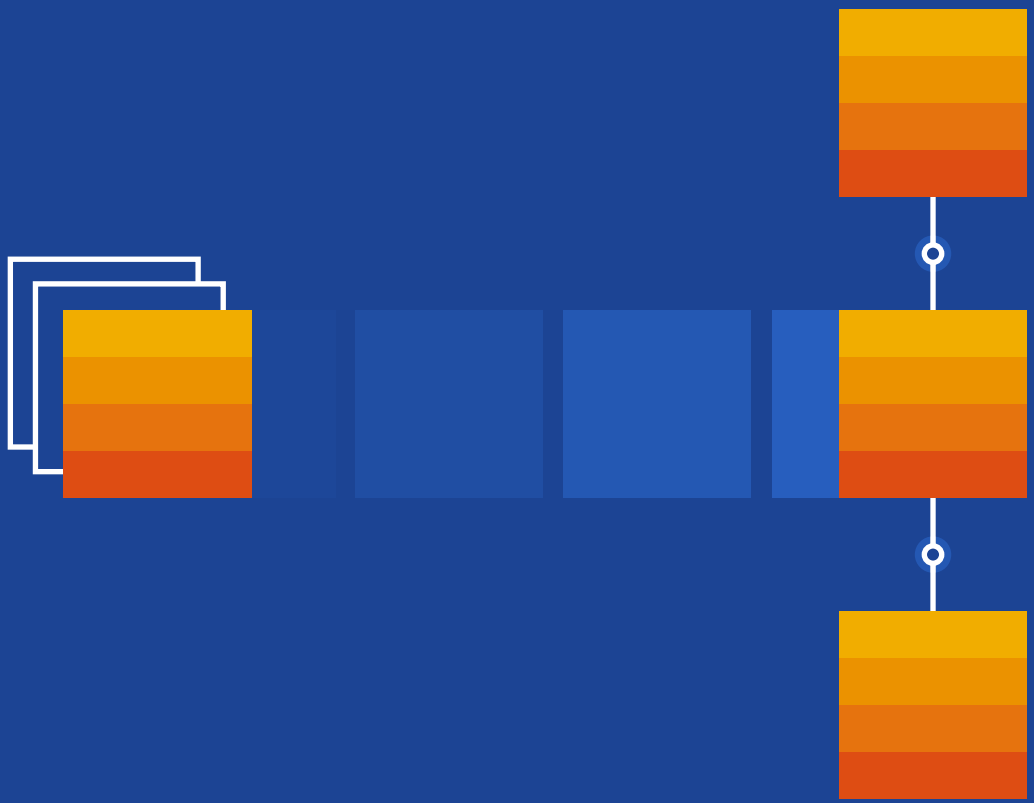
Figaf

How to Deliver SAP Integration Fast and in High-Quality

Whitepaper



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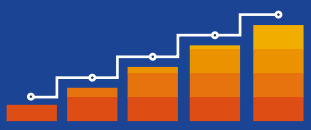
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The SAP Integration Process can be Challenging

Enterprise landscapes consist of many applications and systems that provide various services an organization relies upon to conduct its day-to-day business. Some of these applications include legacy on-premises ERPs, a more modern SAP S/4HANA, many SaaS solutions that the organization may have acquired over time, and multiple integration toolkits that the organization leverages to connect and navigate this complex ecosystem.

This modularization is desirable because it breaks business tasks into multiple more minor functionalities that facilitate new technologies in each area. It also helps the organization to adapt to the changing business requirements quickly. However, to gain efficiencies with this kind of architecture, an organization must deal with two main challenges:



Complexity of SAP in general and integration



Inadequate SAP expertise to perform integration

1.1

Complexity of SAP in general and integration

SAP is notoriously complex to integrate with non-SAP systems because of its underlying language, processes, and logic that cannot easily extend beyond the SAP ecosystem. As such, any developer wishing to integrate SAP with other applications must consider the following challenges when planning an integration strategy:



SAP's integration approaches don't seamlessly work with third-party applications

SAP has multiple touchpoints to other systems within the organization. Some of the possible integration use cases involving SAP include customer

relationship management (CRM), supplier integration, and third-party purchase order applications, among others. Without a robust integration strategy, these applications cannot communicate with SAP.

There are two primary reasons why SAP integration approaches don't seamlessly work with non-SAP applications:

a. Different data models and formats

Data integration between SAP and non-SAP applications is an essential component of every business. By providing a 360-degree overview of the business, data integration empowers the organization to make actual data-driven decisions. Yet data integration for SAP and non-SAP systems can prove challenging because of different models and formats.

