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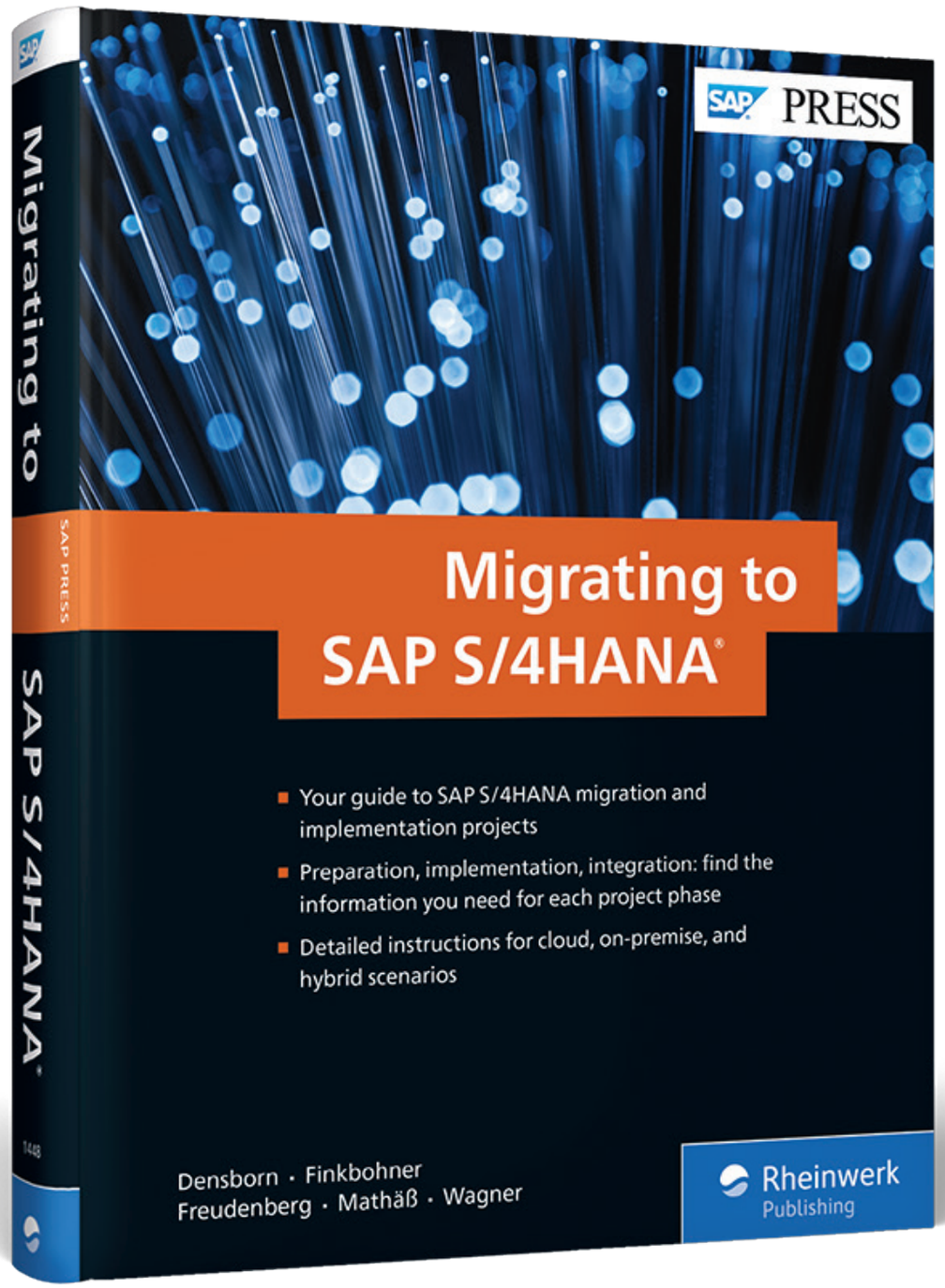

Reading Sample

By 2025, all SAP customers should migrate to SAP S/4HANA. With this book, determine your individual requirements and start your migration project! The authors or this book will help you plan and prepare transition strategies. In this chapter, we'll explore the three most important migration scenarios.

"Preparing the Migration to SAP S/4HANA"

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Chapter 4

Preparing the Migration to SAP S/4HANA

This chapter introduces the three migration scenarios covered in this book.

Which steps should you consider when planning your migration project to SAP S/4HANA? How does SAP support you? Can the migration be compared to an upgrade within the SAP ERP product family? This chapter answers these questions. Furthermore, we'll introduce three possible migration scenarios: a new implementation, a system conversion, and a landscape transformation. The last chapter of the book, Chapter 14, then looks back at these scenarios and summarizes their advantages and disadvantages under different conditions.

4.1 Basic Considerations

Upgrade or product implementation?

Migrating to SAP S/4HANA offers many benefits, but to ensure a smooth migration, you must be aware of your specific reasons for migrating. Consequently, you should not plan to migrate to SAP S/4HANA as an update or upgrade of an already implemented solution. The functional and business scope of SAP ERP and SAP S/4HANA are similar, but this migration will introduce a new digital core to your enterprise that ensures future competitiveness.

What needs to be taken into account?

You should (at least) answer the following questions, which will be discussed in more detail later on in this section:

- **Which target status do you want to achieve?**
  What position is SAP S/4HANA supposed to take in your system landscape? Do you want to execute a proof of concept, or do you want to use SAP S/4HANA immediately in production? Can you use the migration as

an opportunity to optimize how your processes are mapped in the enterprise software?

- **Which operating model suits you?**
  Do you want to run SAP S/4HANA at your own data center or through a hosting service? Or, do you want to use SAP S/4HANA as a software-as-a-service model?
- **What is the initial situation?**
  What is the current product version of your source system? What is the quality of the data in your source system? How strictly do you leverage the SAP Standard, and how many custom enhancements exist? Do you want to use a system as a template?
- **Which users do exist?**
  How many users exist, and how are they distributed? Which user groups are expected to benefit from the implementation of SAP S/4HANA?
- **How is the solution to be used?**
  Which business scenarios and transactions are to be used? How are these requirements distributed across your users?
- **What is your defined time frame?**
  Within what period of time is the project supposed to be completed? Which milestones need to be reached and when?
- **Do you need support?**
  What kind of support do you need? What is your budget? Which services do you expect to purchase and which services can be provided in-house?

