Software-Accelerated S/4HANA Migration

Striking the right balance and maximizing ROI

Preface

When the idea for this paper came up, it was against the backdrop of many in the SAP user base being faced with a set of migration-related decisions associated with the prospective move to S/4HANA. Given the amount of advice and guidance that already exists on this topic, however, an obvious consideration was how we could usefully add to the conversation.

With this in mind, we therefore elected to focus on a question that seems to be on many people's minds at the moment - how to approach a migration to S/4HANA when your existing SAP environment isn't perfect, but also doesn't need a complete redesign.

How do you approach a migration to S/4HANA when your existing environment needs some selective transformation, not a complete redesign?

In situations like this, we were hearing that the so-called 'Brownfield' approach - essentially an in-place technical conversation - is often too constraining. Meanwhile, a total reimplementation - the 'Greenfield' approach - is frequently regarded as overkill. As a result, the response of many SAP customers has been to put their S/4HANA decisions off until they have time to figure out a way forward that doesn't involve an excessive amount of compromise, time and cost.

Against this background, we're therefore pleased to present an overview of a migration approach that's helping SAP customers to tread that middle ground. The basic principle is to transform only what you need to, then use smart software to automate migration of the rest.

When you say it like this, it can sound a bit like magic, so one of our aims with this paper is to walk you through some of the principles and practicalities involved so you can form a view of whether this 'Software-Accelerated' approach is right for you.

Our sponsor for this exercise is Fujitsu, and we'll be using one of its service offerings in this space to illustrate what a real world solution looks like. That said, this paper has been authored as an independent and objective guide, and discusses the 'Software-Accelerated' approach as just one of a number of legitimate migration options.

Freeform Dynamics, 2021

Introduction

If you are involved in SAP-related operations, integration or development in your organization, the constant drumbeat around S/4HANA will be a familiar part of your life. For the past few years, SAP and its ecosystem of partners, have been doing what they can to drive interest in and migration to the latest incarnation of SAP's hugely popular suite of business applications.

To begin with, much of the messaging and promotion was met with resistance, as customers questioned the readiness and completeness of the solution, and the rationale for yet another costly and disruptive migration project.

Our research confirms that clarity is growing on the potential business benefits of S/4HANA.

But things have moved on. We have now seen enough successful S/4HANA implementations to be confident in the solution, and feedback from research suggests that clarity is growing on the benefits it can offer.

The potential of S/4HANA is well appreciated

During a recent survey of 480 SAP customers, the majority acknowledged the potential benefits of S/4HANA at a strategic and business-level. Study participants particularly highlighted greater real-time business visibility and the enhancement of both service levels and user experience. Many went on to say that they saw S/4HANA as representing a platform for digital transformation more broadly.

Strategic and business-level benefits

Real time analytics and business visibility

Improved service levels to the business

Enhanced experience for business users

Platform for broader digital transformation

A number of systems and IT-level level benefits also came through from the research, not least of which was the potential for S/4HANA to be used as a foundation to leverage emerging technologies such as machine learning, IoT, and blockchain. An ability to handle the next level of performance, scalability

A range of IT related benefits are also widely appreciated.

Systems and IT-level benefits

Foundation for leverage of emerging technology

Hub for integration of heterogeneous data

Environment for simplification and efficiency

Cloud-ready, future proof, flexible and responsive

and openness was then behind the idea of S/4HANA being used as a hub for bringing together non-SAP as well as SAP data. Add environment simplification and future proofing to the mix, and we can see at least the makings of the business case for migration.

It's now a question of 'when' and 'how', rather than 'if'

This level of acceptance has moved the discussion on from the question of 'if', to 'when' and 'how' to move to S/4HANA. This has in turn shifted the spotlight to migration practicalities, which we'll be exploring in the remainder of this paper.

Migration options

The approach you take to your S/4HANA migration will depend on your situation and objectives, but first you need to be clear on the possible ways forward. Let's quickly walk through the main options.

