

# **CLOUD COMPUTING AND VIRTUALIZATION**



# AGENDA

## CLOUD COMPUTING

- What is cloud computing
- Why we need cloud
- Types of cloud computing

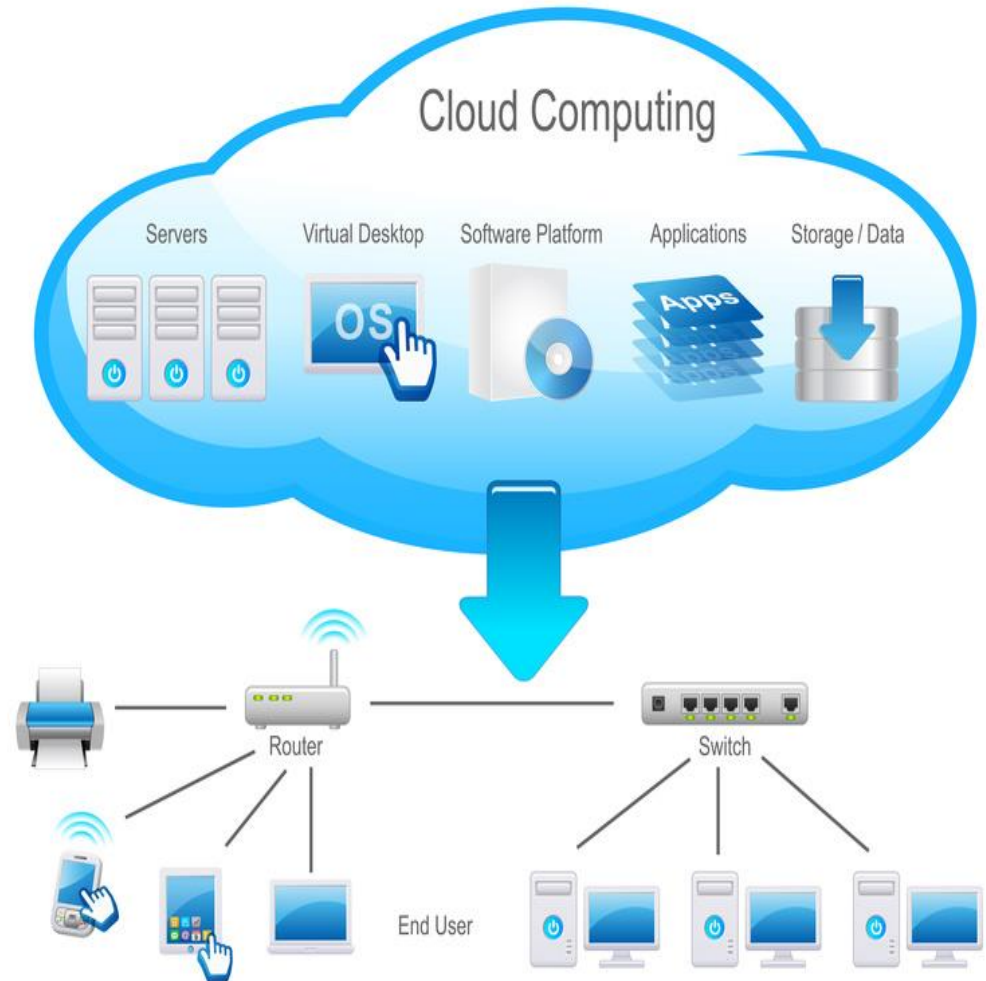
## Amazon Web Service

- Why Move To The AWS Cloud?
- Amazon Virtual Private Cloud
- Amazon EC2

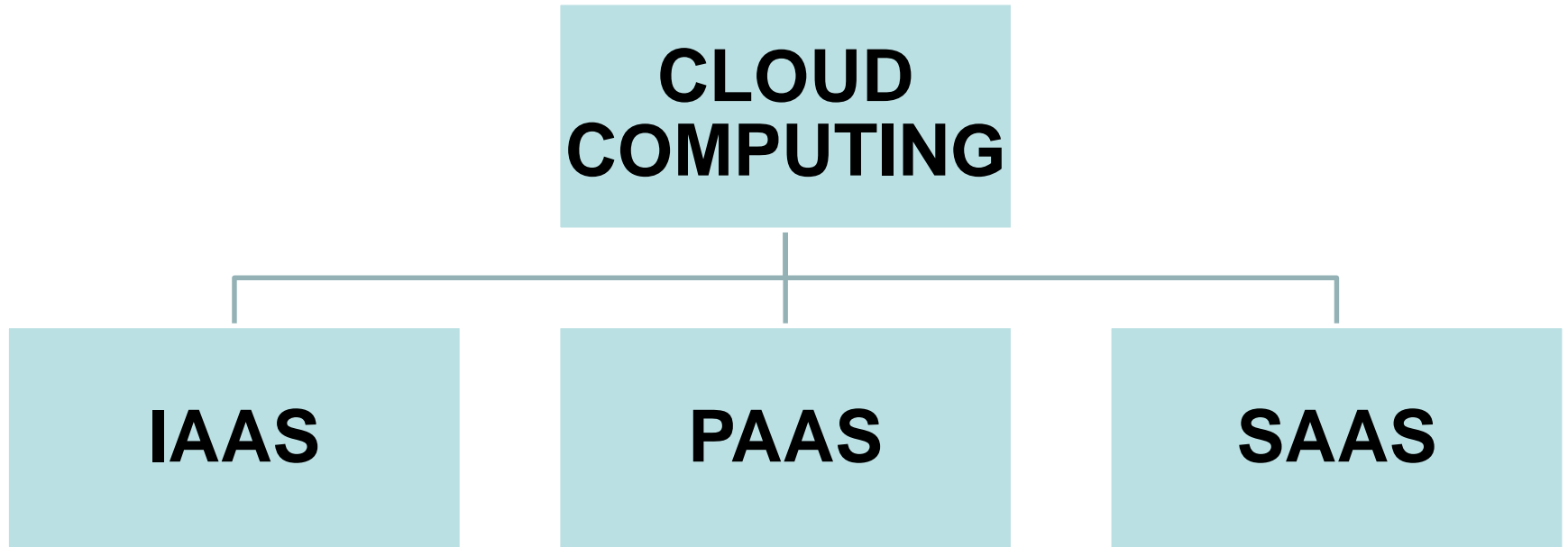


# What is Cloud computing?

We can Keep our Data's ,applications and Machines in servers and can access that at any time through internet.  
This kind of service is called cloud computing



# TYPES OF CLOUD SERVICE



# Infrastructure As A Service

## IAAS

- We can manage infrastructure services such as DNS , WEB and Exchange server in cloud
- We can manage machines and Hosted applications in cloud



