

Technical Considerations for Your Move to SAP S/4HANA

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SAPinsider



In This Session

Overview of Deployment models including Greenfield, Brownfield, and Selective data migration

Tools for S/4HANA, Simplification, Readiness Checks, and Conversions

How to leverage the BTP – Business Technology Platform

Fiori Launchpad and Content for S/4HANA

What We'll Cover

- Deployment models for S/4HANA upgrades
- Architecture
- Conversions Required
- Sizing S/4HANA
- Tools for S/4HANA
- Migration Challenges
- Fiori and SSO
- Wrap-Up



Topic 1

Deployment models for S/4HANA upgrades

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

Why move to 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 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)

SAP Rise:

- Runs the 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

S/4HANA Versions and Release Dates

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

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

S/4HANA On-Premise and Private Cloud Versions

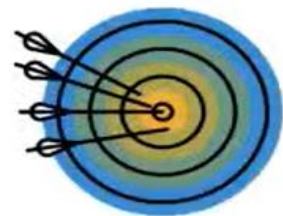
- 7 Years Mainstream Maintenance per Release
- Moving to a two-year release cycle starting with SAP S/4HANA 2023 (prior was every year)
- SAP statement since 2023 version → “No customer left behind” with software capabilities
- The 2023 release of SAP S/4HANA is a new chapter with next-generation technology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

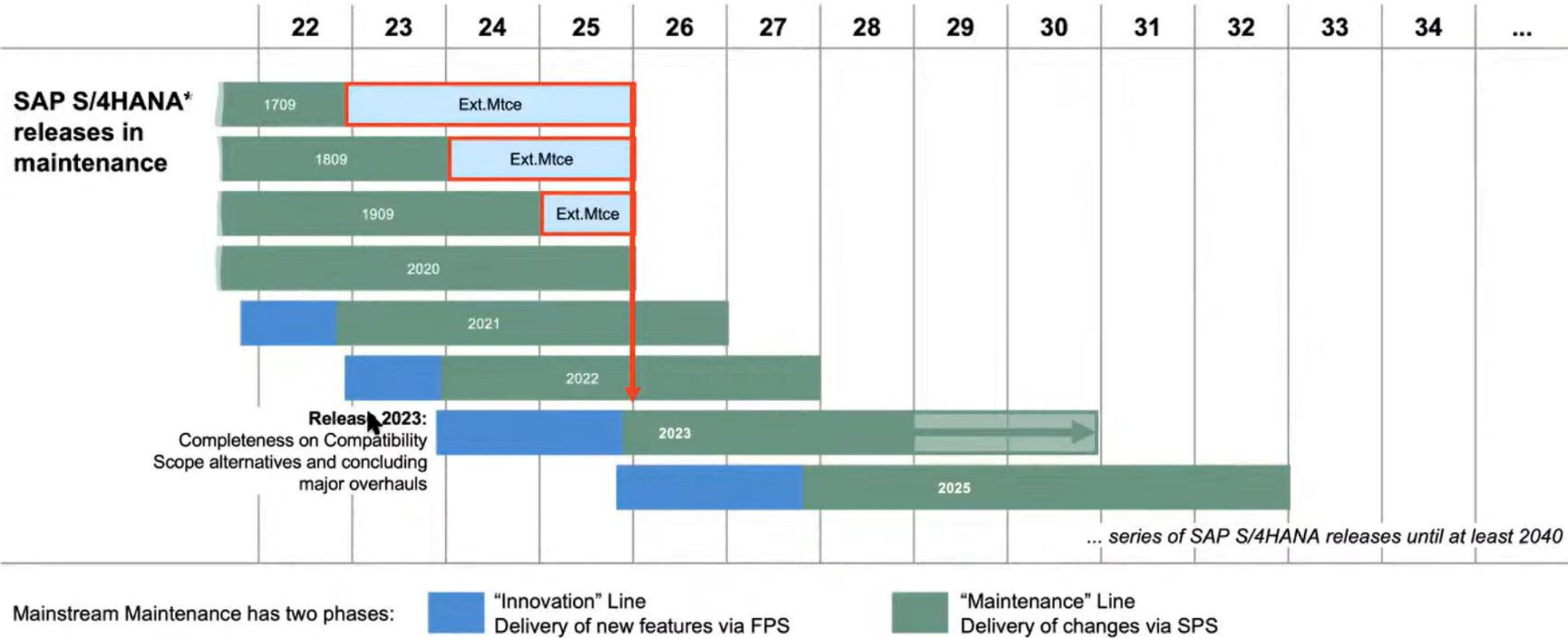
Releases:

- 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:

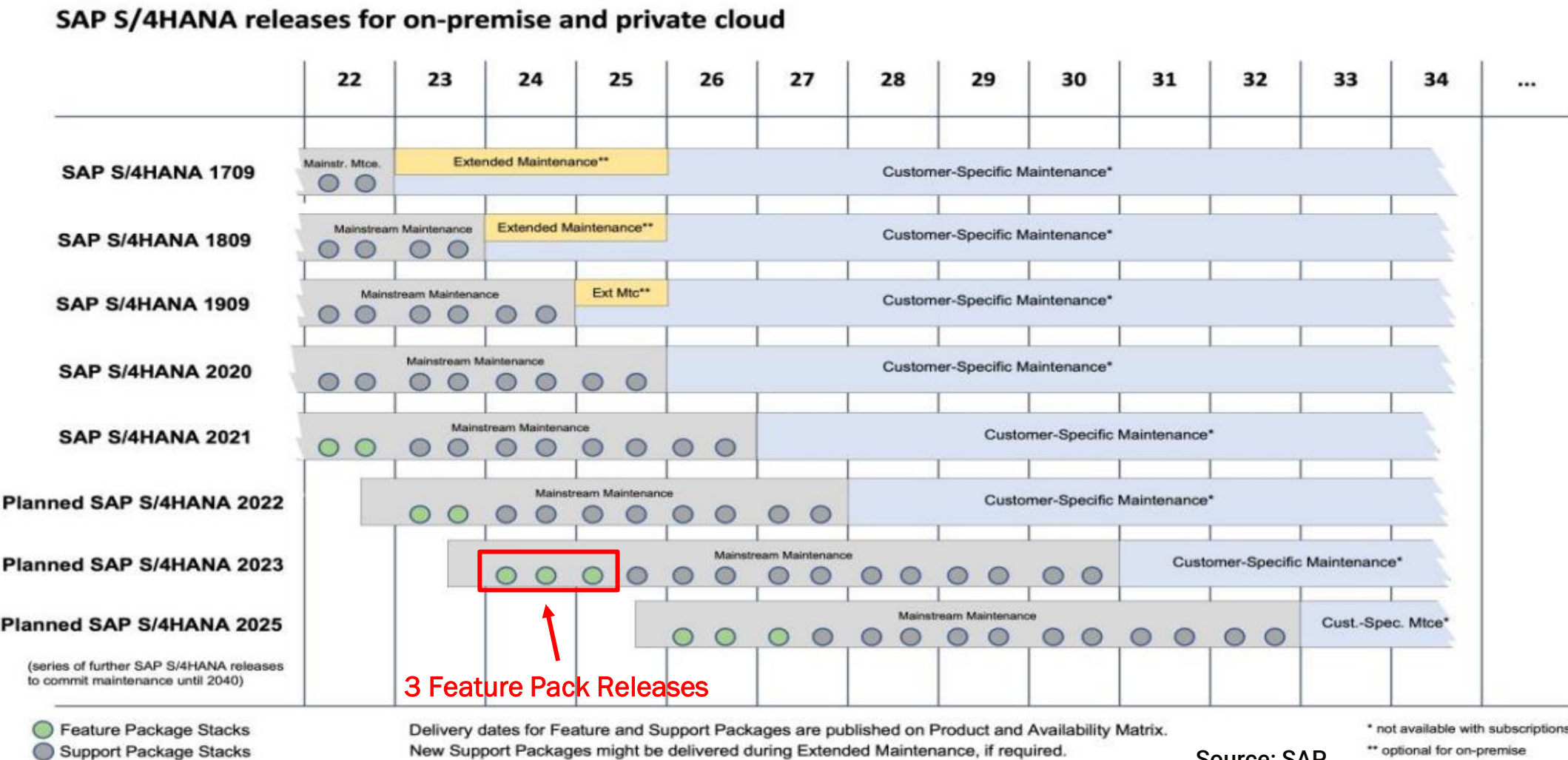
- Requires an update
- Technically it is a support package with new enhancements and features deployed on the previously delivered base release
- ABAP platform stays on previous release
- Enhanced and/or modified features need to be switched for minimal disruption of the feature pack
- This update is easier to consume than 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

S/4HANA Releases in Maintenance



Source: SAP

SAP S/4HANA Release Schedule

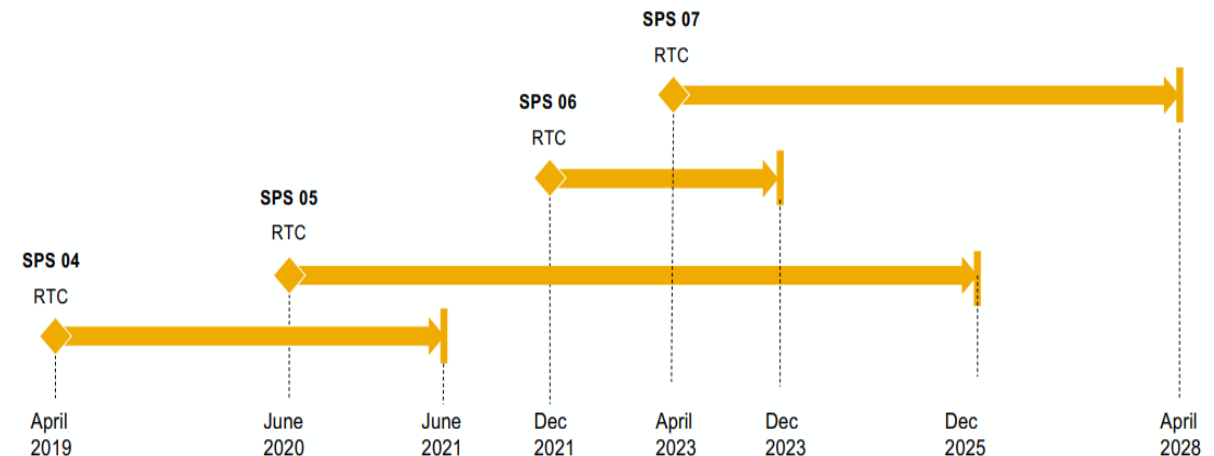


SAP HANA Release Schedule and Support

- 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:

