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CSPE 56
Cloud Computing

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Cycle Test # 2

Question (1):

Answer:

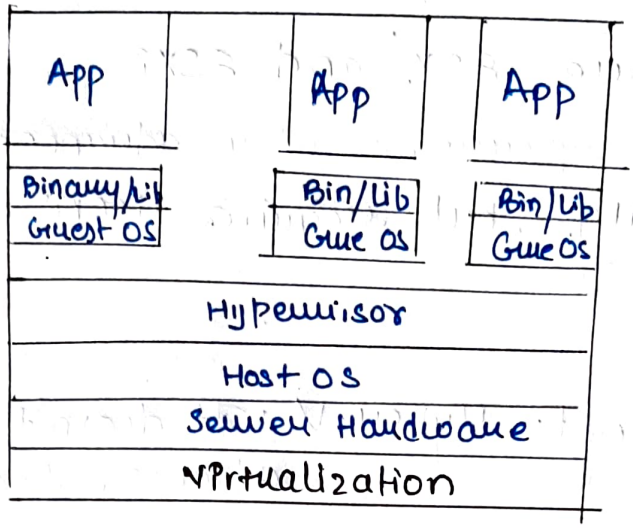
Virtualization is the "creation of a virtual (rather than actual) version of something, such as server, a desktop, a storage device, an operating system or network resources".

It is a technique, which allows to share a single physical instances of a resources or an application among multiple customers and organization. It does by assigning a logical name to a physical storage and providing a pointer to that physical resource when demanded

Concept behind Virtualization

Creation of a virtual machine over existing operating system and hardware is known as Hardware virtualization.

The machine on which the virtual machine is going to be built is known as Host machine and that virtual machine is reffered as Guest machine.

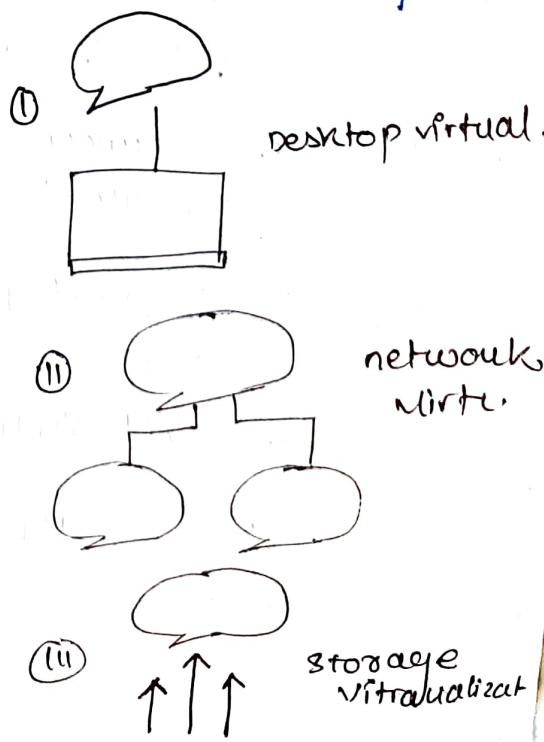


Benefits of virtualization

1. More flexible and efficient allocation of resources
2. Enhance development productivity
3. It lowers the cost of IT infrastructure
4. Remote access and rapid scalability.
5. High availability and disaster recovery.

Types of virtualization

1. Application Virtualiz.
2. Network virtualization
3. Desktop virtualization
4. Storage virtualization
5. Server virtualization
6. Data virtualization
7. Hardware virtualiz.
8. Operating System virtualiz

