

## **Cloud Computing : Concepts, Types and Research Methodology**

**S. Muthulakshmi**  
Bangalore ,Karnataka  
India- 560068

**Abstract:** ‘*Cloud’-computing is a very popular term in this modern and computer world in IT solution which is provided as a service over the web instead of customer owing and buying the solution. It is a large group of interrelation of computers. Over a decade of research it achieves in virtualization, distributed computing, utility computing and networking. It creates service oriented architecture by providing software and platforms as services. It reduced information technology for end – user on demand services and many of the other things related to it. Technologies such as cluster, grid and Cloud computing has all aimed for providing access to large number of computer in a virtualized manner such as invisible , by collecting resources and offering single system viewing and more over in addition to that one of the main aim of these technologies is Delivering computing as a Utility. These describes a business model while consumers pay provides based on usage and it is same to as the way in which we presently obtain services from the community utility services such as Water, Electricity and telephony*

**Keywords -** *Cloud-computing, Security, Privacy, Commentary*

### I. INTRODUCTION

Cloud computing is the next generation for computation. Cloud computing is the next step in evolution of information technology services and their products. The Cloud is the implicit comparison for the Internet, based on how it shows picture in computer network diagrams, and is an abstraction or layout for the complicated infrastructure.[1,5]

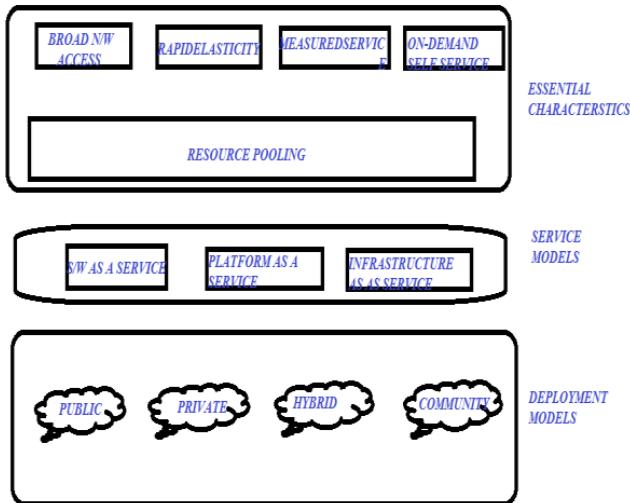
These computers can be Personnel computers or servers that can be public or private. Cloud of computer arise from a single company .The data served by the cloud computing may help to the users, cross-enterprise. These can access the documents from the other computers on the other networks. If any problem occurs the computer may crash some times in that situation the data will be available for other users. These will be available on different servers to access the data. Anyone with permission can access the document and it can edit and Modifies by them.[5]

Clouds are large puddle of easy usage of Virtualized resources. These resources can be dynamically changed to adjust a variable load allowing for optimum resource. The pool is very hard in which guarantees offered by the structure provided by the customized service level agreements.[12]

### Key Properties of Cloud Computing

1. Cloud computing is user centric
2. Cloud computing is Programmable
3. Cloud computing is Powerful
4. Cloud computing is Accessible
5. Cloud computing is Intelligent
6. Cloud computing is Task-centric

## II. WORKING OF CLOUD COMPUTING

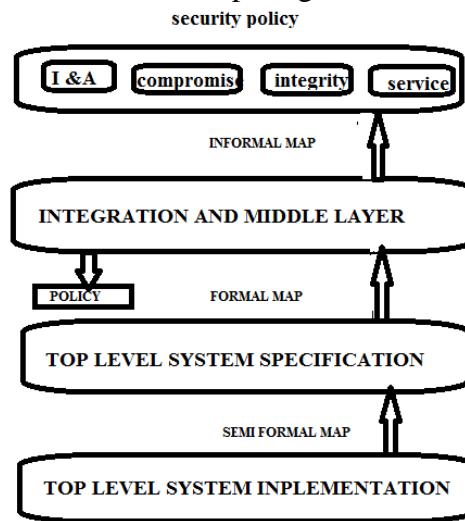


**Fig 1: Working of cloud computing**

Today computers are used by the government sectors, industries, military, railway everyone. A group of computers works as a single computer to provide data and other applications to user on the internet. A network which is already available in the Cloud of computer that works as the IP address in the server that connects the several systems. These provide a vast storage capability and large scale group of collaboration. In order to solving the problems like analyzing risk in medical facilities and financial sectors, even in computer games the users may trap through web. The large networking group of servers uses only low-cost customer PC technology.

It includes specialized data connections that processed chores of them. Our main responsibility having making sure that all our employee have correct and right software and hardware for their jobs. Everyone can buy the computer but it is not enough-Whenever you are having a new opportunity you have to buy software which is having different versions or make sure your current software license allows to other user. Web-based service which entertains all the programs that the user need for his job. It could be called cloud computing and it can change the entire computer industry. Local computers have to do very heavy jobs when it comes to running

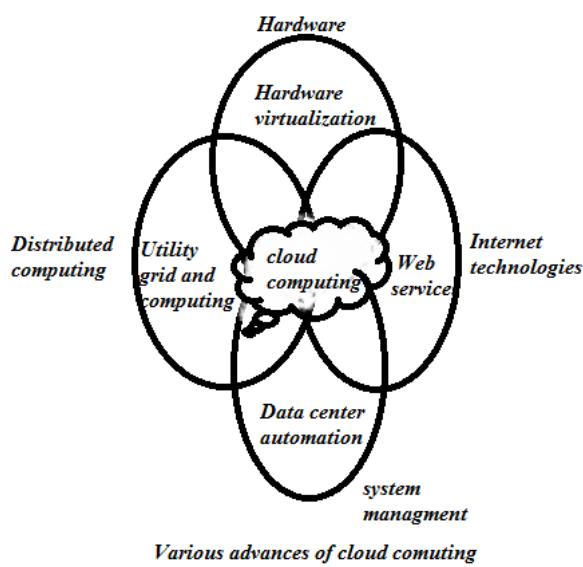
applications .Instead of that the network can handles them both hardware and software users , which can as simple as web browser and the server will take care of it by running all the programs. The software and storage does not exist on your computer for security reasons. It's on the services cloud computing.