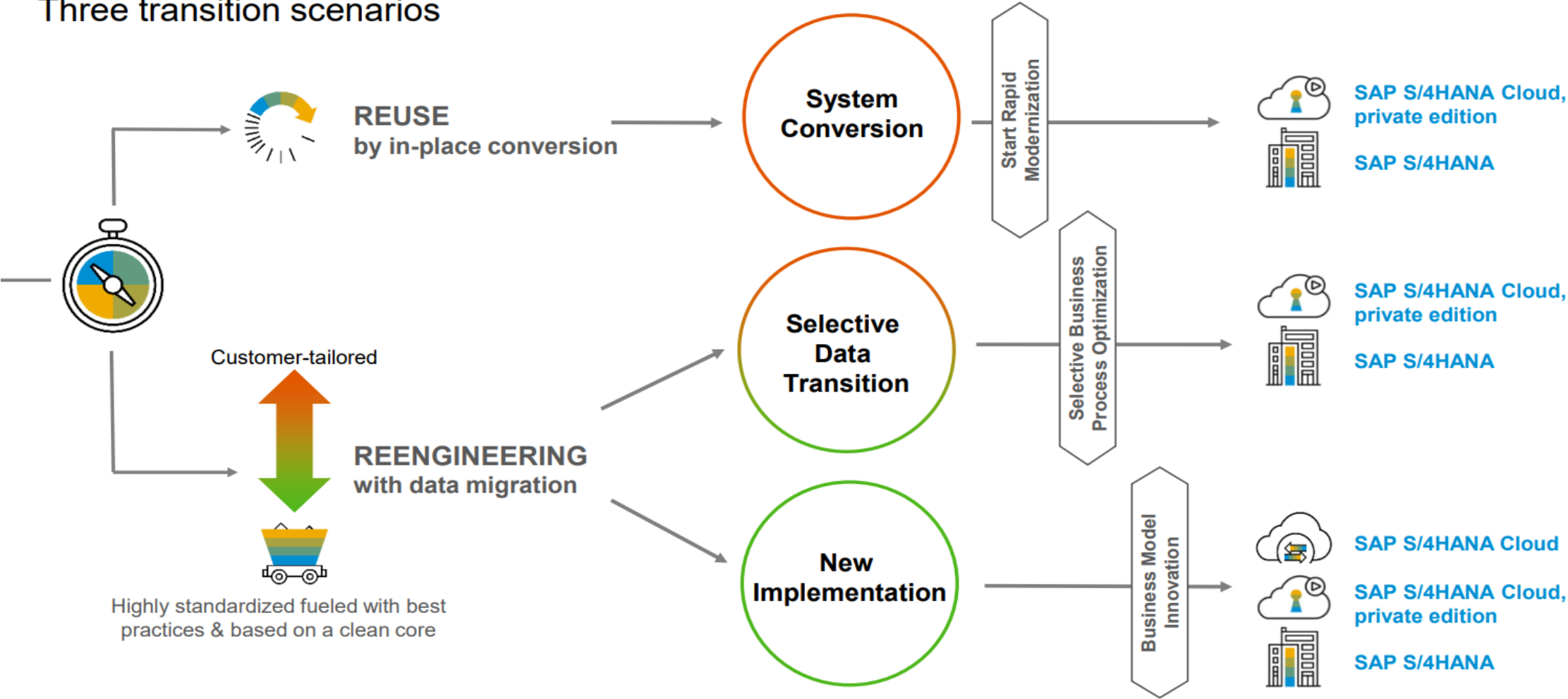
- SAP HANA 2.0 SPS05 for a period of 5 years after RTC
- SPS06 (current version SPS66) for 2 years
- SPS07 (not yet released) for a period of 5 years after RTC
- Starting with HANA 2.0 SPS08, SAP will provide new SPS every 2 years with a 4-year maintenance period
- ***SAP HANA 2.0 SPS08 is currently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



Source: SAP

Moving to S/4HANA - Transition Scenarios

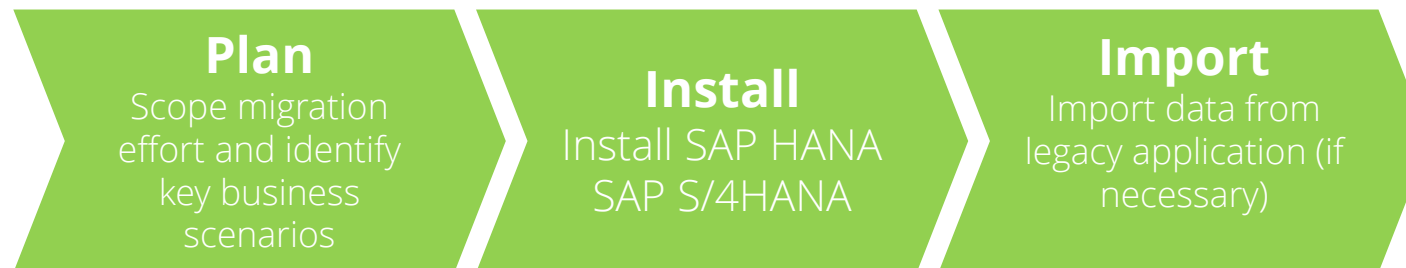
Three transition scenarios



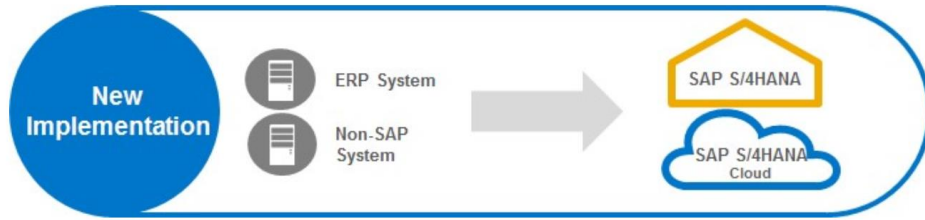
Three Methods to use for Moving to S/4HANA

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 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 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)

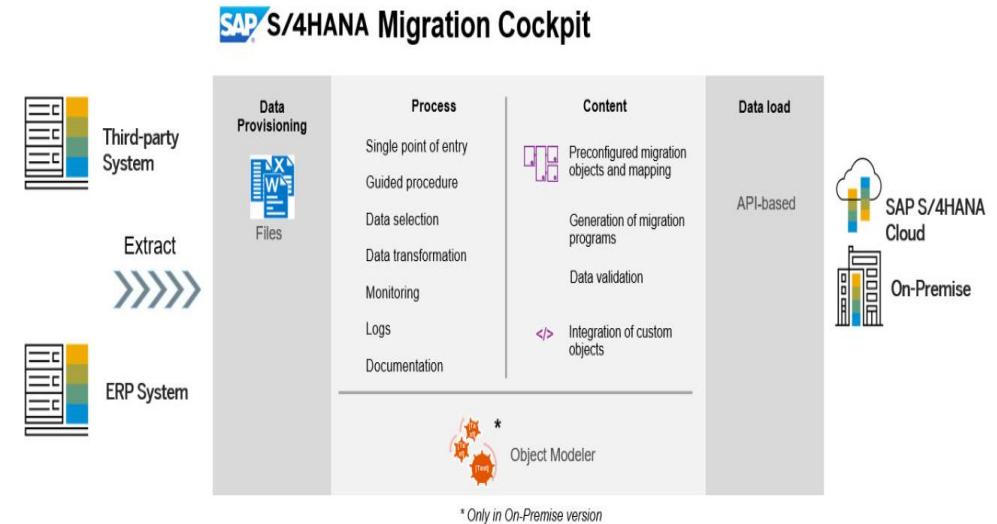


- **Key Considerations**

- 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)



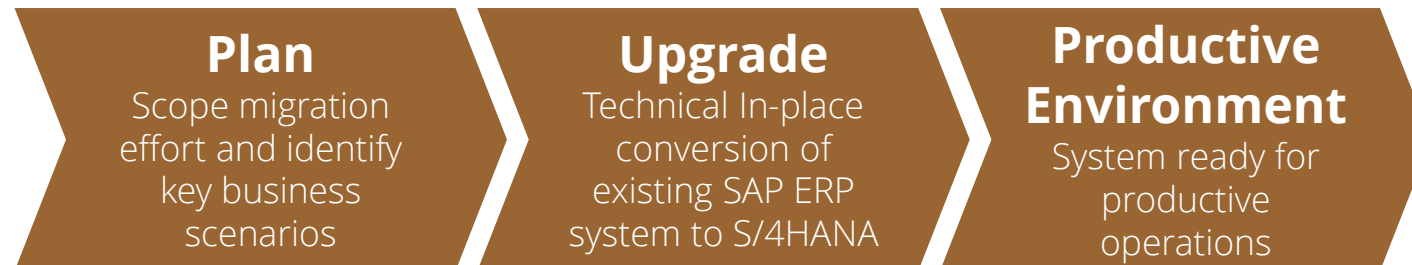
Phases of MC

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

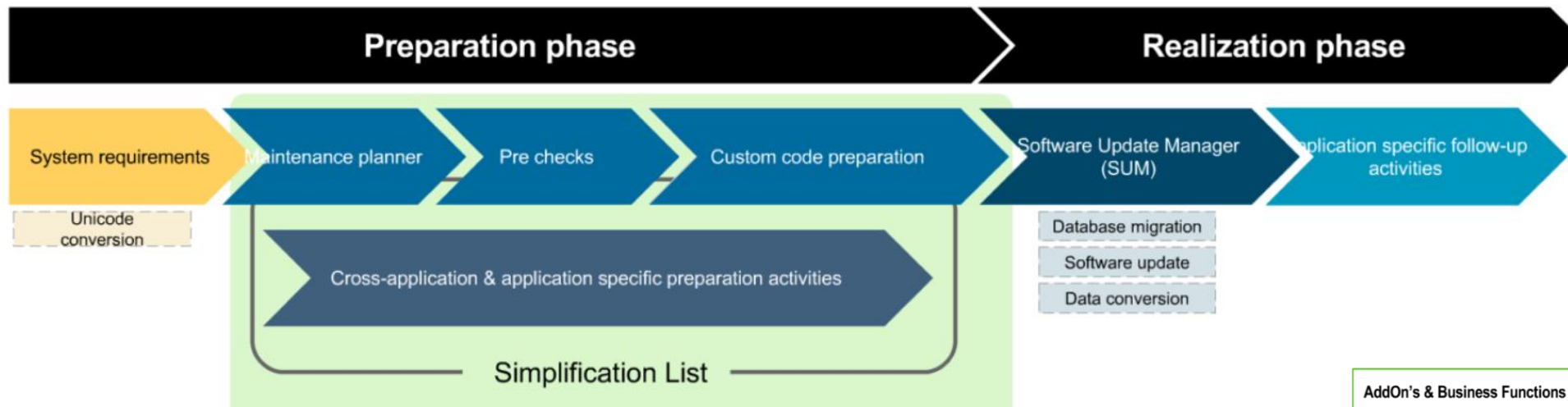
Three Methods to use for Moving to S/4HANA

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 S/4 version dependent.** Describes what happens in 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 S/4 and if it is required in S/4 HANA version.

Custom Code & Custom Dev

- Custom Code must be analyzed with respect to SAP S/4HANA compliance, based on the SAP S/4HANA simplification database
- SAP Readiness Check provides BOM of affected objects as well as SAP Custom Development Projects (CDP's)
- An in-depth custom code management activities to follow during project execution

Simplification items

- Simplification Items represent application or architecture changes in comparison to SAP ERP
- About 470 Simplification Items exist for SAP S/4HANA 1610
- They are grouped by business priority (e.g. Core Finance) and industry, respectively

AddOn's & Business Functions

- SAP AddOn's and Business Functions as well as 3rd party AddOn's have to be checked for their compatibility with SAP S/4HANA
- SAP software is listed and rated
- 3rd party software is listed only



Transactions

- SAP GUI transactions replaced or deprecated in SAP S/4HANA, such as Classic MM-PUR GUI transactions

SAP S/4HANA Sizing

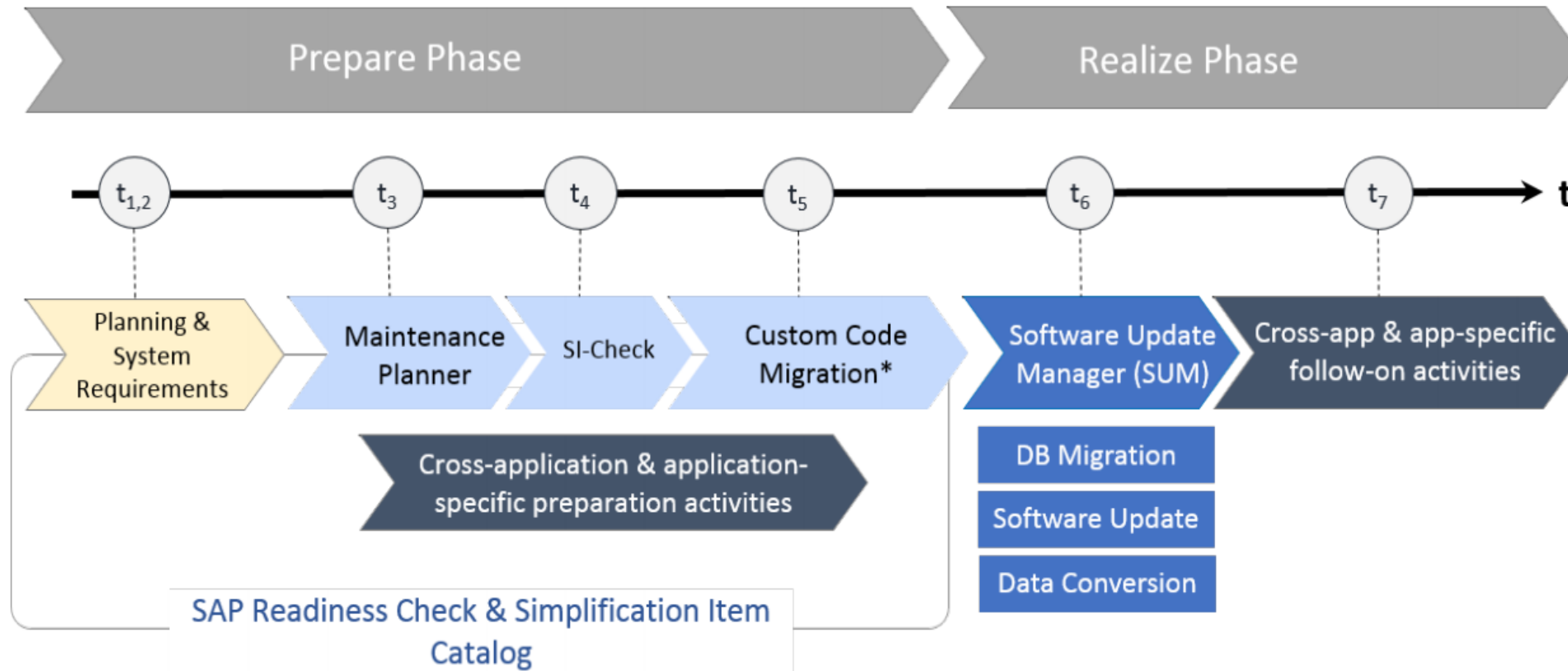
- To prepare for SAP S/4HANA, a system sizing is the baseline for further discussions regarding the future target size
- SAP Readiness Check summarizes the technical sizing result so that customers can further engage internally, with SAP or with partners to discuss the future target system size

