The E-learning Services With Cloud Computing Technology

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ABSTRACT

E-learning is a very popular trend in education. there are various techniques in education but e-learning is very popular to use because it is very easy to use (userfriendly). E-learning is a great choice for education to use scalable, secure, and flexible because of that data storage and management are robust. The cloud is usually utilized within the education industries for coaching strategies

Keyword : - *Cloud Computing, E-learning, cloud-based e-learning.*

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1. Cloud Computing Technology

Types Of Cloud Computing Technology

- o Virtualization
- o Service Oriented Architecture (SOA)
- o Grid Computing
- o Utility Computing

1.1 Virtualization:-

It is popular use because it's very flexible and easy and it has an instant running process. the virtualization's main purpose is to provide a standard version of the cloud application to the client.it is a very important role of cloud computing. virtualization is a fundamental technology that powers cloud computing. Virtualization can be split the PC environment comes from the visible infrastructure. The main use of Virtualization Technology to provide apps with custom versions for their cloud users, let's say if the next version of that app is released, then the cloud provider should provide the latest version to their cloud users and possibly because it is more expensive.[1]

A) Benefits of Virtualization

 a) More flexible

 b) Remote access

 c)Rapid Scalability

 d)High availability

 e) Disaster Recovery

B) Type of Virtualization

 a) Application Virtualization

 b) Network Virtualization

 c)Desktop Virtualization

 d)Storage Virtualization

 e) Server Virtualization

 f) Data Virtualization

 A. Application Virtualization:-

software virtualization helps customers get admission to applications remotely from a server. The server saves the whole lot private statistics and other functions of the software can also continue to function on your neighborhood workspace via the internet. An instance of this would be a person who has to apply two distinct variations of the equal software. these capabilities using software virtualization - Embedded packages and batch software program [1]

 B. Network VirtualizationL:-

The capability to use multiple virtual networks every has extraordinary controls and records machine. It remains collectively over one seen network. it may be controlled by character organizations that may be non-public to each other. community virtualization offers the surroundings for creating and presenting digital networks clever switches, routers, firewalls, load balancing, digital private community (VPN), and workload safety throughout days or even weeks.[2]

 C. Desktop Virtualization:-
Desktop performance allows users to store remote operating systems on servers in data centers. Users can access their desktops from anywhere, via personal devices. Users looking for specific applications outside of Windows the server will need to have a desktop. The main advantages of desktop virtualization are user navigation, portability, ease of use of software installations, updates, and patches. [2]

 D. Storage Virtualization:-

Storage virtualization is a chain of servers hosted through digital storage gadget. Servers do now not realize precisely wherein their statistics is saved, and instead act like employee bees in the hive. It allows storage control from multiple resources to be managed and used as a unmarried repository. The closing virtualization software program keeps efficient, constant performance and a continuous suite of superior features notwithstanding the modifications, breakdown and variations of sub-devices.[2]

E.   Server Virtualization:-

That is the kind of virtualization wherein the encryption of server resources takes place. here, the valuable-server (digital server) is divided into distinctive special servers by way of changing the identification range, processors. therefore, every device can use its own running systems in a unique way. Wherein every sub-server knows the identification of the significant server. It reasons an growth in performance and decreases running fees with the set up of number one server sources in a sub-server tool. It has the advantage of exact migration, decreasing strength consumption, reducing infrastructure fees, and many others.[2]

