Module - 1

Topic : Cloud Delivery Models.

A model that provides / delivers services are called cloud delivery model.

There are three types of fundamental models :-

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

1. Infrastructure - as - a - Service (IaaS)

- ⇒ acts like a host that provides services to the Customer
- ⇒ Services will be in terms of h/w Components.
- ⇒ provides an IT Environment Consisting of Infrastructure IT resources that Can be accessed & managed.
- ⇒ These resources are virtualized and is packaged into a bundle.
- ⇒ i.e If this is the ram & this is the processor speed, this might be the infrastructure you might be needing.
- ⇒ aim :- provides high level of Control to the Customers
- ⇒ Services offered by IaaS
  - Virtual m/c disk storage
  - Virtual local area n/w
  - IP addresses
  - Software bundles etc.
- ⇒ Resources are made available to the end users through virtualization

→ Key features :-

- Instead of purchasing h/w users pay for IaaS on demand.
- Infrastructure is Scalable → (pay per usage)

→ Issues :-

- Compatibility with legacy Security Vulnerabilities
- Virtual m/c Sprawl.

→ Eg :-

IBM, AWS, Oracle cloud Infrastructure, Google

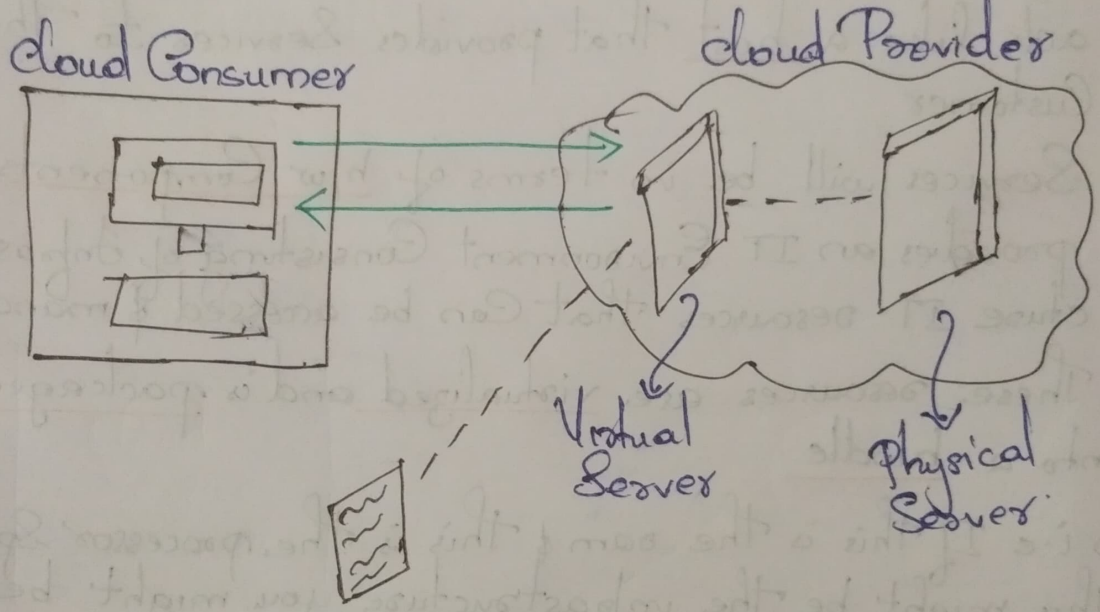


fig :- IaaS cloud Service Contract

II Platform-as-a-Service (PaaS)

→ used by developers

→ provides a platform & Environment (i.e runtime env) to allow developers to build application & Services over the internet.

→ benefit :- cloud Consumer is spared the administrative burden of setting & maintaining

the environment.

→ Consumer has low level of Control over IT resources.