Recommended SAP Fiori Apps

- SAP Fiori apps recommended based on the transaction usage history in the evaluated system

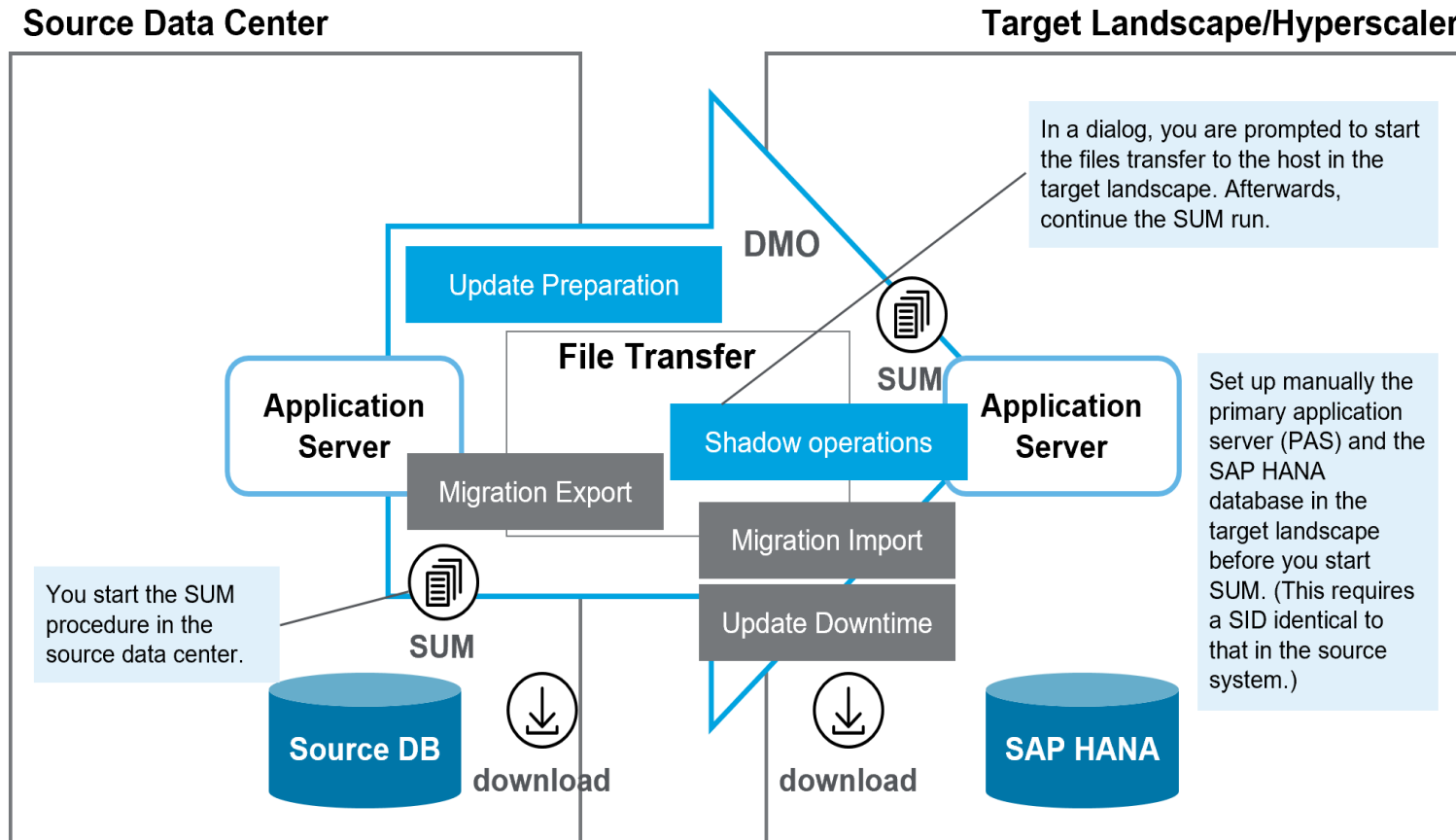
Source: SAP

System Conversion Phases - Brownfield



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

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 the 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)

Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6
PRD to SAP S/4HANA “Sandbox”	DEV to SAP S/4HANA DEV	QA to SAP S/4HANA QA	PRD to SAP S/4HANA “Sandbox”	PRD to SAP S/4HANA “Sandbox”	PRD Conversion
Source / Target P01 Copy → P01 HW	Source / Target D01 → D01	Source / Target Q01 → Q01	Source / Target P01 Copy → P01 HW	Source / Target P01 Copy → P01 HW	Source / Target P01 → P01
Steps a) Homogeneous system copy of P01 to PH1 b) Conversion of PH1 to targeted end-state	Steps a) Homogeneous system copy of D01 to DT1 b) Conversion of D01 to targeted end-state	Steps a) Homogeneous system copy of Q01 to QT1 b) Conversion of Q01 to targeted end-state	Steps a) Homogeneous system copy of P01 to PH1 b) Conversion of PH1 to targeted end-state	Steps a) Homogeneous system copy of P01 to PH1 b) Conversion of PH1 to targeted end-state	Steps Conversion of P01 to targeted end-state
Purpose <ul style="list-style-type: none"> Test software installation, HANA migration, SAP S/4HANA data model conversion with a production copy Configure, Test SAP S/4HANA Create a conversion cookbook Execute multiple technical iterations to become familiar with the process of converting the production system (if required) 	Purpose <ul style="list-style-type: none"> Build temporary production support development environment (DT1) Establish SAP S/4HANA development environment (D01) Configure, Test SAP S/4HANA Refine cookbook 	Purpose <ul style="list-style-type: none"> Build temporary production support quality assurance environment (QT1) Establish SAP S/4HANA QA environment (Q01) Enhance cookbook Testing environment: <ul style="list-style-type: none"> Integration Functional regression Operational readiness User acceptance 	Purpose <ul style="list-style-type: none"> Mock cutover Optimize/verify E2E business downtime Finalize cookbook Finalize cutover plan Testing environment: <ul style="list-style-type: none"> Infrastructure testing Post-cutover operational performance testing 	Purpose <ul style="list-style-type: none"> Final dress rehearsal Validate E2E business downtime Validate final cookbook Validate cutover plan 	Purpose <ul style="list-style-type: none"> Establish new SAP S/4HANA PRD environment
	Note <ul style="list-style-type: none"> Conversion steps will differ from production 				Note <ul style="list-style-type: none"> Execute end-to-end (E2E) business downtime precisely as defined within the cutover plan Execute technical steps precisely as defined in the cookbook

Source: S/4HANA Move Program

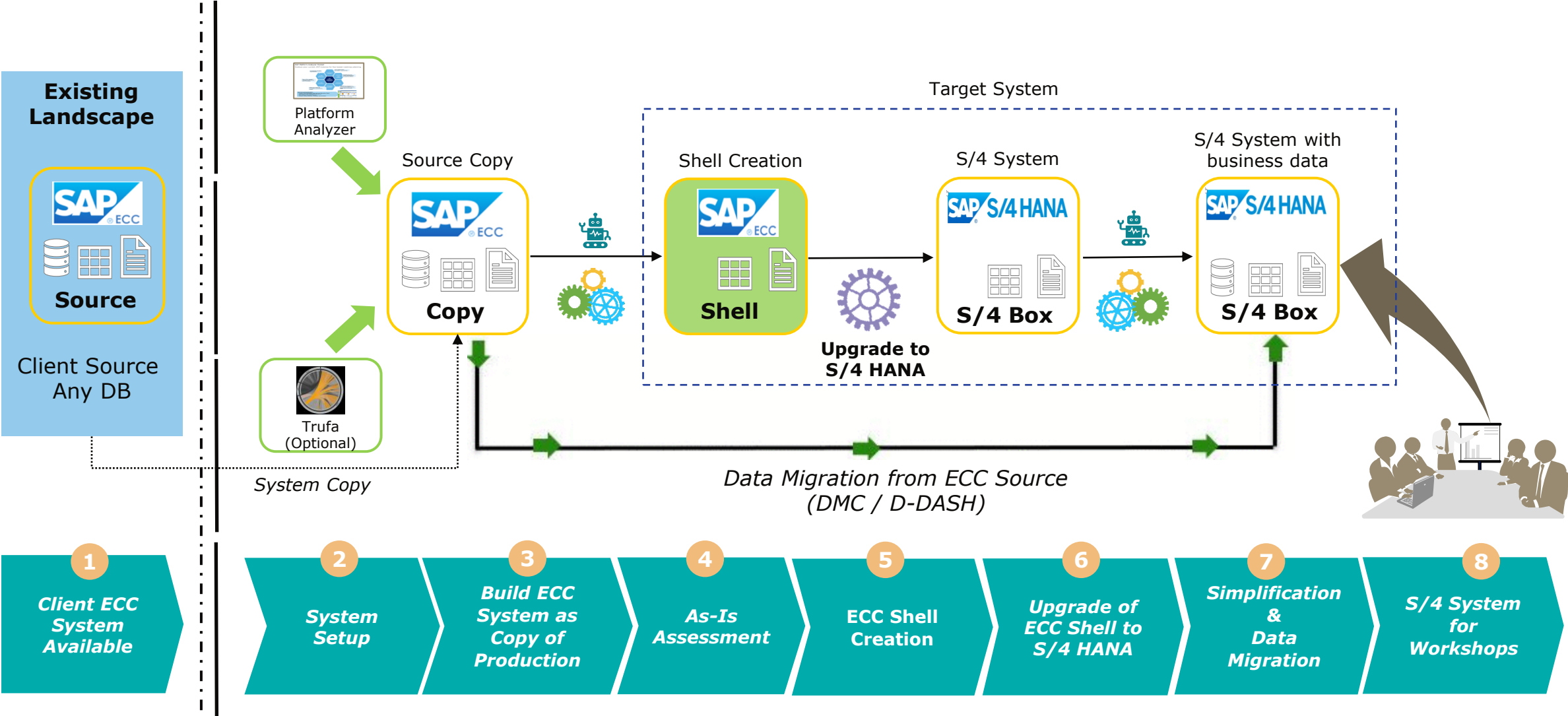
Three Methods to use for Moving to S/4HANA

Scenario 3 - Selective Migration (Data is migrated selectively using tools)

