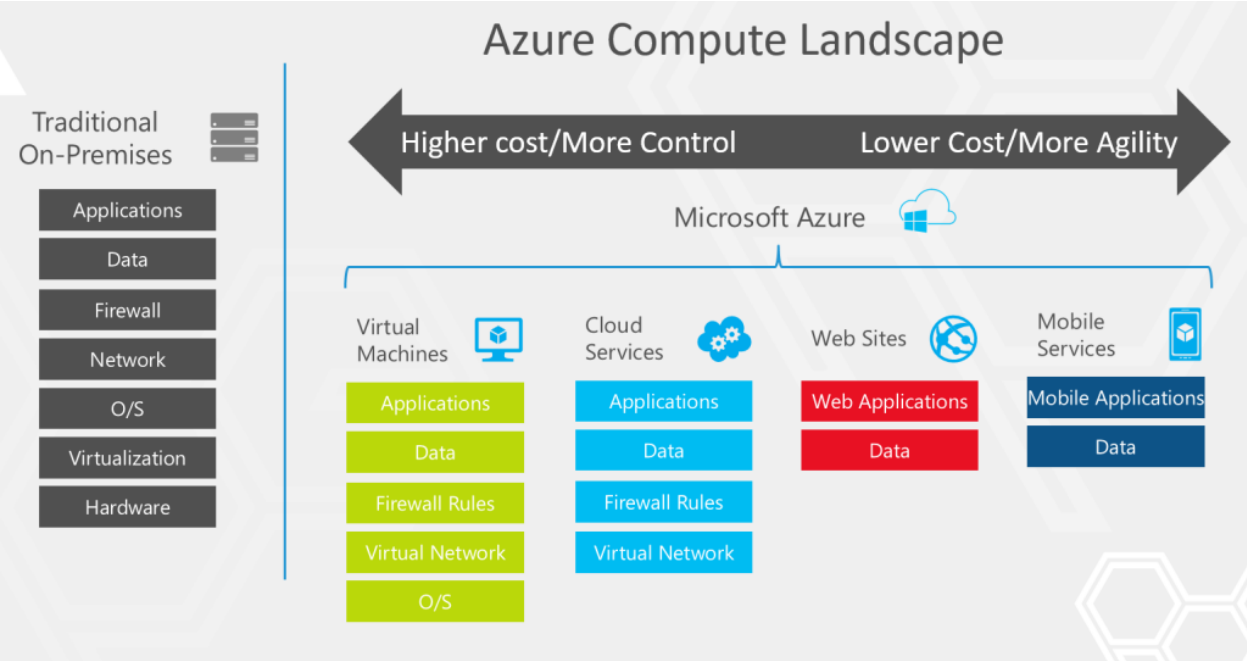
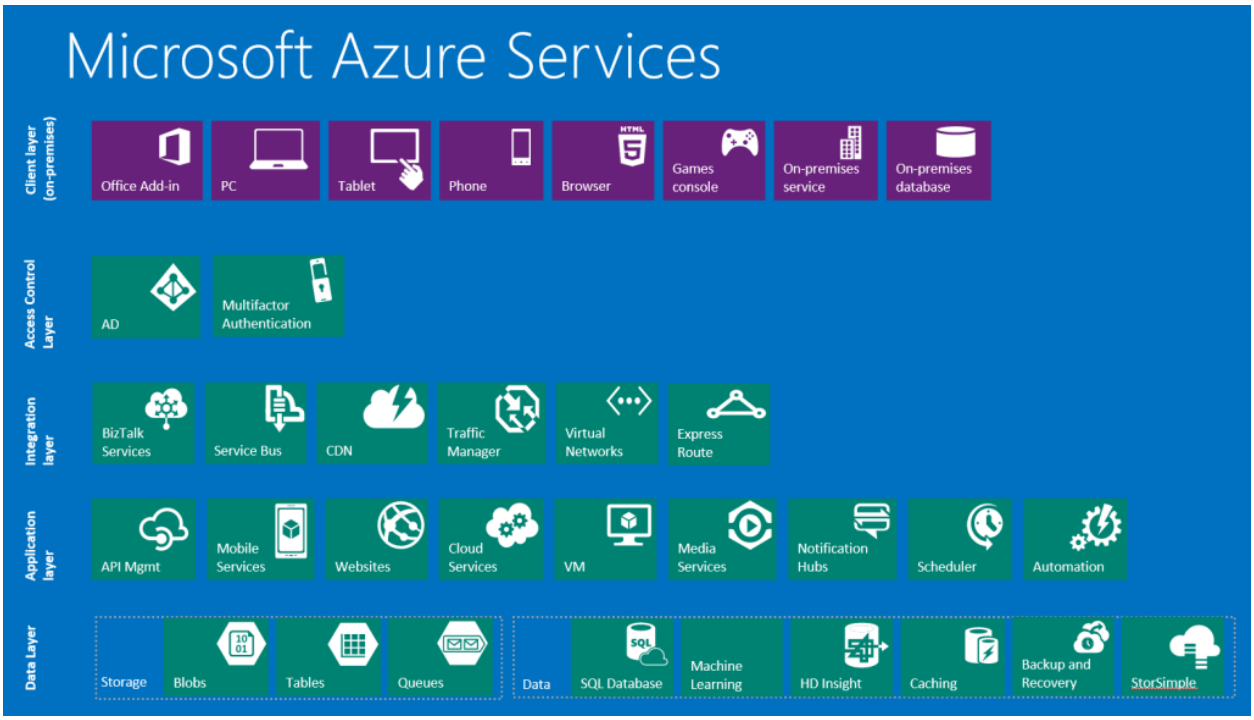
Cloud Computing





