



Selective Data Transition to SAP S/4HANA®

- › Plan and execute selective data transition projects to SAP S/4HANA
- › Follow end-to-end guidance, from scoping and planning through migration execution and data validation
- › Explore lean selective data transition for simpler implementations

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Chapter 3

Strategic Scoping of Selective Data Transition

When selective data transition is selected or at least assumed as the SAP S/4HANA transition strategy, you must make some key decisions before starting the project. Your choices might impact the project scope, plan, landscape, and the required expertise in your project team. The quality of the decisions made at this stage and the consistency in following them are key to the success of your project.

In this chapter, we'll provide an overview of the most important questions that typically arise during the scoping phase of the selective data transition project, along with the available options for the answers. We'll offer practical examples and tips to help you make optimal choices tailored to your specific transition journey requirements. The topic list includes the instance strategy, rollout strategy, migration of historical data, creation of the target system, selection of data migration approach, optimal selective data transition scenario, and more.

Before we start moving, we need to decide where to go. So, let's start with a definition of the North Star goal of the transition: the target architecture.

3.1 Digital Core Instance Strategy

In certain cases, the company's landscape includes more than one SAP ERP system and client. This might be related to past architectural choices or limitations, the history of mergers and acquisitions, or business and landscape growth. In other cases, a single SAP ERP system may be used, but there's business demand to split it into multiple systems. Before discussing the SAP S/4HANA transition strategy for any of the SAP ERP systems separately, it's important to define what the overall target landscape will look like.

The *production instance strategy* is a process typically driven by enterprise architects from the organization's internal practice or its consulting partners. It defines the expected number of productive instances in the target future architecture and develops a transition roadmap to those instances from the systems of the as-is landscape. The number of target productive instances is based on the organization's strategy, business needs, cost/risk factors, and IT constraints, including systems availability, size and performance, landscape complexity, and maintainability.

Usually, multiple target architecture options are on the table during the instance strategy planning. To make a choice, all the criteria important to the company are listed and weighed according to the company's strategy and stakeholders' priorities. The stakeholders then evaluate the options based on how well they satisfy each criterion, and, given the weights, the best-fit architecture can be selected mathematically.

As an outcome of this exercise, you can decide to consolidate all the SAP ERP systems into one global SAP S/4HANA instance or into several regional or division-specific systems, keep all the systems standalone, or even split some or all of them further up (see typical patterns in Figure 3.1:

■ Single global instance

This pattern is usually used when a company wants to harmonize processes, structures, and master data across all regions and divisions using the advantages of intercompany processes and group reporting within a single global system. At the same time, this pattern introduces risks to system size, performance, availability, and maintainability that need to be clearly communicated to stakeholders, evaluated, and mitigated.

■ Regional instances

This pattern is used when it makes sense to keep a separate system for each region to cover the specifics of its processes and data, and to ensure each region's independence during system maintenance.

■ Instances per division

This pattern is used for harmonization of all the processes and data per business division across all the regions where they are presented, and to keep the divisional systems independent from each other for the changes and maintenance.

Behind the scenes, there's also the question of how many development and quality assurance systems are needed to serve the future SAP S/4HANA landscape. This can influence the instance strategy patterns and the complexity of the transition and operations, so the question must also be answered at this stage.

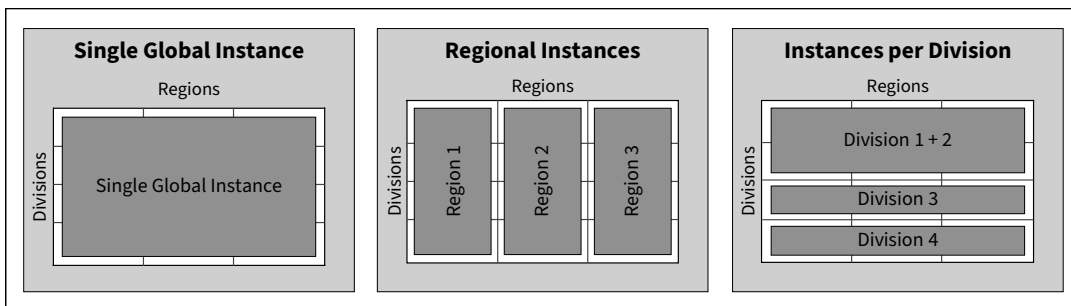


Figure 3.1: Typical Patterns of an Instance Strategy

If, as part of your instance strategy, you decided to split a system into multiple instances, the recommendation is to use a client (for multiclient systems) or a company code as the

minimum split criterion. Even if it's technically possible, we recommend not splitting ERP systems by functionality (e.g., separating finance from logistics) to manage the legal entities of one organization as separate clients in one system or to create twin company codes representing one legal entity in separate systems. Based on experience, implementing, maintaining, and supporting such landscapes can become extremely complex and expensive for the organizations that choose them.

If you move multiple company codes from multiple systems or clients into a single system and client, consider including them under the same merged controlling area if that fits your business requirements and is technically feasible. That will allow finance to better use the standard functionality and reporting capabilities of SAP S/4HANA. The selective data transition approach supports such controlling area merge transformations.

Depending on your choices, as the next step, the optimal SAP S/4HANA transition strategies to the target architecture can be selected for all the SAP ERP systems of your current landscape. Because, for example, systems consolidation projects usually start with the creation of a common target system (see Chapter 6, Section 6.1.3, for details), it's optimal to define which systems are going to be merged before starting the project of transitioning to SAP S/4HANA of any of the systems separately.

Example: Landscape Consolidation

A global laboratory instrumentation and automation supplier had a historically grown, highly integrated landscape that included seven productive SAP ERP systems with a total of 26 clients, all connected to a single multiclient development system. Based on the instance strategy exercise with key stakeholders, one of six to-be landscape options was selected comprising five SAP S/4HANA systems with a total of 10 clients. For the decision, the following criteria have been weighed up and evaluated:

- Fit to corporate strategy
- Business fit and flexibility
- Technical deployment
- Software change management and maintainability
- Risks for operations
- Long-term IT costs
- Cost and risk of transition

A roadmap consisting of 10 selective data transition phases has been developed to achieve the target architecture, where the first phase was dedicated to creating a new common, consolidated SAP S/4HANA development system to serve the future landscape.

The advantage of the selective data transition strategy is that it can support the consolidation of multiple SAP ERP or SAP S/4HANA systems or clients into a single SAP S/4HANA

system or client. In addition, the splits of the systems and carve-outs are supported, so the selective data transition approach can help implement any selected instance strategy and rollout strategy.

Note

There's much more to say about the SAP architecture methodology, including the instance strategy, which can help define the target architecture and roadmap. However, this book is dedicated to the selective data transition, which enables organizations to make an optimal transition from as-is to to-be, while decisions on what the final destination looks like must be made up front. For more details on the enterprise architecture practices, patterns, and artifacts, including the instance strategy topic, we recommend *Enterprise Architecture with SAP: Planning, Management, and Transformation* by Anup Das, Peter Klee, and Johannes Reichel (SAP PRESS, 2024).

3.2 Integration Strategy with Other SAP and Non-SAP Systems

During the discover phase of the selective data transition project, it's recommended to take inventory of all satellite systems and applications connected to your SAP ERP system, as well as the incoming and outgoing integration interfaces.

An *application inventory* is the complete list of applications or software assets owned by the company or institution. This includes all software as a service (SaaS) and on-premise software. SAP LeanIX can be used to manage and report on all information about your applications, including versions, owners, lifecycles (including end-of-life), and integrations between them. To fill in SAP LeanIX with initial data on your SAP landscape, you can use SAP Cloud ALM Integration for SAP Discovery, which automatically discovers and inventories SAP systems, services, and integration flows, and then feeds this information to SAP LeanIX for subsequent validation and enrichment there.

Based on this inventory and subsequent analysis, you might learn the following:

- Connected SAP and non-SAP applications might need to be upgraded to versions compatible with your target SAP S/4HANA release (see Chapter 5 for details), and these upgrades must be planned and executed as preprojects or parallel projects. For the connected non-SAP third-party systems, you need to check their compatibility with your SAP S/4HANA target release with the software vendors. For your in-house-created satellites, you have to perform an impact assessment of the changes to be introduced with SAP S/4HANA and plan the necessary preparations, adjustments, tests, and cutover activities accordingly.
- Structural changes in the data that you're planning to incorporate into your SAP ERP selective data transition project must be mirrored in the connected satellites. For example, if you harmonized cost centers in your core SAP S/4HANA solution, the corresponding harmonization is required in your connected SAP Human Capital Management for

SAP S/4HANA system. To achieve that without disrupting end-to-end business processes, the selective data transition approach can also be applied to some of the SAP Business Suite solutions (see the details in Chapter 8). These subprojects must be scoped and planned as part of your transformation journey. For some of the satellites, you'll need to find a way to synchronize them with your restructured data in SAP S/4HANA via integration or data migration approaches, plan these activities for your cutover, and test before the cutover.

Example: Synchronizing the Data in the Non-SAP Satellites

Harmonization of customers, vendors, and other data transformations has been applied during the selective data transition of the SAP ERP system of a nonfood retail company to SAP S/4HANA. Data volumes were significant, and the non-SAP satellite systems need to be synchronized with the relevant data to ensure alignment and support for end-to-end retail processes. To achieve that while minimizing the impact on the core system downtime, the project team had to do the following:

1. Freeze the master data for changes in SAP ERP and make a system copy with that data.
2. Migrate via selective data transition and transform the master data from the copy to the target SAP S/4HANA productive system during the uptime.
3. Start the satellite systems' downtime. Synchronize the master data from the SAP S/4HANA system to the satellite systems and validate it.
4. Refresh the SAP S/4HANA productive system.
5. Start the SAP ERP downtime, migrate and transform all the data, synchronize the transactional data from the SAP S/4HANA system to the satellite systems, and validate it.

Example: Central Finance Nullification

A global agricultural technology company was using the Central Finance solution to collect and harmonize financial data from three connected SAP ERP systems and SAP Analytics Cloud for reporting purposes. During the hybrid selective data transition, finance open items and balances were posted to the new SAP S/4HANA system that is replacing one of the SAP ERP systems. The Central Finance system already had the open items and balances replicated from the SAP ERP source system. The solution was required to avoid duplicating this data after the new SAP S/4HANA system is connected and synchronized to Central Finance.

Just removing the previously replicated financial data from Central Finance wasn't an option because the data history was required for SAP Analytics Cloud reporting, auditability, and potential hypercare defect fixes. To meet the requirements, massive parallel clearing postings were implemented and executed to "nullify" the SAP ERP data in the Central Finance system before the new data was replicated from the new productive SAP S/4HANA system via initial load.

- Due to the renovated architecture, some of the standalone solutions can now be embedded completely or partially in the SAP S/4HANA system to reduce the integration overhead and data redundancy in your landscape as well as to substitute the compatibility scope items. For example, solutions such as SAP Extended Warehouse Management (SAP EWM), SAP Transportation Management (SAP TM), SAP GRC, and SAP Master Data Governance (SAP MDG) can be embedded completely. Although SAP Customer Relationship Management (SAP CRM) and SAP Supplier Relationship Management (SAP SRM) solutions can't be directly embedded into SAP S/4HANA, you should check which of the capabilities can be covered by SAP S/4HANA. Some on-premise solutions now have cloud successors, such as SAP Ariba, SAP SuccessFactors, and SAP Integrated Business Planning for Supply Chain (SAP IBP). These kinds of re-platforming changes must be considered for your target architecture and transformation roadmap.
- Even if the majority of classic integration technologies and released application programming interfaces (APIs) (function modules and Business Application Programming Interfaces [BAPIs]) are still supported by SAP S/4HANA, you might find that remediation or reconstruction activities are required for some of the integration interfaces due to simplifications in different application areas, including, for example, deprecation of the functionality or field length extensions. You need to plan the adjustments and system integration testing (SIT) efforts in your selective data transition project.
- For designing and implementing new technically modern on-premise-to-cloud and cloud-to-cloud integrations, services, and events, consider using SAP Integration Suite and the Integration Advisor capabilities, including standard APIs, prepackaged integration content, and best practices for SAP, government, and third-party system connectors.