Brownfield migration

This approach is notionally the equivalent to an 'in place' or 'technical' conversion of your existing ECC environment, usually (though not always) using standard SAP tools. While changes are made under the covers, your processes and data remain semantically and logically unchanged.
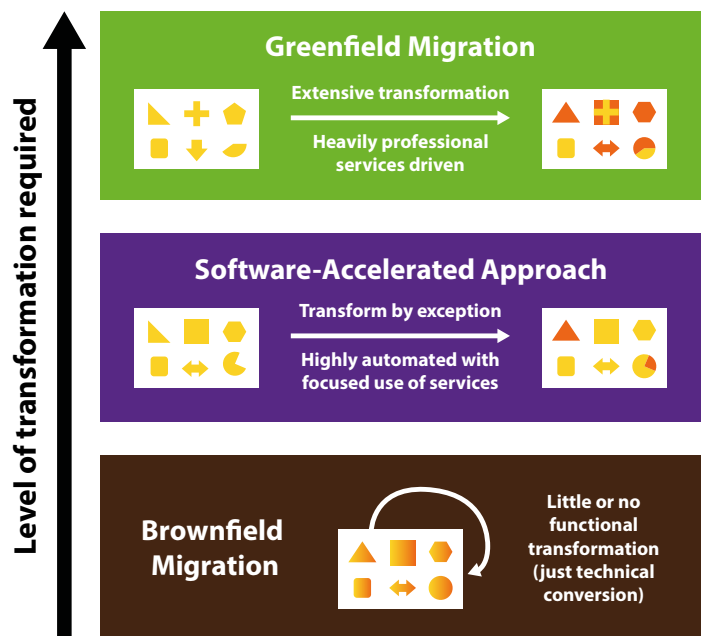
Greenfield migration

This is akin to reimplementing SAP from scratch. The process typically starts with a traditional consulting-led requirements-gathering and blueprinting exercise, often deliberately ignoring the constraints of your current system(s). Processes and data are then ported into a newly designed S/4HANA environment, transformed as necessary along the way.

The Software-Accelerated approach

This approach sits between the Brownfield and Greenfield options. Consulting is still part of the mix, but services and internal effort are focused largely on where business transformation is required. Migration of everything else (the elements of the system you want to remain semantically/logically unchanged) is then automated using smart software.

A good way to think about the difference between these approaches is in terms of the level of business process and/or data transformation normally associated with each. Little or no business-level transformation takes place in

a Brownfield migration, for example, while at the other extreme, the level of business change scoped into a Greenfield project can be extensive. The Software-Accelerated approach, meanwhile, usually involves a degree of business transformation, but implemented much more selectively on a 'by exception' basis.

Migration approaches at a glance

Level of transformation required

Greenfield Migration
Extensive transformation
Heavily professional services driven

Software-Accelerated Approach
Transform by exception
Highly automated with focused use of services

Brownfield Migration
Little or no functional transformation (just technical conversion)

Selecting the right approach

Sometimes choosing between the three migration approaches will be very straightforward. The Brownfield approach is most likely to be useful if you are largely satisfied with the scope, shape and functionality of your existing ECC environment, e.g. if the system is fairly new, or has been recently updated or optimized. Note, however, that because SAP's Brownfield migration tools essentially do an 'in place' conversion, they can't be used to jump directly from on-premises ECC to S/4HANA in the cloud or any other alternative location or platform, even if no business transformation is involved.

At the other end of the spectrum, Greenfield is the way to go if there's a major gap between your current ECC environment and what's ideally needed to support the business going forward. This might be because the system has drifted significantly out of line with requirements as the business has evolved (or is looking to evolve). It may also be down to significant system degradation as customizations and changes have accumulated over time. The Greenfield option is also appropriate if you wish to consolidate SAP and non-SAP systems.
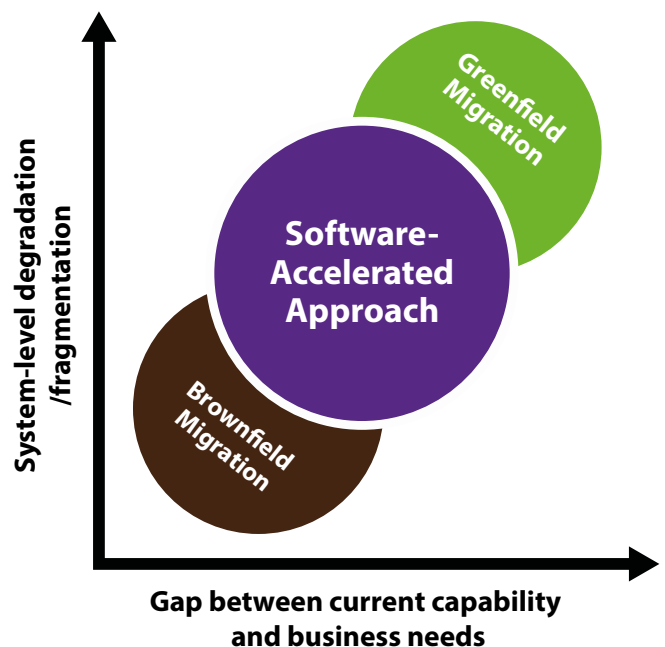
Turning to the Software-Accelerated approach, this is becoming increasingly popular in scenarios where Brownfield is too restrictive and Greenfield represents overkill. It comes into its own, for example, when your existing ECC environment is in pretty good shape, but needs enough transformation work to exclude a strict Brownfield migration to S/4HANA. Another common scenario is when you don't need to transform significantly, but you do wish to move - e.g. to a new platform, another facility, or to one of the mainstream public clouds.

