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A REVIEW ON CLOUD COMPUTING APPLICATIONS

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Abstract - Cloud computing has a number of utilities which includes a qualitative flexibility and multipurpose uses including metered delivery. The basic purpose of this article is to make people aware about the use of cloud computing in various fields of our daily use such as mobile computing, entertainment, medical and healthcare, business and finance etc.
Keywords – Cloud computing, applications, PAYGO, Education sector, Information, Infrastructure, Services.

I. INTRODUCTION

The Internet has brought a drastic change in our day to day fields which has taken over most of the human burden on its shoulders but it was felt that use of internet has become costlier hence the software engineers worked to reduce the cost of internet resources and they developed the cloud computing which brought a dramatic change in the use of internet applications and technologies. Cloud computing may be defined as the use of computing resources both hardware and software that are delivered as a service over a network most likely the Internet. Cloud consists of three basic service models (IaaS, PaaS, and SaaS) as [1-3]:

a) Infrastructure as a Service (IaaS) provides users with processing, storage, networks, and other computing infrastructure resources.
b) Platform as a Service (PaaS) enables users to deploy applications developed using specified programming languages or frameworks and tools onto the Cloud infrastructure.
c) Software as a Service (SaaS) enables users to access applications running on a Cloud infrastructure from various end-user devices.

Deployment of a cloud can be done in the following ways [1-2]:

a) Private clouds: They are operated solely for one organization only or for an individual person. Public clouds: They are open to the general public or large industrial groups and are owned and are usually managed by a Cloud service provider.
b) Hybrid clouds: They combine two or more clouds (private or public) that remain unique entities but are bound together by technology that enables data and application portability.
c) Community clouds: They feature infrastructure that is shared by several organizations and supports a specific community.

II. ROLE OF CLOUD COMPUTING IN VARIOUS SECTORS

i) *Cloud Computing in Healthcare* - Cloud computing is also found to be very useful in health care system. The patient can discuss his ailments their indications and previous treatment taken so far with the specialist through cloud computing anywhere and at any time [2]. It is like a face to face consultation between doctor and patient who can examine the patient through his previous diagnosis treatment and medicines taken so far. It is more economical to have a specialized treatment from a competent doctor [3-4]. Aneka enables faster execution and massive data computation in life science R&D, clinical simulation, and business intelligence tools. It helps organizations to achieve greater levels of innovation in shorter timeframes while maximizing license utilization, increasing ROI, and realizing significant savings over Cloud based technology. Some main features using cloud computing in healthcare system as [5]:

(a) Broad network access: services can be accessed from any location at any time.
(b) Resource pooling: several users may utilize the services simultaneously.
(c) Elasticity: resources can be added or removed to suit the organizational needs.
(d) Measured service: clients only pay for what they have used.
(e) It offers live interaction between the participants without being at the same site.
(f) Patient medical data can be shared in real time across the geographical boundaries.
(g) It is flexible model as patients don't need to visit the doctor for getting a medical advice.
(h) It saves on the patients' traveling cost and time. Medical specialists can adopt this model to reduce the unnecessary visits of patients thus saving their time.

ii) *Online Entertainment* - Many people use internet for entertainment. For achieving this purpose cloud computing is a best option for consumer. Cloud based entertainment is feasible for any device such as TV, mobile etc. The people have the options to use internet for entertainment purposes which provides refined picture quality as well as sound quality. User can have the facility of ODE (On demand Entertainment) without any restriction or option. It is economical and on pay –per-use basis [6-7].

iii) *Telecommunication* - The focus today is on the various aspects of IT and its relevance in various fields. Telecommunication companies can provide a facility of both private and public clouds network to organizations and users for domestic and commercial uses. Telecom operators could also offer a cloud service known as 'Network as a service (NaaS)'. NaaS revolves around the optimal use of resource allocations taking network and computing resources as a unified whole [7]. Cloud interchanges are Internet-based voice and information correspondences where media communications applications, exchanging and capacity are facilitated by a third party outside of the association utilizing them, and they are gotten to over people in general Internet [8]. Cloud-based interchanges administrations empower organizations to install correspondences capacities into business applications, for example, Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) frameworks. These administrations are far beyond the help of administration arrangements of VoIP frameworks, cooperation frameworks, and conferencing frameworks for both voice and video. They can be gotten to from any area and connected into current administrations to expand their abilities, and in addition remain solitary as administration offerings [9].

