aws | intel

EBOOK:

Optimize Your SAP Environment

by Migrating to AWS

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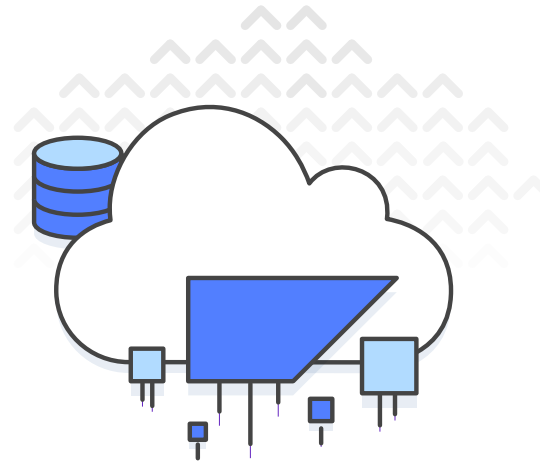
Why Migrate SAP Workloads?

The notion of digitizing your business has become a matter of “when,” rather than “if.” For many, migrating critical workloads to the cloud is a key part of this transformation. When deciding on a cloud provider, however, IT executives are under pressure to find a solution that enables reduced costs, greater agility, and above all, the ability to innovate core business processes.



At the heart of many businesses embarking on this journey is their SAP environment. But since SAP workloads represent some of the most critical and deeply integrated business applications, IT executives are required to look for ways to execute this migration in the most timely and reliable manner. Organizations migrating to the cloud cannot risk application downtime or productivity loss.

Running SAP applications on Amazon Web Services (AWS) enables your business to be more agile, cost-effective, and secure than running SAP on premises. The breadth and depth of AWS services provides traditional and emerging technologies to help you better support your evolving business needs and drive new value from SAP workloads. AWS provides tools and resources to help you migrate to the cloud quickly and reliably, whether you are simply lifting and shifting your existing environment, or migrating to SAP HANA. In addition, the AWS Partner Network (APN) Partners provide tools and best practices to help you accelerate your SAP migration and successfully and optimize manage SAP workloads on the AWS Cloud.

Most Complete Cloud for Business Innovation

AWS provides the broadest and deepest set of integrated services among cloud providers, spanning traditional offerings, like compute and storage, and emerging technologies, like IoT and machine learning. Access to these services reduces the traditional barriers – risk, cost, and complexity – of integrating new technologies with your SAP workloads. AWS constantly updates and expands their offerings based on customer feedback, maintaining a pace of innovation to help you continue driving new value from your SAP environment.

Reduced Total Cost of Ownership

AWS provides access to low-cost IT infrastructure that you can rapidly provision and de-provision on-demand, while paying only for the resources you use. This, combined with the removal of significant upfront investments and continual hardware maintenance costs, helps you reduce your total cost of ownership of your SAP environment.

> "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.

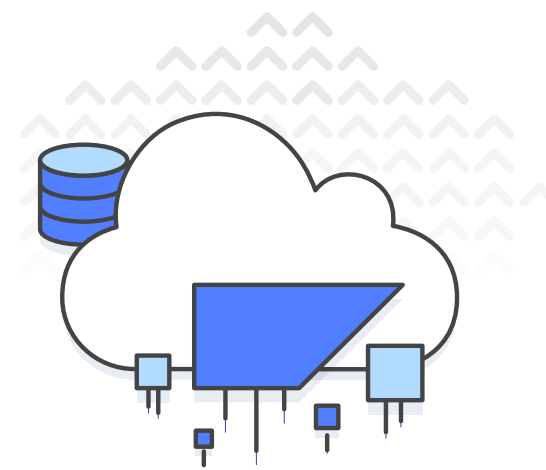
Secure and Compliant Cloud Infrastructure

