Cloud Computing

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What is cloud computing?

Cloud computing are computing services over the cloud (the internet). Users can access these services anywhere on the internet.

Advantages to the cloud

Infrastructures don’t take up as much space

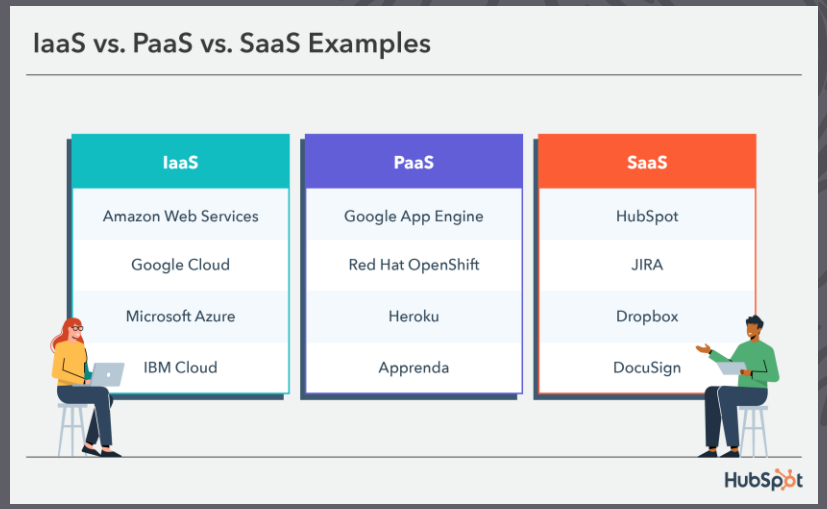
With cloud computing you don’t need to rent out a space for all the servers and hardware because cloud computing has all the storage you need!

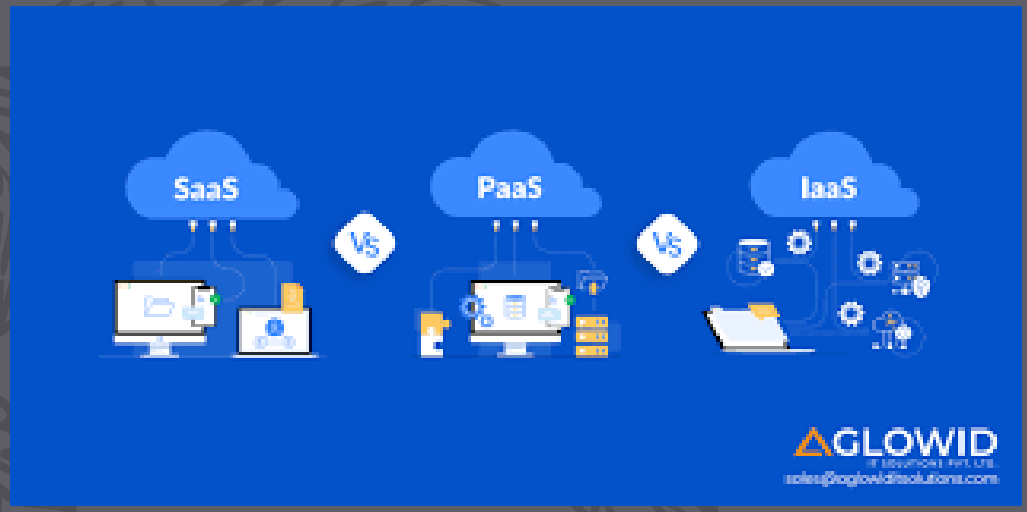
Lower variable cost

Lower pay with "pay-as-you-go" prices. Cloud computing allows you to be more cost-effective because you pay for just what you need

Increases speed and you can go global in minutes.

All changes are just a click away and you can send it out via internet.





6 Types of cloud computing models

IaaS

Infrastructure as a service

IaaS allows the user to have on-demand access to their services and resources. This provides the most control over the users IT resources

PaaS

Platform as a service

Paas allows the user to use services with some guidance and less control over the IT resources

Saas

Software as a service

Saas allows the user to use a service that other companies have created with not much IT control other than what is provided.