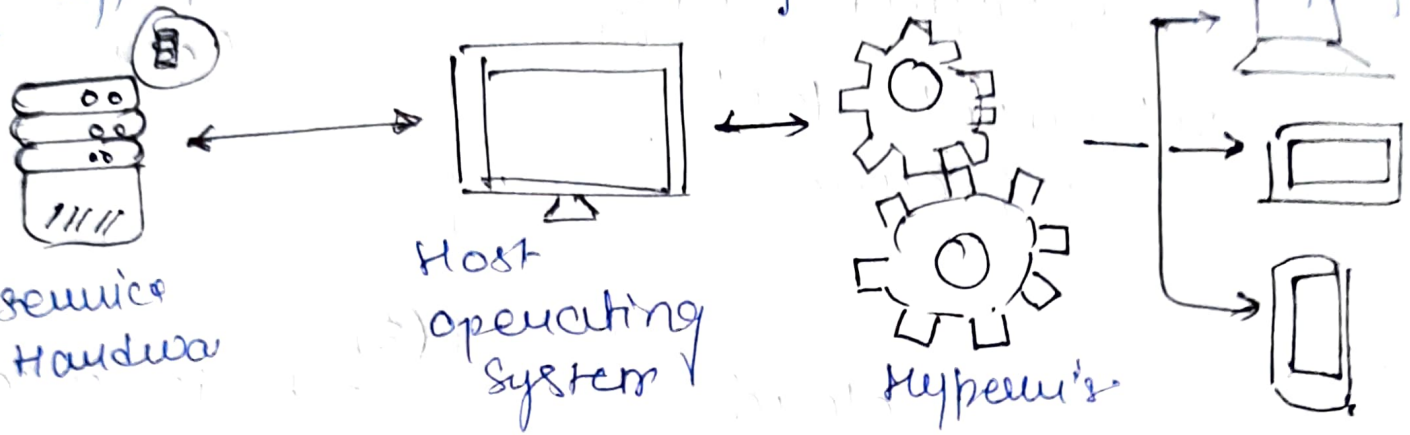


Question (3)

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)

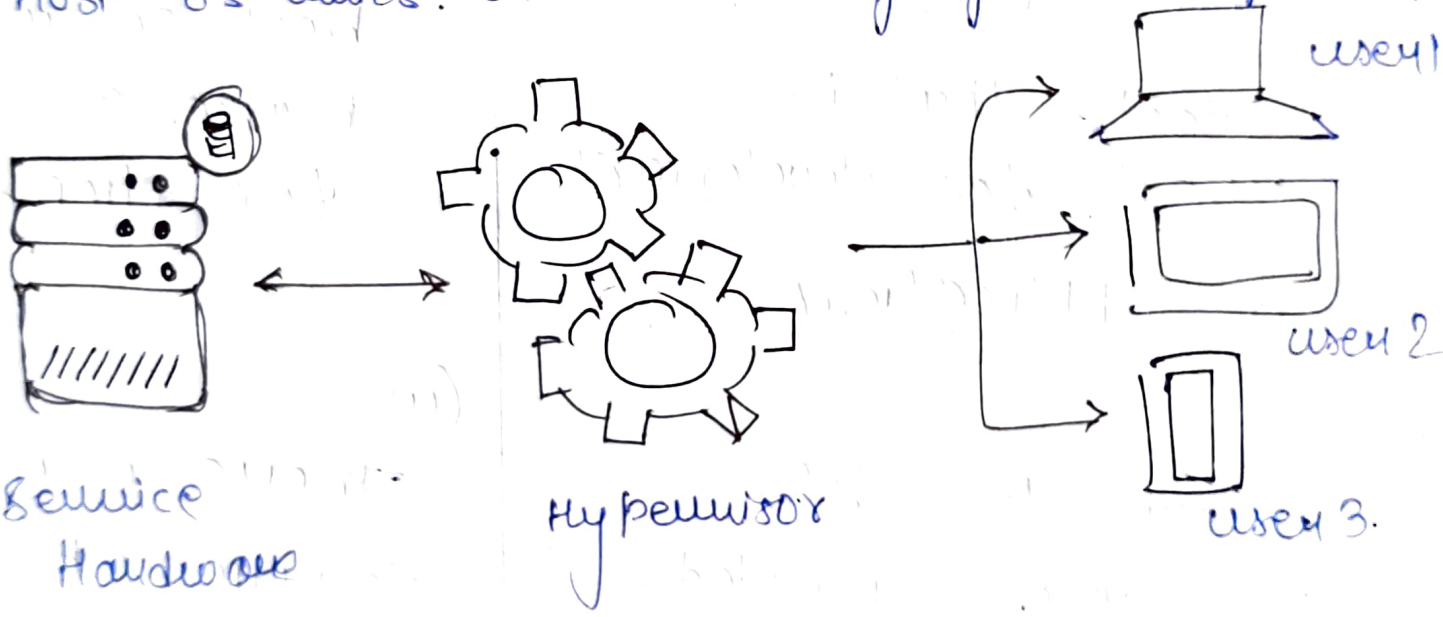
Type I / Bare-metal / Native Hypervisor

The hypervisor runs directly on the underlying host sys.