It is even more challenging when you have numerous tables with complex relationships. Because of different proprietary data formats, accessing such data outside of the SAP environment is painstakingly time-consuming and expensive.

b. APIs and authentication methods can cause problems

An appropriate application programming interface (API) and an authentication solution are must-have strategies for companies that want to integrate SAP and third-party systems. While these tools are crucial to SAP integration strategies, they also provide a window for potential security threats.

Companies can face numerous challenges with API and authentication methods when integrating SAP and non-SAP systems because:

- Testing APIs and authentication approaches can be challenging in an environment with rapid updates.
- Developers must acquire extra knowledge and skills to understand the business logic and rules for effective test objectives.
- Some protocols are complex and can be a hindrance to the proper integration strategy.



SAP's development and delivery methods are obsolete

Stability and resilience are two common considerations when designing SAP applications. As such, most SAP systems have relied on the tried and tested waterfall model as their development and delivery approach. There is nothing wrong with developing and delivering applications in a waterfall fashion where requirements are pre-planned, budgeted, and with a well-defined scope.

However, most businesses now realize that SAP solutions are not only "systems of record" but also "systems of differentiation or innovation." As enterprises and customers demand more from systems of engagement, so should the SAP solutions. SAP solutions can only provide valuable differentiation if they can correspond to the ever-evolving business needs.

Agile technologies such as Scrum, SAFe, and SAP's Activate can help SAP users meet the ever-changing business requirements and address stability and resilience. While other applications have transitioned from the traditional software development approaches and embraced agile methods, SAP systems have largely remained with conventional development models.

For example, the current SAP method for implementing and delivering SAP Process Integration(PI), SAP Process Orchestration (PO), and SAP Cloud Platform Integration (CPI) or SAP Integration Suite—cloud Integration have primarily remained the same since the beginning of SAP XI 3.0 in 2005. As such, it is difficult for developers to keep up with the increasingly complex integration requirements with new agile-based non-SAP applications.

1.2

Hard to find SAP Integration Experts

SAP's broad suite of applications, coupled with different integration methods, has created a complex software development environment. An organization needs to have specialized developers with SAP skill sets to navigate this complex ecosystem. Most organizations either build their own in-house SAP developers or outsource developers from application integrators.

Finding great SAP developers is an arduous task—they are never on the market. The few that exist do not apply for jobs and often have many hiring companies hot on their heels where they can choose the perfect organization.

By their nature, SAP solutions are business-critical and complex and often take months to complete. Meanwhile, line-of-business (LOB) requests get into a backlog, awaiting resourcing and prioritization, frustrating users who need innovations in real-time. This pain point is particularly acute when considering documenting compliant changes.

In most organizations, the same experts that implement SAP integration also document and approve the changes, making the process tedious and overly complex, especially if they lack the necessary integration tools and skills. While an organization can outsource these problems to application integrators, the associated costs, priorities, and related cross-cultural issues in the project management and reliability can hinder seamless SAP integration.

1.3

How to Improve the Process

SAP integration can only make business sense if developers avoid manual work, support data-driven decision-making, and accelerate the release of products to the market. The table below highlights the main pain points associated with SAP integration and how to improve the process:

Challenge	Description	Solution
SAP's integration approaches don't seamlessly work with third-party applications	SAP provides pre-delivered Integration content and platforms to speed up the development. Customers still need to make modifications or new integrations to integrate some SAP and non-SAP systems.	• Allow all developers to develop using the same toolset without having to re-invent the wheel.
SAP's development and delivery methods are obsolete	Agile engineering can help SAP developers meet the ever-changing business requirements and address stability and resilience. While other applications have transitioned from the traditional development approaches and embraced agile methods, SAP applications are stuck with the obsolete, conventional development and delivery methods.	• Allow all developers to develop using the same toolset without having to re-invent the wheel. • Automate tracking processes to discover differences between versions and compare various versions • Monitor what integrations get transported before approving any change • Simplify configuration. This ensures that imports get configured correctly • Automate how changes get documented • Simplify and automate testing
Lack of SAP developers with integration skillsets	Finding great SAP developers with integration skillsets is an arduous task.	• Let developers focus on the challenges of creating integration • Automate as much as possible without the requirement for development.

