

Whitepaper – Version 1.0

SAP S/4HANA[®] Selective Data Transition

Find out if Selective Data Transition is the right path for your journey to SAP S/4HANA[®].

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Management Summary

The SAP S/4HANA® Selective Data Transition Whitepaper is a “must-read” document for customers considering their transition to SAP S/4HANA®.

Next to the two SAP standard options for the transition to SAP S/4HANA® – New Implementation (aka greenfield approach) and System Conversion (aka brownfield approach) – a Selective Data Transition can be interesting for you as it combines several aspects of the options above and provides additional aspects that can add safety and flexibility to your individual transition path. A Selective Data Transition to SAP S/4HANA® goes beyond a standard New Implementation or System Conversion and is always performed within a customer-specific project. The aim of this paper is to explain the specific elements of a Selective Data Transition and provide you with key decision criteria that help you to decide if a Selective Data Transition is a possible path for you and your journey to SAP S/4HANA®.

The document includes a brief comparison of the transition options, but it sets a clear focus on the Selective Data Transition. To evaluate if a New Implementation or System Conversion addresses your needs, refer to the [practical SAP guide](#) as a starting point.

A Selective Data Transition to SAP S/4HANA®, combines a flexible redesign of business processes while retaining historical data aligned to a new business reality. In fact, it allows you to freely select the transferred set of data and leave non-selected data behind. For example, data belonging to obsolete organizational units.

An additional benefit is the possibility to flexibly re-organize the target system landscape and merge or split systems according to your requirements. This is often the case as organizations set up regional systems and/or split the landscape into different divisions.

In addition, the Selective Data Transition approach is ideally suited for customers looking for a phased Go-Live approach (for example county by country) and/or a minimized

downtime approach as the migration can happen in waves of organizational units.

To provide these benefits, the Selective Data Transition requires experience and a set of proven methods, tools and software. SAP has formed a global expert community (SAP S/4HANA® Selective Data Transition Engagement) to standardize this approach and guarantee a consistent quality of execution. The members of this community will engage with you and/or your partner of choice to provide you with a reliable and proven transition to SAP S/4HANA®.

This whitepaper provides IT decision-makers, IT architects and project managers of the SAP S/4HANA® Transition with a comprehensive overview about the pros and cons as well as the architectural assumptions behind the Selective Data Transition approach.

Selective Data Transition Compared to New Implementation and System Conversion of SAP S/4HANA®

The way you plan and execute your SAP S/4HANA® program will substantially influence your ability to adopt next-generation business processes and use the new capabilities of SAP products. Needless to say, making the right choices in this planning step is of great importance to the rest of your transition journey.

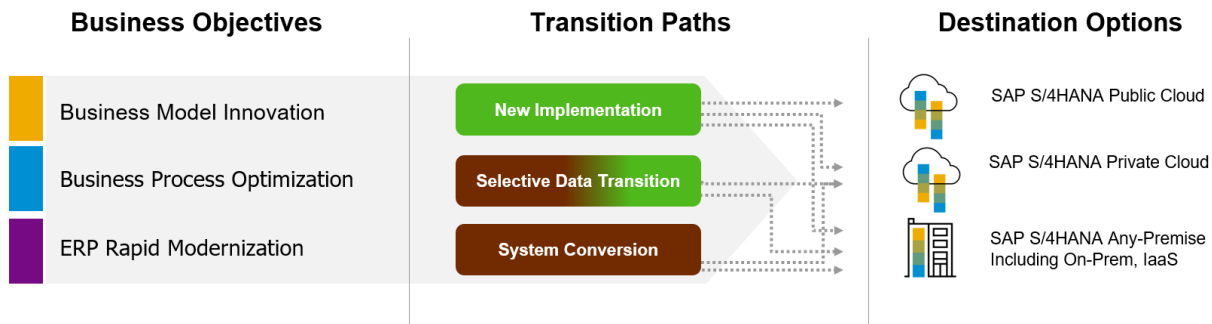


Figure 1: Transition Options to SAP S/4HANA®

With a **New Implementation**, you build a fresh SAP S/4HANA® system and either cut over to the new system (the so-called “big-bang” scenario) or migrate the individual business units sequentially from your legacy SAP ERP application to the new system (“a phased rollout”).

The SAP S/4HANA® Migration Cockpit is SAP’s recommended tool of choice to transfer business data to the SAP S/4HANA® target system. It loads data by using SAP standard APIs and offers preconfigured data migration objects for master data, open items, and balances. You can also transfer selected additional data using a Selective Data Transition approach.

With a **System Conversion**, you turn your existing SAP ERP system into an SAP S/4HANA® system. Technically, the System Conversion is

a one-step procedure with a single downtime that is comprised of the following:

- For SAP ERP on any database: a database migration to SAP HANA 2.0 (a new database system)
- A software upgrade, that is, replacing SAP ERP application code with SAP S/4HANA® application code
- A conversion of the data from the SAP ERP data model to the SAP S/4HANA® data model
- For SAP ERP powered by SAP HANA, transition to SAP S/4HANA® is an in-place conversion. It also requires an upgrade from SAP HANA 1.0 to SAP HANA 2.0 as an extra step within the conversion project.

A **Selective Data Transition** goes beyond a standard New Implementation or System Conversion and allows you to freely select the transferred set of data. This transition method also provides no restrictions to the SAP S/4HANA® target system's planned operation.

For a System Conversion, the full set of data remains in the system. Within a Selective Data Transition, you get the option to transfer less data and leave selected data behind. For example, data belonging to obsolete company codes could be left behind.

For a System Conversion, the business processes configured in the system remain as they are, except for any necessary adjustments resulting from data model changes or simplifications. Within a Selective Data Transition, you get the option to select process- or module-wise data in which you want to continue with.

