EBOOK

How to Achieve Safe Daily SAP® Releases

Accelerate the pace of SAP change to support your digital strategy

basis

DevOps + Testing for SAP

Digital is disruptive

Mobile, the world-wide-web and the Internet of Things are driving a new digital economy. And it’s growing fast.

According to analysis by IHS Markit, an information and analytics vendor, “The global installed base of IoT devices will rise from 27 billion in 2017 to 73 billion in 2025”[1] while telecomms equipment manufacturer Ericsson suggests that “5G coverage is forecast to reach 45 percent of the world’s population by end of 2024.”[2]

> “The global installed base of IoT devices will rise from 27 billion in 2017 TO 73 billion in 2025”

As these connections grow the digital economy is literally transforming our society. Digitalization is changing how we interact, live and work. For consumers it is providing them with unprecedented information and power to shape their environment. For businesses it is providing opportunities to transform how they engage with customers.

And what does it take to succeed in this new economy? Agility and speed. Agility to adapt to rapidly changing consumer expectations, new technology-driven opportunities, and dynamic market, economic, and business conditions, plus the speed to do it fast, before competitors or start-ups can make their move.

Sources:

1. IHS Markit 8 in 2018: The top transformative technologies to watch this year
https://cdn.ihs.com/www/pdf/IHS-Markit-2018-Top-Transformative-Technology-Trends.pdf

2. Ericsson Mobility Report 2019
https://www.ericsson.com/en/press-releases/2019/6/ericsson-mobility-report-5g-uptake-even-faster-than-expected

Digital companies set the pace

In this new economy 'digital native' companies are setting the pace when it comes to updating their systems of customer engagement. Amazon blazed a trail in this respect. As long ago as 2013 the company was able to deploy new code every 11 seconds on average - new code that continuously improves its interactions with billions of customers around the world and drives growth. The company is no doubt able to move at even higher speed today, like fellow digital native and leader in DevOps, Google.

Google's automated build and test pipeline processes a staggering number of incremental updates. 60,000 code commits, 4 million automated builds and 500 million test cases per day ultimately result in a constant stream of new features that are beneficial for both end users and Google's business.

These two companies are not the only ones that are delivering new releases — and improving their services and competitive position — at frighteningly high speeds. The question is how traditional companies can transform themselves to compete.

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Source:

1. Release Management Best Practices at Amazon
   https://puppet.com/blog/release-management-best-practices-at-amazon

2. How DevOps Accelerates "Idea to Prod" at Google and What It Means to You
   https://youtu.be/o3B8_1zlwml?t=1086

The digital divide

It's easy for digital native businesses. When you start from a blank canvas agility and speed can be built into how you operate. But when you have a whole bunch of legacy systems running your back office it's a different story.

Systems of record like SAP are powerful beasts and have typically been managed on the principle that stability and availability are more important than anything else. They are more like large tankers that move across oceans slowly and reliably than agile racing yachts that can turn quickly. Releases come slowly and methodically. And that was all right five to ten years ago, when businesses could afford to change slowly too. But, in the new economy, it's creating a significant problem.

Unimpeded by the same barriers as the back office environment, systems of engagement are being updated rapidly in order to meet customer demands. But, without integration with systems of record, systems of engagement can only go so far towards delivering the rich, comprehensive services customers expect.

An in-store iPad app that can't work with SAP CRM in real-time is never going to be as good as one that can. A shipment tracking app that can't interact with SAP SRM is never going to give the required result. A mobile order management app is never going to set the world on fire if it can't get information from SAP Sales Order Management.

There's a digital divide: fast-developing systems of engagement versus SAP back office systems that are slow to change.

Transforming the tanker

But what's causing this digital divide? Is it true that systems of record can't be adapted at the same speed as systems of engagement? Or is there some other reason?

The reality is that it is perfectly possible to make frequent, safe SAP releases. What's holding organizations back is their attitude and resistance to change. How do we know this? Because our customers across the world have changed their SAP systems from reliable tankers to nimble racing yachts. And they're not only increasing their agility and speed to market. They're also improving quality and reducing costs.

A worldwide music corporation is releasing SAP fixes and small changes into production weekly, which has reduced development time by 60% and manual effort by 95%.

At a leading distributor of electronic, electrical and industrial components fix-on-fail releases and small changes are implemented weekly. Now 90% of transport deployments happen with absolutely no human intervention.

