

Agenda of the cloud computing

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Abstract— The term "cloud computing" is a recent buzzword in the IT world. Though the term "Cloud Computing" is recent but the idea of centralizing computation and storage in distributed data centers maintained by third party companies is not new. Cloud computing is aimed at providing IT as a service to the cloud users on-demand basis with greater flexibility, availability, reliability and scalability with utility computing model. This new paradigm of computing has an immense potential in it to be used in the field of e-governance and in rural development perspective in developing countries like India.

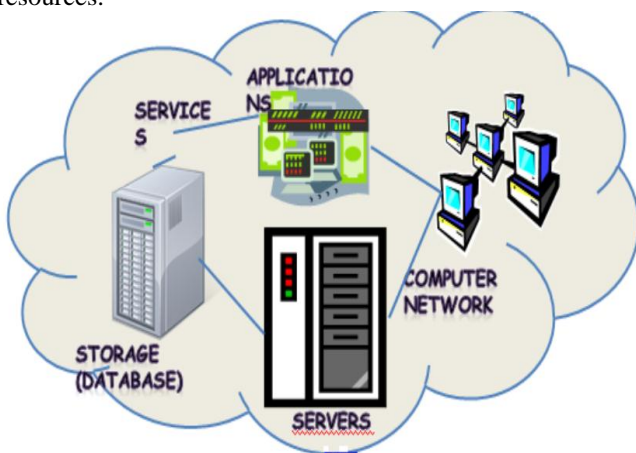
Key words: cloud computing, Platform as a Service, Software as a Service

I. INTRODUCTION

Cloud computing is referred to as fifth generation computers. It sounds like a great working environment for non-technical people, as it takes away the burden of installing software's, increasing the memory capacity. It is a pay for use system, as it helps the users to access any servers from the pervasive network. It takes away the burden of managing huge networks. Cloud computing is a computing paradigm shift where computing is moved away from personal computers or an individual server to a "cloud" of computers. This method of distributed computing is done through pooling all computer resources together and being managed by software rather than a human.

II. WHAT IS CLOUD COMPUTING?

Simply cloud computing provides a variety of computing resources, from servers and storage to enterprise applications such as email, security, backup/DR, voice, all delivered over the Internet. The Cloud delivers a hosting environment that is immediate, flexible, scalable, secure, and available – while saving corporations money, time and resources.



With cloud computing, the software programs that are used aren't run from own personal computer, but are rather stored on servers accessed via the Internet. The introduction of the new cloud computing paradigm these

problems can be easily eliminated because it doesn't require the end users to have any type of infrastructure, as all of them are delivered as services whether it could be infrastructure as a service (IaaS), Platform as a service (PaaS), Software as a service (SaaS) .Once a cloud is established, how its cloud computing services are deployed in terms of business models can differ depending on requirements. The primary service models being deployed are commonly known as:

A. Software as a Service (SaaS):

Consumers purchase the ability to access and use an application or service that is hosted in the cloud. A benchmark example of this is Salesforce.com, as discussed previously, where necessary information for the interaction between the consumer and the service is hosted as part of the service in the cloud.

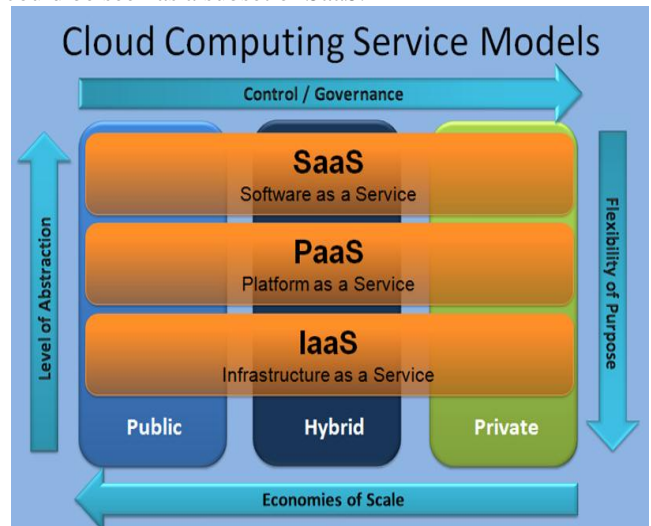
B. Platform as a Service (PaaS):

Consumers purchase access to the platforms, enabling them to deploy their own software and applications in the cloud. The operating systems and network access are not managed by the consumer, and there might be constraints as to which applications can be deployed.

C. Infrastructure as a Service (IaaS):

Consumers control and manage the systems in terms of the operating systems, applications, storage, and network connectivity, but it does not itself control the cloud infrastructure.

Also known are the various subsets of these models that may be related to a particular industry or market. Communications as a Service (CaaS) is one such subset model used to describe hosted IP telephony services. Along with the move to CaaS is a shift to more IP-centric communications and more SIP trunking deployments. With IP and SIP in place, it can be as easy to have the PBX in the cloud as it is to have it on the premise. In this context, CaaS could be seen as a subset of SaaS.



III. DEPLOYMENT MODELS

A. Public Cloud:

- Public cloud (off-site and remote) describes cloud computing where resources are dynamically provisioned on an on-demand, self-service basis over the Internet, via web applications/web services, open API, from a third-party provider who bills on a utility computing basis.

