aws migrations

EBOOK

Optimize Your SAP Environment by Migrating to AWS

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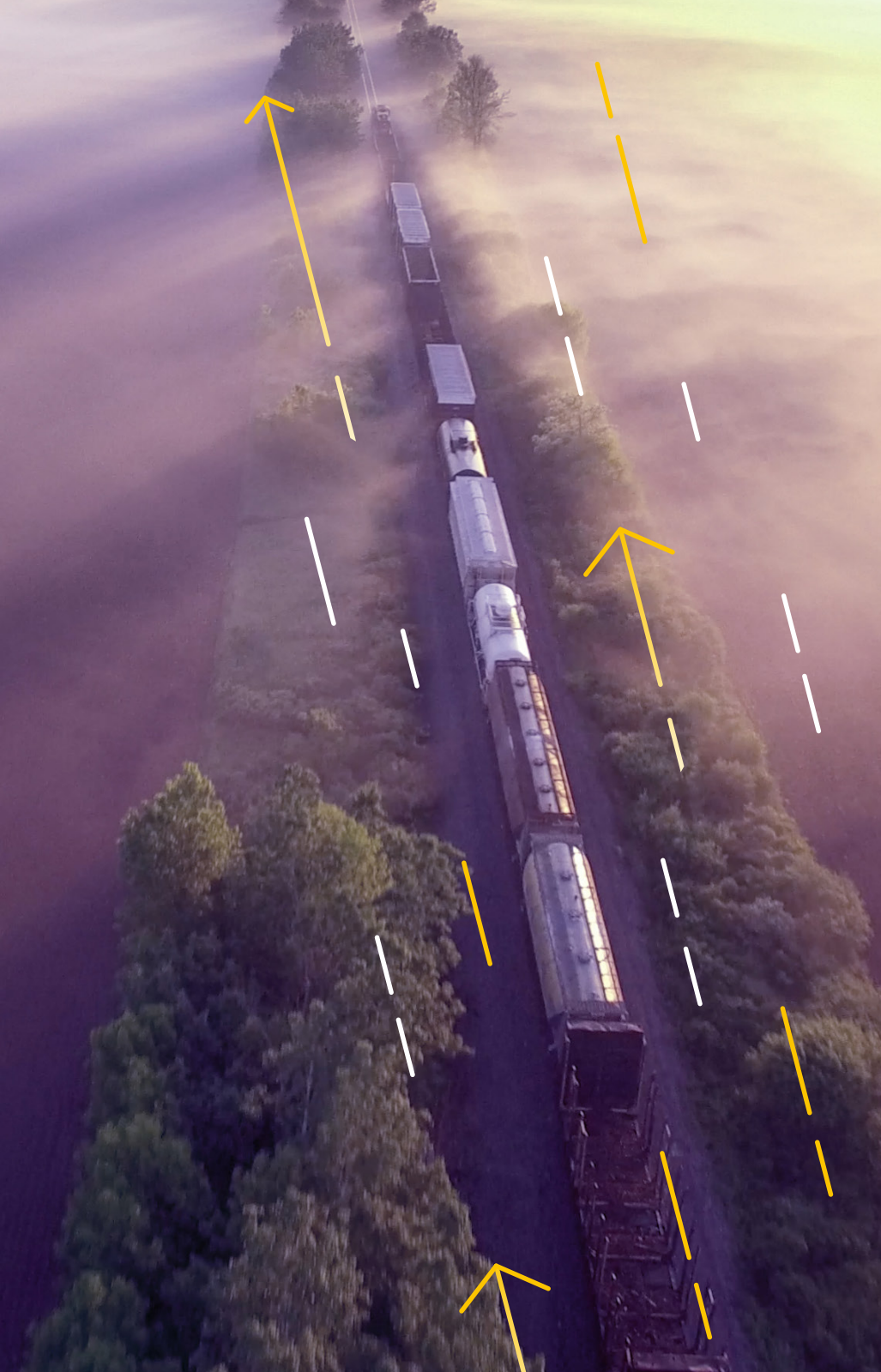

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Transforming the heart of the enterprise

The notion of digitalizing business processes and customer experiences has become a matter of "when", rather than "if". Nearly every large organization has begun leveraging cloud services as part of a digital transformation, whether that is to reduce their IT costs, build innovative new applications, or better support their global workforces without the major undertaking of deploying new data center facilities. While each organization approaches their cloud adoption journey differently, mission-critical applications are often among the last a given organization moves into the cloud. But make no mistake: migrating mission-critical line-of-business workloads to the cloud should be a key component of any enterprise's transformation aspirations.