iv) *Cloud Computing For E-Learning* - E-learning is another pattern in instruction that tries to make the best utilization of data innovation (IT). Distributed computing is an appealing situation for understudies, employees and scientists. As a rising IT, distributed computing can give colleges and research focuses with capable and practical computational foundation [6]. Understudies can associate with grounds instructive administrations through their own cell phones from anyplace [10]. Employees can have effective and adaptable access to their course material in their classrooms. Analysts can discover articles, models and run their tests on the cloud quicker than at any other time [5].

v) *Cloud Computing For E-Government* - India is to end up plainly one of the principal nations on the planet to convey e-Governance administrations to residents utilizing cloud-based IT administrations. The legislature is in converses with programming industry body, Nasscom, on the take off of e-Governance administrations utilizing the developing innovation. The upside of utilizing this innovation is that the IT framework requires not be set up by the legislature. What's more, on account of the capacity of the innovation to deal with

expansive number of exchanges, natives can anticipate less blockage bottlenecks [11].

vi) *Mobile Computing* - Distributed computing offers such cell phones that have rich Internet media bolster, require less handling and devour less influence. As far as Mobile Cloud Computing (MCC), handling is done in cloud, information is put away in cloud, and the cell phones fill in as media for display [12-13].Today cell phones are utilized with rich cloud benefits by incorporating applications that devour web administrations. These web administrations are conveyed in cloud. [13]There are a few Smartphone working frameworks accessible, for example, Google's Android, Apple's iOS, RIM BlackBerry, Symbian, and Windows Mobile Phone. Each of these stages bolster outsider applications that are sent in cloud [9,14].

vii) *IT Education and Research* - As the IT field is quickly moving towards Cloud Computing, programming industry's concentration is moving from creating applications for PCs to Data Centers and Clouds that empower a huge number of clients to make utilization of programming all the while. This is making an enormous interest for labor with abilities here. Instructive and look into associations require a stage that can bolster [15-16].

   a) numerous models of utilization programming.
   b) numerous sorts of Cloud organizations (private, open, or cross breed).
   c) extensible structure empowering instructors/specialists to build up their own particular programming models and application schedulers.

viii) *Finance and Banking* - The universal market is growing very fast therefore a quicker and better system is required for the customer database of each area [7]. Finance and banking sectors are providing their own secured private clouds to the customers for various services which in turns save a lot of administration cost of these organizations [17-19].

ix) *Cloud Computing in Library & Information Science* - Distributed computing offers many intriguing potential outcomes for libraries that may diminish innovation cost and increment limit unwavering quality, and execution for some sort of mechanization exercises [9]. Distributed computing has made solid advances into other business divisions and is currently starting to discover more application in library science. Distributed computing is a totally new in innovation and it is known as 3rd insurgency after PC and Internet. Distributed computing is an upgrade of dispersed processing, parallel figuring, and network registering and circulated databases. Among these, framework and utility figuring are known as antecedents of distributed computing [20]. Distributed computing has huge potential for libraries. Libraries may put increasingly content into the boisterous. Utilizing distributed computing client would have the capacity to peruse a physical rack of books, CDs or DVDs or take out a thing or output a standardized tag into his cell phone. All verifiable and uncommon archives would be checked into a far reaching, effectively accessible database and would be available to any scientist. Numerous libraries as of now have online inventories and offer bibliographic information with OCLC. More regular online indexes are connected to consortium that offer assets [21]

xi) *Geospatial Sciences and Technologies* - Because of the constant development of GIS sciences and advances, there have been significantly more geospatial and non spatial information required because of increment in number of information sources and headway of information accumulation approaches. Spatial examination and Geo-calculation are getting perplexing and computationally requesting [22]. The Department of Space, Government of India, received Aneka as the Cloud registering stage supporting the advancement of elite GIS applications. Aneka empowers another way to deal with complex

investigations of huge information and computationally escalated situations, and gives the chance to fulfill every one of the necessities of an elite and dispersed GIS condition over the public, private and hybrid Clouds [23].

III. CONCLUSION

With cloud computing as another approach to devour IT administrations, user can be substantially more adaptable and profitable in using progressively assigned assets to make and to work. Cloud will keep on evolving as the establishment for the future Internet where we will be interconnected in a web of substance and administrations.

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