INFORMATION TECHNOLOGY AND GREEN-ECO ENVIRONMENT: THE ASPECTS IN INTERDISCIPLINARY SCENARIO

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Abstract:
Information Technology is one of the important name for modernizing society and globalization. Information Technologyprovides us many gift combines with Database Technology, Networking Technology, Multimedia Technology, and Communication Technology and so on. Information Technology is today responsible for healthy information infrastructure building by proper information collection, selection, organization, processing, management and dissemination of information. Ultimately such IT infrastructure also deals with some harmful ingredients and out of such harmful sides are also with symptom against environmental protection or environment. This paper is talks about the Information Technology and its various gradients and especially bad impact towards environment and society. This paper is highlights about the modern aspects of Green Computing and Green Technology.
Key Words: Information Technology, Information Science, Information Systems, Green Computing, Environmental Science, Education Technology, Environmental Protection & IT Gradients

Introduction:
Green Computing is actually the practice of Computer and Computing resources efficiently and proper manner. The ultimately goal of Green Computing is to reduce the use of hazards materials as well as maximum energy efficiently during the product uses and also promote recyclability. Application of Green Computing in general organization and institutions rising rapidly during the last few year recently some organization giving importance on building total Green IT and electronic solution to the organization and institutions[01, 07]. Such practice is broader than Green Computing and talks designing and development of energy efficient computing algorithm, computers and complete computing systems including computer peripheral such as keyboard, network device, input and output systems, and so on. hence apart from these, building complete Green Information Systems and Networks is rising rapidly with the agenda to switch off the computing machines which are not using, buy only such products having Green Computing support and towards environmental protection[08, 09].

IT as a Harmful Tool for Environment - An Overview:
Information Technology [IT] is deals with so many gradients such as database, networking, communication and multimedia technology. All these IT gradients have so many benefit and advantages but deals with some disadvantages like- power management, and energy consumption, comes with higher carbon emission. Hence it is better to use such Information Technology products and systems which are depend on less power capacity and also responsible for less carbon emission. IT products; mainly computers are deals with so many harmful weapon and reflect against environments such as lead, cadmium, mercury and other toxics in general. Hence it is very much essential to design and develop IT and computing products which are fit for good environment [02], [05].

It as a Tool for Eco-Friendly Environment: Manufacturing Aspects:
Green IT and computing is responsible for designing, manufacturing, using and disposing of computers, servers, and its hardware like- monitor, printers, storage devices and networking and communication systems in order to consume efficiently and effectively with minimum or very less affect or impact on environment or society[03, 04].

Thus, for better environmental support and efforts from IT is better possible with the manufacturing and development of computer systems; including hardware systems, software systems, application systems and networking system which are environmentally good. In Green Computing and Green Technology it is better to design algorithm of computer system which support healthy and sophisticated power management. During design and development of Green Computing/ Green IT; it is also essential that all the computer monitor should be based on LCD or LED platform rather than CRT monitor which are needs energy support and aspects which

are deals with against environmental system. During installation of hard drive it is better to install solid state hard disc product which are save energy; apart form this, use of flash memory or flash based devices are also useful in support of Green Computing. Small HD is better to use in such cases.
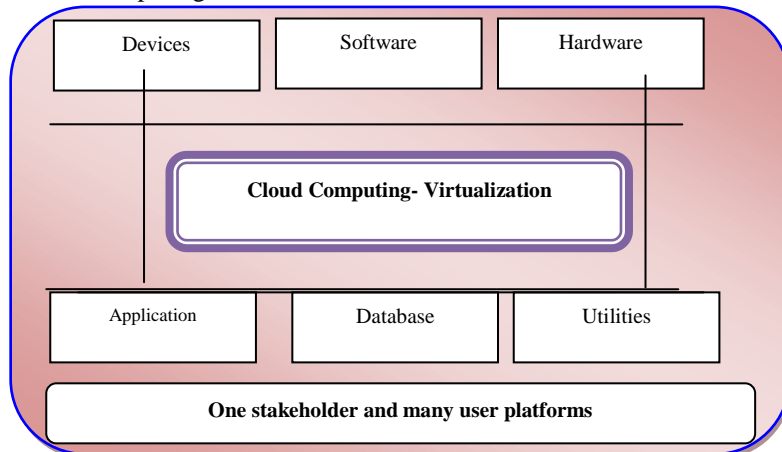

