Demonstration of BTP (Business Technology Platform) and review of services related to SAP S/4HANA upgrade and migration

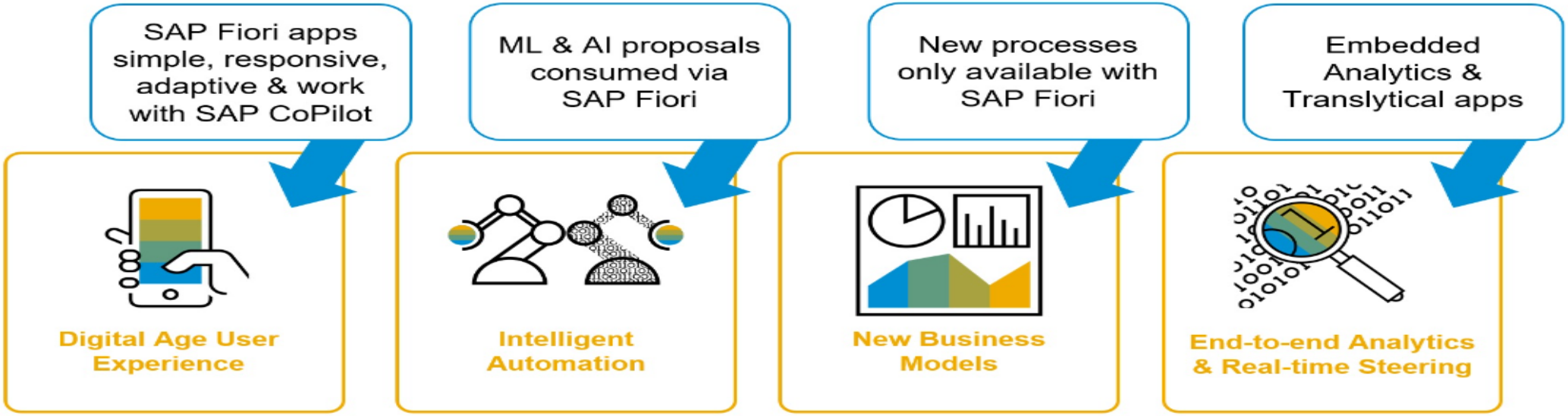
- Leverage Integration Suite
- Review BTP Capabilities

Topic 5 – Fiori Launchpad and Business Content

- Fiori Launchpad and managing the business content and functions using the user interface of Fiori
- Discussion about the Fiori LaunchPad and Activation of Content
- Demonstration

Fiori User Interface for Business Applications

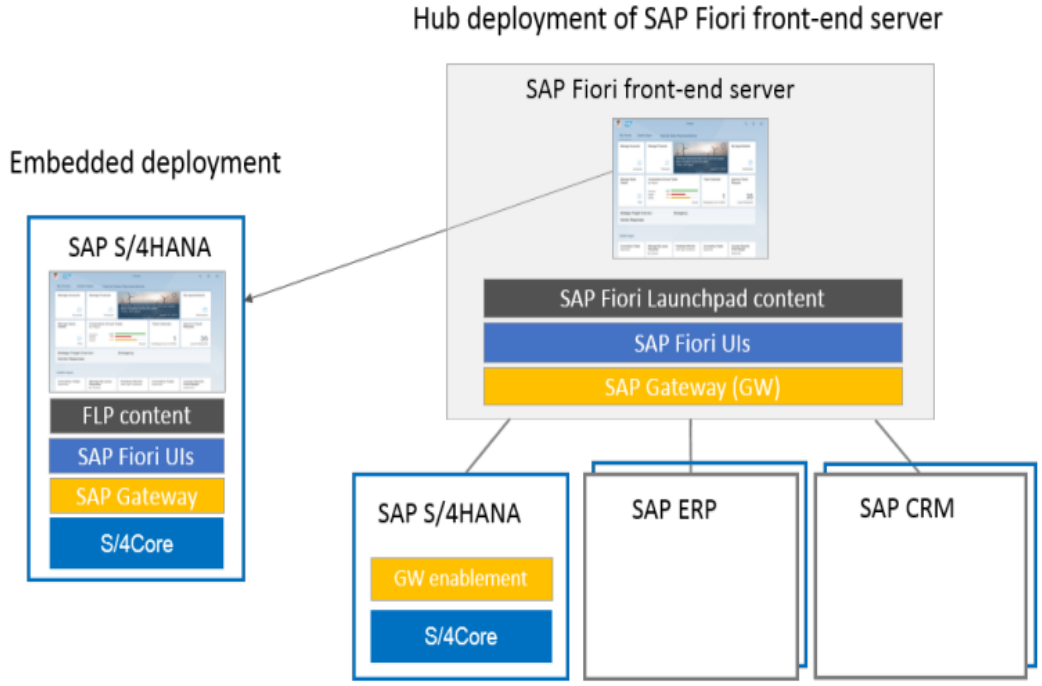
- Library of Fiori Applications → https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/
- SAP Fiori UX is new UI experience target architecture for SAP S/4HANA
- SAP Fiori and SAP GUI are both supported (for exceptions see Simplification List)
- Relevance and readiness analysis recommend – Find Fiori Apps based on T-codes
- SAP Fiori Frontend Server (FES) provides Fiori & central UI components and Maintenance planner considers FES software