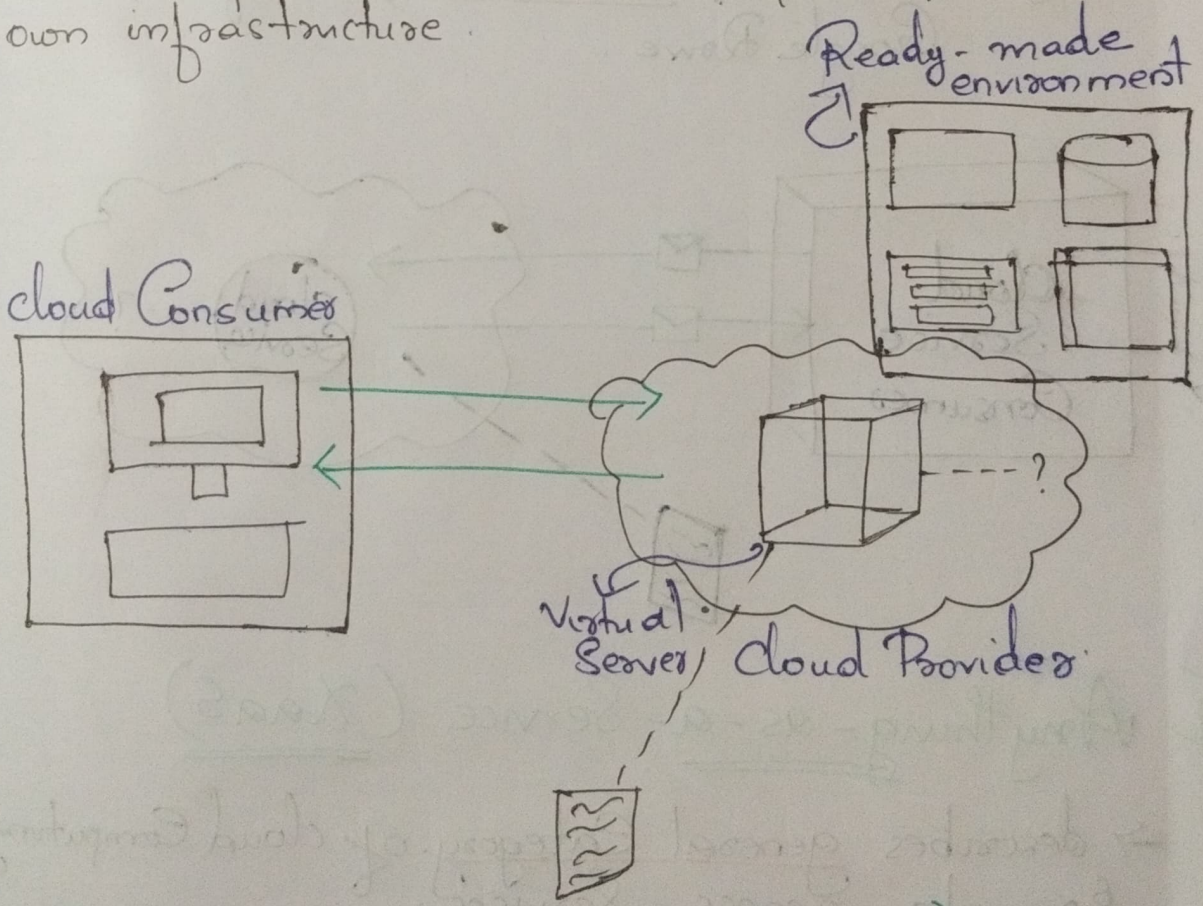
→ PaaS products are available with different development stacks.

Eg:- Google App Engine offers a Java & Python based environment; force.com, Windows Azure

→ Advantages:-

- Cost effective (pay as per use)
- no need to purchase expensive s/w or data storage.
- Scale up/down anytime

→ PaaS provider hosts the h/w & s/w on its own infrastructure.



III Software-as-a-Service (SaaS)

→ Most of the services like mail service, web service etc are offered as SaaS.

→ Consumer has very limited administrative Control over a SaaS implementation.

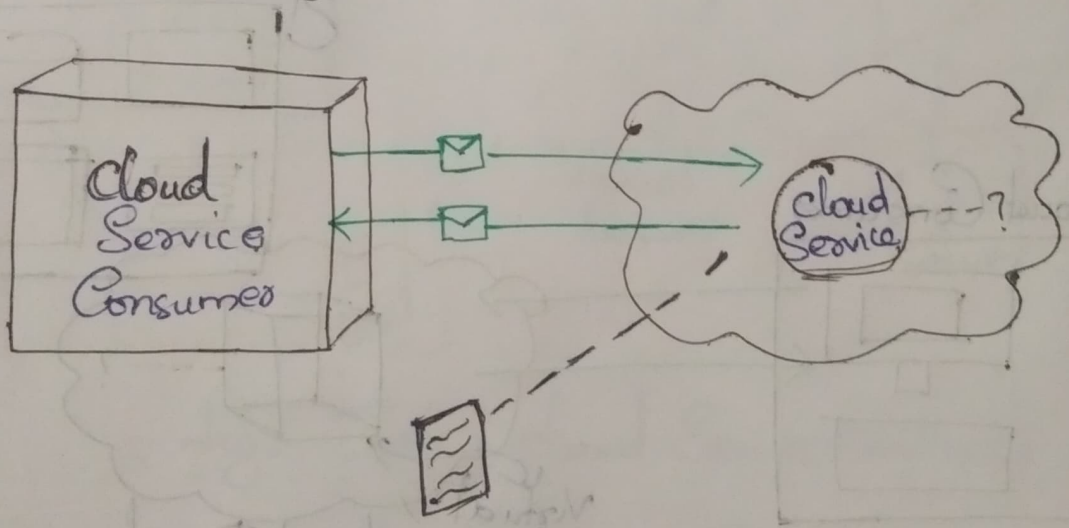
→ maintenance of s/w & h/w done by the vendor So it removes the Cost of s/w or h/w maintanence

→ works on shared model. One s/w is used by multiple clients.

→ Benefits :-

- Platform independence to user
- multitenant Solutions
- Scale up or Scale down
- Accessible anytime, anywhere

→ Eg :- DropBox, CiscoWebex, Salesforce, Google Drive.



IV. Anything-as-a-Service (XaaS)

→ describes general Category of cloud Computing & remote access Services.

→ Also known as Everything-as-a-Service

→ With XaaS, business is Simplified as they have to pay for what they need.

→ Benefits in XaaS:-

- Cost Saving
- Scalability
- Accessibility (Easy access as long as there is internet connection)
- Faster implementation

→ Disadvantages

- Internet Breakage:- Sometimes there can be issues in internet reliability
- Slowdown:- too many clients use the same resources at same time, the system can slow down.

Eg:- NetApp provides several XaaS options, including IaaS, ITaaS, PaaS etc.