



APPLICATION OF CLOUD COMPUTING

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ABSTRACT:

Cloud computing is mounting day by day due to various features of it for instance less cost, rapid implementation. These features contribute to enhance the practical application for instance in E-learning, mobile commerce, IT industry. In this paper we represent various practical applications of cloud computing.

Keywords: Software as a Service, Cloud computing

I.INTRODUCTION:

Nowadays the term computing is converted to cloud computing where cloud is recognised as collection of data retained by third-party. It refers as hardware, software and application delivered facility over the internet. It is categories into public, private, community and hybrid cloud [1], where public cloud refers to computing infrastructure hosted by cloud dealers at dealer's principles and can share by various organizations, like Amazon, Google, and Microsoft. Private cloud computing is dedicated to particular organizations and not shared with other organization and it is more expensive and secure, for example HP data center, IBM, Sun and oracle.

Community Cloud is refers to special purpose cloud environment which is collective and accomplished by number of related organization participating in a common domain or vertical market. This placement model share resources with many administrations in a community that shares common concerns (like security, governance, compliance etc). Whereas hybrid cloud computing has features of both public and private. Cloud computing is quite popular in these days due to simplicity of network, no need to buy software license, scalable, reliable and efficient. It provides unique viewpoints in

internetworking technologies and raises issues in the architecture, design, and employment of prevailing networks and data centres. The relevant research has just recently gained momentum, and the space of latent ideas and keys is still far from being widely explored [2].

II. CLOUD STACK:

Cloud computing is divided into three stacks IaaS, PaaS and SaaS. IaaS (Infrastructure as a service) is the base layer of cloud stack and it is foundation for other two layers. It is a form of cloud computing that provides virtualized computing assets over the Internet. Infrastructure as a Service (IaaS) is a form of cloud computing that provides virtualized computing resources over the Internet. IaaS is one of three main categories of cloud computing services, together with Software as a Service (SaaS) and Platform as a Service (PaaS).

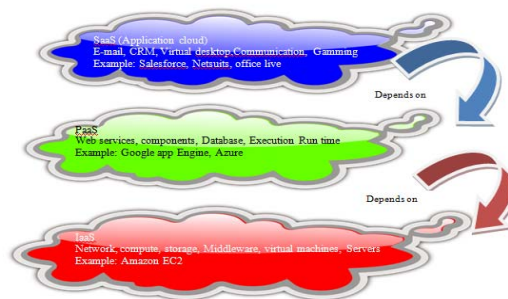
- In an IaaS model, a third-party provider hosts hardware, software, servers, storage and other substructure components on behalf of its users. In IaaS suppliers also host users' applications and handle errands including system maintenance, backup and resiliency planning. IaaS platforms offer highly scalable resources that can be adjusted according to situation. This makes IaaS suitable for tasks that are short-term, tentative or change suddenly.
- Other characteristics of IaaS include the mechanization of managerial jobs, dynamic mounting, desktop virtualization and policy-based services. IaaS consumers are paying in different way for example yearly, monthly and on daily basis. Some suppliers also charge the amount of virtual machine space used by the consumers. This model eliminates the capital expense of deploying internal hardware and software.

- However, users should observe their IaaS environments narrowly to keep away from being charged for unofficial services.
- On the other hand PaaS is significant layer that assist to get maximum value from private cloud. PaaS is collaboration of services that are used to design an application and consist of abstract application infrastructure, operating system, and middleware and configuration details. This collection helps developers to develop, built and test applications. PaaS pushes an application to interactive development environment from command-line interface. It provides scalability, high availability, automatic configuration, load balancing and management tool. PaaS provides multiple benefits to enterprises and create a new demand for services provided by cloud. PaaS also boost the value the things achieving with IaaS services and cost saving for innovation on new business models or services.

SaaS: - In SaaS model a software provider license a software application to be used and purchase on requirement [3].

Basically It runs on web browser e.g. Gmail- a popular SaaS product. In SaaS model a software provider license a software application to be used and acquired on request. Applications can be accessed through network from various client(web browser,mobile phn etc) by application use[3].SaaS applications in the same way support what is conventionally known as application customization. However, like conventional enterprise software, one customer can modify the set of configuration alternatives. Each client may have its specific settings for the configuration options. The application can be modified to the degree it was designed for based on a set of predefined structure options. For instance, to support customers' common need to alteration an application's look-and-feel so that the application appears to be having the customer's brand many. SaaS applications let clients offer interface or by working with application source organization, a custom logo and sometimes a set of custom colors.