One of the world's largest advertising companies has accelerated from a single major SAP release each year to an approach that enables a continuous cycle of weekly deployments. A global manufacturer of telecomms equipment has integrated SAP into an automated multi-application software delivery pipeline, where change is co-ordinated through a single Continuous Integration/Continuous Delivery (CI/CD) platform.

These are not isolated cases. Enterprises all over the world are moving to an SAP delivery model that allows more frequent releases of incremental change. For good business reasons it might not be appropriate for all of them to make SAP releases daily, but the message is clear — the demand to go faster is growing and it can be done.

Nimble:

Our customers across the world have changed their SAP systems from reliable tankers to nimble, racing yachts.

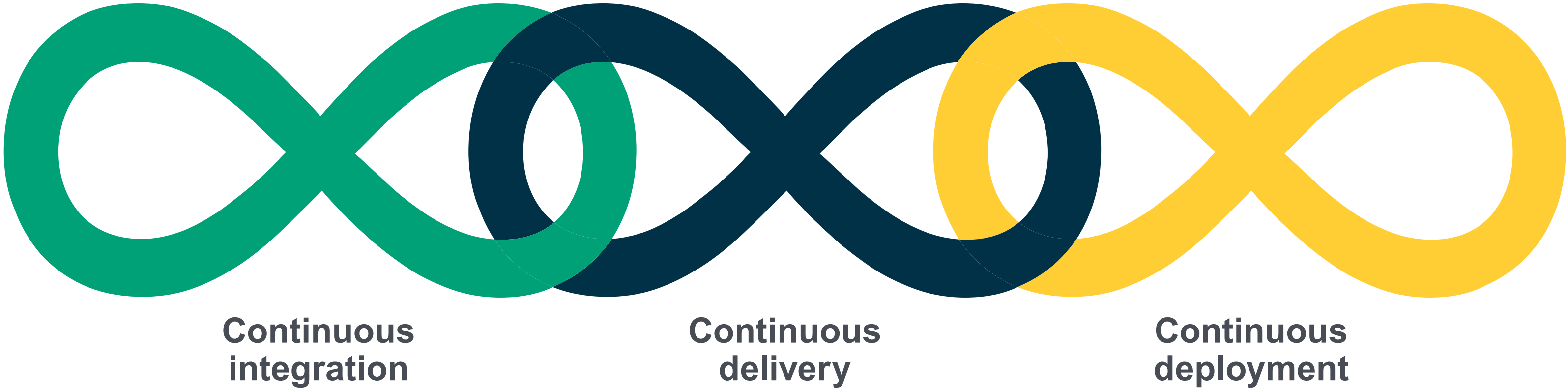
Adopting the right approach

To deliver the continuous stream of innovations in systems of engagement many organizations have turned to DevOps, a software development and deployment methodology that emphasizes collaboration, communication, mixed discipline teams and, very importantly, automation.

Three key components (amongst others) are central to DevOps:

- Continuous integration to ensure the software generated is robust
- Continuous delivery that ensures operations automatically receive the latest releasable software updates
- Continuous deployment, which ensures the business automatically receives those updates.

Using DevOps, IT organizations can move from slow, linear, manual processes to safer, more agile development and test workflows that don't break production.



