



A Survey on Cloud Computing

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Abstract:

In the simplest term cloud computing means storing and accessing data over the internet instead of computer's hardware. Cloud computing is a type of internet based computing which provide you shared processing resources and data to system and other devices on respective demand. In the previous years we are facing the problem of storage in our devices but with the advancement of cloud computing this problem has been resolved. This paper discuss all the aspects of cloud computing i.e. what is cloud computing, how it can be achieved, what are the resources used in cloud computing etc.

Keywords: Cloud computing, Data Storage, Iaas, Saas, Paas

1. INTRODUCTION

Cloud computing is a type of computing that relies on shared computing resource rather than having local servers or personal devices to handle applications. In its simplest way cloud computing is the use of computing services-server, storage, database, networking, software and more over the internet to offer faster innovation, flexible resources and economies of scale. Cloud computing is a kind of distributed computing and the goal of this computing model is to make a better use of distributed resources in order to achieve higher throughput and to solve large computational problems. Cloud computing provides on demand services to its client.

2. BENEFITS OF CLOUD COMPUTING

With the use of cloud computing we need not to manage hardware and software as it is a difficult task for us. Many businesses are shifted from traditional way to cloud computing for its simplicity and advantages. There are several advantages of cloud computing which are as follows-

- I. **Cost-** It reduces the cost of hardware and software.
- II. **Speed-** As we know that the cloud computing services are on demand and provide self service, its speed is high. With just a mouse click we can found our data at any corner of the world.
- III. **24x7availability-** Most of the cloud services providers provides 24 hour services.
- IV. **Flexibility in capacity-**Clouds are flexible in capacity i.e. the user can sale or shrunk their cloud as per their requirement.
- V. **All Over functioning-** The cloud computing offers an advantage of working from anywhere across the globe as long as you have internet connection.
- VI. **Security-**Cloud computing offers a great security.
- VII. **Mobility-**Cloud computing allows mobile access to corporate data via smart phones and devices.

3. TYPES OF CLOUD COMPUTING

3.1 Public Cloud

In public cloud computing service providers makes resources available to public via internet. Public cloud allows scalability

and resource sharing that would not be possible for a single organization to achieve. Some public cloud providers offer resources for free, while client pay for other resources by subscription or a pay per use model.

3.2 PRIVATE CLOUD

Private cloud is also called corporate cloud. Private cloud is either provided by a service provider or constructed on-site at an organizations data centre. It is more secure than public cloud because each user has its specific storage. A private cloud is one in which the services and the infrastructure maintained on a private network.

3.3 HYBRID CLOUD

In hybrid cloud, public and private cloud computing are combined. This technology allows data and applications to be shared among public and private cloud. By allowing data and application to be moved between private and public clouds, a hybrid cloud gives your business a greater flexibility, more deployment options and better security.

Table.1. Comparative Study between Public, Private and Hybrid Cloud

Difference	Public Cloud	Private Cloud	Hybrid Cloud
Tendancy	Data from multiple organizations is stored and shared in a single environment.	There is only data from a single organization stored on a cloud	It combines both public cloud and private cloud.
Accessibility	Anyone can use the public cloud service	Only the organization can use the private cloud service	It provide both the facilities i.e. public cloud services are accessed by anyone and private

			services are accessed by only organizations
Data Centre Location	Anywhere on the internet where the cloud service provider's service are located.	Inside the organization's private network.	Inside the organization's private network for cloud as well as anywhere on the internet for public cloud.
Cloud Services Management	The cloud service provider manages the services	The organization must have their own administration to manage services	The organization must manage their private cloud while the public cloud is managed by cloud service providers
Hardware Component	The cloud service provider provides all the hardware and ensures its working at all the time.	Must be provided by the organization itself, which has to buy physical servers to build the private cloud on.	The organization must provide hardware for private cloud while the csp provide hardware for public cloud.
Expenses	Less expensive	More expensive	More expensive
Security	Less Secure	More secure	More secure

4. TYPES OF CLOUD SERVICES

Cloud computing is not a single piece of technology, it is a system primarily comprised of three services: Iaas, Paas, Saas.

4.1. Infrastructure as a Service- Infrastructure as a service involves a method for delivering everything from operating system to servers and storage through IP-based connectivity as a part of on demand service

4.2. Platform as a Service- Paas is a platform for creating software that is delivered via internet. It is a cloud computing model in which a third party provider delivers hardware and software tools-usually those needed for application development to user over the internet.

4.3. Software as a Service- Saas involves the license of software application to customer. Licenses are typically provided through a pay-as-you-go model or on-demand. It can be accessed via web browser. If we use software as a service

then there is no need for organization to maintain setup, installation or maintenance. Sometimes it is also referred as hosted application.

5. CONCLUSION

Cloud computing is a general term for the delivery of hosted services over the internet. The cloud computing enables companies to consume a compute resource such as a virtual machine, storage or an application utility just like electricity rather than having to build and maintain computing infrastructure in house. Cloud computing enables user to store their data in the remote storage location. But data security is the major threat in the cloud computing. Due to this many organizations are not willing to move in a cloud environment. To overcome this confidentiality, integrity, availability should be encapsulated in cloud service provider's service. Otherwise ensure that any sensitive information is not putted into a public cloud and if any it is to be stored in encrypted form.

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