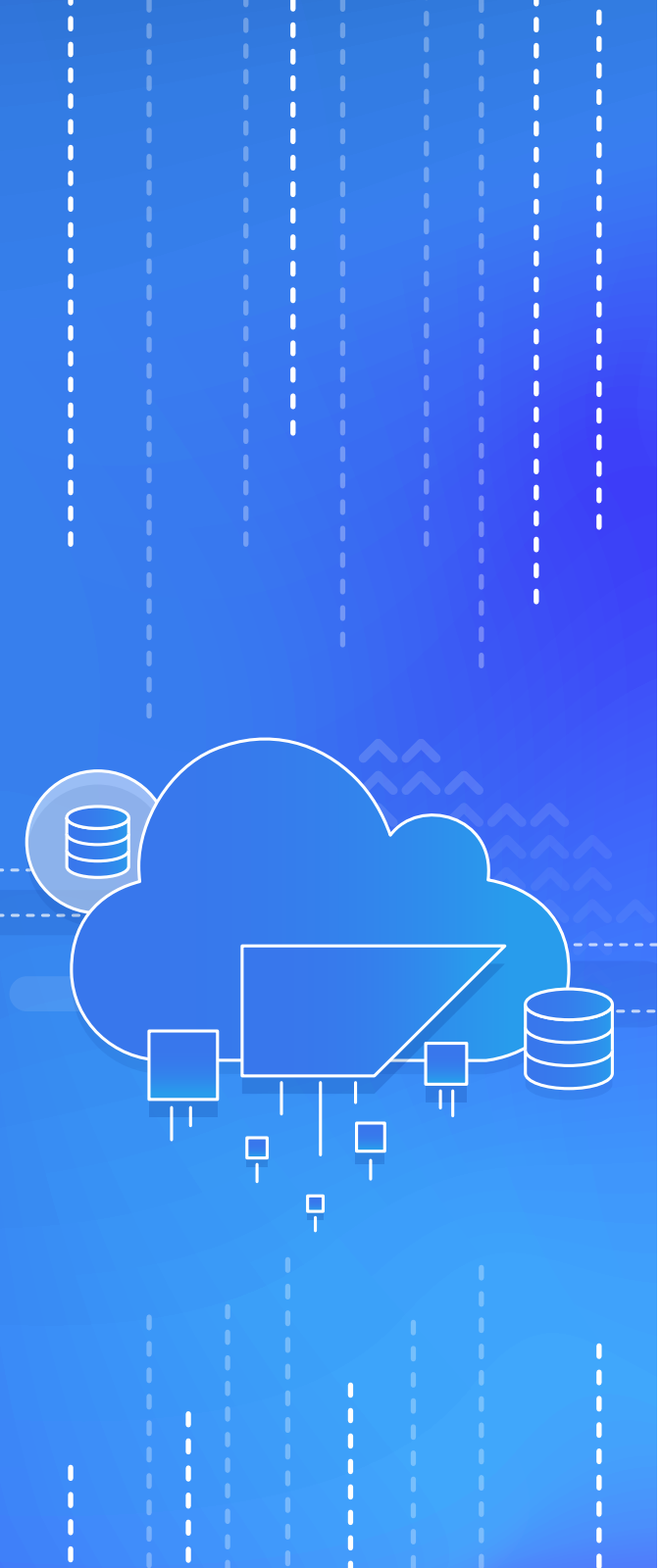
AWS is designed to help customers comply with a wide variety of regulatory and industry specific requirements. Additionally, AWS provides dozens of assurance programs that help you meet these requirements, assess whether you remain continually compliant, and stay audit-ready. Native security services, as well as third-party offerings available in AWS Marketplace help you further strengthen your security posture.

> "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

Certified and Supported for SAP

Since 2011, SAP and AWS have collaborated and SAP has certified AWS for production deployments of SAP applications, platforms, and databases. In addition, SAP has trusted AWS with its own workloads since 2008. Several leading enterprises, including BP, Brooks Brothers, and GE Oil and Gas, are running critical SAP workloads on AWS to increase business agility and reduce costs. This experience gives new and existing SAP customers the ability to confidently deploy mission-critical workloads on the AWS Cloud.