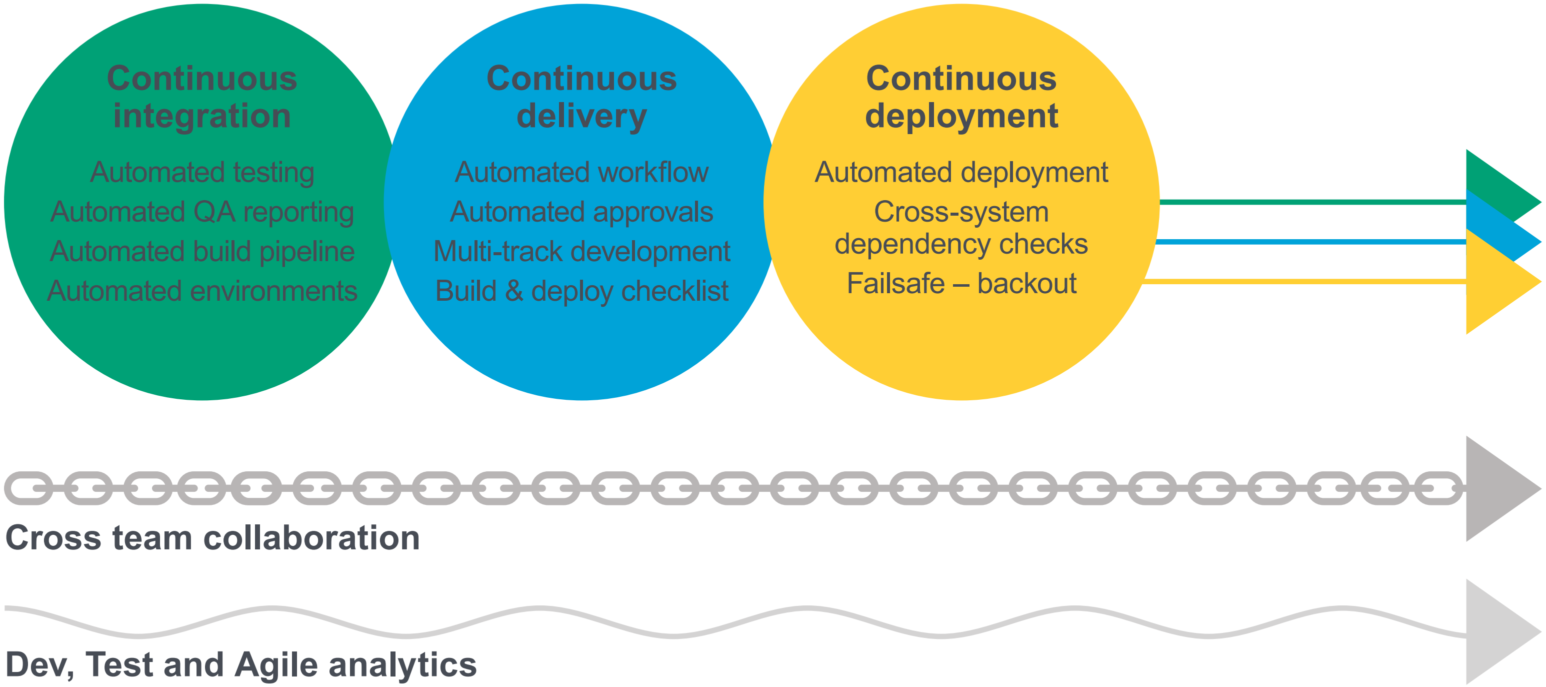
DevOps automation

A key factor in the success of DevOps is the tools that are used to support each of the components — tools which allow organizations to automate and accelerate the introduction of new software changes.

Can DevOps be applied to SAP? Absolutely. The principles of DevOps work just as well with SAP development as with any other. That's exactly how some of the customers mentioned earlier have achieved their breakthroughs. But here's the caveat. DevOps tools that work with existing systems of engagement don't necessarily work with SAP.

Typical DevOps tools are designed to work in development environments based on open standards. But SAP has its own architecture and methodologies. For instance, new features and functionality are delivered through SAP transports, which standard DevOps tools don't support.

The fact is, although DevOps success is in large part driven by people and processes, its success is dependent on the right technology. Automation is a fundamental requirement of DevOps, which makes it critical for companies to choose the tools they intend to use very carefully.



Continuous integration

Automated testing
Automated QA reporting
Automated build pipeline
Automated environments

Continuous delivery

Automated workflow
Automated approvals
Multi-track development
Build & deploy checklist

Continuous deployment

Automated deployment
Cross-system dependency checks
Failsafe – backout

Cross team collaboration

Dev, Test and Agile analytics

By adopting the right philosophy and putting in place the correct processes, organizational changes and, critically, automation tools — such as those from Basis Technologies — it is clear that organizations can extend the benefits of DevOps to their SAP environment and transform the way they deliver applications with:

- Faster and more frequent release cycles
- Increased productivity and speed
- Improved software quality and resilience
- Higher availability and stability
- Reduced cost

Speed and quality: The DevOps dividend

7x lower change failure rate

2,555x faster lead time from commit to deploys

46x more frequent code deployments

2,604x faster time to recover from incidents

Source: Benefits reported by elite DevOps teams, DORA, 2018

Steps to success

The question facing organizations is not whether they should move to a DevOps approach for SAP developments. The business case is far too strong to stay with traditional Application Lifecycle Management (ALM) and long release cycles. Instead, the question is, “How can we successfully apply DevOps in our own organization?”

Read on for some key steps on the road to safe daily SAP releases...