Usually, the additional data is transferred with a table-based approach requiring special expertise. This normally includes transferring a certain amount of historical data. For example, you could transfer financial documents of the last 2 years, or you could transfer data belonging to long running projects. It is possible to leave data behind that is no longer needed.

In the end, there is no right or wrong way. Each customer needs to choose the option that allows him to continuously adopt SAP innovations in the future. For an overall view, *Fig. 2* shows a comparison of the three different approaches.



Criteria	System Conversion	Selective Data Transition	New Implementation
Type of project	SAP Standard	Individual expert project	SAP Standard
Process re-engineering	✗ Not included but possible in subsequent next steps	✓	✓
Phased rollout – orgUnit per orgUnit	✗ (full system converts at once)	✓	✓
Split/Merge of systems	✗	✓	✓
Data transformation (mapping, harmonization)	✗	✓	✓
Data cleansing	✗	✓	✓
Data Scope			
Full data set	✓	✓	✗
Initialize target system with master data, open items and balances	✗	✓	✓
Selected transactional history	✗	✓	✗
Source: Target System ratio			
1:1	✓	✓	✓
n:m (e.g. n:1, 1:n, 6:1)	✗	✓	✓
SAP S/4HANA® Installation Type			
On premise	✓	✓	✓
On premise, deployed in SAP HEC	✓	✓	✓
SAP S/4HANA® Private Cloud	✓	(✓) ¹	✓
SAP S/4HANA® Public Cloud	✗	✗	✓

Figure 2. Approach Comparison

¹) The Selective Data Transition suits for the SAP S/4HANA® On-Premise. In principle, the Selective Data Transition also supports a migration to the Private Cloud. The solution must follow the SAP Cloud roadmap and strategy and can therefore only be implemented in coordination with SAP. It must be ensured that the migration is carried out with and according to the standards, methods, content and, if necessary, also on a technology.

This paper will detail specific elements of a **Selective Data Transition** and help you to decide if a Selective Data Transition can address your requirements. Refer to the following chapters for details and decision criteria. For further information about New Implementation and System Conversion, refer to the [practical guide](#) SAP has provided.

The SAP S/4HANA® Selective Data Transition Engagement

In 2018, an increased demand for more flexible options to master the transition to SAP S/4HANA® was recognized in the market.

SAP responded to this demand by founding a group of partners that have a successful track record in system landscape transformation projects over the past years.

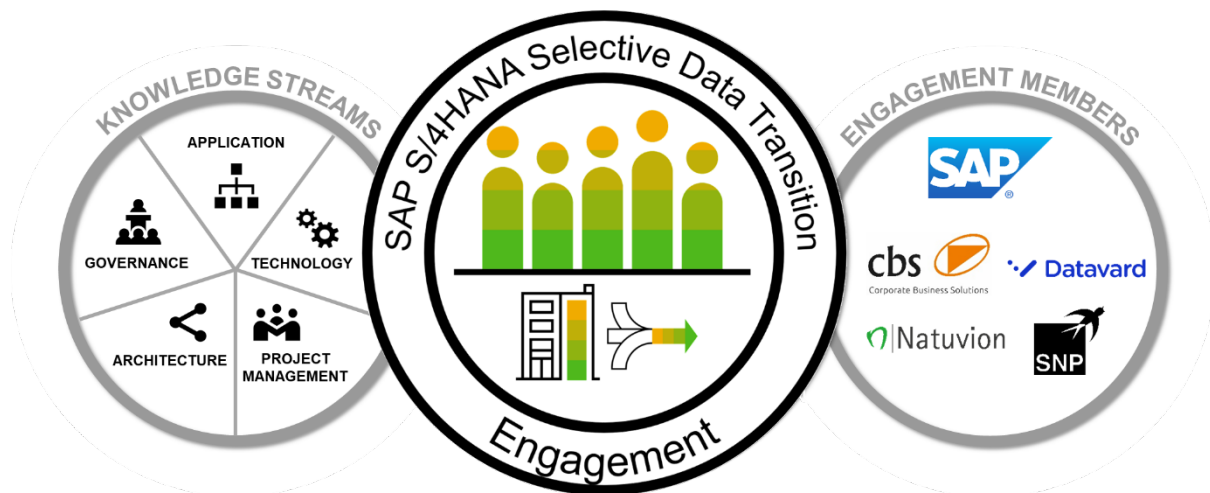


Figure 3. Founding Member Companies of the SAP S/4HANA Selective Data Transition Engagement

The main goal of the engagement is to use the combined knowledge and experience of all members out of several thousand successful SAP ERP migration projects to ease up the way to SAP S/4HANA®.

With their market experience, these expert companies established the table-based migration approach as a well-known and secure standard in the SAP ecosystem.

Combining the knowledge of the founding members will result in meeting the demand for more flexibility and assuring that the Selective Data Transition projects will be delivered with the same high-quality standards across the market.

This engagement was designed to help customers quickly move to SAP S/4HANA® while also speeding up the realization that this new transition method, the Selective Data Transition, exists to provide industry-wide standards.

What is the purpose of the engagement?

As the global expert community for SAP System Landscape Optimization (SLO) the SAP S/4HANA® Selective Data Transition Engagement establishes joint standards, methods and processes to provide customers with a reliable and proven transition approach to SAP S/4HANA®. The approach combines flexible redesign of business processes with retaining selected historical data aligned to a new business reality.

Within this engagement, SAP and partners agree on common principles for the procedure and quality standards in Selective Data Transition projects. SAP and Partner contribute in different functional and technical core competencies.

