

## USE F CLOUD COMPUTING AND ITS BENEFITS

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### **Abstract:-**

*With the initiation of internet in the 1990s to the present day facilities of universal computing, the internet has reformed the computing world in extreme way. It has travelled from the concept of parallel computing to distributed computing to cluster computing to grid computing to utility computing to virtualization and recently to cloud computing, in future Internet of Things. Cloud computing is a style of computing in which dynamically scalable and other virtualized resources are provided as a service over the Internet. In this paper explain the cloud computing deployment models and delivery models, with the help of model cloud computing do work properly in the area of IT sector. In this paper describe the traits and benefits of cloud computing.*

**Keywords: -** *Cloud Computing models, traits of cloud computing, Benefits of cloud*

## **INTRODUCTION**

Cloud computing is flexible technology [2] that can access applications and associated data from anywhere [1]. Cloud Computing has emerged as a popular solution to provide cheap and easy access to externalized information technology resources. An increasing number of organizations benefit from cloud computing to host their applications [2]. Cloud computing can much improve the availability of IT resources and it can easily access through the Internet to share IT resources include server, storage, network, application, service and so on. They can be released with minimal management effort or service provider interaction [5]. Cloud Computing inherited the new technology day by day and adding new ideas. In the cloud computing in used mobile technology, is a commonly used in these days. The current market share of smart phones is 40% of all mobile phones in the U.S. as of September 2011 and is still expected to grow. Taking advantage of their connectivity to the Internet and improving hardware capabilities, people use smart phones not only for making phone calls, but also browsing the web, checking emails, playing games, taking videos/photos, and so on. The mobile phone is the new personal computer and its functionality is continually increasing [11].

### **I. Research method**

#### **A. Research Question**

This review aims at summarizing the mobile cloud offloading and mash up research by proposing answers to the following questions:

- 1) Why used cloud Deployment strategies and cloud delivery models of cloud computing?
- 2) What are the benefits and traits of cloud computing?

#### **B. Study Information**

We searched widely in electronic source. Most of the information is covered by educational sites, relevant journals and research papers. The sites are:

IEEE Explore (<ieeexplore.ieee.org>)

Springer (<www.springer.com>)

Google Scholar

Elsevier Journal

(<www.elsevier.com/journals>) International Journals

#### **C. Study Selection**

The paper has been organized as follows: In section 3 uses of cloud delivery models and deployment strategies is explained. The section 4 describe the traits of cloud computing. In section 5 benefits of cloud computing is describes.

#### **D. Related Work**

Bhaskar Prasad Rimal in (2009) presented the cloud computing models, and related cloud computing services model, architecture also. Author gives the future research direction for academia. Author proposed taxonomy will provide researchers and developers the idea on the current issues in cloud computing. Author defines the cloud related services and architecture comparisons.

N.Mallikharjuna Rao in (2010) describe the significant scope in cloud computing and change the whole education system. Author present the e-learning scenario is getting the popularity and this application in cloud computing will surely help in the development of the education offered to poor people which will increase the quality of education offered to them.

Shyam Patidar in (2012) described the definition, styles, characters of cloud computing and cloud computing services. Author defines the cloud computing platform and each cloud platform has its own unsolved issues. Author explain the challenges of cloud computing and give the future work directions. He define the cloud layer architecture and define the utility computing and data centre of cloud computing.

Pragya Gupta in (2012) defines the Mobile Cloud Computing and explains the model and application and challenges. Author describes the open issues for future work. Author explains the challenges and their suitable solutions. Author define mobile cloud computing it is a combination of cloud computing, wireless communication, portable devices, infrastructure, mobile Web has laid the foundation for the novel computing model.

SUBBA REDDY in (2012) describes the basic cloud computing. Author explains the cloud models and techniques and explains the open challenges and gives the solutions. If the cloud providers are too slow to provide safe, secure, reliable data storage and application services, they may miss one of the greatest opportunities of this century.

Vikas Kumar in (2013) explain the overall basics of cloud computing. Author define the cloud computing have several benefits in the non-cloud environment and capable to handle the environmental issues and other challenges. Author describe about virtualization technology that provides good support to achieve higher resource utilization, elasticity, reducing IT cost in cloud computing aim. Author explains the virtualization concepts and focused on their privacy and on solutions.