Preparing for the coming decades

The more aware you are of the significance of SAP's digital core, the more added value SAP S/4HANA can usually generate: The basic concept of SAP S/4HANA is its pledge to prepare enterprises for the challenges of the coming decades. Restricting yourself to a purely technical update of existing systems and landscapes would be an inadequate simplification. You should analyze whether your processes have grown as well as whether your system landscape will be sustainable in the future or whether its structure is obsolete and should thus be adjusted.

Technical and process-oriented parts

Thus, when migrating to SAP S/4HANA, you'll have to consider at least two parts of the implementation: the purely technical part and the process-oriented part (see Figure 4.1).

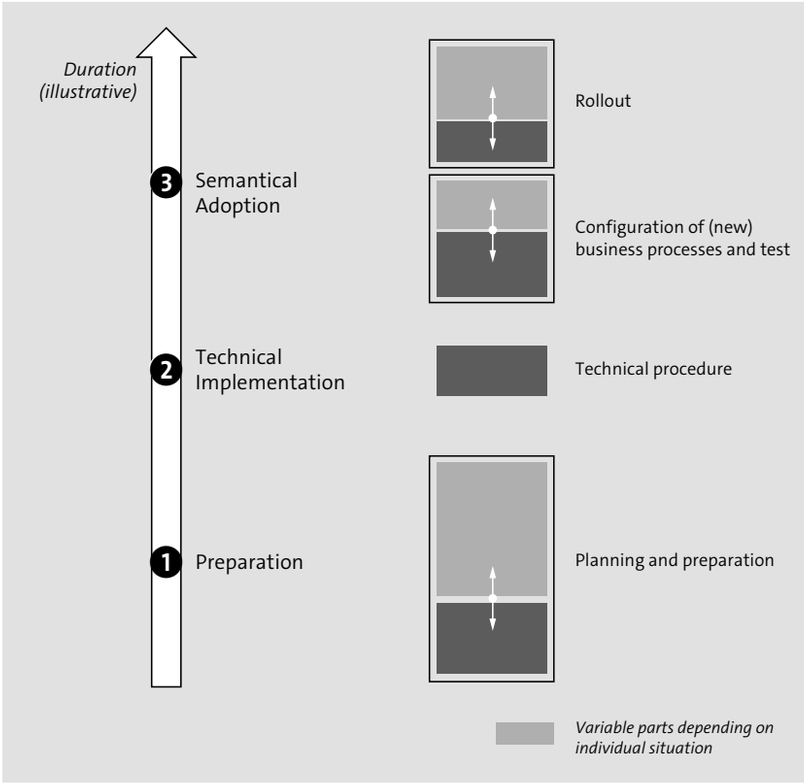

Figure 4.1 The Main Parts Migrating to SAP S/4HANA

- **Technical implementation**
  The technical implementation of a migration mainly includes migrating the database to SAP HANA, replacing the program code, adapting data models to the SAP S/4HANA data model, and implementing the frontend server for SAP Fiori interfaces. Your existing custom code might also have to be technically adapted.

  These activities generally do not depend on the scope of subsequent use in production and can easily be implemented using the relevant tools and can therefore be technically controlled and supported. Thus, SAP provides a comprehensive portfolio of tools for planning and carrying out this technical implementation.

- **Process-oriented implementation**
  The process-oriented implementation of a migration refers to adapting how existing business processes are mapped in the system and to introducing new applications. These modifications to business processes are only partially carried out in the system itself. In most cases, you can only enter indicators, such as changed configuration information. Regarding planning, however, you'll have to perform far more comprehensive change management steps. These steps include, for example, designing your new changed business process, configuring necessary measures, training users, assigning roles and authorizations, pilot operation, and converting the production system.

Tasks in the individual phases

The following tasks can be assigned to these outlined phases:

❶ Preparation (preparatory steps in the source system):
- Analysis of existing business process implementation; comparison with SAP S/4HANA innovations
- Identification of the necessary integration scenarios
- Prechecks in the source system, for example:
  - Functions used
  - Industry-specific enhancements
  - Custom code
  - Third-party enhancements
- Implementation of necessary preparatory conversions in the source system

❷ Technical implementation:
- Installation of SAP S/4HANA
  - SAP HANA database
  - SAP S/4HANA applications
- Adaptation of the technical infrastructure
- Customizing

❸ Process adaptation:
- Adaptation of custom programs in SAP S/4HANA
- Development of new or enhanced business processes to leverage the innovations in SAP S/4HANA

- Adaptation of integration scenarios
- Customization of SAP Fiori interfaces

The time and effort required for the process-oriented implementation—depending on the initial situation and target status—can account for either a small or a large part of the overall process. Thus, we recommend dividing the migration project into the three phases we just described because the process-oriented implementation, in particular the implementation of new business processes, does not have to be carried out in parallel to the technical migration.

Process Migration and Technical Migration as Separate Steps

In general, you can plan the introduction or migration of your business processes independently from the technical migration.

Parallel project phases

Figure 4.2 shows one possible approach for introducing SAP S/4HANA to your enterprise: In the project, you prepare and implement new functions in batches, while the users continue to use the existing functions.

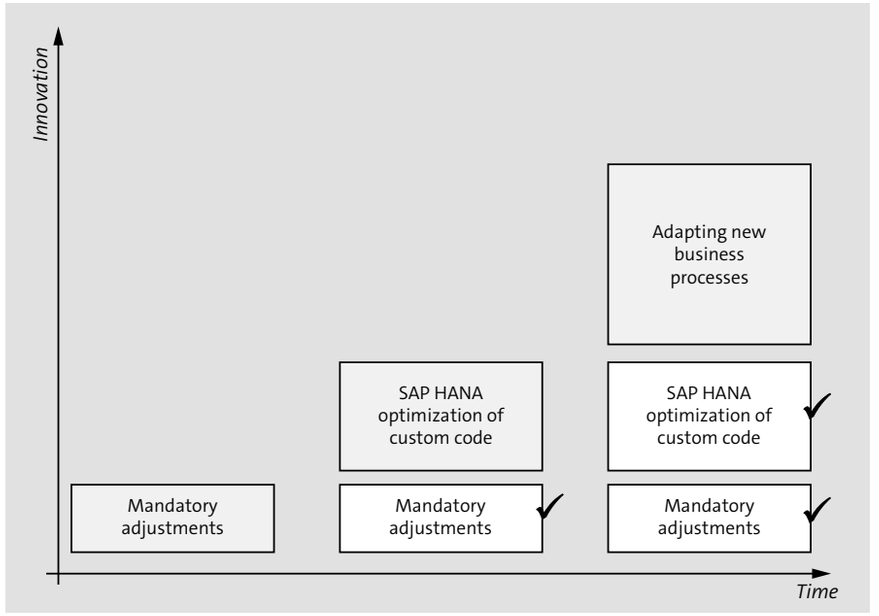

Figure 4.2 Parallel Preparation and Implementation of New Functions

A prerequisite for optimal project planning is knowing the desired target state. While this prerequisite might sound rather trivial at first, SAP S/4HANA migration projects often fail to describe the goal of the migration in detail and rely on vague statements like "implementation of SAP S/4HANA."