Over the course of this chapter, you'll see that the number of integrations and satellites around your SAP ERP system can influence your decisions on the target architecture, roadmap, instance strategy, target system creation approach, selective data transition scenario, cutover activities, and downtime. The choice of rollout strategy can be especially impacted by your integrations.

3.3 Rollout Strategy

During the transition from the SAP ERP system to SAP S/4HANA, there's often a question raised about the rollout strategy regarding whether it's safe to plan the transition with only one go-live (the *big bang* approach) or better to move to the new system in portions via rollout waves with multiple go-live events.

The main reason for transitioning a system in waves is usually to mitigate business risks. All users and legal entities using the system will be impacted by the big bang method simultaneously. For large-scale enterprises, which have grown their system for years, it might mean the following:

- The price of failure of the project is very high.
- Business involvement, organizational change management (OCM), and testing efforts must be condensed and synchronized across the entire organization.
- There might be many stakeholders with different business priorities (e.g., peak seasons, key performance indicators [KPIs], blackout constraints, reporting requirements, etc.). Therefore, it might be challenging to align on and agree to a common plan (e.g., a single go-live date, common downtime) with all of them.
- The business cutover plan must cover an unmanageable number of activities and teams involved, in some cases distributed across different countries and time zones.
- The blackout period for the big bang might take unacceptably longer than in each of the waves separately due to the data volumes that must be migrated and validated, as well as the satellites to be reconnected and synchronized at once.

Note

If one or multiple SAP ERP systems are to be moved to SAP S/4HANA in phases, the recommendation is to define the phases by systems, clients, or, at minimum, by clusters of company codes running the intercompany processes in between them. Splitting by functionality (e.g., finance, logistics) or by any organizational unit other than the company code can make an already complex phased transition even more difficult.

With the business risks described mitigated, the phased approach has disadvantages and introduces additional limitations and intensive effort tasks for the organization, mainly (but not only) impacting the IT and project teams. Here are the topics that must be considered for the phased transition approach:

- Implementation and support of temporary integration interfaces, for example, to cover the intercompany processes, might be required between the source SAP ERP system and a new SAP S/4HANA system for the interim transition period.
- The intercompany processes between the company codes must be changed to the customer-supplier flows when they cross the system borders. In that case, SAP S/4HANA innovations available for the intercompany processes can't be consumed. Or you'll have to re-implement these processes again after all the involved company codes are rolled into the new system.
- Implementation and support of temporary double integrations might be needed for satellite systems. Some satellites might not technically support two backend systems or diverse backend systems (SAP ERP and SAP S/4HANA) connected simultaneously.
- Hardware for two parallel operational landscapes (SAP ERP, SAP S/4HANA) and, in addition, for a project SAP S/4HANA landscape, will be required.
- Support, maintenance, and operations efforts are required for the parallel landscapes, including incident management, change management, system upgrades, and Support Package (SP) updates.

- A freeze of the changes or the use of dual maintenance (retrofit of changes) will be required from SAP ERP to SAP S/4HANA landscapes to keep the customizing and repository in sync (e.g., add-on versions, SAP Notes, etc.) until the end of the transition period. Otherwise, rolled-in business after go-live might not find the required functionality changes that they had in SAP ERP.
- Time to value from the innovations is longer for the later waves, but due to the freeze of changes (if applied), it might be extended for all the entities until the end of the entire transition period.
- Master data synchronization between SAP ERP and SAP S/4HANA systems might be needed for the interim transition period.
- A temporary solution for reporting consolidation out of the two systems (having different data models) might be required for the interim transition period.
- Regression tests efforts for the business entities that are already live in the SAP S/4HANA system in each wave will be required due to the customizing, repository, and data changes that might impact the operations of these business entities.
- Multiple blackouts and freeze periods of the source SAP ERP and the target SAP S/4HANA systems might be required for the go-lives of each wave. Even the business entities that have already been migrated will be affected by the subsequent waves.
- Data migration is more complex due to the wave-specific selection criteria to be applied for the migrated dataset in each wave and potential conflicts to be resolved between the data coming from the source SAP ERP system and available in the target SAP S/4HANA system.
- Planning of the waves in parallel or with overlapping (sometimes considered to save time for the overall program) multiplies the coordination efforts and risks of the resource's bottlenecks, technical interdependencies, mistakes, and delays.
- Overall project costs and efforts (for all the phases in total) will be higher than the big bang of the entire system at once due to the longer duration of the program, more test cycles of all types needed, and the factors just mentioned.

Justification of the Phased Approach

Sometimes, organizations that are considering the phased approach for the transition from SAP ERP to SAP S/4HANA are doing so because of their experience with rollouts during the greenfield implementation of the SAP ERP system in the past. However, if it's the only reason for selecting the phased approach, we recommend challenging it. The transition to SAP S/4HANA from SAP ERP is different and, thanks to the available tools and similarity in the architecture, easier than the greenfield rollouts from non-SAP systems; in most cases, they can be done in a big bang approach.

There were successful big bang go-lives of the selective data transition projects for systems where multiple thousands of users from several hundred legal entities, including dozens of production sites, across more than 80 countries ran their operations. You

must have good reasons to justify splitting the transition to SAP S/4HANA into phases if you have only one system with one productive client, operating in one country or region and covering one type or division of your business. The phased approach is hardly justifiable for a system that has hundreds and not thousands of users, is supported by one IT team and one key-user group, and isn't dozens of terabytes in size.

Even if selective data transition supports any of the selected rollout strategies, it's recommended to carefully evaluate whether the phased approach is truly necessary. Given the risks to the business posed by the big bang approach, switching to a phased approach isn't the only possible risk mitigation measure. Alternatively, measures such as proof of concept, comprehensive testing, additional cutover rehearsals, mobilization of extra resources (internal and external, people and hardware), and a clear fallback strategy might be used to build greater business confidence in the successful big bang go-live.

3.4 Historical Data in the Digital Core

Another key question that might also influence decisions on selecting the rollout strategy and selective data transition scenario concerns the requirements for historical data migration. Application data in SAP systems can be categorized as follows:

- **Customizing data**
Organizational structures and processes configuration settings.
- **Master data**
Catalogs of the business entities that provide context for business transactions.
- **Transactional data**
Data that changes frequently and is generated by the day-to-day operations and transactions of an organization. It can be divided into these categories:
 - Open transactions (open items)
 - Historical transactions (closed or cleared items)

Customizing data is usually not migrated via data migration tools; it's moved between SAP systems using transports or as part of a system or client copy. In the selective data transition shell scenario (described in Section 3.5.2), most of the customizing from SAP ERP becomes available in SAP S/4HANA as part of the shell system creation process.

Master data and open transactional items are crucial for business processes to continue execution in the new system; they must be part of every data migration project's scope as a bare minimum.

In general, migrating historical transactional data to the new system is optional for the business to keep running the processes. This data is already available in your IT landscape, but in legacy ERP or reporting systems (e.g., SAP Business Warehouse [SAP BW] or Central

Finance), it can be found and checked by business users and auditors if required, even without migrating it to the new system. But for that, the legacy systems must remain available to business users as read-only systems or data warehouses (see Chapter 6, Section 6.11, on system decommissioning).

However, sometimes there are good reasons to migrate the historical transactional data to the new SAP S/4HANA system:

- This requirement might be related to the goal of making the transition to SAP S/4HANA less disruptive for the business, ensuring the smooth continuity of the business processes after go-live, and having the history of the preceding operations accessible to the users in a convenient, familiar way in the same system for the purposes of planning and forecasting future demands and operations.
- Another common reason to retain historical data is compliance with legal requirements. In some countries or industries, historical transactions must be made available during the legally defined retention periods, and business stakeholders want to keep them accessible in the new system.
- Sometimes, there are long-running processes and long-used objects in the SAP ERP system (e.g., in Real Estate Management [RE] or Project System [PS] areas) that the business wants to see in the new system with all the related history due to the process requirements, traceability needs, or the subsequent calculations dependent on this historical data.
- Today, historical data is an asset used for training machine learning and AI models. It can, for example, be used to build predictive business scenarios in SAP S/4HANA and therefore is required to be available there.

Example: Historical Data in SAP S/4HANA

A fast-growing nonfood retail company started a transition to SAP S/4HANA to get the system supporting their growth plans, increasing data volumes, and renovating and getting closer to standard some of the processes in their system. At the time the project started, the company had the SAP ERP system on the SAP HANA database. To keep the system in good shape and manage the constantly growing retail data volumes, the company implemented and regularly executed a comprehensive data housekeeping and archiving process.

The selective data transition approach has been chosen for the transition to SAP S/4HANA in order to restructure the finance part of the system, harmonize the business partners, and cover some of the supply chain and commercial processes with standard and new functionality. At the same time, for existing logistics functionality, it was decided to migrate all available data, including historical transactional data—“everything that isn’t archived.” Reasons for that decision were to ensure a fast and smooth, nondisruptive transition for the core supply chain and commercial businesses, create

consistent data across the integrated satellite systems, and have all the data at their fingertips to see the full supply chain movements history and use it for planning, forecasting, and timely replenishing the goods at the stores.

To select an optimal selective data transition scenario, you must identify the data migration requirements for each functional area of your system (finance and controlling, supply chain, production, maintenance, HR, etc.). Will master data and open items be sufficient for the area, or are historical transactions also required for any reason? If historical data is needed, is it required in full or selectively for certain organizational units (e.g., company codes) and/or for a time slice (e.g., the past two years)?

One of the key advantages of the selective data transition scenario is that it allows organizations to move historical transactional data, either fully or selectively, to the new SAP S/4HANA system and, if required, transform it into the target format using mappings and transformation rules. In selective data transition, you can also use a hybrid data migration approach: For some areas (e.g., finance), migrate only master data and open items; for others (e.g., logistics), migrate historical data in full or selectively (this hybrid scenario is described in more detail in Section 3.7.3).

Depending on the requirements for historical data migration, you might favor one option over another for creating the target system. We'll discuss the target system next.

3.5 Creating the Target System

One of the key decisions in the scoping of the selective data transition project is how the target system will be created. The target system, also known as the “golden shell” or “golden template,” is a system created at the beginning of the selective data transition project. It's created once and serves as a foundation for all the systems of the project landscape and the future SAP S/4HANA maintenance landscape—those systems will be created as copies of the target system.

In this section, we'll provide an overview of the options for creating the target system and the criteria for selecting the best-fit option to meet your project's requirements. First, however, let's select the target SAP S/4HANA release.

3.5.1 Target SAP S/4HANA Release

We usually recommend that you consider the latest available release and Feature Package Stack (FPS) as a target release of SAP S/4HANA. That is beneficial in terms of the innovation's availability, postponed deadline for an upgrade, and the duration of its mainstream maintenance. However, when planning the selective data transition project, it's important that you pay attention to the following points:

- The availability of compatible versions of the add-ons installed in SAP ERP that you want to keep in SAP S/4HANA must be checked in SAP's Product Availability Matrix (PAM) or with third-party add-on vendors.
- For the shell-based approach (as explained next), the source version of SAP ERP shouldn't be higher than a compatible target version of SAP S/4HANA, as described in SAP Note 3671888 for SAP S/4HANA 2025 FPS01 (this is the most recent release as of the time of writing; there are similar SAP Notes for other releases).

Note

Usually, releases with FPS01 or higher are more stable than releases with FPS00, from the perspective of system functionality (FPSs sometimes include hundreds of SAP Notes with bug fixes and security hotfixes) and the availability of supported add-on versions.