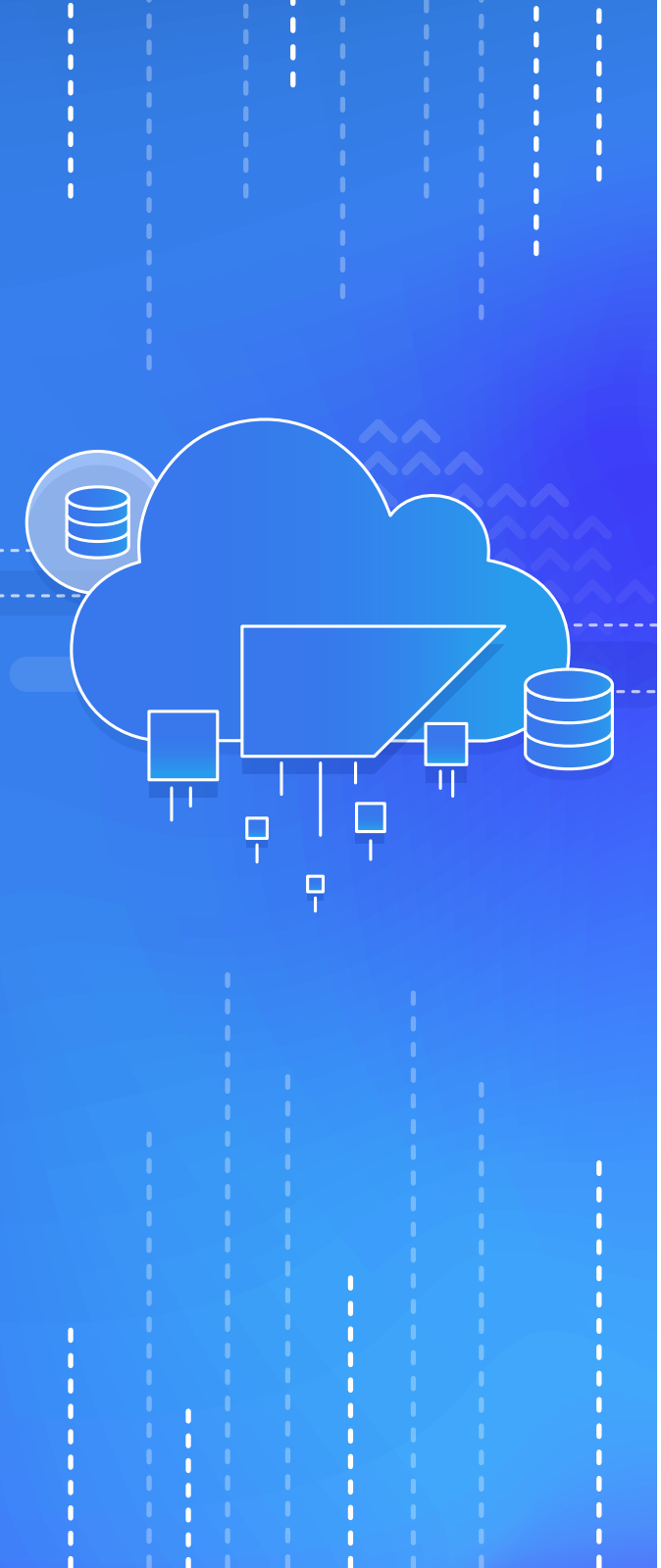


SAP HANA on AWS

SAP HANA is an in-memory data platform that consolidates your data needs, removing the burden of managing disparate systems and siloed data. This enables you to minimize the complexity of your IT environment, accelerate business processes, and reduce data management costs. Upgrading to SAP HANA requires you to invest in new infrastructure and many have found that the cloud is the best place to run these workloads, since it allows you to get the most out of SAP HANA now and continually leverage cutting-edge technologies to innovate business processes and drive greater efficiency. AWS provides resources such as AWS Quick Starts. 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 (SLES or RHEL) 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,
Director of Infrastructure & Technical Engineering
Brooks Brothers, Inc.



The SAP Rapid Migration Test

The SAP Rapid Migration test (also knowns as FAST, which stands for Fast AWS and SAP Transformation) is a set of processes, procedures, and tools that help customers running SAP applications on anyDB migrate to SAP HANA or SAP Adaptive Server Enterprise (ASE) on AWS. FAST can help you migrate your SAP environment to AWS and upgrade to SAP HANA in record time, using your own in-house resources, remote consulting, or a consulting partner. SAP developed FAST in collaboration with AWS to enable quick, easy, and reliable cloud migrations and SAP HANA upgrades.