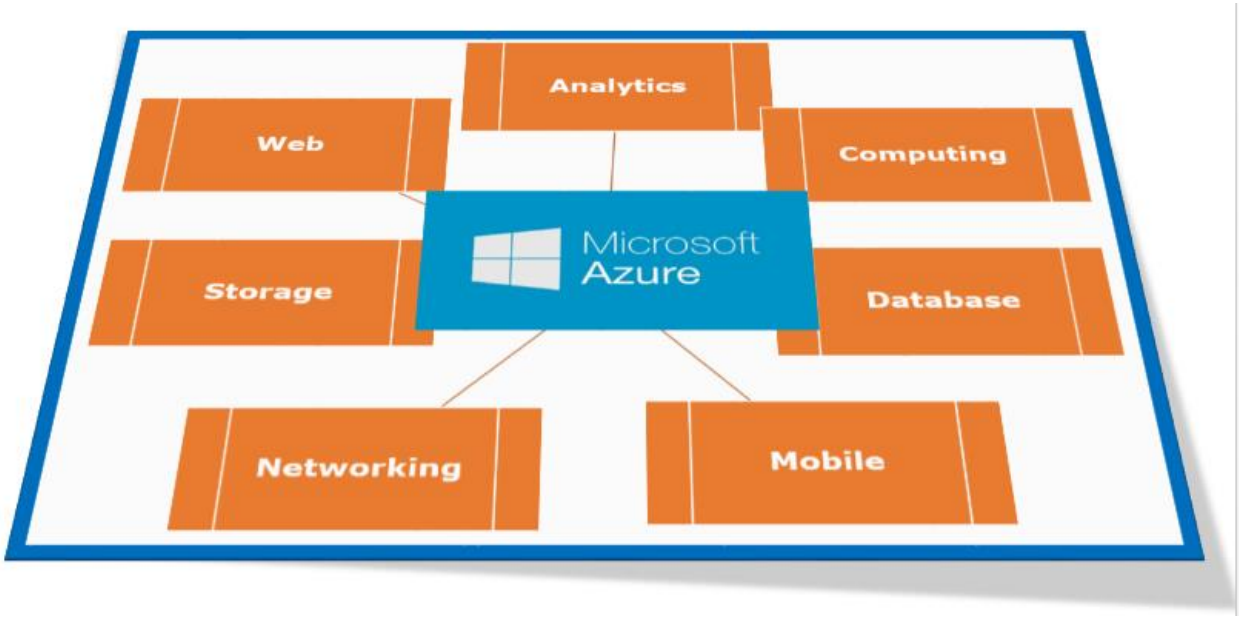
Pricing Overview:

- No upfront costs

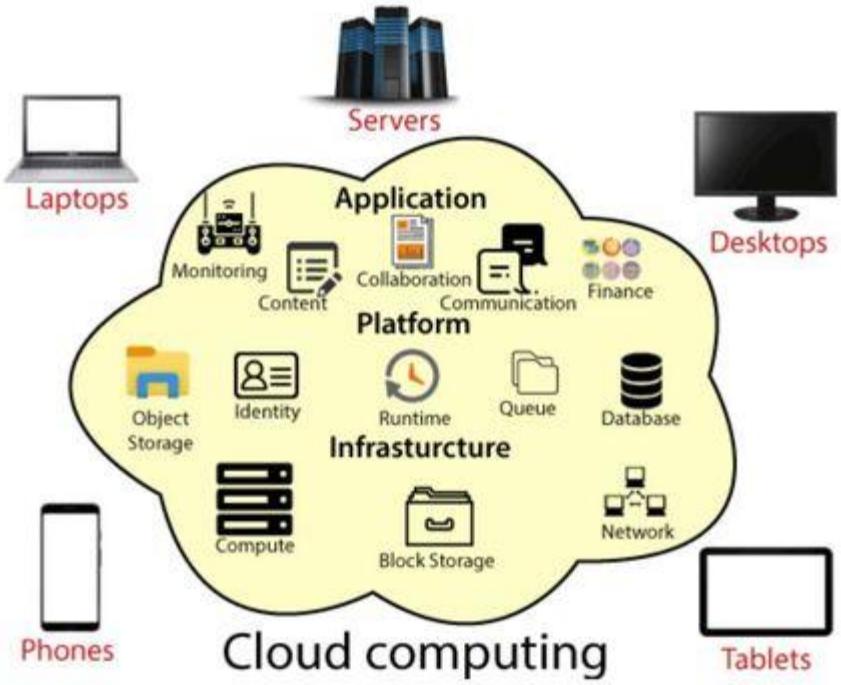
- No termination fees
- Pay only for what is used
- Granular per minute billing

Subscription Types:

- Pay-as-you-go
- Prepaid Subscriptions (Discounts)
- Microsoft Resellers (Open License Program)
- Enterprise Agreements (Additional Benefits)
- Azure Compute Option (Limited-Time offer: More usage = More Savings)




Microsoft
Azure


Servers
Laptops
Desktops
Application
Monitoring
Content
Collaboration
Communication
Finance
Platform
Object Storage
Identity
Runtime
Queue
Database
Infrasturcture
Compute
Block Storage
Network
Phones
Tablets
Cloud computing

Benefits of Cloud or Advantages of Azure

There are many benefits of clouds. Some of them are listed below.

- **Cost:** It reduces the huge capital costs of buying hardware and software.
- **Speed:** Resources can be accessed in minutes, typically within a few clicks.
- **Scalability:** We can increase or decrease the requirement of resources according to the business requirements.
- **Productivity:** While using cloud computing, we put less operational effort. We do not need to apply patching, as well as no need to maintain hardware and software. So, in this way, the IT team can be more productive and focus on achieving business goals.
- **Reliability:** Backup and recovery of data are less expensive and very fast for business continuity.
- **Security:** Many cloud vendors offer a broad set of policies, technologies, and controls that strengthen our data security.

Types of Cloud Computing:

We have three types of clouds which are

- Public
- Private
- Hybrid

Public Cloud:

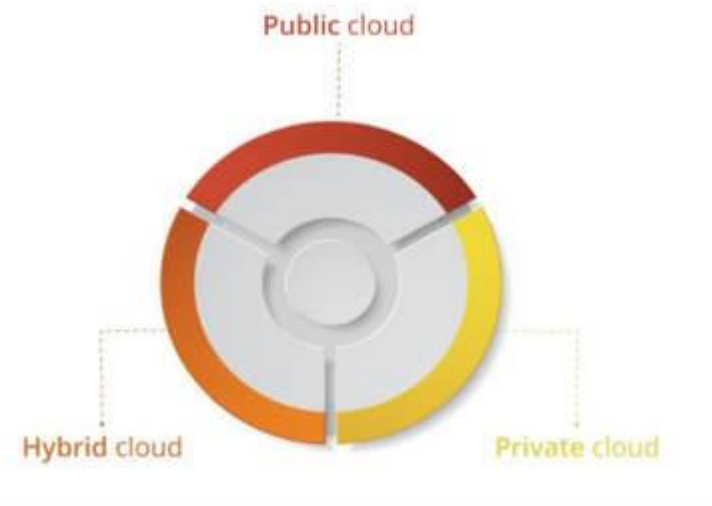
Public clouds are owned and maintained by third-party cloud service providers. They deliver their computing resources such as storage and servers over the internet. The most popular example of a public cloud is Microsoft Azure.

Private Cloud:

In a private cloud, the infrastructure and services are operated on a private network. It refers to cloud computing resources extensively utilized by an organization or a single business.

