

SAP Business One on AWS

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Abstract

Companies of all sizes can take advantage of the many benefits provided by Amazon Web Services (AWS) to achieve business agility, cost savings, and high availability by running their SAP environments on the AWS cloud.

This guide is intended for SAP customers and partners who want to learn about the benefits and options for running SAP Business One solutions on AWS, and who want to know how to implement and operate their SAP Business One environment effectively on AWS.

AWS Overview

Amazon Web Services (AWS) provides on-demand computing resources and services in the cloud, with pay-as-you-go pricing. You can run a server on AWS and log in, configure, secure, and operate it just as you would operate a server in your own data center.

Using AWS resources for your compute needs is like purchasing electricity from a power company instead of running your own generator, and it provides many of the same benefits:

- The capacity you get exactly matches your needs.
- You pay only for what you use.
- Economies of scale result in lower costs.
- The service is provided by a vendor who is experienced in running large-scale compute and network systems.

Global Infrastructure

The AWS cloud infrastructure is built around Regions and Availability Zones. A Region is a physical location in the world where AWS has multiple Availability Zones. Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, and housed in separate facilities. These Availability Zones offer you the ability to operate production applications and databases that are more highly available, fault-tolerant, and scalable than would be possible from a single data center.

For additional information about AWS Regions and Availability Zones, see the [AWS Global Infrastructure](#) webpage.¹

AWS Security and Compliance

The AWS cloud security infrastructure has been architected to be one of the most flexible and secure cloud computing environments available today. Security on AWS is very similar to security in your on-premises data center, but without the costs and complexities involved in protecting facilities and hardware. AWS provides a secure global infrastructure, plus a range of features that you can use to help secure your systems and data in the cloud. To learn more about AWS security, visit the [AWS Security Center](#).²

AWS compliance enables customers to understand the robust controls in place at AWS to maintain security and data protection in the cloud. AWS engages with external certifying bodies and independent auditors to provide customers with extensive information regarding the policies, processes, and controls established and operated by AWS. To learn more about AWS compliance, visit the [AWS Compliance Center](#).³

AWS Products and Services

AWS provides an extensive set of computing resources and services. The following sections provide an overview of the AWS services that are most relevant for the implementation and operation of SAP Business One.

Compute

[Amazon Elastic Compute Cloud \(Amazon EC2\)](#) provides scalable computing capacity in the AWS cloud.⁴ Amazon EC2 offers a wide selection of virtual machine configurations that support different CPU, memory, network, and I/O capabilities. For running SAP systems, Amazon EC2 provides virtual machine instances for the Microsoft Windows Server, SUSE Linux Enterprise Server (SLES), and Red Hat Enterprise Linux (RHEL) operating systems.

Storage

[Amazon Elastic Block Store \(Amazon EBS\)](#) provides persistent block-level storage volumes for use with Amazon EC2 instances.⁵ Amazon EBS volumes are highly available and reliable storage volumes that can be attached to any running

instance. Amazon EBS volumes that are attached to an Amazon EC2 instance are exposed as storage volumes that persist independently from the lifetime of the instance. Amazon EBS volumes are designed for 99.999% availability.

[Amazon Simple Storage Service \(Amazon S3\)](#) provides access to reliable, fast, and inexpensive data storage infrastructure.⁶ Amazon S3 stores data objects redundantly on multiple devices across multiple facilities. This service provides highly available and highly durable backup storage for your SAP systems on AWS.

Networking

[Amazon Virtual Private Cloud \(Amazon VPC\)](#) enables you to define a virtual network in your own logically isolated area within the AWS cloud.⁷ Your Amazon VPC closely resembles a traditional network that you might operate in your own data center, but it includes the benefits of using the AWS scalable infrastructure. You can connect your Amazon VPC to your own corporate data center to provide seamless integration between on-premises users and systems, and SAP systems in your Amazon VPC.

Enterprise Applications

[Amazon WorkSpaces](#) is a managed desktop computing service in the cloud. Using Amazon WorkSpaces allows you to easily provision cloud-based desktops and provide users access to the documents, applications, and resources they need from any supported device, including Windows and Mac computers, Chromebooks, iPads, Kindle Fire tablets, and Android tablets.