Analyzing the trade-off at an early stage

Migrating to SAP S/4HANA has a general trade-off that you should be aware of, in particular if your initial state includes an SAP ERP system or SAP landscape: The more properties of the source system you decide to keep unchanged (e.g., configuration, custom code, or applications), the simpler the (technical part) of the migration project. However, the benefit that can be derived from SAP S/4HANA in this case might also be reduced because the major benefits from SAP S/4HANA are optimized business processes, simplified user interfaces, and greater flexibility for future requirements.

Therefore, you should always analyze this trade-off. Possible analysis criteria include the following:

- **Type of usage**
  Is the target system used for production, or do you want to execute a proof of concept first? In the latter case, you should carry out a greenfield implementation with selective data transfers.
- **Total cost of ownership**
  SAP S/4HANA enables you to reduce the total cost of ownership (TCO). Examples include a reduced *data footprint*, that is, the storage space for application data in the database is reduced (see Section 4.2.2). Another dimension are reduced requirements for your internal IT department because local SAP GUI installations at employee workstations can be avoided. If your explicit goal for the migration is to lower the TCO, you should also analyze where custom enhancements can be omitted or replaced by SAP S/4HANA applications. Furthermore, you should examine the extent to which multiple existing ERP systems can be merged into one SAP S/4HANA system. In addition to the reduced TCO, users benefit from access to real-time data from the systems that were previously separated.
- **Operating model**
  Is SAP S/4HANA to be operated in the cloud or on-premise? The two operating models have different characteristics that need to be analyzed. In simple terms, outsourcing the system administration to the cloud is attractive, especially for standard business processes.

- **Target landscape**
  How is the entire landscape supposed to change? Are systems to be consolidated? Are systems to be separated (e.g., financial accounting and material requirements planning)? How is the existing architecture to be adjusted?

Remember that you usually also have to set up and configure the front-end servers for SAP Fiori, which are required for the new SAP S/4HANA functions.

SAP implementation methodology

SAP recommends a methodology with six phases for project planning and implementation: *discover*, *prepare*, *explore*, *realize*, *deploy*, and *run*. This methodology is called *SAP Activate*, which we'll describe in detail in Chapter 5.

When referring to migration activities in this book, we assume that you have already opted for SAP S/4HANA. We'll assume the discovery phase—during which enterprise priorities are identified, the target architecture is defined, the business case is optimized, and a readiness check is carried out—has already been successfully completed. Our focus is on the technical implementation of the migration and less on process-oriented implementation. We assume that you have selected and defined the characteristics of the business process scope in a separate business implementation project.

Preparation with Trial Access

If you have not completed the discovery phase yet, you should test an SAP S/4HANA system. For this purpose, SAP provides trial access to a cloud instance of SAP S/4HANA that is only valid for a limited time. For more information on these trial systems, see Chapter 6.

4.2 The Three Migration Scenarios

SAP has defined several technical scenarios for the introduction of SAP S/4HANA and also provides the corresponding tools. When planning the migration, you should select the scenario that meets your individual requirements best. The following sections introduce the individual scenarios and describe the advantages and disadvantages of each approach.

Part III then discusses the different scenarios in detail. Three basic scenarios for the migration to SAP S/4HANA exist (see Figure 4.3):

- New implementation of SAP S/4HANA
- System conversion to SAP S/4HANA
- Landscape transformation with SAP S/4HANA

The landscape transformation also includes the steps of the first two scenarios and complements them to further benefit from SAP S/4HANA.

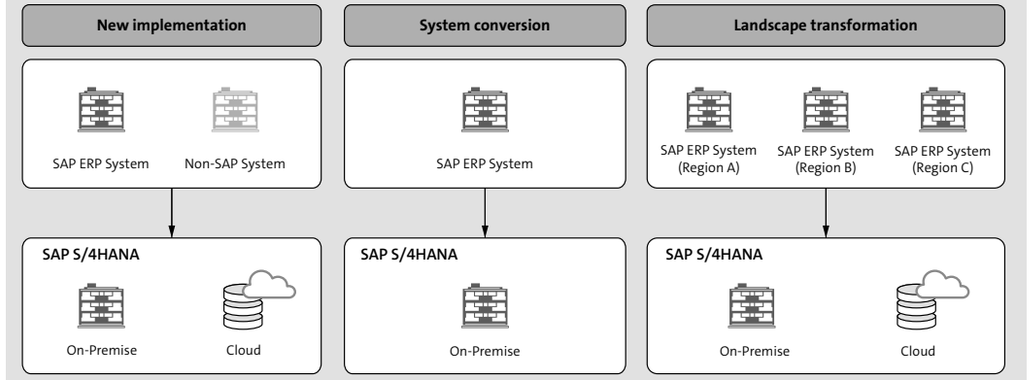

Figure 4.3 The Three Scenarios for the Migration to SAP S/4HANA

Except for the system conversion, all three scenarios allow you to choose whether you want to implement SAP S/4HANA as a software as a service (SaaS) in the cloud or as an on-premise implementation (see Chapter 3, Section 3.1).

4.2.1 New Implementation of SAP S/4HANA

Installing a new system

From the technical perspective, this scenario is based on a completely new installation of SAP S/4HANA. In this scenario, we'll use the *Software Provisioning Manager* (SWPM) to download and set up an SAP S/4HANA system from the available SAP installation media, creating a new system with a new System Identification (SID). In addition to this ABAP instance, a frontend server is also installed, which will be the central hub for operating the SAP Fiori user interface.

Customizing

At first, the new system is delivered with a standard configuration. You'll then have to adapt the configuration to meet the requirements of the business processes you want to implement.

Data migration

The new system can be fed data from a source system, using the *SAP S/4HANA migration cockpit*, a tool that has been developed for SAP S/4HANA. Whether the data is from an SAP system or from a non-SAP system does not matter. When the data has been transferred, you can replace the source system with the SAP S/4HANA system (see Figure 4.4).