The engagement members create real customer value in the following areas:

- Quality standards for solutioning and project management
- Delivery of complex Selective Data Transitions to SAP S/4HANA®
- Aligned valid transition scenarios
- Best practices and solution patterns for resolution of transition scenarios
- A common approach for a tool-based transition

SAP S/4HANA® Selective Data Transition Engagement Members

The variety of requirements that can be covered with a Selective Data Transition projects is huge.

Typically, these projects are customer-specific and need a detailed assessment of what is involved in such a project.

SAP strongly advises customers to engage SAP Digital Business Services or specialized SAP Partners equipped with the necessary tools and experience with such an approach.

Partners who are members of the SAP S/4HANA® Selective Data Transition Engagement have advanced expertise and experience with Selective Data Transition projects in different functional and technical areas. The partners also know about the opportunities, risks, and complexities of a Selective Data Transition.

Members of the engagement collaborate with SAP in defining reasonable and feasible project, quality, and technical standards.

What does it mean to be a member of the engagement?

Being a member means to actively participate in the work areas defined by the engagement group. Each member needs to proactively contribute to the defined workstreams and complies with the engagement guidelines and standards defined.

SAP acts as moderator and is a member.

Being a member of the engagement does not represent an endorsement, approval or certification by SAP for the technical, functional and business logic of each partner solution.

Selective Data Transition in Detail

A Selective Data Transition represents an attractive mixture of the New Implementation and System Conversion approach. This means it combines advantages from both approaches in one and offers customers a high level of flexibility in the context of data transfer and process harmonization to the future SAP S/4HANA® system.

Characteristics

The main characteristics of a Selective Data Transition can be summarized as follows:

- The transfer of entire or selective historical data into SAP S/4HANA® is possible without limitations based on a table-based migration procedure
- The data transfer on database level allows a high-speed migration of high volumes of data with maximum flexibility
- A selective data transfer with flexible selection criteria can be realized (time-related and / or organizational selection)
- Within a transition, data can be changed (mapped) to fit into new structures or to follow new processes
- The source is an SAP ERP system. All product versions of SAP ERP can be supported.
- The target is an SAP S/4HANA® system (an empty target system created via shell creation, a newly implemented system or an already productive SAP S/4HANA® system)
- A Selective Data Transition usually requires a business downtime less than a weekend
- The data transfer from a source system can take place in a one-step approach as well as in waves (e.g. selective transfer of company codes / plants from a source system)

Benefits

In comparison to the standard approaches to move to SAP S/4HANA®, the Selective Data Transition approach provides the following benefits according to the area of usage:

Preparational tasks

Data and/or process harmonization could be combined with the Selective Data Transition in one step if desired. By doing so, preparational harmonization projects such as implementation of Business Partners, activation of New General Ledger or conversion to one chart of accounts can be avoided. The relevant changes to the data can be applied during the selective data transition, which can speed up your SAP S/4HANA® journey.

Business Impact

Using the Selective Data Transition approach, the cutover to the new system can be done without major business impact because document flow can be kept intact. Documents can be transferred in any state of processing.

Time

The overall project duration from design to implementation can be massively reduced when using a Selective Data Transition approach with selective process harmonization compared to setting up completely new processes with a New Implementation.

In addition, multiple IT projects can be combined in one initiative (e.g. Unicode conversion, relocation, ...) to save time and effort.

As data can be migrated in any state, more entities can move over to SAP S/4HANA® in one wave, therefore keeping business interruption to a minimum.

Scope

The Selective Data Transition allows the transfer of historical data. This can be scoped flexibly according to customer requirements and gives you flexibility to leave data behind that is no longer required.

A typical Selective Data Transition project can cover moderate customizing changes.

Combination with SAP standard tools

SAP standard functions can be used in a Selective Data Transition project. For example, the SAP S/4HANA® Migration Cockpit can be used to transfer open items and balances in Finance. A Selective Data Transition can be used to transfer exceptionally large volumes of master data or transaction history where required.

Mapping

Mapping and number range conversions can be implemented according to domain, data element and table field related transformation rules.

In addition, complex mapping rules can be implemented based on customer requirements.

Data Cleansing | Refinement

Data cleansing routines or the enrichment of data (e.g. populating non-used fields) is possible within a Selective Data Transition project.

Performance

Data extraction, transfer, and import can be optimally parallelized and load-balanced according to tables sizes and records.

To reduce the business downtime Near-Zero-Downtime procedures can be used.

Prerequisites

A Selective Data Transition is a helpful method to support complex projects.

Even if there are no 'hard' prerequisites it may be helpful to think about tasks that can be executed before a Selective Data Transition project. By doing so, you can reduce the complexity of your overall project and ensure the degree of changes performed in one step fits to your organizational capabilities.

Possible tasks that can be executed are:

Functional aspects:

- Implementation of Business Partner (CVI)
- Activation and implementation of SAP New General Ledger and New Asset Accounting
- Cleanup of data inconsistencies
- Archiving of unused data

Technical aspects:

- Change of repository objects (Unicode, HANA-DB, S/4 Readiness, ...)
- Switch to Unicode
- Migration to SAP HANA 2.0

Supported SAP S/4HANA® installation types

There are four deployment options for SAP S/4HANA® available.

- SAP S/4HANA® on premise
- SAP S/4HANA® deployed in SAP HEC
- SAP S/4HANA® Private Cloud
- SAP S/4HANA® Public Cloud

The first three options have nearly the same functional scope including support for 25 industries, but offer different deployment options, different contractual models and different service levels. All three offer various options for customers looking for a flexible and configurable solution to support their complex industry requirements.

SAP S/4HANA® Public Cloud is SAP’s standardized Software as a Service (SaaS) offering for customers looking to utilize a preconfigured and standardized Cloud ERP to support their core business processes or customers in the Professional Services industry.

