

VIRTUAL WORLD: EMPOWERED BY CLOUD COMPUTING- A CONCEPTUAL STUDY

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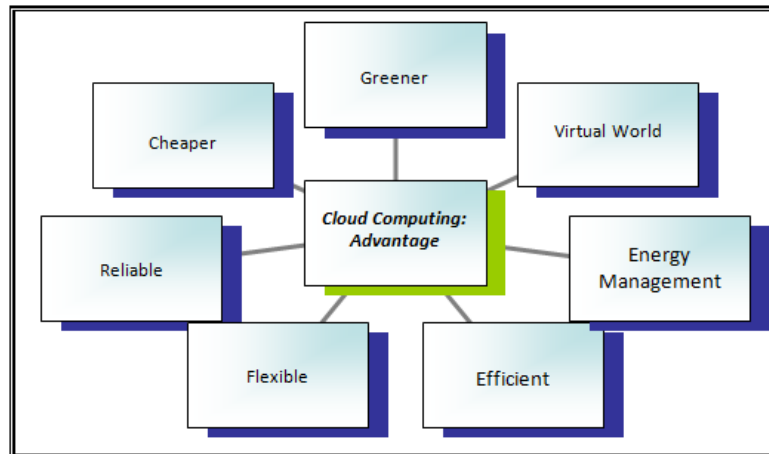
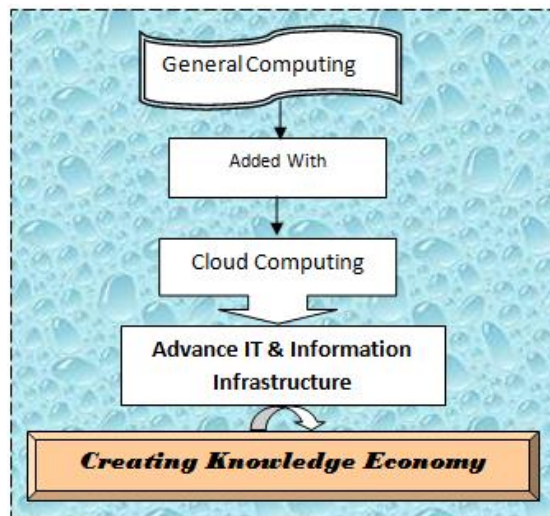
ABSTRACT

Cloud Computing is an important technologies and model responsible for advance computing infrastructure building. This is treated as third most valuable invention in the field of IT and Computing. This is growing rapidly with several tools as a software as service. Cloud Computing creating a virtual world where hardware and software are available from a remote place. This kind of Information Technology model lies on Distributed Computing and Architecture. Cloud Computing the term may be new but the concept is actually not fully new. Virtually, this is comes with new kind of supplement, delivery mechanism and model for computing. This paper is talks about virtualization empowered by Cloud Computing and Technologies. this is an introductory overview paper; where Cloud Computing and need, role, advantages and challenges are mentioned.

Keywords: Information Science and Technology, Cloud Computing, Cloud Technology, Virtual World, Advance Computing, Information Infrastructure Building

INTRODUCTION

Information Technology Virtualization is includes hardware and software virtualization. The software includes utilities, database, programmes, operating systems, application packages and so on. Whereas, hardware includes centralized server, power networking and communication device, computing is kind of technology and side by side service of international repute. Cloud Computing is virtually based on strong internet and communication connection. Cloud Computing helps in smarter and efficient computing and information infrastructure building; based on some principles and models. It allows need based computing and services; where service seeking may avail only the concerned service easily. Centralized storage, money, processing and bandwidth are the main pillar of Cloud Computing; many ways. This is the large scale Information Technology solution. Virtually, Cloud Computing can customize and deliver a new type of environment based on Information Technology to the common users especially to the user of IT and Computing. Cloud Computing depending upon nature may be public, private. However, combinations of both also create another model called Hybrid Cloud Computing.

