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A STUDY BASED ON E-LEARNING UNDER CLOUD COMPUTING

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ABSTRACT:

Education has been gradually expanded, and each of a component of this has changed slowly. It is becoming completely associated with the information technology on the communication, collaboration and data exchange. Cloud computing as combination of existing technology and it is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources. It enables the environment to consume resources as a utility. The education based on cloud computing provides a solution to establish a open and flexible network teaching platform and reduce the hardware input. It will significantly impact on the educational environment. It is an excellent work for educational institution to operate their information effectively. Cloud computing into E-learning systems to build a sustainable and flourishing E-learning. Academic institutions has advantage of cloudbased applications offered by service providers to perform academic tasks. In this paper, we will discuss that what can be done to increase the benefits of students and teachers.

Keywords

Cloud computing, E-learning, CloudE-LearningIaaS, ICT, PaaS, SaaS.

1. INTRODUCTION

Education is an important component of life and No human beings are able to survive properly without education. They are lot of paradigms for getting knowledge. One of the most promising paradigm for education is e-learning. E-learning is commonly referred to the intentional use of networked information and communication technology. Some other terms are used to describe the mode of teaching and learning including online learning, virtual learning, distributed learning, network and web-based learning. The growth of e-learning is directly related to the increasing access to ICT, as well as decreasing cost. While costs of the hardware and software are falling, often there are other costs that have not been into the deployment. The costs of infrastructure support and its maintenance the appropriate training of staff is to enable them to make the most of this technology.

Cloud Computing can resources can be servers, applications, platforms, infrastructure segments and services. The advantages of cloud computing are: to revolutionize the field of e-learning education. cloud platform in institution, campus provides effective infrastructure and deployment model for their dynamic demands. It is the next accepted action in the evolution of information technology services and products. It allows moving the processing effort from the local devices to the data center facilities.

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2. E-LEARNING

E-learning includes all forms of supported learning and teaching. The information and communication systems are network learning, serve as specific media to implement the learning process. This technique involves both out of classroom and in classroom educational experiences through technology, even as advances continue in regard to devices and curriculum [1]. Abbreviations like CBT - Computer Based Training, IBT - Internet Based Training or WBT - Web Based Training have been used to e-learning.

E-learning is the computer network enabled transfer of skills and knowledge. Its applications include Web based learning, computer based learning, virtual education opportunities and digital collaboration. Content is delivered through the Internet, audio or video tape, satellite TV and CD-ROM. It can be instructor led and that includes media in the form of text, image, animation, streaming video and audio [2]. It is commonly thought that technologies can make a big difference in education. Children can use the huge interactivity of new media and develop their skills, knowledge, and perception of the world under their parent's monitoring. Of course E-learning is widely used today on different educational levels: continuous education, company trainings, academic courses, etc. There are various e-learning solution from open source to commercial. There are two entities involved in an e-learning system the students and the trainers.

BENEFITS OF E-LEARNING

Time: One of the key benefits of online study is that one can learn or take a course through e-learning at any time and it is convenient for them. Podcasts and downloadable lectures thought that students are no longer constricted by a conventional timetable of lectures [3].

Location: students are restricted by their physical location. They can attend live online tutorials, participate in dedicated discussion forums or download course material and notes with an Internet connection.

Communication: A key advantage of online study is that it encourages and enables the students to collaborate and communicate with their fellow students as well as their tutors.

Improved training and material costs: With e-learning, each time the course is accessed and return on investment improves because users are dividing the fixed production costs by number of uses. We have savings through decreased travel, reduced material, and more efficient performance [5].

Increased productivity: E-learning is not bound by geography, you can control training impact on production by training people. In addition, the current economy, you're asking people to do more with less, So e-learning is a great way to give them the tools and skills needed to enhance their performance [4].

3. CLOUD COMPUTING

It uses internet and remote servers to maintain data and applications. It allows consumers and business members to use applications without installation and access their personal [6]. Other example includes Google web-based office applications (word processors, spreadsheets, etc.).

Software as a Service (SaaS)

SaaS facilitates use of different software applications by the end user over the internet. This facility has become common in organization among users and buyers. Advantages of this Software can be managed by central location, it is delivered in one to many model, web access to commercial software [7]. Users are not required to upgrade and patch. Simply access and manage the software via a network.

Platform as a Service (PaaS)

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Intermediate layer between SaaS and IaaS. It has a set of tools and services designed to make coding and deploying those applications. Advantages has Multi-level architecture, where multiple concurrent users utilize the same application. Services to develop and maintain test, deploy the application in the same environment.

Infrastructure as a Service(IaaS)

It is the common way of delivering the cloud computing infrastructuresuch as servers, storage, operating systems, hardware, data, database and network. Advantages as all the resources that are distributed as service, allow dynamic scaling, include multiple users on a single piece of hardware.

