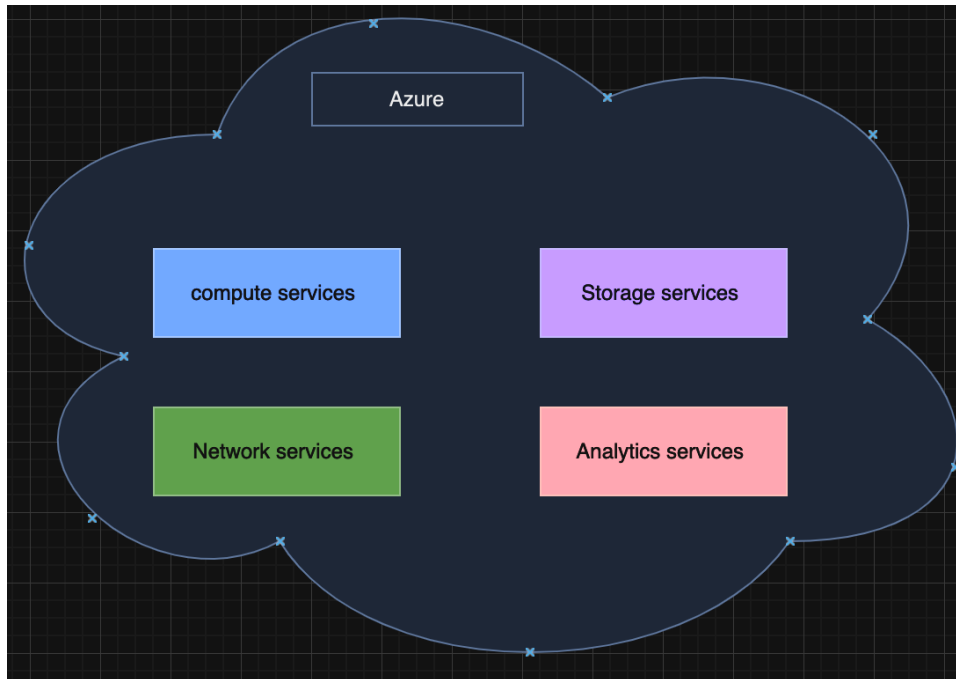


## Cloud computing ----->

What is Cloud computing ? Delivery Model for it services over internet.



## What is key Characteristics of Cloud computing

1) Scalability -----> Ability of system to scale

Types of scaling: -----

a) Horizontal scaling  
Increase or decrease num  
resources

EX ---> add vms

b) vertical scaling  
Increase /decrease size of

Ex ----> increase disk size

2) Elasticity -----> ability of system to scale automatic

3) Agility -----> ability to react quickly ... resources created via console or scripts.

4) Fault-tolerance -----> ability of system remain up && running although there is some system or services failures.

5) Disaster recovery -----> ability to recover from event take service down.

Disaster ---> event take service down caused by human or nature

6) High-Availability -> ability of system being up for extended period of time with little downtime.

Availability = uptime / full uptime of system -----> calculated per day ,month, year

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### Economies of scale ----->

As your company grows -----> your price per unit decreases.

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### What is differences between capital expenditure && operational expenditure

Capital expenditure	operational expenditure
You own infrastructure	Rent infrastructure
Upfront costs	No upfront costs
Initial investment	No initial investment
High maitance <ul style="list-style-type: none"><li>- HW failure</li><li>- Support team</li><li>- Power &amp;&amp; network</li></ul>	You pay for what you use. Low maintance. Tax on same year. You can terminate resource anytime.
Ex -> on permises data center	Rent vm on azure

Azure pricing --> consumption Based Model

- Pay for what you use
- No upfront costs
- Stop paying anytime
- Pay for additional resources when needed.

For each service there're some metrics that used to calculate how much customer pay for service.

EX for vm ----> networking bandwidth , compute resource , storage.

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Questions ----->

Cloud computing is a delivery model for what four services ?

- Compute power
- Analytics
- Storage
- Networking

A system ability to scale dynamically called -> elasticity

Ability of system for running for extended time without any interruption called High Availability.