Interprise Cloud Computing

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What is Cloud Computing?

- Cloud computing enables companies to consume a compute resource, such as a virtual machine (VMs), storage or an application, as a utility -- just like electricity -- rather than having to build and maintain computing infrastructures in house.

- Cloud Computing provides us a means by which we can access the applications as utilities, over the Internet. It allows us to create, configure, and customize applications online. With Cloud Computing users can access database resources via the internet from anywhere for as long as they need without worrying about any maintenance or management of actual resources.

Providers of Cloud Computing

Vendor	IaaS	PaaS	SaaS	Storage
Amazon	EC2 (Elastic Cloud Compute)	Amazon Web Services*	Amazon Web Services*	S3 (Simple Storage Service)
Google	n/a	Google App Engine (Python, Java, Go)	Google Aps	Google Cloud Storage
HP	Enterprise Services Cloud – Compute	Cloud Application Delivery	HP Software as a Service	Enterprise Services Cloud – Compute
IBM	SmartCloud Enterprise	SmartCloud Application Services	SaaS products	SmartCloud Enterprise – object storage
Microsoft	Microsoft Private Cloud	Windows Azure (includes .NET, Node.js, Java, PHP)	MS Office 365	Microsoft Private Cloud
JoyentCloud	SmartMachines	Node.js	n/a	n/a
Rackspace	Cloud Servers	Cloud Sites	Email & Apps	Cloud Files
Salesforce.com	n/a	Force.com	Salesforce.com	n/a
VMware**	VMware vSphere, vCloud	VMware vFabric (Java Spring), vCloud API	n/a	n/a

Characterstics of Cloud Computing

Here are the five main characteristics that cloud computing offers businesses today.

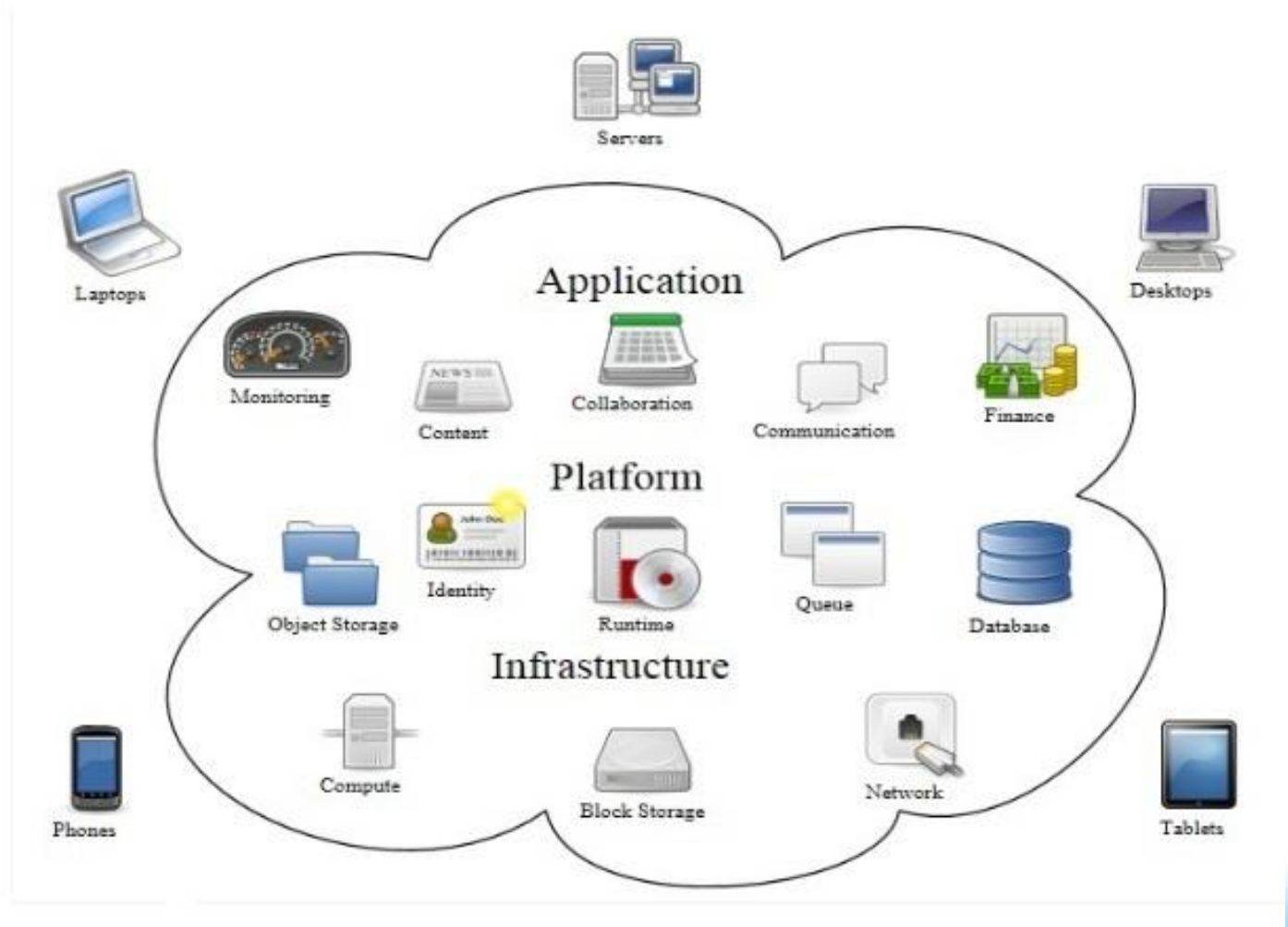
1. **On-demand self-service:** Users are able to provision cloud computing resources without requiring human interaction, mostly done though a web-based self-service portal (management console).
2. **Broad network access:** Cloud computing resources are accessible over the network, supporting heterogeneous client platforms such as mobile devices and workstations.
3. **Resource pooling:** Service multiple customers from the same physical resources, by securely separating the resources on logical level.