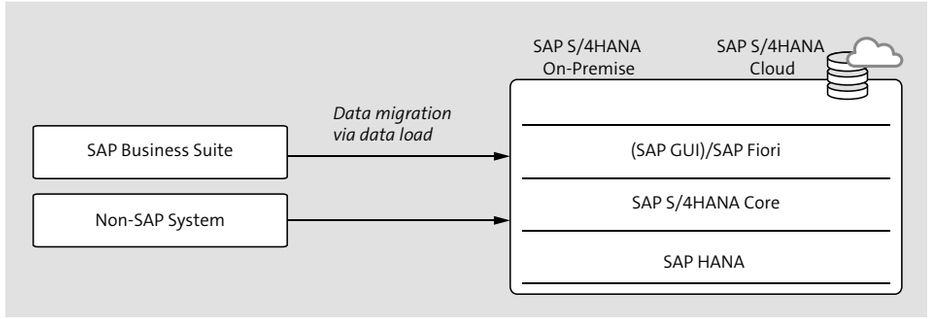

Figure 4.4 New Implementation of SAP S/4HANA

Supported migration objects

SAP provides predefined models for the data transfer, so-called *migration objects*. These objects regularly get updated or new objects added with new SAP S/4HANA versions. Table 4.1 lists which migration objects are supported at the time of this writing (SAP S/4HANA Cloud 1611 and SAP S/4HANA 1610, on-premise).

For more details on using migration objects, see Chapter 7, Section 7.3.1, (for cloud editions) and Chapter 11, Section 11.2 (for on-premise editions).

Supported Migration Objects When Using the Migration Cockpit		
Activity Price	Exchange Rate	Bill of Materials (BOM)
Internal Order	Inventory Balances	Work Center
Profit Center	Material Master	Routing

Table 4.1 Supported Migration Objects for Data Migration Using the SAP S/4HANA Migration Cockpit

Supported Migration Objects When Using the Migration Cockpit		
Bank Master	Material – Long text	Equipment
Customer	Purchasing Info Record	Maintenance Task List
Supplier	Purchase Order	Functional Location
Accounts Receivable (Customer) Open Item	Pricing Condition	Characteristic
Accounts Payable (Vendor) Open Item	Contracts (Purchasing)	Class
Fixed Assets incl. Balances	Source List	Commercial Project Management (CPM)

Table 4.1 Supported Migration Objects for Data Migration Using the SAP S/4HANA Migration Cockpit (Cont.)

Default data fields, the format, and—if available—relationships or references to other business objects are defined for each of the business objects in migration objects.

Following the simplification concept, only the most important data fields of each object are already activated in this predefined content. If needed, you can optionally display additional fields, if available in the SAP Standard. Custom fields (in custom namespaces) can also be supplemented. For on-premise implementations, you would use the SAP Landscape Transformation (LT) Migration Object Modeler (LTMOM) transaction for this purpose; for cloud solutions, please contact the SAP service team.

Overview of the migration project

The selected migration objects are transferred to the project view of the SAP S/4HANA migration cockpit. In the cockpit, at any time during the data transfer, you'll be able to see what object data still has to be loaded and for which objects the migration has been completed.

The source system data is formatted manually as required. If data needs to be cleansed (for example, if duplicates need to be identified and eliminated), you should address these issues before migrating the data. The cleansed data from the source system is stored in a file in a format defined by SAP. The relevant templates are provided by default.

Uploading to SAP S/4HANA

In the next step, this file is uploaded. Basic inconsistencies in the data that is planned to be imported to the target system or conflicts in the configuration are determined by tools and can be eliminated. Then, the data transfer from the source system is complete. Figure 4.5 illustrates these steps.

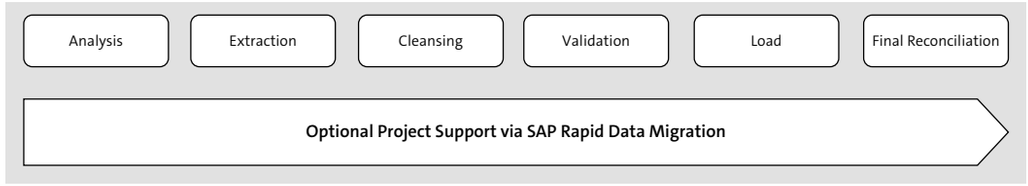

Figure 4.5 Steps for the Data Transfer to SAP S/4HANA in the Case of a New Implementation

The result is a system that corresponds to the SAP Standard as much as possible and does not contain any obsolete data. Table 4.2 demonstrates how this procedure focuses on master data and only a small amount of transactional data is transferred.

The SAP S/4HANA migration cockpit replaces the *Legacy System Migration Workbench* (LSMW), which was used in SAP R/3 and SAP ERP systems. SAP S/4HANA no longer supports this tool. LSMW still exists but rarely makes sense to use it and should be used at your own risk.

For the planned new implementation project, which data you want to transfer is decisive: If data objects have requirements that are not part of the content provided, you cannot transfer them with the SAP S/4HANA migration cockpit.

SAP Data Services

For more specific data transfers, you should use *SAP Data Services*, a tool for extracting and loading data. SAP Data Services is included for all SAP HANA users who have an SAP HANA license. Optionally, SAP offers a license extension for SAP Data Services, which supports modifying and improving data quality and data cleansing. Consisting of a central Data Services server and a local frontend for modeling, SAP Data Services also provides migration content that is more comprehensive than in the SAP S/4HANA migration cockpit (see Table 4.2). However, using SAP Data Services requires more technical effort and key-user know-how than using the SAP S/4HANA migration cockpit.

Migration Objects When Using SAP Data Services		
Activity Prices	Fixed Assets	Profit Centers
Activity Type Groups	Functional Location	Purchase Orders*
Activity Types	GL Balances*	Purchasing Info Records
Bank Master	GL Open Items*	Purchasing Requisitions*
Batch	Inspection Methods	Reference Operation Set
Bill of Materials (BOM)	Inspection Plans	Routings
Business Partner	Internal Order*	Sales Orders*
Characteristic Master	Inventory Balance*	Scheduling Agreements*
Class Master	Master Inspection Characteristics	SD Pricing
Configuration Profiles for Material	Material External Customer Replenishment	Secondary Cost Elements
Contracts*	Material Master	Service Master
Cost Center Group	Material Master Classification	Source List
Cost Centers	Material QM Inspection Type	Statistical Key Figures
Credit Memo*	Object Dependency	Supplier Invoice*
Customer Invoice Billing*	Open Deliveries*	Vendor Open Items (AP)*
Customer Open Items (AR)*	Order Reservation*	Work Breakdown Structure
Equipment	Planned Independents Requirements*	Work Centers
Exchange Rates	Profit Center Groups	
The objects marked with * are transactional data; the other objects are master data.		