Selective Data Transitions into SAP S/4HANA® Public Cloud are not supported.

The only possible option to migrate data into SAP S/4HANA® Public Cloud is by using the SAP S/4HANA® Migration Cockpit from SAP.



Figure 4. Supported SAP S/4HANA® installation types

¹) The Selective Data Transition is designed for the SAP S/4HANA® On-Premise. In principle, the Selective Data Transition also supports a migration to the Private Cloud. The solution must follow the SAP Cloud roadmap and strategy and can therefore only be implemented in coordination with SAP. It must be ensured that the migration is carried out with and according to the standards, methods, content and, if necessary, also on a technology.



Scope delimitation

The Selective Data Transition has a clear focus on moving data into an SAP S/4HANA® system. The Selective Data Transition itself does not cover the following:

- Transfer or adjustments of interfaces
- Transfer or adjustments of reports and forms
- Adaptation of custom code
- Selective transfer of customizing data

- Selective transfer of users, authorizations
- Changes to surrounding Non-SAP and SAP systems
- Data changes or deletion within a Standard System Conversion to SAP S/4HANA®

Depending on your requirements, your Selective Data Transition-partner can also support these topics with additional consulting services or recommend SAP partners with special expertise.

Driver for a Selective Data Transition

As the Selective Data Transition caters for a broad variety of requirements, it will always be delivered in an individualized customer project that goes beyond a standard New Implementation or System Conversion.

A thorough evaluation of the customer's requirements and the customer's individual situation is needed for a Selective Data Transition.

This section provides an overview about the typical complexity drivers for a Selective Data Transition project. Not all of them may be equally important in every case. However, they help you understand the essential trade-offs.

There is a huge variety of use cases for Selective Data Transitions that differ significantly with regards to complexity.

Different specifications are mentioned for each characteristic and their impact on the complexity of the Selective Data Transition project is explained.

Motivation to transfer historical data

When it comes to the transfer of business data that cannot be transferred using SAP standard functionality, people often have different aspects in mind.

However, the following factors could make a significant difference in outcome:

- Whether data shall be used for read-only purposes
- Whether data is needed as a starting point for machine learning (ML) scenarios
- Whether historical data is to be transferred to enable further processing for all business contexts solely in the target system, for example to handle returns or access plant maintenance history without the need to go back to legacy system
- Whether data from running processes / partly processed process chains needs to be made available (optimize business continuity and enable smooth cut-over)

Why historical data?

From a functional perspective SAP S/4HANA® does not require historical data, but...

1. *Data has to be made available e.g. for read-only purposes*
2. *Data is to be transferred to enable further processing for all business contexts (i.e. to handle returns or access plant maintenance history)*
3. *Data from running processes/partly processed process chains needs to be made available (optimize business continuity)*

Main reasons for historical data

1. *Make things easier for business users (no need to switch back and forth between the legacy and the SAP S/4HANA® system)*
2. *"Be on the safe side" by having all data of the last 1 or 2 years available*
3. *Avoid running the legacy system in parallel for an interim period of time*
4. *Eliminate the need for complementing projects, as setting up a decommissioning- or a data warehouse solution*
5. *A seamless business cutover without impact to running processes is enabled*

Practical Examples

Plant Maintenance

Historic information about maintenance, repair cases of equipment or functional locations allows a predictive planning.

Quality Management

Multi step quality inspection is not interrupted, stopped by a SAP S/4HANA® migration.

Production Planning

Long running production orders cannot be interrupted in the middle of a process.

Material Management

Consumption of materials in the last years, periods required for proper and reliable planning in future. No history could mean increasing of stock value and/or change of slow mover indicator and corresponding depreciation.

Sales and Distribution

Frictionless return processing, bonus calculation, complaints, warranty.

Finance & Controlling

Reporting out of one system possible, previous year comparison enabled.

In the majority of cases, transferring additional data addresses requirements such as the following:

- Make things easier for business users during the initial period (no need to switch back and forth between the legacy system and the SAP S/4HANA® system)
- “Be on the safe side” by having all data of the last 1 or 2 years available in the system, thus allowing comparisons at line-item level within the system
- Avoid running the legacy system in parallel to the new system for an interim period of time
- Eliminate the need for complementing projects, such as setting up a decommissioning solution or a data warehouse solution
- A seamless business cutover without impact to running processes is needed

There are several options for addressing requirements to transfer historic data. The best choice always depends on the customer’s specific needs and plans.

Current system landscape

The setup of your current system landscape, including the surrounding systems, is one of the main drivers to judge the complexity of a Selective Data Transition:

- Number and type of source / target systems
- Empty or already productive target system
- Number and type of satellite systems (SAP/non-SAP) and business scenarios to be considered. In this context the number of interfaces needs to be considered as well.

- Additional challenges might result if IT operations are outsourced

Big-bang vs. step-by-step

A Selective Data Transition allows the move to SAP S/4HANA® either as a big-bang or step-by-step procedure. Technically, a big-bang is the easiest way in most cases. When thinking about a step-by-step approach, please consider the following topics:

- A phased transition approach be on the level of organizational units (e.g. company codes) or groups of organizational units to minimize intercompany processes that cross system borders.
- A process-wise transition (e.g. central finance first) is not recommended
- Consider additional complexity due to double interfaces, finance consolidation, reporting, business processes that cross-system borders and doubles system maintenance during the operation of the old ECC and the SAP S/4HANA® systems.
- Effort to keep master data in sync in all systems

Similarity of source and target

The closer the source and target are regarding configuration and customer-specific extensions, the easier a Selective Data Transition will be. If the source and target vary significantly, it should be assessed if and to which extent a transfer of historical data is necessary (ranking of items indicates increasing complexity from C1 to C_n).