3.5.2 Shell Creation and Conversion

Often, companies have implemented and developed their SAP ERP systems for a long time and invested significant effort, time, and money in configuration and custom development to cover their business processes effectively and gain a competitive advantage. In some cases, companies' business models and processes haven't changed significantly since implementing the SAP ERP system; the quality, relevance, and coverage of most of the currently implemented functionality remain satisfactory for the business.

Transition to SAP S/4HANA for these kinds of systems is expected to be less disruptive and preserve most of the assets of the current SAP ERP solution, while allowing spot changes to the structures and functionality of the system where required. The shell creation and conversion approach can be used as an option to create the target SAP S/4HANA system for such projects.

Keep the Best, Transform the Rest

In most cases, the shell system is the best approach for creating the target system for a selective data transition project. Even if a high level of redesign is expected in certain areas of the system, shell is flexible enough to be adjusted accordingly. At the same time, shell is the best target for migrating the historical data. Usage of alternative approaches based on the new SAP S/4HANA target system creation must be justified by the fundamental changes of the business models, processes, and structures across most of the functional areas in the system. They will make data migration much more complex, and the other streams of the project will also become more intensive and expensive.

A shell system is a copy of the source SAP ERP system that usually doesn't contain any application data (master and transactional), but still contains the following:

- All Data Dictionary objects (definitions of tables, views, domains, data types, etc.)
- All repository objects (reports, function modules, classes, etc.)
- All cross-client tables and Customizing
- Full copy of client 000 (standard master client with reference default configuration)
- Client-dependent Customizing (configurations), users, roles, authorization profiles, and variants for selected clients that are usually copied to the shell via export/import, using the selected copy profile that excludes application data

The content of the SAP ERP shell system is shown in Figure 3.2.

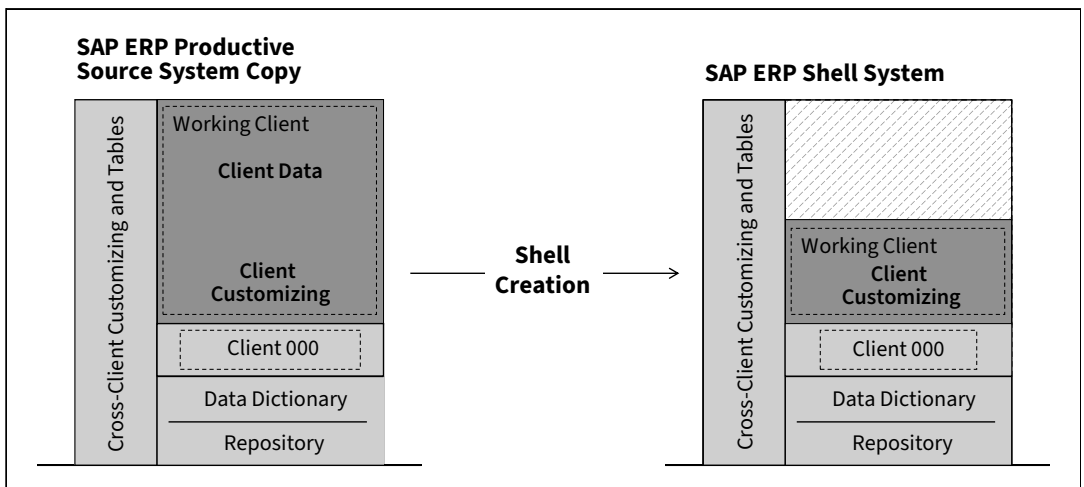


Figure 3.2: SAP ERP Shell System Creation

In Chapter 6, we'll provide a more technically detailed overview of these shell creation process steps, but at the project scoping level covered in this chapter, you just need to understand them at a high level.

The shell system is usually created by the technical (Basis) team from the SAP ERP productive system copy (see Figure 3.3 ❶).

There are technical prerequisites to the source SAP ERP system that must be met to allow conversion of this system to SAP S/4HANA. These prerequisites can also be achieved during the SAP ERP shell system creation ❷, which is another advantage of the selective data transition scenario compared with a brownfield conversion. In the latter, these prerequisites are achieved only through effort-intensive preprojects that hold no value for the business and are executed in the live SAP ERP environment.

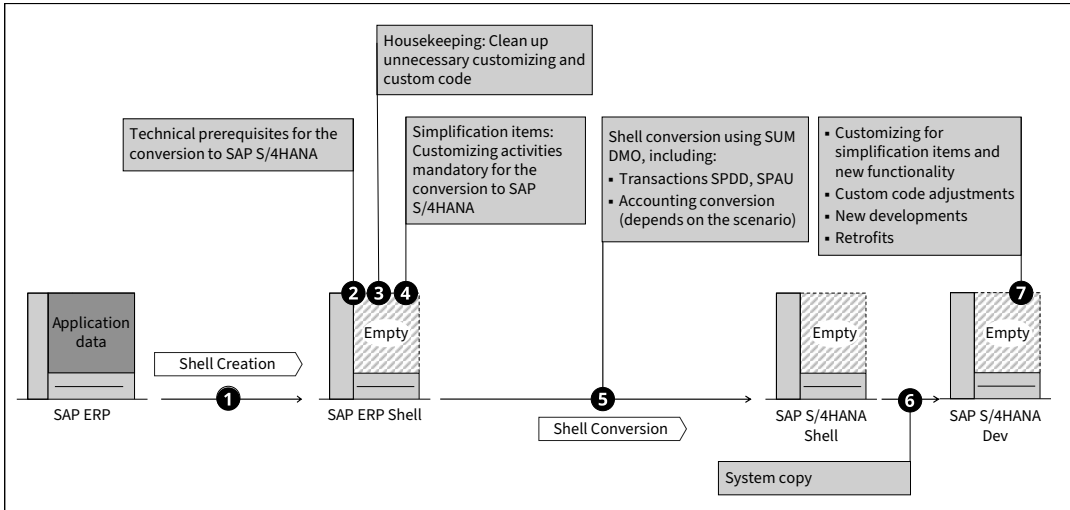


Figure 3.3: Shell Creation and Conversion Process

In some cases, there are housekeeping requirements addressed during the transition to SAP S/4HANA ③, for example, removing unnecessary company codes from the system customization. Because the shell system doesn't contain any application data, this kind of customization cleanup becomes technically possible without consistency risks. It can be a manual activity performed by the functional (application) stream of the project or a service tool-based approach provided by Data Management and Landscape Transformation (DMLT) or selective data transition partners.

As part of housekeeping clean core activities during the transition to SAP S/4HANA (see our discussion in Chapter 2), unused, obsolete custom code is often cleaned up. Based on the usage statistics, unused or unnecessary custom code can be excluded during the shell conversion to SAP S/4HANA. Adjustments of the remaining custom code to the SAP S/4HANA data model and simplifications must happen in the SAP S/4HANA system, so it can be done either in the converted shell or in the SAP S/4HANA development system (most common option).

Even if the selective data transition path provides advantages of selective data migration and transformations, it's still a transition from SAP ERP to SAP S/4HANA—another product with differences in architecture, data model, and functionality. Therefore, it's still required to check the compatibility of the functionality and data of your productive SAP ERP system with SAP S/4HANA architecture, identify the relevant differences (called *simplification items*), and execute preparation and follow-up activities related to the relevant simplification items in the corresponding source or target systems.

The advantage of having the shell system is that it contains no application data, so to prepare it for the conversion to SAP S/4HANA, only customizing-related preparations need to

be performed there (refer to Figure 3.3 ④). At this stage, the focus must be, at a minimum, on the mandatory simplification items check errors preventing the conversion, and the functional (application) stream of the project must be involved in fixing them on the shell system.

When the prerequisites are met, the shell system can be converted to SAP S/4HANA using the standard Software Update Manager (SUM) tool ⑤.

In selective data transition projects, shell conversion is executed only once at the beginning of the project, whereas in brownfield projects, system conversion is tested end-to-end multiple times on sandbox copies of the productive system before being applied to all systems in the landscape, one by one. Instead of conversion test cycles in selective data transition projects, there are data migration test cycles, where, in a fresh copy of the already converted SAP S/4HANA shell system, data is selectively migrated and transformed (to the SAP S/4HANA data model and based on project requirements).

That is why in selective data transition projects, the converted shell system (often named the *golden shell*) is usually kept as a separate, standalone template system. The SAP S/4HANA development system is created as a copy of the converted shell ⑥. From the moment the SAP S/4HANA development system is available, it becomes a single source of truth for all the customizing and code adjustments, new developments, and retrofits until the end of the lifecycle of the SAP S/4HANA system ⑦.

Before each data migration test cycle, a fresh copy of the shell system will be created as the target system for data migration and subsequent tests. Before the production cutover, the shell copy will be made to become a new SAP S/4HANA production system.

3.5.3 Mix and Match

For some companies, SAP ERP systems were implemented a long time ago. Business models and processes have changed since then, or the business has grown, and the implemented functionality no longer aligns with the business strategy, needs, or growth plans. Due to the use of obsolete functionality for which new features are no longer provided, the number of custom developments and workarounds has increased over time, making system upgrades complex and rare, technical debt high, and every new change longer and more expensive than previous ones. There might be systems in which mistakes made during implementation over time are causing problems, or there's a demand to increase the automation maturity level.

Transition to SAP S/4HANA for these kinds of systems is more perceived as a component of the overall digital transformation of the company. Among the goals of such a project, you might see “redesign,” “get closer to best practices,” “cloud readiness,” “clean core,” or “back to standard.”

At the same time, even in such systems, there might be valuable functionality that is still strategic, meets business needs, and creates a competitive advantage for the company.

These functions need to be carried over to the new system along with their data. The mix and match approach can be used as an option to create the target SAP S/4HANA system for such projects.

Note

Here, when we talk about the target system, the terms *solution* or *functionality* refer to selected customizing and custom code objects. Data is obviously part of it, but it will be moved later as part of selective data transition's data migration cycles.

In the mix and match approach, a newly installed SAP S/4HANA becomes a target system. This can be an empty system that will be configured by the functional (application) stream of the project manually, or it can have preactivated selected SAP standard content. A question remains: How do we migrate valuable legacy solutions into this new system? The options for this task are described in Chapter 6.

Example: Usage of the Mix and Match Approach

A power generation company decided to apply the clean core approach for its transition from SAP ERP to SAP S/4HANA to make it cloud-ready and as close to standard as possible. Significant redesign in all areas of the system, except enterprise asset management (EAM), was required. Here, the company wanted to retain all historical data and implement only some selected changes to the functionality.

The mix and match approach was selected to provide the desired flexibility while keeping the valuable parts of the previous solution. The target SAP S/4HANA system was created via a new installation. Customization of the system was done manually, but with reference to the SAP Best Practices preconfigured processes. An intermediate shell system was created from a copy of the source SAP ERP. It was used as a source for the transports of the selected legacy solutions to retain them or to close the approved functional gaps in the standard implementation of the new system.

When considering the mix and match approach, you must bear in mind that the SAP S/4HANA target system might be significantly different from the source SAP ERP due to differences in the structures, customization elements, Data Dictionary, custom enhancements, and code. During data migration from SAP ERP, you'll need to apply all of these differences to the migrated dataset via mappings and developments that provide derivation, transformation, and data enrichment logic. Achieving a cleaner, redesigned system via mix and match will significantly increase the effort and complexity of data migration and validation, which means the requirements for the qualification of the involved functional and data migration teams will be higher.

3.6 Data Migration Approach

When the SAP target system is created, you'll populate it with master and transactional data, so you need to select the optimal approach based on your needs. The data can be created in the SAP S/4HANA system manually by business users via transactions or SAP Fiori apps, and this approach can still be used for some data objects when dealing with small data volumes. However, when talking about thousands or millions of records, we need an automated way to migrate this data to the system within a limited time window. There are multiple possible approaches available for the migration of the data into SAP S/4HANA. During project scoping, it's important to select the data migration approach for each functional area or data object in your system that best fits your requirements. Let's take a closer look at the approaches most used in selective data transition projects.

