

CLOUD COMPUTING - CONCEPTS, ARCHITECTURE AND MODELS

Abstract: Nowadays as computing technology perform an important role in internet of services. Cloud computing is often outlined as a computing surroundings wherever computing wants by one party are often outsourced to a different revelry and once would like to arise to use the computing power or resource like information or emails, they will access them via web. It may be interpreted to mean data center hosting and then subsequently dismissed without catching the improvements to hosting called utility computing that permit near real time, policy-based control of computing resources. Cloud computing represents a different way to architect and remotely manage computing resources. In this paper an introduction to cloud computing, several cloud services models and deployment models has been presented. It also explores about the characteristics, challenges of cloud computing.

Keywords: Internet, hosting, services, deployment models, characteristics, challenges on cloud computing.

INTRODUCTION

Cloud Computing simply means storing and accessing data and programs over the internet instead of computer's hardware. It provides developing environment, ability to manage the resources, application software over the cloud. It provides a resource to customers on a pay- as-you-use basis. Users can access these services available on the cloud by having an internet connection. Clouds is an oversized pool of simply usable and accessible virtualized resources. These resources may be dynamically reconfigured to regulate to a variable load (scale), permitting additionally for an optimum resource utilization. Many companies are delivering services from the cloud. Some examples are:

1. Google:

It has a private cloud that offers online productivity software including email access, document applications, text translations, maps, social networking Google+ etc.

2. Microsoft:

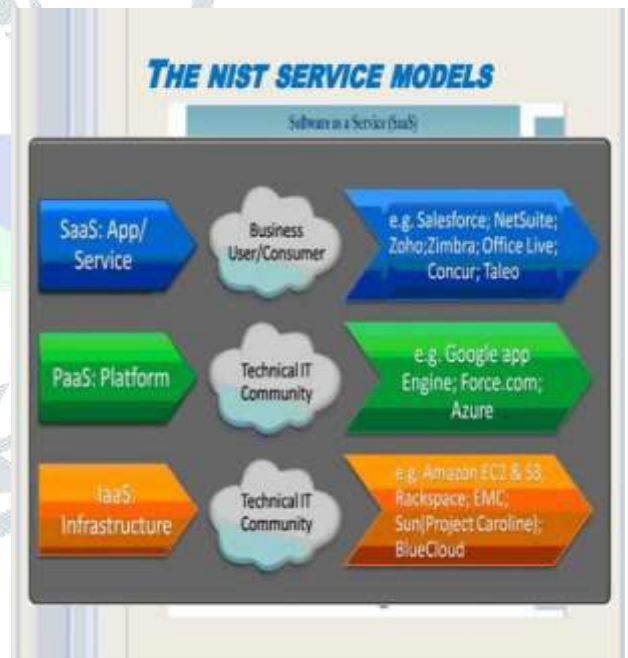
It provides online service that allows the tools which are required for business purpose are moved into the cloud, and Microsoft currently makes its office applications available in a cloud which includes online storage, file sharing, website design and hosting.

3. Amazon:

Amazon Web Services provides the broadest set of cloud services available around the world.

Service Models of Cloud Computing

Cloud Computing has various different service models such as Infrastructure as a Service (IAAS), Platform as a Service (PAAS), and Software as a Service (SAAS). Those services is follow by:

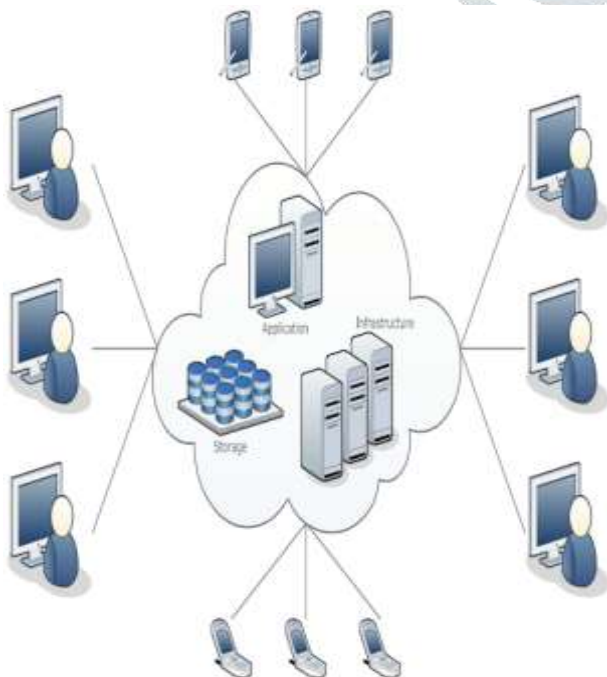


i. Infrastructure as a Service (IAAS)