B. Private Cloud:

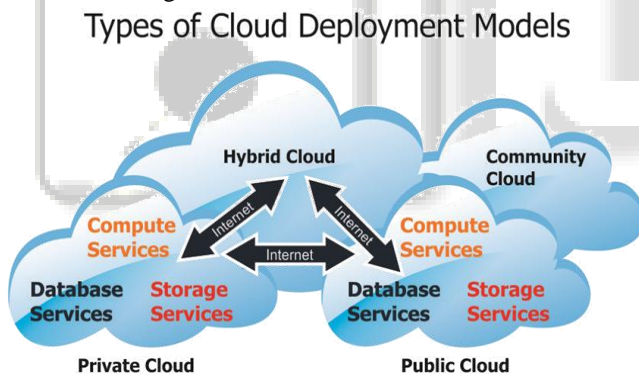
A private cloud environment is often the first step for a corporation prior to adopting a public cloud initiative. Corporations have discovered the benefits of consolidating shared services on virtualized hardware deployed from a primary datacenter to serve local and remote users.

C. Hybrid Cloud:

A hybrid cloud environment consists of some portion of computing resources on-site (on premise) and off-site (public cloud). By integrating public cloud services, users can leverage cloud solutions for specific functions that are too costly to maintain on-premise such as virtual server disaster recovery, backups and test/development environments.

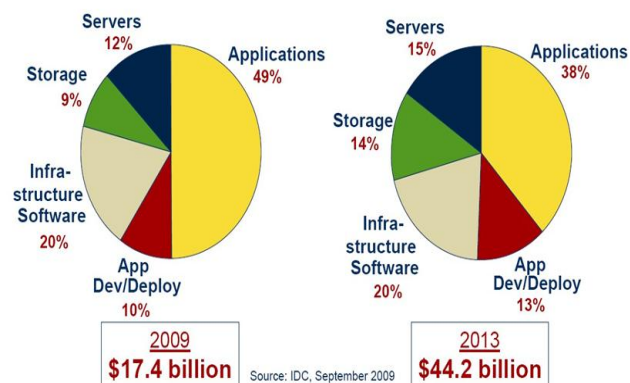
D. Community Cloud:

A community cloud is formed when several organizations with similar requirements share common infrastructure. Costs are spread over fewer users than a public cloud but more than a single tenant.



E. Cloud Distribution Examined:

Worldwide IT Cloud Services Revenue* by Product/Service Type



* Includes revenue from delivery of Applications, App Development/Deployment SW, Systems Infrastructure SW, and Server and Disk Storage capacity via Cloud Services model. AD&D excludes online B2B messaging providers/exchanges

IV. ADVANTAGES OF CLOUD COMPUTING

The following are some of the possible benefits for those who offer cloud computing-based services and applications:

A. Cost Savings:

Companies can reduce their capital expenditures and use operational expenditures for increasing their computing capabilities. This is a lower barrier to entry and also requires fewer in-house IT resources to provide system support.

B. Scalability/Flexibility:

Companies can start with a small deployment and grow to a large deployment fairly rapidly, and then scale back if necessary. Also, the flexibility of cloud computing allows companies to use extra resources at peak times, enabling them to satisfy consumer demands.

C. Reliability:

Services using multiple redundant sites can support business continuity and disaster recovery.



D. Maintenance:

Cloud service providers do the system maintenance, and access is through APIs that do not require application installations onto PCs, thus further reducing maintenance requirements.

E. Mobile Accessible:

Mobile workers have increased productivity due to systems accessible in an infrastructure available from anywhere.

V. LIMITATIONS OF CLOUD COMPUTING

- Requires a high speed internet connection.
- If the cloud servers happen to be backed up at that moment, or if the Internet is having a slow day, we would not get the instantaneous access we might expect from desktop applications.
- With cloud computing, all data is stored on the cloud so it runs the risk of security

VI. CONCLUSION

Cloud Computing is outpacing the IT industry Real business value can be realized by customers of all sizes Cloud solutions are simple to acquire, don't require long term contracts and are easier to scale up and down as needed

Proper planning and migration services are needed to ensure a successful implementation Public and Private Clouds can be deployed together to leverage the best of both Third party monitoring services ensure customer are getting the most out of their cloud environment Security Compliance and Monitoring is achievable with careful planning and analysis.

VII. PREPARING FOR THE FUTURE

Sampling of IT skills likely to be in demand in the future

- Functional application development and support
 - I.e. Oracle, SAP, SQL, linking hardware to software
- Leveraging data to make strategic business decisions
 - I.e. Business Intelligence : Applying sales forecasts to inventory and manufacturing decisions
- Mobile apps
 - Android, iPhone, Windows Mobile
- WiFi engineers
 - USF to include broadband communications (LTE replaces GSM/CDMA)
- Optical engineers
 - Optical offers the highest bandwidth today (PON, CWDM, DWDM)
- Virtualization Specialists
 - Economies of scale require virtualization (server, storage, client...)
- IP Engineers
- Network Security Specialists
- Web developers
- Social Media developers
- Business Intelligence application development and support

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