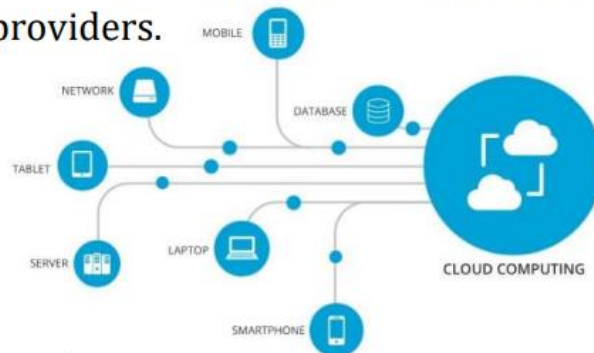


Cloud Computing - Definition

Cloud computing is the on-demand **delivery of IT assets over the Internet** with **pay-as-you-go** pricing. Instead of owning, buying, and maintaining physical data centres and servers, you can access technology services, such as compute power, storage and database as per the need from a cloud providers.



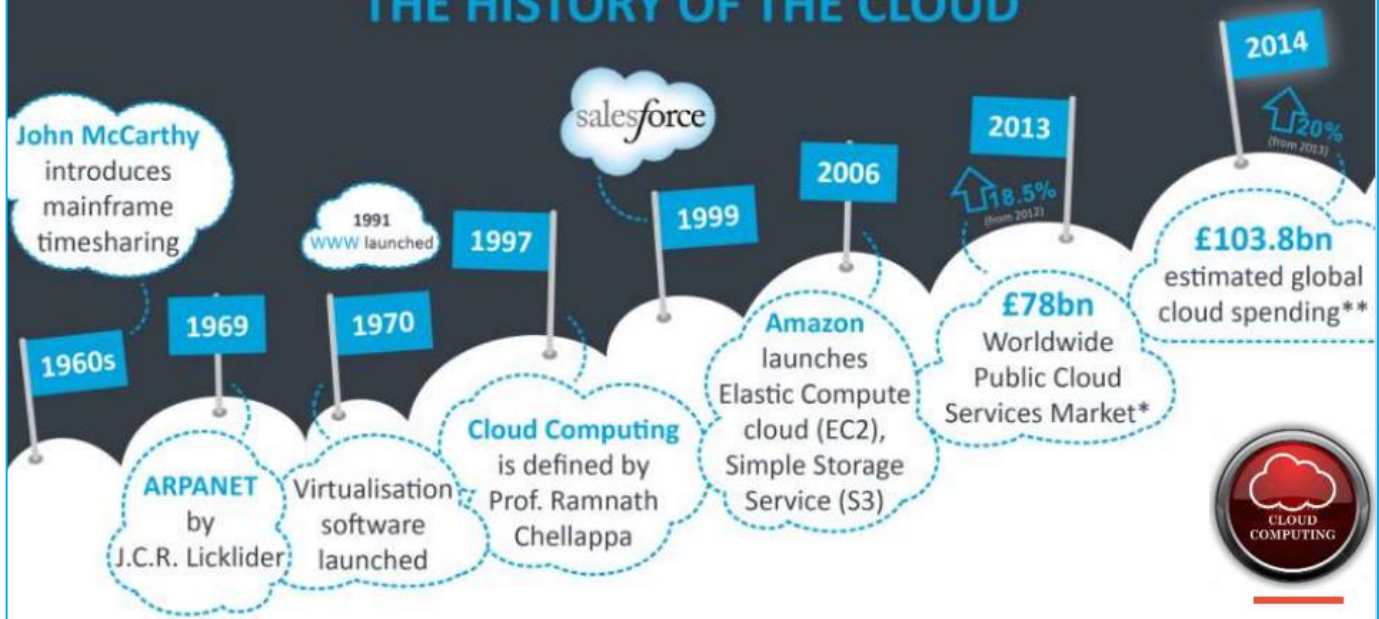
Cloud Computing – Cloud Providers

1. Amazon Web Services (AWS)
2. Microsoft Azure
3. Google Cloud
4. Alibaba Cloud
5. IBM Cloud
6. Oracle Cloud
7. Salesforce
8. SAP
9. Rackspace Cloud
10. VMWare



Cloud Computing - History

THE HISTORY OF THE CLOUD



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Cloud Computing - Characteristics