2.0



Automated Governance Helps to Deliver and Maintain Integrations Conveniently

Manual and automated governance are vital components of every enterprise, and the appropriate choice is necessary to obtain the highest level of success and efficiency. Although there are many dimensions to analyzing these forms of software governance, some general areas can help SAP developers to achieve efficiency and success with integration.

2.1

Change management

In the modern business environment, change is constant. New functional and non-functional requirements may appear unexpectedly while established business requirements shift several times. Failing to manage the emerging business requirements can have a disastrous outcome for an organization.

Change management is critical for any effective software development. It helps developers to track and manage changes to software artifacts, including the source code and requirements. Effective change management should follow a process that ensures that no unauthorized changes get introduced into the software.

For example, each time developers initiate a change, such as updating an interface or creating a new integration, they must follow some principles or best practices. Effective change management maximizes productivity by eliminating errors caused by confusion when coordinating the development of software.

In this regard, change management helps to identify, organize, and control modifications to the application the developers are implementing. Formulating these activities can help you to identify quickly, control, and ensures changes get properly implemented. You can also report the changes to other team members who may be interested in effective change management.

2.2

Workflow for Correct Governance

An effective workflow for correct governance has various steps outlined below:

1. Register which objects gets changed for an effective documentation
2. Run the test cases to assess how the interface changes
3. Create transport of the objects
4. Document how objects should be changed in different development environments
5. Have an architect approve the changes
6. Coordinate with the business people on the change
7. Import and configure the integration in QA and production
8. Ensure that all the documentation gets updated

Some processes are longer than others, involving different types of approvals for the user and involvement. While longer processes are generally more complex, they add somewhat more efficient than shorter ones. Most companies leverage a manual process to manage the SAP transport deployment. In this instance, developers can create some form of documentation if they like.

In other companies, especially those that follow IT Infrastructure Library (ITIL) or Sarbanes-Oxley (SOX) practices, developers must fill out some documentation. For these organizations, developers usually use Excel or Word and save the file on SharePoint or a similar platform. This process can lead to significant waste in both resources and time. Leveraging a tool such as the FIGAF can help you simplify the process.

2.3

Outsourcing or Automated Governance

The ERP market is no longer what it used to be when SAP launched in 1972. Back then, SAP's data was largely siloed, and it served organizations well. This isn't the case currently as enterprises implement modern applications such as Salesforce and SuccessFactors, requiring seamless integration with SAP.

Some organizations have leveraged manual methods in the past to manage their SAP integration strategies. While these methods have served them well, they cannot address SAP integration's industry-wide problem in an increasingly agile software development environment. This leaves two choices for enterprises that want to expedite SAP integrations: outsourcing and automated governance.

a. Outsourcing

With outsourcing, an organization subcontracts third-party application integrators to handle the SAP integration process. The third-party integrators can assess the organization's SAP requirements and existing business practices and implement an SAP integration strategy that addresses the users' pain points.

Organizations using this approach can derive several benefits, including access to the best DevOps services, accelerated delivery of SAP integration, and focus on the main business goals, among others. Despite these benefits, outsourcing has its own fair share of challenges. Besides the hidden costs, there is also a huge challenge of managing the extra works and all their effort.

Before deciding to go the outsourcing way, you have to consider whether the third-party integrator can deliver what it promises to achieve and whether it is of high quality. You also have to consider SAP integration management challenges and cultural differences.

b. Automated Governance

Most typical developers want to focus only on essential tasks. No one developer likes to spend countless hours documenting software changes. This is great because developers can focus on solving complex problems without being bogged down with repetitive administrative tasks. An organization also benefits because of enhanced productivity.

So, either way—outsourced or not—the organization must automate its repetitive tasks to deliver on-demand computing capacity without developers' intervention. Automated governance provides the foundation for a scalable and flexible SAP integration infrastructure for a better experience for all.

Figaf Tool provides an option for you to automate your SAP Integration.

3.0



A Successful Integration Builds Trust Within the Organization

Integrating SAP and third-party systems is a crucial phase toward synchronizing your data. Besides yielding cost-cutting and performance-enhancing benefits, it can also help developers focus less on the surrounding SAP infrastructure and more on implementing business logic. A coherent track record of delivering successful SAP integration within an organization achieves even more.

Besides expanding market opportunities, it can also increase customer retention and accelerate the time to build trust. Your credibility and trust improve when you respond flawlessly to customers' SAP integration challenges without hesitation. However, the reality of developing a successful SAP integration is different in most organizations.

