



## SNS COLLEGE OF TECHNOLOGY

Coimbatore-35 An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## DEPARTMENT OF MCA

I YEAR II SEM

23CAE717 – Cloud Computing

UNIT IV – PROGRAMMING MODEL

**Topic 26: Programming Support Amazon AWS** 





# **Programming on Amazon EC2**



EC2 provides the virtualized platforms to the host VMs		
S3 (Simple Storage Service) provides the object-oriented storage service for users		
☐ EBS (Elastic Block Service) provides the block storage service		
SQS (Simple Queue Service) is to ensure a reliable message service between two		
processes		
Simple Notification Service (SNS)		
auto-scaling and elastic load balancing are enabled by CloudWatch which		
monitors running instances		



# **Programming on Amazon EC2**



- ☐ User can rent VM Instances to run their applications, VM instances are often called Amazon Machine Images (AMIs)
- ☐ workflow to create a VM is

Create an AMI→Create Key Pair→Configure

Firewall→Launch

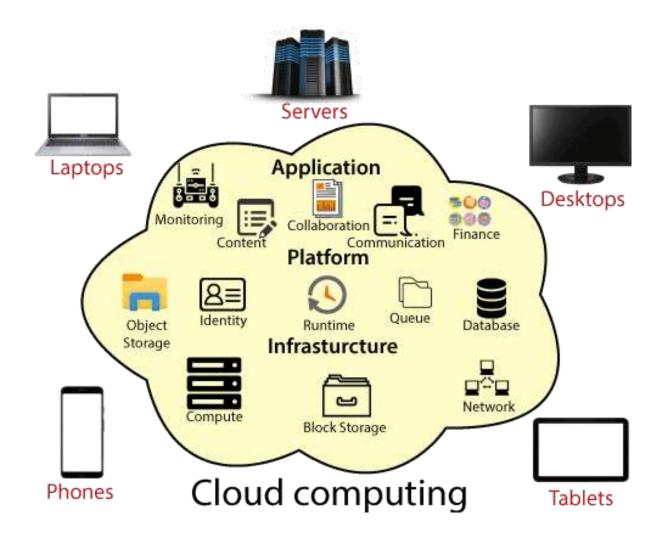
☐ This is supported by three types of AMIs

Image Type	AMI Definition
Private AMI	mages created by you, which are private by default. You can grant access to other users to launch your private images.
Public AMI	Images created by users and released to the AWS community, so anyone can launch instances based on them and use them any way they like. AWS lists all public images at http://developer.amazonwebservices.com/connect/kbcategory.jspa?categoryID=171.
Paid QAMI	You can create images providing specific functions that can be launched by anyone willing to pay you per each hour of usage on top of Amazon's charges.