1. Increase deployment frequency

Deploying SAP releases on a 6-12 month cycle causes huge delays in the delivery of new functionality. But why wait that long to deploy self-contained batches of changes that have already been built and tested and could deliver business advantage immediately?

Start by moving towards delivering these changes more frequently, perhaps with fixes on a weekly basis and larger changes on a monthly basis, rather than bundling everything up into major releases. Gradually increasing the pace builds team momentum and forces a change in attitude.

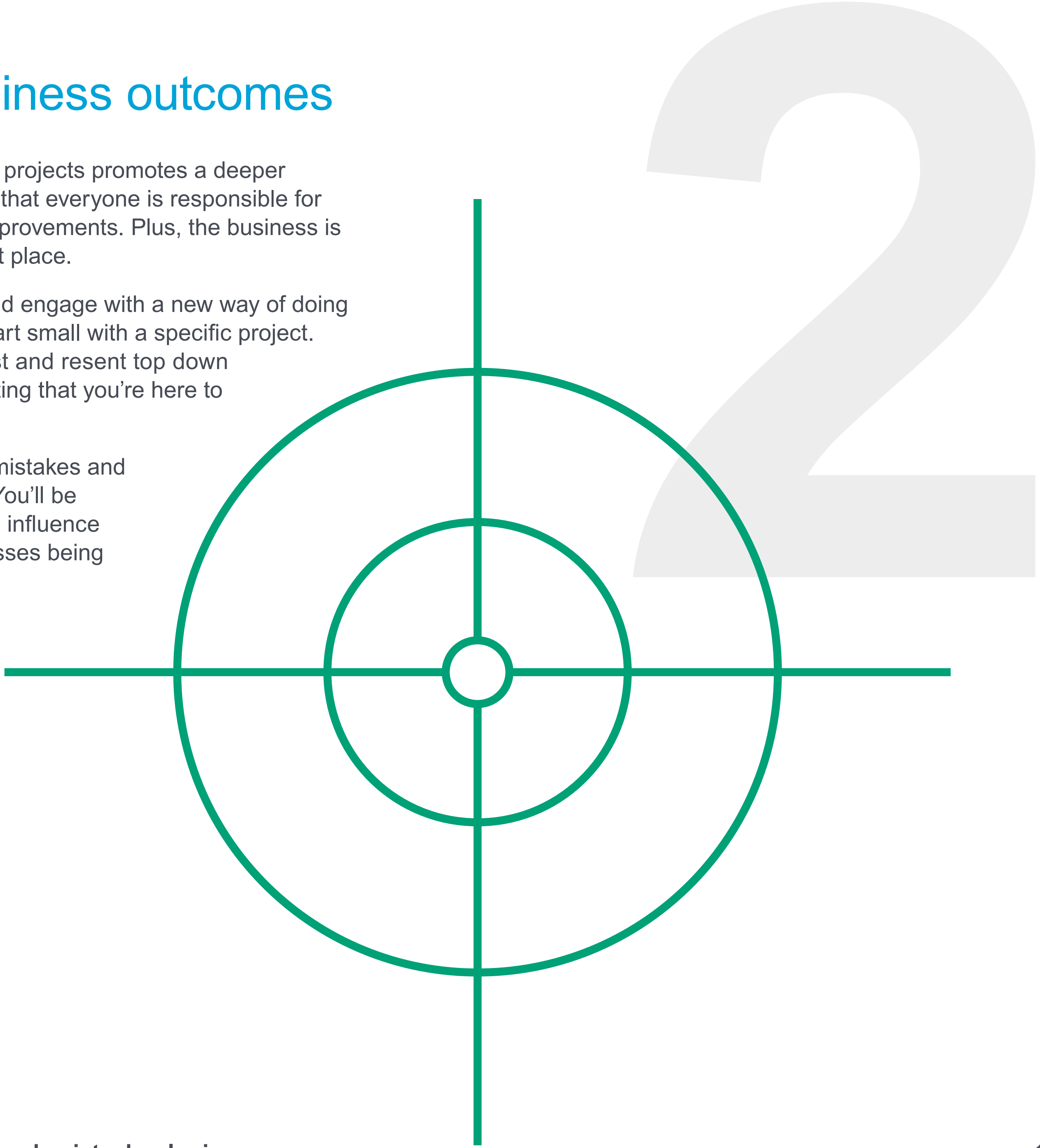
Tools that coordinate the change process are important here — to add governance and protection — but they must support a more agile process as well.