Manmohan Chaturvedi explain the privacy and security, mgovernance and m-commerce in the mobile cloud computing. Author explore and experiment with available options to recommend security and privacy enhancing approaches that may meet the security need for mobile application using automated sensing of the context. Author describes how to secure mobile application and what kind of privacy we will use for the mobile device application.

Saqib Hakak in (2013) explain the mobile cloud computing and its applications and its issues. Author describe concept of mobile cloud and issues those are occur in the implementation technology and implementation time. Author describes their solutions also and gives the future work.

### III. Use od cloud deployment strategies and delivery

#### A. Cloud deployment strategies

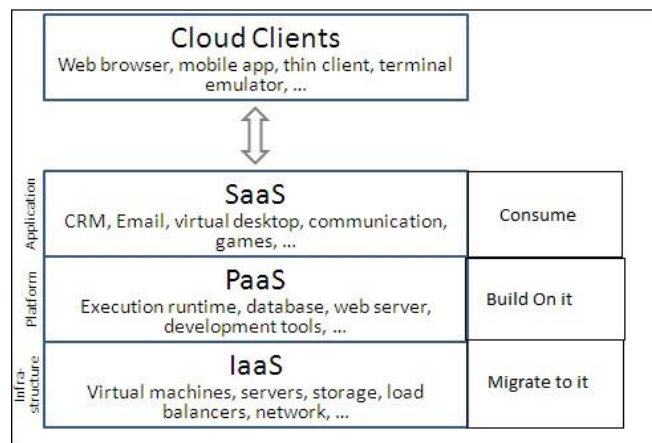
Generally clouds can be classified according to the owner of the Cloud data centres. A Cloud environment can compose either a single Cloud or multiple Clouds. It can be dignified between single Cloud environments and multiple Cloud environments. A cloud can be deployed using any of the below mentioned strategies [6].

- 1) **Private Cloud:** In a private cloud-based service, data and processes are managed within the organization without the restrictions of network bandwidth and security exposures [1]. This is a proprietary network and uses the concept of virtualization of machines [7].
- 2) **Public Cloud:** Public clouds provide cost effective, elastic means to deploy solutions. Public cloud vendors typically provide an access control mechanism for their users [1]. At the same time multiple enterprises can work on the provided infrastructure [7].
- 3) **Community Cloud:** The cloud infrastructure is shared by several organizations and supports a specific community that has shared mission, security requirements, policy, and compliance considerations [2].
- 4) **Hybrid Cloud:** A hybrid cloud is a combination of two or more clouds (private, community, or public). In this model non business-critical information is outsourced and public cloud processing is done while keeping business-critical services and data in their control [1].

#### B. Use od Cloud Delivery Models

It is completely internet dependent technology and each client is assigned its own cloud with the help of different services like services of servers, storage, manage applications that can use by client. Cloud can provide any service, which is required by the users like Saas, Paas or Iaas service [3].

- 1) **Software as a Service (SaaS):-** This model focuses on the provisioning of applications. The management of the infrastructure, operating systems and the configuration of the application is completely done by the service provider [4]. Examples for this type of service model are Google Docs, Microsoft Office Web Apps and Apple iWork.com. This service model is fully dependent on a working network connection between mobile devices and the cloud system [8]. It is a software platform used by users of SaaS offering usually has neither knowledge nor control about the underlying infrastructure which the SaaS offering is based on (PaaS) or the actual hardware infrastructure (IaaS). These layers are very important for the SaaS provider because they can be outsourced. SaaS application can be developed on an existing platform. It is run on the infrastructure of a third party [6]. Obtaining platforms as well as infrastructure as a service is attractive for SaaS providers as it can mitigate them from heavy license or infrastructure investment costs. It also allows them to focus on their core competencies. This is similar to the benefits that motivate SaaS users to obtain software as a service [7].
- 2) **Infrastructure as a Service (IaaS):** IaaS is based on computing resources which are more hardware oriented. The user is able to run and manage operating system and their applications by using virtualization technologies. Examples for this type of service model are Amazon EC2 for computation power and Amazon S3 for storage for mobile device [4]. With the help of IaaS approach multiple users use available resources. They are typically charged on a pay-peruse basis and the resources can easily be scaled up depending on the demand from user. They are all virtual machines which need to be managed. A governance framework is required to control the creation and usage of virtual machines. This also helps to avoid uncontrolled access to user's sensitive information [7].
- 3) **Platform as a Service (PaaS):** Platform as a Service gives the opportunity to user to run applications on the infrastructure offered by the service provider [19] [4]. Without any worry about the underlying hardware infrastructure (IaaS) developers can write their applications according to the specifications of a particular platform [6]. Developers upload their application code to a platform, which then typically manages the automatic up scaling when the usage of the application grows. PaaS offerings can cover all phases of software development or may be specialized around a specific area like content management [7]. Examples for this type of service model are Google App Engine, Force.com [19].