Cloud deployment models

Public

Allows everyone to access the service

Pros: pay-by-use service

Low maintenance

Cons: less secure (open to the public)

Hybrid

Combination of public and on-premises

Pros: same cost savings as public

More secure than public cloud

Cons: hard to manage both public and private

On-premises

Only allows single users to access the service

Pros: more secure than public cloud

Allows for more customization

Cons: not as scalable and cost more

Main AWS service categories

What is a web service?

- A web service is a piece of software that is available over the internet for users based on the deployment models (cloud, hybrid, and private) There are also three different types of models for the user to use based on the service models(IssA-PssA-SaaA)

AWS service categories

Computing services:

This provides virtual servers so users don't have to worry about all the hardware

Database Services:

This provides an easier way to set-up, scale, and operate databases

Analytics services:

This service helps the user analyze and organize the data

Security services:

This service provides a safe place to store important information and data

Storage services:

This provides a place for you to store, analyze, and access data

Managment services:

These services help businesses cloud compute easier

Cost management services:

This service allows you to look at how much the cost and usage of user's service will be

Networking services:

This service helps build, connect, and run multiple cloud networks

Web services in depth

Amazon EC2

This service allows the user to have control over the user's web services

Amazon elastic compute cloud offers a variety of instances that can be customized towards each user's workload

AWS Lambda

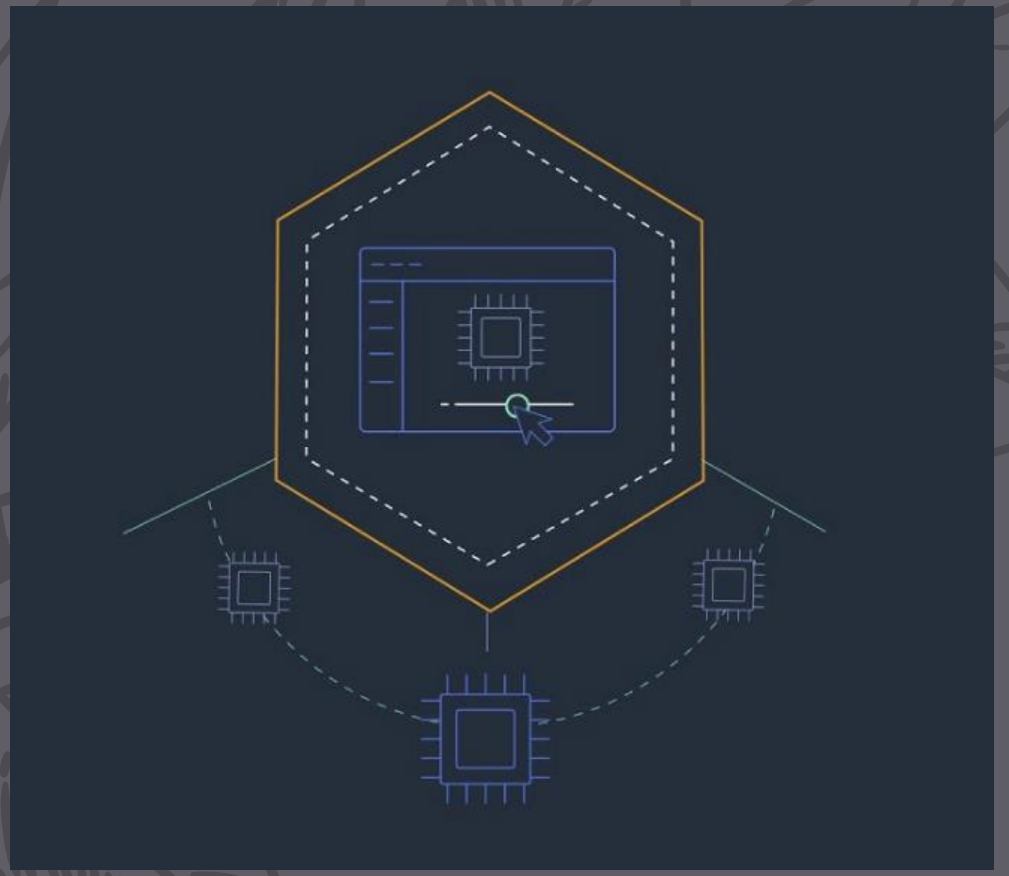
This service allows the user to run code and not have to manage servers