Table 4.2 Supported Migration Objects When Using SAP Data Services

Recall that the migration procedure we described creates a new system with a new SID that contains (selected) data from the source system. In most cases, this new system or the new multi-tier system landscape (involving development, test, and production systems) needs to be integrated into the overall landscape.

Chapter 8 and Chapter 13 provide further information on integration in SAP S/4HANA. Chapter 7 and Chapter 11 discuss the new implementation scenario and the relevant tools.

Checklist for New Implementation

Let's summarize the individual steps for new implementations:

1. Determining the target status: operating model and distribution of the instances. You can carry out new implementations for on-premise implementations, for SAP HANA Enterprise Cloud (SAP HEC), and in the public cloud.
2. Identifying the desired new functions
3. Verifying the functions currently used via the simplification list (*http://help.sap.com/s4hana_op_1610*). Take into account the number of users for each function.
4. For existing SAP ERP systems: Precheck in simulation mode (see SAP Note 2182725)
5. Analyzing custom enhancements using the custom code migration worklist (*http://bit.ly/v1448043*). You usually have to newly implement existing custom programs in SAP S/4HANA Cloud. For more information on new enhancements for SAP S/4HANA Cloud, see Chapter 3, Section 3.4.
6. For on-premise editions only: Sizing (*https://service.sap.com/sizing*)
7. Adjusting input planning, verifying the migration scenario
8. If possible, data cleansing and archiving in the source system
9. Setting up the target system
10. Starting the SAP S/4HANA migration cockpit and transferring data
11. Checking the result
12. For on-premise editions only: Setting up the frontend servers for SAP Fiori
13. Delta configuration
14. Final tests
15. Roll-out of new processes for users

4.2.2 System Conversion to SAP S/4HANA

SAP ERP system as a base

In this scenario, we'll take an existing SAP ERP system and convert this system into an SAP S/4HANA system in several steps (see Figure 4.6). The SID, the customization, and the existing data of the source system are kept in this procedure. When selecting this scenario, you should cleanse your data *before* you convert the system. Note that this scenario is *not* an upgrade because the existing system belongs to a different product family.

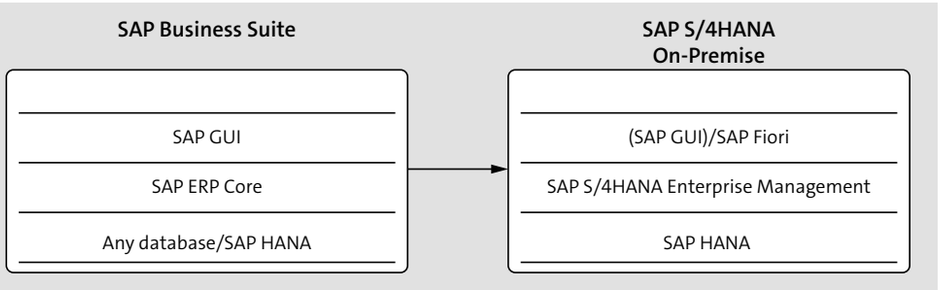

Figure 4.6 System Conversion to SAP S/4HANA

Data Footprint and Archiving

SAP S/4HANA features a considerably reduced data footprint, meaning that the data in the SAP HANA database occupies less storage space than in common SAP ERP systems on traditional databases. SAP HANA's improved compression algorithms are already considered in SAP's official sizing recommendations.

However, in the case of system conversions, these sizing rules usually do not apply to the target system because the storage requirements are temporarily higher than in newly implemented systems. More memory is needed because SAP keeps your data to avoid data loss. Consequently, data is temporarily kept redundantly in the target system: in both the new data models of SAP S/4HANA and in the obsolete tables of the SAP ERP system.

Therefore, the target system needs to be sufficiently sized initially. After the conversion, you can delete redundant data manually. First, however, you should check whether the data has been successfully converted.

To effectively size the target system (providing sufficient but not too much memory), you should analyze what data in the source system can be archived. You'll be able to access these archives from SAP S/4HANA. Another benefit is that the runtime of actual conversion will also be reduced. However, you should not archive active data. Your planning should additionally consider that the archiving routines in the SAP S/4HANA target system still have to be adjusted to the new data models so that the target system can also archive future data.

In addition, you can use the *data aging* option, which is integrated into SAP HANA. This method moves data that is not actively used from the SAP HANA memory and could be considered a kind of preparatory step for archiving: Hot data is stored in the SAP HANA memory; cold and historical data is stored in the archive.

Simplification list

Before you convert your system, you must analyze the source system in detail. The simplification list provided by SAP contains all relevant changes that affect available SAP ERP functions: omitted functions, significantly modified applications (or application architectures), and nonstrategic functions (see Figure 4.7). The latter refers to functions that are available in SAP S/4HANA but that SAP no longer recommends. Because SAP doesn't plan to enhance or maintain these functions in the future, you should only use these functions during the transition phase.

Prechecks

For simplification reasons, SAP provides numerous automatic *prechecks*. These prechecks answer the following questions about your system:

- Are the technical system requirements met?
- Are functions used that are will no longer be available in the target system in the same form?
- Is incompatible software used, such as add-ons that have not been released for SAP S/4HANA (yet)? Incompatible software must be uninstalled from the source system, or you must find a compatible version for SAP S/4HANA. Please contact the add-on's manufacturer for further information in this case.
- Are your custom enhancements compatible with SAP S/4HANA?