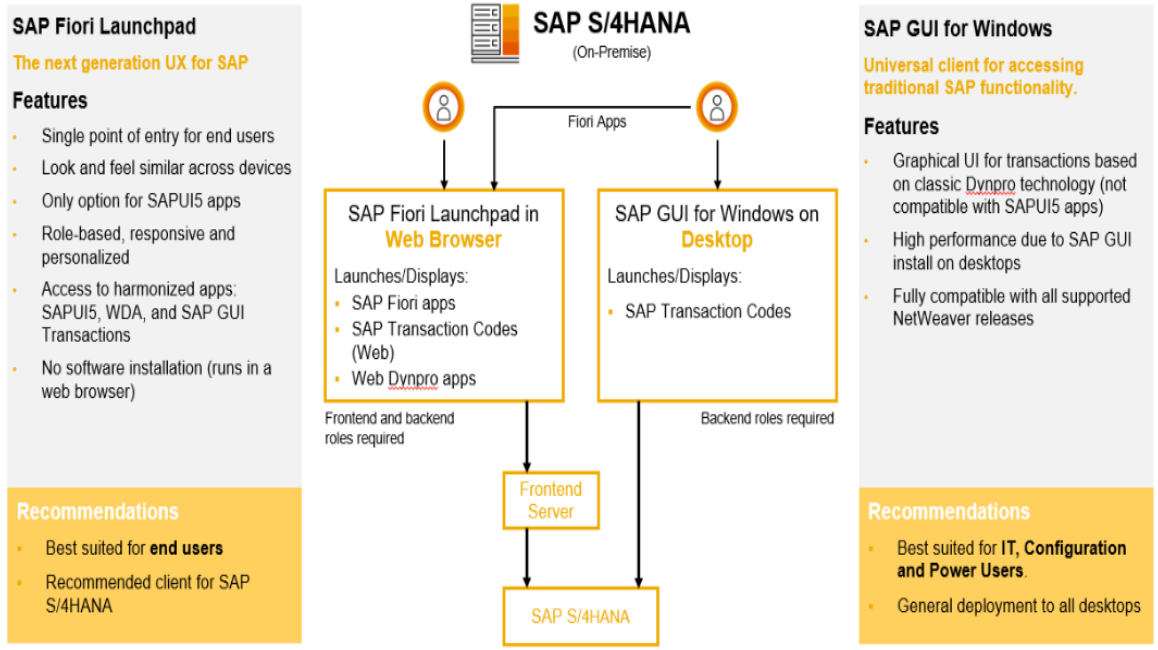


Source: SAP

SAP Fiori Technical Setup and Gateway

- FES (Front End Server) deployment can be embedded or separate, depends on other backends (type & release). Choice of Central (Hub) or Embedded Gateway
- S/4HANA recommendation is to use the Embedded Gateway when possible (simpler, faster, all in one system)
- Fiori Launchpad and SAP GUI for Windows is supported for access to SAP S/4HANA Systems