Cloud consumers can directly use IT infrastructures (processing, storage, networks, and other fundamental computing resources) provided in the IaaS cloud. IaaS cloud provides "Virtualization" in order to integrate/decompose physical resources in an ad-hoc manner to meet growing or reduction resource demand from cloud consumers. An example of IaaS is Amazon's EC2.

ii. Platform as a Service (PAAS)

PaaS provides a development platform that supports the full "Software Lifecycle" which allows cloud consumers to develop their cloud services and applications (e.g. SaaS) directly on the PaaS cloud. The main difference between SaaS and PaaS is that SaaS only hosts completed cloud applications whereas PaaS offers a



development platform that hosts both completed and in-progress cloud applications. Example of PaaS is Google AppEngine.

iii. Software as a Service (SAAS)

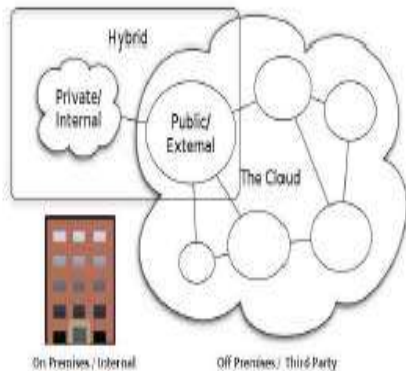
Cloud consumers can release their applications on a hosting environment, which can be accessed through internet from various clients (e.g. web browser, PDA, etc.) by application clients. Examples of SaaS are Salesforce.com, Google Docs, and Google Mail.

DEPLOYMENT MODEL

In this paper explain the four different types of cloud deployment models.

Public Cloud

Private Cloud
Community Cloud
Hybrid Cloud



Public Cloud:

Public cloud is publically available in cloud computing. The computing is shared between any users. Many popular services are Amazon web services, elastic compute cloud, Google cloud. Public clouds square measures rather less secure, they're terribly advantageous in costs. It provides more scalability and efficiency in shared resources.

Private Cloud

Public cloud is own model. Private cloud could not share with other group. It is valuable and secure than public clouds. The most advantage here is that it's easier to manage security, maintenance and upgrades and conjointly provides additional management over the preparation and use. Non-public cloud is often compared to computer network. Compared to public cloud wherever all the resources and applications were managed by the service supplier, in camera cloud these services square measure pooled along and created out there for the users at the structure level.

Community Cloud:

Community cloud involves sharing of computing base in between group of the same community and manages by a third party. A community cloud is a collaborative effort made for sharing infrastructure between multiple organizations. It forms into a degree of economic scalability and democratic equilibrium.

Hybrid Cloud:

Hybrid cloud is a combination of public, private and community cloud. And it's a unique entity. The is to combine services and data from variety cloud models to create a well-managed computing environment. It provides ability to maintain the cloud as recovery of data is easy in this cloud. It offers more flexibility than both public and private cloud

CHARACTERISTICS OF CLOUD COMPUTING

- _ Less IT skills are needed for implementation.
- _ Reliable services are often obtained by the employment of multiple sites that is appropriate for business continuity and disaster recovery.
- _ sharing of resources and prices in the middle of an outsized collection of users permits economical utilization of the infrastructure.
- _ Maintenance is simpler just in case of cloud computing applications as they have not been put in on every user's pc.
- _ Pay per use facility permits activity the usage of application per scheduled regular bases.
- _ Performance is often monitored and so it's ascendible.
- _ Security is often pretty much as good as or higher than olden systems as a result of suppliers are able to devote resources to resolution security problems that several customers cannot afford. However, security still remains a fundamental concern once the information is sort of confidential.
- _ Cloud can be a huge resource pool that you just should buy in keeping with your need; cloud is simply like running water, electric, and gas which will be charged by the quantity that you just used.
- _ Cloud computing makes user get service anyplace, through any reasonably terminal. The resources it needed return from cloud rather than visible entity. Users will attain or share it safely through a simple method, anytime, anywhere. Users will complete a task that can't be completed in an especially single personal computer.

CONCLUSION

Cloud computing is a new technology wide studied in recent years. Currently there are several cloud platforms that are employed in each in trade and in educational. The way to use these platforms could be a huge issue. Cloud computing is a new paradigm of computing utilities that promises to provide more flexibility, less expensive, and more efficiency in IT services to end users. During this paper, we have a tendency to delineate the definition, styles, and characteristics of cloud computing, cloud computing services.

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