

Migration to SAP S/4HANA

SAP Readiness Check, FIT-GAP Analysis

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Migration to SAP S/4HANA – First Steps

SAP Readiness Check, FIT-GAP Analysis

SAP S/4HANA represents the latest generation of SAP business products. It is not just an upgrade of previous packages, but a completely new product built on the powerful SAP HANA database. SAP S/4HANA brings massive simplifications and innovations for modern business processes. Converting from older systems to S/4HANA therefore requires a transition to the SAP HANA database (if the customer does not already use it) and the installation of new simplified code and adaptations.

The aim of this document is to present some important steps and preparations that precede the very beginning of the migration process. On a model example, we will look at the first steps and analyzes for the customer, in which **Fpt Slovakia** cooperated in 2020. We will mainly rely on documents prepared during this period.

Fpt Slovakia actively helps and participates in migration projects for the new SAP S/4HANA system. Support for pre-SAP S/4HANA versions ends in 2027. It is important for companies to migrate to SAP S/4HANA as soon as possible, as the migration process is very time consuming.

In February 2020, SAP announced the extension of support for older SAP products from 2025 to 2027. Customers will be able to get extended support individually until 2030. At first glance, it looks like companies have been given extra time and do not have to rush migration. However, the opposite is true - SAP's decision is based on the fact that many companies have not yet started migration and would not even make it by 2025. With the deadline approaching, there is a risk that the capacity needed for the migration process will be reduced. Companies should reconsider postponing the transition to SAP S/4HANA. In addition - SAP S4/HANA offers a full-fledged modern solution that can be used already today.

In addition to the powerful in-memory HANA database, SAP S/4HANA also brings several other important changes. From the user's point of view, the most significant is the transition to a new user environment. The customizable SAP Fiori Launchpad replaces standard SAP applications and is accessible via a web browser on any device. SAP is also ready for increasingly popular trends, such as Machine Learning, Internet of Things or Blockchain. The new S/4HANA system is easily expandable by these technologies as well.

SAP READINESS CHECK

The first important step in the entire process of transition to the new SAP S/4HANA system is a thorough analysis. **Fpt Slovakia** uses tools from SAP, such as **SAP Readiness Check**. This is a standard procedure for the initiation phases of similar migration projects, resulting in a report. It helps identify a list of necessary preparations and preoperations that need to be performed on the original system before the entire migration process begins.

For a better idea of what this report contains and what outputs we can expect, we will use the model customer system on which we used SAP Readiness Check as an example.

Analyzed system:

Date of the analysis: 12. 09. 2020
 Product version: EHP8 FOR SAP ERP 6.0
 Database: HDB (Unicode)

Target system:

Product/version: SAP S/4HANA 2020

One of the first points of the analysis is compatibility and minimum requirements. The analyzed system already used SAP HANA (Unicode), so no conversion was required. Also, the vast majority of AddOn's and business functions were compatible with SAP S/4HANA.

Simplification is also a mandatory part of the conversion to SAP/4HANA. It is a simplification of some business processes, thanks to which the new system is even more powerful. As we can see in the table below, a list of 685 items for simplification was checked on the model system. Most of them were not relevant to this process. For other items, the report notes how the simplification process will affect the item. SAP Readiness Check also informs the customer about the list of activities that need to be performed (mandatory, conditional, or optional) before, during, or after migration.

Status	Number of Objects
Overall number of Simplification Items	685
Check performed, item is not relevant. No follow-up activity necessary.	582
Check performed, item is relevant (excludes "non strategic items"). Check business impact note.	76
Relevance cannot be automatically determined. (excludes "non strategic items"). Check business impact note.	15
Check performed, "non strategic" item is relevant. Check business impact note.	11
Relevance for "non strategic" item cannot be automatically determined. Check business impact note.	1

1Summary of simplifications on a model system

The analysis can estimate the approximate size of the system on the new platform. SAP recommends archiving as much data as possible before migration to reduce the amount of memory required for the target system.

The document also contains information on the compatibility of BW extractors and IDoc interfaces.

A significant change in SAP S/4HANA are SAP FIORI applications, which replace classic SAP GUI reports and transactions. Based on the transaction usage history, SAP Readiness Check generates a list of the most relevant SAP FIORI applications.

