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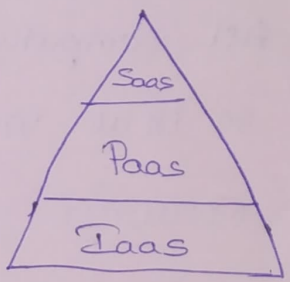
(1)

→ web applications uses APIs to connect user-facing front ends with all-important back end functionality and data streaming services like Spotify & netflix uses API to distribute content.

→ Automotive companies like TESLA sends s/w updates using API

(2)

cloud computing is comprised of mainly with three layers Saas, Paas, Iaas.



Software as a service

cloud provider leases applications or s/ws which are owned by them to clients.

Ex: gmail is saas provided by google
Salesforce

Platform as a Service:

→ This service is made up of programming language execution environment, An operating system, A webserver & A database

→ In this model you manage data & the application resources, and all other resources managed by vendor

Ex: heroku
Google app engine

Infrastructure as a Service

→ This services offers the computing architecture & infrastructure, All computing resources But in a virtual environment so that multiple users can access them

→ Resources include: Data storage, Virtualization, Servers & networking

Ex: GoGrid.
EC2
rackspace.

→ SaaS provides the best cost effective applications because they dont need any maintainence by user

→ and Paas is more expensive than Paas & Saas as you lease hardware infrastructure

(3) Components of cloud computing:

1) Storage:

storage is one of the most important components of cloud compu
It provides a huge amount of storage capacity in the cloud to store and manage data

applications:

→ The cloud storage can save cost

→ data rendundancy as cloud storage vendors keep multiple copies of data

→ data tiering for cost saving.

ii) Infrastructure

→ It provide services on host level, application level and nfw level

→ cloud infrastructure includes hardware and software components such as servers, storage, network devices. and other.

Applications:

cost: first and foremost the cloud removes or greatly reduces operating expense of company setting up & managing

Agility & flexibility

cloud Infrastructure is mostly self managed.

this makes user/company more business focused than IT focused.

iii) Security

Security is an inbuilt back end component of cloud computing It implements a security mechanism in back end.

Applications.

cloud security involves
- IAM
- data security
- availability
- compilance
- DR/BC planning
- Governance

→ cloud security is quickly Scalable

→ uses resources efficienty & usage Based cost.

Economic?

→ cloud computing services mainly based on PAY AS YOU GO method

→ In cloud users can use s/w application on subscription basis without any cost because of property of s/w providing service remains to cloud provider.

→ ∴ we say its economical.

as it reduces capital cost
reduces maintainence cost
& administrative cost

(4)

(5) → In cloud architecture, the server hardware provided by & maintained by service provider.

→ users can draw the services they require over the internet eliminating the need to purchase any new hardware

	cost	Security	Control	flexibility
traditional	high maintainence, setup cost	owner manages	More control implementation & more time to setup.	More flexible less updation issues
cloud	cheaper	Vendor dependence.	Easy to implement less time to setup	less flexibility & more stability more consistency

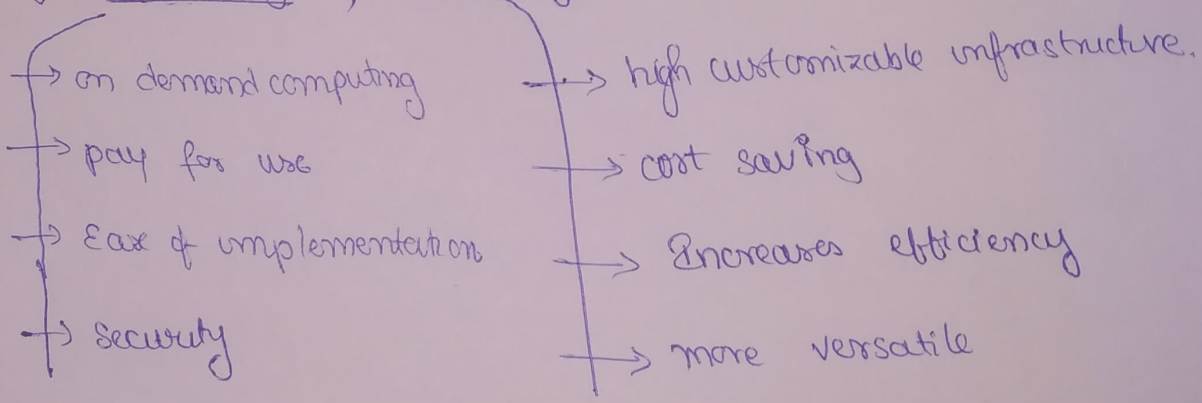
Thus, both have its own advantages and disadvantages user should choose based on requirment.

(6) Elasticity It is used just to meet the sudden up & down in workload for small period of time.

Scalability: It is used to meet the static increase in workload

→ Both elasticity and scalability are important for cloud users they need to be able to grow their workflows to match their enterprises needs while also knowing they have to correct of resources to do so

advantages of Elasticity, Scalability in cloud



These advantages makes Elasticity and Scalability in Aws cloud computing as usefull services.