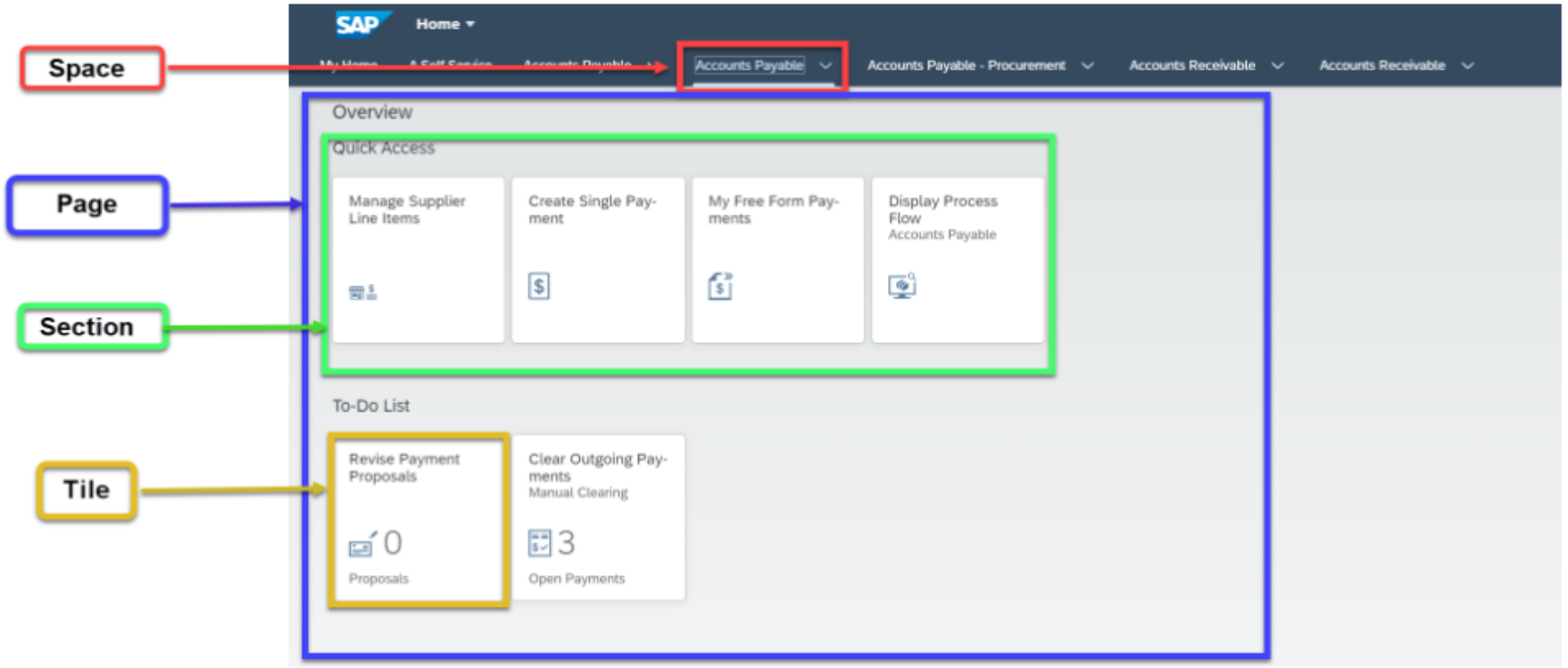




Source: SAP

SAP Fiori Launchpad

- Design and Library of Fiori Applications → https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/
- Run Fiori using → /n/ui2/flp or directly to the Web Page



SAP Fiori Rapid Content Activation

Benefits and Key Points for Fiori Rapid Content Activation:

- Individual implementation of the app will break the user experience and result in higher implementation costs.
- It is a process to mass activate SAP Fiori Apps released by SAP and serves as a quick start to experience SAP Fiori for SAP S/4HANA.
- SAP's "Rapid SAP Fiori activation" enables us to install required apps in a quick and cost-effective manner due to activation of entire SAP Fiori Launchpad content related to a business role together.