Many a time, it is challenging for companies to get the time to develop new integrations. This leaves them with other options such as outsourcing that are fraught with hidden costs and management challenges involving extra work and effort. If an integration regularly fails or developers take long to fix issues, then it is not optimal. And obviously, a less optimal SAP integration strategy cannot promote an organization's bottom line.

Below are some benefits of a successful SAP integration strategy:

3.1

It Provides a Better Experience

Imagine ordering food from an e-commerce site that assures a one-day delivery? After selecting your items and proceeding to the checkout, the payment gateway fails, and the page takes too long to load. Just as you decide to cancel the order, the checkout process completes. However, the food gets delivered two days later than promised. How frustrating would that be?

This case illustrates miscommunication that can go on between various e-commerce applications. In a fast-paced and ever-changing digital economy, businesses cannot

survive with such experiences. You must create exceptional developer and customer experiences with SAP integration strategy to ensure your business stands out. Such experience involves:

- Developers spend less time performing routine and documentation tasks.
- Developers have a simplified framework for approving and crediting changes.
- Developers can easily fix issues that may occur during integration.
- Developers can leverage productivity tools such as Git and unittest to execute integration more conveniently.

3.2

It Avoids System Downtimes

System downtime can occur in many forms, including interrupted business processes and orders, corrupted applications, or disruptions in workflows. As is the case with an “always-connected” world, system downtime cannot go down quietly. Besides facing reputational damage, an organization can lose revenue streams that extend beyond the initial incident and resolution.

One way to avoid the potential system downtime challenges is to have an effective integration strategy. Adopting DevOps can enhance flexibility within the organization and expedite fixes during SAP integration. Instead of developing a source code that gets passed over to the operations team to transmit to production, DevOps ensures the entire SAP integration activities are shared.

3.3

Faster Fixes Cycle

Like any software development process, SAP integration is far more than simply writing an elegant source code. Developers must spend considerable time testing the software for defects and fixing the bugs once they get detected. It can be fast to fix a failed

interface, but it will take quite some time to find and resolve the error in many cases. It can take a long time to test and transport the change to production.

A slow fixes cycle can slacken the time-to-market and limit the new features the company intends to roll out. And if you have hundreds of integrations to monitor with dozens of alerts a week, the problems get trickier. This is not ideal for an organization whose priority is to attract new users and remain competitive.

For most developers, the problem is not how to test the application but when and how the test can get done best. Adopting an agile development that builds on continuous integration (CI) and continuous delivery (CD) strategies can help you navigate this problem. For example, rather than just testing the entire application without any strategy, you can implement a system with filters and rules to help you identify and categorize alerts.

Figaf DevOps Tool is one such system. Besides monitoring all the objects important for SAP integration, the Figaf DevOps tool can also help you find the differences that exist between SAP versions. Developers can leverage this tool to monitor all changes in SAP integrations.

3.4

It Helps To Keep Track of the Changes

It can be a daunting task to find which changes have been performed to an interface. It becomes even more difficult in global organizations with outsourced developers to understand what changes have happened and their impact.

Keeping track of changes is essential since developers can retrieve and run different versions of applications to determine which one has problems. But such a process cannot make business sense, especially if it is manual. An automated toolkit such as Figaf DevOps Tool can allow developers to alter the shared source code and test it.

Developers using this tool do not have to worry about losing the existing code when the changes do not work because the tool automatically keeps track of all the alterations. Figaf DevOps Tool is essential because:



It monitors all the important objects for SAP integration; so developers can quickly discover differences between the versions.



It provides a transparent overview of when and why changes are made.



It logs which objects get affected by changes in SAP integration and links them to the business requests.

3.5

It Helps To Improve Compliance

Complying with frameworks such as SOX is important because it demonstrates that the company is transparent about internal controls and auditing practices. For example, verifying that your application is up-to-date, clear of any alerts, and investigating any warnings as soon as possible demonstrates your openness.

Since SAP PI/PO and SAP CPI form an important component of any SAP landscape, you should ensure they are SOX-compliant. For example, a developer cannot move the code to production without approval from other team members. This way, other members ensure the code is not harmful before going into production.

Such tasks often require SAP integration architects to find and approve transports. However, like most traditional software development approaches, such processes often rely on file export/import to handle transports which is an overly complex and tedious process. Besides, there are high chances that developers will not have clear visibility of what has changed.

An automated documentation toolkit such as Figaf DevOps Tool can help you enforce compliance by:



Ensuring SAP integration architects do not approve their own transports.



