

Cloud Computing

Is the on-demand delivery of compute power, database storage, application, and other IT resources.

- Service platform with pay as you go price
- access many resources as you need almost instantly
- access server storage database and set of application services

Private Cloud

- Used by single organization not exposed to the public
- compute control
- security for sensitive application
- meet specific business need

Public Cloud

AWS, Google, Azure

Hybrid Cloud

- Keep some server on premises and extended some capabilities to the Cloud
- Control over sensitive assets in your private infrastructure
- Flexibility and cost effectiveness of the public cloud

5 Characteristics of Cloud

- On demand self service
- Broad Network Access
- Multi -tenancy and resource Pooling
- Rapid Elasticity and Scalability
- Measured Service

Six Advantages of Clouting

- 1.Trade Capital Expense (CAPEX) for Operational Expense (OPEX)
 - Pay on demand
 - Reduced total cost of ownership (TCO) & Operational Expense (OPEX)
- 2.Benefit from massive economies of scale
 - price are reduced as AWS is more efficient due to large scale
3. Stop Guessing Capacity
 - scale based on actual measured usage
4. Increase speed and Agility
5. Stop Spending money running and Maintainig data Centers
6. Go global minutes : leverage the AWS global infrastructure

Proble Solve by Cloud

- Flexibility
- Cost-Effectiveness
- Scalability
- Elasticity
- High Availability and Fault Tolerance
- Agility

Types of Cloud Computing

1. IAAS- Infrastructure as a Service
 - AWS EC2, GCP, Azure, Rackspace, Digital Ocean, Linode
2. PAAS- Platform as a Service
 - Elastic Beanstalk, Heroku, Google App Engine (GCP), Windows Azure
3. Software As a Service
 - Many AWS services(ex. Rekognition for Machine Learning)
 - Google App, Dropbox, zoom

Price Of the Cloud

- **Compute** -pay for stored in the cloud
- **Storage** -Pay for data storage in the cloud
- **Data Transfer out of the Cloud**: Data transfer IN if Free

2002	2003	2004	2006	
Launched	Idea for Infrastructure	Launched Publicly with SQS	Re launched with SQS ,s3, EC2	Many more

Note: SQS -Simple Queue Service

Global Services:

- IAM (Identity and Access Management)
- Route 53(DNS Service)
- CloudFront (CDN- Cloud Delivery Network)
- WAF (Web Application Firewall)

Most AWS Service are Region Scoped:

- Amazon EC2
- Lambda (Function as A service)
- Elastic Beanstalk (Platform As Service)
- Rekognition (Software As A Service)

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