Procedure:

- Review the Prerequisites for Rapid Activation
- Find an SAP business role in the SAP Fiori Apps reference library
- Verify pre/post steps for a specific SAP business role
- Activate or reactivate an SAP business role using SAP Fiori rapid content activation
- Create a test user to verify your SAP business role

SAP Fiori for SAP S/4HANA – New Rapid Content Activation

- SAP Fiori is how business users access S/4HANA innovations.
- To enable innovations in Fiori, technical team must activate 100's of SAP Fiori apps and launchpad content. Use the new rapid content activation task lists and dramatically cut the activation effort.
- Performed by activating delivered SAP Business Roles as a consolidated single unit complete with ready-to-test business user ids.
- There are 2 task lists included in Rapid Activation of Fiori in S/4HANA:
    1. Task list for activating the Fiori Foundation named SAP_FIORI_FOUNDATION_S4
    2. Task list for activating Fiori Content by selected business roles, named SAP_FIORI_CONTENT_ACTIVATION

Fiori Rapid Deployment

Source: SAP

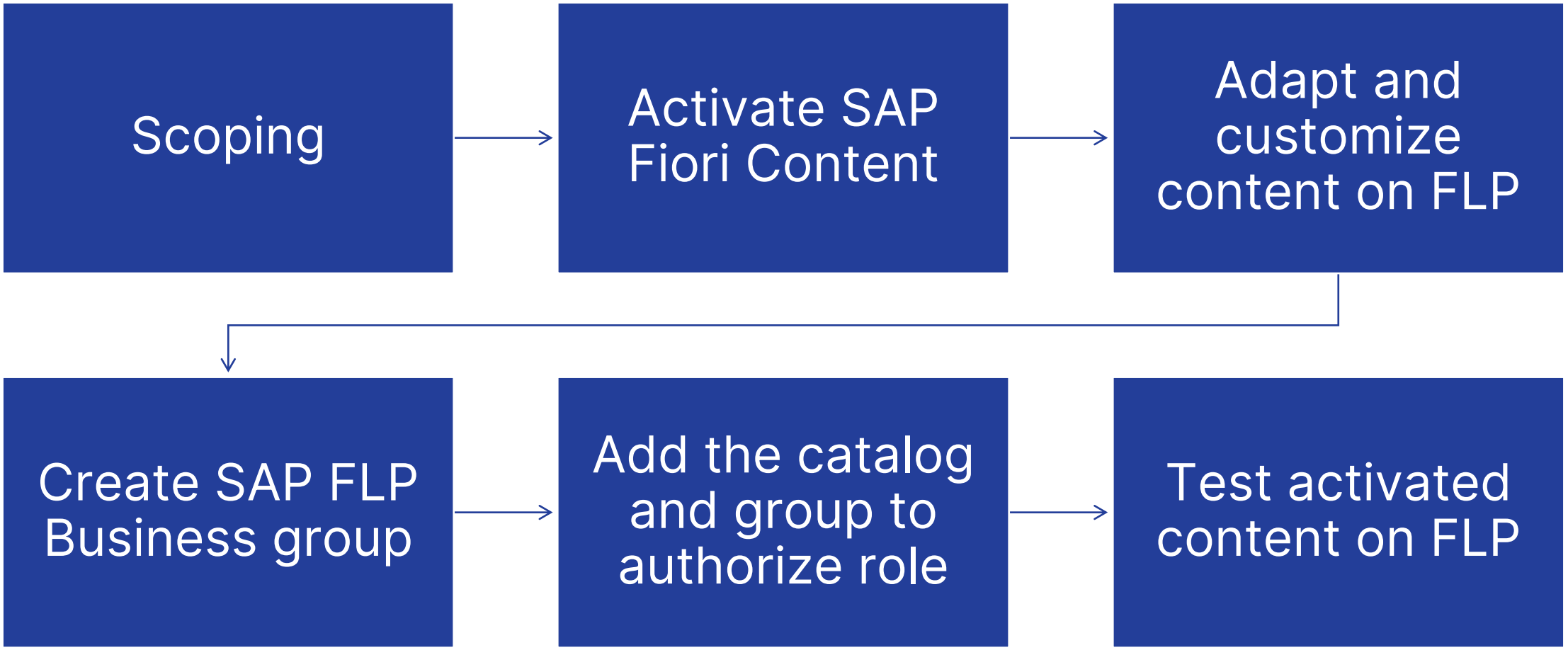
SAP Fiori Rapid Content Activation Prerequisites