- C1. Customizing / configuration of source and target are the same except “must have” cases (e.g. data model, simplification items etc.)

C2. Customizing, structures and key elements of the target system differ significantly from the source system (e.g. because of using a New Implementation based on SAP Best Practices packages and / or SAP Model Company or a high degree of changes to today's configuration)

Complexity of data selection

With regards to the selection, it is the easiest way to take over everything. Nevertheless, in many cases it makes sense to transfer data to SAP S/4HANA® in a selective way. It is recommended to keep the selection criteria as simple as possible to avoid additional effort needed in the project. Typical selection criteria are (ranking of items indicates increasing complexity):

- C1. Take over everything
- C2. Select data based on simple criteria that can be used consistently throughout the data set (e.g. organizational units)
- C3. Select data dependent on key date (e.g. only the last 2 years)
- C4. Select data based on defined other criteria (e.g. open purchase orders only) and/or leave obsolete data behind (e.g. vendors without transactions in the last two years)

Degree of data changes

The more changes you apply to data that is transferred to SAP S/4HANA®, the more complexity is added to the project. The degree of changes must fit to your organizational capabilities regarding change (ranking of items indicates increasing complexity):

- C1. Migrate data "as is"

- C2. Execute 1:1 renames (e.g. Company Code 1000 to DE01)
- C3. Cleanse existing data (leave behind unused company codes, takeover only 2 years of history)
- C4. Harmonize data (e.g. clean-up, merge customers, vendors, materials; implement new chart of accounts)
- C5. Re-organize organizational units (e.g. merge or split company codes)

Data volume and performance requirements

Taking over large amounts of history and / or applying complex logic to data harmonization affects the runtime of the data transition itself. (ranking of items indicates increasing complexity):

- C1. A sufficient downtime window needs to be provided (typically one weekend)
- C2. High volume of data to be transferred combined with shorter downtime window increases complexity and hardware requirements
- C3. Near zero downtime approaches reducing the system downtime to a couple of hours adds significant complexity for the project and should only be utilized if absolutely necessary. In addition, near zero downtime approaches need a frozen environment (e.g. customizing freeze, limitations to data processing during the online migration)

Combine a transition to SAP S/4HANA® with new functionalities

The transition to SAP S/4HANA® is a quite complex task, especially when heading for the more complex topics mentioned above. Even if not directly linked to the data transition, please judge carefully if new functions and features shall be activated within or after a Selective Data Transition project. Doing everything in one step increases the complexity of the project and creates additional challenges for all who participate in testing. In addition, the effort for validation of completeness and correctness of the transferred data increases significantly.

Specific Selective Data Transition requirements in projects

Selective Data Transition projects can be seamlessly integrated in all existing project management approaches.

Typically, existing approaches need to be slightly enhanced by Selective Data Transition specific content to assure a smooth and streamlined project execution.

This specific content is based on the experience of all engagement members from previous projects. Additionally, the engagement members continuously execute best practice and risks review for each single project and

integrates new or changed requirements and tasks into the specific Selective Data Transition methodology.

This ensures a high quality, practice proven approach for all Selective Data Transition engagements driven by the engagement members.

We also recommend including the Selective Data Transition project team in typical preliminary activities and strategy findings before the transformation project starts. Already in the first considerations for the SAP S/4HANA® transformation, topics of data migration are relevant and should be considered as the basis for decision-making on "Selective Data Transition". This includes an As-Is and To-Be picture of the business model, operating model, IT strategy and system landscape. Also, organizational As-Is pain points and bottlenecks shall be identified.

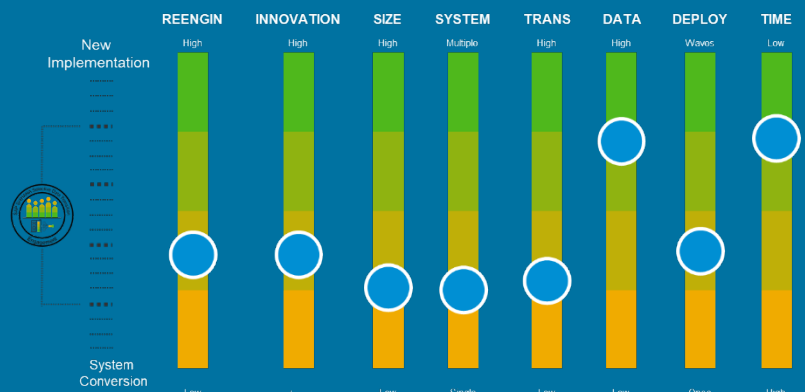
As an possible example we show the typical activities for Selective Data Transition projects based on SAP Activate below:

Decision criteria

In the various SAP S/4HANA® project contexts, we are often asked, which is the "right approach" for a certain customer's project. As mentioned earlier in the beginning of this whitepaper, there is no right or wrong. In the end it will be a decision the customer has to take.

This example shows a typical customer situation that we found in one of our workshops. In the end, the customer decided to go for a Selective Data Transition.

