A NOVEL E-LEARNING USING EDUCATIONAL CLOUDS

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Abstract. By enabling access to learning resources anytime, anywhere, and from any device, cloud computing opens up new opportunities to address specific challenges in e-learning and educational systems. The Jordanian government has worked hard to improve the educational sector by launching development initiatives and constructing numerous universities. In addition to attempting to address the issue of student practise and training outside of the classroom, our paper also addresses the issue of the lab computer's closed system. Efficiency, dependability, portability, flexibility, and security are just a few of the benefits that cloud computing will offer university staff members as they further their education and knowledge. In this study, we address cloud-based e-learning, the advantages of cloud computing for e- learning, and the difficulties associated with cloud education. We describe a few case examples for a broad cloudprovider for education.

Keywords: Cloud computing, Amazon ec2, Optimizing VM load, Infrastructure-as-a-Service, Load Balancing.

INTRODUCTION

Education or literacy is an important element of life and No mortal beings are suitable to survive duly without education. Now a days, there are lots of paradigms for getting knowledge or learn commodity. One of the most promising paradigms for education is e-learning. E-learning is generally appertained to the purposeful use of networked information and dispatches technology[ICT] in tutoring and literacy. Some other terms are also used to describe this mode of tutoring and literacy including online literacy, virtual literacy, distributed literacy, network and web- grounded literacy. The growth of e-learning is directly related to the adding access to ICT, as well as its dwindling cost. The capacity of ICT to support multimedia resource- grounded literacy and tutoring is also applicable to the growing interest in e-learning. Poor or inadequate technology structure can beget further damage than good to preceptors, scholars and the literacy experience. While the costs of the tackle and software are falling, frequently there are other costs that haven't been regard into the deployment of e-learning gambles. The most important of these include the costs of structure support and its conservation and the applicable training of staff to enable them to make the utmost of the technology. Cloud Computing is a new paradigm that provides an applicable pool of computing coffers with its dynamic scalability and operation of virtualized coffers as a service through the Internet. The coffers can be network waiters, operations, platforms, structure parts and services. Handwriting entered January 2013. Utpal Jyoti Bora, Programme Officer, Department of Information Technology, State Institute of Rural Development, Assam.Dr. Majidul Ahmed, HOD, Department of Information Technology, Gauhati Commerce College,[under Gauhati University], Guwahati, Assam[India]. pall computing deliver services autonomously grounded on demand and provides sufficient network access, data resource terrain and operative inflexibility. This technology is used for more effective and cost effective computing by polarizing storehouse, memory, computing capacity of PC's and waiters. With the tremendous advantages of pall computing, we anticipate this technology to revise the field of e-learning education. pall computing operations give inflexibility for all educational universities, seminaries and institutions. The pall platform in institutions ' premises provides effective structure and deployment model for their dynamic demands. The benefits of pall computing can support education institutions to resolve some of the common challenges similar as cost reduction, quick and effective communication, security, sequestration, inflexibility and availability. " pall computing " is the coming accepted action in the elaboration of on- demand information technology services and products. pall computing allows to move the processing trouble from the original bias to the data centre installations. The software is

seen as a service and the operations and data are stored on multiple waiters that can be penetrated from the Internet. still, in traditional web based e-learning mode, system construction and conservation are located in innards of educational institutions or enterprises, which results in a lot of problems was. pall computing has numerous advantages similar as anticipated performance, reduced outspoken investment[i.e., software, tackle, and professional staff to maintain waiters and upgrade software], high vacuity, reduced launching time, horizon less scalability, tremendous fault tolerance capability, and availability, enhanced collaboration, and mobility, allow druggies to use any device, similar as a mobile phone, particular computer[PC] etc. pall computing is getting an seductive technology due to its dynamic scalability and effective operation of the coffers; it can be employed under circumstances where the vacuity of coffers is limited. This paper presents the impact of using pall calculating up one-learning results development.