AWS Lambda is cost effective because of its pay-as-you-go pricing and allows the user to create modern web applications that are serverless

AWS Elastic Beanstalk

This service allows users to deploy and manage web applications

AWS Elastic Beanstalk allows users to quickly deploy, scale, and manage web applications



Amazon Lightsail

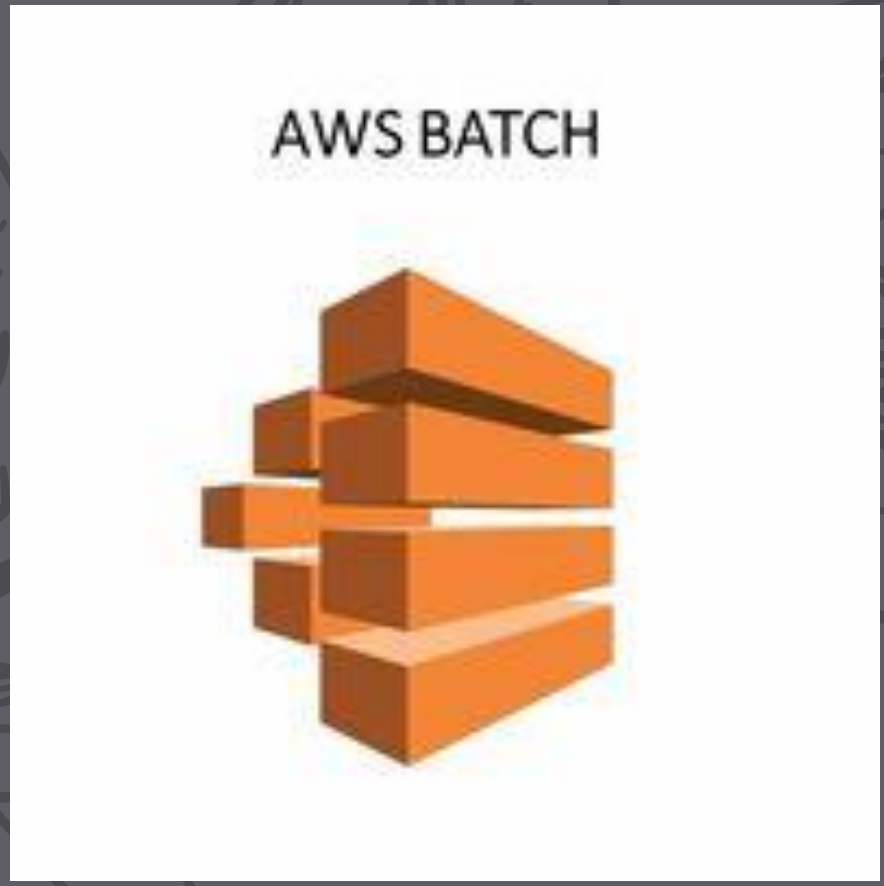
This service gives users a light cloud platform to deploy simple web applications

Lightsail offers a virtual private server

AWS Batch

This service allows the user to process a lot of workloads.

AWS Batch allows users to focus more on analyzing workload results than infrastructures.



