## Public Cloud:

→ everything runs on cloud provider's hardware

→ in rare cases, it may not meet some of unique business requirements

## Private Cloud:

→ Same as on-premise data-centre but the data-centre is located in a remote location.

→ Must achieve the key characteristics of the cloud

## Hybrid Cloud:

→ Combines private cloud and/or on-premise infrastructure with public cloud.

## Data Center:

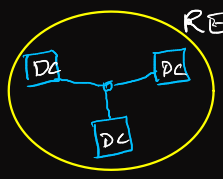
→ Physical location with its own
- → power
- → Network
- → cooling

that hosts group of networked servers.

## Regions:

low-lat < 2ms

→ Geographical area where one or more DCs are connected with low-lat network.




→ Region can have just one DC too

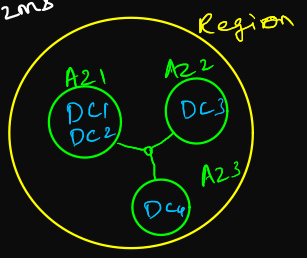
UK-South – UK-West

Not all services are available in all regions

## Availability Zone:

Fault tolerance mechanism that groups one or more DCs within a a region called Availability Zone.

low lat < 2ms




→ AZ are far enough apart to reduce multiple local outages like weather etc

→ Microsoft make sure updates are applied to one AZ at a time

→ Zonal and zone-redundant

→ AZ numbers are logical number assigned to physical AZ and change from Sub to Sub.

## Region Pairs:

→ Regions are paired for DR and they are atleast 300 miles apart from each other but with same geography (except Brazil)

→ [Flood, Strom, Earth Quake]

→ Region pairs are static.

→ Updates won't happen to pair regions at the same time

## Geography:

Discrete Market with two or more region to ensure
- → data residency
- → Sovereignty
- → Resilience
- → compliance

Provides FT for region level failures.