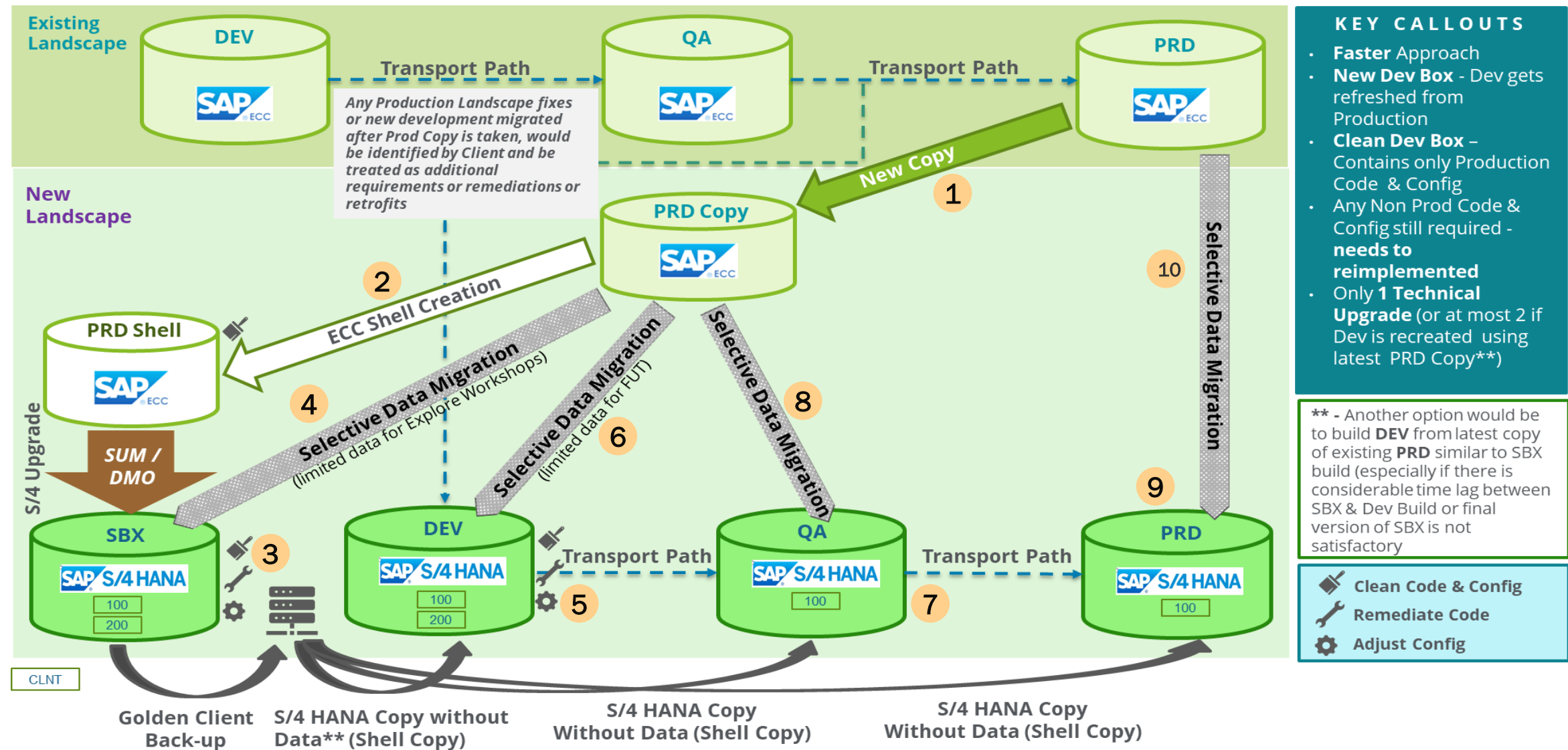
- Opportunity to "carve out" data from the existing system and migrate both data and application selectively to the **new S/4HANA system**
- Great opportunity to redesign the new system utilizing the full capabilities of S/4HANA
- Similar to a new system implementation with master data load (must use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



Scenario 3 - Selective Transformation Journey

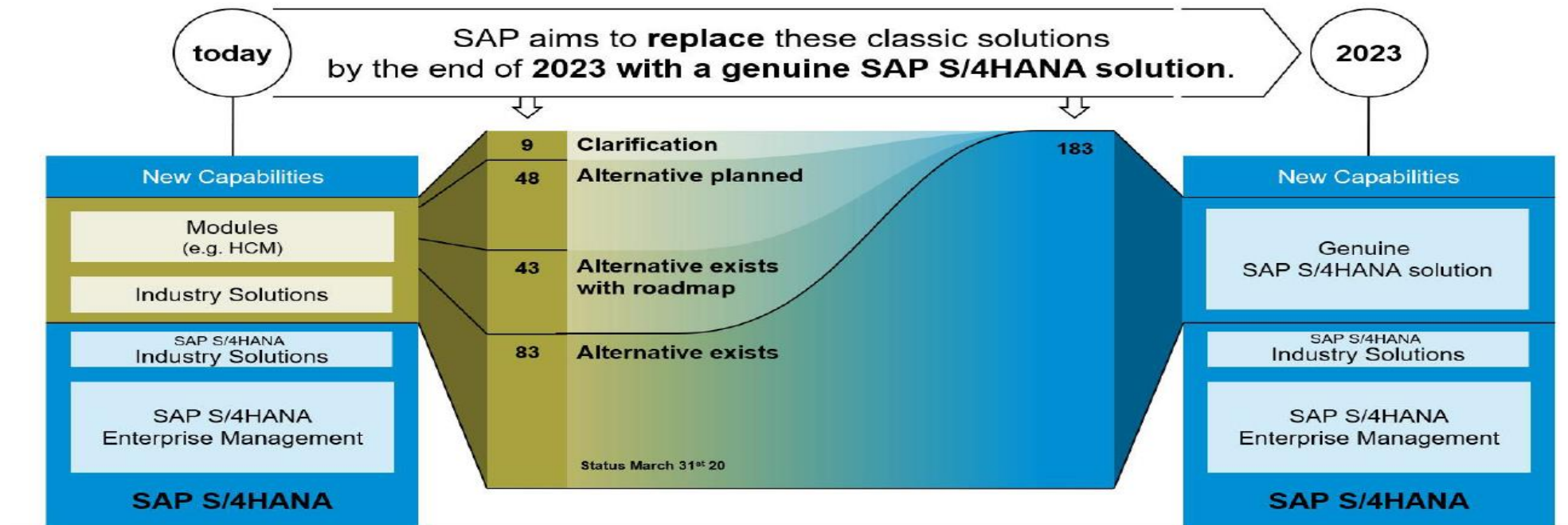


Example of an Actual Selective Transformation Approach



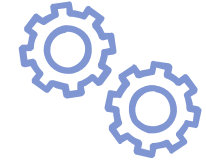
New Capabilities in S/4HANA 2023

- More Compatibility packs are transformed into S/4HANA solutions as of 2023 version.
- HCM is now available as standard in 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/e2048712f0ab45e791e6d15ba5e20c68/2022/en-US/FSD_OP2022_latest.pdf

Ask Yourself before you Upgrade/Migrate



Check List

Understand where you are and what you want

Is a Unicode Conversion Required?

Is your hardware appropriate for S/4 HANA?

Is an initial SP upgrade of your current system required before you plan to move to S/4 HANA?

Have you completed the S/4 HANA readiness check?

Do you want an On-premise or Cloud Deployment?

Do you want to retain historical data?

Have you considered third-party integration compatibility with S/4 HANA?

Have you taken into account the effort for training your employees once you move to S/4 HANA?

Leveraging the “Clean Core” Methodology?

Recommendations

- See if archiving can be done to reduce data volume to be converted
- Check the compatibility of the 3rd party products and SAP Add-on's as soon as possible and allocate time for preparations and extensive testing
- Plan time for testing of roles and changes in authorizations (SAP security)
- Use the opportunity to replace Custom Code with standard functionality where possible (refer to the custom code guides)
- Consider migrating from SAPscript forms to Adobe Document Services
- Deletion of obsolete data after successful validation of the completed conversion
- Make a detailed project plan.
- Utilize “runbooks” to document the processes end-to-end

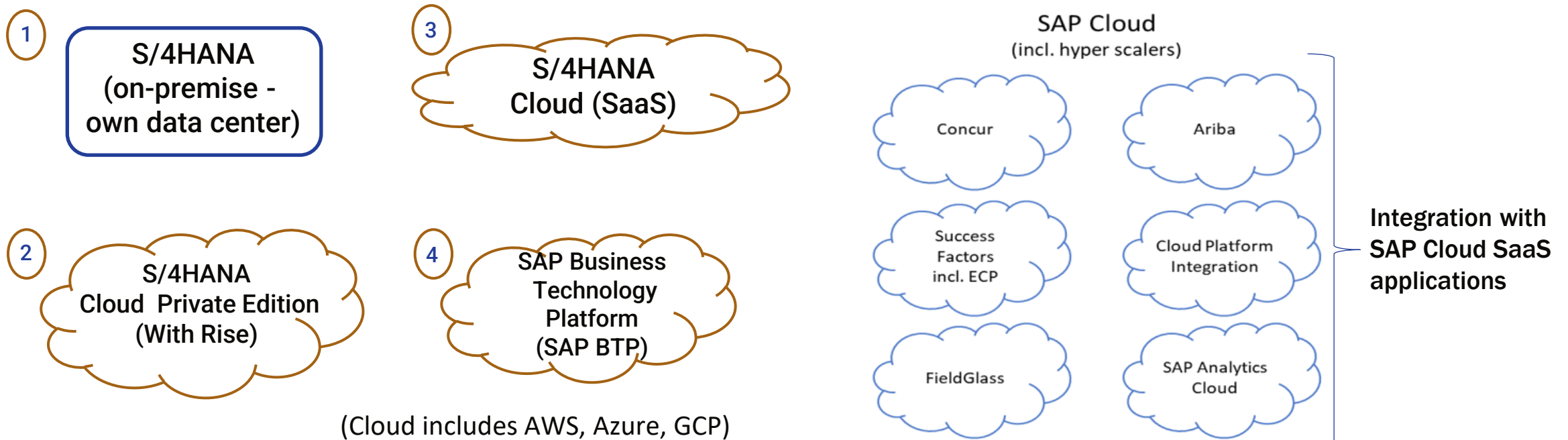
Topic 2

Architecture



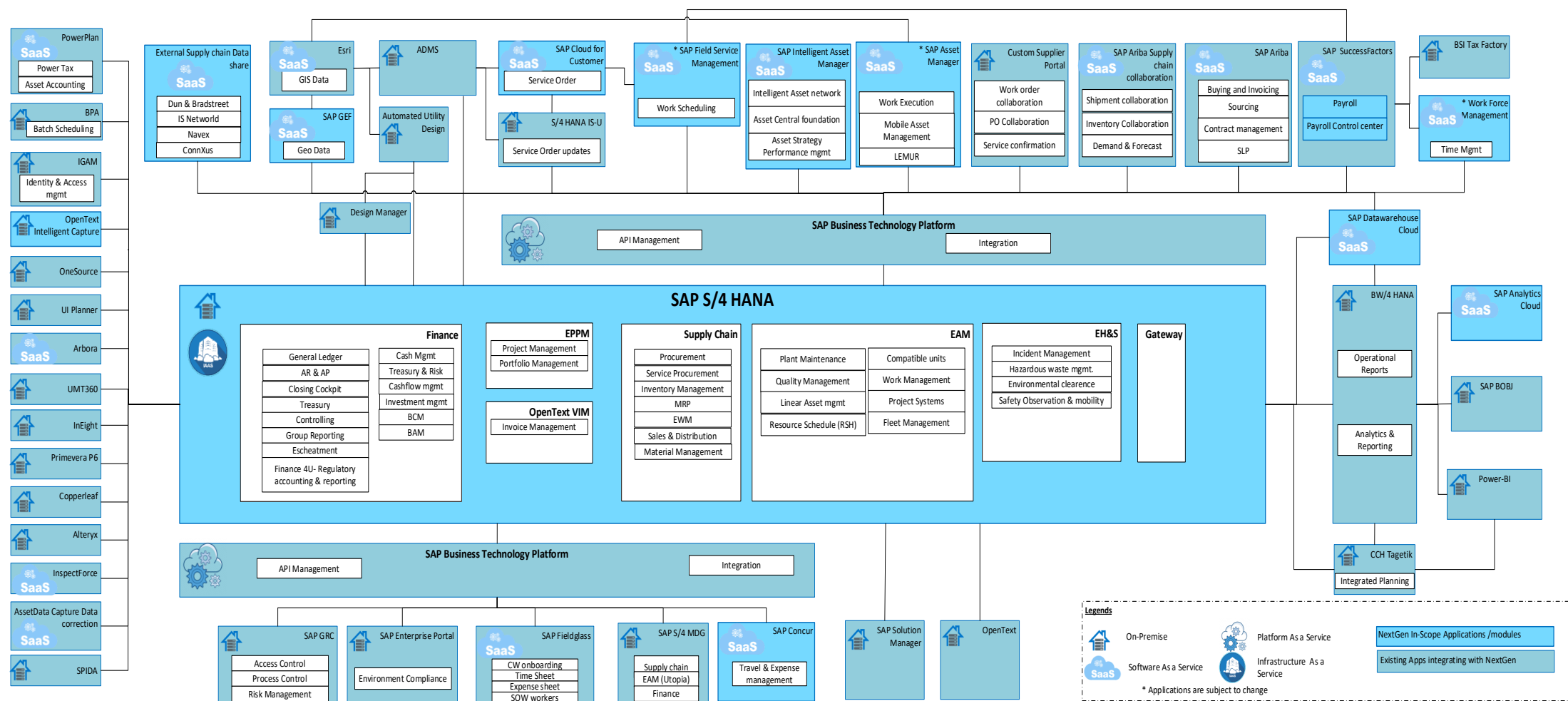
Hybrid Architecture - Choices for Running S/4HANA:

1. S/4HANA On-premise edition
2. S/4HANA Cloud Private Edition (with Rise)
3. S/4HANA Cloud (SaaS Edition)
4. SAP Business Technology Platform (SAP BTP) brings together data and analytics, artificial intelligence, application development, automation, and integration



Large Architecture and Integration Challenges

This architecture shows how sizing can be difficult due to the many connected systems.

