Cloud Computing: Possible domain of Institutional and Organizational and Business Development by Green and Eco Friendly Resource Sharing

Prantosh K Paul

SOCSAT, Indian Institute of Engineering Science and Technology [IIEST], Shibpur- An Institute of National Importance, WB, India,

*Corresponding Author: Prantosh K Paul; Email: prantoshkpaul@gmail.com

Abstract: Cloud Computing is one of the important domain and tool for healthy virtualization. Basically the increasing availability of high speed internet and corporate IP connections is enabling the delivery of new network based services. Cloud Computing allows much more efficient computing by centralizing storage, memory, processing and bandwidth. The Cloud Computing service providers are treated as centralized technology service provider. Green Computing is another important technology which is actually practice of using computing resources efficiently and with power management. Green Computing represents environmentally responsible way to reduce power and environmental e-waste. Hence Cloud Computing is an important name which supports Green Computing principles. This paper is talks about Cloud Computing and its role for building healthy Green Computing practice.
Keywords: Information, Green Computing, Cloud Computing, Information Science, Virtualization, Energy Informatics, Energy Management, Society, Societal Development

INTRODUCTION

Cloud Computing is important Information Science and Technology field responsible for design and development of information infrastructure which is provide by the remote place and comes with so many hardware, software, middleware, application, utilities packages and so on. Virtually Cloud Computing allows much more efficient computing by centralizing storage, money, processing and bandwidth. Cloud Computing service providers are also known as Cloud Data Service provider [1-2]. As Cloud Computing helps in resource sharing through the centralize service type and hence it saves money shaving and less devices utilization.
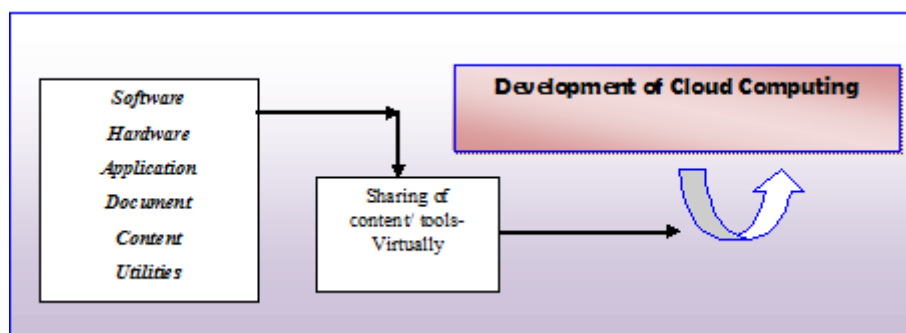

Fig: 1- Showing very basic about Cloud Computing

This way Cloud Computing promotes Green Computing and Green Technology practice. Fundamentally Cloud Computing is not fully new; the concept is old but it comes with new supplement, delivery mechanism and model for computing. It is one of the important domain for low cost infrastructure implementation. The Cloud Computing may be public or private or it may be hybrid in nature. Cloud Computing also depends on infrastructure so that it is also treated as Infrastructure-as-Service [IaaS]. Cloud Computing is actually allows easily add up required bandwidth, processing, speed and data storage [1,3].

Objective

The main aim and objective of this research is includes but not limited to as follows-
1. To know basic about Cloud Computing and virtualization and its basic feature and characteristics;
2. To learn about important benefit and advantage of Cloud Computing;

3. To know about the Green Computing and Green Technology for building advance information infrastructure;

4. To learn about the strategies and way of Cloud Computing and Green Computing;

5. To know about the way and procedure to introduce Green and sustainable information system and infrastructure;

6. To learn about the possible approach to bring Eco friendly information and IT Systems.

CLOUD COMPUTING: BASIC

Cloud Computing is a kind of approach and model in which virtualization is possible with so many tools such as hardware, software, application, and utilization. Cloud Computing is a centralize Information Technology service powered by internet technology [3, 4]. The Cloud Computing creates the environment of the Grid Computing through its service, structure and nature. Cloud Computing is utilizable in top spread a workload over many servers than one would be able to access in some one own data centre [5].
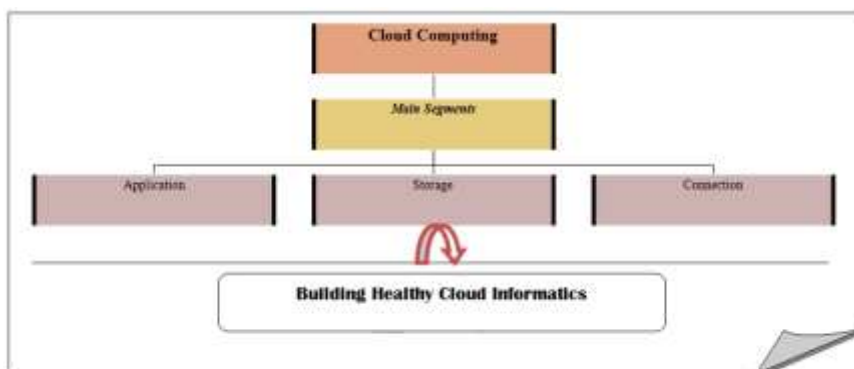
Fig: 2-Showing Main features of Cloud Based IT Systems

