Introduction to Cloud Computing

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What is Cloud?

- The term **Cloud** refers to **Network** or **Internet**.
- In other words, we can say that Cloud is Something, which is present at remote location. Cloud can provide services over public and private networks, i.e., WAN, LAN or VPN.

What is Cloud?

- Applications such as e-mail, web conferencing, customer relationship management(CRM) execute on cloud.
- On demand delivery of IT resources through the internet with payment depending on the use of the service is known as cloud computing. And it gives a solution for infrastructure at low cost.

What is Cloud Computing?

- Distributed computing on internet or delivery of computing service over the internet.

Eg: Yahoo!, Gmail, Hotmail.

- Cloud Computing refers to manipulating, configuring, and accessing the hardware and software resources remotely. It

What is Cloud Computing?

Offers online data storage, infrastructure, and application.

- Cloud computing offers Platform independency, as the software is not required to be installed locally on the PC. Hence, the Cloud Computing is making our business application mobile and collaborative.

What is Cloud Computing?

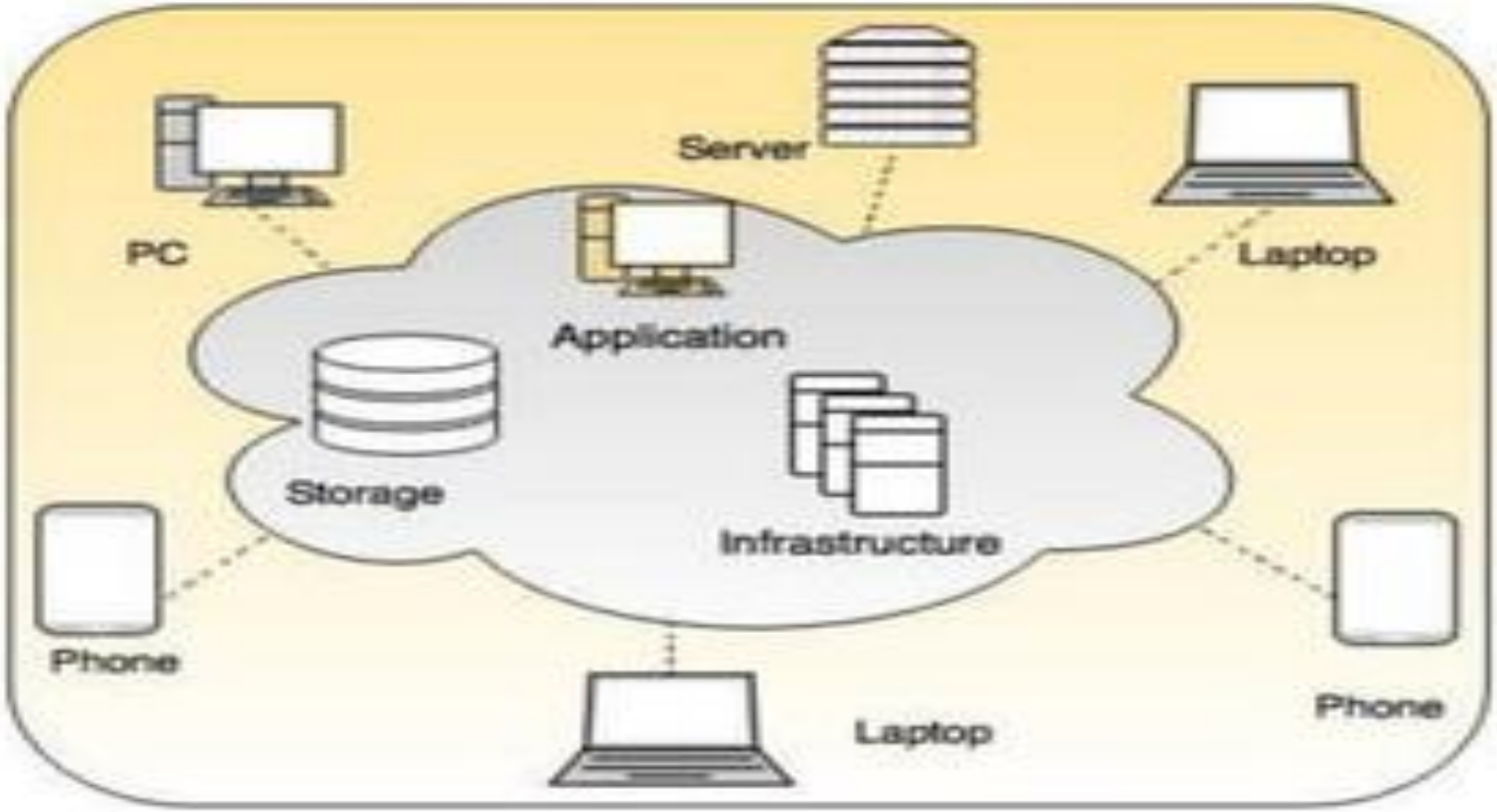


Fig.- Cloud Computing

Cloud Component

- It has three components:

1. Client Computers
2. Distributed Servers
3. Datacenters

Client computers

Clients are the device that the end user interact with cloud.

