

Date  
08/09/21

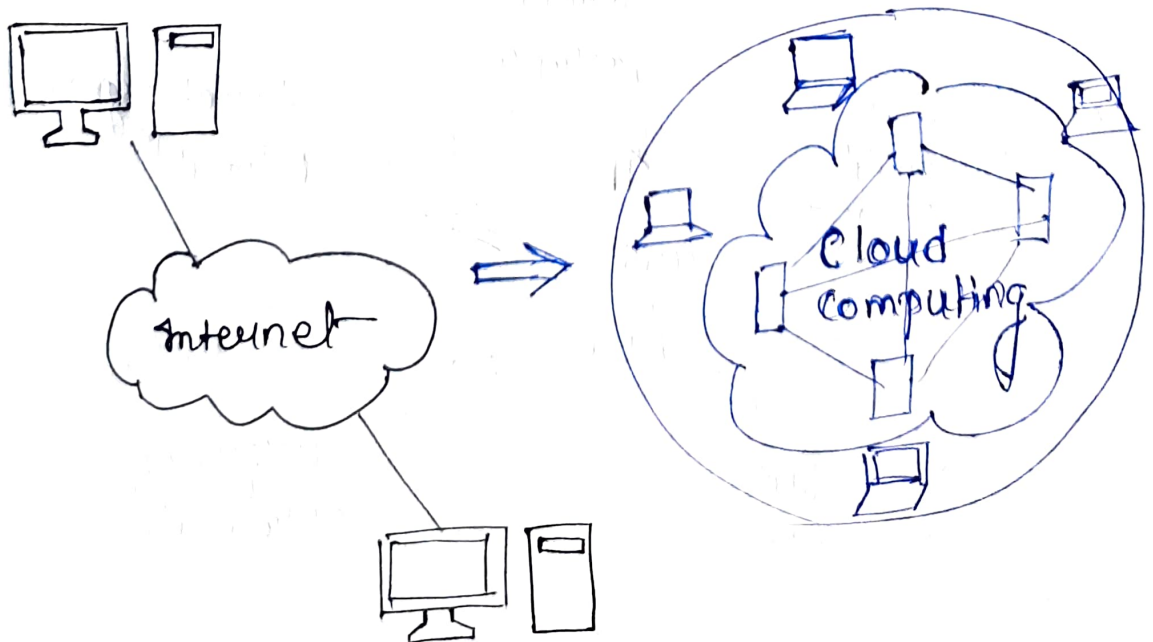
CSPE-56  
Cloud Computing  
CT-01

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Question (1):

Cloud computing is Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on demand, like the electricity grid.

The name cloud computing was inspired by the cloud symbol that's often used to represent the Internet in flowcharts and diagrams.



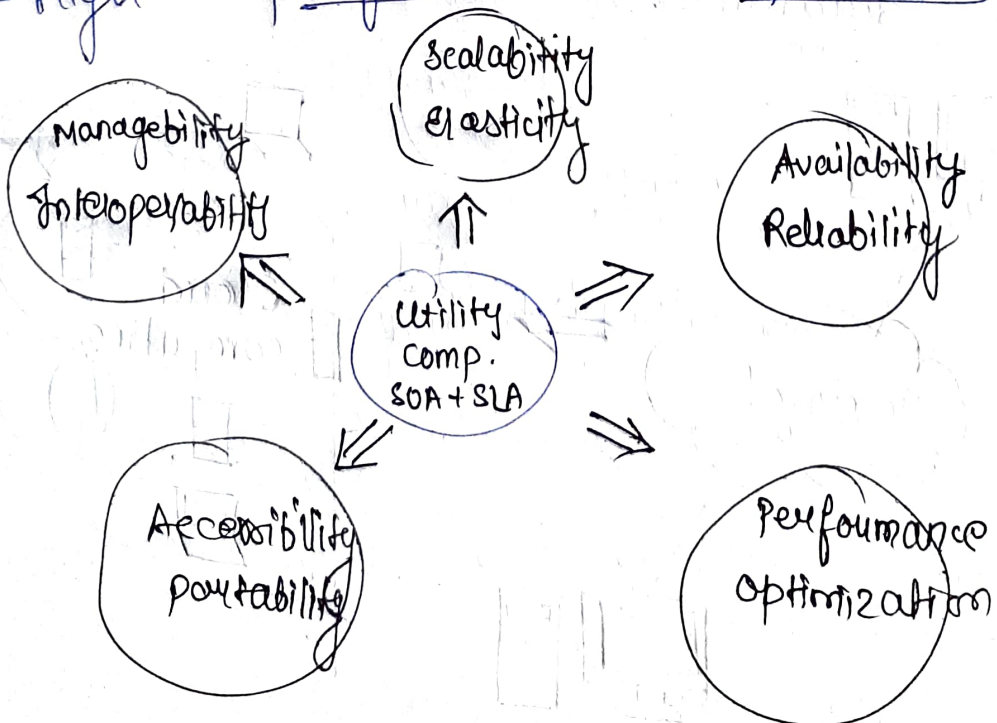
- cloud computing is a paradigm of computing, a new way of thinking about IT industry but not any specific technology.

