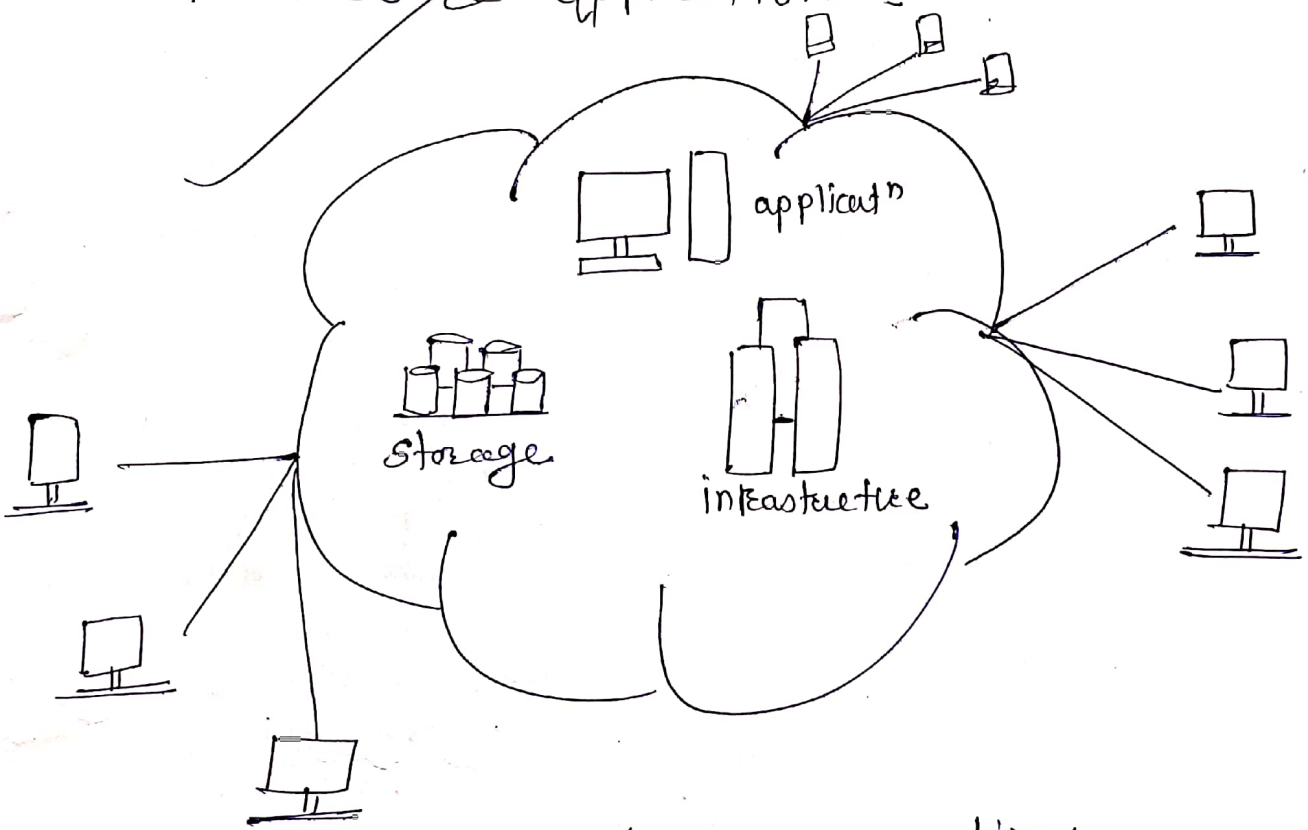
# "Cloud Computing" UNIT I

Cloud Computing provides us means of accessing the applications as utilites over the Internet. It allows us to creat, configure & customize the applications online.

## What is Cloud :-

Cloud computing refers to manipulating, configuring & accessing the H/w & S/w re-sources remotely. It offers online data storage Infrastructure & applications.




## Working Models of Cloud computing

* Deployment Model
* Service Model

### 1) Deployment Model:-

It Defins the type of access of the cloud i-e- how the cloud is located. There are four types of Deployment Models.

1) Public Cloud.
2) Private Cloud.
3) Hybrid Cloud.
4) Community cloud.

1) Public Cloud :- it is accessible to the general public.

2) Private Cloud :- it is accessible within an organization

3) Community cloud :- it is accessible by a group of ~~orgo~~ pri organization

4) Hybrid Cloud :- it is mixture of public & private cloud. in which critical activities are performed by using private cloud & non-critical activity are performed by using public Cloud -

## Service Model :-

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

### 1) Infrastructure-as-a-service (IaaS).

it provides access to fundamental resources such as physical machines, virtual Machines, virtual storage, etc.

### 2) Platform-as-a-Service (PaaS)

provides the runtime environment for appln, development & Deployment tools.