**Fig.1: Cloud Computing Service Model**

#### IV. TRAITS OF CLOUD COMPUTING

Any cloud is expected to have these five characteristics that are being described below:

- A. *On- Demand Self Services*: Users can order and manage the service without requiring human interaction with each service's provider [9]. A consumer can unilaterally provision computing capabilities such as server time and network storage as needed automatically. Cloud service providers providing on demand self-services include Amazon Web Services (AWS), IBM, Microsoft, Google and Salesforce.com. [2].
- B. *Broad network access*: Cloud Services are available over the network and accessed through standard mechanisms that promote use by heterogeneous thick or thin client platforms e.g., mobile phones, laptops, and personal digital assistants [9].
- C. *Resource pooling*: The computing resources used to provide the cloud services are pooled to serve multiple consumers using a multi-tenant model with different physical and virtual resources dynamically assigned and reassigned according to consumer demand [2]. There is a sense of location independence in that the subscriber generally has no control or knowledge over the exact location of the provided resources but may be able to specify location at a higher level of abstraction. Examples of resources include processing, network bandwidth, storage, memory, and virtual machines [9].
- D. *Rapid elasticity*: In some cases Resource can be scaled up and down rapidly and elastically provisioned. To the consumer the capabilities available for provisioning often appear to be unlimited and can be purchased in any quantity at any time [9].
- E. *Measured Services*: Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service e.g. storage, processing, bandwidth, and active user accounts. Resource usage can be monitored, controlled, and reported providing transparency for both the provider and consumer of the utilized service [2].

#### V. BENEFITS OF CLOUD COMPUTING

Cloud computing has deployed as a popular computing model to support processing large volumetric data using cluster of commodity computer [10]. In the coming year the way of cloud dominating the IT market a major shift on the cloud can be expected. Already organizations have started moving into the cloud [16]. The moving organization on cloud in IT market those organizations with the emergence of NoSQL built around the technologies like Cassandra and Hadoop/HBase collecting and using massive amount of data [5]. The data is no more considered as a headache. Cloud Computing inherited the new technology day by day and adding new ideas [11]. In the cloud computing system address the some technologies like virtualization, interoperability, scalability, Web services and SOA, Application Programming interface and web 2.0/Mashup [10]. The advantages of the cloud computing can help to elevating some of the common issues one might have while supporting an educational institution [19].

- A. *Cost*: The cost can be defined in two ways either pay as you use or buy a subscription plan which relaxes your cost to some extent with a predefined considerations , any plan can be chosen which act as best for business model [12].
- B. *Flexibility*: In the cloud computing Infrastructure as Services in infrastructure can [18] be scaled and it is maximize investments. Cloud computing allows dynamic scalability as per demands fluctuate [12].
- C. *Accessibility*: Without make vulnerable sensitive information services and data publicly available with the help of accessibility [17]. Some would resort to a cloud computing vendor because of the lack of resources while others have the resources to build their cloud computing applications, platforms and hardware. But in some way when we are using through mobile terminals then components have to be implemented with the expectation of optimal performance [13].

## CONCLUSION

In this paper describes the survey of cloud computing. Cloud computing is very useful technology in IT sector. Cloud computing delivery models through networking is done and data transmission and etc. other work related IT sector can be improve. Cloud computing is new era of computing utilities which provide utilities as a service like pay as u go model. Because of cloud computing IT services are growing faster and its complexity is reduces. For efficiently managing Cloud infrastructures Cloud technologies focus on novel methods and policies.

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