SAP workloads certainly fall into that category of mission-critical line of business workloads. They are deeply intertwined with organizational processes, and any downtime or performance hits are massively disruptive to the business. It could be argued that in no place is the business impact of a strategic technology decision felt more directly than with SAP.

For this reason, CIOs, VPs of Infrastructure, and other IT leaders tasked with SAP modernizations are under enormous pressure. They need to find a solution that reduces costs, increases agility, and above all, delivers transformational business value. With so much riding on their platform choice, migration, and long-term SAP technology strategy, it is understandable that enterprises have taken their time with this decision.

However, the customers who have been bold enough to tackle this problem head on and transform their SAP landscapes on AWS are turning SAP into a differentiated competitive advantage. In this eBook, we will look at why more organizations run their SAP applications on AWS than any other cloud, and how specific customers are using AWS for their SAP transformations.

Why do more customers run their SAP workloads on AWS than any other cloud provider?

Longest track record of SAP customer success

Given the criticality of SAP workloads, customers are understandably conservative as they make SAP infrastructure decisions, wanting to select a proven solution that minimizes risk. You can confidently select AWS as your SAP platform, knowing that AWS has unmatched experience executing successful SAP cloud transformations.

AWS has been running SAP workloads since 2008, significantly longer than any other cloud provider. Over 5,000 active customers trust AWS to run SAP, half of which are also running SAP HANA. In step with the broader Amazon brand, AWS always works back from customer needs when developing new products—meaning this unparalleled experience leads to a platform that's always evolving to better support the requirements of real SAP customers such as you.

SAP themselves rely on AWS to build systems of differentiation. Today, SAP exclusively runs SAP HANA Cloud, SAP Data Warehouse Cloud, and SAP Analytics Cloud on AWS. Additionally, it runs a majority of the SAP Cloud Platform regions, as well as SAP Concur, QualtricsXM, and NS2 – which serves some of the largest SAP HANA environments to customers across government and regulated industries – on AWS.

> "AWS technology, combined with the AWS engagement and relationship model, is unparalleled among cloud providers. Given our company's small size and ambitious goals, **AWS is critical to our digitization strategy**."
>
> – Marcello Damiani, Chief Digital Officer, Moderna Therapeutics

"By moving to AWS, response times on the SAP database are **28% faster** than in our private cloud infrastructure. We're also seeing a **46% boost in performance** on the application server level."

– David Peano, Chief Information Officer, Visy

Resources to support the largest SAP workloads

You can run the largest and most demanding mission-critical SAP workloads on AWS. Since 2008, AWS and SAP have jointly innovated to develop hardware purpose-built for SAP, so customers can run their SAP applications with strong performance on the cloud.

AWS offers the largest cloud-native virtual instances certified for SAP HANA in production, with up to 24 TB of memory in an OLTP scale-up architecture, and up to 48TB SAP S/4HANA scale-out architecture. A broad variety of SAP-certified storage options are also available, and you can use the same backend storage regardless of the size of the system you're deploying. With AWS Nitro System, customers have the ability to run SAP on bare metal instances. This removes the virtualization overhead to make 100% of the server's CPU and memory addressable, while delivering the same flexible and elastic experience you'd expect from the cloud.

Proven partners and tooling to modernize at your own pace

No matter what SAP system you run or strategy you'd like to adopt, AWS and APN Partners have the experience, tooling, methods, and best practices to streamline your migration or transformation. AWS is the only cloud provider with a dedicated SAP partner competency. Before receiving this competency, partners must pass business, technical, and specialized trainings, prove their knowledge of the AWS Well-Architected Framework, and demonstrate previous SAP on AWS customer success.

Companies typically go through 3 key stages as they migrate and modernize SAP on AWS: Assess, Mobilize, and Migrate & Modernize. AWS offers the SAP Migration Acceleration Program to work with you across these three stages.