Standard, supported, and proven tools

Results in as fast as 48 hours

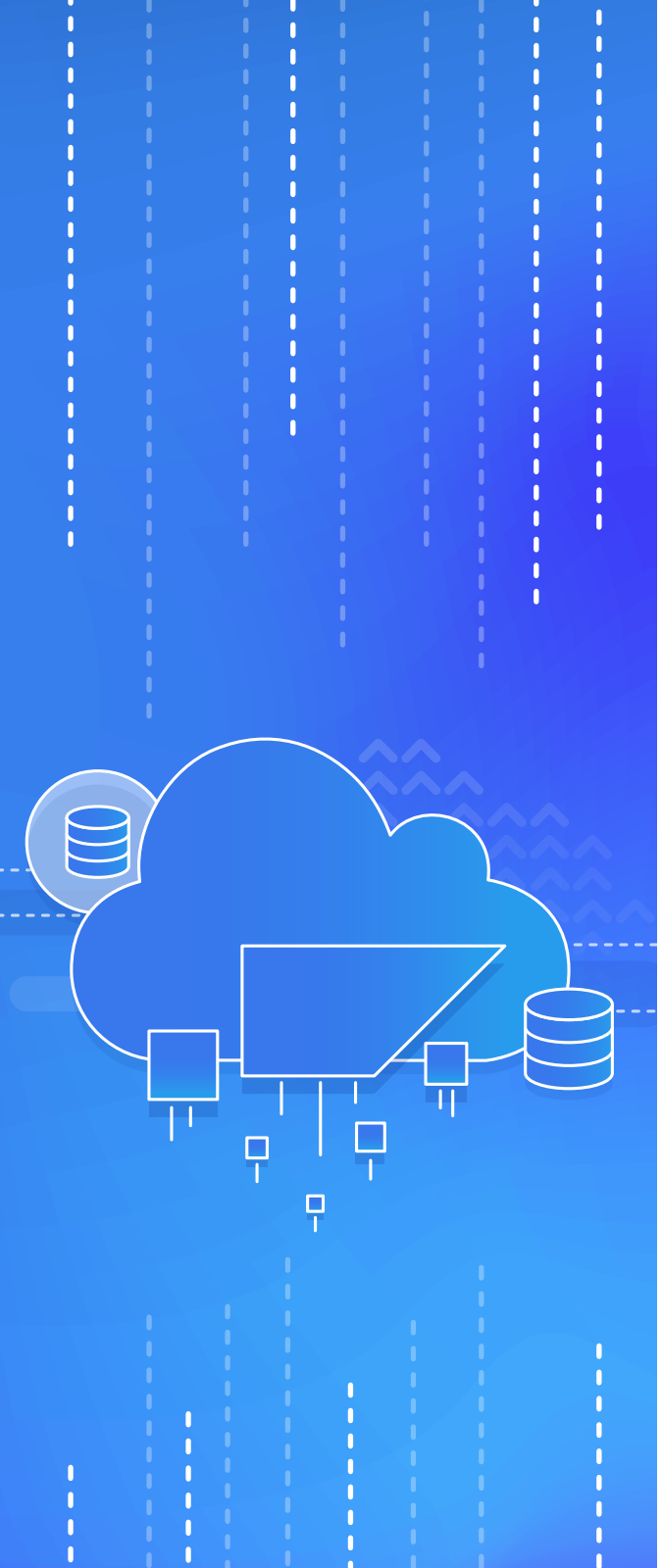
Costs as little as $1,000

Customers have experienced:

25%
reduction in migration time

50%
reduction in estimated project cost

80%
reduction in time and cost of testing



Amazon EC2 X1 Instances

AWS can support demanding SAP applications. Amazon Enterprise Compute Cloud (EC2) X1 and X1e instances provide up to 4 TB of RAM per instance to support memory-intensive applications, such as SAP HANA with resiliency and scale. AWS and Intel have teamed up to produce the Amazon EC2 X1 instance that is engineered to meet the strict performance requirements for in-memory databases, such as SAP HANA. Compared to other EC2 instances, X1 instances have the lowest price per GiB of RAM. X1 instances are certified by SAP to run production environments of the next-generation Business Suite S/4HANA, Business Suite on HANA, Business Warehouse on HANA, and Data Mart Solutions on HANA.

Provision all required HANA infrastructure in less than one hour, compared to weeks or months

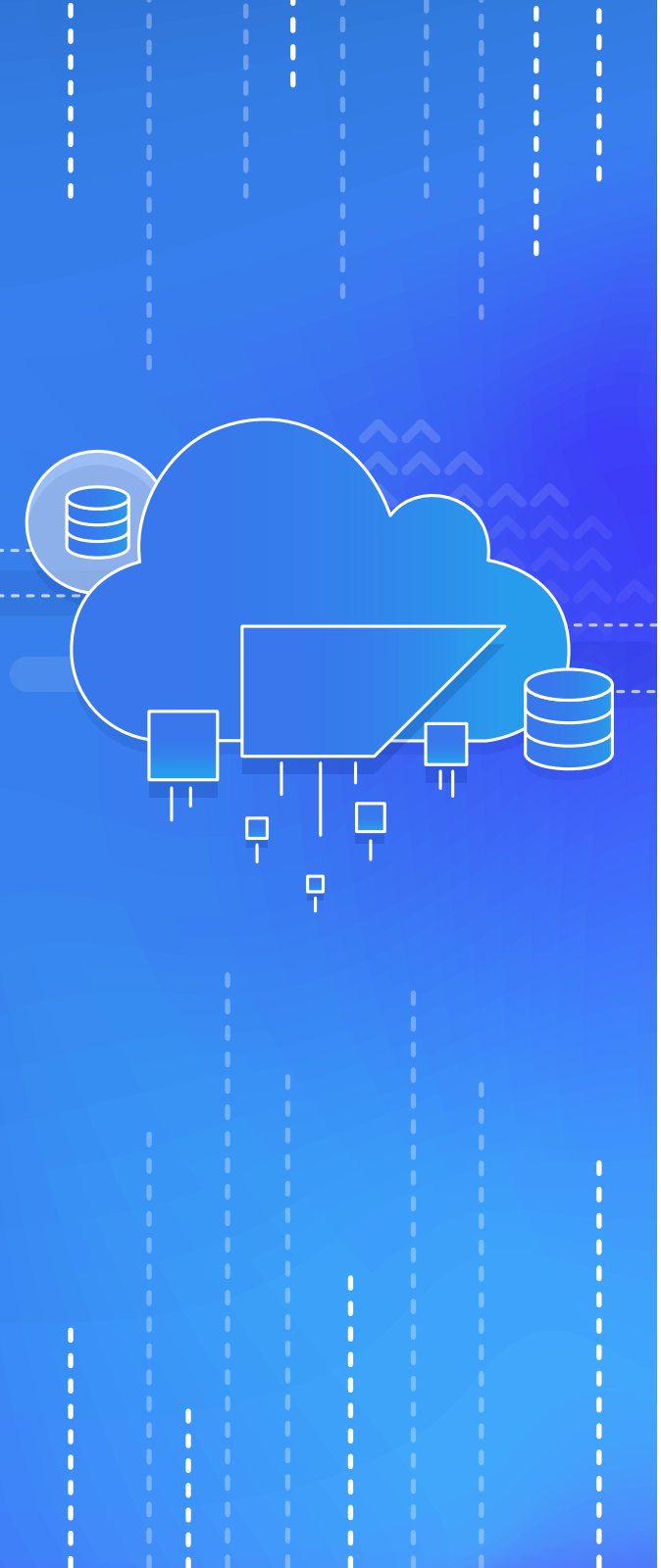
Powered by four Intel® Xeon® E7 8880 v3 (Haswell) processors and offers 128 vCPUs