Virtually, Cloud Computing is a kind of utility computing which can scale out and mater the workload demand. This is actually broken down three segments application, storage and connection. Actually for designing as well as development of the scalable website, the Cloud Computing through its benefits provides right scale auto scaling make a perfect solution. Practically virtualization is responsible for the consumption in time, money, technology, hardware and so on. Hence resource pooling is another feature of Cloud Computing where user can avail the hardware and software benefit depending upon need[6-7].

Cloud Computing is allow in so many network based services and monitoring. Ultimately it gives flexibility as well as efficiency in to an information technology infrastructure. It is also provide cost effective benefit of the users.

Cloud Computing in Favor of Eco Friendliness

Green Computing is actually a Computing practice which allows design and development of Eco-Friendly Information Technology Information Infrastructure building. This is the procedure and principle which allow designing and development of IT products which are less power consumed and hence less carbon emission based. Development of information systems in an organization with possibilities of minimum hardware and technology support is also a part of Green Computing [8, 3].

More clearly, Green Computing is comes with so many devices t a time with a service provider and hence it does not support many equipments and machine and hence Cloud Computing supports Green Computing principles as it uses centralized very minimum machine, with very less carbon emission.

Thus in today's age Cloud Computing is also a strategy for Green Computing and Technology practice. In many countries, Government and Ministries put agenda to introduce Green Computing and Eco Friendliness in computing system building [6, 9].

Cloud Computing and Advantages

Cloud Computing and Virtualization promotes so many advantage and benefits over the conventional computing and networking services. Some of these are as follows-

1. Cloud Computing provides very quick and advance technological services which includes hardware, software, application and utilization of utilities;

2. Cloud Computing allow easy modification of existing services and bandwidth, processing, speed and data storage;

3. Cloud Computing provides a smart and standardize scalable and secure physical infrastructure[10];

4. Cloud Computing allow wider database, multiple value added services and so on;

5. It provides remote based services and hence promote online and virtualized information infrastructure;

6. Cloud Computing allow centralize service and thus minimizes techniques and tools uses and so help in power management and thus indirectly helps in Green Computing practices;

7. In Cloud Computing, based on user need one can get services. thus one customization may get only public cloud or private cloud or mixing of both the services i.e. Hybrid Cloud Computing;

8. It allows E-Commerce and E-Business service with very minimum time [4].
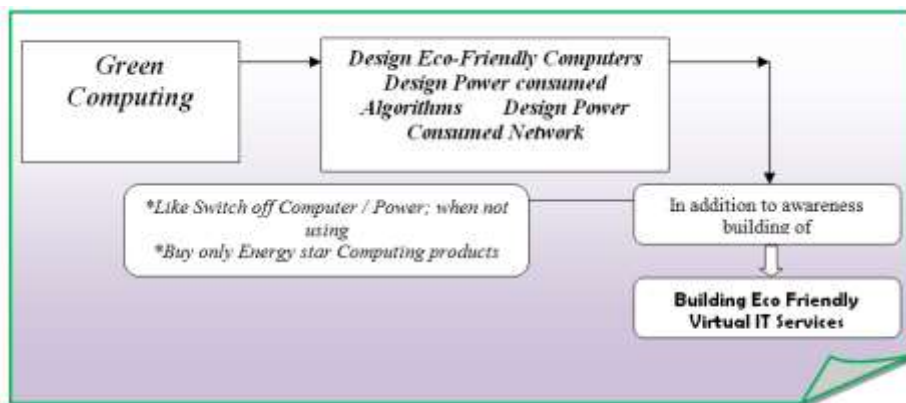
Fig: 3-Showing aspects of Green IT and vice versa promoting cloud computing

Essential Steps

Cloud Computing is today one of the important and valuable cost effective and the reliable way to get resource with the help of so many emerging tools, techniques and technologies and for healthy Cloud Computing practices, following things are very much important-