Assess

During this stage customers participate in an AWS SAP Discovery Workshop to: learn about AWS SAP services, architecture, and migration options and start to collaborate with SAP specialists who have experience migrating and modernizing SAP solutions on AWS. This enables the customer to explore architecture and migration strategies for their estate and complete an initial estimate of the costs for operating their current or target SAP solutions on AWS.

Mobilize

During this stage, customers complete validation required to gain hands on experience with AWS and validate their SAP migration and modernization strategy, build their migration plan which defines the schedule and resources required for migration, and finalize the business case for migration.

Migrate & Modernize

During this stage, customers move their existing SAP workloads to the cloud and/or transform to new SAP solutions on AWS. Then, they innovate by extending and complimenting their SAP solutions beyond infrastructure with AWS services or partner solutions.

Whether you want to lift and shift your existing SAP architecture to AWS, or completely transform by adopting S/4HANA on AWS, AWS will provide the resources needed to help you adopt the strategy that works best for your business.

"Migrating our SAP applications from one cloud host to the AWS Cloud was one of the fastest, most successful migrations I've ever seen."

– Keith Milburn, Chief Information Officer, GROWMARK

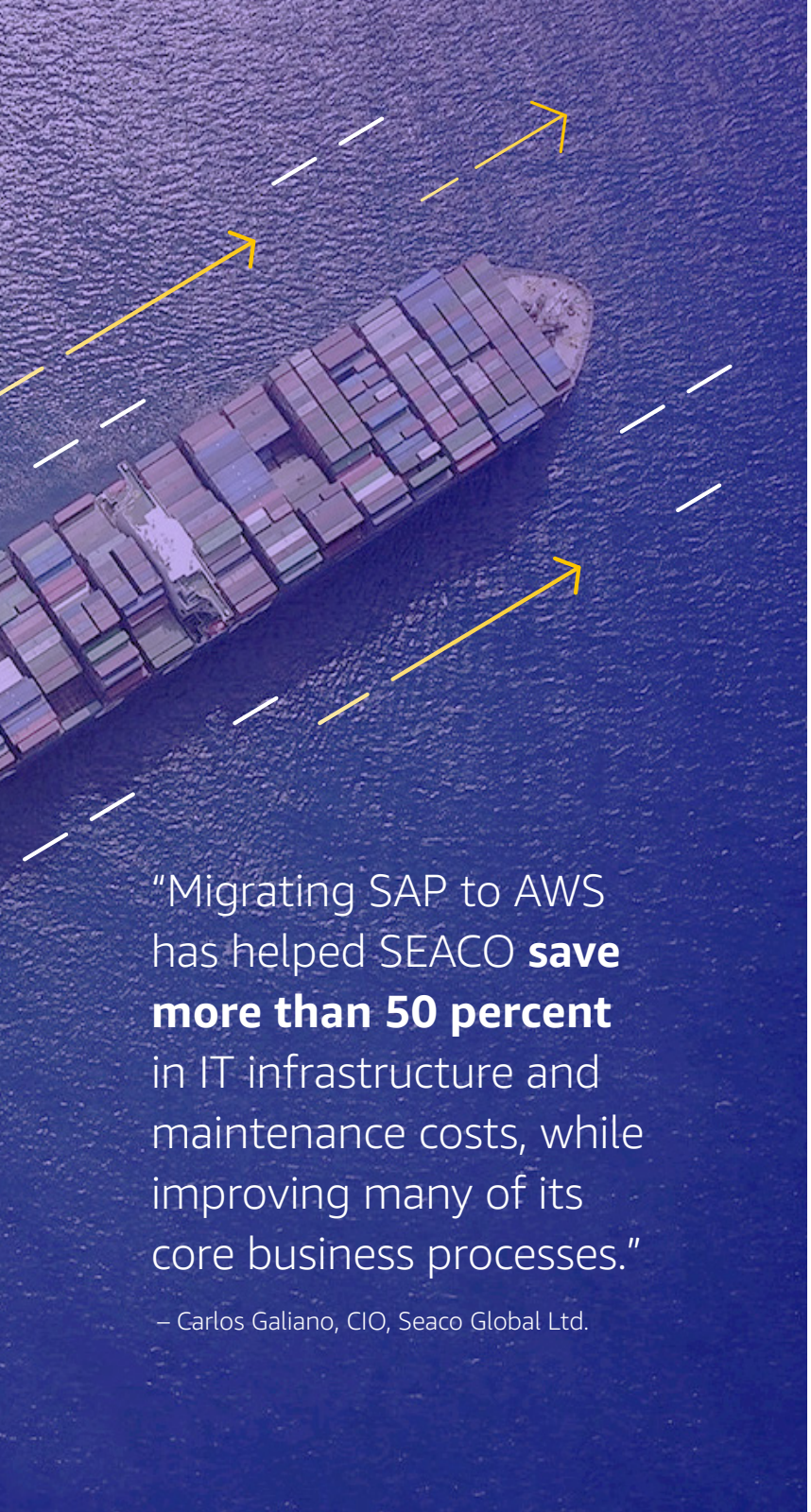
Most extensive services to innovate with SAP