3.6.1 Table-Based Migration

Migration at the table level involves extracting tables from the source system, transforming their contents (if needed), and inserting the resulting records directly into the target system's database tables. This type of migration can be executed using specialized tools with knowledge of the SAP ERP data model (tables and their relationships) and the capability to efficiently select and load data across multiple parallel flows. DMLT and selective data transition partners are equipped with table migration tools capable of covering these kinds of migrations to SAP S/4HANA.

Table-based migration is a key element of the selective data transition project and a key differentiator from other approaches. Advantages of the table-based data migration approach are listed here:

- The historical transactional data can be migrated.
- The same document and master data numbers can be retained as they were in the source.
- Data isn't loaded through the application layer but is inserted directly into the database. Therefore, there's no runtime overhead for data migration: no application checks and error handling are needed.
- Data can be loaded all at once, without following the logical sequence of the objects and respect dependencies.
- Data can be migrated fast, with a high level of parallelization, and downtime optimization techniques (see Chapter 6) can be applied on top.
- Missing or incomplete customizing or master data in the target system in general won't prevent table-based migration (except for table structures, which must be aligned).
- Custom tables and custom fields of the standard tables can be migrated without additional development effort (creation or extensions of the data migration function modules and migration objects aren't needed).

- Fewer data cleansing requirements and efforts are required for the data in the source systems.
- Data validation (comparison between the source and target systems) is easier.

There are also disadvantages to consider:

- If the target system redesign scope is big and the key settings and functionality are significantly different from the source, it might be very challenging, if even feasible, to implement all the required data transformations to be performed at once on the fly during the table-based migration.

Transformations Complexity

Some companies want to restructure the finance part of the system significantly during the transition to SAP S/4HANA. There might be multiple changes expected to be implemented all at once: controlling area merge, chart of accounts harmonization, cost and profit centers harmonization, group currency activation or local currency changes, fiscal year changes, switch from accounts to the parallel ledgers approach, new asset accounting, and document split activation, among others. Implementing all of these changes simultaneously at the table level on the fly during the data migration might be extremely complex or even impractical. As an alternative, some of these changes (common examples are currency or fiscal year settings changes) can be implemented as pre-projects in SAP ERP before the transition to SAP S/4HANA. In addition, a switch to the API-based posting approach for finance open items migration (Section 3.6.2) can be used as an alternative approach.

- Avoiding application-level checks via the insertion of data directly into the database tables can speed up the migration process and reduce the source data cleansing needs, but in this approach, the data integrity, consistency, and usage aren't tested in the target automatically during the migration. Comprehensive subsequent tests are needed to close this gap.
- For migration on the table level, the source and target systems must be completely isolated from the business users and integration interfaces, so that all the data in the tables is frozen from any changes during this downtime period of the migration. There are technologies that allow reducing this downtime and performing partial migrations during uptime, but not completely avoiding it.
- Tables aren't migrated in SAP S/4HANA format (data model), so they must be converted via special routines after the migration, and this conversion takes part of the downtime.
- After the conversion is done, the remigrations of the data might not always be possible within the same migration cycle.
- There's no audit traceability on how the data has been created in the system (e.g., there are no change logs generated during this type of migration).

Migration to SAP S/4HANA Cloud Public Edition

SAP S/4HANA Cloud Public Edition is an SAP SaaS product, which means that this system must be compliant with all the cloud SaaS principles, including API-managed access to the data. This principle ensures that no user, external application, or even an internal component can bypass the API layer to interact with the database directly, thereby maintaining data integrity and security. For this reason, the table-based approach can't be used for the data migration into SAP S/4HANA Cloud Public Edition, and the posting-based approach, described in the next chapter, must be used instead.

3.6.2 API-Based Postings

API-based posting is a classic data migration approach commonly used in SAP greenfield projects, which can also be used in selective data transitions. Posting is the recreation of a data object in the target system using API, BAPI, or a function module that simulates a user manually entering the object. This approach is used in generally available SAP data migration tools, such as the SAP S/4HANA migration cockpit, as well as in specialized tools from the DMLT service or selective data transition partners.

The posting approach uses the logic, structures, and checks configured in the target system. Even if the functionality is significantly different from that in the source system, the posting approach will “follow the rules” of the target system during data migration and ensure that the SAP S/4HANA data model tables are consistently maintained with all the necessary data generated by the API.

The advantages of this approach are listed here:

- This approach gives more flexibility in the functional and structural transformations in SAP S/4HANA during the transition from SAP ERP, even without preprojects required.
- During the migration, data will flow through application-level checks, which means that the data integrity, consistency, and usage are tested automatically during the data migration itself, together with completeness and quality of the source data and target system customization. This increases the effort for data migration and error handling, but can reduce the effort for subsequent tests.
- During the posting-based migration, the source and target systems can be alive and used by the users. For sure, some freeze and blackout periods will be required for the migrated business entities, but the systems don't need to be completely isolated from all users during cutover. So, the approach can be attractive for phased rollouts.
- The posting approach gives full audit traceability on how the data has been created in the system (change logs are available).
- Some of the postings can be reversed if needed (e.g., FI open items or inventory stocks).

There are also disadvantages to consider:

- Only master data and open items can be migrated via this approach. Historical transactional data isn't possible.
- The migrated objects and documents will get the new numbers based on the number range settings of the target system (a solution to keep the references to the old numbers might be required).
- Data is loaded through the application layer, so there's runtime overhead for data migration due to application checks and error handling.
- Data migration must follow the logical sequence of objects and respect dependencies. For example, good quality master data must be loaded before the transactional data is loaded on top of it.
- The sequencing and application-level checks make the data migration longer, and there are no specialized downtime optimization techniques available for this approach. However, some organizational, hardware, and software measures can still be applied to fit into the reasonable data migration windows.
- Missing or incomplete customizing or master data in the target system can prevent posting-based migration or make the posting results incorrect.
- Additional development effort (creation or extensions of the data migration function modules and migration objects) is required to achieve the migration of custom tables and custom fields included in the standard tables.
- There are stricter data cleansing requirements and efforts for the data in the source systems.
- Data validation (comparison between the source and target systems) can be more complex, especially in areas with significant transformations in the functionality and structures. Additional prevalidations are typically performed before loading each object in this approach.

3.6.3 Approach Comparison

The data migration approaches are compared in Table 3.1.

Decision Factor	Table-Based Migration	Posting-Based Migration
Data migration tools	Specialized tools from DMLT or selective data transition partners	Generally available or specialized tools
Historical transactional data migration	Possible	Not possible; only master data and open items

Table 3.1: Comparison of Table-Based and Posting-Based Data Migration Approaches

Decision Factor	Table-Based Migration	Posting-Based Migration
Documents and master data numbers	Can be kept the same as in the source	In most cases must be numbered anew, based on the target number range settings
Flexibility of changes (transformations) in the target	Limited	Full
Downtime of the source and target systems	Required	Optional
Application-level checks during the migration	Not triggered. Migration is faster, but data and customization aren't checked and tested.	Triggered. Migration takes longer and errors must be handled, but data and customization are tested during the migration.
Migration sequence	No, all can be loaded at once.	Yes, it must be followed.
Speed of data migration, downtime optimization	Fast; there are specialized downtime optimization techniques available.	Slow; no specialized downtime optimization techniques are available.
Transformation to SAP S/4HANA data model	Via execution of post-migration routines	On the fly during the postings
Reversals, remigrations	Limited	Possible for some of the postings
Data migration development efforts	Low	High
Source data cleansing efforts	Low	High
Data migration efforts	Medium	High
Data validation efforts	Medium	High
Subsequent tests efforts	High	Medium
Data creation audit traceability	Limited	Full

Table 3.1: Comparison of Table-Based and Posting-Based Data Migration Approaches (Cont.)

3.7 Selective Data Transition Scenarios

A selective data transition scenario is defined by the selected approaches for creating the target system and migrating the data to it. This section presents the most common selective data transition scenarios, along with their specifics, use cases, advantages, and limitations. Even though the names of these scenarios aren’t standardized, and different SAP selective data transition partners and customers might name them differently, their meanings remain the same.

3.7.1 Regular Selective Data Transition

In a regular (or classic) selective data transition scenario, selected SAP ERP data is transformed and migrated to SAP S/4HANA on the table level for all (or at least most) functional areas of the system. Figure 3.4 shows what regular selective data transition scenarios look like at a high level.

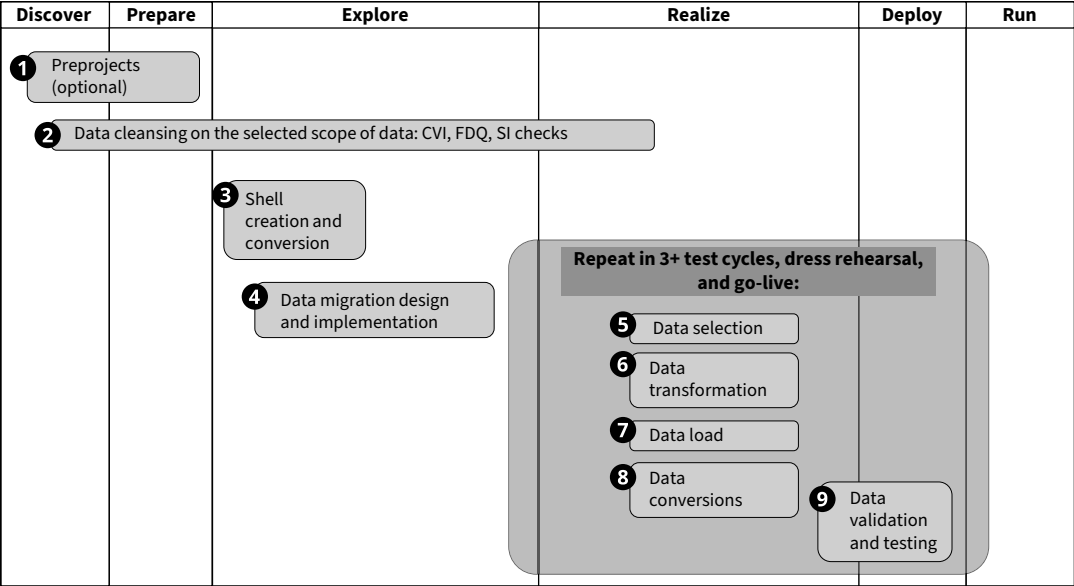


Figure 3.4: Regular Selective Data Transition Scenario

Note

Selective data transition scenarios primarily cover selective data transition project activities related to creating the target system and migrating the data into it. Even if these are core differentiating activities of the selective data transition project, they aren’t the only ones that need to be executed. Many topics must be handled by the selective data transition project team, in addition to those listed here: delta functionality design and configuration, custom code adjustments and new developments, integration interfaces adjustments, test planning and execution, user training, handover to

operations, and so on. In Chapter 5, we'll provide an overview of all the project workstreams required in the selective data transition project based on the SAP Activate methodology.

Let's break down the steps shown in Figure 3.4 in detail:

❶ Preprojects (optional)

Simplification item-related preprojects (see Chapter 5 for the details) are either executed in the SAP ERP source system up front (as in brownfield conversions) or embedded in the scope of the selective data transition project (at steps ❷ and/or ❸) as on-the-fly data transformations or the premigration cutover steps (depending on feasibility and project-based decision).

❷ Data cleansing on the selected data scope

Data cleansing requirements and activities in the source SAP ERP system are the same as for the brownfield conversion process, except that priority must be given to the dataset that will be selectively migrated to SAP S/4HANA. The scope of data cleansing work includes data issues identified by the customer-vendor integration (CVI) check, the finance data quality (FDQ) check, and simplification item checks (SI checks) (see Chapter 5 for details), which must be identified and fixed in the SAP ERP source system before the data migration cycles.