# **Cloud Computing**







# **Advantages of Cloud Computing**







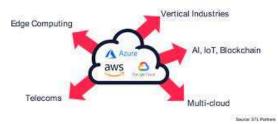


**Back-up and restore data** 

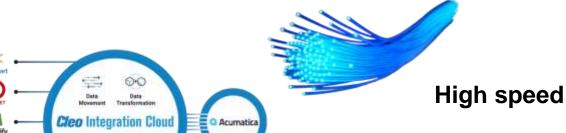
ON-DEMAND SELF-SERVICE







**Quick Deployment** 





NO MORE STORAGE LIMITS



**Unlimited storage capacity** 



**Automatic Software Integration** 

a

RELIABILITY

Collaboration

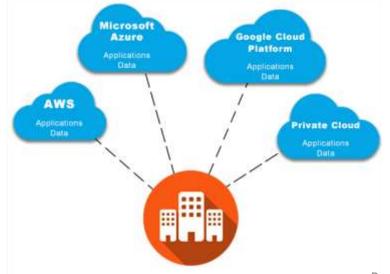






### Cloud





## **Hybrid**



## **On-premises**



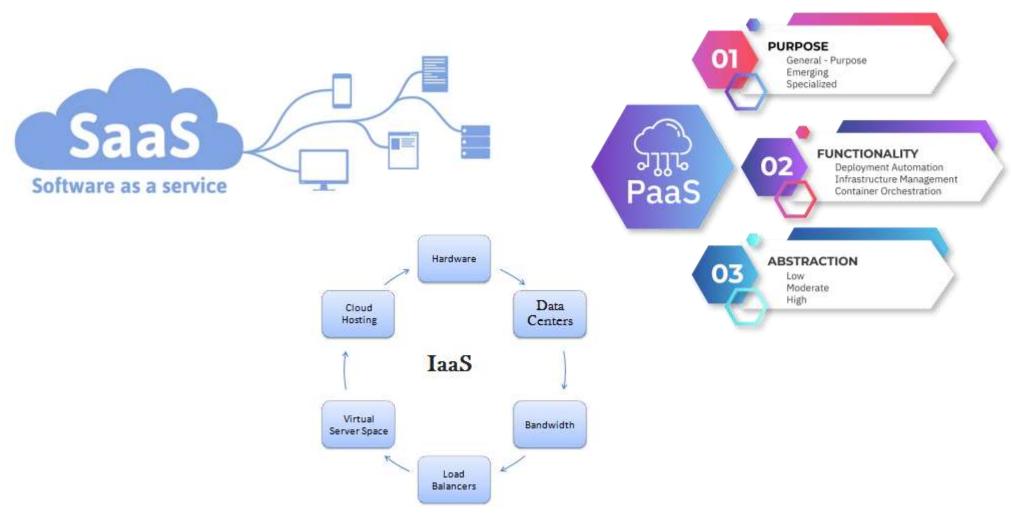
**Multicloud** 

Programming Support Amazon AWS/Dr.N.Nandhini/AP/MCA/SNSCT





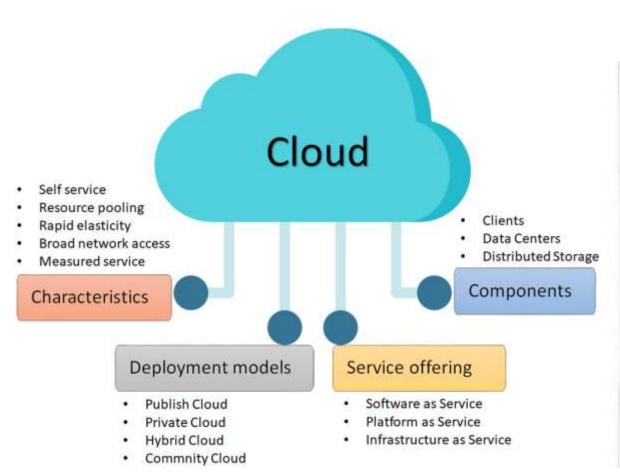


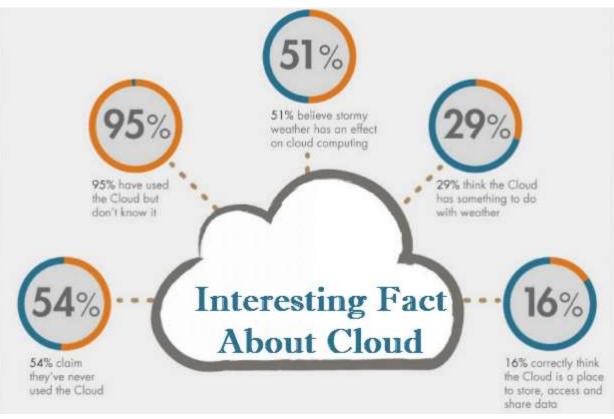




# **Cloud Computing Facts**













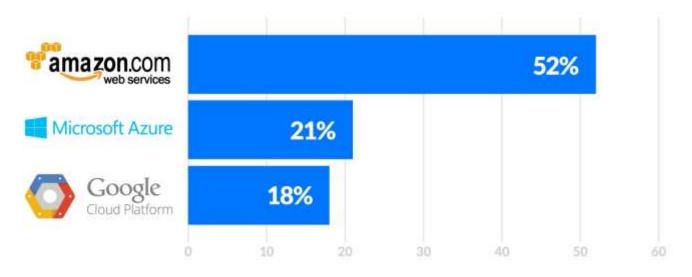
- 1. Amazon Web Services (AWS)
- 2. Microsoft Azure
- 3. Google Cloud
- 4. Alibaba Cloud
- 5. IBM Cloud
- 6. Oracle
- 7. Salesforce
- 8. SAP
- 9. Rackspace Cloud
- 10. VMWare







Predict the market share you expect AWS, Microsoft and Google to hold in 2020.



### **WHY AWS on TOP**





## The following diagram summarizes their strengths and weaknesses





### Strengths

- Dominance in the market
- Extensive, mature offerings
- Support for large organizations
- Extensive training
- Global reach

### Weaknesses

- Difficult to use
- Cost management
- Overwhelming options



### Strengths

- Second largest provider
- Integration with Microsoft tools and software
- · Broad feature set
- · Hybrid cloud
- · Support for open source

### Weaknesses

- Issues with documentation
- Incomplete management tooling



### Strengths

- Designed for cloud-native businesses
- Commitment to open source
  portability
- Deep discounts & flexible contracts
- DevOps expertise

### Weaknesses

- · Late entrant to laaS market
- Fewer features and services
- Historically not as enterprise focused







# **Enterprise Customers**

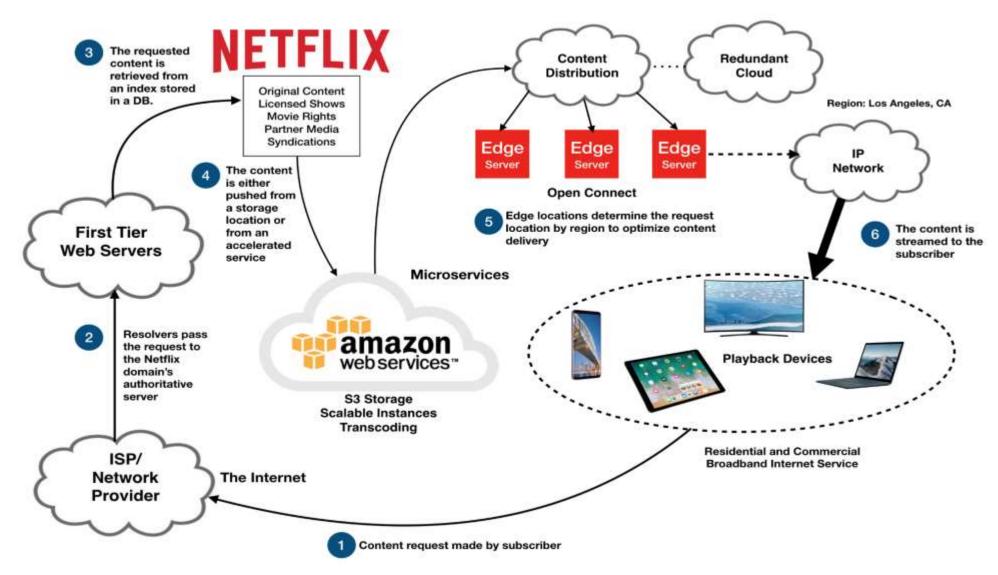




## **Netflix on AWS**



WETFLIX







# References

1. Kai Hwang, Geoffrey C Fox, Jack G Dongarra, "Distributed and Cloud Computing, From Parallel Processing to the Internet of Things", Morgan Kaufmann Publishers, 2012.





