Cloud computing with AWS

Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over 175 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.

SAP on AWS customers

More than 5,000 active AWS customers run SAP on AWS and over half of these customers have deployed SAP HANA-based solutions on AWS.

The Blockbuster Growth of Amazon's Cloud Business

Quarterly revenue of Amazon Web Services*

* Amazon Web Services (AWS) is Amazon's cloud platform, providing cloud infrastructure services to start-ups, enterprises and the public sector.

Source: Amazon

Most secure cloud

AWS is architected to be the most flexible and secure cloud computing environment available today. Our core infrastructure is built to satisfy the security requirements for the military, global banks, and other high-sensitivity organizations. This is backed by a deep set of cloud security tools, with 230 security, compliance, and governance services and features. AWS supports 90 security standards and compliance certifications, and all 117 AWS services that store customer data offer the ability to encrypt that data.


AWS Security Hub
Quickly assess your high-priority security alerts and security posture across AWS accounts in one comprehensive view
Amazon GuardDuty
Amazon Macie
Amazon Inspector
AWS Firewall Manager
IAM Access Analyzer
Integrated partner solutions
Continuously aggregate & prioritize
Findings from AWS and partner security services highlight emerging trends or possible issues
Conduct automated security checks
Use industry standards such as the CIS AWS Foundations Benchmark and PCI DSS
Take action
Investigate findings and/or take response and remediation actions

Built for Enterprise Security Standards

Certifications

SOC 1 Type 2 (formerly SAS-70)