## • Central Ideas

- utility computing
- SOA - service oriented Architecture
- SLA - service level agreement.

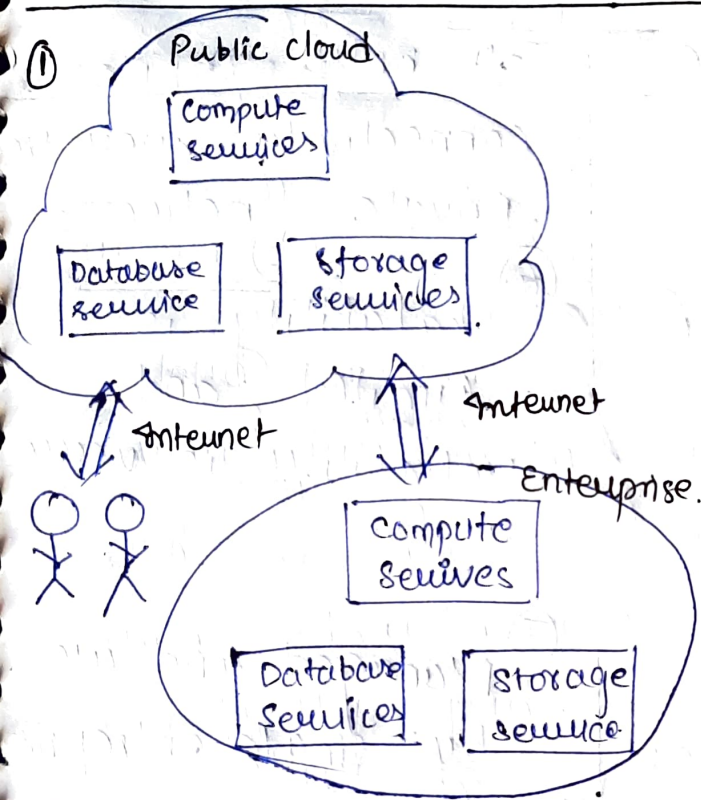
## • Properties and characteristics

- high scalability and elasticity.
- high availability and reliability
- high manageability & interoperability
- high accessibility & portability
- high performance & optimization



## Question. (2)

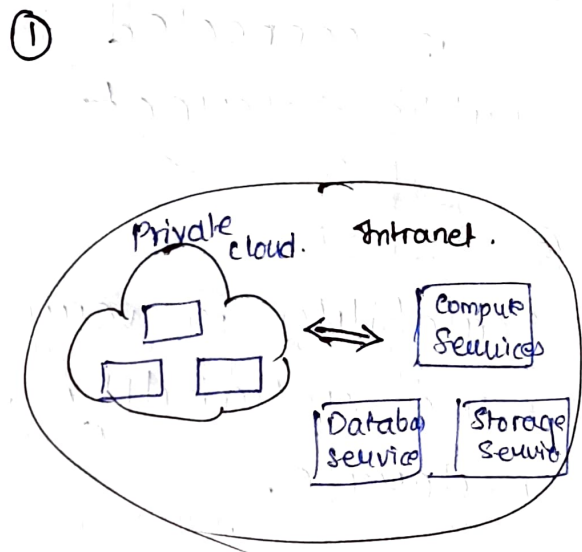
### Public cloud



② cloud computing infrastructure, shared to public by service provider over the internet. It support multiple customers. i.e. enterprise.

③ multi-Tenancy i.e. Data of many enterprise are stored, in shared env. but are isolated. Data is shared as per rule. permission & security

### Private cloud



② cloud computing infrastructure shared to private organisation by service provider the internet. It support one enterprise.

③ single Tenancy i.e., Data of single enterprise is stored



④ It is hosted at service Provider site

⑤ It is connected to the public internet

⑥ Scalability is very high, and reliability is moderate.

⑦ cloud service provider manages cloud & customers use them

④ It is hosted at service provider site or enterprise

⑤ It only supports connectivity over the private network

⑥ Scalability is limited, and reliability is very high.

⑦ Managed and used by single enterprise

# comparison

On the basis of following.

	<u>Public cloud</u>	<u>Private cloud</u>
<u>Infrastructure</u>	Homogeneous	Heterogeneous
<u>Policy Model.</u>	Common defined	customized & Tailored
<u>Resource Model.</u>	Shared + Multi-tenant	Dedicated
<u>Cost Model.</u>	operational expenditure	capital expend.
<u>Economy Model.</u>	large economy of scale	end-to-end control.