F.   Data Virtualization:-

This is a type of virtualization where data is collected from multiple sources and managed in one place without knowing more about technical information such as how data is collected, stored and formatted and so on data logically organized so that its visible results are accessible to interested and participating users, as well as users. far. Many large companies offer their services such as Oracle, IBM, At scale, Cdata, etc.
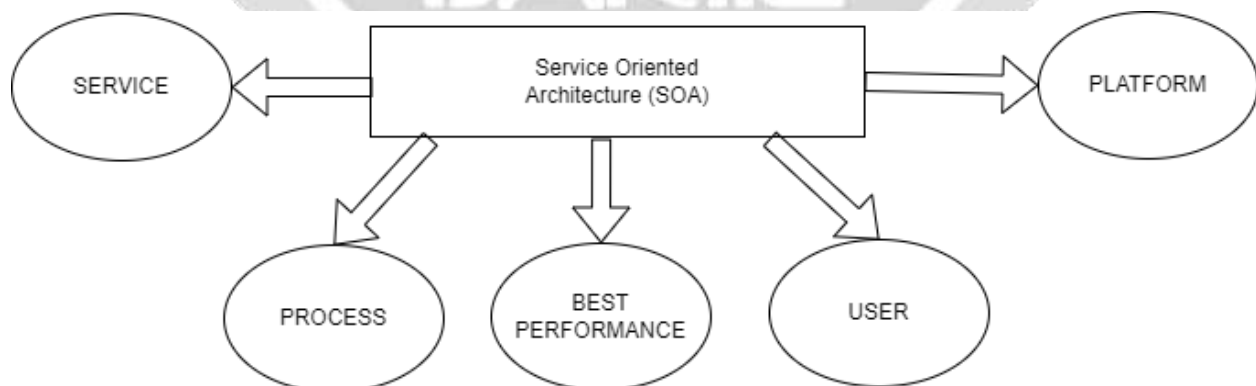
1.2 Service Oriented Architecture (SOA):-

Provider-orientated architecture (SOA) permits organizations to get right of entry to the cloud computing solutions demanded with the aid of converting commercial enterprise desires.. It can work outside or with cloud computing. The advantages of using SOA are that it is easy to maintain, a stand-alone platform, and extremely risky.[3]

A) Application Of Services Oriented Architecture

> a) It is used in mobile application
> b) It is Used in game
> c) It is used in healthcare industries
> d) It is used in air force for deploy situtional awareness system.

B) Architecture Of SOA:-

1.3 Grid Computing

Grid computing is also known as distributed computing. An evaluation shape that combines specific laptop sources from multiple locations to reap the identical goal. In grid computing, the grid is connected to well matched nodes to shape a computer network. These computer collections are of different sizes and can work on any operating system.[4]

1.4 Utility Computing

Software Computing is the maximum advanced IT service version. Provides required computer resources (computing, storage, and API editing services) and payment-based infrastructure for each application. Reduce associated costs and increase resource efficiency. The advantage of Utility Computing is that it reduces IT costs, offers greater flexibility, and is easier to manage.[4]

2. E-Learning Services

E-learning is widely used today in various levels of education: further education, company training, educational courses, etc. There are a variety of e-learning solutions ranging from open source to commercial. There are at least two components involved in the e-learning system.[5]

students and trainers. Student activities within the e-learning field are:

• Online courses

• Typing exams

• Posting feedback

• Posting homework, projects.

The facilitators involved in e-learning solutions are:

• Collaboration and content management

• Exam preparation

• Exam assessment, homework, student projects

• Posting feedback

• Student communication (forums).

Each of these actions requires a certain level of security, depending on the importance and sensitivity of the data[6]

4. CONCLUSIONS

Cloud computing presents advanced laptop resources available on call for, measuring as desired, and normal updates without the want to buy and keep nearby infrastructure.. With cloud computing, teams work more efficiently and reduce marketing time as they are able to quickly access, scale resources, without much effort required to manage conventional local infrastructure.

5. REFERENCES

[1] Cafaro M, Aloisio G (2011) Grids, clouds, and virtualization. In: Cafaro M, Aloisio G (eds) Grids, clouds and virtualization. Computer communications and networks. Springer, London, pp 1–21

[2] Ahmed M, Litchfield AT (2018) Taxonomy for identification of security issues in cloud computing environments. J Comput Inf Syst 58(1):79–88

[3] Annette JR, Banu WA, Chandran PS (2015) Rendering-as-a-service: taxonomy and comparison. Procedia Comput Sci 50:276–281

[4] Arasaratnam O (2011) Introduction to cloud computing. In: Halpert B (ed) Auditing cloud computing, a security and privacy guide. Wiley, Hoboken, NJ, pp 1–13

[5] Bayramusta M, Nasir VA (2016) A fad or future of IT?: a comprehensive literature review on the cloud computing research. Int J Inf Manag 36(4):635–644

[6] Dašić P, Dašić J, Crvenković B (2016) Service models for cloud computing: search as a service (SaaS). Int J Eng Technol (IJET) 8(5):2366–2373