2. Focus teams on business outcomes

Giving the business ownership of products and projects promotes a deeper involvement in the development cycle, ensures that everyone is responsible for quality and feedback, and drives continuous improvements. Plus, the business is more likely to get what they asked for in the first place.

You'll need to get company leaders to buy in and engage with a new way of doing things to meet business objectives. Perhaps start small with a specific project. Technical and IT management might well resist and resent top down directives, so get them on-board by demonstrating that you're here to fix things and help rather than criticize.

Trust can't be earned overnight, so learn from mistakes and continuously improve and evolve the process. You'll be surprised how quickly success in one team can influence attitude and culture, and lead to the new processes being adopted elsewhere.



3. Evolve to agile

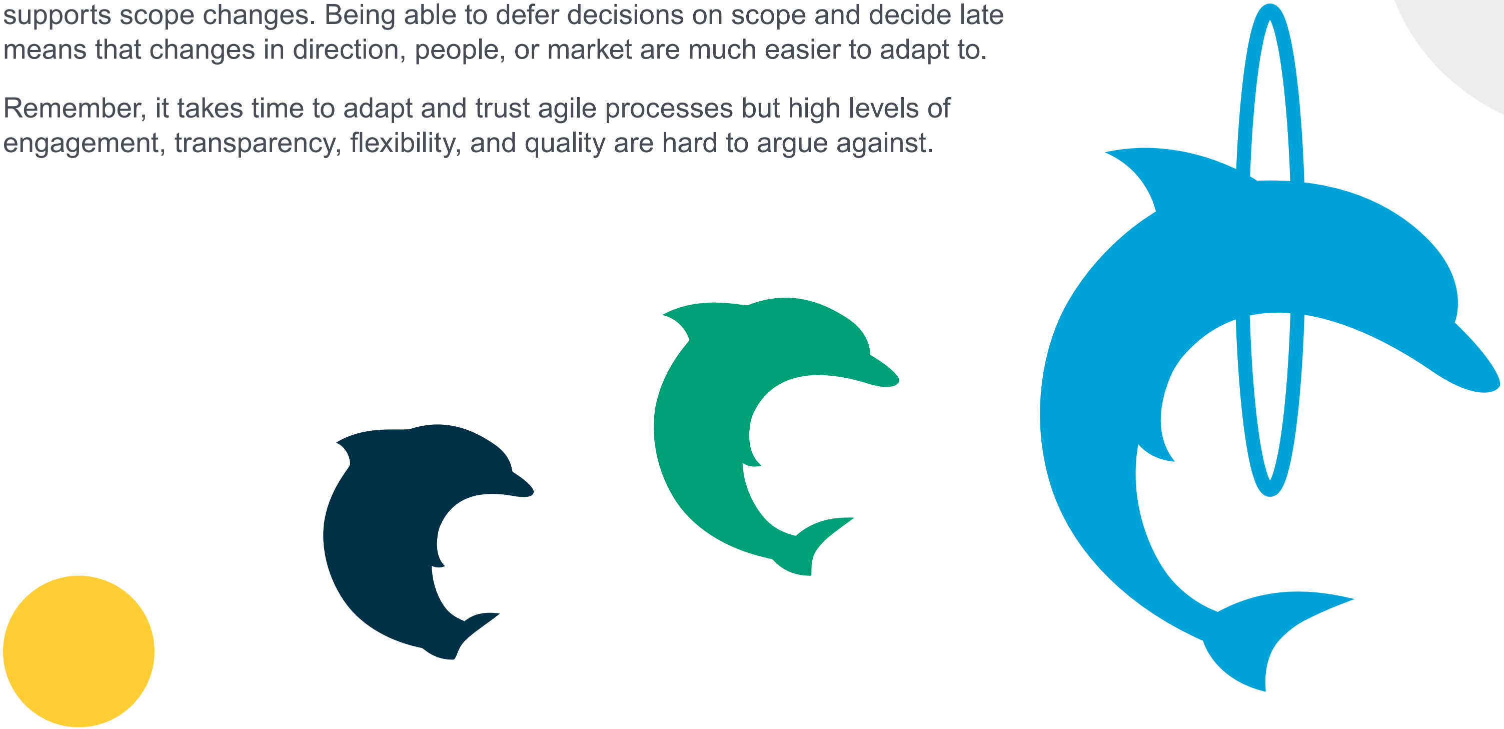
Agile development is often closely associated with DevOps, although in fact it’s a separate, more standardized approach that is less focused on the entire software lifecycle. It is true however, that agile is a prerequisite for DevOps.