- The SAP Fiori front end server for your SAP S/4HANA system is deployed in embedded mode
  - Rapid activation is typically done in a sandbox system first followed by development system
- The SAP Fiori foundation is configured using the SAP Fiori foundation task list
  - Refer to SAP note 2902673 - Rapid Activation for SAP Fiori in SAP S/4HANA

Steps to be performed:

- Review the SAP Notes in the SAP Support Portal for Fiori Rapid Activation
- Access the SAP transaction STC01 in your system and run Rapid Activation content task list SAP_FIORI_CONTENT_ACTIVATION
- Determine the technical name of the SAP business role you want to activate and activate it
- Determine the authorization role that gives your test user to access to the SAP Fiori launchpad and assign to the user in PFCG and SU01 transactions
- Go to the URL of your SAP Fiori Launchpad to test your newly activated SAP business role

SAP Fiori Activation Process Flow



Demonstration and Lab Walk Through Instructor Led

Demonstration of Fiori Applications

- Rapid Deployment
- Embedded Services for Fiori
- Managing Content

Topic 5 (Optional)

Sizing for SAP S/4HANA and HANA DB

Different Types of Sizing

Sizing SAP S/4HANA differs based on type of implementation, three types shown below:

<table>
<tr><th>Greenfield Sizing
Sizing of new applications from scratch</th><th>Brownfield Sizing
Extension / migration of an SAP system</th><th>Bluefield Sizing
Re-implementation of an existing system</th></tr>
<tr><td rowspan="2">Hardware Budget Sizing
Smaller companies
▪ Tools: Sizing Guidelines, Quick Sizer (user)
▪ Very simple algorithms
▪ Assumptions, likelihoods

Medium to large companies
▪ Tools: Sizing Guidelines, Quick Sizer (throughput)
▪ Usage of standard tools
▪ Focus on core business processes</td><td>Re-Sizing
▪ Tools: SAP system monitors
▪ Goal: Extend an existing system by load
– e.g.,100 additional users who'll do the same as the current productive

Upgrade Sizing
▪ Tools: SAP system monitors
▪ SAP Notes
▪ Goal: Upgrade SAP software

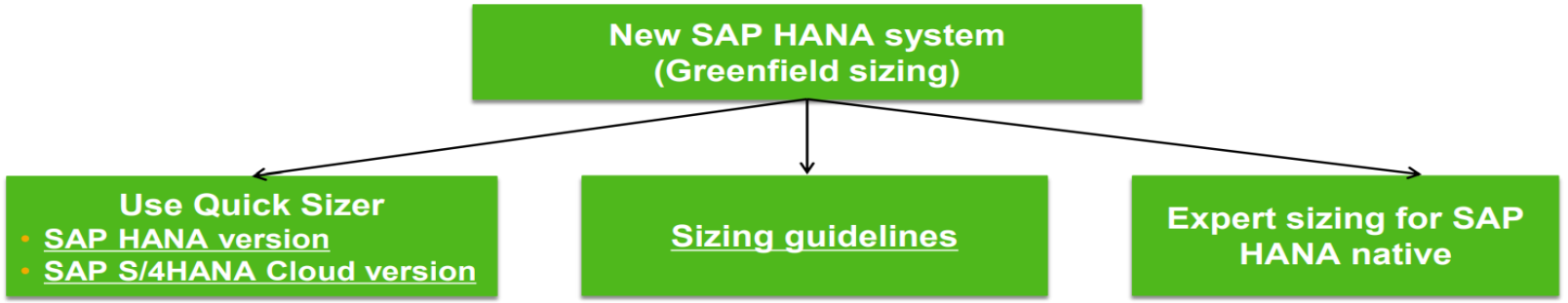
Migration Sizing
▪ Tools: S/4HANA and BW/4HANA Sizing Reports
▪ Goal: Migrate ECC or BW system to S/4HANA or BW/4HANA</td><td>Selective Data Transition*
▪ Tools: S/4HANA & BW/4HANA Sizing Reports
▪ Re-Implementation with Selective Transactional Data