Hybrid Cloud:

Hybrid cloud combines private and public clouds, bound together by technology that enables applications and data to be shared between them. Hybrid cloud provides businesses with more deployment options and greater flexibility by allowing applications and data to move between public and private clouds



Types of Azure Clouds

SaaS (Software as a Service)

It is software which is centrally hosted and managed. It is a single version of the application is used for all customers. You can scale out to multiple instances. This helps you to ensure the best performance in all locations. The software is licensed through a monthly or annual subscription. MS Exchange, Office, Dynamics are offered as a SaaS

Example: – E-mail (Gmail, Yahoo, etc.), MS Exchange, Office, MS One Drive, Dropbox etc

PaaS (Platform as a Service)

This is a service where a platform is given to a client to build and deploy software. It helps the client to focus on application development rather than looking after infrastructure and hardware. Azure PaaS also manages the majority of operating systems, network issues, and servers. OR

This service provides an on-demand environment for developing, testing, delivering, and managing software applications. The developer is responsible for the application, and the PaaS vendor provides the ability to deploy and run it. Using PaaS, the flexibility gets reduce, but the management of the environment is taken care of by the cloud vendors.

Example: Microsoft Azure

Advantages:

- The total cost is low as the resources are allocated on demand and servers are automatically added or subtracted.
- Azure is less vulnerable because servers are automatically checked for all known security issues
- The entire process is not visible to the developer, so it does not have a risk of a data breach

Disadvantages:

- Portability issues can occur when you use PaaS services
- There may be different environment at Azure, so the application needs to adapt accordingly.

IaaS (Infrastructure as a Service)

In IaaS, we can rent IT infrastructures like servers and virtual machines (VMs), storage, networks, operating systems from a cloud service vendor. We can create VM running Windows or Linux and install anything we want on it. Using IaaS, we don't need to care about the hardware or virtualization software, but other than that, we do have to manage everything else. Using IaaS, we get maximum flexibility, but still, we need to put more effort into maintenance.

