SAP BTP In-a-Nutshell:
DevOps

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SAP BTP:
Why you should care

Change can be intimidating, especially when it involves upgrading your core business systems. Nonetheless, clinging to an outdated implementation can hold your organization back from its full potential.

Building on top of a core IT infrastructure and making constant forklift upgrades creates complexity and impacts modernization, integrations, and data transactions.

These setbacks ultimately impact an organization's ability to innovate, respond to the ever-changing market demands, and keep up with the current pace of technology

What is SAP BTP?

SAP Business Technology Platform (BTP) makes upgrading and integrating third-party applications and data assets a seamless process that does not disrupt your operations. Its comprehensive approach lets you focus on making the informed, data-driven decisions that will keep you ahead of the competition. SAP BTP is bringing the mobility world's concept of user-friendliness to ERP back-end technology. If adding, modifying, and deleting critical business applications could be as effortless as it is on your phone, it would be much easier to take full advantage of the latest tech and constantly innovate.

Services & Functionalities

As a platform for creating and integrating applications, data, and services, it enables developers to build innovative applications quickly and efficiently, including services for **Application Development, Automation, Integration, Data & Analytics, and Intelligent Technologies.**

SAP BTP helps organizations connect their data, systems, and processes in real-time, enabling them to make better business decisions and improve operational efficiency.

Flexibility & Scalability

SAP BTP allows customers to choose from multiple available hyper-scaler platforms. Your organization can choose the deployment model that best meets your business needs and quickly scale up or down as needed

Comprehensive Security

It also provides a range of steadfast security features that help organizations protect their critical business data and applications. This includes access control, data encryption, and identity management, all easily configurable and built in to ensure a quick, easy, and secure implementation.

In a nutshell, SAP BTP:

- Modernizes outdated IT infrastructure
- Accelerates and improves the efficiency of critical business processes
- Enables advanced data security
- Drives innovation throughout the organization

In this eBook, we will focus on the rich set of Dev-Ops-related services SAP Business Technology Platform supporting the development and operations of cloud-native and hybrid solutions.

Embracing the DevOps Culture

Organizations constantly face the challenge of accelerating their development cycle while ensuring high-quality and reliable software. Adopting a DevOps culture, which emphasizes collaboration between software developers (Dev) and IT operations (Ops), has become a compelling solution to this challenge. For those utilizing SAP BTP to develop applications, it is crucial to integrate modern development and DevOps practices to integrate SAP technology into the quality and compliance toolchain used within their enterprise.

This toolchain is often managed in silos, primarily due to the limitations of transport management. Recognizing this trend, SAP Business Technology Platform (BTP) fully supports the DevOps methodology, providing a comprehensive and streamlined platform that brings together development and operations teams, promoting efficiency, agility, and a culture of collaboration.

Understanding DevOps in SAP BTP

In the SAP BTP environment, DevOps breaks down silos and fosters collaboration between software developers and IT operations teams. It enables continuous integration/continuous delivery (CI/CD), allowing frequent, smaller software releases with automated quality checks. Among the benefits you can expect to see from DevOps in SAP BTP, there is:

Accelerated Deployment

SAP BTP supports DevOps practices by providing tools and services that facilitate CI/CD, thus accelerating the development, testing, and deployment of applications.

Enhanced Collaboration

In fostering a DevOps culture, SAP BTP ensures smooth communication and collaboration between different teams, promoting an environment where shared responsibility, transparency, and faster feedback are prioritized.

Automated Processes

Automation is a critical element of DevOps in SAP BTP. By automating repetitive tasks, teams can focus on value-adding activities, boosting productivity and reducing errors.

Built-in Monitoring and Analytics

SAP BTP supports comprehensive monitoring and analytics capabilities, enabling teams to gain insights into application performance, predict potential issues, and make data-driven decisions.

The Value in DevOps:
Continuous Business Development and Integration

DevOps represents a culture shift that fosters collaboration, continuous improvement, and a focus on outcomes. It plays a crucial role in driving efficiency and delivering superior business outcomes:

Shorter Development Cycles

DevOps shortens development cycles by enabling CI/CD, helping organizations release new features faster and respond swiftly to market changes.

Insight

According to a recent study by **Gartner**, **49%** of companies reported a reduction in time-to-market software and services in 2020.

Increased Deployment Success

Thanks to robust automation, rigorous testing,and swift feedback loops, DevOps practices lead to a reduction in deployment failures and application downtime.

Insight

According to a 2023 **State of DevOps Report**, high-performing DevOps organizations deploy 200 times more frequently than low performers, with a **24** times faster recovery from failures.

Improved Operational Efficiency

DevOps practices free up developers and IT operators from mundane tasks, enabling them to focus on strategic, value-adding activities.

Insight

A recent **market study** shows that the DevOps Market size was valued at USD **7.01 Billion** in 2021. It is projected to reach USD 51.18 Billion by 2030, growing at a CAGR of 24.7%.