❸ Shell creation and conversion

In most cases, the target system for the regular selective data transition is created using the shell approach. Unnecessary company codes can be removed from the shell system. Customization and custom code must be adjusted in the shell-copy SAP S/4HANA development system and the changes transported to the shell-copy SAP S/4HANA target system for the data migration cycle.

❹ Data migration design and implementation

Data migration design workshops are required to confirm and document the scope of data objects to be migrated, selection criteria, and data transformation rules applicable to the migrated dataset. The data migration tools are configured and developed based on the resulting design documents.

❺ Data selection

The table-based data migration approach is used. Data is selected (extracted) from the SAP ERP system using organizational unit filters (usually company codes), time-slice filters (e.g., the past two years), a combination of both, or object-specific filters. Master data is usually migrated in full (for the relevant organizational units), except that results from the proper master data quality and usage analysis (see Chapter 6, Section 6.2.2) may be incorporated into reliable master data filtering or deduplication rules.

❻ Data transformation

The selected data can be transformed during migration using value mappings, domain-level or object-specific transformation rules, and, if necessary, renumbering logic.

7 Data load

Selected and transformed data is migrated to SAP S/4HANA tables in the same data model as they were maintained in SAP ERP.

Data Model Compatibility

The data model in SAP S/4HANA is different from SAP ERP: new tables such as `ACDOCA` and `MATDOC` are introduced, and some of the classic tables are restructured or substituted with compatibility views (core data services [CDS]). For compatibility purposes in SAP S/4HANA, for the deprecated or changed tables, the “backup” tables, which have the same data model as in SAP ERP, are available.

However, only migrating the tables exactly as they are in SAP ERP won’t provide a working SAP S/4HANA solution. To convert the data from the backup tables to the SAP S/4HANA data model, SAP has developed the post-migration routines, executed by SUM’s Database Migration Option (DMO) tool during every brownfield conversion, but manually in the selective data transition projects.

8 Data conversions

When the migration of tables is done, special routines must be executed in the target system for the conversion of the data into the SAP S/4HANA data model:

- CVI creates the business partners for the customers and vendors, based on the CVI customizing settings (if not done in the source SAP ERP system as a preproject).
- Execution of Program After Import (XPRA), Execution of Class After Import (XCLA), and Silent Data Migration Infrastructure (SDMI) programs developed by SAP are used for the conversion of data according to the simplification items.
- The Materials Management-Inventory Management (MM-IM) data model must be converted in the inventory management area.
- Finance functional consultants execute a guided routine to convert the finance and controlling data. In this step, the financial data (Financial Accounting [FI], General Ledger Accounting [FI-GL], Asset Accounting [FI-AA], Controlling [CO], and Material Ledger [ML]) is converted into the Universal Journal (table `ACDOCA`).
- Specialized solutions from DMLT or partners are used for on-the-fly data transformations to meet customer-specific requirements, substitute the simplification items-related preprojects, substitute custom objects with standard ones, or perform the initial load of the data to the new functionality.

Because these routines are executed at the application layer, the first data or customization-related issues can be identified and must be managed at this stage.

9 Data validation and testing

As we discussed before, table-based migration inserts data directly into the database and doesn’t trigger any application-level checks. Therefore, comprehensive validation

and testing of the target system's resulting data and business processes (using this data) must be conducted. In selective data transition projects, at least three data migration test cycles, with subsequent validation and business process tests, are usually executed before rehearsing and executing the production migration.

Technically, the regular selective data transition scenario repeats the steps of the standard brownfield conversion. However, instead of in-place converting the whole system through a solid execution of SUM's DMO tool with regular selective data transition, we can break the conversion process into separate, isolated steps: software conversion (of the shell system), selective data migration, and data conversion. This approach allows us to step in between the conversion process phases to make technical and customization changes to the target system and to apply custom data selections and transformations to the migrated dataset. In this way, we can achieve the functional and structural changes that aren't possible in the standard conversion, avoid or embed the conversion preprojects, and reduce the data footprint.

3.7.2 Lean Selective Data Transition

Lean selective data transition is the SAP-standard transition scenario available as a guided self-service. It's executed via the SAP Business Transformation Center cloud product, available as part of the SAP Cloud ALM entitlement for all SAP maintenance customers, with no additional license or service costs. The tool allows for identifying, scoping, and migrating the data for the selected organizational units (company codes, plants) and time slices from SAP ERP to SAP S/4HANA, and verifying the migration outcomes.

Note that the shell system approach must be used to create a target system as a prerequisite for lean selective data transition.

SAP Business Transformation Center capabilities include the following:

- A dedicated scoping capability, the digital blueprint, helps you define the data migration scope by profiling the source system data and recording the scoping decisions made by the user.
- The Manage Transformation Projects app provides end-to-end execution guidance throughout the entire transition flow.
- Integration with the Data Transformation Validation (DTV) tool allows you to verify and reconcile data migration results.

As of the time of writing (summer 2026), lean selective data transition doesn't cover systems consolidations, structural value mapping-based data changes (e.g., chart of accounts conversion or controlling area merge), or on-the-fly data transformations (e.g., account-to-ledger or CVI) during the data migration. Some of these capabilities are on the SAP Business Transformation Center roadmap, but so far, the preprojects and follow-up activities for lean selective data transition are exactly like brownfield conversion tasks.

The key difference between a lean selective data transition and a brownfield conversion is the ability to reduce the target system's data footprint by migrating and converting only the data for the necessary organizational units and periods. The difference from a regular selective data transition is that data scoping and migration can be performed in a guided, highly automated way via the self-service tool. However, the broad cross-system restructurings, on-the-fly transformations, multisource consolidations, or phased transitions aren't yet supported by lean selective data transition.

Detailed coverage of the lean selective data transition approach can be found in Chapter 10. Here, only a high-level overview is provided so you can decide whether this selective data transition scenario fits your requirements.

3.7.3 Hybrid Selective Data Transition

Different lines or divisions of your business might have different requirements regarding the level of structural and functional changes, as well as historical transactions migration to the new SAP S/4HANA system. Even if they are working in one SAP ERP system for a long time, their processes and needs might have changed at a different pace over time, and the innovations provided by SAP S/4HANA might be unequally relevant to them.

You might realize, for example, that the finance department is expecting a significant redesign of its organizational structures, implemented accounting approach, and principles, as well as functionality changes to better support its reporting, forecasting, and transparency needs. With that, they are ready to sacrifice historical data from past periods rather than spend effort on cleansing, migrating, and validating it after applying all the desired transformations.

At the same time, your supply chain, commercial, and production departments might be more conservative in their appetite for disruptive change. They might be satisfied with the current solution and data, or they might not see the justified value of the significant transformations in their areas. They might perceive historical transactional data as an asset that they want to keep in the new system because it enables them to plan for future needs based on the past operations in a convenient way of working they are used to.

In this example, you can use a hybrid selective data transition approach:

- Posting-based data migration of only open items and balances in finance
- Master data and transactional data in nonfinancial areas to be migrated on the table level selectively, together with the historical data where needed

For simplicity, we'll review here the most popular variant of the hybrid selective data transition, where finance is migrated via postings, while master data and nonfinancial areas are migrated via tables. However, the decision on which data objects are migrated table-based

and which are posted can be made for each area or data migration objects group individually (ensuring data integrity and considering the pros and cons of both data migration approaches). For example, you may decide that some core master data objects, such as bank, general ledger accounts, cost and profit centers, customers, vendors, and business partners, should be posted rather than migrated at the table level. You might also select the postings for the transactional open items and not only for financial areas of your system.

Here's what the most common hybrid selective data transition scenario (finance via postings, nonfinance on the table level) may look like at a high level (see Figure 3.5):

❶ Preprojects (optional)

Simplification item-related preprojects (see Chapter 5 for more details) are usually optional in the source SAP ERP system and can be embedded in the scope of the hybrid selective data transition project itself by the nature of the postings or as the on-the-fly transformation solutions (at steps **❸** and/or **❶❶**). Business partners, for example, can be created in the target system automatically as part of the postings of customers and vendors (if the postings approach is selected for these objects) or using the CVI on-the-fly solution after customers and vendors are migrated there at the table level. Finance open items postings are more sensitive to the target system's customization than to the source setup. Different financial setups in a source system can make data extraction and mapping preparations more cumbersome and may require some compromises and workarounds, but don't force the execution of the preprojects in the source.

❷ Data cleansing on the selected scope of data: focus on open items

Data cleansing requirements and activities in the source SAP ERP system for the table-based migration data scope are like those for the brownfield conversion process, with the focus on the dataset that will be selectively table-based migrated to SAP S/4HANA. In our example, CVI and SI checks errors relevant to the table-based migration scope need attention. FDQ check error correction becomes optional in the source system, except for those impacting the open items and balances (see Chapter 6 for details). In general, for the posting-based scope, the data cleansing focus shifts to open items clearing to reduce the data volumes to be posted and validated. (SAP Signavio Process Insights, discovery edition, can provide the overview on the volumes of the open items in your system and compare them with the industry benchmarks; see the details in Chapter 5.)

❸ Shell creation or mix and match

The target system for the hybrid selective data transition can be created using the shell or mix and match approaches. Even a completely newly configured SAP S/4HANA system can be used as a target, but it will require more mapping-based transformations of the migrated data. For our example, the shell approach is preferable because a significant part of the data (all master and nonfinance-related) will be migrated at the table level.

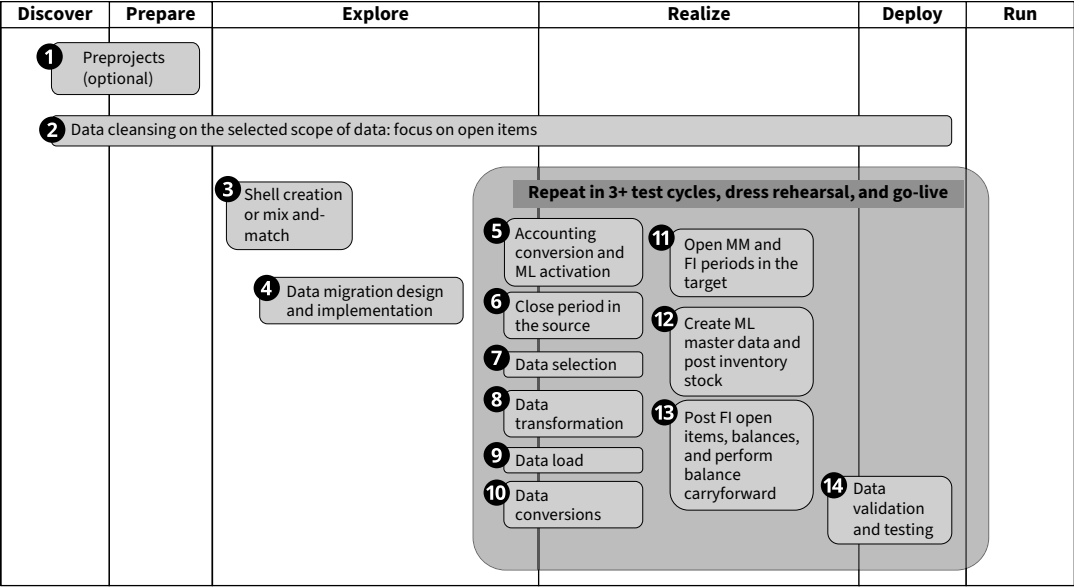


Figure 3.5: Hybrid Selective Data Transition Scenario

4 Data migration design and implementation

Data migration design workshops are required to confirm and document the scope of data objects to be migrated, selection criteria, and data transformation rules applicable to the migrated dataset. Based on the resulting design documents, the data migration tools are configured and developed.

5 Accounting conversion and material ledger activation

If the shell approach is used for the hybrid selective data transition, the accounting conversion and material ledger activation are usually executed by finance functional consultants once in the empty shell or before each data migration cycle in a copy of the empty shell serving as the target system (technically, because there’s no data there yet).