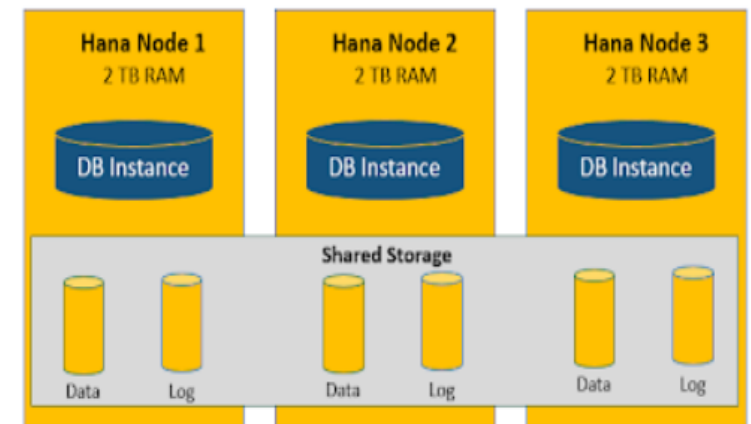


Scale Up or Scale Out for S/4HANA

- There are two general approaches you can take to scale the SAP HANA system. Scale up and scale out. Scale up is strongly recommended for S/4HANA for performance reasons.
- Scale up means allocating the memory in one server for one SAP HANA system tenant.
- Scale out means allocating the memory from multiple servers logically for one SAP HANA system tenant. Tables and their data is either placed on specific nodes determined by logical grouping of tables by application or distributed across the server nodes using partitioning schemes. Selected tables can be replicated on each node for performance reasons.
- Scale out is possible for S/4HANA but has strict rules and considerations for grouping applications and data on scale out nodes due to negative performance.
- Scale out configurations with fewest nodes should be chosen.
- Refer to SAP note 2408419 - SAP S/4HANA Multi-Node Support



Scaled-up HANA System



Scaled-out HANA System

Source: SAP

SAP “BTP” Business Technology Platform

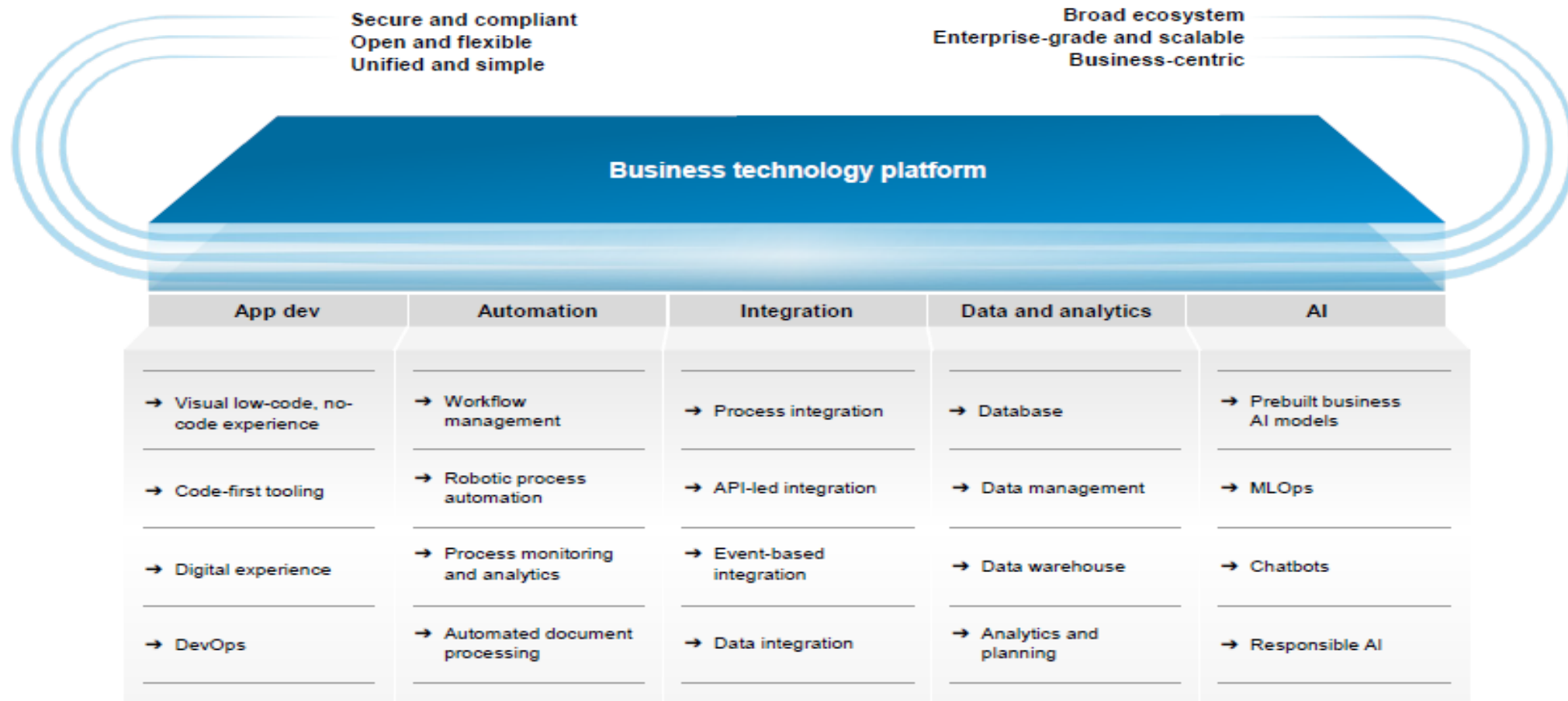
BTP is useful for application development, data and analytics, integration, automation, and AI capabilities in one unified environment.

- 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

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.

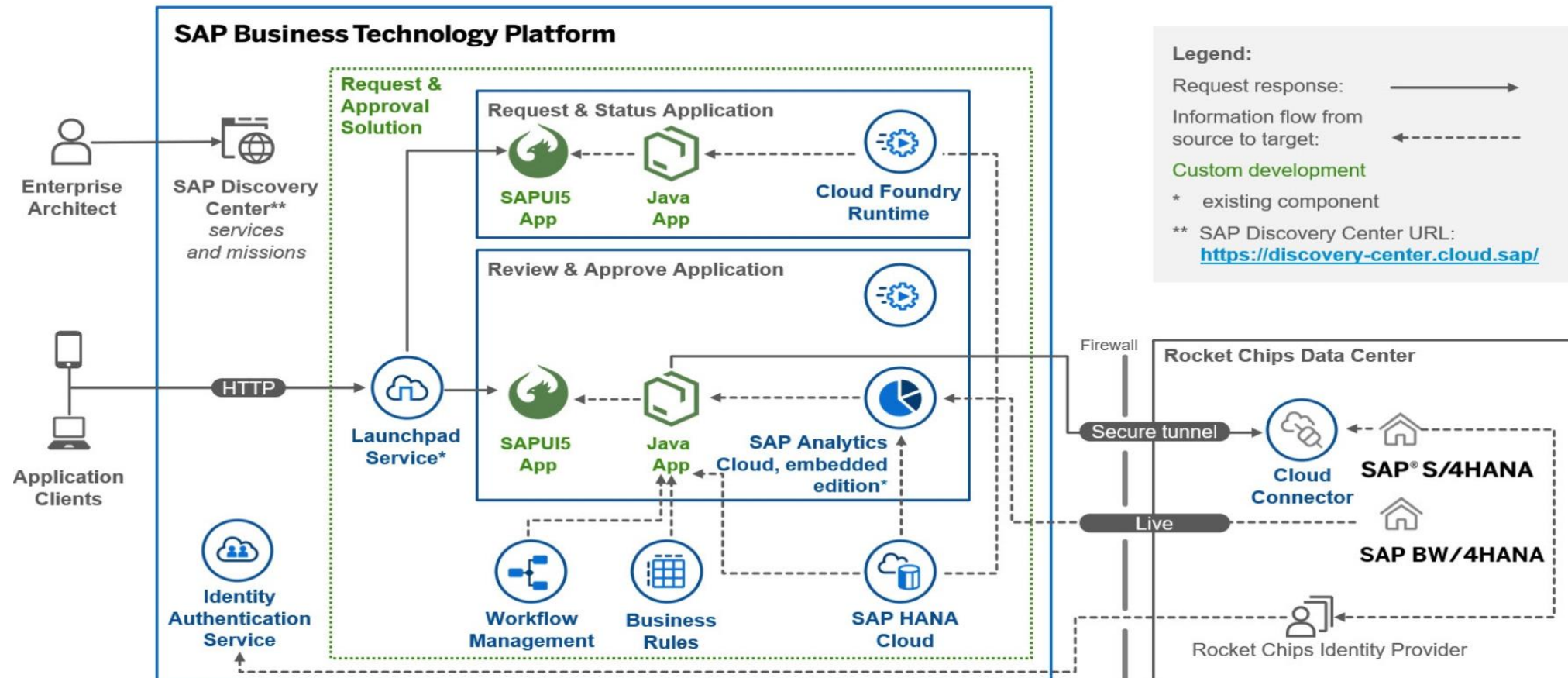
SAP BTP – Cloud capabilities



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



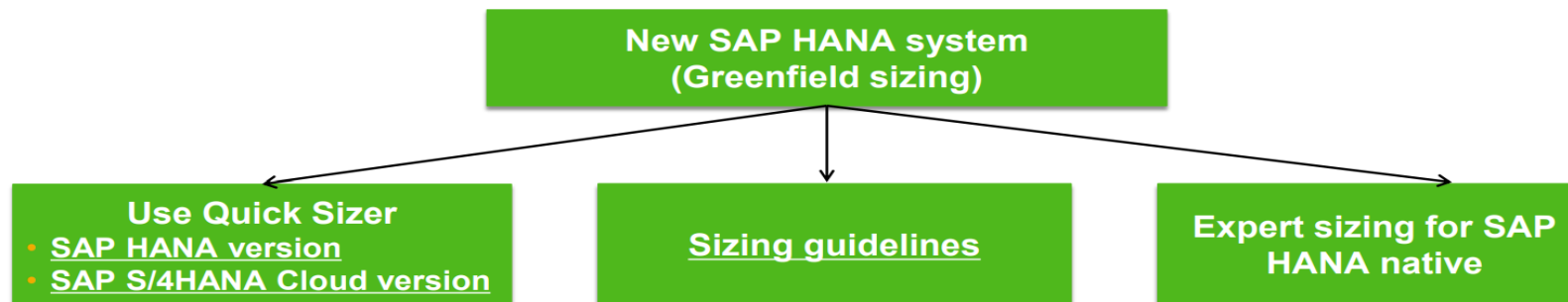
Topic 3

Sizing for S/4HANA and HANA DB



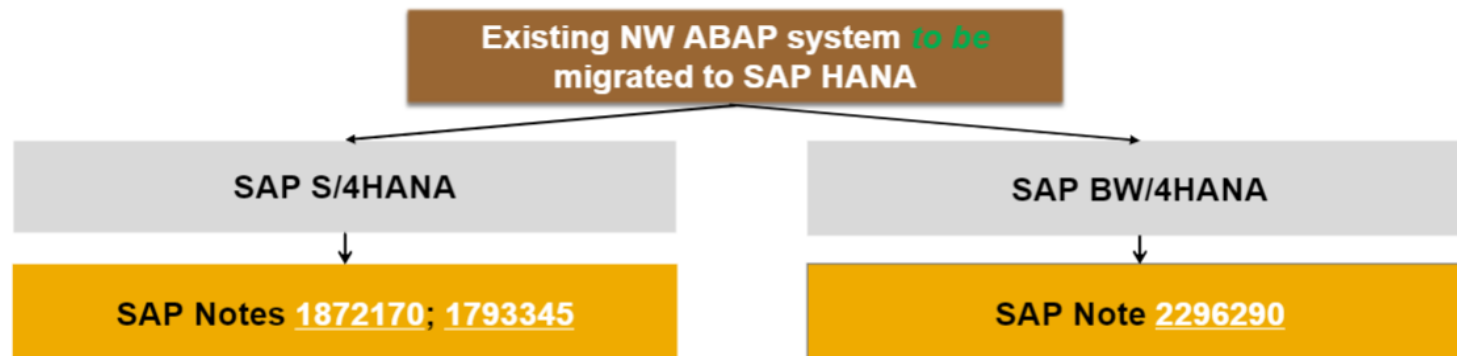
Greenfield Sizing for S/4HANA (New Installation)