General Indicators	Values
Total Number of SAP Fiori Lighthouse Apps	38
Total Number of SAP Fiori Apps	876
Total Number of SAP Fiori Theme Classic UI Apps	91

2 Estimated amount of SAP Fiori applications for the model system

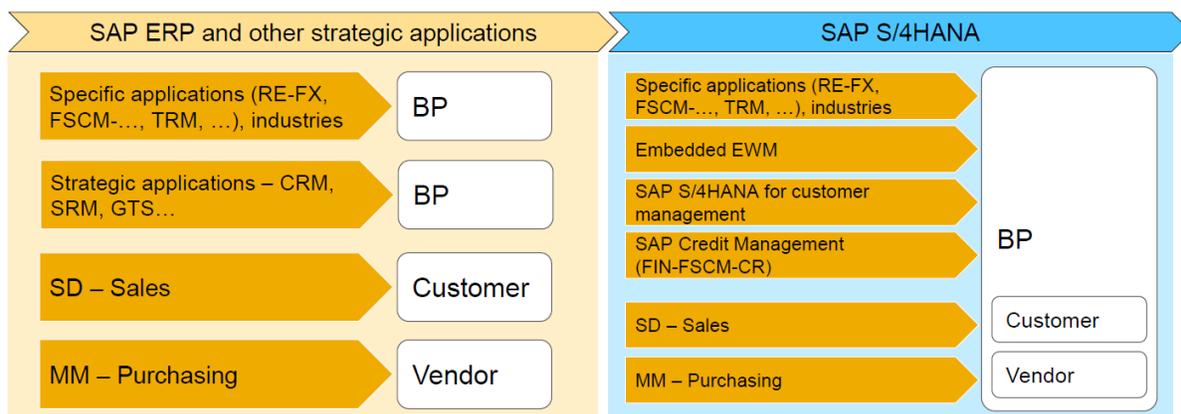
FIT-GAP ANALYSIS

According to the recommendations of the SAP Activate methodology, **Fpt Slovakia** also performs **FIT-GAP analysis** before migration. The aim is to identify possible differences and impacts on business processes when reimplementing into a maximally standardized S/4HANA solution. The analysis also provides recommendations and suggestions that should be addressed.

This time it is not an SAP tool, but a comprehensive workshop, which **Fpt Slovakia** conducts with the help of experienced consultants with knowledge of the analyzed system and experience with the migration of the R/3 system to SAP S/4HANA. We focus mainly on the business benefits of migration, potential pitfalls and possible solutions for individual modules.

Using the model example, we will again show what results the FIT-GAP analysis on some modules brought.

One of the most significant differences between the modules is the transition to the Business Partner object. As you can see in the picture, the Business Partner object on the new platform combines the Customer and Supplier objects and their functionalities. Although the Customer/Supplier can function as separate objects, for practical reasons it is recommended to combine them. Many other modules count on the use of the Business Partner object. However, it is a more demanding solution associated with the conversion of master data into the concept of CVI (Customer/Vendor Integration). This process of cleaning and synchronizing data can be performed (and necessary for migration) already on the R/3 system.



3 Comparison of the Business Partner object on SAP ERP and SAP S/4HANA

The simplification during the transition to the new system affected also the FI and AM modules. The universal log (as well as the ACDOCA table) gathers all the information in one place and replaces the original tables and transactions. The standard SAP transactions used so far are modified to continue working with the universal log. However, customer reports need to be modified to retrieve data from new tables. The biggest challenges in migrating to SAP S/4HANA are associated with these modules.

The Document Management System (DMS) can be converted to a new system in two ways: by a simple 1:1 data migration, or by implementing a more advanced SAP Document Center product. This is one of the cloud functionalities available in the new system. It is basically a cloud storage that offers easy file management in full integration with the S/4HANA system. It also includes support for Adobe Forms or integration with Office 365. It is up to the customer to decide on this option. In our model example, this would require an initial analysis (whether the system meets the requirements) and an overall more demanding migration process.

For our case, it would also be more difficult to move BW reporting to Embedded BW S/4. In the first phase, its implementation was not expected, as in this BW system, data from several sources are merged.

SAP Business Workflow is used to automate processes. SAP brings Flexible Workflow to the new system, which simplifies the message process and allows creation and customization of simple procedures without the need for knowledge of a programming language. The customer can keep the workflow solution he is currently using. The second option is the implementation of a new solution that would bring flexibility to business processes. In both cases, current procedural procedures require further thorough analysis and naming of the risks associated with the transition to the new system.