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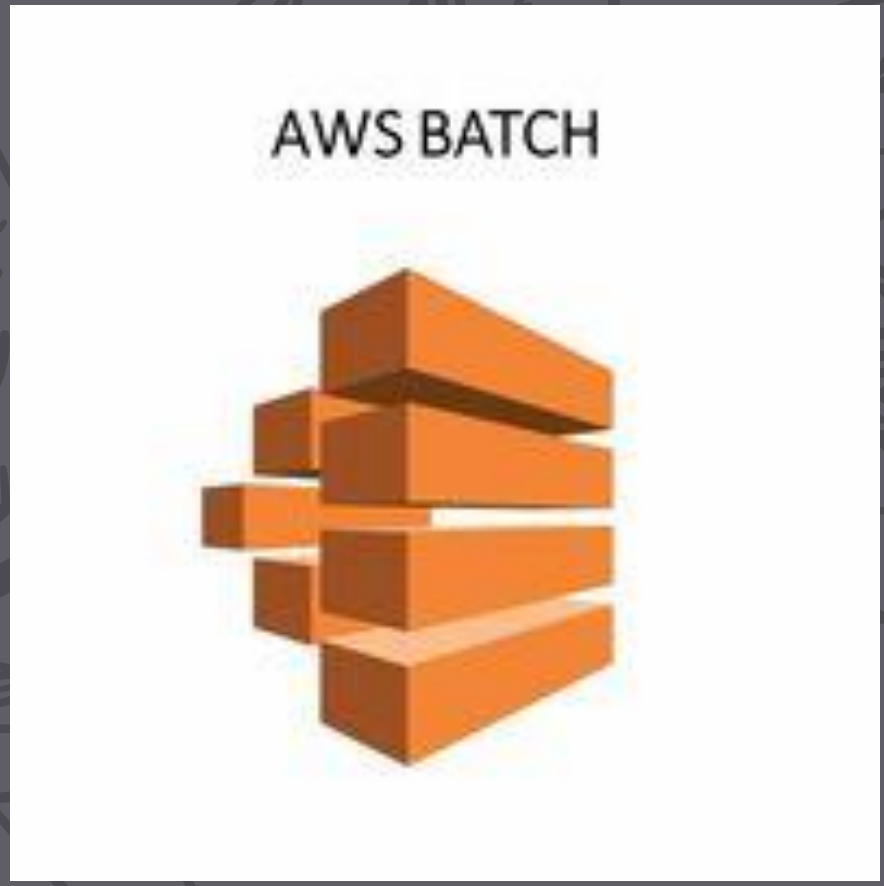


AWS Outpost

This service allows the user to run infrastructures on on-premises

AWS Outpost allows users to run services locally and provides a broader selection of services

Amazon ECS

Amazon Elastic Container Service fully manages containerized applications

Amazon ECS provides an easy-to-use solution for build these applications on the cloud or on premise

Amazon EKS

Amazon Elastic Kubernetes Service automatically scales containers

Amazon EKS is an affordable way to scale your containers

AWS Fargate

AWS Fargate allows the user to compute serverless for containers

AWS Fargate also allows the user to pay-as-you-go

VMware Cloud on AWS

VMware Cloud allows their users to migrate their servers to the cloud. This optimizes the user's workload.

VMware is very cost effective and is better for modernizing containers.

Ways to interact with AWS

AWS console

AWS management console

This is a web based application that allows the user to easily access the services