1. Process Reengineering (REENGIN)
2. No. of Innovations (INNOVATION)
3. System Size (SIZE)
4. No. of Source / Target Systems (SYSTEM)
5. Consolidation Requirements (TRANS)
6. Requirement of historical Data (DATA)
7. Deployment/ Cut-Over Scenario (DEPLOY)
8. Down-Time Requirements (TIME)



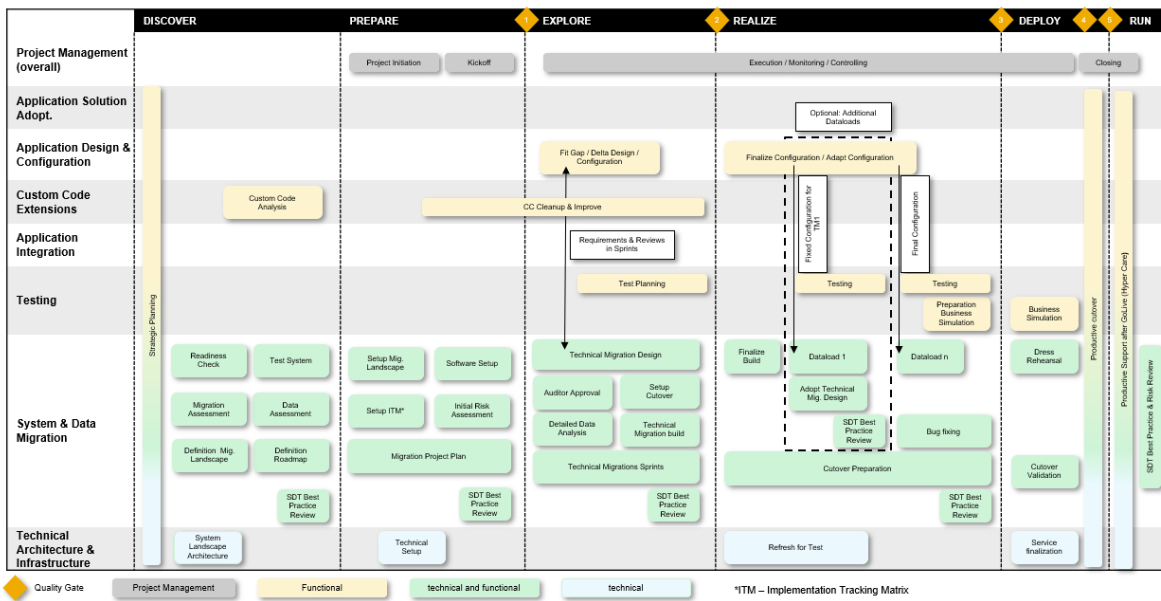


Figure 5. We show Selective Data Transition specific activities linked to the SAP Activate Methodology as one possible example.

Discover

In the Discover phase, the transformation tasks are evaluated.

As a first step initial analyses on data and processes are carried out.

In a second step, a Migration Assessment is executed to define the data transition (relevant migration objects, data usage, data volume) and process harmonization scope (which changes need to be carried out on existing data during transition, e.g. account numbers, order types).

Depending on the results and the degree of functional changes the work-split and responsibilities of the project team can also be elaborated. Typically, Selective Data Transition projects require significant involvement of functional resources and from key decision makers next to IT personnel.

Based on the results there will be a recommendation for the future system landscape setup and sizing – a test system with hardware comparable to the production setup is crucial to achieve fast and reliable transition results.

Prepare

In the Prepare phase, the necessary baseline activities for the Selective Data Transition are executed. This includes the setup of the transition landscape and the installation of the transformation software. In addition, a first version of a detailed transition activity plan will be formed. Next to defined roles and responsibilities a specific testing strategy including test scenarios and test cases shall be defined in this phase.

Explore

This phase can be performed with agile methods. For example, the results of the fit gap analysis can be gradually transferred to the data transition design and - if necessary - sharpened based on new findings. Within the data transfer, the Selective Data Transition takes place using specially developed transformation sets, in the course of which the data transition design can be validated and adapted. Already in this phase, the framework of the later cutover is defined.

The data transition design will be translated into physical data extraction and load processes. To validate the data transition design, data will be transferred and design transition documents (specification) will be adopted where necessary.

Realize

The Realize phase is based on the previously defined transformation process.

Final changes from the data transition blueprint will be implemented in the transformation software.

The continuous stability of the data transition requirements and the testing of the data transition requirements are decisive for the smooth process.

The duration of this phase depends on the complexity of the respective data transition scenario. Irrespective of the scope and degree of difficulty of the project, experience has also shown that it is generally advisable to carry out at least two complete data transitions (test cycles) followed by an end-to-end process test executed by the customer. If the project is very complex, an additional data transition in a test cycle is highly recommended.

Based on test results the data transition rules and settings in the design transition document will be updated if necessary.

In parallel the cutover plan will be refined.

Deploy / Run

The Deploy / Run phase marks the successful completion of each transformation process. Here the Go-live is simulated based on the cutover plan defined in advance, followed by the final business testing and release of the system for production. Since the latest findings are always taken into account and can be incorporated into the final test run, the go-live runs smoothly and without unforeseen incidents.



Quality Gate / Milestone

A Project Quality Gate / Project Milestone is a formal way to check the key deliverables of a project apply to global and local standards.

A Quality Gate provides oversight and early visibility into potential risks and issues. It has a profound impact on reducing project risk and driving Customer Value.

Five Quality Gates are scheduled to prove whether we are able to:

- Be on track
- Complete our deliverables according to plan
- Fit for purpose
- Systematically manage the risks
- Start the next phase without delay

Note: A Quality Gate does not represent a check by SAP and SAP S/4HANA® Selective Data Transition Engagement in regard to technical, functional and business logic of a Selective Data Transition project under a partners' responsibility.

Technical Approach

This chapter gives a first insight into the transition technology used in Selective Data Transition projects, the technical approaches where a Selective Data Transition can be used and some information about the necessary system landscape.

Table-based transition approach

A Selective Data Transition project typically uses a transition approach of writing data directly into the SAP HANA database bypassing SAP application logic.

This procedure is often referred to as “System Landscape Optimization” (SLO).

The table-based approach adds enormous flexibility to the data transition itself. In contrast to classical SAP application-based procedures (like Legacy System Migration Workbench (LSMW²), SAP S/4HANA[®] Migration Cockpit or others) there is no technical limitation regarding the scope of data that can be transferred. A Selective Data Transition allows to takeover and change historical data (like FI documents from previous years). This approach is also much faster than standard-SAP technologies and allows to move over millions of records in just a few minutes.