Certified for scale-out deployments of up to 7 nodes or 14 TB of RAM (X1) and 50TB (X1e).

Up to 20 Gbps of network bandwidth

“We always strive to get the best possible performance out of our SAP environment, and we can do that by using the Amazon EC2 X1instance types.”

Clint Bouska
Systems Architect Manager
Lockheed Martin

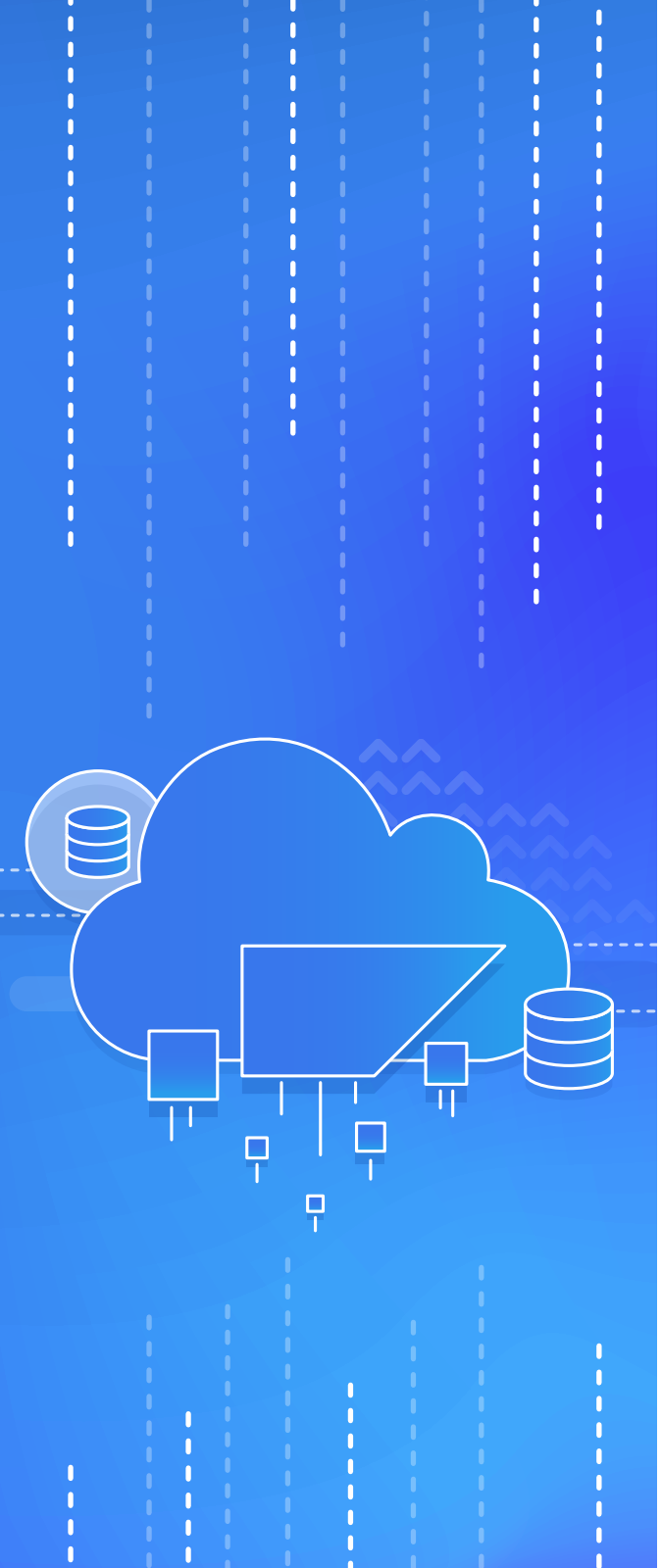


High Availability and Disaster Recovery

As of 2018, the AWS Cloud operates in 54 Availability Zones within 18 geographic Regions around the world, with plans for expansion. The AWS infrastructure footprint enables you to establish a global presence and operate SAP applications with high availability, disaster-tolerance, and performance around the world.

Amazon EC2 is designed for 99.99% availability. AWS Availability Zones offer you the ability to operate production systems which are more highly available, fault tolerant and scalable than would be possible from a single data center. Features of other AWS services include elastic IP addresses and snapshots that can also be leveraged to enable additional fault-tolerance and high availability.