There are immediate benefits of SAP migration, including reduced costs and eliminating the complexity of managing on-premises data centers. However, for most customers, migrating SAP to the cloud is part of a broader, longer-term enterprise transformation. With AWS, customers have access to the world's most comprehensive and broadly adopted cloud platform, with more than 175 services available to help them innovate today, including services for AI/ML, IoT, Data Lakes, and more. To help customers innovate tomorrow, AWS maintains an unparalleled pace of innovation.

AWS constantly adds new services and improves existing ones, meaning that customers will continue to have access to the latest cloud services available. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS, more than any other provider. Most new services and features are a direct result of feedback from these customers.

"We adjust business strategies and see the immediate impact on customer behavior or on sales performance. We have increased the value of our SAP systems by integrating SAP with AWS technologies because **we can steer the business in near real time**."

– Yuriy Volosenko, Director, Enterprise Applications and Development, Zalando



"Migrating SAP to AWS has helped SEACO **save more than 50 percent** in IT infrastructure and maintenance costs, while improving many of its core business processes."

– Carlos Galiano, CIO, Seaco Global Ltd.

Reliably reduce SAP costs

Customers consistently report back that running SAP on AWS reduces their total cost of ownership. According to a 2019 IDC report, it is less expensive to run SAP on the AWS purpose-built infrastructure than it is on-premises. Furthermore, over 85.4% of respondents have seen a significant (40.5%) or modest (44.9%) cost reduction by running SAP on AWS[1].

Many SAP processes occur irregularly – monthly, annually, or even further in between. By running on AWS, you no longer have to over-provision capacity to meet these spikes in demand. Instead, you can provision resources on demand when you need them and pay only for what you use. You can also leverage AWS Trusted Advisor, which proactively recommends changes to your AWS configuration to help you better align with AWS best practices, including those for cost reduction.

[1] IDC Whitepaper: "What to Expect When Starting Your Journey to SAP on IaaS", June 2020

Secure environment to protect SAP data

Running SAP applications on AWS allows you to strengthen your security posture, simplify compliance, and automate routine security tasks. To aid customer compliance efforts, AWS regularly achieves third-party validation for thousands of global compliance requirements. These are continually monitored to help customers meet security and compliance standards for finance, retail, healthcare, government, and beyond.

Even SAP themselves run some of their most sensitive workloads on AWS. National Security Services (NS2) is an SAP subsidiary that provides technology solutions to help customers across government and regulated industries drive innovation. With these customers' robust security and compliance needs in mind, SAP provides NS2 SaaS offerings on AWS.

AWS customers can leverage dozens of frameworks for compliance with common regulatory requirements, including HIPAA, GDPR, PCI SOC, ISO, FedRAMP, FISMA, and more. SAP Data Custodian on AWS makes it easy to create role or geolocation-based policies from a library of templates optimized for specific regulations.

> "As an aerospace and defense firm, security is absolutely essential. That's why we chose AWS GovCloud. We then built the foundational and security blueprints on top of it all."
>
> – Jeff Wright, Cloud Services Sr. Manager, Lockheed Martin

Running SAP HANA on AWS

Running SAP HANA on AWS

As customers assess their existing SAP landscapes and their options for modernization, most know that eventually, they will need to both migrate their SAP landscape to the cloud and modernize their database to SAP HANA. For some customers, it makes sense to modernize on HANA or S/4HANA as part of their SAP cloud migration. For others, migrating their landscape as-is and adopting HANA in the future makes more sense. Some customers are already running HANA in their own data centers and want to bring it to the cloud. Unlike other cloud providers, AWS lets customers decide when and how HANA fits into their plans for their SAP landscape and does not force them to adopt HANA as part of their migration.