Deployment and Management

The [AWS Management Console](#) provides a simple and intuitive web-based interface for provisioning and managing AWS resources.⁸

[AWS CloudFormation](#) gives you an easy way to create and manage a collection of related AWS resources, and provision and update them in an orderly and predictable fashion.⁹

SAP on AWS

AWS and SAP Alliance

SAP has been an AWS customer since 2008 and uses the AWS infrastructure for a variety of use cases and scenarios. In early 2011, AWS became an SAP Global Technology Partner. Since then, AWS has worked closely with SAP to test and certify the AWS cloud for SAP solutions.

Benefits of Running SAP on AWS

Lower TCO – Benefit from the economies of scale and efficiencies provided by AWS. Pay for only the compute, storage, and other resources you use. [Read about](#) savings of up to 71% compared to running SAP systems on premises.¹⁰

Replace CapEx with OpEx – Start an SAP implementation or project on AWS without any upfront cost or commitment for compute, storage, or network infrastructure.

Agility and speed – Provision new infrastructure and SAP systems in minutes compared to waiting weeks or months to procure and deploy traditional infrastructure.

Flexibility – The AWS cloud supports standard Windows Server, SUSE Linux Enterprise Server (SLES), and Red Hat Enterprise Linux (RHEL), providing many options for installing SAP solutions.

Stop guessing capacity – Eliminate guesswork on your SAP infrastructure capacity needs. With AWS you can access as much or as little capacity as you need, and scale up and down as required in only a few minutes.

SAP Support on AWS

Supported Solutions

AWS and SAP have worked together to test and certify the following SAP solutions to be fully supported for production deployment on AWS.

- | | |
|---------------------------|--------------------------|
| ✓ SAP Business Suite | ✓ SAP BusinessObjects |
| ✓ SAP HANA | ✓ SAP Afaria |
| ✓ SAP Business All-in-One | ✓ SAP Mobile Platform |
| ✓ SAP NetWeaver | ✓ SAP Business One |
| ✓ SAP ASE | ✓ SAP hybris |
| ✓ SAP IQ | ✓ SAP Replication Server |

For additional information about SAP solutions supported on AWS, see [SAP Note 1656099](#) (SAP Support Portal login required).¹¹

SAP Support

SAP provides the same level of product support for SAP systems running on AWS that it does on any other infrastructure. Full support of SAP production systems running on AWS requires the AWS Business or Enterprise support plan.

For additional information about AWS Support, see <http://aws.amazon.com/premiumsupport/>.

For additional information about SAP support on AWS, see [SAP Note 1656250](#) (SAP Support Portal login required).¹²

SAP Business One on AWS

Businesses can access all the benefits of the SAP Business One solution on the AWS cloud without needing to make long-term commitments or costly capital expenditures for the required IT infrastructure.

AWS and SAP have worked together to test and certify the following solutions for production deployment on the AWS cloud:

- SAP Business One, version for Microsoft SQL Server
- SAP Business One, version for SAP HANA
- SAP Business One Cloud

Customer Case Studies

To read about SAP Business One customers who have achieved business agility, cost savings, and high availability by running their SAP Business One environments on the AWS cloud, see [SAP on AWS Case Studies](#).¹³

Licensing

SAP Business One Licenses

SAP Business One uses a bring-your-own-license (BYOL) model on AWS for the SAP software components. You can use new or existing SAP licenses for systems running on Amazon EC2.

Database Licenses

Microsoft SQL Server – Two licensing options are available for SQL Server on AWS:

- **Bring your own license** – If you already own a SQL Server license, you can bring your license to the AWS cloud.
- **Buy licenses from AWS** – AWS offers Amazon Machine Images (AMIs) with SQL Server software pre-installed and with licenses bundled into the hourly fee of the instance.

For additional information about SQL Server licensing options on AWS, see [Microsoft Licensing on AWS](#).¹⁴

SAP HANA – SAP HANA uses a bring-your-own-license (BYOL) model on AWS.

Operating System Licenses

Operating system licenses are included in the hourly fee of Amazon EC2 instances.