- 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 S/4HANA (upgrade or migration)

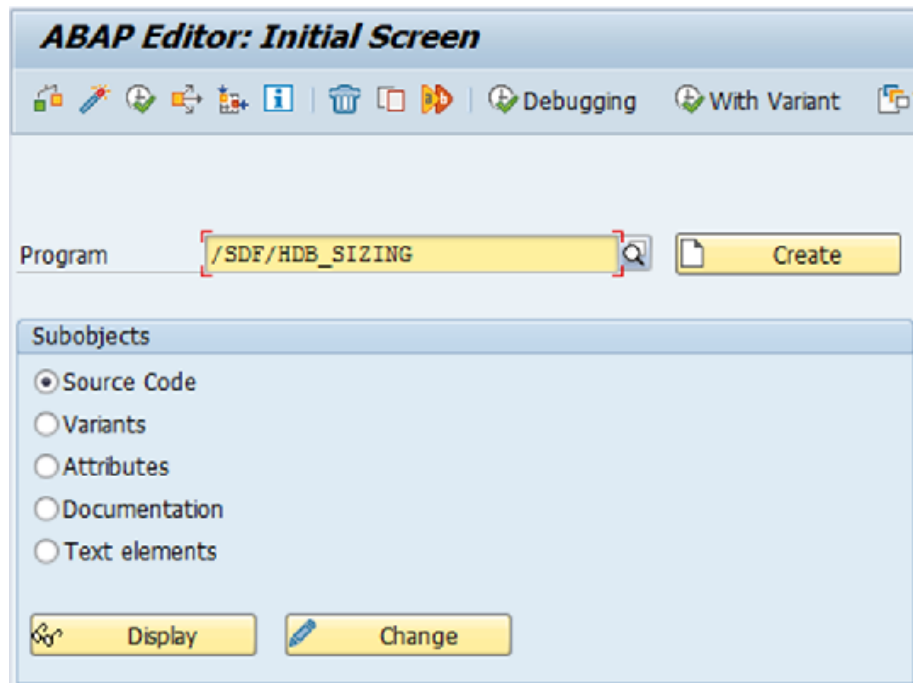
- There are different approaches for brownfield sizing, can be an upgrade, delta, or migration re-sizing.
- STEP 1 - Measure your current resource consumption for CPU utilization, table growth, and memory usage to predict future resource requirements. The report /SDF/HDB_SIZING is described in SAP Note 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 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
RSMPTXTS	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

Topic 4

Tools and Conversions



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

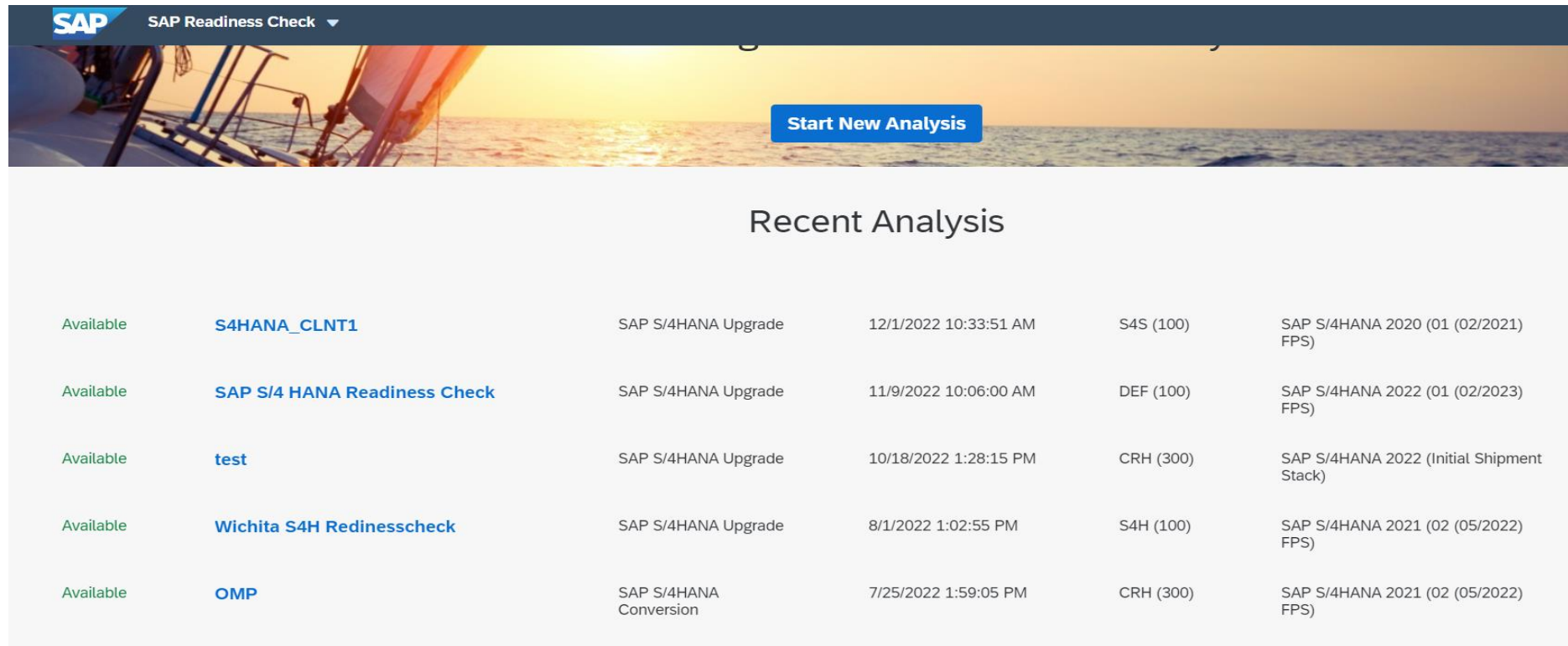
1. Review the current software releases, components, add-ins, and ECC switch framework-enabled features to verify the compatibility for S/4HANA.
2. Perform a complete detailed system review for the source systems and target systems including connectivity, networking, and storage systems for space needed 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 to S/4HANA

SAP Readiness Checks

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.



Available	S4HANA_CLNT1	SAP S/4HANA Upgrade	12/1/2022 10:33:51 AM	S4S (100)	SAP S/4HANA 2020 (01 (02/2021) FPS)
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	test	SAP S/4HANA Upgrade	10/18/2022 1:28:15 PM	CRH (300)	SAP S/4HANA 2022 (Initial Shipment Stack)
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)

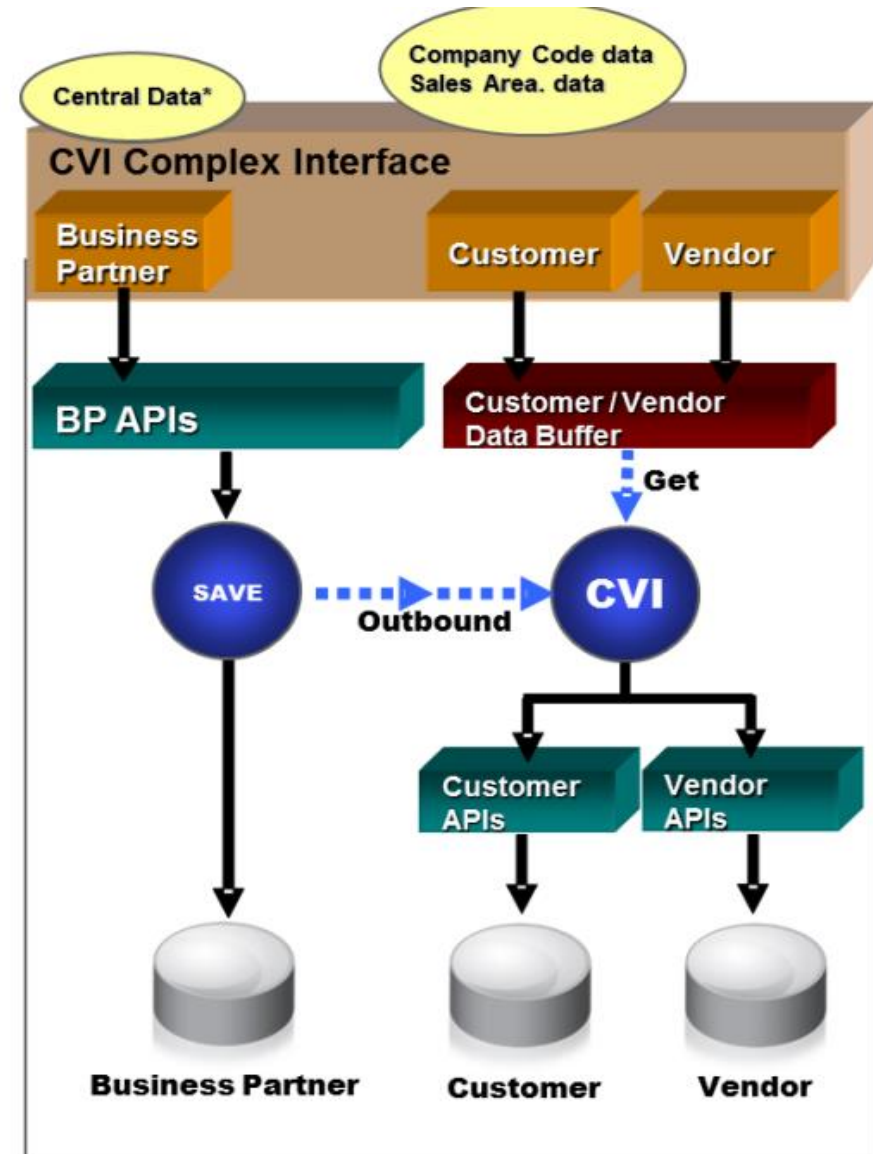
Most Common Data Migration Tools

- SAP Data Services (SDS or BODS) and SAP Information Steward (IS)
- SAP Migration Cockpit (SMC) - transaction LTMC in S/4HANA, replaces LSMW. LTMC is embedded within S/4 HANA both cloud and on-premises versions. It is positioned for use in the transformation and loading of data into S/4 HANA.
- SAP Agile Data Preparation (ADP)
- SAP HANA EIM Smart Data Integration (SDI) / Cloud Platform SDI / Smart Data Quality (SDQ)
- Legacy Systems Migration Workbench (LSMW) – (no longer supported by SAP on S/4HANA)
- Third Party Tools from Vendors - software, tools and services for selective data transition

Data Loading Tools	Common Selective Data Transformation Tools	More Data Transformation Tools
SDS/BODS/IS	SAP (DMLT)	CBS
SMC and LTMC	Syniti	Natuvion
ADP	SNP	Datavard

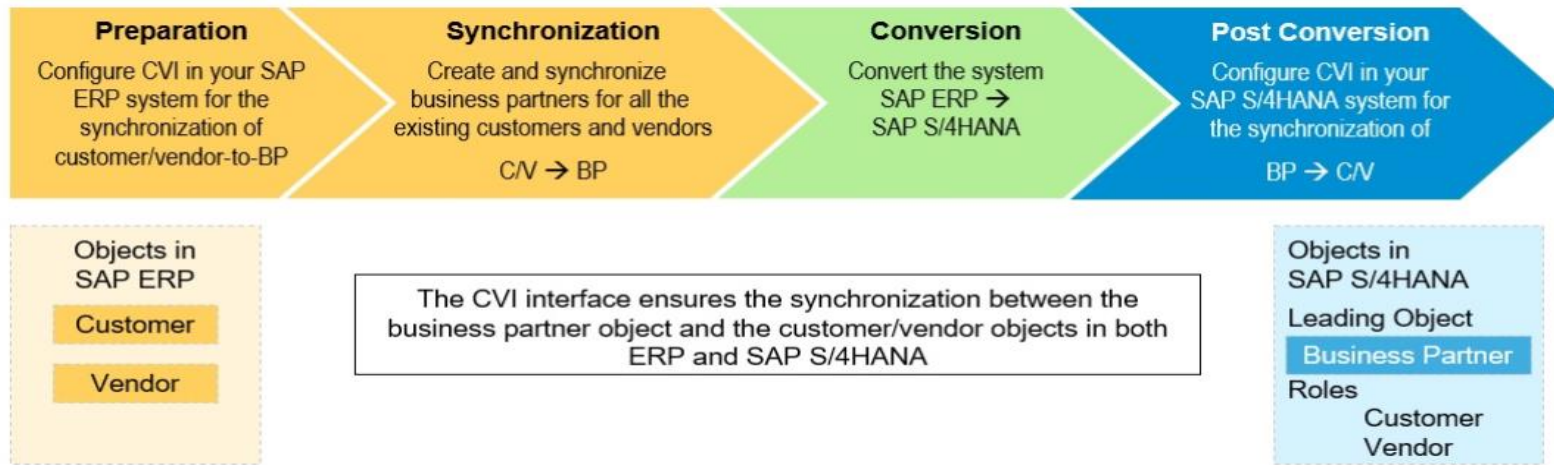
Customer/Vendor Master - CVI Check

- 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 to 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 S/4HANA, on-Premise edition 1909, 2020, 2021, 2022, and onwards (System Conversion approach).