6 Close period in the source

For consistent postings of finance open items and balances and to enable data reconciliation, the period must be closed in the source system. The recommendation is to test the future productive cutover scenario at every data migration test cycle. If the go-live is planned at the end of the fiscal year (it’s best practice for the hybrid selective data transition; see Section 3.8), the recommendation is to close the open month in the source SAP ERP system copy before every data migration cycle. However, for the FI-AA area, the recommendation is to roll forward and close the current year if possible.

7 Data selection

Data is selected (extracted) from the SAP ERP system using organizational unit filters (usually company codes) or time-slice filters (e.g., the past two years), and, if required, a combination of both, or object-specific filters. Master data is usually migrated or posted

in full (for the relevant organizational units), except that results from the proper master data quality and usage analysis (see Chapter 6) may be incorporated into reliable master data filtering or deduplication rules. At this step, extraction is also performed for the posting-based scope.

8 Data transformation

The selected data can be transformed during migration using value mappings, domain-level or object-specific transformation rules, and, if necessary, renumbering logic.

9 Data load

Selected and transformed tables are migrated to SAP S/4HANA tables in the same data model as they are maintained in SAP ERP. In the hybrid selective data transition approach, finance and controlling transactional data tables are usually not migrated (except for customer-specific requirements, e.g., costing runs or profitability analysis data, which must be addressed by specialized solutions and skilled resources).

10 Data conversions

When the migration of tables is done, special routines must be executed in the target system for the conversion of the data into the SAP S/4HANA data model:

- CVI to create the business partners for the customers and vendors (if these objects are migrated on the table level).
- XPRA, XCLA, and SDMI programs that are developed by SAP for the conversion of data according to the simplification items. Only the ones relevant to the table-based scope must be executed.
- MM-IM conversion of the data model in the inventory management area. In hybrid selective data transition, it's important to ensure that the MM-IM process doesn't generate inventory stock in the system. To prevent that, the quantity and value fields must be cleaned up in the MM-IM backup tables during or after the table-based migration process.
- Accounting conversion and material ledger activation. In some cases, it can be executed at this stage, but in hybrid selective data transition, it's mostly completed in the target system before the data migration.
- Specialized solutions from DMLT or partners used for on-the-fly data transformations to achieve the customer-specific requirements, substitute the simplification items-related preprojects, substitute custom objects with standard ones, or do the initial load of the data to the new functionality.

Because these routines are executed at the application layer, the first data or customization-related issues can be identified and must be managed at this stage.

11 Open MM and FI periods in the target

The posting date is selected. Usually, but not always, it's the last date of the month or the year. FI and MM periods must be opened in the target system to allow the postings to the selected date.

12 Create material ledger master data and post inventory stock

In the hybrid selective data transition approach, the inventory stock is usually posted, together with automatically generated FI postings to the inventory accounts. However, before the stock postings, in the hybrid selective data transition approach, you might need to create material ledger master data in the target system as part of the accounting conversion guided process or using special reports. If actual costing and cost component split functionalities are used, creating material ledger data will require additional activities and checks. Costing run might be required in the target system. Logistics Execution-Warehouse Management (LE-WM) data and stock can be migrated at the table level in steps 7–9 to enable stock room management functionality in SAP S/4HANA.

13 Post FI open items and balances, and perform balance carryforward

Finance open items and balances are posted to the system using the agreed-upon posting date. Assets under construction settlement run and balance carryforward are executed in the target system (if relevant).

14 Data validation and testing

Comprehensive validation and testing of the target system's resulting data and business processes (using this data) must be conducted. In selective data transition projects, at least three data migration test cycles, with subsequent validation and business process tests, are usually executed before rehearsing and executing the production migration.

Hybrid selective data transition can leverage the advantages of both data migration approaches to provide you with the flexibility to handle different levels of transformation within a single system, while inheriting constraints from both. One of the most important constraints of the hybrid selective data transition concerns the selection of the go-live date.

3.8 Go-Live Date Considerations

Your business might face calendar constraints when the blackout period or downtime required for the production cutover to the new system can't be planned. They might include peak periods, regulatory reporting deadlines, planned shutdowns, and vacation seasons.

Regular and lean selective data transition scenarios offer greater flexibility in the go-live date planning. Usually, the calmest period for the business is selected to minimize the impact. A common practice is to plan the go-live in the middle of any calm month, when the previous period is already closed and the next closing hasn't yet started. A blackout period is often scheduled during the long weekend associated with public holidays, when fewer users are to be affected by the system being unavailable.

The hybrid selective data transition (when the FI open items are posted) has a more green-field approach to go-live planning. Best practice is to plan it at the end of the fiscal year. In

that case, the old year will be closed in the old SAP ERP system, but the new one will start in the new SAP S/4HANA system. This clear-cut approach has many advantages for financial reporting, data migration, and reconciliation efforts. Often, the fiscal year is equal to the calendar year, so the blackout period can overlap with the New Year holidays—a calm period for most business users.

If the fiscal year-end cutover isn't feasible for the business, consider switching to the regular or lean selective data transition scenarios if possible. In these scenarios historical transactional data can be migrated, so you can move the complete data required for the financial closing of this divided year and do the current year financial reporting from the new SAP S/4HANA system without compromises and workarounds.

Complexity arises when you must stick to the hybrid selective data transition scenario to cover your transformation and data migration requirements, but the go-live must be planned for a date other than the beginning of the fiscal year. In such a midyear scenario, you must consider the following extra efforts and limitations:

- A temporary solution is required for the consolidated financial reporting of two systems for the divided year. Compromises in the available financial reporting granularity for the divided year are also required.
- All asset accounting operations from the beginning of the current fiscal year (e.g., acquisitions, retirements, transfers, depreciation postings) must be reposted (“replayed”) to the new SAP S/4HANA system and validated. The limitation here is that the standard BAPI doesn't support all types of operations (e.g., reversals), so workarounds must be implemented. As an alternative, you might consider the *key-date scenario* to migrate only accumulated values, but it has limitations that must be approved by the financial business and auditors.
- Profit and loss (P&L) accounts must be migrated for the current fiscal year, including their assignment to controlling objects.
- Migration of the opening balance for the current financial year and the takeover balance are required. In addition, migration of monthly financial statements (balances) prior to the key date takeover might be needed.
- Project-specific solutions and workarounds will be needed during the migration, involving additional general ledger accounts, adjustment postings, complex mappings, solutions for managing asset under construction migration, and dependencies on controlling.
- The volume of data to be migrated and validated is higher, which can negatively impact downtime.
- There are overall increased project costs due to financial data migration and validation complexity and efforts. Requirements are increased for the qualification of financial business and IT teams and the data migration team.

The Earlier the Better

If go-live for the hybrid selective data transition can't be scheduled at the beginning of the fiscal year, the recommendation is to plan it as early as possible after that. The more time has passed, the more data is needed to be migrated and validated. For example, if your fiscal year aligns with the calendar year but you can't go live at the beginning of January, planning the go-live for February, or at least within Q1, can reduce project effort and risks.

Midyear Scenario

In practice, the midyear scenario is often used in greenfield projects. It can be managed for businesses with a comparably simple finance and controlling setup, basic asset accounting usage, and not too many diverse countries with complex localization requirements in scope. In addition, for greenfield rollouts from non-SAP systems, business expectations for reporting granularity and data migration scope are usually lower than for businesses already using SAP ERP, and tolerance to the workarounds and compromises is higher.

In transitions executed for large enterprises with complex SAP ERP FI, FI-AA, and CO implementations, we encountered hybrid selective data transition projects in which, after the business faced all the challenges and limitations of the midyear data migration and validation scenario in the test cycle, they decided to shift the go-live to the end of the fiscal year.

3.9 Downtime Considerations

Any scenario of transition to SAP S/4HANA will require a period of blackout (or downtime) when the system won't be available to the business users. Depending on the industry, business continuity requirements, and the system's role and service level, the requirements for the downtime duration may vary.

Many things must be planned during the blackout period, including technical tasks (backups, system parameter changes, etc.), disconnecting and reconnecting integration interfaces, synchronizing satellite systems, validating data, smoke testing the processes, and planning a fallback buffer. But most downtime is usually due to data migration activities; therefore, downtime optimization is often focused primarily on reducing the data migration time.

Various organizational, hardware, and software measures can be implemented to reduce downtime. SAP and partners offer specialized tools and approaches to minimize the data migration part of the transition. Chapter 6 covers them in detail.

Most companies and systems can afford the downtime of one weekend (sometimes combined with public holidays), but there are cases when minimizing downtime is critical for business. Every business system is different, and downtime-optimization measures must be selected based on your specific situation and requirements. In general, common organizational, hardware, and software measures should be enough to fit into your desired downtime. However, there are indicators that specialized downtime minimization techniques can be included in the project scope:

- Your requirements are to have downtime faster than on a weekend—even down to hours, not days.
- Your system has more than 20 TB of application business data to be migrated (consider only data in scope of migration, don't consider technical tables containing logs, change documents, etc.).
- Businesses are ready to invest extra budget space (up to 30% of the project data migration costs) for the specialized tools and experts rather than allow longer downtime.

When choosing the selective data transition scenario, you need to know that these specialized downtime optimization techniques can, in general, be applied to brownfield conversion or regular selective data transition scenarios. Some specialized tools and approaches can be used to optimize the downtime required for the hybrid selective data transition; in most cases, however, scope, organizational, hardware, and performance-tuning measures are sufficient.

3.10 Choosing the Optimal Selective Data Transition Scenario

All the decision factors are now known to choose the best selective data transition scenario for your needs. To make this choice, two major decision factors must be clear:

- Required level of functional (and structural) changes (transformations) expected in the SAP S/4HANA system in comparison with a source SAP ERP system
- Requirements for the migration of historical transactional data to SAP S/4HANA

The functional transformations can't be avoided because SAP S/4HANA is a different product and there are differences (simplification items, compatibility scope items) that require you to make mandatory changes in your functionality during the transition (see Chapter 5 for the details).

On top of these mandatory changes, businesses might request additional functional or structural changes for modernizing, cleaning up, resolving old problems, tailoring the new system to their needs, and getting full value from the system after the transition. Common examples of such changes include the following:

- Making changes to the system's organizational structure, including cleansing unnecessary company codes and controlling area merge
- Harmonizing charts of accounts

- Switching to the ledger approach
- Harmonizing cost and profit centers
- Making changes in key system settings (e.g., batch level)

There might be cases when the current business models and processes are changed significantly from the ones implemented decades ago in your SAP ERP system. This may be because the business has grown and requires additional business capabilities, the level of business process automation provided by the current system isn't mature enough to enable innovation, or the system's technical debt and total cost of ownership (TCO) are already higher than necessary and continue to grow because the system is being used as an ABAP development platform rather than as an enterprise software product. In such cases, an evolutionary, nondisruptive approach of transitioning to the target architecture might be less efficient than a fundamental redesign and reimplementation.

Requirements for the functional and structural transformations may also influence expectations for the data migration to the new system. Usually, the more extensive the transformations, the less it makes sense to migrate, transform, and validate all the historical data created over decades in the old system under the old rules with the old set of attributes and level of granularity.

However, in cases where SAP ERP-based solutions are valuable assets that need to be kept in the new system, historical data can be considered a crucial part of these solutions, along with their customization settings and developments. And here, migrating historical transactional data can benefit the business. More use cases for the migration of historical data were discussed in Section 3.4.

Figure 3.6 shows the decision matrix for choosing the selective data transition scenario based on the functional transformation and data migration requirements. Greenfield reimplementation and brownfield conversion scenarios are also included here to give you a full picture.

Even though the functionality transformation and data migration scope are the most important factors to consider when choosing the selective data transition scenario, as we discussed in previous chapters, they aren't the only ones.