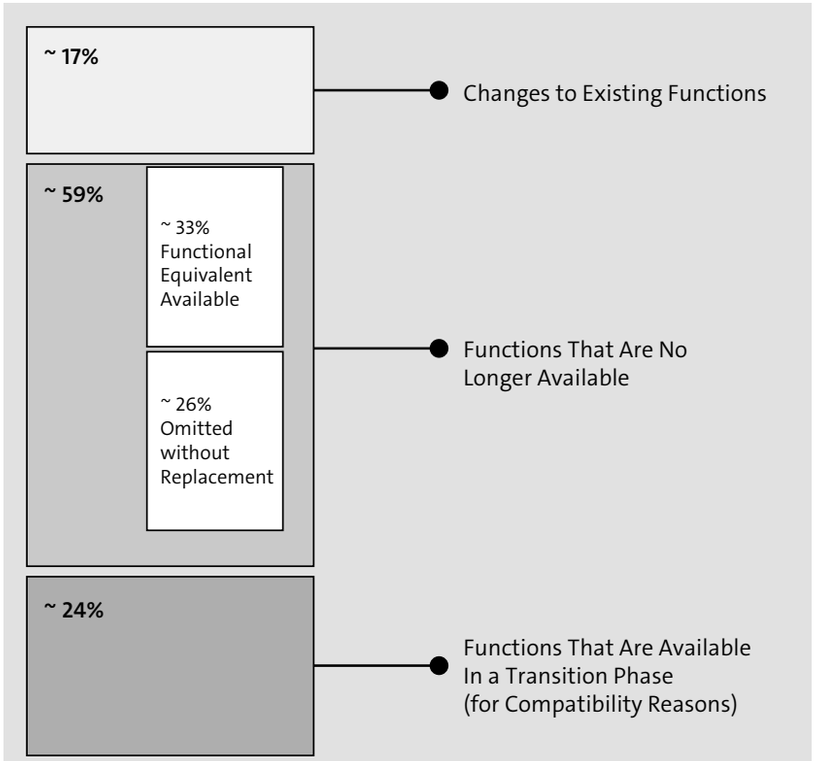

Figure 4.7 Functions from SAP ERP Expected Change or Depreciated

The results of these checks can considerably impact project scoping. We therefore recommend running these checks at the beginning of the conversion project so you can accurately estimate the overall project scope. To run a simulation, you can select the **Simulation Mode** in the prechecks (see Figure 4.8).

Results of the checks

The results of the checks are categorized as follows:

- Positive results (green)
- Warnings (yellow)
- Errors that hinder a conversion (red)

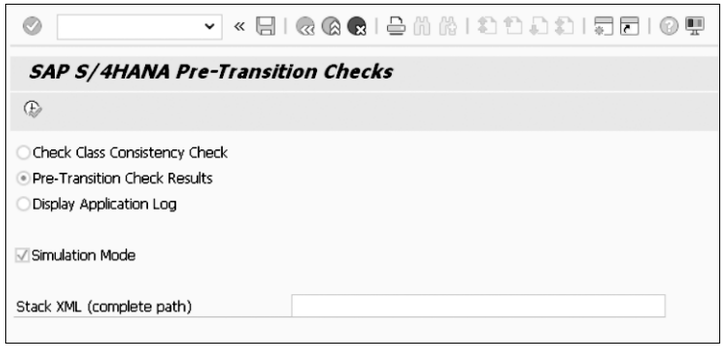

Figure 4.8 Initial Screen of the Prechecks for Preparing the SAP S/4HANA Conversion

Warnings do not prevent the technical implementation of the conversion from continuing. However, because these warnings might lead to data loss under certain conditions, you should also analyze warnings in detail. An example of the results of these prechecks is shown in Figure 4.9.

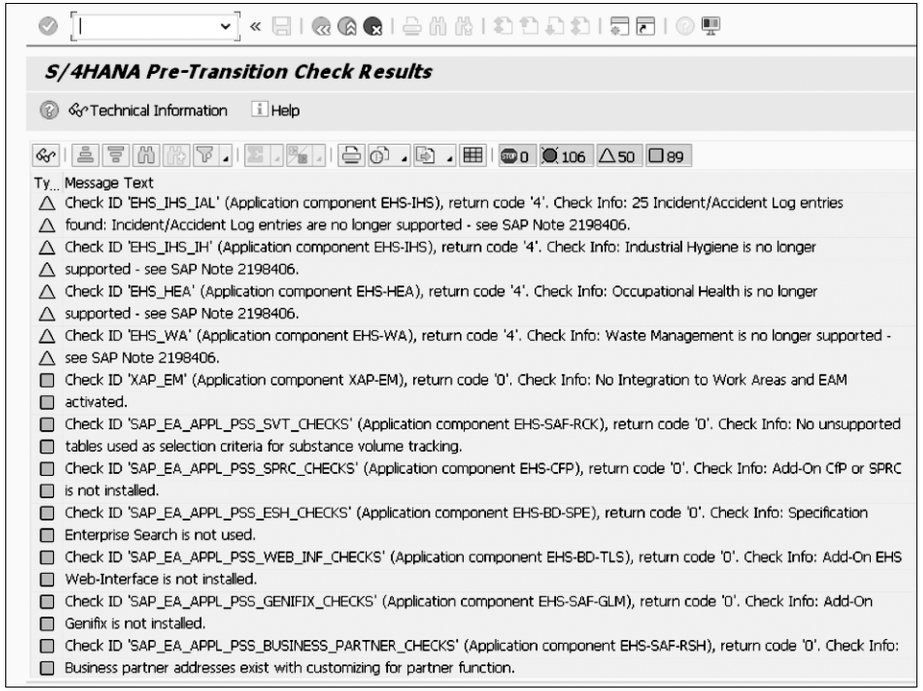

Figure 4.9 Example Results from Prechecks

SAP has made these prechecks available via SAP Notes (see SAP Note 2182725). Prechecks are imported into the source system, where you'll run the check, meaning you can carry out prechecks independently of the technical conversion project. To be safe, the conversion routine additionally requests that you run the prechecks to avoid converting systems that have not been checked.

Custom code checks

Custom code checks deviate from the procedure described above. To check custom code, an SAP NetWeaver system is connected to the source system, and the custom code is then analyzed in this SAP NetWeaver system. In this way, unnecessary workload is diverted away from the source system. The result of these checks is a *custom code migration worklist*, which lists adaptations to your custom code recommended by SAP.

Adjusting the source system

After the checks have been carried out, you should eliminate the abnormalities found in your source system. Otherwise, the conversion might not run smoothly. After implementing all corrections, you can verify the system readiness by checking the system again.

Carrying out the conversion

If the prechecks do not indicate any abnormalities, you can initiate the next conversion phase. Call the *Maintenance Planner* via the SAP Support Portal (*https://apps.support.sap.com/sap/support/mp*). Then, enter the desired target status—the selected version of SAP S/4HANA in our case—in the Maintenance Planner. You then carry out the actual technical system conversion using a version of the *Software Update Manager* (SUM) that has been optimized for SAP S/4HANA.

