CLOUD COMPUTING

INTRODUCTION OF CLOUD COMPUTING:

Cloud computing is the delivery of computing services. Including servers,storage database,networking,software over the internet (cloud) is called cloud computing

COMPUTING:

Computing refers to the process of using computer systems to perform tasks or solve problems. It involves the manipulation, processing, storage, and retrieval of data using hardware (physical devices) and software (programs and applications).

CLOUD COMPONENTS:

Cloud components are three types:

1) client 2) datacenter 3)distributed servers

CLIENTS:

Clients are the devices. That the users are access the information from the cloud through the devices. Those devices are called the clients.

DATACENTER:

Data center is the main component in the cloud.
In a data center we can store the data, that means all data stored on the server.
We can access the data on the server at a time large numbers of users can access the cloud resources.
All servers are present on large room.(or) room full of servers.
These servers are accessed only on the internet.

DISTRIBUTED SERVERS:

The name of distributed means “ sharing”
Servers are not present in one place. They are located in different places.the cloud servers are distributed through out the world.

CHARACTERISTICS OF CLOUD COMPUTING:

They are 5 characteristics of cloud computing:

1. On -demand self-service
2. Broad network access
3. Resource pooling
4. Rapid elasticity or expansion
5. Measured service

ON-DEMAND SELF-SERVICE:

on-demand self service means you can demand the service.

Cloud computing provides resources on-demand self service that means some applications can access the resource itself.

Such as G-mail, facebook etc…

BROAD NETWORK ACCESS:

Broad network access means we can access the cloud resources through the internet connection

We can access the cloud resources from anywhere and any time.

RESOURCE POOLING:

Resource pooling means the cloud computing all the resources are pooled together i.e

Multiple number of customers are used cloud resources at anywhere and any time

RAPID ELASTICITY:

Cloud resources can be rapid & elasticity provides, rapid means fastly

Some cases cloud services are fastly increased and decreased based on demand

MEASURED SERVICES:

Cloud computing resources are measured. That means

Customer are used the services time to time cloud providers are measured the services , because cloud is pay & use

ADVANTAGES AND DISADVANTAGES OF CLOUD COMPUTING:

ADVANTAGES:

1. Backup and restore data
2. Excellent accessibility
3. Low cost
4. Mobility
5. Unlimited storage capability
6. Data security
7. Saves our time
8. No maintenance
9. sharing
10. on - demand self-service

DISADVANTAGES:

1. High speed internet
2. security (low security)
3. Depends on cloud provider
4. Limited privacy
5. Knowledgeable vendors
6. Rules and regulation

BASIC CONCEPTS:

1. Deployment Models
2. Service Models

DEPLOYMENT MODELS:

Deployment models define the type of access to the cloud, i.e., how the cloud is located? Cloud can have any of
the four types of access:

1. Public
2. Private
3. Hybrid
4. Community.

PUBLIC:

The Public Cloud allows systems and services to be easily accessible to the general public. Public cloud may be
less secure because of its openness, e.g., e-mail.

PRIVATE:

The Private Cloud allows systems and services to be accessible within an organization. It offers increased
security because of its private nature.

HYBRID:

The Hybrid Cloud is a mixture of public and private cloud. However, the critical activities are performed using
private cloud while the non-critical activities are performed using public cloud.

COMMUNITY:

The Community Cloud allows systems and services to be accessible by group of organizations.

SERVICE MODELS:

Service Models are the reference models on which the Cloud Computing is based. These can be categorized into
three basic service models as listed below:

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

1.SOFTWARE AS A SERVICE (SAAS):

- The SaaS model allows the use of software applications as a service to end users.

Saas is a pre-existed application that applications are accessible through internet connection and web browsers like Google chrome, mozilla, firefox etc..

These applications are provide by cloud provider

Saas is known as “on-demand software“ because in Saas all applications are already developed. So we can demand the applications what do you want and some applications free and pay

Like email, Google, facebook, are free applications
Amazon Prime, Netflix etc.. applications are pay.