* Special case
Shell copy: Re-implementation without transactional data, but with old customizing and master data</td></tr>
<tr><td>Delta Sizing
▪ Tools:
– SAP system monitors
– Sizing Guidelines, Quick Sizer for additional load</td><td>▪ Goal: Extend an existing system by new functions
– e.g., you are live with SAP S/4HANA and want to add SAP EWM or SAP S/4HANA embedded analytics</td><td>Not applicable</td></tr>
<tr><td colspan="3">Expert Sizing
Large or complex projects
▪ Additional guidelines
▪ Custom calculations
▪ Analysis of custom coding
▪ Custom sizing guidelines</td></tr>
</table>

Source: SAP

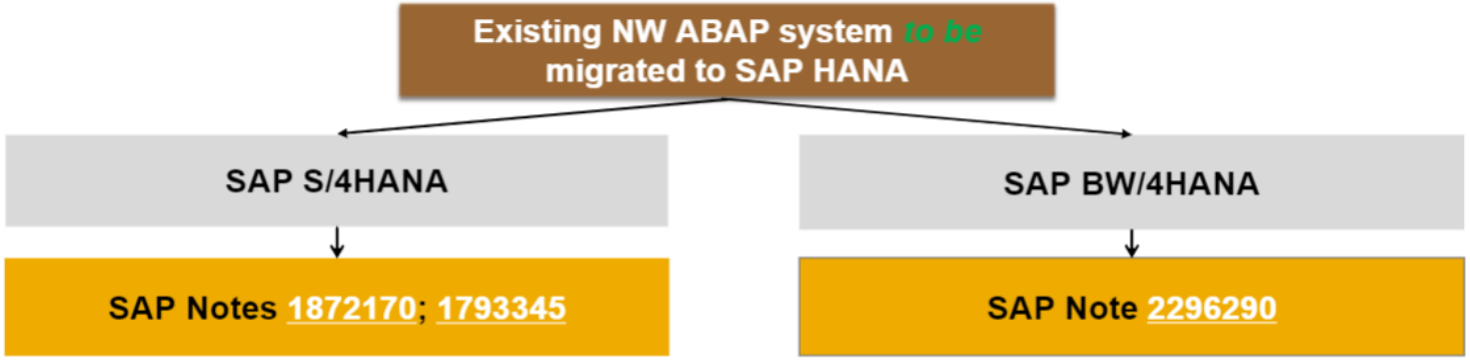
Greenfield Sizing for SAP S/4HANA (New Installation)

- Utilize the standard tools such as Quick Sizer and follow the sizing guidelines. Quick Sizer calculates memory, CPU, disk, and I/O resources based on throughput and number of concurrently active users.
- For Greenfield Sizing for a new system, perform the following steps.
- STEP 1 - Access the Quick Sizer tool (2 choices):
  - Use the HANA-based version if you want to size an SAP HANA database for SAP S/4HANA or S/4HANA Cloud private edition.
  - Use the HANA-based Cloud version if you want to conduct an S/4HANA Cloud sizing.
- STEP 2 - Create a sizing project. Input your customer scenario data into Quick Sizer and it will display the results. Sizing results given in SAPS = CPU, Memory and Disk
- STEP 3 - Find the appropriate hardware configurations on SAP Standard Application Benchmarks or on the Certified and Supported SAP HANA Hardware Directory. For the HANA-based Cloud version check if the demand of the application server capacity matches the number of entered FUEs (Full User Equivalents).
- STEP 4 - Provide the project name to your hardware vendor, who will then propose an appropriate hardware configuration (HANA-based and non-HANA-based classic versions)