Figure below reveals the stack of cloud computing services:



III.APPLICATIONS OF CLOUD COMPUTING:

E-learning: The enlarged use of technology for enhanced teaching and learning is the upcoming of education. In these days' educational institutes, offer various courses online format as well as use various other training and knowledge models. Most of these online offerings currently are at undergraduate level but there is a growing trend of using similar models for graduate and post baccalaureate professional education. There are many different terminologies and technologies used in the online teaching and learning arena, as well as for dissemination of knowledge. This new frontier of education is generally known as E-Learning (Sone, 2001), (Luchini, Oehler, Quintana, & Soloway, 2001), (Heinrich, Jesshope, & Walker, 2001). With rapid advances in technology and extensive use of computers in academic institutes, businesses and homes, there is now an excellent opportunity to create and support a new culture of learning. In (Sing, Sivaswamy, & Naidu, 2007) an approach is presented to create a Multi-Component Distributed System (MuDiS) that can be used in science education primarily at the school level, though it is also usable in tertiary education. Multi User Virtual Environments (MUEs) is innovative and new opportunities for academicians to cope and devise innovative ways of addressing the specific needs of 'online student' learning styles. Now online students are of diverse opinion and ways of processing information from their predecessors. (Prensky, 2001) provides a rich, multimedia environment where interaction and collaboration between students can take place (Chandler, King, Duke-Williams, & Crellin, 2007). New and advanced chances for teaching and learning are offered by MUEs (Hetherington, Bonar-Law, Fleet, & Parkinson, 2008). MUEs are primarily a synchronous 3D social platform, built on gaming technologies but operating without

aims and purposes. However all contents are created and owned by the user. These environments are increasingly being used as a firsthand and more innovative platform for 3/4D data visualization and e-learning by educators all around the globe.

There are several benefits of cloud computing in e-commerce

- It has capability to assist various organizations to amplify their efficiency and condense their rate of operations and maintenance while providing latest goods to their consumers by providing discounts and users rent assets, the maintenance of the data centers be converted into the liability of the cloud seller, so the users do not need to worry about operation and maintenance.
 - The cloud users are normally content with the fact that the systems in place are updated, trustworthy and flexible to answer the user queries.
 - The cloud provides 24/7 services and can be access from multiple browsers (i.e., Mozilla Firefox, Chrome, Safari) and devices (i.e., desktop, laptop, smartphone, iPad) in any given time zone.
 - Give ways to organizations, by which they can develop new stuff and provide innovative services to its customers.
 - Providing skill to organizations to analyze their data using various analytics techniques to conclude the varying needs of the consumers to bear the cut-throat competition.
 - Cloud computing in Mobile- computing: *Mobile cloud computing (MCC)* is referred to an infrastructure in which data storage and processing done outside the mobile device. Mobile cloud applications progress the computing power and data storage away from the mobile devices and into prevailing and centralized computing platforms located in clouds, which are then accessed over the wireless connection. It is low in cost and assist user by providing flexibility and less cost.
- I. Mobile devices are linked to the mobile networks through base stations that create and manage the links and functional interfaces between the networks and mobile devices.
 - II. Mobile users' send requests and information are transmitted to the central processors that are associated to server providing mobile network services. The

requests of subscribers are sending to a cloud by the Internet.

In the cloud, cloud controllers process the requests to provide mobile users with the corresponding cloud services.

There are several benefits of cloud computing in mobile devices

1. Service providers can distribute the resources and costs to support a variation of applications and users.
2. Multiple services from different providers can be combined easily through the cloud and the Internet to meet the users' demands.

IV.ISSUES IN CLOUD COMPUTING:

There are several issues in cloud computing like, limitations of mobile devices due to less battery back-ups. Moreover, Quality of communication as compare with wired network uses physical connection with bandwidth consistency, the data transfer rate in mobile cloud computing environment is regularly changing and the connection is discontinuous due to the existing clearance in network overlay. Furthermore, data centre in large enterprise and resource in Internet service provider normally is far away to end users, especially to mobile device users. In mobile cloud computing environment, because of restricted resources, some applications of compute-intensive and data-intensive cannot be deployed in mobile devices, or they may consume massive energy resources. Therefore, we have to divide the applications and use the capacity of cloud computing to achieve those purposes, which is: the core computing task is processed by cloud, and those mobile devices are responsible for some simple tasks only. In this processing, the major issues affecting performance of mobile cloud computing are: data processing in data centre and mobile device, network handover delay, and data delivery time.

V.CONCLUSION:

There are enormous benefits of cloud computing in various areas despite of various issues it is quite effective technique that assist in every field in positive ways. There are various solutions to cope up with issues related to cloud computing such as virtualization and image, task migration, Bandwidth upgrading, Data delivery time reducing , Elastic application division mechanism that can contribute to solve problems related with cloud computing.

VI.REFERENCE:

[1]www.openstack.org

[II] George Pallis, "Cloud Computing: The New Frontier of Internet Computing", IEEE Internet Computing, vol.14, no. 5, pp. 70-73, September/October2010,doi:10.1109/MIC.2010.11

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[IV] *IOSR Journal of Mobile Computing & Application (IOSR-JMCA)* e-ISSN: 2394-0050, P-ISSN: 2394-0042. Volume 2, Issue 1. (Mar. - Apr.

2015), PP 27-31 www.iosrjournals.org DOI: 10.9790/0050-0212731 www.iosrjournals.org 27 | Page

[V] Le Guan, Xu Ke, Meina Song, and Junde Song, "A Survey of Research on Mobile Cloud Computing", IEEE/ACIS 10th International Conference on Computer and Information Science (ICIS), 2010, pp. 387-392.

[VI] Xiaopeng Fan, Jiannong Cao, and Haixia Mao. "A Survey of Mobile Cloud Computing," ZTE Communications, 9(1):4-8, Mar 2011.

[VIII} Hoang T. Dinh, Chonho Lee, Dusit Niyato, and Ping Wang. "A survey of Mobile Cloud Computing: Architecture, Applications, and Approaches", Wireless Communication and Mobile Computing.