With agile development, requirements are described as stories that produce business outcomes for specific personas. When these are broken down into smaller manageable chunks they can be delivered in short development cycles.

So you’ll need to create a planned and prioritized backlog of requirements. Decide what needs to be done and what’s most important to meet the objectives of the business.

Although agile development aims to deliver working software quickly it also supports scope changes. Being able to defer decisions on scope and decide late means that changes in direction, people, or market are much easier to adapt to.

Remember, it takes time to adapt and trust agile processes but high levels of engagement, transparency, flexibility, and quality are hard to argue against.



4. Shift left QA and operations

Traditionally Quality Assurance (QA) and Basis teams have operated as distinct functions with responsibility across many projects and products. Including QA and Basis into project and product teams ensures that every function is included in the development lifecycle. And it doesn't matter if they're physically distributed across the globe as long as they are committed to the team and the outcomes it is trying to achieve.

Shifting quality and operational involvement left ensures that there are few surprises. It's vital that all functions contribute as early as possible in the cycle. QA people know about and have influence over the development process. Basis people understand and can input into the implications of application changes, such as system requirements, users, jobs, etc.

And having the business owner to oversee and influence development ensures that all roles work as one team to deliver the right business outcomes more successfully.

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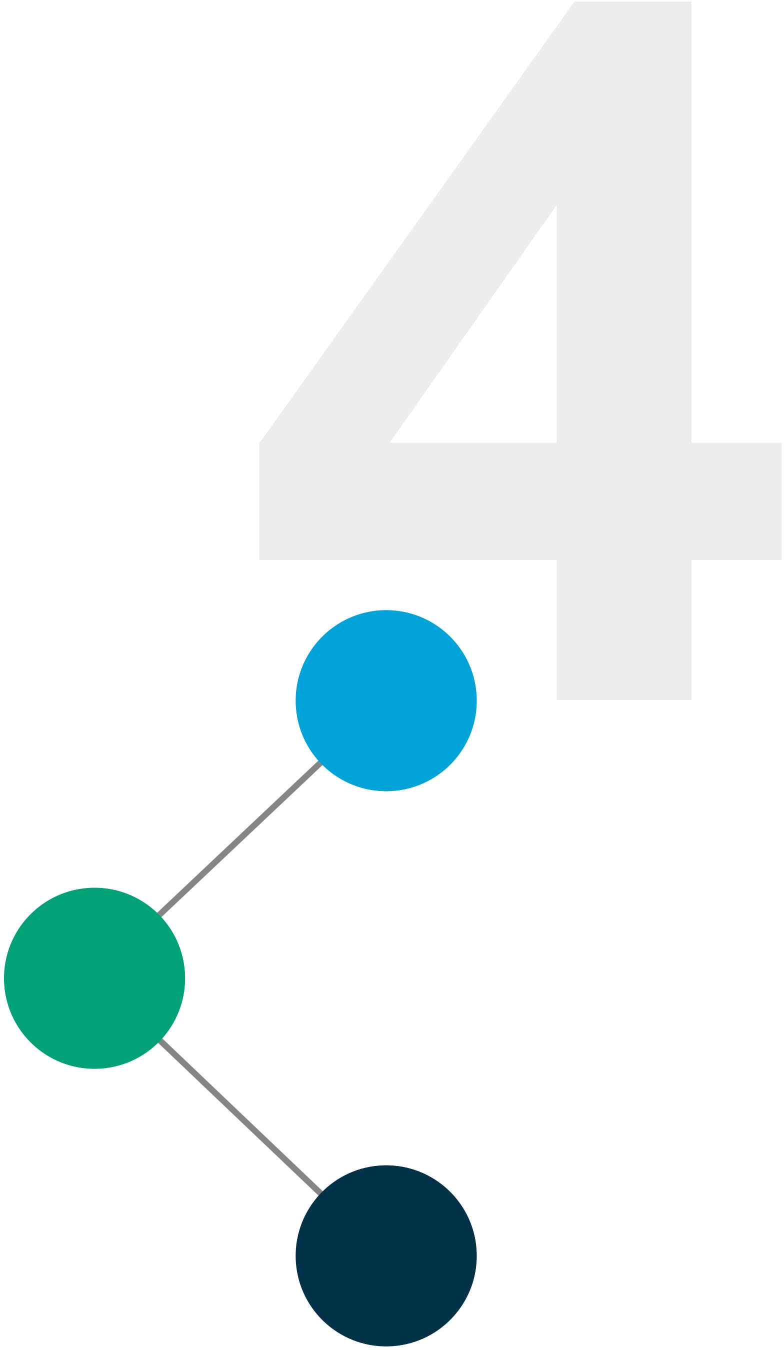


5. Streamline approvals

A robust and effective approval process to control and audit the changes being made to SAP systems is essential. The problem is that the process regularly adds unnecessary delays and the approver often doesn’t understand the risk and impact of the changes they are approving.