ADVANTAGES OF SAAS:

1. **SAAS IS EASY TO BUSY:**
   Saas applications are already developed applications so we can easy to buy saas applications

2. **LOW MAINTENANCE REQUIRED OF SAAS:**
   The saas applications are maintained by the saas provider. So users are maintain the saas

3. **FLEXIBLE:**
   Saas is very easy to use. It is very flexible.

4. **SAAS APPLICATIONS ARE USED IT ANYTIME AND ANYWHERE:**
   Saas applications are used at any time and anywhere with to help of internet connection only
   ex: facebook, email etc..

5. **ALLOW MULTI USERS AT A TIME:**
   Allow multi users at a time

6. **VENDOR PROVIDER:**
   Saas applications are provided by vendor. And maintaining also vendor. Not users

7. **DON'T NEED TO INSTALL THE S/W LIKE CHROME,GMAIL:**
   Don't need to install the software like chrome, Gmail

DISADVANTAGES OF SAAS:

1. **SECURITY:**
   Saas applications are not more secure because some data is shown to every one
   Ex:facebook
   All data can seen to everyone
2. **TOTAL DEPENDENCY ON INTERNET:**
   Cloud is totally depend on internet without internet we can not do anything on cloud

3. **ALL THE SAAS APPLICATIONS CAN'T PROVIDE THE ALL WEB BROWSERS:**
   All the saas applications can't provide the all web browsers

2.PLATFORM AS A SERVICE (PAAS):

- PaaS provides the runtime environment for applications, development & deployment tools, etc.

  Pass is leads to develop your "It system" with help of cloud platform

  In paas cloud offers the rent the platform to developers/organizations.

  In pass the cloud services the runtime, middleware, ots, virtualization,services, storage, network.

ADVANTAGES OF PAAS:

1. **EASY DEVELOPMENT:**
   By using paas we can develop your IT System very easy. Only we can develop the code.
   So it is very easy to develop.

2. **RAPID DEVELOPMENT:**
   By using paas we can develop your IT System very fastly

3. **PASS USE BOTH PUBLIC & PRIVATE:**
   By using paas both public and private

4. **LOWER RISKS:**
   To develop the IT System by using paas they are lower risks.

5. **TIME IS SAVED:**
   The platform is already developed so time is saved

6. **SCALABILITY:**
   Applications is share more than thousand people

DISADVANTAGES OF PAAS:

1. **TOTALLY DEPEND ON INTERNET**
2. **DATA PRIVACY**
3. **SECURITY**

INFRASTRUCTURE AS A SERVICE (IAAS):

- IaaS provides access to fundamental resources such as physical machines, virtual machines, virtual storage, etc.

  IAAS is also known as hardware as a service (HAAS)

  The cloud provider provides the infrastructure to the developers like network, storage, servers, virtualization can be managed by cloud vendor.

  Users are managed o/s, middleware, runtime, data application all are managed by a developers

ADVANTAGES OF IAAS:

1. **CONTROL IS HIGH:**
   Using IAAS to develop a new application cloud control is low. Developer control is high.

2. **COST SAVING:**
   Cloud provide only infrastructure so cost is also low

3. **SCALABILITY:**
   To scale up and down quickly.

4. **FASTER TIME TO MARKET:**
   INFRASTRUCTURE IS NOT DEVELOPED AND TIME IS SAVED.

5. **EXPAND AS YOUR GROW:**
   Expand their business grow to develop new applications.

6. **TIGHT SECURITY:**
   All are maintained by developers. Security is tight

7. **ANYTIME ANYWHERE ACCESS:**
   We can access IAAS anytime and anywhere

DISADVANTAGES OF IAAS:

1. **NO INTERNET NO WORK**
2. **LIMIT PRIVACY**
3. **VIRTUALIZATION DEPEND**