AWS and SAP have worked together closely to certify the AWS platform for HANA in production, so customers that decide to adopt HANA can fully realize all its benefits on AWS. AWS customers can choose from a broad variety of compute and storage options that are SAP-certified for HANA in production. Among these offers are the largest cloud-native instances certified for HANA in production, and scale-out up to four nodes, totaling 48 TB of memory, for extremely large S/4HANA deployments.

To help customers get started, the SAP HANA Quick Start helps you deploy fully functional SAP HANA systems on the AWS Cloud, following best practices from AWS and SAP. The Quick Start ensures that AWS services and the OS (SUSE Linux Enterprise or Red Hat Enterprise Linux) are optimally configured to achieve the best performance for your SAP HANA system.

> "Using AWS SAP HANA Quick Start, we only needed to push a few buttons to get a functioning SAP HANA solution."
>
> – Phillip Miller, Head of Infrastructure & CISO, Brooks Brothers, Inc.

Since 2005, Intel and SAP have partnered to deliver better performance for SAP® applications running on Intel® architecture. In fact, Intel provided the original reference architecture for SAP HANA. Intel® processors are made to run on the SAP HANA® platform, and the SAP HANA® platform is optimized to run on Intel processors with four or more sockets. Since Intel began early definition of the Intel® Xeon® processor E7 family system architecture at the same time as SAP started SAP HANA platform development, the two have evolved together, resulting in one of the most efficient analytics platforms available today. Amazon EC2 High Memory 18 TB and 24 TB instances are powered by 2nd Generation Intel® Xeon® Scalable (Cascade Lake) processors, and are purpose built with Intel to run large in-memory databases, including production deployments of SAP HANA, in the cloud.

How are customers transforming their businesses with SAP on AWS?

Customer Success Story: BP

"BP needs the agility to be competitive when prices, policy, technology and customer preferences are changing - and that's what we get with AWS. Recently, we fully provisioned 220 virtual machines on AWS - from initial planning to app design layout, provisioning and production - in one week."

– Steve Fortune, Group CIO, BP

The Challenge

Managing many SAP applications used by thousands of employees globally, BP invested in data centers to run essential supply chain, order to cash, procurement, and finance activities. However, they were not fully utilizing their infrastructure and their ability to get a new project up and running took months. BP needed to enhance agility and flexibility to support these new business initiatives, as well as more efficiently utilize infrastructure to save costs.

The Solution

BP started their cloud journey by initially implementing an SAP HANA–based analytics reporting and insights system for their Castrol Business on AWS. The company uses this solution to deliver analytical dashboards to executives and provide financial data to the BP finance organization. After a successful transition, BP began moving its first production SAP ERP Central Component (ECC) to AWS. BP worked closely with AWS Enterprise Support teams to ensure a smooth migration.

BP has seen significant savings in annual licensing, hardware, support and maintenance costs, as well as a 40% performance improvement by running the lubricant's ECC system on AWS. Based on this success, they are in the process of moving their entire SAP landscape into AWS.

Read the complete case study **here**.

Customer Success Story: Engie

"Deciding to migrate our SAP footprint to AWS while developing our new business framework and analytics system proved to be an excellent choice for us. As we continue to focus on digitalization and driving insights through data, we feel it is an enormous advantage to be running S/4HANA on AWS."

– Thierry Langer, CIO of the finance division, ENGIE

The Challenge

Engie is one of the world's leading providers of electric utilities and renewable energy. As they pursue a new strategy based on decarbonization, digitalization, and de-centralization, they need to be more data-driven and operate more efficiently.

Engie's portfolio spans dozens of groups pursuing different renewable energy initiatives, each of which previously used their own ERP system. For this reason, the finance division found that measuring business performance was difficult, particularly given the variable cost of utilities.

The Solution

To help address these issues, ENGIE decided to create a program that would integrate disparate ERP systems used by various companies within the Group worldwide, which they dubbed the Common Finance Program (CFP). They decided to modernize on SAP S/4HANA to support CFP, which would require a new hosting solution.