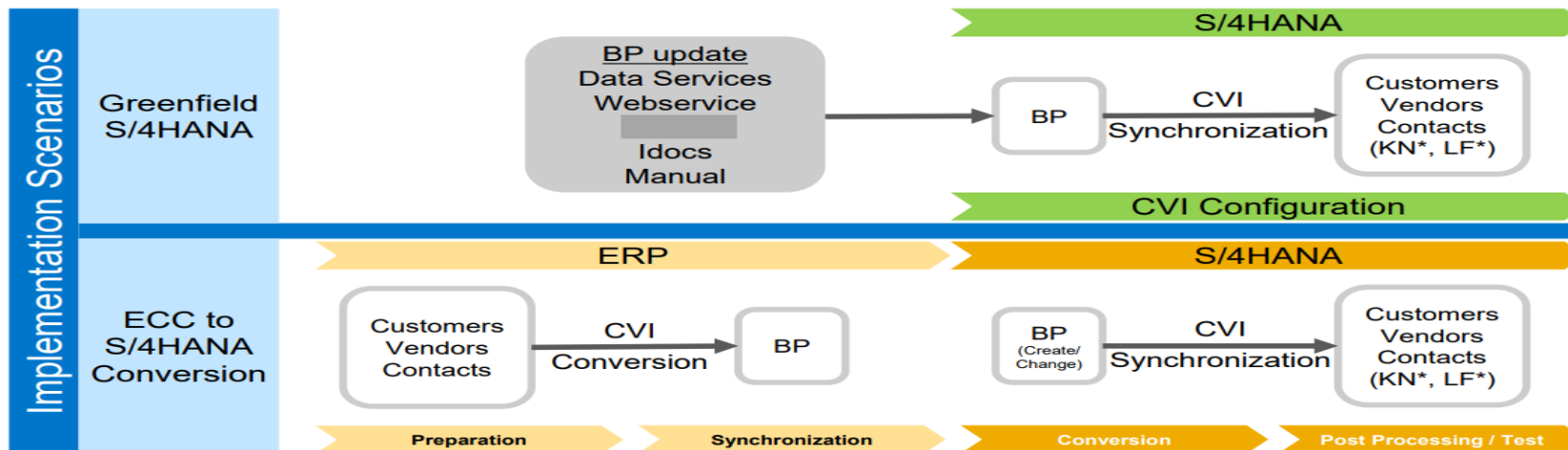


Source: SAP

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 S/4HANA systems.



Source: SAP

Switch Framework and Custom Code Conversion

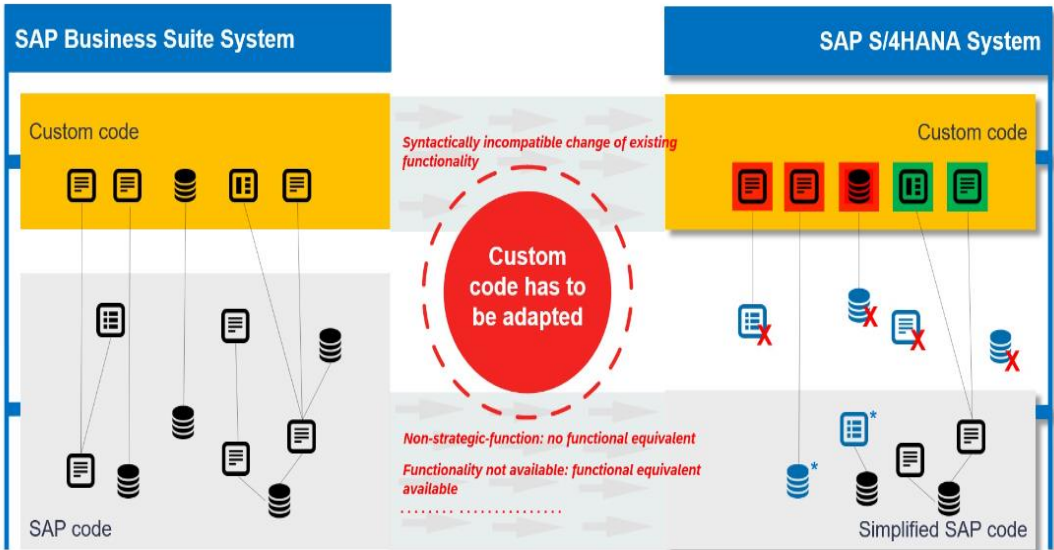
Switch Framework

- Switch on industry solutions and Enterprise Add-Ons
- Validate “Always On/Always Off” requirement for S/4HANA. This may impact existing Switch Framework settings in S/4HANA.
- Business function switched on in the start release system (ERP) but defined as ALWAYS_OFF in SAP S/4HANA will include functionality not available with this release at the current point in time.

Start Release		Target Release	
Status	Status	Conversion	New Status
ON	Always Off	NO	OFF
ON	Always On	YES	ON
OFF	Always Off	YES	OFF
OFF	Always On	YES	ON
ON	Customer Switchable	YES	ON
OFF	Customer Switchable	YES	OFF

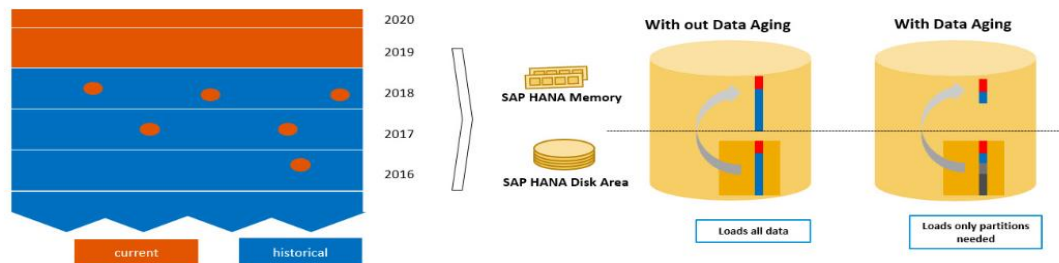
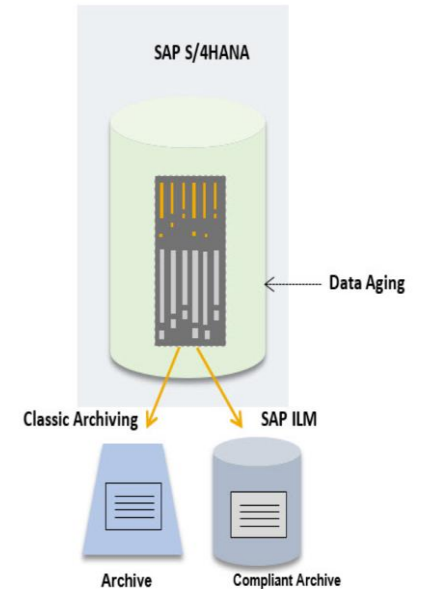
Custom Code Conversion

- Custom Code has to 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).



Preparing for S/4HANA by Archiving Data and Planning for “NSE” for Warm Storage

- Archiving capabilities continue as a method for removing older data from S/4HANA.
- There is no provision for the full retrieval of previously archived data. You can only display archived documents.
- Standard existing reports (enabled to read from archive) that were available in ECC and are now available in S/4 can still display the FI data that was archived before the upgrade to S/4. The infostructures will not change and hence the display will work. New reports based on "HANA Live" CDS View using Odata protocol will "Not" read from the archive.
- NSE (Native Storage Extensions) may also be used with S/4HANA for warm storage
- Data aging lets you move business objects that you no longer need in your day-to-day work out of the current data store into a historical data store, typically kept on the hard disk. (new development of Data Aging is limited by SAP)
- NOTE: You can still access and view aged document's but you cannot change or carry out any other activities on them. To change an aged document, you must first restore it to the current data store.



Source: SAP

Topic 5

Migration Challenges



Existing Add-On's in SAP ERP 6.0

- Moving to S/4HANA and challenges with Add-on in the system
 - Usage without any change - can be used in SAP S/4HANA without any change (use “Attribute-Change-Package” (ACP))
 - Usage after preparation - can be used in SAP S/4HANA with specific pre-activities to be completed
 - No longer relevant - no longer relevant in SAP-S/4HANA, the add-On needs to be uninstalled as part of the conversion/upgrade procedure
 - NOTE - If an uninstaller is not available by the vendor, this can be a blocker for the system conversion
 - Successor version is required: Add-On will be replaced by a new version on SAP S/4HANA during the SUM upgrade process



Source: SAP

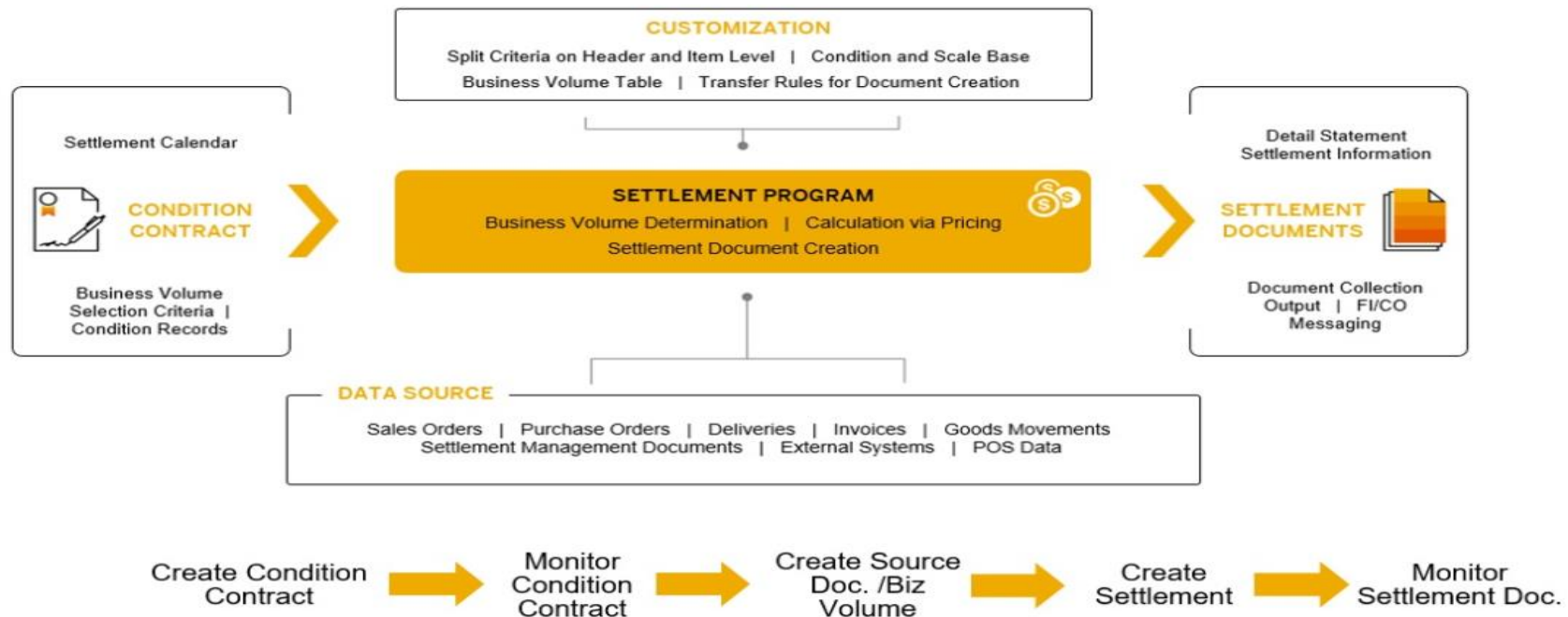
SAP NOTES:

3094994 - Compatible partner products

2214409 - SAP S/4HANA: Compatible Add-Ons

Functional Change - Settlement Management

- Completely new replacing SD and MM rebate processing
- SAP S/4HANA settlement management uses Central Contract Administration as the single point of entry for contract data and contract related conditions



Functional Changes - MRP Planning

In S/4HANA the MRP logic was simplified. MRP area is active by default and cannot be deactivated.