E-Learning Systems

E-learning is a designed model of networked information and dispatches technology[ICT] for tutoring and literacy, its growth increased directly related to the adding access to ICT, where the ICT systems serve as specific media to apply the literacy process. scholars ' literacy is no longer confined within the classroom; the terrain of ICT could help the pupil to pierce literacy coffers anywhere. E-learning represents the computer and network- enabled to transfer chops and knowledge to other using the control ofe-learn director of the preceptors. Educational associations relies numerous benefits in making their programs available via a variety of distributed locales, including on lot, home and other community literacy or resource centres[Wu, 2013][Bora & Ahmed, 2013][Alshwaieretal., 2012]. Figure 1 shows a simple structure of thee-learning system

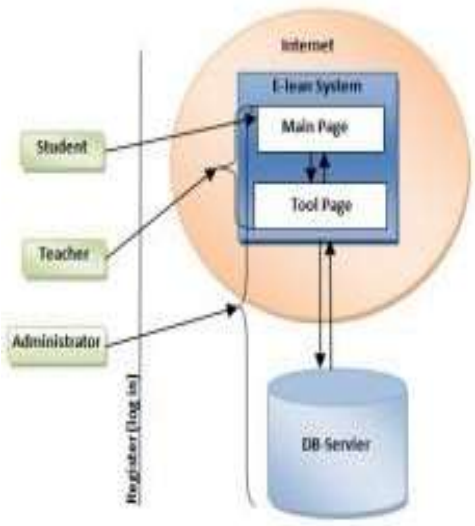

Figure 1.E-learn Structure

Online learning, virtual learning, distributed learning, network, web-based learning, virtual education opportunities, and digital collaboration are some terminology used to define e-learning applications and procedures. Text, image, animation, streaming video, and audio are all included in e-learning, which can be completed alone or under the guidance of an instructor. Internet, audio or video tape, satellite TV, and CD- ROM are some of the delivery methods for e-learning information. Although the prices of e-learning infrastructure support are decreasing, there are frequently additional expenditures that have not been considered, such as those associated with its upkeep and staff training [Wu, 2013] [Bora&Ahmed,2013] [Alshwaier et al2012] [Alshwaier et al.,2012].

Cloud Computing Educational Environment

Pall computing is a fleetly growing subject that attracts numerous people from different disciplines. It transforms how computing coffers[e.g. storehouse, waiters, processing, networking and operations] are provisioned, managed and delivered to druggies. The National Institute of norms and

Technology[NIST] defined five essential characteristics for pall computing which include On-demand Self Service, Broad Network Access, Resource Pooling, Rapid Plainness and Measured Services. Pall providers may offer tremendous operations to their guests. These operations may vary extensively to give numerous services in education, government, banking and healthcare. The tackle and systems software in the data centres that deliver those services is what we call a pall[3]. druggies of pall operations don't bear moxie and knowledge to control the structure member of shadows, so abstraction and virtualization might be handed to use the services of an Internet with high scalability, advanced outturn, quality of service and high computing power, this is known as structure as a Service[IaaS]. pall computing providers deliver common online services which are penetrated on the Internet through a web cyber surfer. These services have long been appertained to as Software as a Service[SaaS]. The service being vended is called Utility Computing. therefore, Cloud Computing is the sum of SaaS and Utility Computing[5]. pall allows consumers to not only emplace but also design, model, develop and test operations directly on the Cloud. It supports work in groups on cooperative systems where design platoon members are geographically distributed, this is known as Platform as a Service[PaaS]. PaaS provides development structure including tools and programming languages. The pall can be used by public individualities[public pall], a single association[private pall] or further than one association that partake the same interests and programs[community pall]. It can also be a admixture of public and private shadows[mongrel pall].