# Platform As A Service

## PAAS

- We can manage Platform based services such as oracle, php from cloud

**OrangeScape**  
Write Once, Cloud Anywhere

 **heroku**

CLOUD **F** **OUND**RY

*force.com.*  
platform as a service

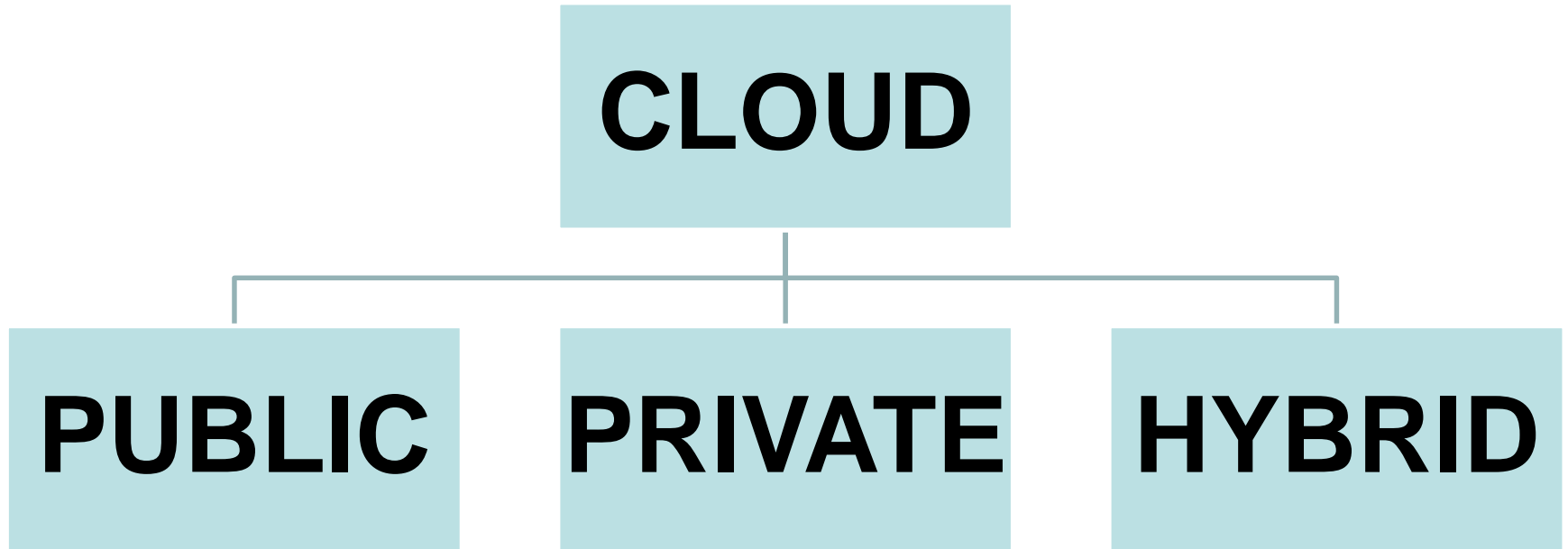
# Software As A Service

## SAAS

- We can Manage Applications from servers such as Windows Azure etc



# TYPES OF CLOUD COMPUTING

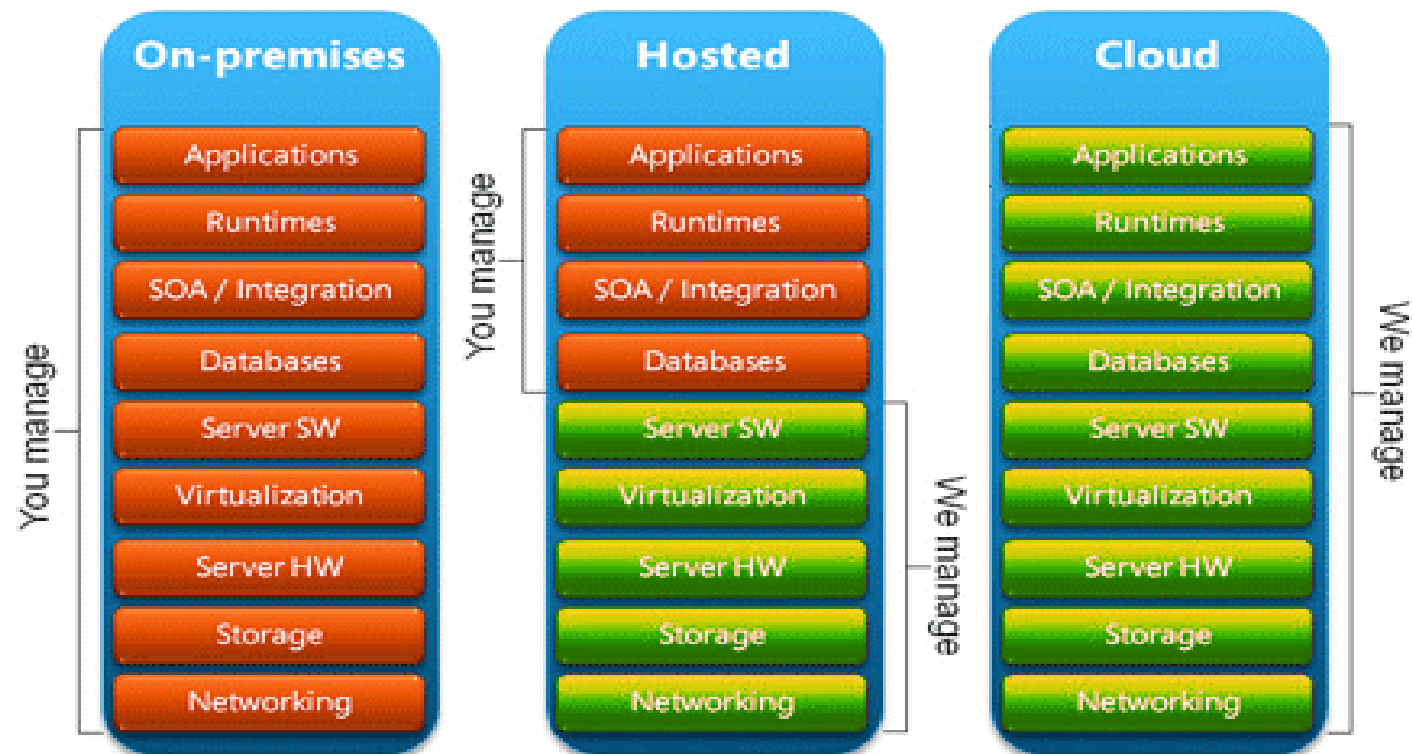




- **PUBLIC:** This cloud computing service kept public for all users.
- **PRIVATE:** This is only for reputed organization managing on-premises services
- **HYBRID:** This is combination of both public and private

# WHY WE NEED CLOUD?

On premises vs. in the cloud



# **Amazon Web Service**

# Why Move To The AWS Cloud?



## Easy to use

AWS is designed to allow application providers, ISVs, and vendors to quickly and securely host your applications – whether an existing application or a new SaaS-based application. You can use the AWS Management Console or well-documented web services APIs to access AWS's application hosting platform.

## Flexible

AWS enables you to select the operating system, programming language, web application platform, database, and other services you need. With AWS, you receive a virtual environment that lets you load the software and services your application requires. This eases the migration process for existing applications while preserving options for building new solutions.

## Cost-Effective

You pay only for the compute power, storage, and other resources you use, with no long-term contracts or up-front commitments. For more information on comparing the costs of other hosting alternatives with AWS, see the AWS Economics Center.

## Reliable

With AWS, you take advantage of a scalable, reliable, and secure global computing infrastructure, the virtual backbone of Amazon.com's multi-billion dollar online business that has been honed for over a decade.