The AWS global footprint combined with Amazon Simple Storage Service (Amazon S3), Amazon CloudWatch, and Amazon EC2 automatic recovery provides you with many options for architecting a highly available and disaster-tolerant SAP environment on AWS. SAP HANA also helps with this initiative with native functionality, such as HANA System Replication (HSR) and HANA Backup/Restore. To learn more about high availability and disaster recovery options for SAP HANA on AWS, read the SAP on Amazon Web Services High Availability Guide.



AWS Tools and Resources for SAP Migration

AWS Migration Services

AWS provides a variety of migration services to help you move data and applications to the AWS Cloud quickly and securely. Among them are the following, which can help you start running SAP workloads on the AWS Cloud.

> **AWS Application Discovery Service**

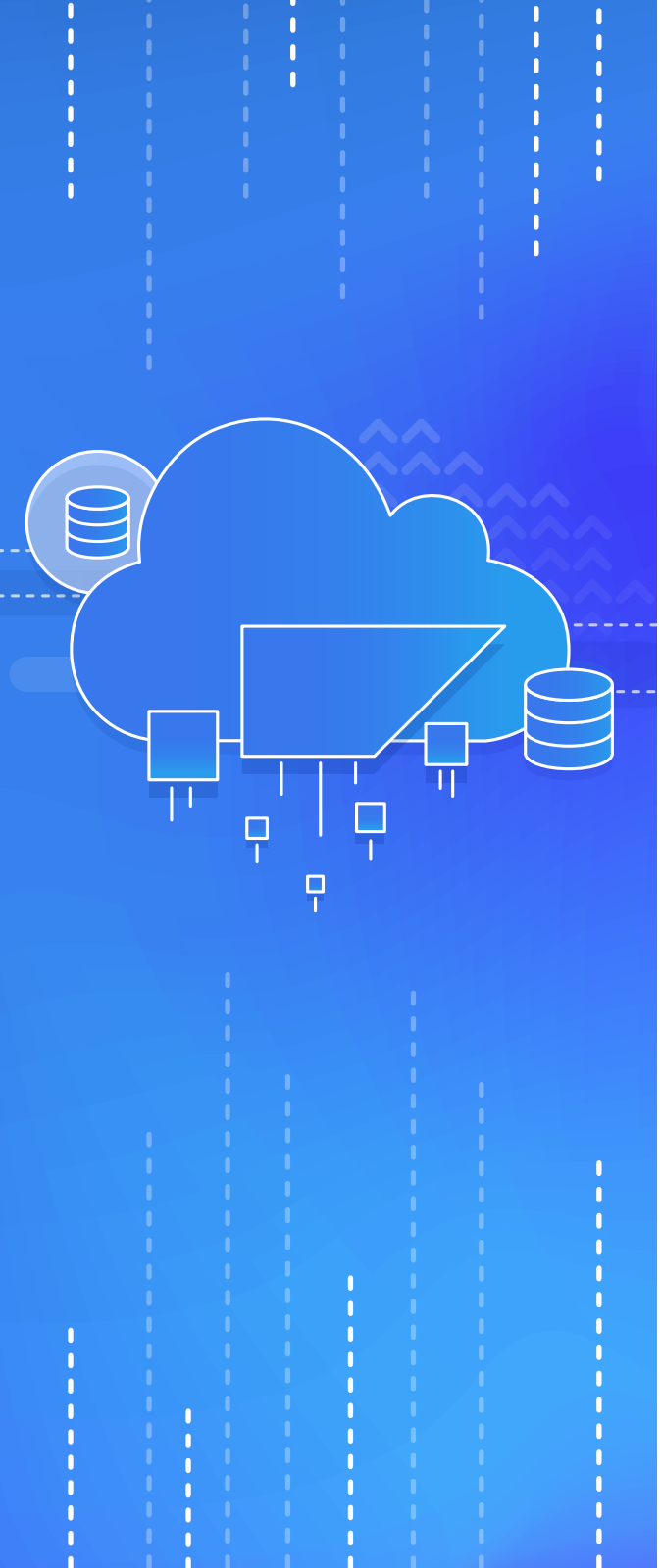
This service makes it easy to perform application discovery and dependency mapping at scale by automatically identifying applications running in on-premises data centers, their associated dependencies, and their performance profile. AWS Application Discovery Service helps systems integrators accelerate and reliably plan application migration projects.

> **AWS Snowball**

This service provides a petabyte-scale data transport solution that uses secure appliances to transfer large amounts of data into and out of the AWS Cloud, while diffusing challenges, including high network costs, long transfer times, and security concerns.

> **AWS Direct Connect**

Establish private connectivity between AWS and your on-premises environment, while benefiting from reduced network costs, increased bandwidth throughput, and a more consistent network experience, compared to internet-based connections. Access public and private resources from the same connection, while maintaining network separation between the public and private environments.