Standard or downtime-optimized

You can choose how the technical conversion should be carried out. SAP provides two procedures for this:

- Using default, predefined procedures, SAP will try to balance resource consumption, downtime, and overall runtime.
- A procedure with optimized downtime converts larger data volumes into the SAP S/4HANA data format while the system is in production operation, which reduces the downtime. The price you pay is increased resource consumption and sometimes a longer runtime for the technical conversion.

At present, the conversion with optimized downtime option is only available for source systems that do not run on SAP HANA. You can optimize additional requirements in individual projects. If you strive for a *near-zero*

downtime, SAP recommends involving SAP consultants in the conversion project.

Conversion steps

The technical conversion usually involves the following three steps:

1. **Migrating the database to SAP HANA**
   Your source system database does not have to be SAP HANA. In this case, the SUM enables you to also convert the database to SAP HANA, which is referred to as the *Database Migration Option* (DMO).
2. **Implementing new repository objects**
   The software is updated to the new SAP S/4HANA versions.
3. **Converting the data**
   The data of the source system is transferred to the target system using its new storage options.

After you have successfully implemented the technical conversion, you might have to perform some application-specific tasks.

Configuring the new functions

The system is ready for use again—but only with the functional scope of the legacy system. The new SAP S/4HANA functions are available in the system but usually still have to be configured. To simplify this configuration, SAP provides predefined content in SAP Best Practices.

From a Single System to a Landscape

The conversion steps we described must be performed in *all* systems of the landscape, i.e., at least in the development, test, and production systems. To overcome the resulting downtime, you can generate a temporary copy of the landscape. Please note that, in this case, you probably won't be able to transport code or configuration changes between systems on the source product version and the new SAP S/4HANA systems. This limitation also applies to SAP corrections. These limitations arise because the code (custom code and SAP code) and configuration tables differ. We recommend adjusting the landscapes manually.

Thus, you should also divide the project into two phases and focus on the technical conversion of the system first. You can then introduce new or changed processes on the converted system in a second step.

Prerequisites

The possible target SAP S/4HANA versions depends on the source product version. Usually, you can select between multiple target releases. When

begin a conversion, SAP HANA doesn't have to be already implemented in your source system. You also do not need to implement the versions of SAP S/4HANA sequentially when transitioning to a higher version. In general, a source system running on SAP ERP 6.0 or higher is sufficient, as shown in Figure 4.10. Chapter 10 provides more details on conversion paths.

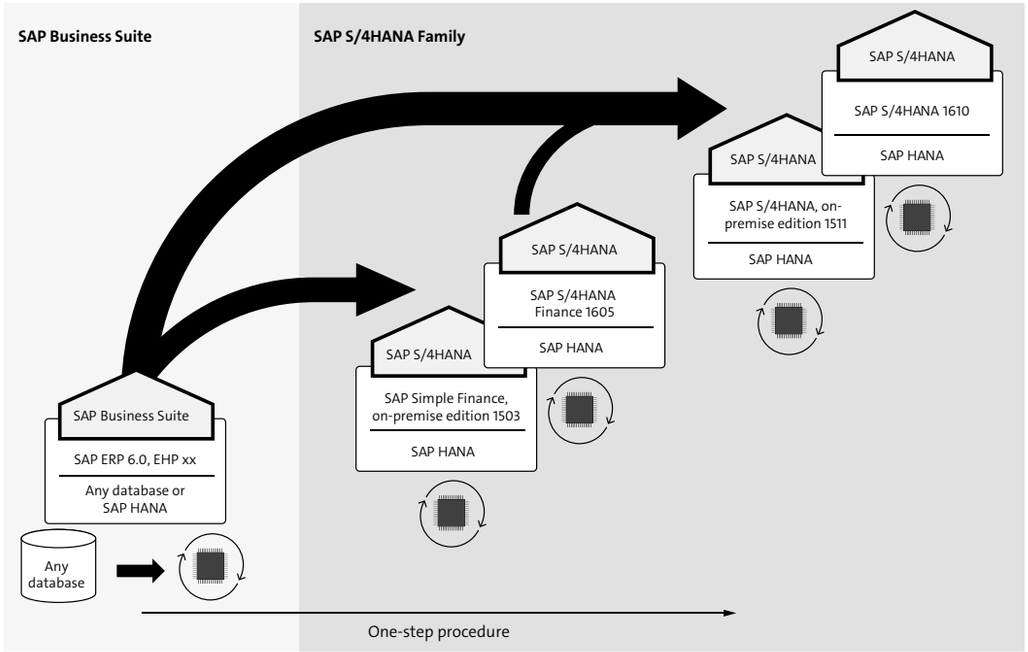

Figure 4.10 Different Paths to SAP S/4HANA

Conversion Checklist

The following list summarizes the individual steps for a system conversion:

1. Determining the target status: operating model and distribution of the instances. The system conversion can only be carried out for on-premise implementations or for SAP HANA Enterprise Cloud (SAP HEC).
2. Identifying the desired new functions
3. Verifying the functions currently used via the simplification list. Take into account the number of users for each function.
4. Running prechecks in simulation mode and custom code checks (*http://bit.ly/v1448041*)
5. Sizing
6. Adjusting capacity planning for the project and confirmation of the migration scenario
7. If possible, data cleansing and archiving in the source system
8. Planning your system conversion in the Maintenance Planner (*http://bit.ly/v1448042*)
9. Selecting the standard conversion or the conversion with optimized downtime in the SUM, adjusting sizing if required
10. Executing the maintenance transaction
11. Checking the result
12. Setting up the frontend servers for SAP Fiori
13. Delta configuration
14. Roll-out of the new processes for the users

4.2.3 Landscape Transformation with SAP S/4HANA

Data in a shared database

Landscape transformation refers to a migration scenario in which various SAP ERP systems are integrated into a shared SAP S/4HANA system (see Figure 4.11). You might choose a landscape transformation to benefit the most from SAP S/4HANA's real-time data processing: Only if all data is kept in one database can the system use this data with highest efficiency. Another benefit is that data no longer needs to be replicated. SAP S/4HANA's efficient compression algorithms and its high speed can handle the volume of data that previously would have been spread out to multiple traditional systems.