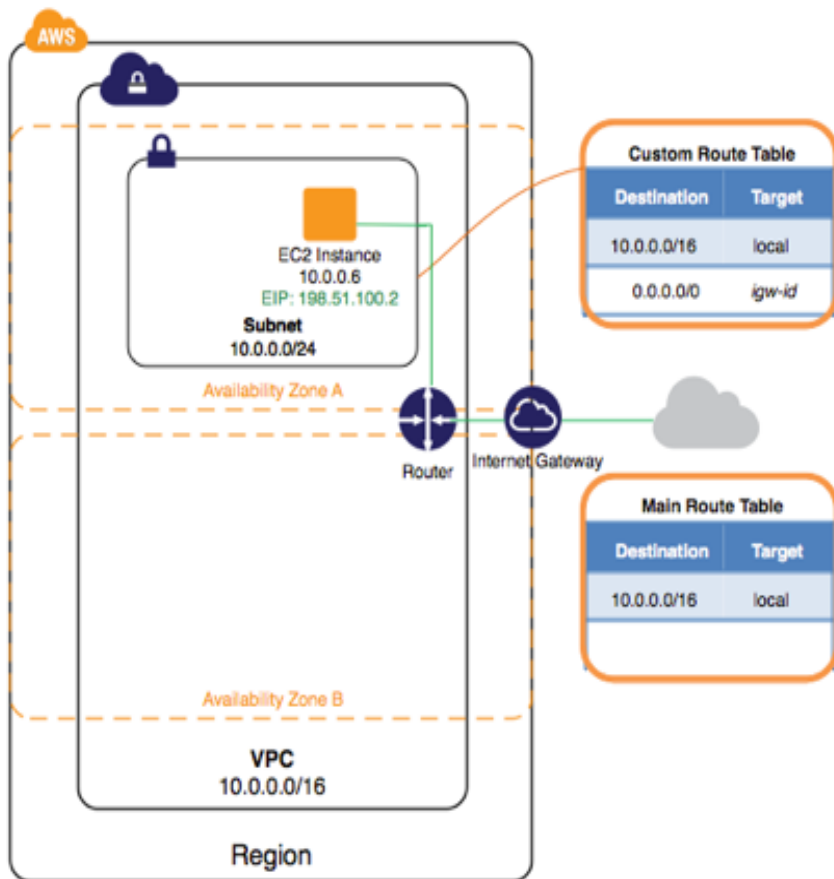
## Scalable and high-performance

Using AWS tools, Auto Scaling, and Elastic Load Balancing, your application can scale up or down based on demand. Backed by Amazon's massive infrastructure, you have access to compute and storage resources when you need them.

## Secure.

AWS utilizes an end-to-end approach to secure and harden our infrastructure, including physical, operational, and software measures. For more information, see the AWS Security Center.

# Amazon Virtual Private Cloud (Amazon VPC)



- Amazon Virtual Private Cloud (Amazon VPC) enables you to launch Amazon Web Services (AWS) resources into a virtual network that you've defined.
- This virtual network closely resembles a traditional network that you'd operate in your own data center, with the benefits of using the scalable infrastructure of AWS.



EC2

Virtual Servers in the Cloud



Amazon Web Services

# What Is Amazon EC2?

- Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) cloud.
- Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster.
- You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage.
- Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

# Features of Amazon EC2

- *Instances*
- *Amazon Machine Images (AMIs)*
- *instance types*
- *key pairs*
- *Volumes*
- *Amazon EBS volumes*
- *regions and Availability Zones*
- *instances using security groups*
- *Elastic IP addresses*
- *Tags*
- *virtual private clouds (VPCs)*



## ***instances***

- Virtual computing environments, known as *instances*

## ***Amazon Machine Images (AMIs)***

- Preconfigured templates for your instances, known as *Amazon Machine Images (AMIs)*, that package the bits you need for your server (including the operating system and additional software)

## ***instance types***

- Various configurations of CPU, memory, storage, and networking capacity for your instances, known as *instance types*

## ***key pairs***

- Secure login information for your instances using *key pairs* (AWS stores the *public key*, and you store the private key in a secure place)

## ***instance store volumes***

- Storage volumes for temporary data that's deleted when you stop or terminate your instance, known as *instance store volumes*

## ***Amazon EBS volumes***

- Persistent storage volumes for your data using Amazon Elastic Block Store (Amazon EBS), known as *Amazon EBS volumes*.

## ***Regions and Availability Zones***

- Multiple physical locations for your resources, such as instances and Amazon EBS volumes, known as *regions and Availability Zones*

## ***security groups***

- A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using *security groups*

## ***Elastic IP addresses***

- Static IP addresses for dynamic cloud computing, known as *Elastic IP addresses*

## ***Amazon EC2 resources***

- Metadata, known as *tags*, that you can create and assign to your Amazon EC2 resources

## ***Virtual private clouds (VPCs)***

- Virtual networks you can create that are logically isolated from the rest of the AWS cloud, and that you can optionally connect to your own network, known as *virtual private clouds (VPCs)*

THANK YOU FOR LISTENING

**ANY  
QUESTIONS**