Brownfield Sizing for SAP S/4HANA (upgrade or migration)

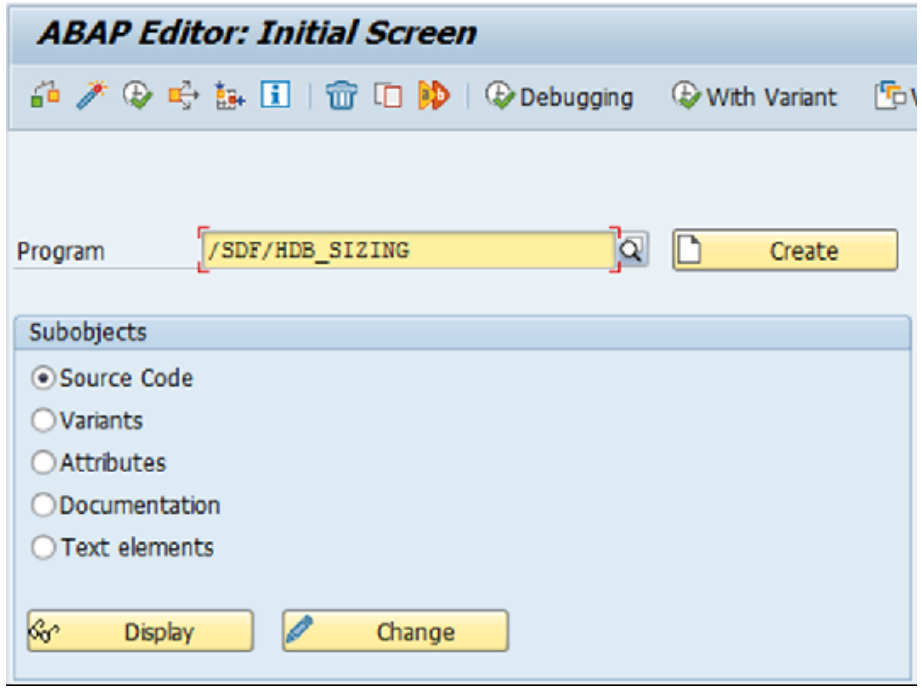
- There are different approaches for brownfield sizing, can be an upgrade, delta, or migration re-sizing.
- STEP 1 - Measure your current resource consumption for CPU utilization, table growth, and memory usage to predict future resource requirements. The report /SDF/HDB_SIZING is described in SAP Note 1872170 is run on the source system. (See next slide).
- STEP 2 – For re-sizing add the extra load caused by additional users. For delta sizing add the additional resource requirements like S/4HANA embedded analytics.
- STEP 3 - Sizing after go-live, review the productive sizing exercises, and SAP go-live checks, etc.
- The SAP S/4 HANA sizing report provided in SAP note 1872170 should be used to estimate the hardware requirement to migrate a NetWeaver-based ECC system to SAP HANA.
- To estimate the hardware requirements for an SAP Business Warehouse system after migration to SAP HANA then run the BW sizing report as shown in SAP Note 2296290.



Source: SAP

Sizing for Systems Being Upgraded to SAP S/4HANA

- The report /SDF/HDB_SIZING is described in SAP Note 1872170 is run on the source system.
- Mainly for proper sizing of the HANA database.
- The sizing report includes the sizing projections, based on the actual table sizes in the legacy system as well as an estimation of how much the memory footprint can be reduced using compression that SAP HANA database provides.
- For the HANA database, the column store and row store estimations have good enough accuracy (10-20%).