Having a slick process — where approvers and testers are informed as soon as they need to take action — means less waiting and a smoother development process. Shifting left and automating quality, risk, and impact checks into the process provides the approver with contextual information about the item being approved and its dependency on other changes. The approver can then make a conscious and informed decision about what to do.

Enabling easy collaboration between team members — so they can follow, share, or comment on changes in real-time — further speeds up the development lifecycle and removes the approver bottlenecks that are so common.

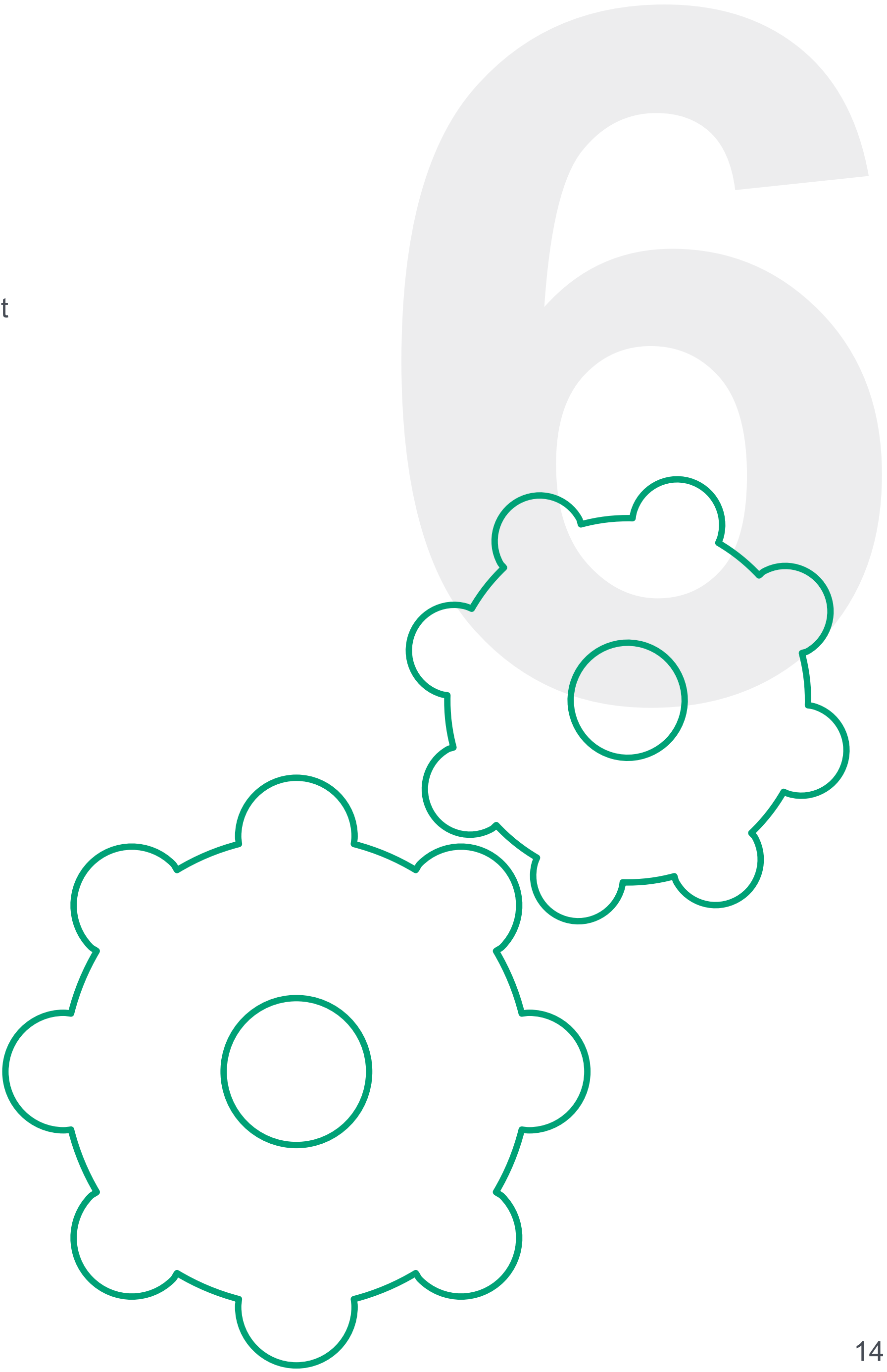
6. Automate everything you can

Manual processes always introduce delays and errors, so replacing them with automation wherever you can is a no-brainer when speed and quality are required. Continuous integration involves the automation of unit testing and the build pipeline, while continuous deployment involves the automation of change deployments into downstream systems. Both processes need tools that support the required components. But they also require a shift in mindset.

Automated unit testing is often neglected in SAP environments, but it can be achieved with the correct development methodology and architecture, and it can save a huge amount of time, effort, and cost. It may be a leap to get there, but the automated unit testing that's commonplace in many non-SAP tools can become the norm in SAP too.

Being able to sign-off development, automate security and performance checks, automate unit testing, and automate the build and deployment into QA creates a streamlined development process where problems are identified early and human error is virtually eliminated.

This is a big advantage of using DevOps with SAP because, by using predictable and repeatable processes, it removes the fear of change. However, remember that to maximize the benefits it's essential to select tools that support all the necessary elements of an SAP change process.



7. Integrate change management

As we have seen there is a digital divide between the pace of change of SAP systems and the pace of change of other applications.

It's no good working in silos and using a great process to independently build and deploy changes if the impact across other teams and the enterprise is not understood. Even if you have created enhancements quickly and they are ready to be released to the business, you won't be able to release them if the application has dependencies that aren't ready and can't be released at the same time.

Consequently, release cycles across different applications need to be synchronized so SAP changes can be connected and delivered in-line with other non-SAP applications. Cross functional teams with business and operations involvement help to break down these barriers so dependencies between applications are clear, seen early, and can be accommodated in the development process. Better still, support these integrated teams by integrating your SAP change management tooling into your wider IT tool chain.