Enhanced Collaboration and Innovation

By breaking down silos, DevOps fosters a culture of collaboration, shared responsibility, and open communication, thus driving innovation.
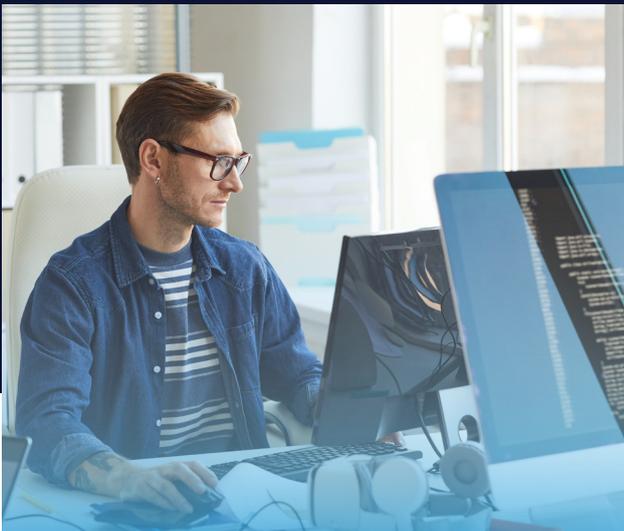
Insight

According to a **2023 study**, collaboration tools and culture can facilitate increased productivity by up to **30%**.

DevOps in SAP BTP:
Practical Applications

DevOps isn't just a theoretical concept; it has practical applications that drive tangible results in the SAP BTP environment.

Let's delve deeper into some key DevOps features that SAP BTP enables:

Continuous Integration and Continuous Delivery (CI/CD)

SAP BTP supports CI/CD pipelines that automate the software delivery process, from code updates to production deployment. This allows for frequent, smaller updates and swift feedback.
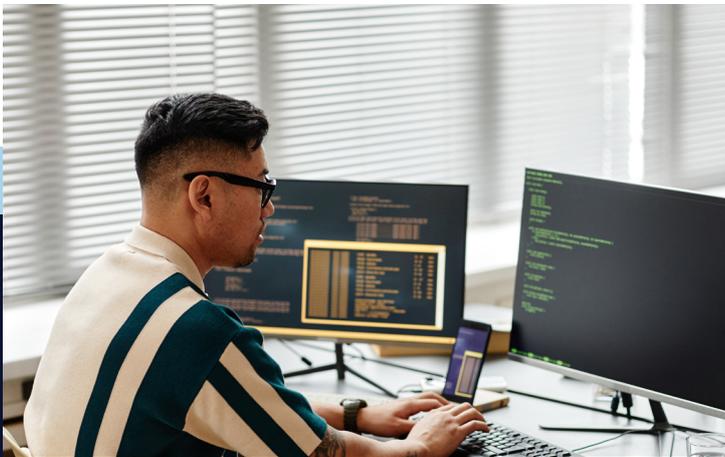
Monitoring and Analytics

SAP BTP provides robust monitoring and analytics capabilities, giving teams real-time insights into application performance and usage. These insights enable proactive issue detection, performance optimization, and data-driven decision-making.

Automated Testing

In a DevOps culture, testing is integral to the development process. SAP BTP supports automated testing, ensuring that code changes do not break existing functionality and meet quality standards.

Infrastructure as Code (IaC)

With IaC, infrastructure management becomes as flexible as application code. SAP BTP supports IaC, allowing teams to manage and provision infrastructure through code, increasing speed, and reducing errors.

Achieving Comprehensive DevOps in SAP BTP:
A Communications Company Case Study

The following case study delves into a Communications Company's inaugural SAP BTP project, illustrating the challenges and triumphs of implementing end-to-end DevOps.

Challenges and Opportunities

With SAP BTP serving as a parallel extension to their on-premise solution, the Communications Company's DevOps team aimed to:

- Implement agile and DevOps principles in SAP Change Management.
- Use one DevOps tool for both on-premise and BTP code migrations.
- Reduce manual effort by supporting all artifact types.
- Integrate with ServiceNow for change request approvals before production deployment.

The team considered three main options: Enhanced Change and Transport System (CTS+), SAP Cloud Transport Management Service (TMS), and Manual Deployments.

Limitations of CTS+ and TMS

CTS+ was the initial choice, but limitations quickly arose:

- Only supported artifacts that could be packaged as Multi-Target Applications (MTA).
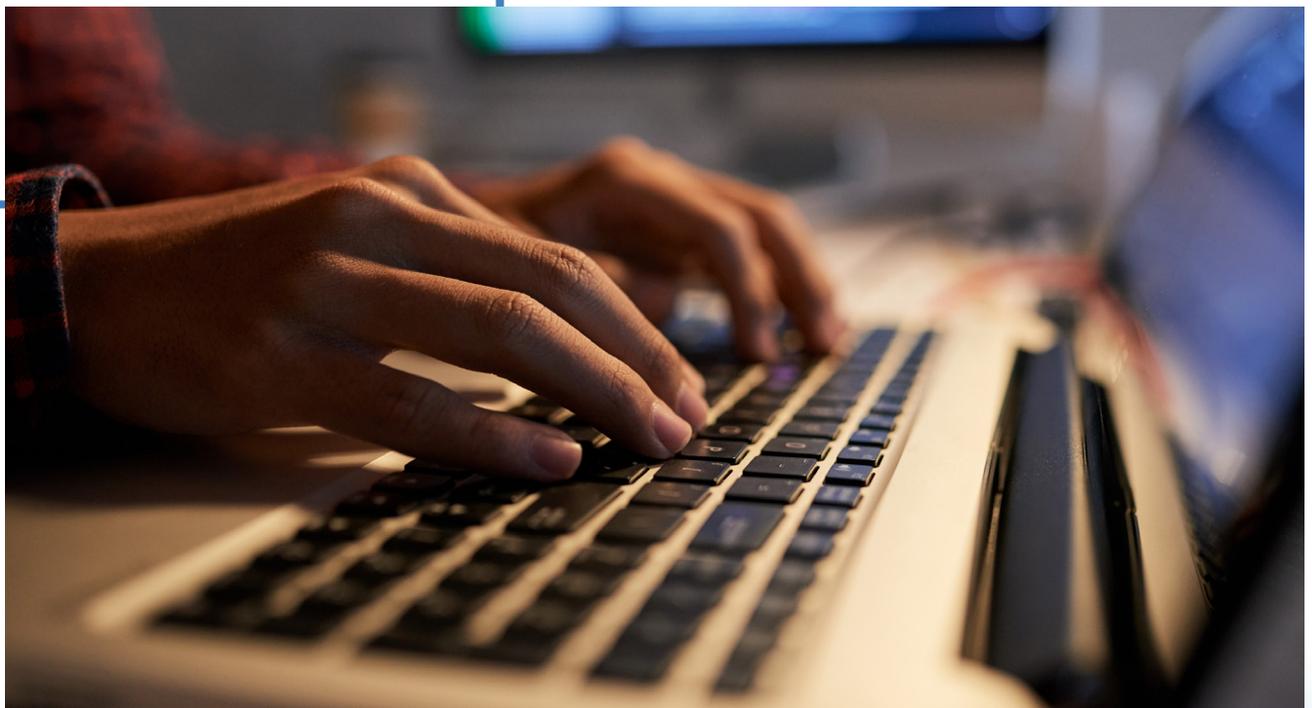- Complex configurations that were difficult to maintain.

The TMS option was evaluated next. Unfortunately, it also fell short:

- Litimited support for content types.
- Inadequate ROI in terms of time, effort, and cost.

Manual Deployment and Its Downsides

Manual deployment became the default, with neither CTS+ nor TMS meeting the team's requirements. This led to:

- Heavy coordination to maintain component lists.
- Missing components and dependencies.
- Overwriting of changes.
- Inadequate ROI in terms of time, effort, and cost.

The Solution

A platform was introduced that ideally suited the Communications Company's needs:

- Native to SAP, focusing exclusively on SAP DevOps.
- Support for artifacts across ECC, S4HANA, SAP BTP, and CPI.
- Easy-to-use Saas offering with no additional infrastructure requirements.

The DevOps process was implemented with the following steps:

1. A user story is assigned from Jira to the developer.
2. Artifacts are deployed and tested in the Dev sub-account.
3. The code is merged and further validated.
4. After QA sign-off, a change request is created in ServiceNow.
5. Final deployment to the production sub-account.

The Value-Driven Results

The implementation of this optimal solution led to the following:

- A 75% reduction in manual effort.
- An 80-90% increase in application stability post-deployment.

The case study demonstrates the transformative potential of implementing an end-to-end DevOps solution optimized for SAP applications, offering valuable insights for any technology company considering a similar endeavor.

How LTIMindtree can help you get started

About LTIMindtree

LTIMindtree is a new kind of technology consulting firm. We help businesses transform – from core to experience – to thrive in the marketplace of the future.With a unique blend of engineering DNA with experience DNA, LTIMindtree helps businesses get to the future faster.

Our long-term relationship with SAP, which spans over 20 years, uniquely positions us as a Partner, Co-Innovator, and Customer.

As the pioneer of the first SAP implementation in India, our deep expertise enables us to help our clients build robust digital ecosystems geared to tackle their industry's most complex challenges.

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About LTIMindtree

LTIMindtree is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies. As a digital transformation partner to more than 700 clients, LTIMindtree brings extensive domain and technology expertise to help drive superior competitive differentiation, customer experiences, and business outcomes in a converging world. Powered by 82,000+ talented and entrepreneurial professionals across more than 30 countries, LTIMindtree — a Larsen & Toubro Group company — combines the industry-acclaimed strengths of erstwhile Larsen and Toubro Infotech and Mindtree in solving the most complex business challenges and delivering transformation at scale. For more information, please visit https://www.ltimindtree.com/.