Figure 1: Showing cloud computing-the important stakeholder of Eco friendly computing and IT practice
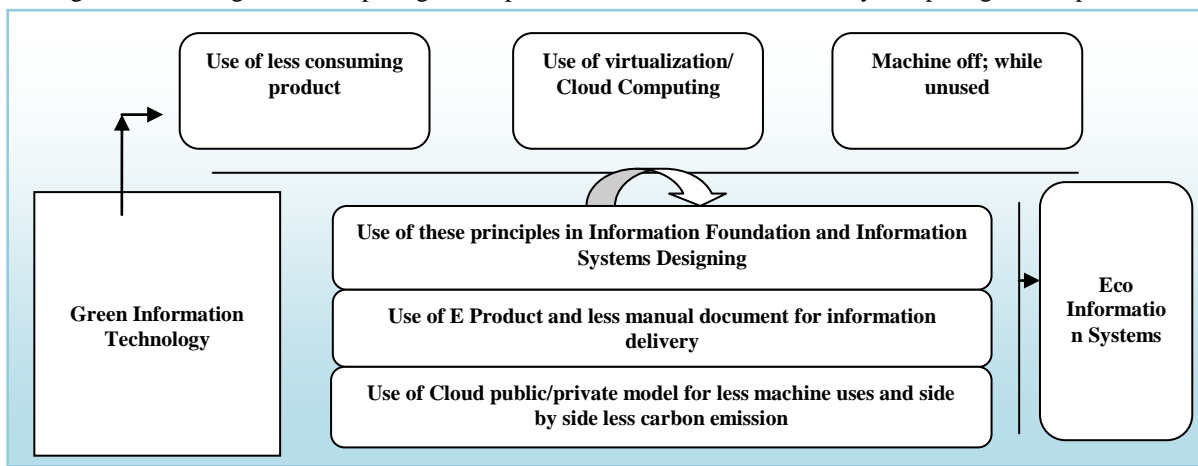

Figure 2: Depicted transformation of Geographical Information Technology to Eco friendly Information Systems

During Network Designing it is better to design network topology and all including network architecture at per with less power management, and carbon emission principles. Use of wireless computers and networks may be an alternative than conventional network for environmental support. According to the expert, laptop deals with better environmental sustainability than conventional computers [05], [08].

The wider hardware, software, application, content to remote place to any kind of organization and hence, this virtualization or cloud computing practice promote indirect Green IT/ Computing too; as it may serve so many companies at a time without extra computing or IT resources.

Adoption Aspects:

Some of the things are very much important for better Green Computing and Information Technology practice. Some basic requirements are very much important:-

✓ Keep switch off the computer and other IT or electronic gadgets when not using properly;
✓ Use of air conditioning system to cool computer system when needed;
✓ Use and purchase only energy efficient processor and computers, network device and hardware[07] [13];
✓ Use of LED, LCD, Laptop, wireless computers, small hard disc drive to keep Green healthy information infrastructure;
✓ Use of ITproducts and computing systems which are helps to build information systems virtual and make available round o' clock to any organization with private, public and hybrid nature of cloud computing;
✓ Designing and uses of computers which are only support more energy efficient processor;
✓ Use of computer and networks with other non conventional power and electrical system such as solar energy, wind energy, pedaling a bike and so on [06], [10].
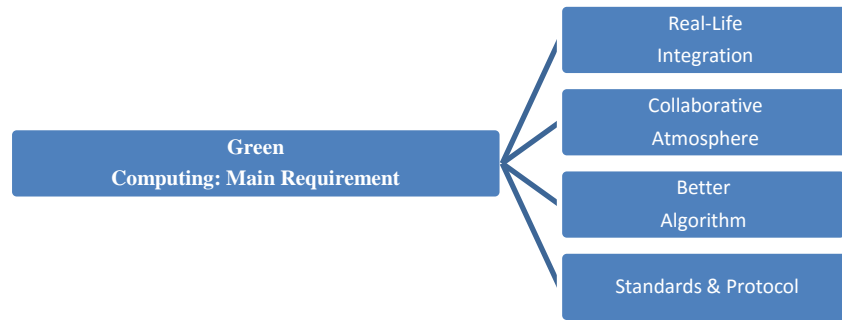
Figure 3: the fundamental requirement of Green Computing

Green Cyber Information System and Infrastructure:

Application and integration of IT and Green Computing practice to the Information Science practice helps to build green and eco friendly information infrastructure building and hence some strategy is need to follow[15]:-

- ✓ Information Systems deals with better computation and artificial system as well a manual information systems or document. Hence, for environmentally information system building and eco friendly database, network, communication, software is needed and for manual information system building, use of recycling towards manual document is need to follow. Similarly it is better to follow or use less document as minimum as possible;
- ✓ Cyber Information System is deals with so many computer and internet system for Information dissemination and thus wireless network is very much important to keep Green and Eco Friendly environment;
- ✓ Keep Information System Green and clean deals with hazard and waste management and thus it is essential to free the hazard material in information system such as brominated flame retandars, PVC's and heavy metal dealing computers such as lead, cadmium and mercury.

Recommendation:

- ✓ For better Green Computing and IT practice, proper institutional and Governmental policy is very much urgent and important;
- ✓ Technologically we need to much more popular and modern technology utilization and mainly cloud computing and virtualization;
- ✓ Use of such software, application and utilities which are much more energy efficient and less carbon emission based;
- ✓ Dependency on Green and energy efficient network and system will be another alternative for healthy IT practice;
- ✓ It is better to do computer related work during contiguous, intensive blocks of time and leaving hardware off at other time.

Conclusion:

Information Technology and its importance is gaining rapidly around the world and hence it is important name in almost all type of organization and institutions such as healthcare, hospital systems, education and Government and so on. IT is main energy stakeholder and it is essential to build an important IT strategy which is energy consuming and Green and environment protectionbased [06], [12]. Today most of the organization putting importance to introduce healthy software, hardware, network and overall IT infrastructure building which are cost effective, energy effective and environmentally beautiful

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