One of the most intriguing operations of pall computing is educational pall. The educational pall computing can concentrate the power of thousands of computers on one problem, allowing experimenters search and find models and make discoveries briskly than ever and help make a smarter earth. The universities can also open their technology architectures to private, public sectors for exploration advancements. The edge of pall computing can help universities keep pace with ever- growing resource conditions and energy costs [8]. scholars anticipate their particular mobile bias to connect to lot services for education. Faculty members are asking for effective access and inflexibility when integrating technology into their classes. Experimenters want instant access to high performance computing services, without the responsibility of managing a large garcon and storehouse ranch. Educational cloud calculating services represent a growing variety of useful services available on the internet and the most innovative and fleetly developing portion of the technology and education. It also promises to give a variety of services that will be veritably useful to faculty, staff and scholars [11]. The part of pall computing at university education shouldn't be undervalued as it can give important earnings in offering direct access to a wide range of different academic coffers, exploration operations and educational tools [12]. Educational pall computing is snappily taking the education community by storm as further platforms, operations and services are being developed for academic pall computing. Some scholars and experimenters are formerly using a type of pall computing grounded operations and services. likewise, these operations are heavily investing in pall computing as the future of the academic literacy and exploration [13].

There are numerous different pall calculating platforms for education in use currently. Justin etal.[1] has proposed Seattle- an educational networking, free, movable , and feather light platform using bestowed pall computing. Seattle allows scholars to learn the generalities of networking and distributed systems on computers spread through the Internet. Seattle can also emulate pall computing, peer- to- peer computing and classify computing within a simple area. Computers running Seattle are defended from vicious and forward law, making it safe to contribute coffers from multiuse computers. Seattle has coffers available for academics to use on about a thousand computers worldwide. Al Noor etal.[4] has proposed an armature of pall computing for education on the vacuity of wide coffers to all around Bangladesh. This armature simply gives an effective and flexible way to match the coffers with the current provident condition by application of unused coffers and abstraction of third party involvements. It also provides a more flexible terrain so that the customer can also configure his own security policy. Sultan[16] has demonstrated how institutions and universities are likely to embrace pall computing as numerous of them are bound to suffer from under- backing due to the global profitable extremity. In conclusion educational pall computing terrain offers a wide range of services in operation, platform, and structure situations to

scholars, faculty, experimenters, and academic staff.

3.1 Key Benefits of Cloud Based E-Learning

There are numerous advantages when the e-learning is implemented with the cloud computing technology,they are:

- **Low cost:** E-Learning users need not have high end configured computers to run the e-learning applications. They can run the applications from cloud through their PC, mobile phones, tablet PC having minimum configuration with internet connectivity. Since the data is created and accessed in the cloud, the user need not spend more money for large memory for data storage in local machines. Organizations also need to pay per use, so it's cheaper and need to pay only for the space they need.
- **Improved performance:** Since the cloud based e learning applications have most of the applications and processes in cloud, client machines do not create problems on performance when they are working.
- **Instant software updates:** Since the cloud based application for e-learning runs with the cloud power, the software's are automatically updated in cloud source. So, always e-learners get updates instantly.
- **Improved document format compatibility:** Since some file formats and fonts do not open properly in some PCs/mobile phones, the cloud powered e-learning applications do not have to worry about those kinds of problems. As the cloud based e-learning applications open the file from cloud.
- **Benefits for students:** Students get more advantages through cloud based e-learning. They can take online courses, attend the online exams, get feedback about the courses from instructors, and send their projects and assignments through online to their teachers.
- **Benefits for teachers:** Teachers also get numerous benefits over cloud based e-learning. Teachers are able to prepare online tests for students, deal and create better content resources for students through content management, assess the tests, homework, projects taken by students, send the feedback and communicate with students through online forums.
- **Data security:** A very big concern is related to the data security because both the software and the data are located on remote servers that can crash or disappear without any additional warnings. Even if it seems not very reasonable, the cloud computing provides some major security benefits for individuals and companies that are using/developing e-learning solutions.