On-demand self-service

No human intervention needed to get resources



Broad network access

Access from anywhere



Resource pooling

Provider shares resources to customers



Rapid elasticity

Get more resources quickly as needed



Measured service

Pay only for what you consume



Cloud Computing - Advantages

Flexibility



Automatic software Updates



Increased Collaboration



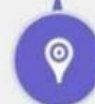
Document control



Security



Location Independent



- 1) Flexibility
- 2) Disaster Recovery
- 3) Automatic Software Updates
- 4) Pay As You Go
- 5) Increased Collaboration
- 6) Document Control
- 7) Security
- 8) Location Independence



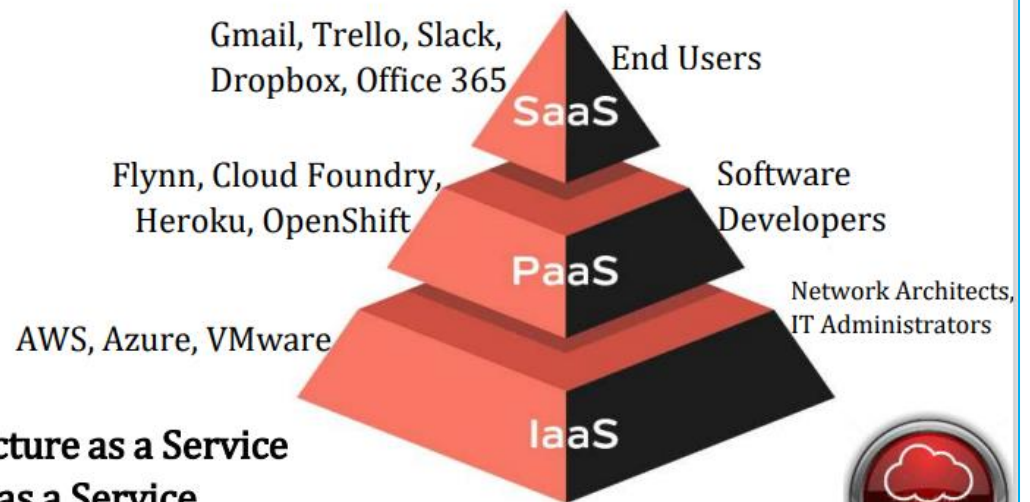
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Cloud Computing - Disadvantages

- 1) Internet Connectivity
- 2) Vendor lock-in
- 3) Limited Control
- 4) Security
- 5) Lack of Expertise
- 6) Migration Problems