The truth, however, is that there are no hard-and-fast rules when choosing between the three styles of migration project. The tools typically used to support the Software-Accelerated approach, for example, can be exploited to execute a notional Brownfield migration that requires a little more flexibility or the ability to move or replatform. The same tooling might also be useful in a Greenfield project where enough of the original system is preserved to make at least some automation viable and worthwhile.

Brownfield can sometimes be too restrictive, while Greenfield is often overkill.

The tools underpinning the Software-Accelerated approach can be useful in some Brownfield and Greenfield scenarios.

Axis label (vertical): System-level degradation /fragmentation
Axis label (horizontal): Gap between current capability and business needs
Bubbles: Greenfield Migration; Software-Accelerated Approach; Brownfield Migration

Software-Accelerated migration practicalities

So what does a migration project based on the Software-Accelerated approach look like in practice? Well, just like any major systems-related undertaking, a pre-requisite is setting your objectives up-front, i.e. defining what you intend to achieve as you migrate to S/4HANA. To progress from here and construct an actionable plan, however, you need a good understanding of your current ECC environment, and this is where the 'software acceleration' really begins.

Process overview

The first step in the process is an automated scan and analysis of your existing system to identify everything required to do detailed scoping and planning. The tools used will ideally be able to discover and assess custom code and interfaces to other systems as well as process flows and relevant policies. An important part of this is determining how frequently systems elements are used and when they were last accessed.

The key is to achieve the right blend of smart software and focused professional services.

This takes us to the next step, which is more dependent on professional services. Your consulting partner will work with you to clean up the system, e.g.

Software-Accelerated Migration Overview

Software to analyze, prepare and automate

Scan and discover
Clean and redefine
Create target shell
Migrate your data
Test and remediate

Results-oriented methodology and services

by retiring custom code that's no-longer useful. They'll also help you redefine processes and data structures where transformation is desirable.
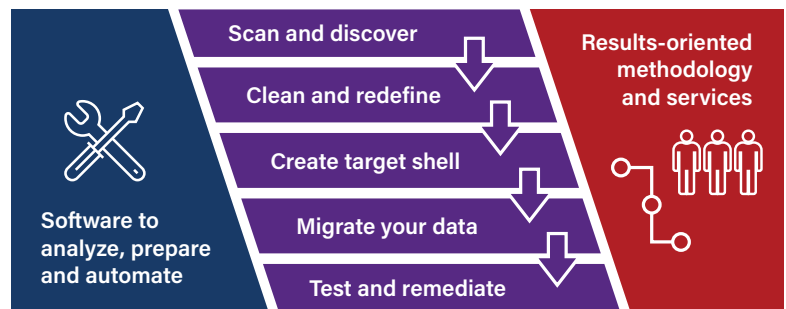
With the right tools in place, all of these activities are captured in software, which allows a new, empty S/4HANA environment to be automatically created based on what's been learned and defined. Armed with details of both the original and target systems, the software should then be able to automate data migration, performing the necessary transformations along the way, and help to streamline testing and remediation activities.

The importance of mindset and engagement model

The Software-Accelerated approach goes hand-in-hand with an alternative mindset and engagement model.

It's worth reiterating that transformation with the Software-Accelerated approach is carried out in a very selective and pragmatic manner. Both the activities and mindset are quite different to a Greenfield migration, in which everything about the existing system and the way business processes operate is often reviewed and challenged. This is important when selecting professional services partners as you need to evaluate their capability and willingness to work in the manner we have outlined.

A real-world example from Fujitsu

To illustrate how the Software-Accelerated approach works in practice, let's take a look at a service offering in this space from the sponsor of our paper - Fujitsu. We can't go into a lot of technical detail, and please note that nothing we say should be taken as an endorsement or recommendation of any product or service. It's useful, however, to run through a specific example to provide an idea of how some of the key principles can be translated into practical reality.