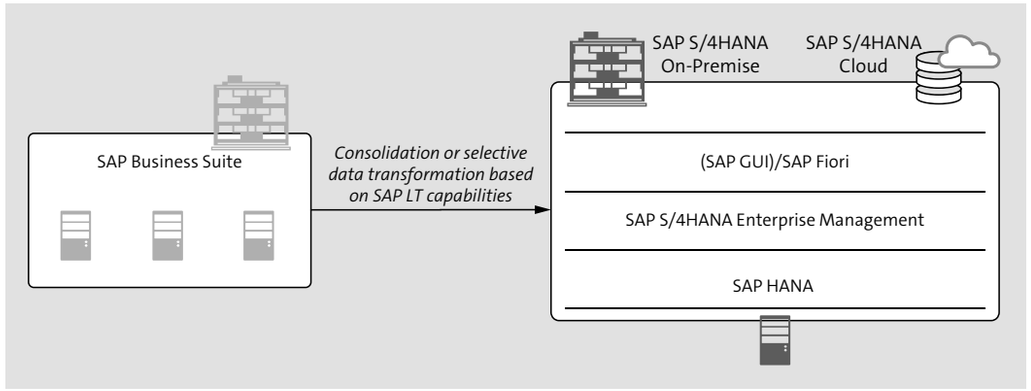

Figure 4.11 Landscape Transformation

Two subprojects

The landscape transformation process consists of two subprojects. In the first part, the master system is prepared. As described in the previous two sections, the master system is either a new implementation of an SAP S/4HANA system or a system conversion. The latter scenario is implemented if the landscape contains an SAP ERP system that can be used as the basis for the other systems. The configuration and process specifications should be optimized and up-to-date in this system. When planning this first step, take into account the guidance for new implementations and system conversions described in the previous two sections.

Selecting the data extraction method

After you've implemented an SAP S/4HANA master system, you still need to transfer the data from your other systems in the landscape to this system. First, determine the required data extraction method. Figure 4.12 illustrates common methods:

- Consolidation of several complete systems
- Transfer of selected company codes
- Transfer of selected business processes

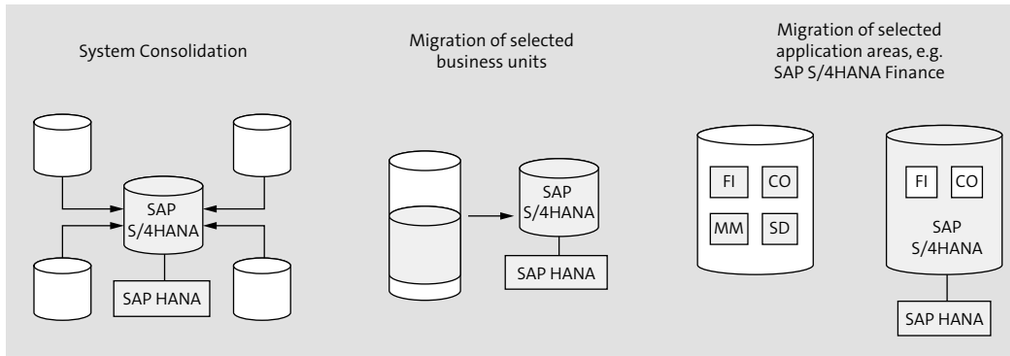

Figure 4.12 Examples of Landscape Transformation Scenarios

SAP Landscape Transformation (SLT)

Regardless of data extraction method, the data from (several) SAP ERP versions is read and written to the SAP S/4HANA system. In this process, this data will need to be translated into the new SAP S/4HANA data model using *SAP Landscape Transformation* (SLT). However, you cannot use SLT for continuous data replication, just for one-time data transfers only, as in this scenario. SAP has equipped SLT with the right conversion logic for the new SAP S/4HANA data model.

Non-SAP source systems

Landscape transformations are also possible for non-SAP systems if you are willing to accept some constraints. In this case, however, you should consider using SAP Data Services as described in the new implementation scenario. The specific tool you use depends on your individual situation.

The individual realizations in a landscape transformation are highly specialized projects. In addition to the technical support, SAP and other service providers can offer specialized consulting and implementation services for these scenarios. Chapter 12 further describes landscape transformations in detail.

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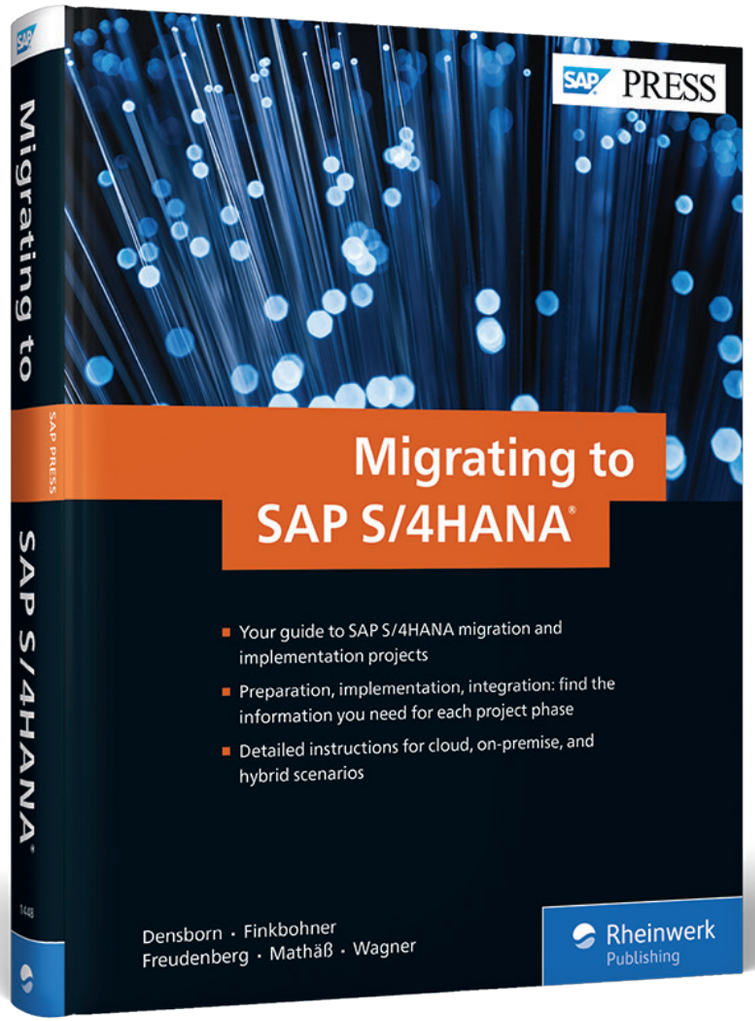

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