DevOps is not a threat…it is an opportunity

Speed and agility in systems development are crucial foundations for success in today's volatile and dynamic digital economy. In response many organizations are using DevOps to rapidly develop and deploy enhancements to their systems of engagement. However, these techniques have traditionally not been applied to SAP systems, which have evolved slowly and been seen as needing protection.

But, providing the right processes, organization and tools are put in place, there is no reason why DevOps cannot be applied to SAP systems and enhancements cannot be released frequently as a stream of incremental changes.

By following the steps outlined in this ebook organizations can move towards safe daily SAP releases, enabling their SAP environments to move at the pace of the business and deliver greater value to the organization.

> DevOps is not a threat to SAP development, it's an opportunity to make changes and deliver incremental gains that result in substantial improvements.

The DevOps and Test Automation Platform

ActiveControl

ActiveControl allows SAP systems to respond to new business requirements at high speed. Its range of powerful automation features support agile development, DevOps and Continuous Delivery in SAP environments, generating more business value through faster, safer application delivery. It accelerates change without putting business continuity at risk, providing fast, efficient change management that puts you in complete control of your SAP change and release processes.

Testimony

Testimony is a fully automated, next-generation testing tool which uses Robotic Test Automation to create a comprehensive regression test library and eliminates the need for test script creation and maintenance. Without scripting, regular regression testing becomes a reality in the short ‘sprint’ (development) cycles typical of agile and DevOps approaches, and provides a practical way for development teams to shift testing left.

At Basis Technologies, we develop automation technology that massively reduces the time and effort needed to execute SAP change and testing. We are committed to driving business agility and transformation through agile development, DevOps and continuous delivery.

Our software — the only complete DevOps and testing platform engineered specifically for SAP — enables companies to accelerate innovation, ensure continuous quality and delivery, and lower risk across even the most complex SAP landscapes.

Since 1997, we have helped enterprises become more agile, innovative, and competitive. Our platform is SAP Certified for use on both S/4HANA and ECC systems, which is why many of the world's leading companies trust our subscription software to help them succeed in the digital age.

Contact us to find out how we can help your business adopt DevOps for SAP

www.basistechnologies.com

basis

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