Building on strong foundations

Fujitsu is a long-standing SAP partner, with several decades of experience delivering professional and managed services to SAP customers across a wide range of industry verticals. As part of this, the company is well geared-up for all styles of S/4HANA projects, including Brownfield and Greenfield.
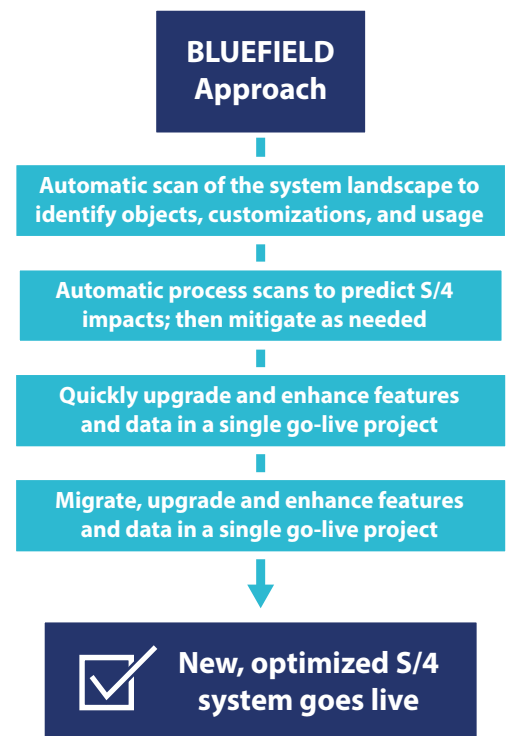
Responding to customer demand

As momentum around S/4HANA started to pick up, Fujitsu identified a growing demand for the kind of Software-Accelerated migration we were discussing earlier. In response to this, it has adopted a migration software suite known as CrystalBridge® from SNP, one of its many partners. To maximize leverage of this smart software, it has also embraced SNP's trademarked migration approach, BLUEFIELD™. Together with Fujitsu's consulting and systems integration services, this provides everything required to help support customers with their Software-Accelerated migrations.

An open, agnostic approach

While Fujitsu will generally propose the use of SNP solutions by default, we should acknowledge that the company is largely agnostic when it comes to migration tools. Subject to relevant capability checks, for example, Fujitsu is willing and able to work with alternatives according to project requirements and/or customer preferences and existing investments. In line with this, as programs such as 'RISE with SAP' gain market acceptance, SAP's own tools will increasingly be an option. For the purposes of illustration, though, we'll be focusing on SNP's CrystalBridge in the remainder of this paper as a comprehensive and well-proven software suite.

Fujitsu is a long-standing SAP partner with decades of experience.

The partnership with SNP helps Fujitsu to accelerate S/4HANA migrations while reducing cost and risk.

BLUEFIELD Approach

Automatic scan of the system landscape to identify objects, customizations, and usage

Automatic process scans to predict S/4 impacts; then mitigate as needed

Quickly upgrade and enhance features and data in a single go-live project

Migrate, upgrade and enhance features and data in a single go-live project

☑ **New, optimized S/4 system goes live**

CrystalBridge® as a software accelerator

Fujitsu's partnership with SNP as a migration software vendor is a good match in the sense that CrystalBridge is not just highly functional, it has developed a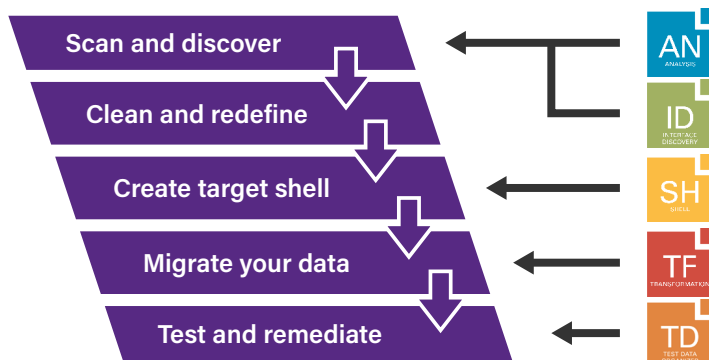nd matured over a number of years. As a commercial product, it has the advantage of being supported as such, which makes it more of a known quantity compared to the kind of 'home grown' tools that are often used by consultants.

CrystalBridge software is highly functional, and has developed and matured over a number of years.