Managed Services for SAP on AWS

AWS manages the underlying hardware, software, networking, and facilities that run the AWS services up to the virtualization layer. Maintenance and administration of the operating system and any applications and databases

running above the operating system are managed by the customer or by a partner.

Figure 1 depicts the two most common scenarios for managing SAP solutions on AWS:

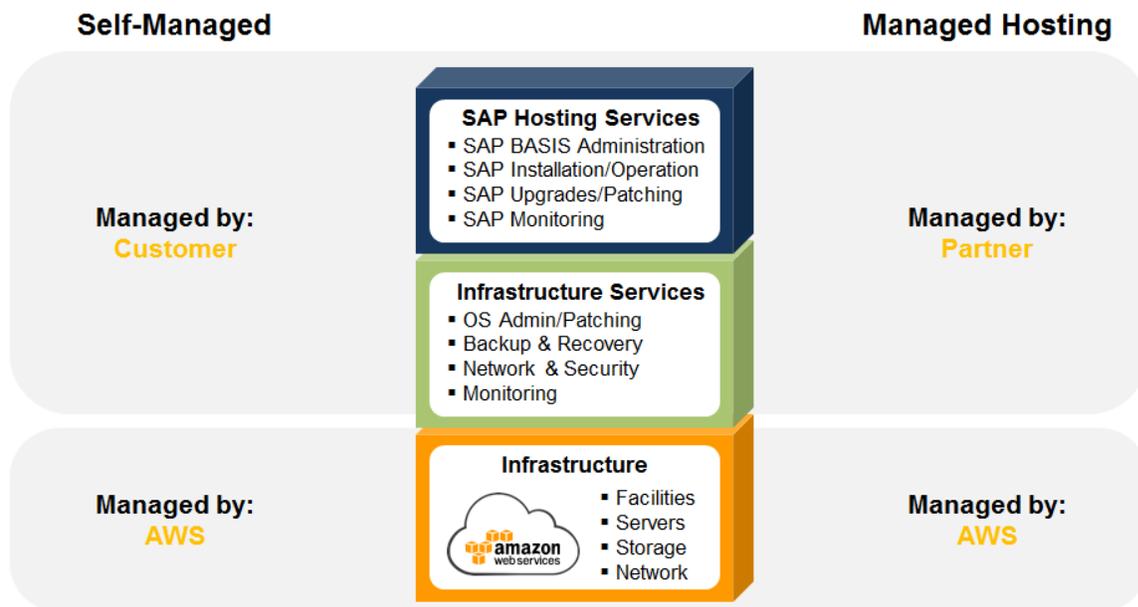


Figure 1: Options for Managing SAP Solutions on AWS

If you want to use a managed service on top of your AWS infrastructure, AWS has a network of partners that can provide a fully managed hosting service. To learn more about services for SAP on AWS and to find an SAP partner within the AWS Partner Network, see <http://aws.amazon.com/sap/find-partners/>.

SAP Business One Deployment on AWS

The implementation and deployment of an SAP Business One environment on AWS follows the standard SAP process used with traditional infrastructure. However, AWS provides innovative deployment options for certain components of an SAP Business One system that can greatly reduce the effort and time to deploy a new environment.

Figure 2 depicts a typical SAP Business One architecture on AWS.