If you have requirements for systems consolidation or a phased rollout transition, the brownfield conversion and lean selective data transition scenarios don't support them, and other selective data transition scenarios must be considered instead.

Preprojects related to simplification items (e.g., CVI, new general ledger activation) must be executed in the source SAP ERP system before the brownfield conversion or lean selective data transition project is started. If you want to avoid the preprojects by embedding them into the selective data transition project as on-the-fly transformations, you must consider other selective data transition scenarios.

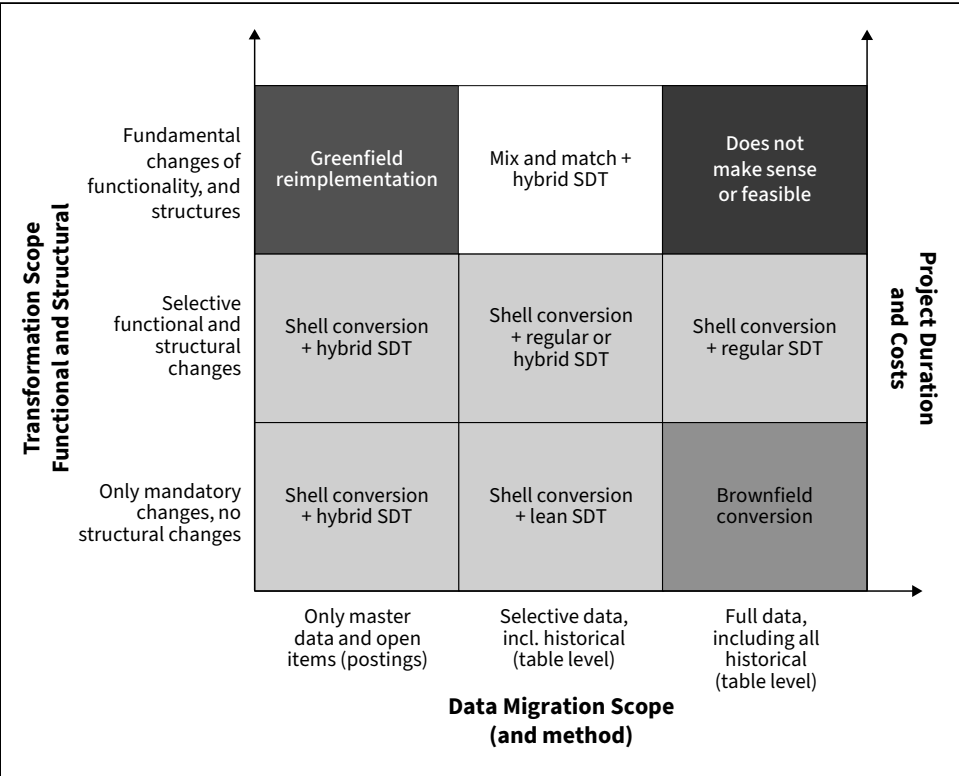


Figure 3.6: Selective Data Transition Scenario: Decision Matrix

The same applies to value mapping-based data transformations (e.g., controlling area merge, chart of accounts harmonization)—they can’t be done as part of the brownfield conversion or lean selective data transition (at least at the time of writing this book).

As we discussed in the previous chapters, the expected level and scope of transformations in the finance area, as well as downtime and go-live date requirements, may influence the decision between hybrid selective data transition and regular selective data transition.

So far, we’ve been discussing only requirements-driven factors and technical feasibility constraints for the different selective data transition scenarios. However, the project duration and budgetary constraints often play a leading role in decision-making. They may lead to the descoping of effort-driving requirements or postponing their implementation until the continuous improvement phase of the project, which begins after go-live. With the requirements changed, the selection of the optimal selective data transition scenario can also be reconsidered in favor of the less expensive, faster option to fit within the available budget and time constraints. In Figure 3.6, shown earlier, you can see how the duration and costs of the project are growing bottom-up, depending on the selective data transition scenarios.

3.11 The Trade-Off Triangle

In this section, we'll provide more insights into how the technical and commercial aspects are evaluated together to make a balanced decision.

The *PMBOK® Guide* from the Project Management Institute (PMI) introduced the Project Management Triangle as a triple constraint comprising scope, cost, and time. Changing any one of these factors requires a corresponding adjustment to the other two factors. Similarly, every selective data transition project has a triple constraint with interdependent factors, which we introduce and show here as the selective data transition trade-off triangle (see Figure 3.7).

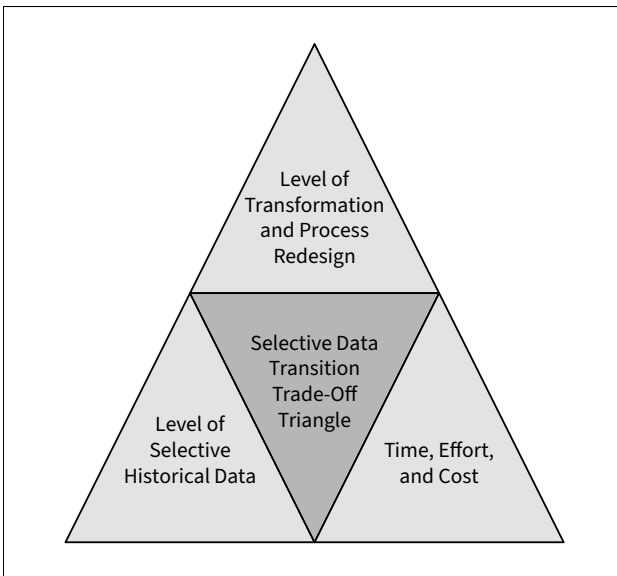


Figure 3.7: Selective Data Transition Trade-Off Triangle

As you can see, the selective data transition trade-off triangle includes the following constraints:

- Level of transformation and process redesign
- Level of selective historical data
- Time, effort, and cost of the project

Let's examine each of these dimensions in detail to understand how they affect the other two.

3.11.1 Level of Transformation and Process Redesign

In Chapter 1, we learned about the “art of the possible” in the context of transformations in a selective data transition project. In Chapter 2, we learned how selective data transition can support the clean core strategy by pivoting from custom business processes to standard

business processes. We also learned that selective data transition can be used to consolidate multiple SAP ERP systems into a single SAP S/4HANA system or to split an existing SAP ERP into more than one SAP S/4HANA system. All of these are possible thanks to selective data transition's on-the-fly data transformation capabilities. While it's possible to introduce several transformations and process design changes in a selective data transition project, it's important to note that this will affect the amount of historical data that can be migrated to SAP S/4HANA and will impact the project scope and timeline. More transformations and process redesign will lead to the following:

- **Less feasibility to migrate historical transactional data**

The data in the source SAP ERP system is created based on the configurations and the processes in that system. If this configuration significantly changes in SAP S/4HANA, then it may not be feasible to map the historical transactional data to fit seamlessly into the new configuration. For example, if the SAP ERP system was based on classic general ledger and heavily used special-purpose ledgers for specific FI characteristics, and the SAP S/4HANA system will use parallel ledgers in the Universal Journal, it may not be feasible to migrate all the data contained in the special-purpose ledgers into the Universal Ledger.

- **Higher project time, effort, and cost**

Though transformations and process design significantly increase the value and return on investment (ROI) of the selective data transition project, they require additional effort to configure these changes, set up data migration with mapping rules, prepare the mapping of SAP ERP data to the corresponding new design in SAP S/4HANA, and test and validate data integrity after migration.

3.11.2 Level of Selective Historical Data

We learned in Chapter 1 about selective data transition's capability to migrate selective historical data. With selective data transition, it's possible to migrate entire historical data from SAP ERP to SAP S/4HANA, migrate data for a defined time slice, and migrate data for specified organizational units or just master data and open items. However, if migrating historical transactional data (either selectively or entirely) is a project constraint, it will accordingly affect the level of transformation and the effort and time required to realize the scope. The level of desired historical transactional data impacts the following:

- **Level of transformation and process redesign**

If historical transaction data is a nonnegotiable constraint in the project, then it may not be possible to include significant process changes, as the historical data can't always fit into the redesigned processes.

- **Project time, effort, and cost**

For projects with complex selection criteria for historical data migration, additional time and effort are required to configure the data migration and to test and validate data integrity after migration. For example, if only specific company codes are in scope for migration, testers need to spend additional effort to verify that any intercompany transactions involving company codes excluded from the migration are adequately handled.

3.11.3 Time, Effort, and Cost of the Project

Based on the previous sections, it's now clear that selective data transition projects with a high level of transformation and complex selection criteria for historical transaction data require additional time, effort, and cost. If completing the project within a specific time or cost is a business constraint, the scope of transformations should be limited accordingly. In Chapter 5, we'll learn in detail about the planning aspects of a selective data transition implementation that should be considered to handle these constraints.

3.12 Complexity Drivers and Success Factors

In the scoping phase of the selective data transition project, it's helpful to understand the main complexity drivers and success factors, as they may influence your key decisions and plan.

For the success of the selective data transition project, it's important to find the balance between the value that you want to achieve, the risks you can mitigate, and the complexity that you're ready to handle. Here are the major selective data transition project complexity drivers that you need to consider:

- Data-related preprojects, data cleansing, and preparation activities in the source systems must be started before the project and must keep running in parallel. They might vary depending on the selective data transition scenario and the source data quality, but are often underestimated. Even though the selective data transition approach usually allows for reducing these efforts compared with brownfield conversion or greenfield reimplementation, the topic must not be neglected completely. The less effort invested here in advance, the more complex and erroneous the data migration and validation processes are.
- The decision to consolidate the systems introduces an effort-intensive phase of the consolidation of customizing and code, resolution of conflicts, and harmonization. The selective data transition approach allows us to consolidate systems at the technical level, but this approach must align with business expectations. If businesses want to harmonize processes rather than allow multiple versions in the new system, much more OCM effort will be required. Data migration also becomes more complex in consolidation projects due to the mappings and transformation rules required to resolve the merging conflicts.
- As we discussed in Section 3.3, the decision to transition in phases adds significant complexity to the project and must be carefully evaluated and justified before being made. If the phased approach can't be avoided, the complexity depends on split criteria for the waves (system, client, and company code are the only ones recommended). Planning the waves in parallel can make the phased transition even more complex.

- As we discussed in Section 3.5.3, the mix and match approach is closer to a greenfield approach. It leads to greater effort in redesigning functionality (fit-to-standard workshops, gap analysis), OCM, interface redesign, new developments, and retrofits. It will cause a greater complexity of required data transformations, impacting migration and validation efforts.
- While the transition project is running, the business might still request changes to be implemented in the productive SAP ERP system. Complexity arises as soon as the new project landscape is created—all the changes made in SAP ERP must be dual-maintained in the SAP S/4HANA landscape to ensure that the business will have them all available in the new system after go-live. The difference in the architecture and setup between SAP ERP and SAP S/4HANA makes the retrofit of these changes even more complex. This process can't be avoided for critical changes related to legal requirements, bug fixes, and security patches. However, for noncritical changes, the best practice is to reduce them as much as possible until the last test cycle (or at the latest, a dress rehearsal). This is a *soft freeze period*. After the last functional test (or, at the latest, the dress rehearsal) has started, noncritical changes must be avoided entirely. This is a *hard freeze period*. For the success of the go-live and post-go-live phases and to reduce retrofit efforts, it's important to agree with the business and establish these freeze periods in the project.
- As we discussed in Section 3.2, several activities are required to ensure that integrated satellite systems are compatible with SAP S/4HANA: integration interfaces must be adjusted, tested, and switched over, and data within the satellite systems must be in sync with the data in the new SAP S/4HANA system.
- For selective data transition projects, complexity depends on the data selection criteria. Filtering by company codes or a single cutoff date time slice is very common and usually straightforward. However, implementing diverse object-specific filters adds complexity to selection rules, increases selection runtime, and creates the need for additional checks, validations, and tests to ensure data integrity.
- Data transformation and harmonization requirements—harmonizing master data (customers, vendors, materials, general ledger accounts, etc.), the transformation logic based on derivations, and data split (1:N) custom transformations—impact the complexity of the selective data transition project.
- The number of the planned test cycles and the time available in between them for the follow-ups, defect handling, delta design, and implementations require sufficient time and resources to manage project complexity.
- For the hybrid selective data transition scenario, where finance open items and balances are posted, deciding not to plan the go-live at the beginning of the fiscal year (Section 3.8) makes the selective data transition project more complex. The complexity of data migration and validation for the go-live increases as each month passes after the fiscal year switch.