- **AWS Storage Gateway**

  This service provides hybrid cloud storage, enabling your on-premises applications to seamlessly use AWS storage services, such as Amazon S3, Amazon Glacier, and Amazon EBS.

- **AWS VM Import/Export**

  Leverage your existing investments in virtual images, built to meet your IT security, configuration management, and compliance requirements, by easily importing them from your existing environment to Amazon EC2 instances. You can also export imported instances back to your on-premises virtualization infrastructure, which allows you to deploy workloads across your IT infrastructure.

AWS Quick Starts

AWS solutions architects and partners have built pre-configured reference deployments to help you more easily implement popular solutions on AWS, in line with best practices for security and high availability. AWS Quick Starts are available for SAP HANA and SAP Business One for SAP HANA. For details, see https://aws.amazon.com/quickstart/.

AWS Partner Network

The AWS Partner Network (APN) is a global partner program that includes thousands of Consulting and Technology Partners who help customers architect, deploy, and manage AWS environments successfully. SAP Competency Partners have demonstrated technical proficiency and proven success in implementing, migrating, and managing SAP workloads on the AWS Cloud.

Customer Success Story: 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. They were not fully utilizing their infrastructure and their ability to get a new project up and running took months. They 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 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, support and maintenance costs by running the lubricants ECC system on AWS and the system is running around 40% faster.

Read the complete case study here.

> “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

Customer Success Story: Lockheed Martin

The Challenge

Lockheed Martin's suite of SAP applications is used across multiple business areas and leveraged by thousands of employees. In an effort to consolidate applications and reduce costs, the organization sought to move its test and development instances of SAP HANA to the cloud. Lockheed Martin also wanted to realize the additional benefits of enhancing agility and reducing ongoing maintenance costs. While making all these changes, Lockheed Martin needed to support the organization's stringent security requirements, such as compliance with the International Traffic in Arms Regulations (ITAR).

The Solution

Lockheed Martin's internal Enterprise Business Services organization selected AWS as its cloud provider, due to its maturity in the market, breadth of services, commitment to cybersecurity, and experience running SAP HANA. The AWS deployment is set up to support SAP application integration test cycles for four business area's sites. This deployment consists of two SAP HANA instances in AWS GovCloud, which isolates sensitive data and regulated workloads. Lockheed Martin also leverages Amazon Elastic Compute Cloud (Amazon EC2) X1 instances, which are optimized for enterprise and database workloads. **Moving workloads to AWS was seamless and since, Lockheed Martin has seen greater agility, performance, and reduced costs.** Eventually, Lockheed Martin anticipates it will move SAP on HANA solutions to production on AWS.

Read the complete case study here.

> "We always strive to get the best possible performance out of our SAP environment, and we can do that by using the Amazon EC2 X1 instance types."
>
> **Clint Bouska**
> Systems Architect Manager
> Lockheed Martin

Customer Success Story: Brooks Brothers

The Challenge

To stay competitive in the retail industry, Brooks Brothers frequently launches new business initiatives which require extensive testing. In order to keep up with this demand, the company needed a way to more rapidly spin up resources, and in turn, accelerate the transition from test concepts to production workloads. In addition, Brooks Brothers needed compute resources and memory to reliably deliver their solutions to their globally distributed users, as well as a more cost-effective way to manage its SAP HANA in-memory database, which powers Brooks Brothers' customer relationship management (CRM) application. While making all of these changes, security remained a top concern.

The Solution

AWS gave Brooks Brothers the agility they needed to rapidly provision and de-provision resources for their frequently updated business initiatives. Brooks Brothers has moved their SAP HANA platform and several HANA-based solutions to AWS, including its Fashion Management Solution. **Running on AWS has allowed Brooks Brothers to save $900,000 and run dozens of data simulations to reduce trade spend. They can also spin up instances in a matter of hours instead of weeks.** They receive these benefits, all while leveraging AWS Direct Connect, AWS Identity and Access Management, and AWS CloudHSM to enhance security.

Read the complete case study here.

> "Using AWS to deploy and operate our SAP environments, we can be more nimble, which opens up many more possibilities for our business. We can get new initiatives to production faster, and if some things aren't providing the desired business results in pilot mode, we can quickly shut those down."
>
> **Sahal Laher**
> Executive VP and CIO
> Brooks Brothers

