CLOUD COMPUTING

Jaspreet Kaur Sandhu*

Dr. Gurdev Singh**

Arvinder Singh Kang***

ABSTRACT

In this   Internet era, Cloud Computing is gaining great popularity. The Cloud can be called as web or the virtualization place of resources   which is used to manage the resources and the workload. When the computer hardware and software is used as well as improved that is called Computing. The Cloud Computing is the technology that is based on the internet and used to provide software services, platform services, and Infrastructure services to the user with help of various types of clouds. In Cloud Computing technology there is no need of installing any application software on each of the computer only one of the applications can be installed. Severs can be used to store and maintain the data. The cloud computing can be utility computing as low initial cost is required. This paper discusses the evolution of Cloud computing, architecture of Cloud Computing, Types of cloud like public, private, hybrid. This paper will also discusses the Services provided by Cloud Computing and the advantages and the disadvantages of cloud computing. The scope of Cloud Computing is also introduced in this paper

Keywords: *Cloud Computing, Services of Cloud Computing, Architecture of Cloud Computing*

*Lecturer, Chandigarh Business School Landran, Mohali.

**Professor, Department of Computer Science & Engineering, Adesh Institute of Engineering & Technology, Faridkot.

***Head(MCA), Chandigarh BusinessSchool, Landran, Mohali.

1. INTRODUCTION

An emerging technology in which Internet is used as well as central remote server maintain data and applications is called cloud computing. Consumers and businesses use applications without installation and access their personal files at any computer with Internet access in cloud computing. This technology allows for much more efficient computing by centralizing storage, memory, processing and bandwidth [1].

In cloud computing IT processing is received as a service rather than as a product or software. For running applications local computer no longer have to do the heavy lifting. It is handled by the network of computers that make up the cloud. In cloud computing demands for hardware and software on the user's side decreases. Cloud computing systems interface software is needed to be run on the user's computer which can be web browser and the rest work is done by the cloud's network.

Cloud computing is internet based where shared resources; software and information are provided to computers and other devices on –demand. The pioneer of Cloud Computing vendors, Amazon Simple Storage Services (S3) and Amazon Elastic Compute Cloud (EC2) are both well known examples. While these internet-based online services do provide huge amounts of storage space and customizable computing resources, this computing platform shift, however, is eliminating the responsibility of local machines for data maintenance at the same time. As a result, users are at the mercy of their cloud service providers for the availability and integrity of their data. Downtime of Amazon's S3 is such an example [2].

Services are offered by Cloud computing over internet with dynamically scalable resources. Users is provided with benefits in terms of cost and ease of use by cloud computing. Cloud computing uses the internet for meeting the demands of users as they are generated as well as processing data within wide range of user's requests.

2. ARCHITECTURE OF CLOUD COMPUTING

The architecture of cloud computing consist of the following.

- Client
- Application
- Platform
- Infrastructure

2.1 Client

A cloud client consists of computer hardware or computer software that relies on cloud computing for application delivery or that is specifically designed for delivery of cloud services and that in either case is essentially useless without it [3].

2.2 Application

Cloud Application or Software as a   service (SAAS) is a service in which software is delivered as a service over internet with no need to install and run the application on customer's own computers. Support, maintenance is simplified .SAAS is also called on-demand or hosted applications or pay –as –you- go model. SAAS need easy administration, automatic updates and patches management is possible. Same version is available to all the users.

2.3 Platform

Cloud platform services or Platform as a service (PAAS) delivers a computing platform and/ or solution stack as a service, often consuming cloud infrastructure and sustain cloud applications [4]. PAAS can be used to build higher level services. Interaction of Customer with the Platform is through the API. So in PAAS, one can use the middleman's equipment to develop own program and deliver it to the users through internet and servers.

2.4 Infrastructure

In cloud Infrastructure service or Infrastructure as a service (IAAS) computer Infrastructure typically a platform virtualization environment as a service is delivered .In this service purchasing of services, software, data center space or network equipment is not done. But the resources that are fully outsourced are purchased by the clients.

3. Types of Clouds

There can be three types of clouds

- Public Clouds
- Private Clouds
- Hybrid Clouds

3.1 Public Clouds

Clouds which are run by third party are called public clouds. These clouds are hosted away from customer premises and customer's risk and cost is reduced by providing a flexible, temporary extension to enterprise infrastructure.

3.2 Private Clouds

Private clouds are the cloud which provides exclusive use of one client. Private cloud provides control over data, security and quality of service. In private cloud, infrastructure is owned by the organization and has control over applications.

3.3 Hybrid Clouds

Combination of both public and private cloud gives hybrid cloud. Hybrid cloud scan help to provide on-demand, externally provisioned scale. These clouds can also handle workload spikes.

4 .ADVANTAGES OF CLOUD COMPUTING

The advantages provided by the cloud computing is as follow.

- **Reduced Cost**

  Cloud computing saves organizational money as it is paid incrementally.

- **Storage**

  With Cloud computing organization can store more data as compared to private computer systems.

- **Environment friendly**

  Cloud computing is environment friendly because hardware is replaced and cloud systems reduces energy costs as well as reduces Co_2 emissions.

- **Backup**

  In cloud computing data backup is easy as compared to other computing methods.

- **Mobility of Information**

  One can access information from any corner of the world.

- **Flexibility**

  More flexibility is offered by cloud computing as compared to other past computing methods.

5 .DISADVANTAGES OF CLOUD COMPUTING

The disadvantages provided by the cloud computing is as follow.

- **Dependency**

  Applications or services that the provider is willing to offer can be used

- **Data storage**

  Users cannot store their data physically, so data storage is done by the provider.

- **Logging support and Investigative Support**

In cloud computing it is difficult to   know who altered the data and where they came from.

6. SCOPE OF CLOUD COMPUTING

- Acceleration of entering cloud computing will be the trend of large vendors.
- Cloud deployment will be offered by major IDEs
- Platform –as –a service will be taking its first steps into main stream.

7. CONCLUSION

In this paper a fresh technology called cloud computing is discussed. Describe its definition, architecture, advantages and disadvantages .The cloud computing will represent the development trend of the IT Industry from hardware to software, software to services, distributed service to centralized services. The main purpose of Cloud Computing is to reduce the processing burden on the user's terminal which is possible by improving the handling ability of the cloud.

Thus inter organizational collabartions can be provided by the cloud computing services and research level of the country will be enhanced. Cloud computing provides improved flexibility and lower cost to IT department. With the use of the cloud computing the resource demands for PCs and even for workstations for collective use is decreased.

REFERENCES

1. Mathur Peeyush,Nishchal Nikhil " Cloud computing: New Challenge to the entire Computer Industry".
2. www.ece.iit.edu/~ubisec/IWQoS09.pdf.
3. Mathur Peeyush,Nishchal Nikhil " Cloud computing: New Challenge to the entire Computer Industry".
4. An example of a 'Cloud Platform' for building applications.