Generating email notifications automatically to allow approvers time to validate the transport requests.



Providing a unified overview of all the transport requests that need approvals.



Providing a unified overview of which approvers validated the transport requests.

4.0



What are the Costs of Manual SAP Integration and How Does It compare to Automation?

Automation has many benefits, including accelerating the pace at which you release software, driving business innovation, achieving customer satisfaction, and infusing agility into organizations' processes. But perhaps the most significant benefit of automated governance from a business perspective is costs savings, either directly or indirectly.

Some of these savings arise from:

4.1

SAP Integration Release Costs

Managing an enterprise's SAP integration releases can get complex and overly expensive, particularly when dealing with many simultaneous releases. By automating your release pipeline, automated governance allows you to release your SAP integrations faster. You can also reduce the staffing required for the process with automated governance, cutting software release costs significantly.

Besides, you can save between 75% to 92% of the time with automated documentation when developers focus on creative work rather than manually documenting each change. A two to four hours saved for each change can allow SAP integration architects to focus on business logic. Manual documentation would also make compliance an overly complex process, driving up costs significantly.

4.2

SAP Integration Suite License Cost Saving

Cost savings associated with software management is a persistent problem for organizations that have shrinking IT budgets. When it comes to SAP ERP, the problem is

even more complex because of SAP's often complex and confusing software licensing models. This has resulted in a costly and permanent overhead for most organizations, placing additional strain on already stretched IT budgets.

Automating and centralizing SAP operations is the first step toward minimizing software licensing costs. Automating operations such as development, testing, transport management, and documentation workflows can help organizations get the most from their SAP deployments.

Figaf is one such tool you can leverage to automate SAP and centralize SAP operations. When used, it saves one instance of the SAP Integration Suite. The tool can transport your landscapes virtually, which is a way to reuse your development system for both development and QA. Organizations that use Figaf can save up to 4.000 EUR per month in SAP licensing.

4.3

System Downtime Costs

System downtime can be catastrophic. In today's fast-paced and competitive business landscape, your integration approach cannot afford to entertain system downtimes because customers can quickly jump ship to alternative competitors. This can cost the organization billions of dollars. It cost more than 1 million EURs per hour if critical systems go down.

Typical causes of system downtimes that automated governance can address are poor service visibility and bug-ridden source codes. With its CI/CD practices, automated governance can help SAP integration architects produce more efficient source code. It can also help identify and fix bugs quickly.

4.4

What Is the Cost of the Manual Process?

If you opt for the manual way, here are costs you are likely to incur:

1. Hours spent by SAP developers and approvers. SAP developers and approvers have to spend a considerable time:
    - Writing documents and tickets
    - Requesting transports
    - Coordination and interruptions

2 Who is approving the architecture? SAP integration architects are scarce in most cases. If you are lucky to have one, the chances are that they are always in meetings.

3 Onboarding. How do you onboard new systems and members? You have to figure out the number of systems involved and how to access them. You also need to train the team, which can take a lot of time.

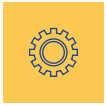
4 It takes much longer for the request to get processed and move to production to where then change can start adding value to your company.

4.5

The Value of SAP Integration Automation

It is tedious and time-consuming to manage SAP integrations when your systems and processes are not automated. By effectively automating SAP integration processes, you reap the benefits of efficiency in your processes and minimize the disruptions caused by siloed data. Here are some benefits of SAP integration automation:

It increases productivity



SAP integration automation minimizes human errors, which translates to shorter development lifecycles and faster software releases.

It saves time



Integration automation allows SAP developers to focus more on coding instead of wasting time writing documentation and bug-fixing.

It increases stability



Automating SAP integration processes allows the organization to cut down on administration tasks, which frees up more time and resources. Organizations can now focus on their bottom lines, potentially increasing stability.

It saves costs



Automating SAP integration operations like development, transport management, testing, and documentation allows organizations to get the most out of their SAP deployments in terms of software licensing.

About

Stable and reliable integrations within the SAP environment are critical requirements for organizations and corporations in the public sector. Armed with more than 15 years of experience in SAP integrations, Daniel Graversen developed the FIGAF tool to make SAP integrations smarter. Streamlining SAP integrations is the foundation of FIGAF, a company that wants to optimize SAP integration processes and systems. Today, leading organizations are leveraging the FIGAF tool to automate the complete delivery of SAP integrations while saving time and resources with automated governance.

Figaf

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