Engie was already using AWS as part of a broader digital transformation, so they engaged AWS Professional Services to build a business case for migrating the CFP platform and production ERP environments to AWS. From initial decision-making to the go-live date, the project took approximately six months. Engie's architecture uses Amazon EC2 X1e instances powered by Intel® Xeon® processors, which are specifically designed for memory-intensive applications like S/4HANA.

By leveraging AWS, Engie has been able to right-size their primary database 4 TB to 2 TB and their secondary database from 4 TB to around 200 GB, dramatically reducing their storage footprint. They have also improved performance and agility, reducing their ramp-up time for new users from three days to one day.

Read the complete case study **here**.

Customer Success Story: Swire Coca Cola

SWIRE COCA-COLA, USA

"By migrating our entire IT infrastructure to AWS, we achieved digital transformation of our IT systems, which can serve millions of retail customers or even hundreds of millions of consumers rather than the previous 10,000 sales representatives."

– Ke Li, Manager, Cloud Service & IT Operations, Swire Coca-Cola

The Challenge

Swire Coca Cola has the exclusive right to manufacture, market, and distribute products of the Coca-Cola Company across substantial territory in Asia and the western US—a total customer base of 728 million people. In recent years, they fully embraced digital transformation, which has required them to support millions or hundreds of millions of customers, as well as their own employees. After deciding to pursue a cloud–based digital transformation, Swire Coca-Cola made another bold decision to close its three on-premises data centers and migrate all of its business systems, including SAP, to the cloud.

The Solution

Swire Coca Cola selected AWS due to its technology leadership and customer-oriented corporate culture. By working closely with AWS, they were able to develop a migration plan with almost no impact on business—a plan that ensured enhanced function and performance of all IT systems and confidence in its success from every department.

With AWS, Swire Coca Cola has improved the performance of application systems. Further, they can quickly respond to changing business requirements by spinning up new environments in days rather than months. They're also finding ways to use AWS services for in-memory databases, serverless computing, IoT, and AI as part of their global transformation.

Read the complete case study **here**.

Summary

SAP modernization is a pivotal initiative for IT leaders. By moving SAP workloads into the cloud, customers can realize their SAP modernization objectives, but to do so, they need to be smart about their platform choice and migration strategy.

AWS is the most proven cloud for SAP workloads. Some of the reasons AWS has more than 5,000 SAP customers, more than any other provider, include:

Longest track record of SAP customer success

AWS been working with SAP since 2008, and SAP runs many of their own workloads on AWS.

Resources to support the largest SAP workloads

To give customers strong performance for SAP workloads, AWS has worked with SAP and Intel to build SAP-certified infrastructure solutions across both compute and storage, including Amazon EC2 X1 instances.

Proven partners and tooling to modernize at your own pace

AWS is the only cloud provider with an SAP partner competency and will never force you to adopt HANA as part of your migration.

Most extensive services to innovate with SAP

You can drive new innovation from your SAP landscape by leveraging more than 175 AWS services, including AI/ML, IoT, Data Lakes, and more.

Reliably reduce SAP costs

Customers consistently report back that running SAP on AWS reduces their total cost of ownership, and IDC's research has found it's less expensive to run SAP on the AWS purpose-built infrastructure than it is on-premises.

Secure environment to protect SAP data

Running SAP applications on AWS allows you to strengthen your security posture, simplify compliance, and automate routine security tasks.

Regardless of whether you're ready to completely transform your SAP landscape on S/4HANA on AWS, or simply want to lift your existing SAP landscape to AWS to take advantage of the highly cost-effective and agile AWS Global Infrastructure, AWS and APN SAP Competency Partners are ready to help you start your journey.

Find a partner with SAP Competency for your SAP Transformation.

How to get started

For more information about transforming your SAP landscape on AWS, visit:

- Learn about SAP on AWS
- Find a partner with SAP Competency for your SAP Transformation
- See Frequently Asked Questions for SAP on AWS
- Read more SAP on AWS customer case studies

About AWS

For 14 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 175 fully featured services for compute, storage, databases, networking, analytics, robotics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 70 Availability Zones (AZs) within 22 geographic regions, with announced plans for 15 more Availability Zones and five more AWS Regions in Indonesia, Italy, Japan, South Africa, and Spain. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs.

To learn more about AWS, visit **aws.amazon.com**. To learn more about how AWS and Intel work together, visit **aws.amazon.com/intel**.