Within the data transfer changes to data can be freely defined as desired by the customer.

On the other hand, a Selective Data Transition needs additional testing and validation effort by the customer to assure that the transferred data is working exactly in the state as desired.

Creation of target system

A Selective Data Transition can be used in different scenarios. This section will give you some guidance for the options a Selective Data Transition can offer.

New Installation

A Selective Data Transition can also be used to complement a New Implementation.

‘New Implementation’ refers to an SAP S/4HANA[®] system that is newly build (e.g. on basis of the SAP model company, SAP best practices or completely new customized systems).

Using the SAP standard approach (SAP S/4HANA[®] Migration Cockpit), only master data and open items can be transferred to the new system.

Customers often want to have historical data or partly processed data in the system. This can be achieved by using Selective Data Transition technology if the configuration changes between source and target are moderate.

²Legacy Migration Workbench (LSMW) is on the simplification list, see SAP note 2287723

Re-use of existing installation

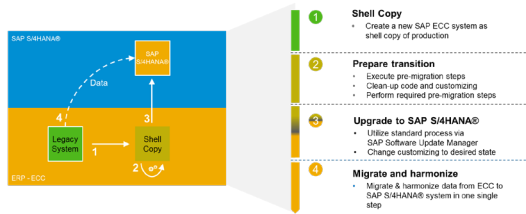


Figure 6: Typical Selective Data Transition system setup

The foundation of a typical Selective Data Transition project is a shell creation which is also known under different terms including container copy and lean system copy.

The first step of this approach is a copy of the SAP ECC 6.0 without master and transactional data – but including customizing and repository.

As a result, there is an empty SAP ECC 6.0 system that can be easily converted via System Conversion to SAP S/4HANA®.

In this empty SAP S/4HANA® system, the required changes to customizing and repository can be applied. For example, you can change the chart of accounts assignment to company

codes, remove unused company codes from customizing or setup new processes.

After changes to the system setup have been completed, the Selective Data Transition approach will be used to transfer data from source system (or systems) to the SAP S/4HANA® system.

As already mentioned, the scope of the data transition (amount of data to be transferred and changes applied to data) can be freely defined depending on the business need.

Productive SAP S/4HANA® installation

If you are already operating an SAP S/4HANA® system, it is of course possible to transfer data into this system following a Selective Data Transition approach.

This scenario is also applicable when you think about a wave-based transition to SAP S/4HANA® using the standard System Conversion procedure.

System landscape, requirements, and performance

A Selective Data Transition project needs a dedicated test system landscape within the complete course of the project. The test system landscape should be sized like the production landscape and includes close to reality data to safeguard the data transformation.

Within the project, there will be a couple of test transitions (usually 3-4, depending on scope and complexity) where the relevant data set will be migrated to SAP S/4HANA®. Each test transition requires a system refresh of the test system landscape (source and target) from production. When it comes to the productive data transition, usually a system downtime is necessary (the SAP system will be exclusively used by the Selective Data Transition team). The system downtime is restricted to a regular weekend in most cases to keep the transition as smooth as possible for the business users.

If a system downtime is not an option for your company, a Selective Data Transition also offers so-called 'Near-Zero-Downtime' (NZD) scenarios using additional technology to restrict the technical downtime to a couple of hours only. When thinking about a Near Zero Downtime scenario please be aware that this will add additional complexity, risk, and effort to the project.

To keep a complex Selective Data Transition project as simple as possible this should be the last possible option to be chosen.

For projects with longer duration, a dual maintenance concept is necessary. Regular updates (corrections, transports, and so on) of the test landscape have to be ensured. This can be done manually or semi-automated (e.g. SAP Retrofit). Usually there is no fully automated process to cover this requirement.



Real Customer Use Cases

In this section, we have outlined some real customer cases where Selective Data Transition provided benefits when choosing this approach. These use cases can be combined or altered based on customer requirements.

Speed up your journey to SAP S/4HANA®

Current Situation: Customer A is using an SAP ECC 6.0 (EhP0) system on Non-Unicode and Oracle 11. In addition, Classic General Ledger is still in use and Finance processes are not harmonized (one chart of account / controlling area per company code).

Customer Challenge: As a preparation, the customer developed an SAP S/4HANA® roadmap with several pre-projects to bring the system in a state where a System Conversion will be used as the final step to SAP S/4HANA®.



Figure 7. The customer's original plan was to do 4 pre-projects followed by a System Conversion having a total project runtime of more than 4 years.

Selective Data Transition benefits: By using a Selective Data Transition approach there is no need to split the journey into several projects. With this approach, each requirement mentioned above can be combined in one single project.



Figure 8. In the end, the customer realized the way to SAP S/4HANA® in only one year.

During the data transition to the new system, the data is transferred and integrated directly into the corresponding parallel ledgers of the

general ledger. Each individual posting that will be transferred historically should be transferred to a corresponding ledger group. The transfer to a specific ledger will be based on the content of every single document line item. With the Selective Data Transition, it is not necessary to implement New General Ledger functionality prior to an SAP S/4HANA® transition. The data transition is also combined with G/L account harmonization. It is also possible to reorganize or consolidate previously used special ledgers, for example Cost of Sales Accounting or Profit Center Accounting, into one unified source of truth based on the SAP S/4HANA® universal journal (ACDOCA).

Move to SAP S/4HANA® step-by-step

Current Situation: Customer B is running a single client SAP ECC 6.0 system for all entities around the world (nearly 200 company codes on 4 continents). Existing processes are in good shape and there is no need to implement big changes.