Characterstics of Cloud Computing

4. Rapid elasticity: Resources are provisioned and released on-demand and/or automated based on triggers or parameters. This will make sure your application will have exactly the capacity it needs at any point of time.

5. Measured service: Resource usage are monitored, measured, and reported (billed) transparently based on utilization. In short, pay for use.

Services Architecture of Cloud Computing



Services Architecture of Cloud Computing

Infrastructure-as-a-service (IaaS)
The most basic category of cloud computing services. With IaaS, you rent IT infrastructure—servers and virtual machines (VMs), storage, networks, operating systems—from a cloud provider on a pay-as-you-go basis.

Platform as a service (PaaS)
Platform-as-a-service (PaaS) refers to cloud computing services that supply an on-demand environment for developing, testing, delivering and managing software applications. PaaS is designed to make it easier for developers to quickly create web or mobile apps, without worrying about setting up or managing the underlying infrastructure of servers, storage, network and databases needed for development.

Services Architecture of Cloud Computing

Software as a service (SaaS)

Software-as-a-service (SaaS) is a method for delivering software applications over the Internet, on demand and typically on a subscription basis. With SaaS, cloud providers host and manage the software application and underlying infrastructure and handle any maintenance, like software upgrades and security patching. Users connect to the application over the Internet, usually with a web browser on their phone, tablet or PC.

Types of Cloud Computing

Public cloud

Public clouds are owned and operated by a third-party cloud service provider, which deliver their computing resources like servers and storage over the Internet. Microsoft Azure is an example of a public cloud. With a public cloud, all hardware, software and other supporting infrastructure is owned and managed by the cloud provider. You access these services and manage your account using a web browser.

The main benefits of using a public cloud are:

1. Easy and inexpensive set-up because hardware, application and bandwidth costs are covered by the provider.
2. Scalability to meet needs.
3. No wasted resources because you pay for what you use.

Types of Cloud Computing

Private cloud

A private cloud refers to cloud computing resources used exclusively by a single business or organization. A private cloud can be physically located on the company's on-site datacenter. Some companies also pay third-party service providers to host their private cloud. A private cloud is one in which the services and infrastructure are maintained on a private network.

The main benefits of using private cloud are:

1. Enhanced security and data protection and one can raise it as much level as one wish.
2. The user has total control of where the data is being saved.
3. Easily recover from failure.

Types of Cloud Computing

Hybrid cloud

Hybrid clouds combine public and private clouds, bound together by technology that allows data and applications to be shared between them. By allowing data and applications to move between private and public clouds, hybrid cloud gives businesses greater flexibility and more deployment options.

The main benefits of using Hybrid Cloud are:

1. Use the type of cloud that suits the requirement for particular data and application.
2. Suits many organizations needs and goals to achieve their cloud computing strategy.

Top benefits of cloud computing

Cloud computing is a big shift from the traditional way businesses think about IT resources. What is it about cloud computing? Why is cloud computing so popular? Here are 6 common reasons organizations are turning to cloud computing services:

1. Cost
2. Speed
3. Global scale
4. Productivity
5. Performance
6. Reliability

Future Scope of Cloud Computing

In today's world, new business opportunities heavily depend on their IT infrastructure availability. Cloud computing technology in India will dramatically change the way we compute. Some of the obvious segments that can directly reap the benefits are listed below:

1. Schools, Colleges & Universities:
2. New Innovative Business Firms:
3. Long Tail Business Units:
4. Multimedia Content Providers:

Thank You

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