ISO 27001

PCI DSS for EC2, S3, EBS, VPC, RDS, ELB, IAM

FISMA Moderate Compliant Controls

HIPAA & ITAR Compliant Architecture

Physical Security

Datacenters in nondescript facilities

Physical access strictly controlled

Must pass two-factor authentication at least twice for floor access

Physical access logged and audited

HW, SW, Network

Systematic change management

Phased updates deployment

Safe storage decommission

Automated monitoring and self-audit

Advanced network protection


amazon
web services

Analytics

Application Integration

AWS Cost Management

Blockchain

Business Applications

Compute

Containers

Customer Engagement

Database

Developer Tools

End User Computing

Front-End Web & Mobile

Game Tech

Internet of Things

Machine Learning

Management & Governance

Media Services

Migration & Transfer

Networking & Content Delivery

Quantum Technologies

Robotics

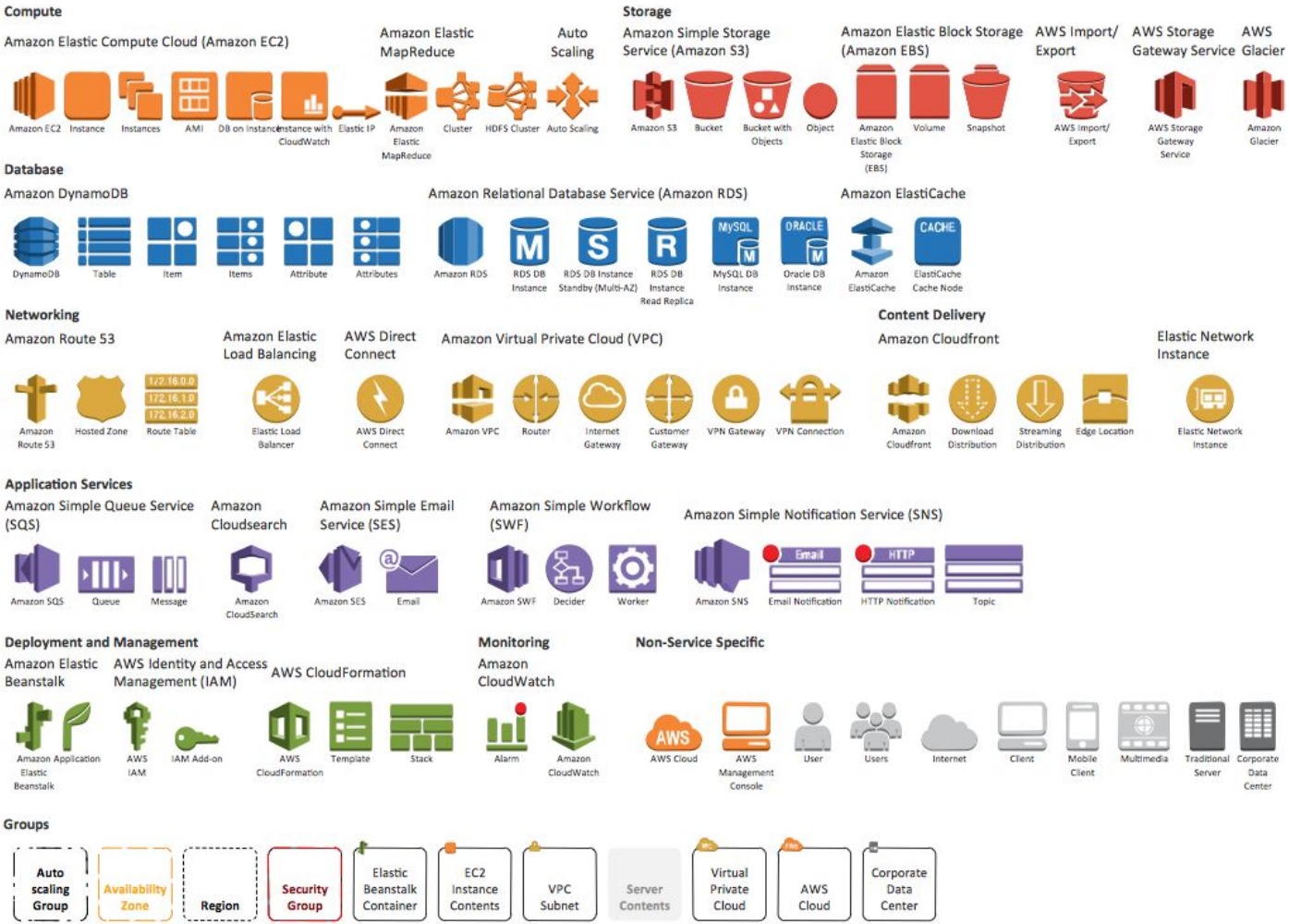
Satellite

Security, Identity & Compliance

Serverless

Storage

VR & AR


Compute
Amazon Elastic Compute Cloud (Amazon EC2)
Amazon Elastic MapReduce
Auto Scaling
Amazon EC2
Instance
Instances
AMI
DB on Instance
Instance with CloudWatch
Elastic IP
Amazon Elastic MapReduce
Cluster
HDFS Cluster
Auto Scaling
Storage
Amazon Simple Storage Service (Amazon S3)
Amazon Elastic Block Storage (Amazon EBS)
AWS Import/ Export
AWS Storage Gateway Service
AWS Glacier
Amazon S3
Bucket
Bucket with Objects
Object
Amazon Elastic Block Storage (EBS)
Volume
Snapshot
AWS Import/ Export
AWS Storage Gateway Service
Amazon Glacier
Database
Amazon DynamoDB
Amazon Relational Database Service (Amazon RDS)
Amazon ElastiCache
DynamoDB
Table
Item
Items
Attribute
Attributes
Amazon RDS
RDS DB Instance
RDS DB Instance Standby (Multi-AZ)
RDS DB Instance Read Replica
MySQL DB Instance
Oracle DB Instance
Amazon ElastiCache
ElastiCache Cache Node
Networking
Amazon Route 53
Amazon Elastic Load Balancing
AWS Direct Connect
Amazon Virtual Private Cloud (VPC)
Content Delivery
Amazon Cloudfront
Elastic Network Instance
Amazon Route 53
Hosted Zone
172.16.0.0
172.16.1.0
172.16.2.0
Route Table
Elastic Load Balancer
AWS Direct Connect
Amazon VPC
Router
Internet Gateway
Customer Gateway
VPN Gateway
VPN Connection
Amazon Cloudfront
Download Distribution
Streaming Distribution
Edge Location
Elastic Network Instance
Application Services
Amazon Simple Queue Service (SQS)
Amazon Cloudsearch
Amazon Simple Email Service (SES)
Amazon Simple Workflow (SWF)
Amazon Simple Notification Service (SNS)
Amazon SQS
Queue
Message
Amazon CloudSearch
Amazon SES
Email
Amazon SWF
Decider
Worker
Amazon SNS
Email
Email Notification
HTTP
HTTP Notification
Topic
Deployment and Management
Amazon Elastic Beanstalk
AWS Identity and Access Management (IAM)
AWS CloudFormation
Monitoring
Amazon CloudWatch
Non-Service Specific
Amazon Application Elastic Beanstalk
AWS IAM
IAM Add-on
AWS CloudFormation
Template
Stack
Alarm
Amazon CloudWatch
AWS Cloud
AWS Management Console
User
Users
Internet
Client
Mobile Client
Multimedia
Traditional Server
Corporate Data Center
Groups
Auto scaling Group
Availability Zone
Region
Security Group
Elastic Beanstalk Container
EC2 Instance Contents
VPC Subnet
Server Contents
Virtual Private Cloud
AWS Cloud
Corporate Data Center

Amazon EC2

Amazon EC2

Secure and resizable compute capacity to support virtually any workload

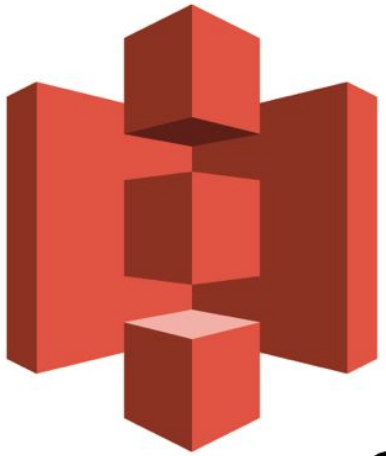
Amazon EC2 offers the broadest and deepest compute platform with choice of processor, storage, networking, operating system, and purchase model. They offer the fastest processors in the cloud and they are the only cloud with 400 Gbps ethernet networking. We have the most powerful GPU instances for machine learning training and graphics workloads, as well as the lowest cost-per-inference instances in the cloud. More SAP, HPC, Machine Learning, and Windows workloads run on AWS than any other cloud. Click here to learn What's New with Amazon EC2.