## Question (3)

### IaaS (Infrastructure-as-a-Service)

also known as cloud infrastructure service is a form of cloud computing in which IT infrastructure is provided to end users through the internet.

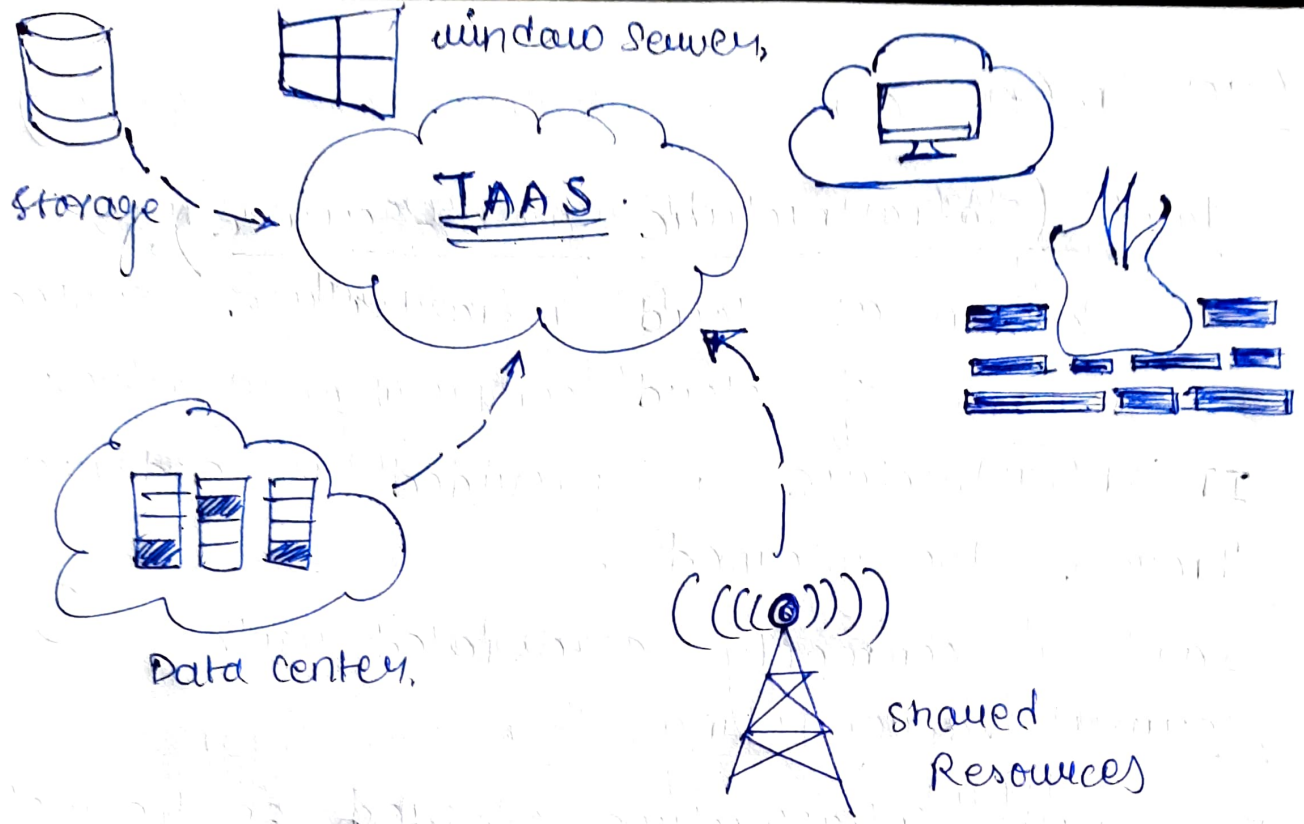
IaaS is commonly associated with serverless computing.

- Computing infrastructure offered on the web
  - CPU power, memory, storage, network
- Enabling technology - virtualization
  - Flexible allocation and sharing of server
  - Separation of customer = multitenancy.
  - → granularity - one VM instance and hour.
- Different usage model from raw virtualization
  - multiple VMs from one head-only image
  - Agile infrastructure - 1 server, multiple purpose

### IaaS service providers

- ① Amazon web services : elastic, elastic compute, cloud
- ② Tata Communications : Insta Compute.