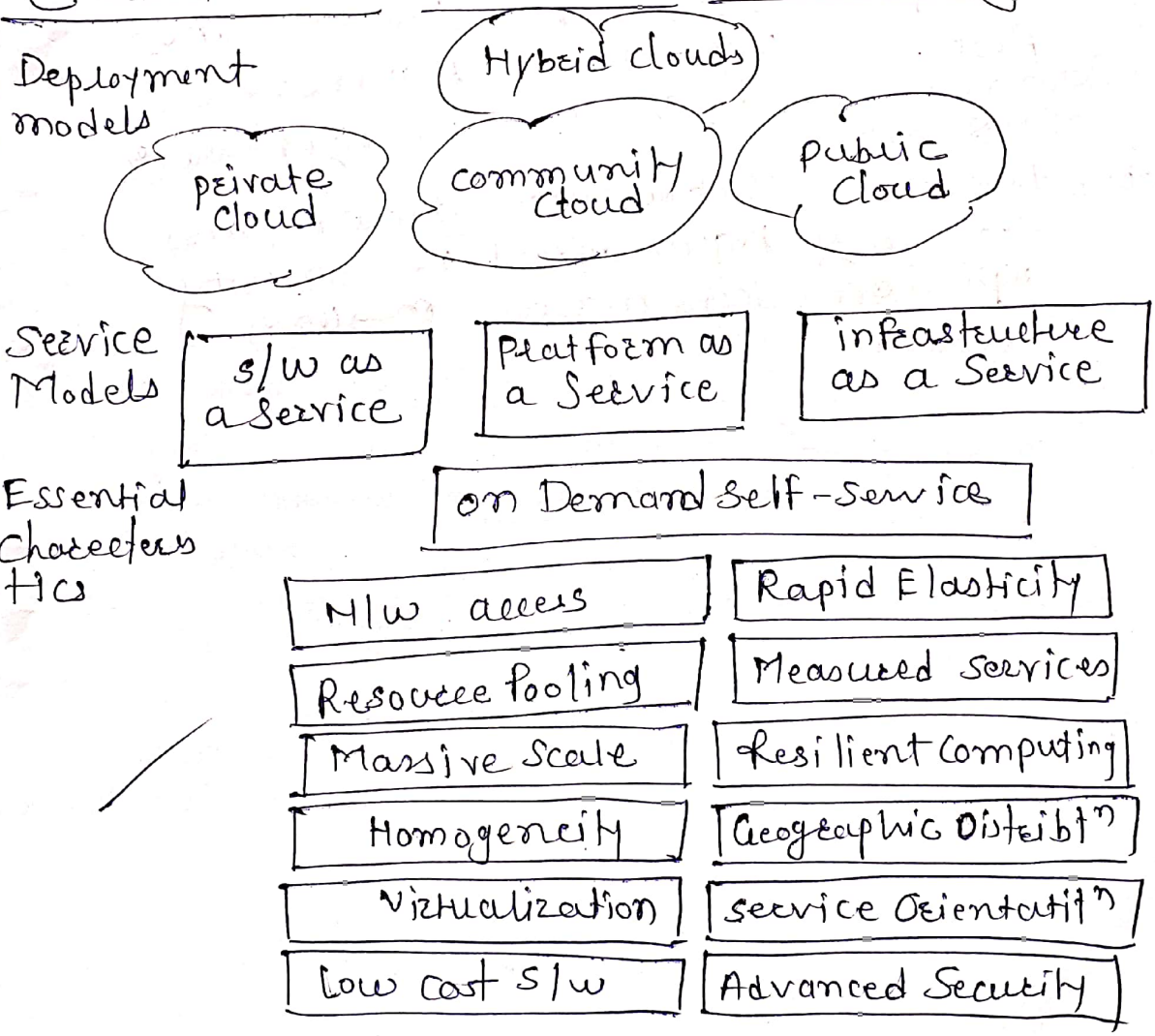
### 3) Software-as-a-Service (SaaS)

It allows to use software applications as a service to end user.

## Benefits :-

- access applications as utilities over internet.
- one can manipulate & configure the appln. online at any time.
- it does not required to install s/w.
- it offers online development & deployment tools, programming runtime environment through PaaS models.
- Resources are available over the N/w.
- it offers on-demand self-service.
- it is cost effective.
- it offers load balancing.

## Characteristics of Cloud Computing :-



* Comparision Between Cluster, Grid & Cloud Computing -

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| Cluster | Grid | Cloud Computing - |
|---|---|---|
| 1) Single Ownership | Multiple | Single. |
| 2) Dedicated, highend, with low latency & high bandwidth Interconnection N/w | Mostly internet, with high latency & low Bandwidth Interconnection N/w | Dedicated, high end with low latency & high Bandwidth Interconnection N/w |
| 3) Traditional login/ password based. | Public/Private key pair based authentication. | Each user/app is provided with a virtual machine. |
| 4) Membership services discovery | Centralized indexing | Membership service discovery. |
| 5) Limited services negotiation | SLA based service negotiation | SLA based service negotiation. |
| 6) User management is centralized. | User management is decentralized. | user mgnt is decentralized. |
| 7) Resource mgnt is Centralized | Resource mgnt is decentralized. | Resource mgnt is dentralized/distribute |
| 8) Virtual Interface Architecture | some open grid forum | web Services st- |
| 9) single system img. | No single image | include single syste image. |
| 10) Stable & gaurantee capacity | varies, but high capacity | Provisioned on demand capacity. |

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