The software itself is organized into a series of modules that each deliver a specialized set of functionality. While we haven't shown it here, each CrystalBridge module is broken down into a range of functional components. In the Analysis Module, for example, you'll find components that deal with enterprise structure, master data, customizations and so on. If you are interested in the next level of detail, fact sheets and solution specifications are available from Fujitsu's website.

Specialized modules

AN ANALYSIS

Analysis module, analyses your systems and organizational structures to identify the corporate structure used in SAP, the relationships and usage across instances. Outputs a report of existing data interfaces and the IDOC topology.

ID INTERFACE DISCOVERY

Interface Discovery identifies, analyses and documents all interfaces within the SAP systems landscape and across all communications to and from the systems.

SH SHELL

Shell module, creates an empty copy of the source system as the initial target system for selective data migration. Also transfers the SAP repository, SAP standard clients and all IMG-Customizing information.

TF TRANSFORMATION

Transformation module, selectively migrates data using CrystalBridge rulebook, minimizing business interruptions. Module allows migration of master and live data; includes over 800 predefined objects.

TD TEST DATA ORGANIZER

Test Data Organizer provides customized, scrambled data from existing SAP systems to allow tests to operate using up to date, qualified information.

OE OPERATIONAL EXCELLENCE

Operational Excellence are cloud based solutions to support business strategy consistently and reliably.

Modules offering a range of specialized capabilities allow many aspects of migration to be streamlined and automated.

Further details of SNP's proprietary BLUEFIELD migration approach can also be obtained from Fujitsu. As it's very similar in principle to the Software-Accelerated migration process outlined earlier, however, the graphic below shows how the SNP software modules map onto that for consistency.

The main takeaway is that CrystalBridge software allows Fujitsu to exploit automation to reduce the cost, risk and time to delivery for S/4HANA migrations.

Mapping onto the delivery process

Scan and discover

Clean and redefine

Create target shell

Migrate your data

Test and remediate

AN ANALYSIS
ID INTERFACE DISCOVERY
SH SHELL
TF TRANSFORMATION
TD TEST DATA ORGANIZER

Pulling it all together

We've only scratched the surface of the Software-Accelerated approach in this paper. Hopefully, though, we have given you enough of an understanding of the principles and practicalities to provide a feel for what's possible. Building on this, let's finish our discussion by zooming out and considering the approach with a bigger-picture perspective.

Focus on your strategy and objectives

You can now set goals and objectives without having to worry as much about the impact on cost, risk and delivery times.

Combining highly-targeted professional services with software that streamlines and/or automates many aspects of the S/4HANA migration process means you can focus on higher level considerations. Whether it's merges, carve-outs, moves or transformation of selected key processes, you can set goals and objectives without having to worry as much about the impact on cost, risk and delivery times. The ability to set up proof-of-concept environments much more quickly and easily using the same approach is also extremely useful.

Of course, the Software-Accelerated approach and solutions like CrystalBridge are not magic, but together with the right partner and engagement model, they can allow you to view your S/4HANA migration differently - more as an opportunity to drive strategic benefit rather than as an onerous chore.

Think about your migration as the start, not the finish

The temptation with any significant migration project is to consider the first day of go-live as the finish line. In the case of S/4HANA, however, it's better to regard it more as the start of a new era.

Wherever you want to go once your new business platform is in place, make sure you work with the right partner.

Circling back to some of the research insights we highlighted at the outset, many now acknowledge S/4HANA's role as a platform for digital transformation and a foundation for exploiting emerging technologies in areas such as machine learning, IoT and blockchain. By implication, one of the key questions is where are you going to go next once your new and much more open and agile business platform is in place?

Only you can answer that question, but one thing for certain is that you need to consider this as you evaluate partners to work with you on your ongoing journey. Familiar criteria such as skills, experience, industry track record and so on remain important. As you look forward, however, the best partners will be those who can work with you in an open, flexible and agile way, focused first and foremost on helping you meet your objectives incrementally as business needs continue to evolve.

With that, we wish you luck with your S/4HANA migration activities, and with your SAP journey thereafter.

About Freeform Dynamics

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About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 130,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers.

For more information, please visit www.fujitsu.com

About SNP

The SNP Group has around 1,500 employees worldwide and is headquartered in Heidelberg, Germany. SNP is a leading provider of software for managing complex digital transformation processes. Instead of traditional IT consulting in the ERP environment, SNP offers an automated approach using specially developed software: The Data Transformation Platform CrystalBridge® and the SNP BLUEFIELD™ approach allow companies to restructure and modernize their IT landscapes much more quickly and securely as well as migrate to new systems or cloud environments more securely.

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