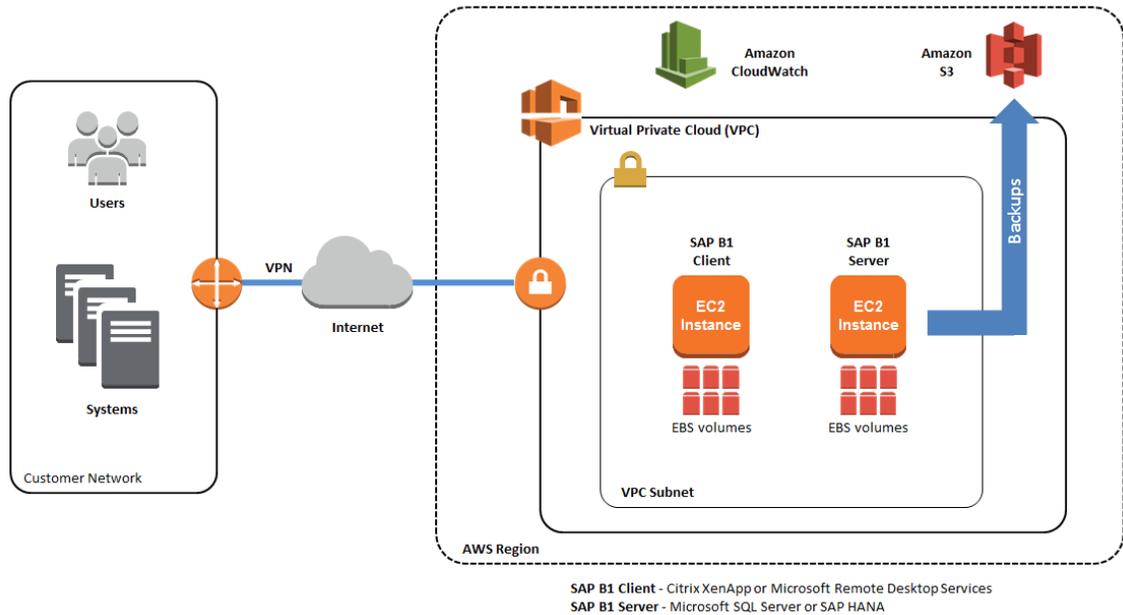


Figure 2: SAP Business One Architecture on AWS

Business One Server

To deploy the Business One server component on AWS, follow the standard SAP installation procedures and tools that you use for any other physical or virtual environment.

Business One Client

When you're running SAP Business One on a remote hosted infrastructure, the standard best practice is to host the SAP Business One client software by using a virtual desktop solution on the remote infrastructure. The following two options are available on AWS for providing virtual desktop environments for users:

Self-managed – Install and manage a virtual desktop service like Citrix XenApp or Microsoft Remote Desktop Services on Amazon EC2.

Managed – Amazon WorkSpaces provides a managed desktop computing service in the cloud that enables you to easily provision cloud-based desktops for your users without having to set up and maintain a virtual desktop environment

yourself. To learn more about Amazon WorkSpaces, see <https://aws.amazon.com/workspaces/>.

Business One Database

Microsoft SQL Server – The installation and configuration of SQL Server on Amazon EC2 uses the standard SQL Server installation procedures and tools. For additional information about running SQL Server on AWS, see <https://aws.amazon.com/windows/products/sql/>.

Note The Amazon Relational Database Service (Amazon RDS) for Microsoft SQL Server is currently not supported for SAP Business One.

SAP HANA – To reduce the effort and time required to deploy SAP HANA, AWS offers the [SAP Business One, version for SAP HANA, Quick Start Reference Deployment](#).¹⁵ This Quick Start provides an automated process to deploy the required AWS infrastructure and SAP HANA software components on Amazon EC2.

Network Connectivity

With AWS, you have multiple options to provide connectivity between your SAP Business One environment on AWS and your users, on-premises systems, and other external systems. The basis for network security and connectivity on AWS is the [Amazon Virtual Private Cloud \(Amazon VPC\)](#). Amazon VPC enables you to provision a logically isolated section of the AWS cloud where you can launch AWS resources in a virtual network that you define. You have complete control over your virtual networking environment, including selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways.

External Connectivity Options

AWS hardware VPN – A site-to-site IPsec, hardware VPN connection between your VPC and your remote network, which provides seamless network connectivity for users and system integration. For more information, see [Adding a Hardware Virtual Private Gateway to Your VPC](#) in the Amazon VPC User Guide,¹⁶ and the [Amazon VPC Network Administrator Guide](#).¹⁷

Client-based VPN – An SSL software-based VPN solution that provides individual client system access to your VPC. Most software-based VPN products can be used with AWS. For VPN solutions from AWS partners, see [AWS Marketplace](#).¹⁸

Direct Internet – Amazon EC2 instances that are running within a public subnet can be accessed via a direct Internet connection.

Backup and Recovery

AWS provides you with the infrastructure building blocks to create a highly durable and secure backup and recovery solution to protect your valuable data. Backup and recovery on AWS uses many of the same concepts, methods, and tools used to back up SAP systems on traditional on-premises infrastructure. The primary difference with backup and recovery on AWS is the media and location used to store backups. On AWS, backups are stored in Amazon S3 and automatically stored “offsite,” outside the Availability Zone of the system, because data in Amazon S3 is replicated across multiple facilities within the AWS region. If the primary Availability Zone fails, the backup can immediately be used to restore data to any of the other Availability Zones within the region.