CONCLUSION

Pall computing as an instigative development is a significant volition moment's educational perspective. scholars and executive labor force have the occasion to snappily and economically access colorful operation platforms and coffers through the web runners on- demand. This automatically reduces the cost of organizational charges and offers more important functional capabilities. There will be an online check to collect the needed data for the use of pall computing in the universities and other governmental or private institutions in the region. This will help us review the current status and probable considerations to borrow the pall technology. Beginning with the outsourcing of dispatch service seems seductive. The gradationally junking of software license costs, tackle costs and conservation costs independently provides great inflexibility to the university/ commercial operation. In this paper we bandy a pall calculating grounded e-learning. Describe its description and some benefits. pall grounded education will help the scholars, staff, Coaches, Institutions and also the learners to a veritably high extent and substantially scholars from pastoral corridor of the world will get an occasion to get the knowledge participated by the professor on other part of the world. Indeed governments can take enterprise to apply this system in seminaries and sodalities in future and we believe that this will be soon.

REFERENCES

[1] Abdullah Alshwaier, Ahmed Youssef and Ahmed Emam "A NEW TREND FOR E-LEARNING IN KSA USING EDUCATIONAL CLOUDS", , Advanced Computing: An

International Journal [ACIJ], Vol.3, No.1,
January 2012

[2] ", TuncayErcana "Effective use of cloud computing in educational institutions, WCES-2010

[3] David C. Wyld, Department of Management, Southeastern Louisiana University, Hammond, LA USA . "THE UTILITY OF CLOUD COMPUTING AS A NEW PRICING – AND CONSUMPTION - MODEL FOR INFORMATION TECHNOLOGY",International Journal of Database Management Systems [IJDMS],
Vol.1, No.1, November 2009

[4] ", 1. Harjit Singh Lamba, 2.Gurdev Singh. "Cloud Computing-Future Framework for e-management of NGO's, International Journal of Advancements in Technology http://ijict.org/ ISSN 0976- 4860, Vol 2, No 3 [July 2011]

[5] Deepanshu Madan, Scholar's; Computer science &Engg. Deptt. Dehradun institute of technology Dehradun, Ashish Pant, Assistant Professor; Computer Sc. &Engg dept. Dehradun Institute of Technology Dehradun. "E-learning based on Cloud Computing".

[6] Suneet Kumar, Assistant Professor; Computer Sc. &Engg dept. Dehradun Institute of technology Dehradun, India, Arjun Arora, Assistant Professor; Computer Sc. &Engg dept. Dehradun Institute of Technology, Dehradun, India. , International Journal of Advanced Research in Computer Science and Software Engineering

[7] PAUL POCATILU, FELICIAN ALECU, MARIUS VETRICI, Economic Informatics Department, Academy of Economic Studies PiataRomana, Secot 1, Bucharest, ROMANIA "Using Cloud Computing for E-learning Systems"

[8] Mohammed Al-Zoube, Princess Sumaya University for Technology, Jordan."E-Learning on the Cloud.

[9] Bhruthari G. Pund, Prajakta P. Deshmukh, Prof. Ram Meghe Institute Of Technology, Badnera, Amravati,Maharashtra."APPLIANCE OF CLOUD COMPUTING ON E-LEARNING",

[10] Paul POCATILU, PhD, Associate Professor, Department of Economic Informatics, Academy of Economic Studies, Bucharest. "Cloud Computing Benefits for E-learning Solutions".

[11] Md. Anwar Hossain Masud, Xiaodi Huang, World Academy of Science, Engineering and Technology 622012 "An E-learning System Architecture based on Cloud Computing".

[12] D.KasiViswanath, S.Kusuma&Saroj Kumar Gupta, Madanapalle Institute of Technology and ScienceMadanapalle, Chittoor, Cloud Computing Issues and Benefits Modern Education.

[13] http://www.articulate.com/rapid-elearning/why-e-learning-is-soeffective/

[14] http://hiberniacollege.com/study-with-hibernia/benefits-of-e-learning/

[15] http://en.wikipedia.org/wiki/Cloud_computing

[16] http://www.wikinvest.com/concept/Cloud_Computing

[17] http://en.wikipedia.org/wiki/E-learning