Amazon RDS

Amazon Relational Database Service (RDS)

Set up, operate, and scale a relational database in the cloud with just a few clicks.

Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while automating time-consuming administration tasks such as hardware provisioning, database setup, patching and backups. It frees you to focus on your applications so you can give them the fast performance, high availability, security and compatibility they need.



Amazon S3

Amazon Simple Storage Service (Amazon S3)

Object storage built to store and retrieve any amount of data from anywhere

Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. This means customers of all sizes and industries can use it to store and protect any amount of data for a range of use cases, such as data lakes, websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics. Amazon S3 provides easy-to-use management features so you can organize your data and configure finely-tuned access controls to meet your specific business, organizational, and compliance requirements.


amazon
cloudfront

Amazon CloudFront

Fast, highly secure and programmable content delivery network (CDN)

CloudFront offers the most advanced security capabilities, including field level encryption and HTTPS support, seamlessly integrated with AWS Shield, AWS Web Application Firewall and Route 53 to protect against multiple types of attacks including network and application layer DDoS attacks. These services co-reside at edge networking locations – globally scaled and connected via the AWS network backbone – providing a more secure, performant, and available experience for your users.

Amazon VPC

Amazon Virtual Private Cloud

Provision a logically isolated section of the AWS cloud where you can launch AWS resources in a virtual network that you define

Amazon Virtual Private Cloud (Amazon VPC) lets you 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. You can use both IPv4 and IPv6 in your VPC for secure and easy access to resources and applications.

Amazon
SNS

Amazon Simple Notification Service

Fully managed pub/sub messaging, SMS, email, and mobile push notifications

Amazon Simple Notification Service (Amazon SNS) is a fully managed messaging service for both application-to-application (A2A) and application-to-person (A2P) communication.

The A2A pub/sub functionality provides topics for high-throughput, push-based, many-to-many messaging between distributed systems, microservices, and event-driven serverless applications.

The Amazon “Secret Sauce”

Features and Benefits

- High Availability by Availability Zones
- Auto Scaling & Elasticity by CloudWatch
- Parallel Processing by Elastic Load Balancer
- Transparency by Elastic IP
- Security by Encryption, IAM and HTTPs Access
- Fault tolerance & Disaster Recovery by Replication, Snapshots & VPC in Multi AZs & Regions
- Low latency by Edge Locations & CDN
- Inexpensive pricing by ” Pay-as-you-go” model
- Some of free Use by AWS free Tier

Cost Savings

Jeff Bezos has likened Amazon Web Services to the utility companies of the early 1900s. One hundred years ago, a factory needing electricity would build its own power plant but, once the factories were able to buy electricity from a public utility, the need for pricey private electric plants subsided. AWS is trying to move companies away from physical computing technology and onto the cloud.

With AWS, companies pay for what they use. There's no upfront cost to build a storage system and no need to estimate usage. AWS customers use what they need and their costs are scaled automatically and accordingly.

Free usage tier

- 750 hours of Amazon EC2 Linux or RHEL or SLES t2.micro instance usage (1 GiB of memory and 32-bit and 64-bit platform support) – enough hours to run continuously each month
- 750 hours of an Elastic Load Balancer plus 15 GB data processing
- 750 hours of Amazon RDS Single-AZ Micro DB Instances, running MySQL, MariaDB, PostgreSQL, Oracle BYOL or SQL Server Express Edition – enough hours to run a DB Instance continuously each month. You also get 20 GB of database storage and 20 GB of backup storage
- 750 hours of Amazon ElastiCache Micro Cache Node usage – enough hours to run continuously each month.
- 30 GB of Amazon Elastic Block Storage in any combination of General Purpose (SSD) or Magnetic, plus 2 million I/Os (with EBS Magnetic) and 1 GB of snapshot storage

Scalable and Adaptable

Since AWS's cost is modified based on the customers' usage, startups and small businesses can see the obvious benefits of using Amazon for their computing needs. In fact, AWS is great for building a business from the bottom as it provides all the tools necessary for companies to start up with the cloud. For existing companies, Amazon provides low-cost migration services so that your existing infrastructure can be seamlessly moved over to AWS.

Security and Reliability

Arguably, Amazon Web Services is much more secure than a company hosting its own website or storage. AWS currently has dozens of data centers across the globe which are continuously monitored and strictly maintained. The diversification of the data centers ensures that a disaster striking one region doesn't cause permanent data loss worldwide. Imagine if Netflix were to have all of its personnel files, content, and backed-up data centralized on-site on the eve of a hurricane. Chaos would ensue.

Global market domination

41.5% AMAZON WEB SERVICES

29.4.% MICROSOFT AZURE

3.0.% GOOGLE CLOUD PLATFORM

2.9% RACKSPACE

2.6% IBM SOFT LAYER

20.7% OTHERS

Figure 1. Magic Quadrant for Cloud Infrastructure and Platform Services

Global network of AWS Regions

Thank you!

For more information visit: Aws documentation