Cloud Computing Fundamentals.

Assignment - 2

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(1). Following are the characteristics of cloud computing -

- On-demand Self-Service
- Broad Network Access.
- Resource Pooling.
- Rapid elasticity.
- Measured service
- Service Models
- Deployment Models
- Self-Service Portals
- Scalability and Flexibility
- Security and Compliance

(2) Xen is an open source initiative implementing a virtualization platform based on paravirtualization. Xen-based technology is used for either desktop virtualization or server virtualization, and recently it has also been used to provide cloud computing solutions by means of Xen Cloud Platform (XCP).

VMware's technology is based on the concept of full virtualization, where the underlying hardware is replicated and made available to the guest operating system, which runs unaware of such abstraction layers and does not need to be modified.

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(3) VPN is a private point to point connection between two machines or networks. over a shared or public network such as the internet. VPN technology can be used in organization to extend its safe encrypted connection over less secure internet to connect remote users, branch offices, and partners private, internal network.

There are 3 types of VPN in use -
- Remote VPN
- Intranet VPN
- Extranet VPN.

(4) Cloud Reference Models (Service / Delivery Models)
- Infrastructure as a Service.
- Platform as a Service.
- Software as a Service

Deployment Models -
- Public cloud.
- Private cloud.
- Hybrid cloud.
- community cloud.

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(5) Workload categorization is important in cloud computing env. because different workloads have varying resource requirements, performance characteristics, and scalability needs. By classifying workloads, cloud providers and users can optimize resource allocation, enhance performance, improve cost effectiveness, and ensure that the cloud infrastructure meets the specific demands of each workload.

The categories in this section include -

- Big streaming data
- Big database calculation
- Big database access.
- Big data storage.
- Many tiny tasks
- Tightly coupled calculations - intensive
- Separable calculation - intensive.
- Highly interactive single person tasks.
- Highly interactive multi person jobs.
- Single compute intensive jobs.
- Private local tasks.
- Slow communication.
- Real-time local tasks.
- Real time geographical dispersed tasks.
- Access control.