SAP S/4HANA MRP only plans on plant and MRP area level. Planning on storage location level is no longer supported in SAP S/4HANA.

Planning files conversion, perform the following steps:

- Go to transaction OM0F or SE38 program RMDBVM00 and run the conversion of planning files.
- Activate MRP areas in Customizing for MRP :(transaction OM01) With this activation, the field 'MRP area' is also offered for selection in the transactions of the material requirements planning and production planning.
- Run report MRP_AREA_STORAGE_LOC_MIGRATION: Implement SAP note 2216528 and based on the results create the missing MRP Areas.
- Check of MRP types for MRP-Planning & custom code
- Test and Train the final users that will be affected

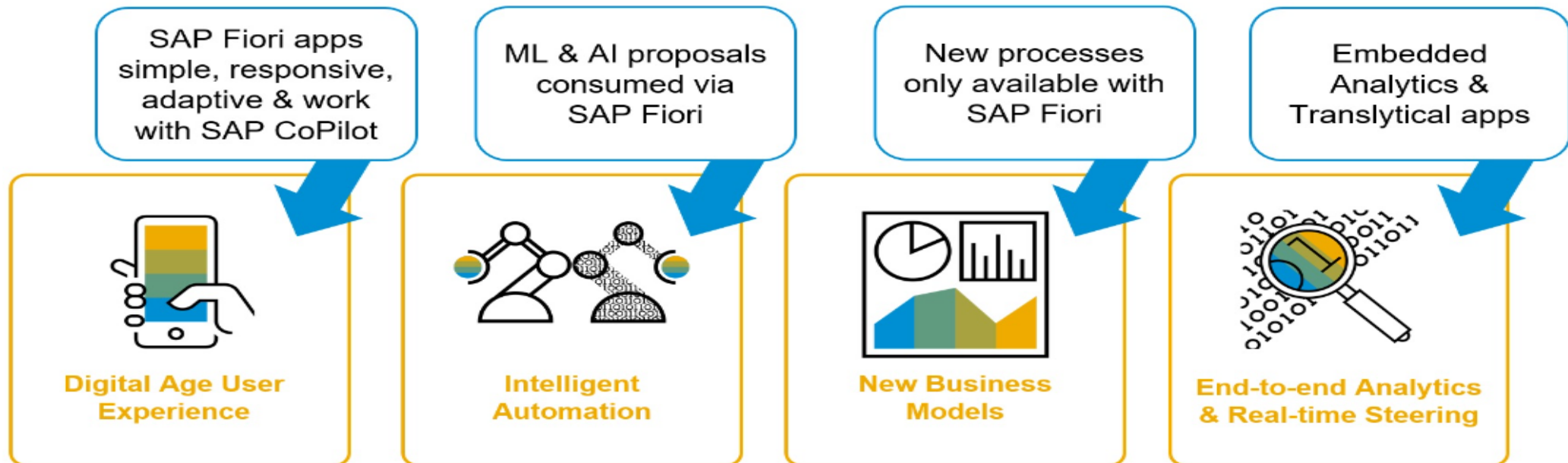
Topic 6

Fiori and SSO



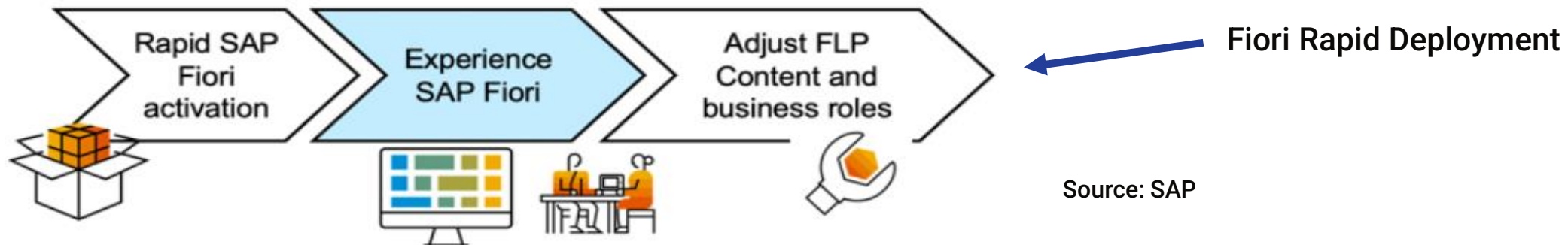
Fiori User Interface for Business Applications

- 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



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

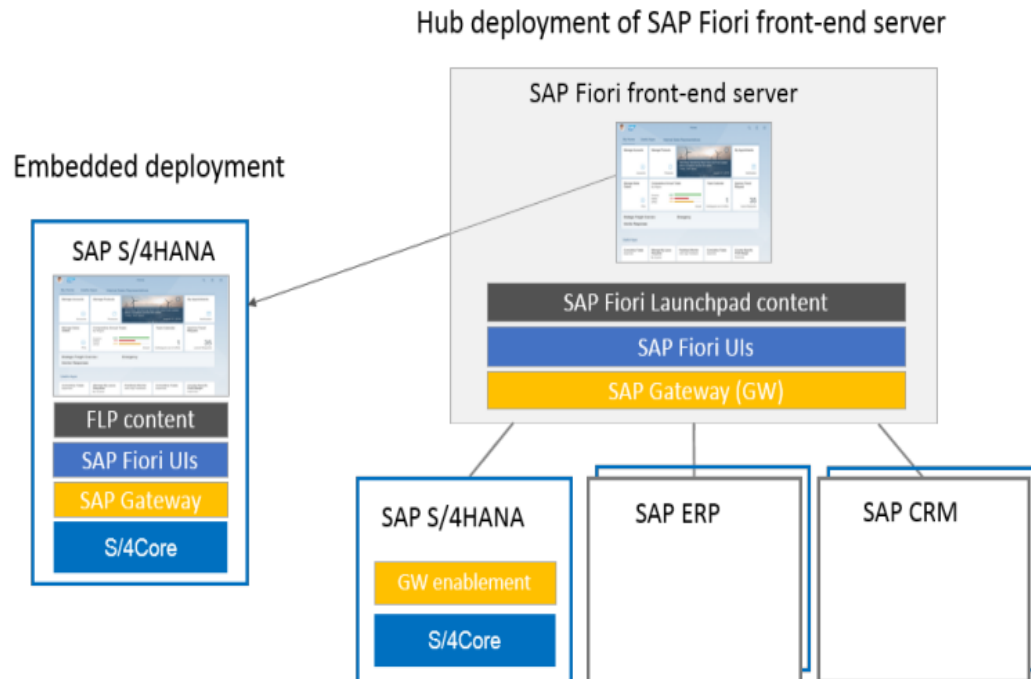
- SAP Fiori is how business users access S/4HANA innovations.
- To enable innovations in Fiori, technical team must activate 100's of SAP Fiori apps and launchpad content. Use the new rapid content activation task lists and dramatically cut the activation effort.
- Performed by activating delivered SAP 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:
 - Task list for activating the Fiori Foundation named SAP_FIORI_FOUNDATION_S4
 - Task list for activating Fiori Content by selected business roles, named SAP_FIORI_CONTENT_ACTIVATION



Source: SAP

SAP Fiori Technical Setup and Gateway

- FES (Front End Server) deployment can be embedded or separate depending 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



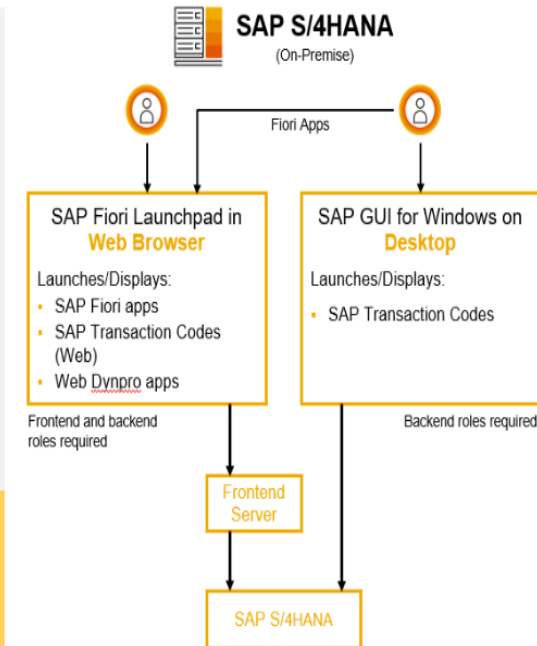
SAP Fiori Launchpad
The next generation UX for SAP

Features

- Single point of entry for end users
- Look and feel similar across devices
- Only option for SAPUI5 apps
- Role-based, responsive and personalized
- Access to harmonized apps: SAPUI5, WDA, and SAP GUI Transactions
- No software installation (runs in a web browser)

Recommendations

- Best suited for **end users**
- Recommended client for SAP S/4HANA



SAP GUI for Windows
Universal client for accessing traditional SAP functionality.

Features

- Graphical UI for transactions based on classic Dynpro technology (not compatible with SAPUI5 apps)
- High performance due to SAP GUI install on desktops
- Fully compatible with all supported NetWeaver releases

Recommendations

- Best suited for **IT, Configuration and Power Users**
- General deployment to all desktops

Source: SAP

Single Sign On for Web Applications using SAML

- As a pre-step, the SAP Fiori Gateway and SSL is properly configured.
- The SAP Web Dispatcher or F5 Load balancer is configured to act as a reverse proxy for redirecting Fiori URL's to the Fiori Gateway.
- Fiori Applications can be securely configured and accessed using SAML authentication which is a common method of single sign-on for Web applications.
- It utilizes SAML 2.0 based authentication in conjunction with IdP “Identity Provider” software such as SAP IDP, Ping Federate or Microsoft's Active Directory Federation Service (AD FS).
- The user is trusted and authenticates on the SAP system configured as a “Service Provider” using SAML authentication.
- Encryption and Masking for certain secure data is available if needed.

Wrap Up

Topics we discussed:

- Understanding the three main deployment models for S/4HANA upgrades – Greenfield, Brownfield, and Selective
- Important key points and observations about the architecture for S/4HANA
- Key points about preparing to move to S/4HANA and data conversions and important tools used for moving to S/4HANA
- Identified a few migration challenges
- Common user interface on the Web using Fiori and Single Sign-on for seamless access to business processes

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>

Upgrade Guide – https://help.sap.com/doc/760ce610a2af4174a329d2d8315378e2/2021/en-US/UPGR_OP2021.pdf

Relevant SAP Notes:

SAP Note 2240359 - SAP S/4HANA: Always-Off Business Functions

SAP note 2240360 - SAP S/4HANA: Always-On Business Functions

SAP Note 3015509 - SAP S/4HANA 2023: Feature Package Additional Release Information

SAP Note 3079550 - SAP S/4HANA 2023: Restriction Note

SAP Note 2214409 - SAP S/4HANA Add-on Note

SAP Note 307522 - ABAP Platform 2023 – General Information

SAP Note 3075238 - ABAP Platform 2023 – Restrictions

Key Points to Take Home

- Understand the three deployment models for S/4HANA upgrades, Greenfield, Brownfield, Selective Migration
- Review the common architectures for S/4HANA for on-premise, cloud, and migrations
- Know the conversions for upgrading to S/4HANA and the tools required to perform them
- Understanding the tools used for Upgrades and Migrations to S/4HANA
- Migration Challenges such as incompatible add-on's and Custom Code
- Fiori and SSO configuration and tips

Thank you! Any Questions?

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