**Fig: 1.** Main advantage of Cloud Computing**Fig: 2.** Role of Cloud Computing for society building**OBJECTIVE**

The fundamental aim and objective of this study is includes:-

- To know basic about virtualization and Cloud Computing;
- To learn about characteristics, nature and advantages of Cloud Computing and similar technologies;
- To find out ultimate application of Cloud Computing and virtualization;
- To learn about modern cloud based information system building;
- To find out main challenges and issues related to Cloud Computing and similar technologies.

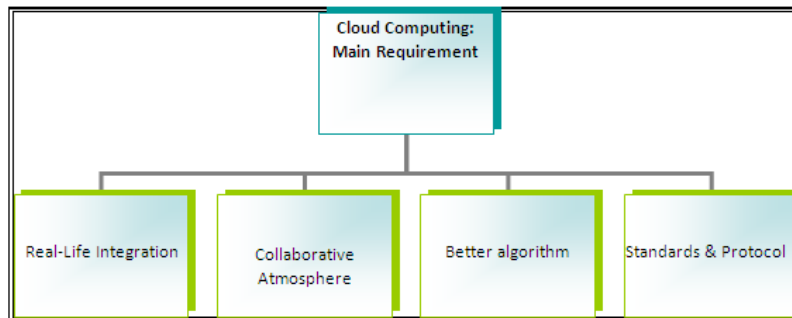


Fig: 3. The Fundamental Requirement of Cloud Computing

Virtualization and Cloud Computing: Emphasizing Characteristics

Cloud Computing is the vital source or power to the customization of the entire IT product to the virtualization. Cloud Computing and its services are actually depends on internet and network technology. In Cloud Computing virtualization is possible of IT products which include hardware, software, application and packages. Cloud Computing has come out as one of the important gifts of Information Technology. It is a kind of internet and networked service; where service seeker may avail software and hardware service depending upon need. The Cloud Computing deals with following benefit such as:-

- Cloud Computing is a virtualization method and based on services;
- Cloud Computing allow much more centralize storage, memory, processing and bandwidth;
- Cloud Computing may established privately; where companies are established their own cloud platform;
- Cloud Computing may be classified in to three segments application, storage and connectivity;

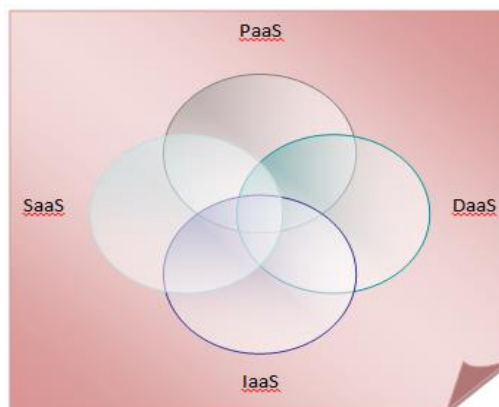


Fig: 4. Depicted main platform of Cloud Computing- PaaS (Platform-as-Service), SaaS (Software as-a service), IaaS (Infrastructure as Services, DaaS (Desktop-as-a Services)

- Cloud Computing fully depend on IT and Network Systems;
- Cloud Computing doesn't not put priorities on own IT infrastructure and similar systems;
- Cloud Computing partially depends on ubiquitous network access, location independent source with rapid elasticity.

Cloud Computing and its contemporary benefits

Cloud Computing provides several benefit and advantages which includes:-

- Cloud Computing allows quick and speedy information and technological solutions;
- Cloud Computing allows easy modification in services which includes bandwidth, processing, speed and database services;
- One centralizing Cloud Computing services provides may serve so many client at a time;
- In Cloud Computing it is possible that, specific number of user license for any type of the software;
- It saves money; indirectly as companies no need to install hardware of their own;
- Resource pooling is another feature of Cloud Computing where user can avail the hardware and software benefit depending upon need;
- It allows and provide scalable and secure physical infrastructure to the companies;
- Centralized information services is possible with the help of Cloud Computing;
- Depending upon need user may avail mixed Information Technology services which are private and public.