For additional information about the backup and recovery of SAP systems on AWS, see the [SAP on AWS Backup and Recovery Guide](#).¹⁹

SAP Business One, version for Microsoft SQL Server

The following sample configurations will help you plan for and estimate the cost of running your SAP Business One, version for Microsoft SQL Server, environment on AWS.

Concurrent users	SAP Business One / SQL Server			SAP Business One Client / RDS			Estimate
	Instance type	vCPU	Memory	Instance type	vCPU	Memory	
up to 10	m4.large	2	8	m4.large	2	8	Estimate
up to 20	m4.xlarge	4	16	m4.large	2	8	Estimate
up to 40	m4.2xlarge	8	32	m4.xlarge	4	16	Estimate
up to 80	m4.4xlarge	16	64	m4.2xlarge	8	64	Estimate
up to 150	m4.10xlarge	40	160	m4.2xlarge	8	64	Estimate

SAP Business One, version for SAP HANA

The following two configurations for SAP Business One, version for SAP HANA have been certified with SAP for production deployment on AWS.

Concurrent users	SAP Business One / HANA DB			SAP Business ONE Client / RDS			Estimate
	Instance type	vCPU	Memory	Instance type	vCPU	Memory	
60 / 25	c3.8xlarge	32	60	m4.xlarge	4	16	Estimate
125 / 50	r3.8xlarge	32	244	m4.xlarge	4	16	Estimate

AWS Infrastructure Pricing

With AWS, you pay only for what you use with no minimum fee. To learn more about estimating AWS infrastructure costs for running SAP solutions on the AWS cloud, see the [SAP on AWS Pricing Guide](#).²⁰

Partner with AWS

If you are an SAP Business One partner, you can combine your services for SAP and the AWS platform to provide your customers with innovative solutions to reduce their cost and time to value. The AWS Partner Network (APN) is the global partner program for AWS. As an APN partner you will gain access to a range of resources and training that will enable you to better help your customers deploy, run, and manage applications in the AWS cloud. If you would like to learn more about the AWS Partner Network, visit the [AWS Partner Network](#) website.²¹

Additional Information

For the latest information about SAP on AWS and to learn more about running your SAP environment on AWS, see <http://aws.amazon.com/sap>.

If you have any questions about SAP on AWS, please contact us at <http://aws.amazon.com/sap/contact-us/>.

Contributors

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Notes

¹ <https://aws.amazon.com/about-aws/global-infrastructure/>

² <http://aws.amazon.com/security/>

³ <http://aws.amazon.com/compliance/>

⁴ <http://aws.amazon.com/ec2/>

⁵ <http://aws.amazon.com/ebs/>

⁶ <http://aws.amazon.com/s3/>

⁷ <http://aws.amazon.com/vpc/>

⁸ <http://aws.amazon.com/console/>

⁹ <http://aws.amazon.com/cloudformation/>

¹⁰ <http://aws.amazon.com/whitepapers/vms-sap-tco/>

¹¹ <http://service.sap.com/sap/support/notes/1656099>

¹² <http://service.sap.com/sap/support/notes/1656250>

¹³ <http://aws.amazon.com/sap/case-studies/>

¹⁴ <https://aws.amazon.com/windows/resources/licensing/>

¹⁵ <http://docs.aws.amazon.com/quickstart/latest/sap-b1-hana/>

¹⁶ http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_VPN.html

¹⁷ <http://docs.aws.amazon.com/AmazonVPC/latest/NetworkAdminGuide/>

¹⁸ <https://aws.amazon.com/marketplace/>

¹⁹ <http://do.awsstatic.com/enterprise-marketing/SAP/sap-on-aws-backup-and-recovery-guide-v2-2.pdf>

²⁰ <http://do.awsstatic.com/enterprise-marketing/SAP/sap-on-aws-pricing-guide.pdf>

²¹ <https://aws.amazon.com/partners/>