1. Wider and Broadband Connectivity- Building Cloud Computing needs sophisticated and speedy interrupted broadband services;

2. Government Step- Government initiative for the establishment of Cloud Computing policy and essential supporting service are also important[4];

3. Government Fund- Proper and healthy Government financial support is very much essential for installation of Cloud Computing service;

4. Energy consumed systems are also very much important for better and sophisticated Cloud Computing practice;

5. Choosing 'Energy Star' enable IT product[4];

6. Building healthy Information Infrastructure policy is also important;

7. Cooperation among service providers, Government, User are very much essential;

8. Unwillingness to introduce Cloud Computing is also a very much important matter to take care for proper Virtualization.
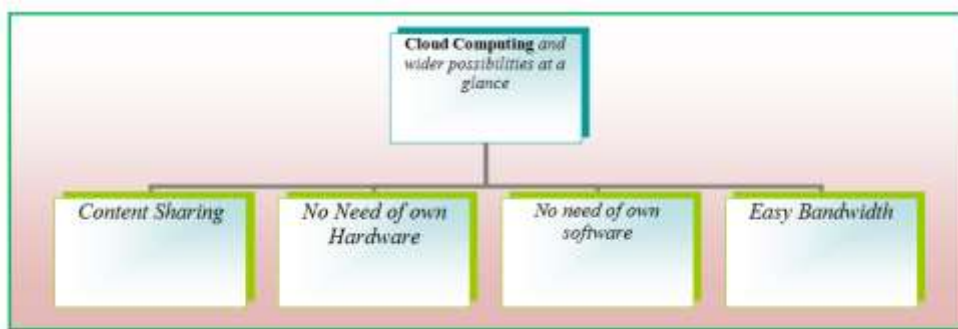
Fig: 4 Showing Advantages of Cloud Computing

CONCLUSION

Virtually Cloud Computing is helpful in so many organization and sector such as Tele-Medicine, Agriculture, E Governance, and Information Networks and so on. Education and particularly higher education sector is also very much close with Cloud Computing. As Cloud Computing is allow consumer and business to use application with out installation and access their personal files at any computer with internet access [9, 11]. Cloud Computing and Green IT practice are as promote virtualization and eco friendly computing and IT practice. Sustainable development many ways possible with Cloud Computing practice. Government and IT companies need to interact each other for better

Cloud Computing utilization and building healthy cloud based Information Infrastructure development [6].

REFERENCES
1. Michael B, Ziming liu; History of information science. Annual Review of Information Science and Technology, 1995; 30: 385-416.
2. Paul PK; Information Scientist: Roles and Values with special Reference to their Appropriate Academic Programme and its availability in India: International Journal of Information Dissemination and Technology, 2012; 2(4): 245-248
3. Paul PK, Dangwal KL, Kumar AG; Education Technology and Sophisticated Knowledge Delivery. Techno-Learn-International Journal of Education Technology, 2012; 2(2):169-175.
4. Paul PK, Govindarajan S, Chaterjee D; Cloud Computing: Emphasizing Hybrid Cloud Computing on Android Computing Platform-An Overview. International Journal of Applied Science and Engineering, 2013;1(1):21-28.
5. Paul PK, Dangwal KL, Chaterjee D; Information Technology and Advance Computing and their interaction for healthy Education, Techning, and learning: The IKM Approach. Asian Journal of Natural and Applied Sciences, 2012; 1(4):70-77 .
6. Paul PK, Dangwal KL, Chettri R; Quadrple Play Network: Emphasizing its possibilities for smarter University Educaation especially online knowledge delivery model. Learning Community-International Journal, 2013; 4(1).
7. Paul PK; MSc-Information Science [Geo Informatics]: Overview emphasizing twoproposed curriculum for sophisticated Geo Spatial development" International Journal of Pharmaceutical and Biological Research, 2013; 4(5):218-227.
8. Cohen Eli B, Malgorzata N; Learning Objects and E-Learning: an Informing Science Perspective. Interdisciplinary Journal of Knowledge and Learning Objects, 2006; 2(1), 23-34.
9. Paul PK; Environment and Sustainable Development with Cloud Based Green Computing:A Case Study. Scholars Academic Journal of Biosciences, 2013; 1(6):337-341.
10. Michael B, Ziming liu; History of information science. Annual Review of Information Science and Technology, 1995; 30: 385-416.
11. Paul PK; BSc-Information Science: Need, Value with Special Reference to a Proposed Curriculum with Multi Entry and Multi Exit System. Abhinav National Journal of Science and Technology, 2013; 2(12):1-11.