Type II / Embedded / Hosted Hypervisor

A Host os runs on the underlying host system.



Examples of Hypervisors:

Type 1 hypervisors :

(1) VMware ESX and ESXi

These hypervisor offer advanced features and scalability, but require licensing, so the costs are high.

(2) Microsoft Hyper-V : It doesn't offer many advanced features that vmspr

(3) Citrix XenServer It began as open source proje

(4) Oracle VM : It is based upon open source Xen.

Type 2 hypervisors :

(1) VMware workstation / Fusion / Player

Its have three major uses and free of cost.

(2) VMware Server.

similar to VMware workstation.

(3) Microsoft Virtual PC

Runs and support on windows OS.

(4) Oracle VM virtual box. provide resonable. peforma

(5) Red Hat Enterprise Virtualization

Its kernal base VM (KVM).

Question (2)

To setup cloud computing, we need to setup various infrastructures.

It can be as per the perspective of cloud service provider or consumer.

Consumer will setup infrastructure in order to use cloud computing, while provides will do it inorder to provide services.

(i) from cloud services Provides perspectives.

(a) Hardware:
Provide will need hardware to host the services.

(b) Powerful servic:
They need to be able to host different virtual machine.

(c) storage:
cloud providers need to ensure data doesn't get lost, so they need a lot of storage.

(d) Data center:
A place to keep all servers is needed

(e) Networks:
The services is to be hosted over internet, so network is required.

(i) Hypervisor:

In order to manage VMs, hypervisor are needed

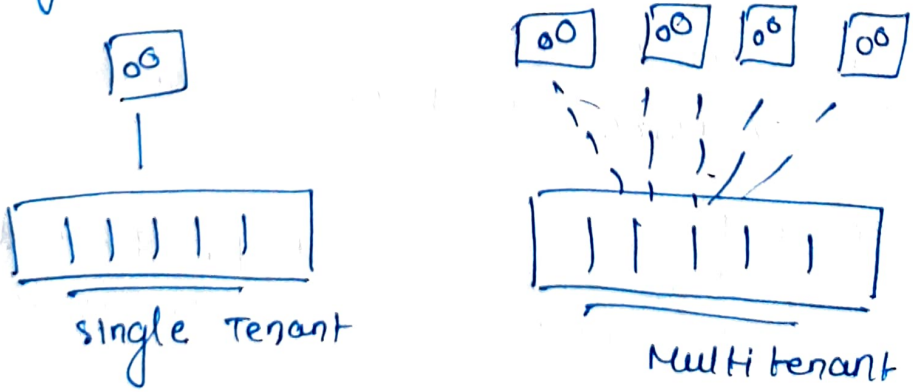
(ii) From customer perspective:

(a) Computer: To use cloud services, a computer is needed.

(b) Network: To access cloud services, network is required.

Question (4)

Multitenancy means that multiple customers of a cloud vendor are using the same computing resources. Despite the fact that they share resources, cloud customer aren't aware of each other. and their data is kept totally separate. Multitenancy is a crucial component of cloud computing.



In multi-tenant hosting - also called as shared hosting - a single physical computer or (virtual machine) is shared among multiple users or client organization.

Question (5)

Saas-based online food ordering system?

Subscription based usage of software for which you have to pay subscription charges at regular interval. It is like renting a house in place of building one.

The model will have some adv. and dis-adv.

It consist of several restraunt from that can order some food and pay the subscription fees at the end of the math for all the order.

A business owner can choose basic package to launch his business online.

All data is saved and backed up in the cloud. In case of a breakdown, your data and the system will be safe.