- Data volumes and downtime requirements add much complexity to the process. If planning and organizational measures, along with hardware and performance tuning, aren't enough to fit within the desired data migration downtime window, specialized tools for downtime minimization must be used (see Chapter 6 for details). These tools require specialized landscape and expertise, thereby significantly increasing the complexity and costs of the selective data transition project.

A realistic assessment of the project's complexity that you can afford (and, if possible, avoid) is one of the factors in the selective data transition project's success. Here are the additional major success factors, based on our experience:

- **Clear goals and scope of the project**

During the scoping phase, key decisions outlined in this chapter are made, and the project goals, scope, and plan are defined. They must remain as stable as possible during the project execution. Scope changes can't be avoided and must be managed through the requirements change management process, but they must not significantly deviate from the project's key decisions and principles. If there are doubts or concerns about the key decisions, additional proof of concept test cycles can be included at the beginning of the plan to test the assumptions and convert them into fact-based decisions. If the first test cycles can tolerate some scope deviations, the last test cycles (user acceptance testing [UAT] and dress rehearsal) must be prepared and executed based on the fixed, stable organizational, functional, and data migration scope to ensure a successful go-live.

- **Involvement of business**

Transition to SAP S/4HANA must not be perceived as a purely technical IT project independent of the selected transition scenario. At a minimum, mandatory changes to the system's functionality, including simplification and compatibility scope items, will be required. They will affect how business users work in the system, even if the business capabilities and processes redesign isn't a goal of the project. For the success of the selective data transition project, it's critical to involve business representatives in the delta redesign of functionality, data migration scoping and design, user training (focused on the changes), end-to-end testing of all processes, data cleansing, mappings preparation, and data validation. The key business representatives must have the necessary competencies, decision-making rights, and full availability for the project (i.e., they must be full-time members of the project team).

- **Executives' sponsorship and OCM**

The project must have sponsorship, governance, and support from the organization's top management. Key decisions must not be made only by IT, or finance, or any other single department or division of the organization. The steering committee must include representatives of all stakeholders affected by the project's changes to make important decisions collectively on a regular basis. Any change can meet resistance from users, even if it brings valuable improvements for them and the organization as a whole. Therefore, it's important to invest in OCM, including change impact analysis, stakeholder engagement and management, internal communication and marketing of the project,

user education, feedback loops, readiness assessments, post-go-live support, and value realization tracking.

- **Skilled project team**

It's important to have qualified, experienced team members on the project team. This requirement applies to all parties involved in the project, both internal and external (partners). For the selective data transition projects, it's critical to have high competencies in project management, technical, functional, and data migration teams. Competencies here aren't limited only to hard skills—teamwork, collaboration, and communication skills are equally important for success.

- **Strong project management and architecture**

As the backbone of the project, a clear and realistic project plan must be created and executed; communication and escalation channels must be set up and used; requirements, changes, risks, and issues must be managed; and the team must be organized and guided toward the common goal of go-live within the planned time and budget. All of these are tasks for the project management and architecture stream that require qualified, experienced individuals to handle. One of the important tasks of the project management stream (with support from the project sponsors) is to establish the working atmosphere of open communication and trust between all the different parties involved in the project, from business, IT, and the partners, for the purpose of joint success.

- **Comprehensive testing**

All variants of all the business processes, including the exceptions, reverses and returns scenarios, must be comprehensively tested end to end across the new SAP S/4HANA and the connected satellite systems. In selective data transition projects, usually at least unit testing (UT), system integration testing (SIT), and UAT are executed. Often, volume or stress performance tests and regression tests are also planned. Before each of these tests, the data migration is usually tested (to test the migration process and to populate the test systems with data), and the migrated data is validated by the business. Best practice is to conduct at least one dress rehearsal of the productive cutover to test the cutover plan and ensure that everything is ready for go-live.

Even with all the information on the key questions, available options, complexity, and success drivers, it might be difficult to evaluate and make optimal decisions for your specific situation. The good news is that you aren't alone in this journey. SAP and its partners offer services that can guide you through the selective data transition project scoping phase and support your decision-making process.

3.13 Supporting Services from SAP

In the following sections, we'll provide a brief overview of SAP services that can help you with the topics discussed in this chapter. Certified SAP partners can offer services with a similar scope, content, and methodology, even if they have different names.

3.13.1 Instance Strategy Service

For customers who have consolidation and simplification of their landscape on their agenda, the Instance Strategy service gives guidance on the optimal target architecture. The service methodology follows a holistic approach to determine the best-fitting landscape for an enterprise, considering business strategy, deployment, operations, and technology. With an understanding of the customer’s specific transformation situation, architecture options are preselected, and the advantages and disadvantages of each are discussed in the context of the enterprise. After narrowing down the options, a catalog of SAP’s best-practice criteria (see Figure 3.8) is used to compare them in a qualitative and quantitative assessment.

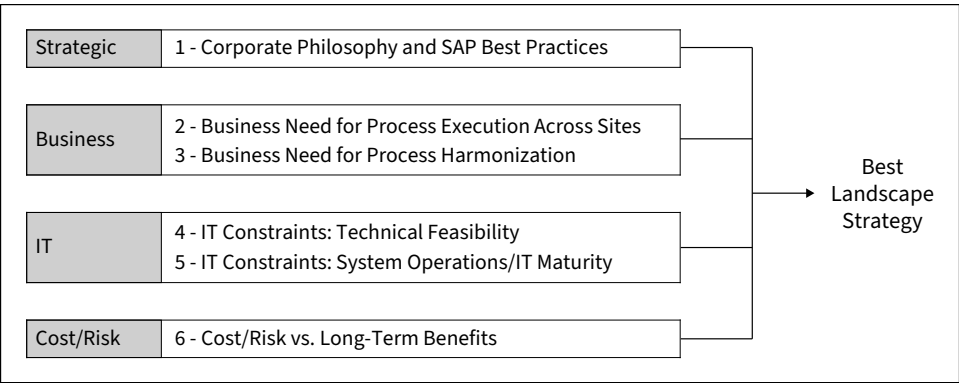


Figure 3.8: Instance Strategy Influencing Factors

Instance strategy is available as a module in the application architecture domain. The module can be delivered standalone as an instance strategy service or as part of a holistic architecture transformation service, for example, the North Star service. For standalone delivery, certain architectural artifacts, such as the business architecture and the high-level target application architecture, must be available as service inputs.

If the preferred instance strategy option is already selected, the service variant can be used to evaluate it from a SAP best practices perspective.

Depending on the requirements, the service can be extended to cover not only the number of productive systems but also the number of development systems serving them. Service can also cover how the landscape can support the rollouts and maintenance of the global and specialized templates (a group of harmonized processes used by all or multiple business units across the organization).

3.13.2 Integration Strategy Service

The integration strategy service provides orientation and guidance to define a strategic direction for a customer-specific integration architecture during SAP S/4HANA and/or cloud transition. The service includes a review of existing and planned solution landscape, current integration architecture, integration pain points, and concerns.

SAP Integration Solution Advisory Methodology will be explained to drive integration mid-ware decisions and define the overall integration strategy. Key integration scenarios (cloud, SAP S/4HANA, etc.) will be reviewed using SAP Integration Solution Advisory Methodology to help you define the integration strategy. In addition, the service covers different SAP integration technologies and products to help you better understand their capabilities and use cases.

3.13.3 Data Migration Architecture

If you're struggling with the selection of the SAP S/4HANA transition strategy or the selective data transition scenario, the Data Migration Architecture (DMA) service can guide you through the key questions, available options, and their pros and cons, and then help you make the optimal choice for your specific journey.

If the scenario is already selected, the service can help to highlight SAP Best Practices for SAP S/4HANA migration, review the existing DMA artifacts (if available), support you with a high-level data migration scoping, and safeguard your data migration plan.

3.14 Summary

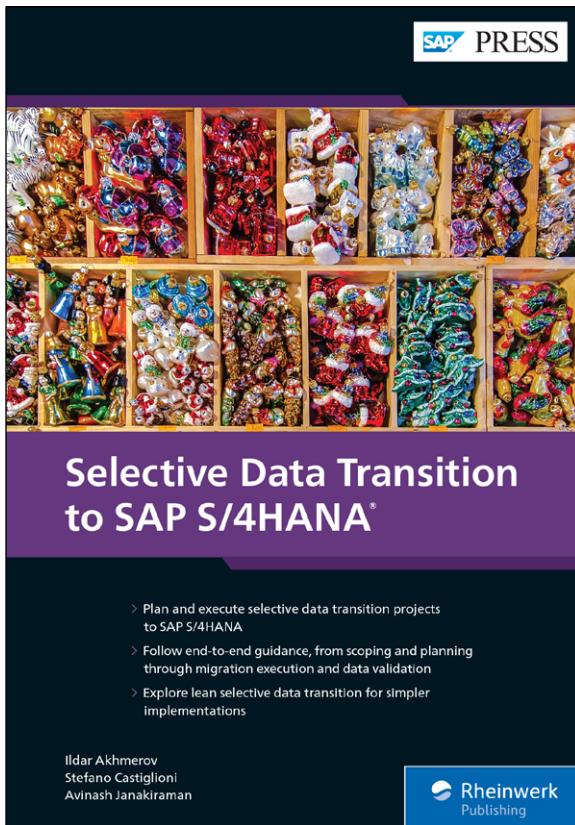
In this chapter, we discussed the most important questions that may arise during the scoping of the selective data transition project:

- What will my target landscape look like?
- Should I move to the target landscape via a big bang approach or in phases?
- Can I move the historical transactional data into the new system?
- What level of functional and structural transformations can be incorporated during the transition to SAP S/4HANA?
- What is the best approach to create the target system, considering this level of transformation?
- How should the data be migrated into the target system to cover my requirements?
- What selective data transition scenarios are available, and which one fits my needs best?
- When do I plan a go-live?
- What scenario should I choose for the downtime optimization?
- How do I choose an optimal selective data transition scenario to find the right balance between the value earned and the effort invested?
- How do I handle the integrated SAP and third-party satellite systems?
- What are the major complexities and success factors of the selective data transition project?

Sometimes these aren't easy to answer, but we tried to give you some options, hints, and examples from our practice to support your decisions. If you struggle to choose between a few options that look equally applicable or attractive to you, consider using the evaluation method:

1. Involve impacted stakeholders with decision-making rights in the evaluation process.
2. List the criteria important to your organization (aligned with its goals and strategy, pain points, budgets, readiness for the changes, and tolerance to the risks), and assign them weights based on their relative importance.
3. Compare the options and evaluate (score) them based on each criterion.
4. Calculate the weighted score for each option across all criteria, and identify (mathematically) the winner.

Moving this way from one key decision to another, you can find an optimal path for your specific situation, priorities, and requirements, even if, at the beginning of your scoping phase, you felt lost among the multiple options and ways. You must choose only one answer for each of the key questions at the end. This will give you the priorities-driven optimal transition scenario to plan, estimate, and execute. SAP and its partners can support you on this journey from scoping to planning and execution.



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Avinash Janakiraman

Selective Data Transition to SAP S/4HANA

- Plan and execute selective data transition projects to SAP S/4HANA
- Follow end-to-end guidance, from scoping and planning through migration execution and data validation
- Explore lean selective data transition for simpler implementations



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