A. Cloud computing for E-learning?

Cloud Computing is an internet-based learning process which usesthe internet to design, implement, select, manage, supportandextendlearning, whichwillnotreplacetraditional educationmethods. But itwillgreatlyimprovetheefficiencyof education. E-learning is used today on different educational levels like continuous education, companytrainings, academic courses, etc,. There are various e-learning solutions from open source[8]. There are two entities involved in an e-learning system. They are the students and the trainers.

The students:

- Take onlinecourse
- Takeexams
- Send feedback
- Send homework, projects
- Theteachers
- Deal with contentmanagement
- Preparetests
- Assess tests, homework, projects taken bystudents
- Send feedback
- Communicate with students, e-learning systems are developed as distributed applications, but this is not necessary so. The architecture of a distributed e -learning system includes software components, the client application, an application server and a database server and the necessary hardware components.

4. CLOUD COMPUTING IN EDUCATION

Cloudcomputing isforimproving efficiency and cost for educational sector is being recognized by a number of US educational establishments[9].Educationalinstitutionsarebeginningtouselower level cloud service for purposes such as data storage. Another use of cloud computing which is beginning to emerge in education.hosting of institutional learning management systems (LMSs) in the cloud.

The three service models differ in the type of resources accessed and managed by users.The potential benefitsofadoptingcloudcomputingcanbeassessedinboth thefinancialsavingsandresource managementperspectives[10].At the initial stage of the cloud computing in education, a university for deployment, public cloud which store many public education resources will build for students who learn search for basic knowledge of that field. And privatecloudis amarketingtermforaproprietarycomputingarchitecturethat provideshostedservicestoalimitednumberofpeoplebehind afirewall[11].Itismanagedbyauniversityandbenefitseveryone in this university including managers, teachers and students. Primaryreasonimplementingprivatecloudistomaximize and utilize existing inhouse resources. Secondary reasons include data privacy and trust for security. Finally, data transfer cost and full control over missioncritical activities behind thefirewalls[12].And then many universities and colleges which are in the same city will construct the community cloud. It integrates more resources from different university.

5. CONCLUSION

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As we come to a conclusion of Cloud Computing, It is an exciting development and significant alternative in today's educational perspective. Students and admin have the opportunity to access quickly and economically in various application platforms and resources through the web pages on demand. This will automatically reduce the cost of organizational expenses and offers more powerful functional capabilities. There will be an online survey to collect the required data for the use of cloud computing in universities, other governmental and private institutions. This will help us to review the current status and probable considerations to adopt the cloud technology. Beginning with the outsourcing of email service seems attractive. The removal of software license costs, hardware costs and maintenance costs respectively provides flexibility to the university/corporate management. In this paper we discuss about cloud based e-learning in education. Describe its definition and some benefits. Cloud based education will help the students, staff, trainers, institutions and the learner to very high extent and mainly students from rural parts of the world will get an opportunity to get the knowledge. governments can take initiatives to implement this system in schools and colleges in future.

REFERENCES

- [1] Herrick, R. SIGUCCS09, October 11-14, **2009**
- [2] Amazon Web Services (AWS) Web Site. What is AWS? A comprehensive cloud computing platform.
- [3] CJB, R. Evans, N. 11th DIS Annual Conference, 2-3 September, **2010**
- [4] Salesforce.com foundation, Higher Education. The Real-Time Cloud for Higher Education.
- [5] HP cloud system. Simply the most complete cloud system for enterprises and service providers. Hewlett-Packard Development Company **2011**.
- [6] Li Jiahou, Cloud Computing Assisted Instruction, Shanghai education press, **2010**
- [7] S.Ouf, M.Nasr, and Y.Helmy, „An Enhanced E-Learning Ecosystem Based on an Integration between Cloud Computing and Web 2.0”, Proc. IEEE International Symposium on Signal Processing and Information Technology (ISSPIT), pages 48-55, 2011.
- [8] D. Chandran and S. Kempegowda, „Hybrid E-learning Platform based on Cloud Architecture Model: A Proposal”, Proc. International Conference on Signal and Image Processing (ICSIP), pages 534-537, 2010.
- [9] L. Huanying, “Value and understanding for cloud computing based on middleware”, Programmer, 2010.05. pp.68,69.
- [10] E. Tuncay, "Effective use of Cloud computing in educational institutions," Procedia Social Behavioral Sciences, p. 938–942, 2010.
- [11] Abdullah Alshwaier, Ahmed Youssef and Ahmed Emma, “A NEW TREND FOR E-LEARNING IN KSA USING
- [12] EDUCATIONAL CLOUDS”, Advanced Computing: An International Journal (ACIJ), Vol.3, No.1, January 2012.
- [13] “E-Learning on the Cloud “, Mohammed Al-Zoube, Princess Sumaya University for Technology, Jordan.