Comparison of basic functionalities on a standard and new S/4 system:

Feature	Business Suite	S/4 OnPrem	S/4 Cloud
Fiori My Inbox	Yes	Yes	Yes
Classic Workflows	Yes	Yes – but consider flexible workflows instead	Only those delivered and maintained by SAP
Flexible Workflows	–	Yes	Yes
Workflow Builder transaction (transaction SWDD)	Yes	Yes	–
Workflow Scenario Editor (transaction SWDD_SCENARIO)	–	Yes	–
Manage Workflows (App F2190)	–	Yes	Each application has it's own version configured with the scenario ID as a filter.
PD org maintenance (transaction PP01)	Yes	Yes – but not recommended	–

Teams and Responsibilities (App F0862)	–	Yes	Yes
Substitution available	Yes	Yes	Yes
Workflow logs	Yes	Yes	Yes. but not the graphic view.

Feature	Classic workflow	Flexible workflow
Work items	Yes.	Yes. Those spawned for flexible workflows contain extended information.
Workflow logs	Yes	Yes. But not the graphic view.
Substitution available (active/passive)	Yes	Yes
Teams and Responsibilities can be used (App F0862)	Yes	Yes
Size of workflow process	Typically large	Typically split into many smaller conditional workflows using the Manage Workflow app.
Parallel processing	Yes	Not at present, other than dynamic parallel approval (par-for-each per assigned user, aka multiple-instance)
Ad hoc workflows – create single instance workflows	–	Yes – as used by PLM where flexible workflows are strung together on-on-the-fly during Change Record creation.
Eventing (start/intermediate/end)	Yes	Yes
Workflows configured by	IT department	Business Process Experts (or LOB users, such as the engineers in PLM)
Exception handling	Many handled with flow-modeling	Handled by code or the exception-handling in the Manage Workflows app.

Another benefit is the implementation of the FIORI My Inbox, which combines tasks and notifications from various systems (SAP and non-SAP) in one place and enables centralized process management. FIORI My Inbox can be used even if the customer opts for a more outdated workflow solution.

SAP S/4HANA takes over and improves the communication technologies used for communication of the system with other systems. For the integration of ABAP programs, it is still best to use SAP RFC (Remote Function Call), IDoc for more advanced communication. For communication with other systems, the HTTP/S protocol is recommended, on which other technologies are then based - UI5 (Fiori), SOAP and REST (and its implementation OData). SAP has powerful tools for monitoring the flow of messages and alerts in the event of communication errors.

Our FIT-GAP analysis revealed that no significant obstacles are expected for most of the other modules on the analyzed system. In addition, the transition of these modules to the newer SAP S/4HANA system

promises to speed up the system and improve user comfort in various aspects of the module. The basis is the simplification of the data model and the consequent better data accessibility.

There are two main ways to migrate from ERP system to SAP S/4HANA. The first is the so-called Brownfield method, where the system is converted more straightforwardly. This is the easiest and fastest way. Although the customer will retain most of the processes, he will not be able to take full advantage of the potential of new functionalities and improvements offered by SAP S / 4 HANA.

The second option is the so-called Greenfield. It is mainly used when current business processes are not optimized and data design is out of date. It is about building a system "from scratch".

FIT-GAP analysis is the right way to determine the right procedure. In our example, based on this analysis, we recommended that the customer choose Greenfield and build the system from scratch. The customer gets a completely new system built to be able to use the maximum potential of SAP S/4HANA. On the other hand, this method has several disadvantages. The customer loses customizations from the old system, migration requires a time-consuming preparation phase and it is necessary to analyze and adjust business processes. In this case, too, it is necessary to operate the old system as an archive.

SAP 4/4HANA is undoubtedly a very powerful system with many advantages. High performance and flexibility guarantee that the system is ready for future technologies and will not become obsolete so soon. Last but not least, there is the transition from a standard SAP GUI environment to a customizable SAP Fiori Launchpad - a user interface with central access to all processes and applications, which is accessible from the web browser of any device.

Despite all the advantages of the S / 4HANA platform, many customers still hesitate about the migration. In many cases, these are also concerns about the transition itself. The tools and processes just mentioned, whether SAP Readiness Check or FIT-GAP analysis, which we at **Fpt Slovakia** perform as a standard, are intended to help the customer in making decisions. As we could see from the individual examples, thanks to these analyzes, we are able to reveal the pitfalls, avoid potential problems and thus prepare the customer for the migration process itself.