- Three types of clients:

➢Mobile

➢Thick : internet explorer, Firefox, chrome

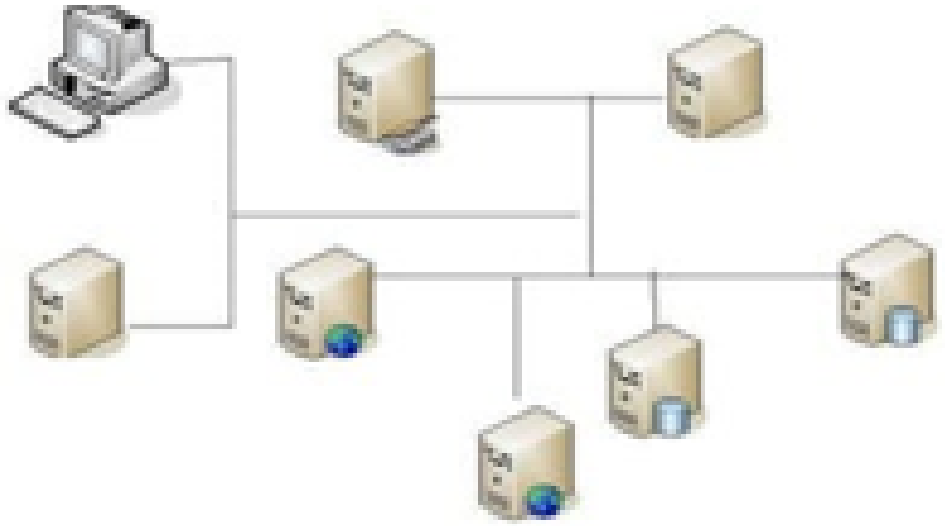
➢Thin : windows terminal service

Datacenter

It is collection of servers where application is placed and is accessed via internet.

Distributed Servers

- Often servers are in geographically different places, but servers acts as if they are working next to each other.



Central Server

- It Administers the system such as monitoring traffic, client demands to ensure everything runs smoothly.
- It uses a special type of software called middleware.
- Middleware allow computer to communicate each other.

Essential characteristics

- Reduce the complexity of networks.
- Do not have to buy software licenses.
- Customization.

Essential characteristics

- Cloud providers that have specialized in a particular area (such as e-mail) can bring advanced services that a single company might not be able to afford or develop.
- Scalability, reliability, and efficiency.
- Info. at cloud are not easily lost.

Features of Cloud Computing

- **High scalability :** it means on demand provisioning of resources on a large scale without requiring human interaction with each service provider.

Features of Cloud Computing

- Informally, things should not get incrementally worse as we go from small size to large size
- Think about counting people in a room, counting people in a market, counting people in a country.

  It is incrementally difficult

- Scalability is the ability to be enlarged to accommodate growth

Features of Cloud Computing

- Types of Scalability

➢ **Size scalability**: more nodes means the system becomes faster

➢ **Geographic scalability**: adding data centers at d/t geo regions should let the system reduce response time

➢ **Administrative scalability:** more nodes should not lead to additional admin cost

Features of Cloud Computing

- **High availability and reliability :** Availability of servers is more reliable and high because it minimizes the chances of infrastructure failure.

Features of Cloud Computing

- If a system is not accessible, it is said to be unavailable
- It is measured using the portion of time the system is available out of a total time

Features of Cloud Computing

- The beauty of DSs is that they take unreliable nodes and can build a reliable system out of them.
- DS provides redundancy, as a result partial failures do not affect the availability of the system.
- Components, nodes or data center can be redundant in a DS.

Features of Cloud Computing

- **Agility :** It shares the resources between users and works very quickly.
- **Multi-sharing** : multiple user and applications work more efficiently with less cost by sharing common infrastructure using cloud computing.

Features of Cloud Computing

- **Maintenance :** maintenance of cloud computing applications is easier as they are not required to be install on each computer and can also be accessed from various places, ultimately reducing the cost.

Features of Cloud Computing

- **Low cost :** It is cost effective because the company no more needs to set its own infrastructure. It pays according to resources it has consumed.

Features of Cloud Computing

- **Services in pay-per-use mode :** APIs(Application Programming Interfaces) are provided to the users for accessing the services on the cloud and pay according to use of the service.

Thank You