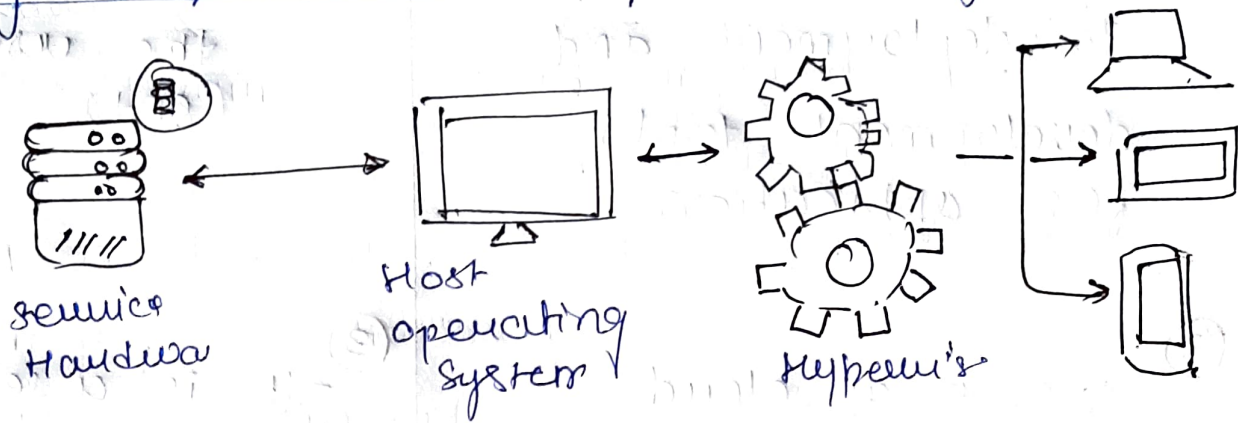




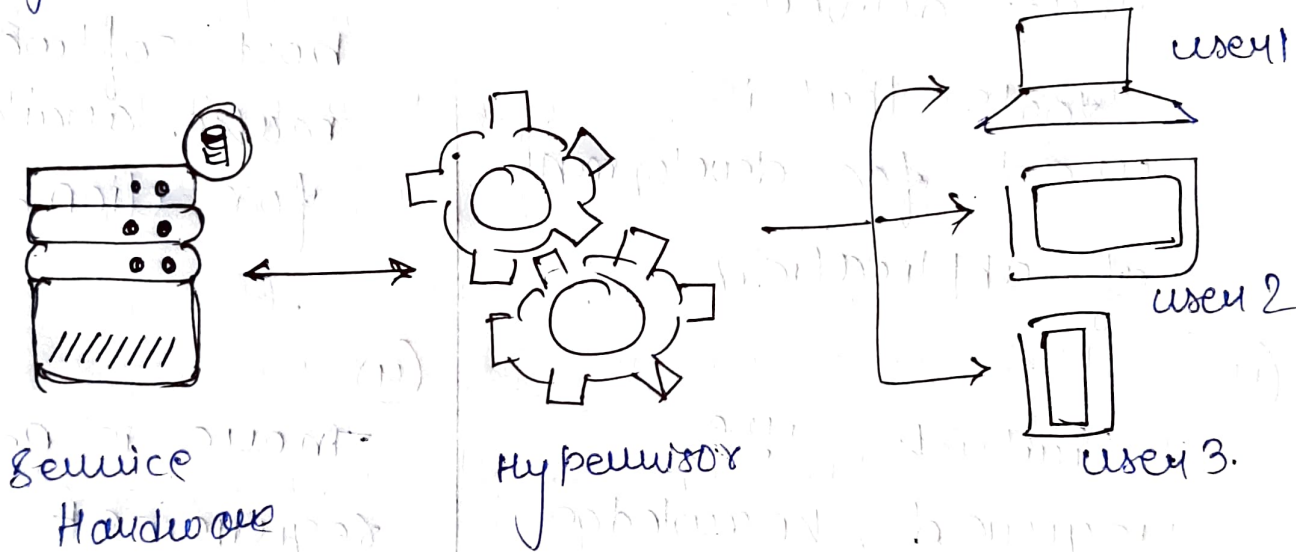
#### Question (4)

Hypervisor is a form of virtualization software used in cloud hosting to divide & allocate the resource on various pieces of hardware. The program which provides partitioning, isolation or abstraction is called virtualization hypervisor. The hypervisor is a hardware virtualization technique that allows multiple guest operating system (OS) to run on a single host system at the same time. A hypervisor is sometimes called a virtual machine manager (VMM).

## Type I / Bare-metal / Native Hypervisor.



## Type II / Embedded / Hosted Hypervisor



### Question 5

#### PAAS

① Platform as a services

PAAS is used by developer.

#### SAAS

① Software as a services

SAAS is used by end user.

② PaaS give access to runtime environment to deployment and development tools for application

③ It is a cloud computing model that delivers tools that is used for development of application

④ In which we required knowledge of subject to understand basic setup

⑤ cloud services  
Facebook,  
google search engine

② It gives access to the user (end)

③ It is a service model in cloud computing that host software make available for client

④ There is no requirement about tech of company handles everything

⑤ M.S. office web, Facebook & google apps.