ESTIMATED REQUIREMENT FOR UPGRADE SHADOW INSTANCES	HANA SIZE IN GB
Estimated size of tables cloned to shadow instances	44,4
+ Estimated corresponding work space requirement	44,4
= Total memory requirement for shadow instances	88,9
= Total disk requirement for shadow instances	76,1

LARGEST COLUMN STORE TABLES	ESTIMATED HANA MEMORY SIZE IN GB	ESTIMATED RECORD COUNT
WBCROSSGT	3,4	66.252.764
DOKTL	2,9	75.975.625
PCL2	2,4	1.259.778
BALDAT	1,3	4.249.810
AGR_HIERT	1,2	33.568.589
E071K	1,1	25.958.909
REPOSRC	1,1	4.719.972
RSMPTEXTS	0,9	31.542.238
PCL4	0,6	1.001.819
USRBF2	0,5	16.914.148
E071	0,5	15.516.954
SEOSUBCOTX	0,5	9.363.082
T100	0,4	15.502.262
D021T	0,4	11.350.718
SCPRSVALS	0,4	10.130.261
FUNCT	0,4	8.456.381

T-Shirt Sizing Approach

- Rough way to size systems. Small, medium, or large T-shirt sizing.
  - Small (S): 100 business processes per hour by 20 users
  - Medium (M): 500 business processes per hour by 100 users
  - Large (L): 1000 business processes per hour by 200 users
  - Extra Large (XL): 3000 business processes per hour by 400 users
- Examples for Development and Quality/Test Systems:
  - S/4HANA Development systems require HANA with 300-512GB memory and at least one application server with 8 CPU cores, 64GB memory.
  - S/4HANA Quality/Test systems require HANA with 512GB-1TB memory and two application servers for load balance testing each with 8 CPU cores, 64GB memory. Some Quality/Test systems are built using a copy of Production system and will need HANA sizing to be adequate.
- Using scalable virtual servers running on Vmware and Cloud based systems you may be able to allocate more CPU and memory resources to accommodate growth and performance needs. Additionally, can plan to add additional application servers if needed.

Category	CPU [SAPS]	Memory [GB]	Disk Space [GB]
S	40 SAPS	2.1 GB	22.4 GB
M	200 SAPS	2.5 GB	112 GB
L	400 SAPS	3 GB	224 GB
XL	1200 SAPS	4 GB	672 GB

Wrap Up

- Learned about the deployment models including Greenfield, Brownfield, and Selective data migration
- Reviewed with hands on the tools for SAP S/4HANA, Simplification, Readiness Checks, and Conversions
- Understand how to leverage the BTP – Business Technology Platform
- Step through the setup and usage of the Fiori Launchpad and Content for SAP S/4HANA

Where to Find More Information

S4HANA Documentation:

https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE

https://help.sap.com/docs/SAP_S4HANA_CLOUD

Upgrading SAP S/4HANA: Why, How, and Best Practices:

https://assets.cdn.sap.com/sapcom/docs/2020/06/94ca0995-9d7d-0010-87a3-c30de2ffd8ff.pdf

Readiness Checks Blog → SAP Readiness Check for SAP S/4HANA upgrades → SAP Blogs

BTP Main Documentation → SAP Business Technology Platform (SAP BTP) → SAP Help Portal

Fiori Main Documentation → SAP Fiori → SAP Fiori Design Guidelines and SAP Fiori Launchpad → SAP Help Portal

Key Points to Take Home

Understand the three deployment models for S/4HANA upgrades, Greenfield, Brownfield, Selective Migration

Know the conversions for upgrading to S/4HANA and the tools required to perform them

Understand the capabilities of the SAP Readiness Checks to analyze the source system and how to view the resulting reports

How to search and browse upgrade relevant simplification items for the targeted release using the Simplification Item Catalog and understand why it is important

How to utilize the SAP Business Technology Platform and the services it provides, especially around custom code conversions

Details about the significant high-level custom code analysis

Understanding of the Fiori Launchpad and managing the business functions using the user interface of Fiori

Thank you! Any Questions?

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Please remember to complete your session evaluation.

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