AWS CLI

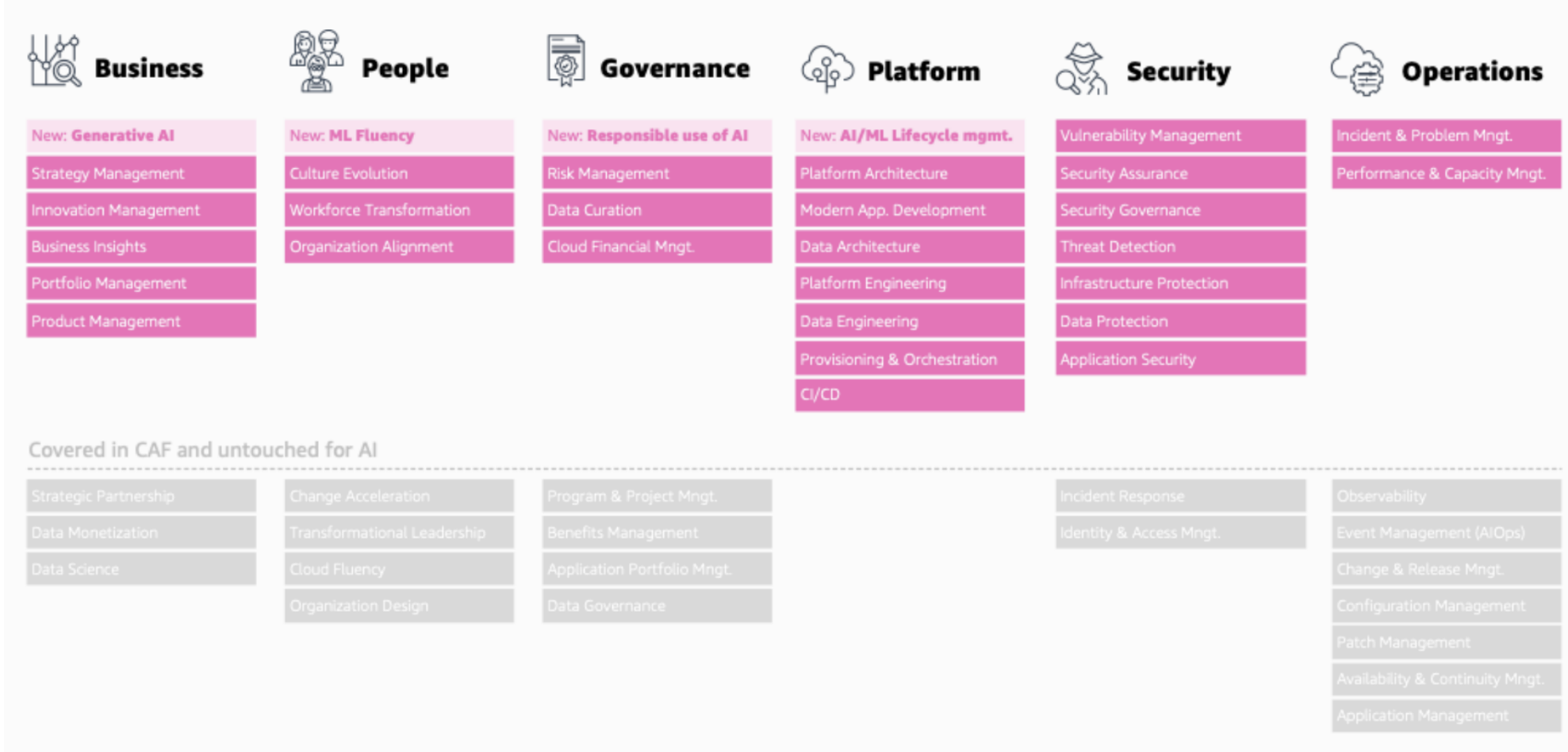
Command line interface

This allows the user to manage and control multiple services through script.

SDKS

Software Development kits

This allows the user to simply use the services by using JavaScript objects for services



ASW cloud adoption framework (ASW CAF)

What is AWS Cloud Adoption Framework?

- CAF is a set of practice tools that users can use to ensure they know how to use the cloud to the best of their ability and eliminate risks! CAF organizes these sets into 6 different categories.

Six Core perspectives in CAF

3 Business perspectives

Business:

Makes sure IT is aligned with what the business needs

Governance:

Makes sure that the skills the company needs is able to be completed

Security:

Makes sure the organization is secure

People:

Focuses on training, staff, and organizational changes within the business

Platform:

Makes sure the user understands and is able to connect to the IT systems

Operational:

Defines how the business will do on a day-to-day basis

3 technical perspectives