Customer Success Story: Coca-Cola Içecek

The Challenge

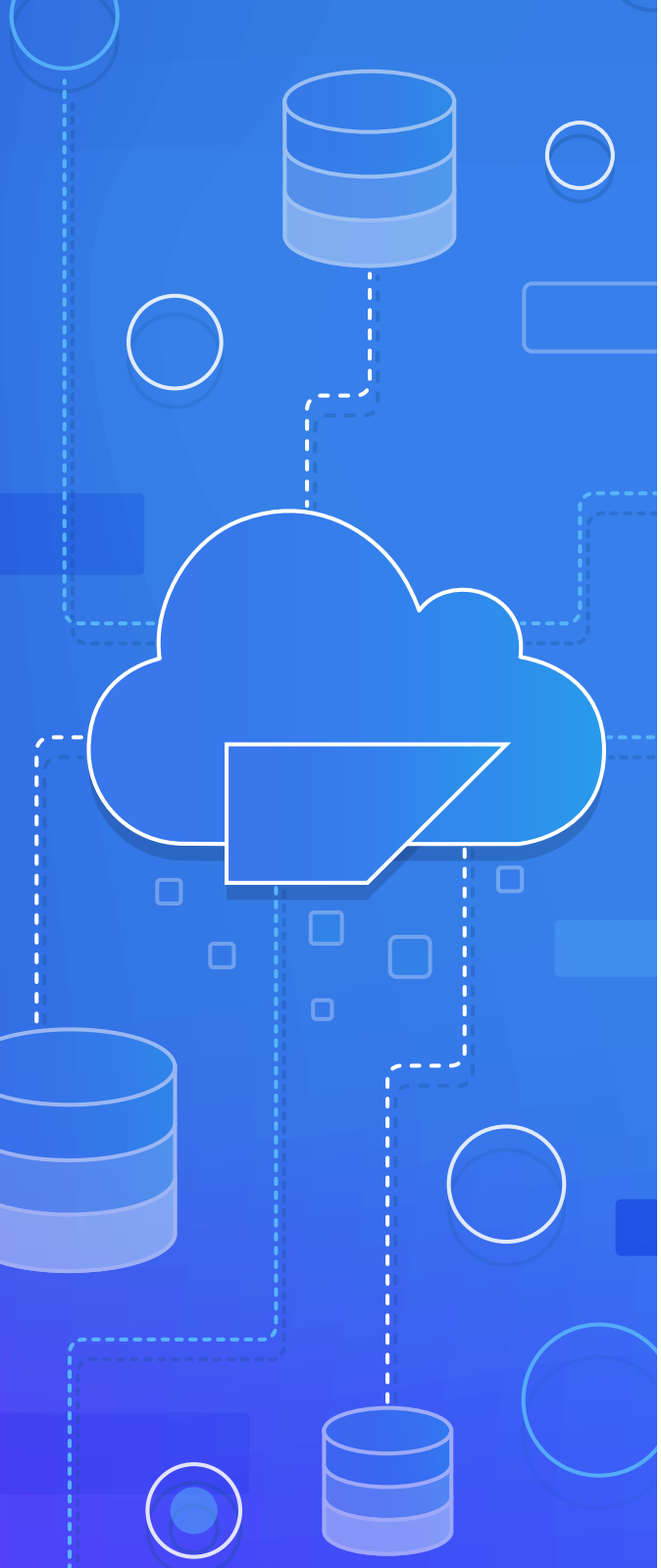
Coca-Cola Içecek's (CCI) SAP ERP Central Component (ECC) is used by close to 5,000 employees across nine countries for key business functions such as financial reporting, supply chain management, and human resources. CCI had been hosting its SAP ECC platform on data centers run by a provider in Istanbul, but as business grew, the infrastructure was reaching the limits of its capacity and in turn compromising performance. This hindered productivity, delayed reporting, and slowed delivery of key information to senior managers, leading CCI to consider cloud migration. CCI needed to execute migration with minimal disruption for users and existing operations and they needed their new environment to seamlessly integrate with 400-plus business systems.

The Solution

With the help of AWS Advanced Consulting Partner, Lemongrass, CCI migrated its mission-critical SAP environment to AWS. This move helped CCI improve SAP performance, reduce storage costs, and architect a more robust disaster recovery solution. **AWS has enabled CCI to generate reports four times faster than before, make 50% more effective use of storage resources, and save 50-60% of its SAP infrastructure costs.**

Read the complete case study here.

> "Through careful planning—especially testing all the necessary integration points—we progressed from initial concept to full deployment in just three months. That's incredibly fast for an SAP project."
>
> **Eamonn O'Neill**
> Director
> Lemongrass Consulting



Resources and Getting Started

For more information about migrating your SAP workloads to AWS, visit:

> https://aws.amazon.com/sap/

> https://aws.amazon.com/sap/getting-started/

> https://aws.amazon.com/sap/faq/

> https://aws.amazon.com/partners/competencies/sap/

> https://aws.amazon.com/sap/case-studies/

> https://aws.amazon.com/quickstart/

About AWS

For 10 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers more than 90 fully featured services for compute, storage, databases, analytics, mobile, Internet of Things (IoT), and enterprise applications from 54 Availability Zones within 18 Regions and 1 Local Region across the world, with announced plans for 12 more Availability Zones and four more Regions. AWS services are trusted by millions of active customers around the world -- including the fastest growing startups, largest enterprises, and leading government agencies -- to power their infrastructure, make them more agile, and lower costs.

To learn more about AWS, visit aws.amazon.com.