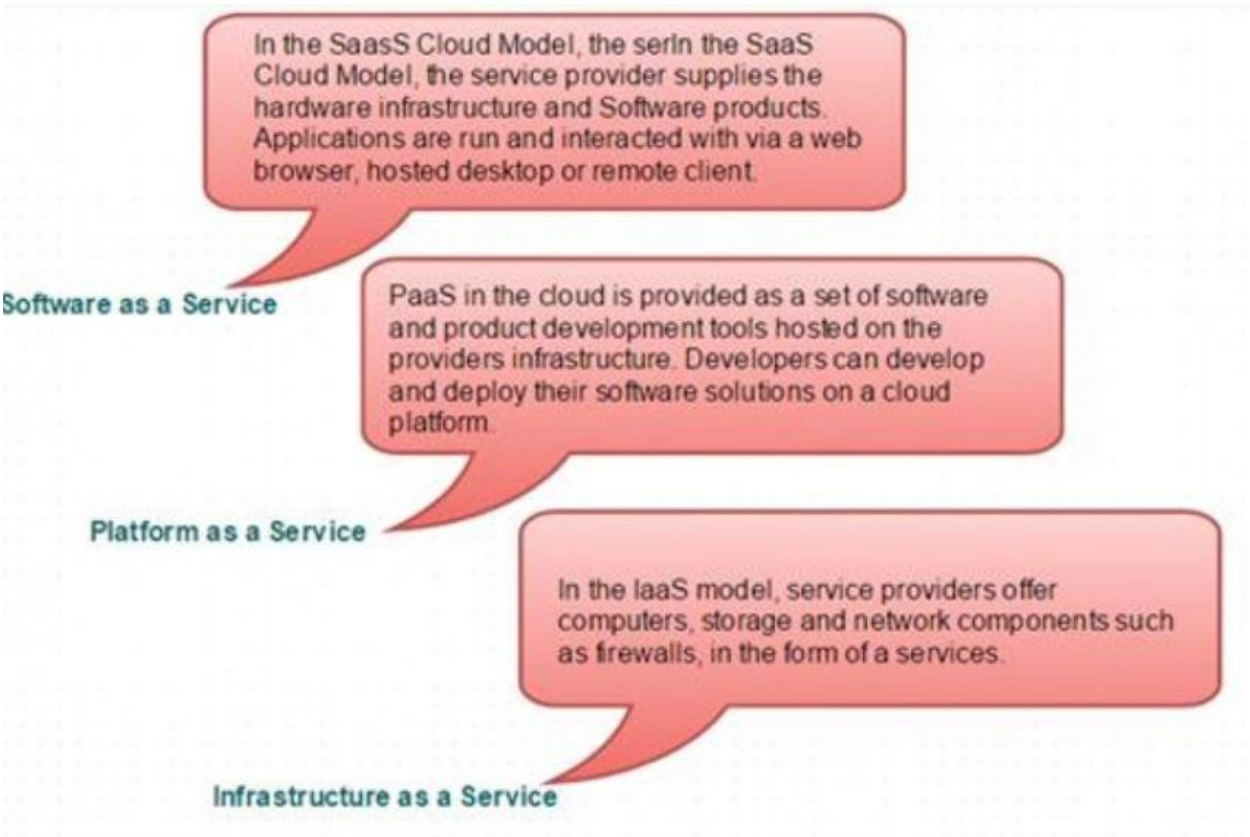
Example: Amazon S3

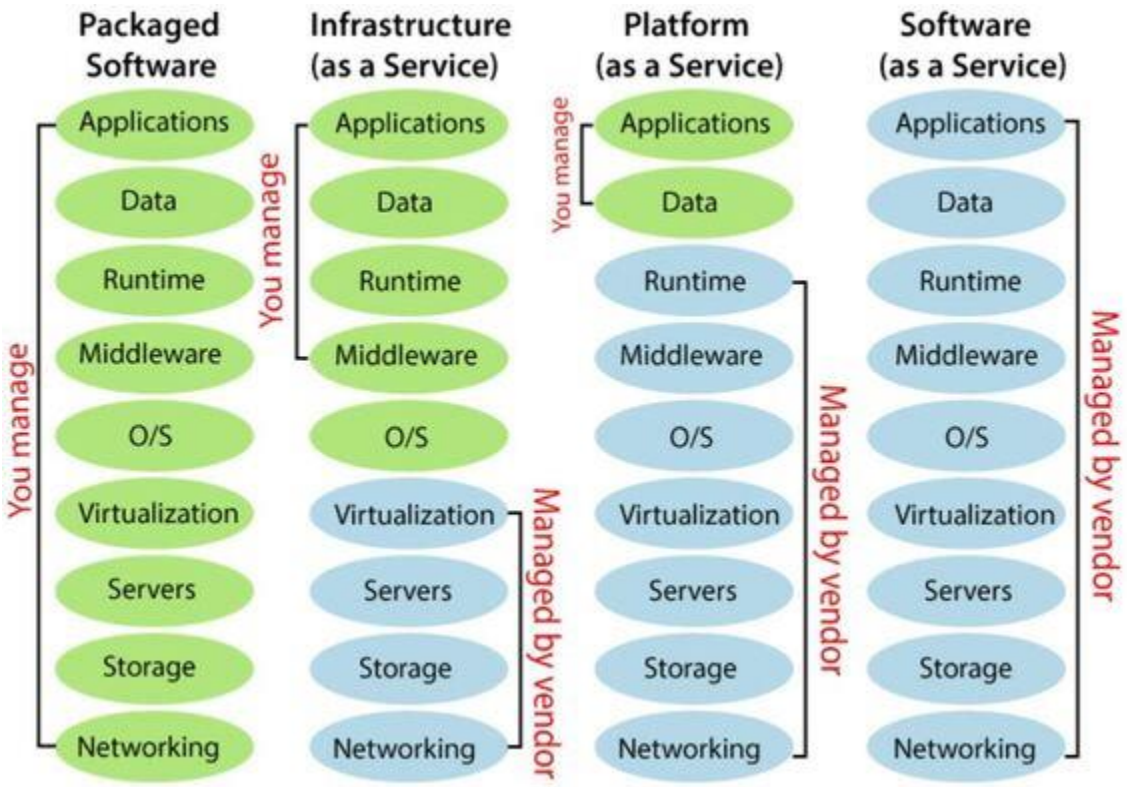
Advantages:

- It offers efficient design time portability
- It is advisable for the application which needs complete control
- IaaS offers quick transition of services to clouds
- The apparent benefit of laaS is that it frees you from the concerns of setting up many physical or virtual machines.
- Helps you to access, monitor and manage datacenters

Disadvantages :

- Plenty of security risks from unpatched servers
- Some companies have defined processes for testing and updating on-premise servers vulnerabilities. This cannot be done with Azure.




Packaged Software
Infrastructure (as a Service)
Platform (as a Service)
Software (as a Service)
Applications
Data
Runtime
Middleware
O/S
Virtualization
Servers
Storage
Networking
You manage
Managed by vendor