Customer Challenge: A typical use case in this situation would be a System Conversion. Unfortunately, the customer is not able to handle the organizational change for all entities using a big-bang approach. Therefore, the customer is looking for a different approach.

Due to long running processes and business needs for historical data in the system, a New Implementation is also not possible.

Selective Data Transition benefits: By using a Selective Data Transition approach, the system can be moved to SAP S/4HANA® in several steps (e.g. company code per company code or region by region) to make the move to SAP S/4HANA® more convenient for the customer's IT and business. With the selective approach, historical data to be taken over can be freely defined.

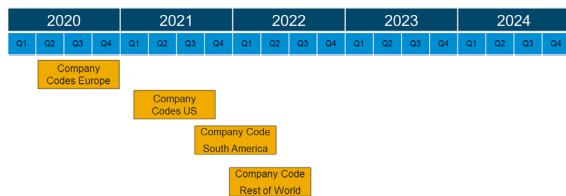


Figure 9: Company Code based approach

Takeover of selected processes / data only to SAP S/4HANA®

Current Situation: Customer C has an SAP system with some old company codes that are no longer needed. The customer has also activated SAP Quality Management (QM) that is no longer needed for future business.

Customer Challenge: By using a System Conversion, there is no possibility to clean up the system as desired.

Selective Data Transition Benefits: With a Selective Data Transition approach, unused company codes and unused processes can be left behind in the source system. No preliminary activities like archiving are necessary in the source system.

Transition of multiple ERP's into one SAP S/4HANA®

Current Situation: Customer D has grown in the past by acquisitions of several legal entities with different structures, e.g. chart of accounts and controlling areas. As a result of the external growth strategy, the system landscape is shaped by many different systems, releases and approaches to report according to international accounting standards.

The board of the customer launched a strategic program to increase efficiency and reduce costs. Business and IT departments contribute to this plan by standardizing, harmonizing, and centralizing the business processes and IT infrastructure. A clear roadmap has been defined to implement harmonized structures in a new SAP S/4HANA® instance. All resources are focused on the future state and investments into the existing systems are

reduced to a minimum. Legacy ERP's should be completely switched off after the transition to SAP S/4HANA®.

Customer Challenge: To consolidate the system landscape as desired and achieve the desired degree of harmonization, a New Implementation would be the standard option to be chosen.

SAP standard data migration tools do not support the transition of historical data.

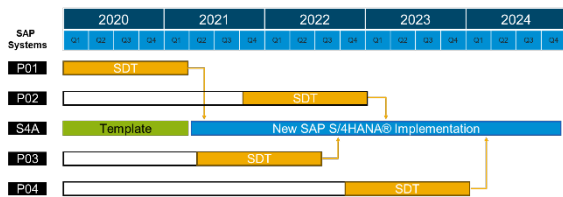


Figure 10: Selective Data Transition in a multi-System environment.

Selective Data Transition benefits:

The Selective Data Transition approach supports this customer scenario. All business-relevant data from several source systems is transferred into the new structures in the SAP S/4HANA® target system. If the data transition also covers all audit-relevant historical data, the old systems can be taken down after a couple of months.

Data transition into a running SAP S/4HANA®

Current Situation: Customer E is already live with SAP S/4HANA® 1809. Due to recent acquisitions, a new company using SAP ECC 6.0 was bought and should be integrated into the SAP S/4HANA® system.

Customer Challenge: To assure business continuity, the acquired company should be moved to SAP S/4HANA® including historical data and some process alignments (e.g. usage of global chart of accounts). The usage of standard migration tools would not fulfill this requirement.

Selective Data Transition Benefits: By using a Selective Data Transition approach, the data of the acquired company can be transferred and harmonized within a one-step data transition to the live SAP S/4HANA® system.



Success Criteria for a Selective Data Transition

A Selective Data Transition is typically not a pure IT project. Due to changes in processes and data, the drivers and main contributors are the people from the business side of your company.

To start a Selective Data Transition project successfully, an adequate and timely contribution by business / application resources is needed throughout the complete project to:

- Clarify business requirements and represent business departments' perspectives
- Answer questions about business processes and application usage
- Provide information on customer-specific domains, tables, programs, and modifications
- Define mappings (e.g. when moving to a new chart of accounts)
- Conduct comprehensive application tests and approve transition results

Based on the number of process changes that come with a Selective Data Transition project and the acceptance of the new solution, please also consider that an effective change management will help you to explain and communicate process changes, functional harmonization and the usage of new User Interfaces.

Also be aware to consider which amount of process changes your organization can bear at a single point in time.

To alleviate some project efforts during a Selective Data Transition project, consider executing some of the following activities beforehand:

- Custom code optimization
- Identification (and probably correction) of inconsistencies
- Housekeeping
- Data archiving
- Implementation of must do's like Business Partners

Make sure to consider requirements of auditors, internal revision etc. early in the project (recommendation: after first test transformation at the latest).

Another key success factor in Selective Data Transition projects that is often underestimated by customers is the quality of tests and the test landscape. The test landscape needs to be setup and sized like the production environment (especially regarding CPU, memory, etc.). A concept for a parallel system landscape as well as a maintenance plan must also be available to cover the complete project duration.

In-depth functional testing (technical and business-related) is extremely important to assure a smooth transition to SAP S/4HANA® without any hurdles or major issues after the system will be live.

Next Steps & Contacts

Do you want to further explore a Selective Data Transition to address your business requirements? Get in touch with one of the members of the Selective Data Transition Engagement.

As a first step, we can together evaluate if standard SAP transition approaches (New Implementation or System Conversion) can fit your requirements or if a Selective Data Transition is the best choice for your company.

In a second step we can also help you to define your journey to SAP S/4HANA® in detail.

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