**Fig 2: Process of Information in Cloud**

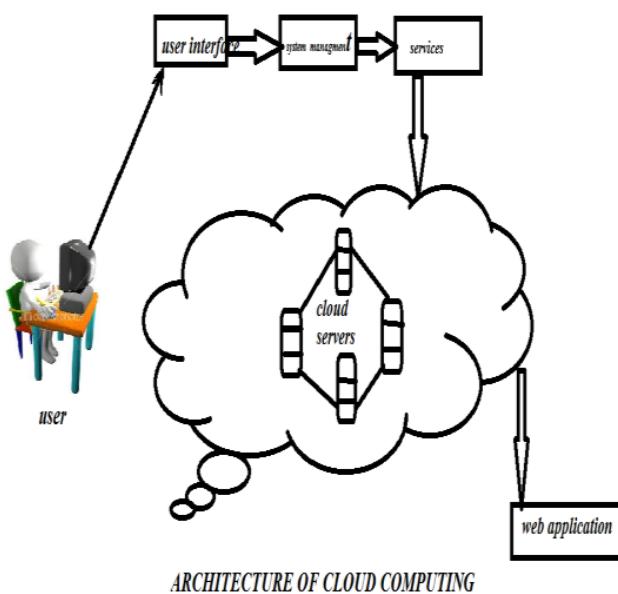
## III. TYPES OF CLOUD COMPUTING

1. A community cloud may be established where many group of institutions have same requirements to share the infrastructure so as to realize the profits of cloud computing[1,2]
2. Private cloud and internal cloud are near that some sellers have recently used for offerings of cloud computing on protected network.[2]



**Fig3: Advances of cloud computing**

#### IV. ARCHITECTURE OF CLOUD



**Fig4: Architecture of Cloud computing**

Individual users connect the computer from the cloud server. From the user cloud is seen as a single application. The hardware is the cloud server and the operations done by the cloud server is invisible. The user collects the information from the interface and it is connected to service management and the services provided for the

management is server and internally the server is connected to web application. It is the part of front-end application and it gives the correct source of information.

The services could retrieve the necessary information from the cloud and web application so that it either creates or opens the application. After the application is launched the system checks the functions of the cloud so that the resources are partitioned to the particular user.

#### V. COMPARISON OF CLOUD AND SERVER

It has been a great change in the industry when cloud-computing came into existence. Before that web server is their basic requirement. When a cloud computing is compared to web we may occur several differences.

**Table 1: Comparison between Cloud and Server**

SERVER	CLOUD
MICROSOFT EXCHANGE SERVER	MICROSOFT EXCHANGE ONLINE
MICROSOFT SHAREPOINT SERVER 2007	MICROSOFT SHAREPOINT ONLINE
MICROSOFT DYNAMICS CRM	MICROSOFT DYNAMICS CRM ONLINE
MICROSOFT SQL SERVER	MICROSOFT SQL SERVER DATASERVICE
ACTIVE DIRECTORY	AD/LIVE ID
WINDOWS SERVER 2008	WINDOWS

The above table is the comparison between server and a cloud. Many benefits that occur in the cloud when compares to server. A true cloud computing is when a data center operates with virtual computing resources. Web hosting requires only host the server and it has many subtypes. Cloud computing is also known as grid computing

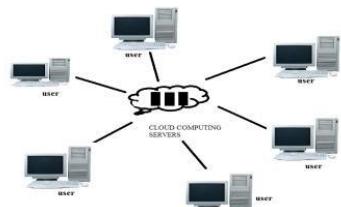
because it is similar like grouping of all the systems together to do something. While cloud computing is a huge networks of devices. We can connect and disconnect the systems when a newly added system that provides all process starts that utilizing the system. So it is very powerful.[7]

#### VI. CLOUD COMPUTING NETWORK

Cloud computing is an example that concentrates only on data sharing and calculation over a scalable network of several nodes Examples: Web services, User computer.

We can say that such a network of nodes (means point of intersection) as a cloud computing. Basically cloud is a comparison for internet. The main theme is to use the existing services in order to bring possible services to cloud and make it possible to retrieve those services according to time and based on the location.

Merrill lynch has estimated a \$160- billion. Addressable market opportunity, including \$95-billion in business and productivity applications and another \$65- billion in online advertising for cloud.



**Fig 5: Cloud computing servers**

#### VII. ADVANTAGES

- Cloud-technology is paid incrementally. You want to pay if u needs anything so it reduces cost.
- Cloud provider will provide security and prevent from the unauthorized access.
- Storages very large and vast data than on private pc's.

- Users can retrieve and access the information whatever they want rather than to remain at their desks.

#### VIII. DISADVANTAGES

- Internet connection is required
- Low speed connections are not recommended
- Data storage is 100% in the cloud
- Sometimes it is slow[13]

#### IX. CONCLUSION

Cloud-computing is a new computing paradigm that is increasing popularly day by day in industries such as Microsoft, Google, IBM, have provided their ideas in promoting cloud-computing. In study of cloud-computing, I found that there is very different focus on the needs of the present community. Multinational companies are creating their own versions of cloud.

The cloud-computing will provide super-computing power. It will extend through one single company. The data served by the cloud is available in the cross-platforms.

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