Cloud Computing - Services

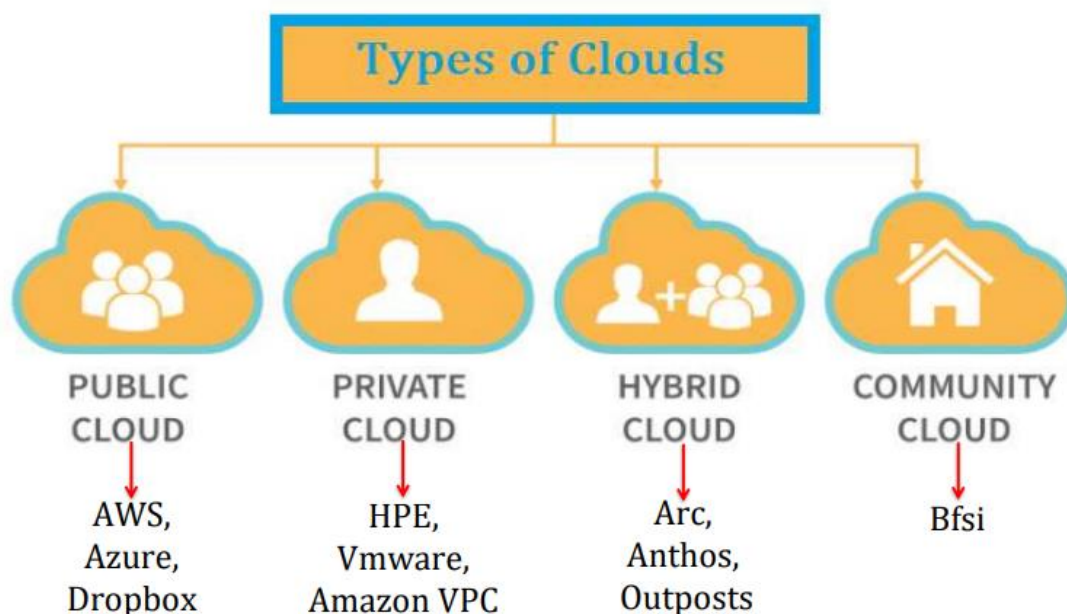


1. IaaS – Infrastructure as a Service
2. PaaS – Platform as a Service
3. SaaS – Software as a Service

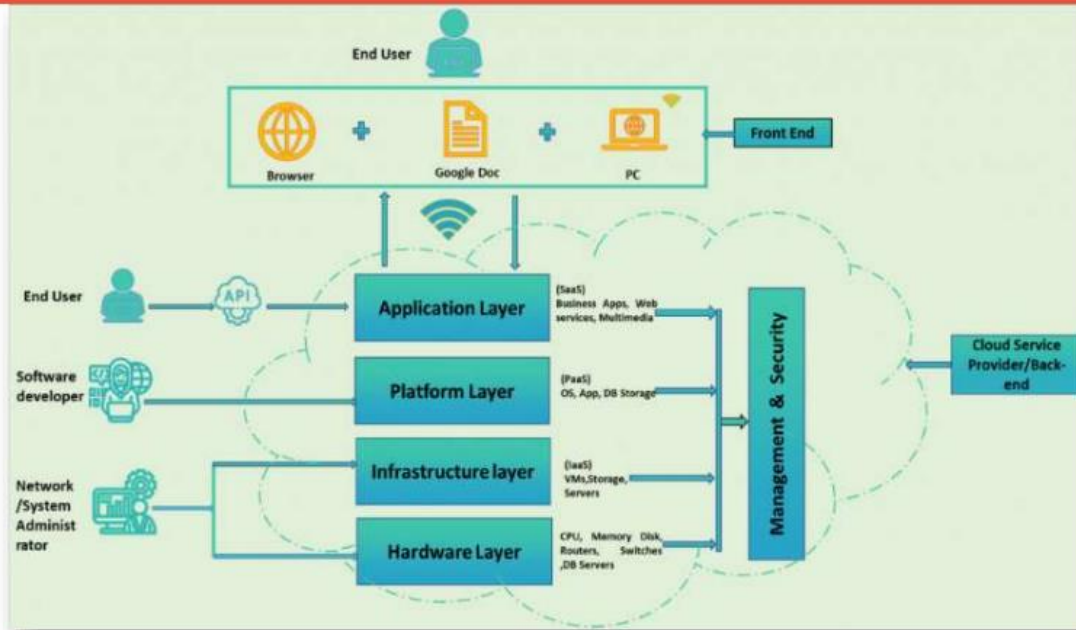


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Cloud Computing - Types



Cloud Computing - Architecture



Cloud Computing - Hypervisor

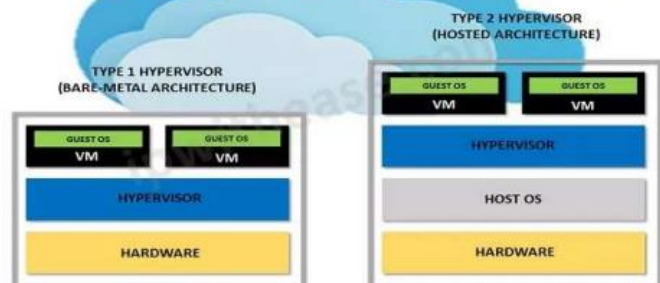
A **Hypervisor**, also known as a virtual machine monitor or VMM, is software that creates and runs virtual machines (VMs). A hypervisor allows one host computer to support multiple guest VMs by virtually sharing its resources, such as memory and processing.

1. Type 1 – Bare Metal – no OS

Ex: Microsoft Hyper-V hypervisor
Oracle VM
VMware ESXi
Citrix XenServer

2. Type 2 – Hosted - OS

Ex: Parallels Desktop
Windows Virtual PC
VMware Workstation Pro/VMware Fusion
Oracle VM
Virtual Box
VMware Player.



AWS Products and Services

Amazon EC2 (Elastic Compute Cloud)
Amazon RDS (Relational Database Services)
Amazon S3 (Simple Storage Service)
Amazon Lambda
Amazon Cognito
Amazon S3 Glacier
Amazon VPC (Virtual Private Cloud)

Dynamo DB
Amazon ElastiCache
Amazon Chime
AWS Athena
CodeCatalyst
AWS WAF
AWS QuickSight



Azure Products and Services

Azure DevOps
Azure Blob Storage
Azure Virtual Machines
Azure Backup
Azure Cosmos DB
Azure Logic Apps
Azure Active Directory
API management
Azure Content Delivery Network
Azure Site Recovery



GCP Products and Services

Google Compute Engine (GCE)

Google App Engine

Google Cloud Storage

Google Container Engine

Google BigQuery

Google Filestore

Google Kubernetes Engine

Google CloudRun

Google Cloud Spanner

Google Bigtable

Google BigQueryML

Google Cloud Datastore



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