Wider Application of Cloud Computing

Cloud Computing is applicable in so many industries and organization; which includes:-

- Government Sector;
- Education Sector;
- Commerce and Industrial Sector;
- Tourism and Travel Sector;
- Defense and Administration Sector ;
- Health and Hospital Administration and so on

Cloud Computing is applicable as it provides flexibility as well as efficiently in the overall Information Technology Infrastructure. Cloud Computing is applicable in easy technology transfer and easy transfer of software including technologies through online media. Cloud Computing needs wider and broadband connectivity which provides smooth and parallel

interrupted service; ultimately successful implementation of Cloud Computing and virtualization needs several facilities.

- Cloud Computing is also helpful for designing and development of the scalable website; virtually Cloud Computing provide right scale auto scaling make a perfect solution;
- Cloud Computing allows telemedicine and Health Informatics Infrastructure world wide;
- Promotion and communication in business sector is possible with cloud based architecture;
- Mobile based service; online service may rejuvenate with the help of Cloud Computing.

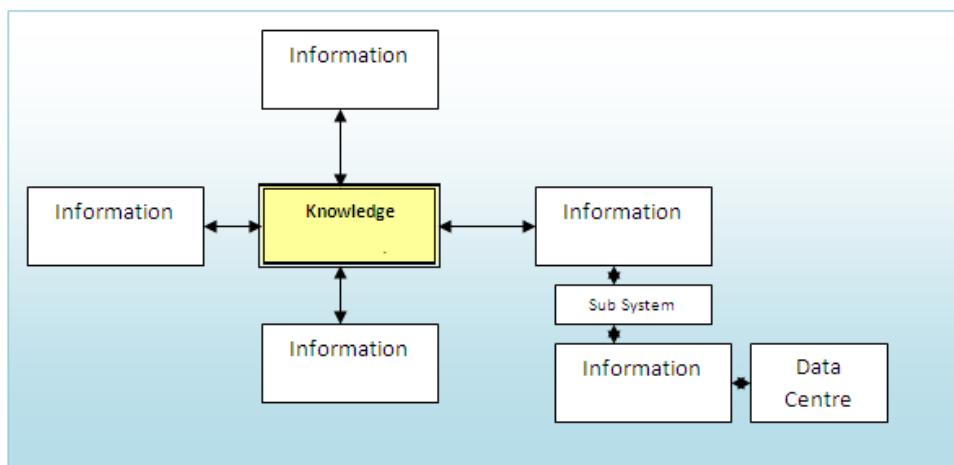


Fig: 5. Application of Cloud Computing in the Knowledge Infrastructure

FINDINGS

- For the SME's and SMB's it is useful;
- Cloud Computing is applicable to spread a workload over many more services than one would be able to access in some one's own data centre;
- Cloud Computing depends on the better ubiquitous Computing and network services;
- Cloud Computing and its implementation in Agriculture, Health Care still limited in the developing countries.

SUGGESTION

- Government need to take proper initiative for building Cloud based Information Systems for several domain;

- Companies need to build free and open source software for such one's where general software one to some extent costly;
- The Information Centre, Information Systems and Information Networks are may be considered as main pillar for Information Infrastructure building; thus in such establishment it is essential to implement Cloud Computing;
- In Communication Systems such as E Mail, Internet and Telecom, Cloud needed for advance services.

CONCLUSION

Cloud Computing and its awareness is still very much limited in some of the sectors including Government, Health Care and so on. Cloud Computing and its security should be kept in mind. The ministry, offices, should change their running pedagogy and should adopt this service and technology. Virtually, the limitation of Grid Computing is basically performed by the Cloud Computing. Cloud Computing provides round 'o' clock to the designed service provides. Cloud Computing is creating virtualization and this is ultimately result the cost effective round 'o' clock IT infrastructure availability.

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