

## Green Computing: Barriers and Benefits

<sup>1</sup>Monika, <sup>2</sup>Jyoti Yadav, <sup>3</sup>Muskan and <sup>4</sup>Romika Yadav

<sup>1,3,4</sup>Indira Gandhi University, Meerpur, Haryana, India

<sup>2</sup>Deenbandhu Chhoturam University of Science & Technology,  
Murthal, Haryana, India

### Abstract

Green computing provide reusability of resources that are currently used by various technologies. Green computing is responsible for environmentally and eco-friendly use of computer and their resources. So it defines the study of engineering, manufacturing, designing and using disposing computing devices in such a way that help to reduce their impact on environment. This provides an idea about why we use green computing and their barriers in implementing green computing. Subsequently benefits and their implementations technologies of green computing are proposed.

**Keywords:** Reusability, Technology, Resources, Manufacturing.

### 1. INTRODUCTION

Green computing sometimes also called Green Technology. In the green computing we use computer and its related other resources such as monitor, printer, hard disk, floppy disk, networking in very efficiently manner which has less impact on the environment. Green computing is about eco-friendly use of computer. Green computing is important for all type of system. It is important for handheld system to large scale data centre[1].

Many IT companies have been start the use of green computing to reduce the environment impact of their IT operations[2].Green computing is the emerging practice of using computing and information technology resources more efficiently while maintaining or improving overall performance. The concept identifies the barriers and benefits of green computing

Green computing is an environment friendly approach to manage information and communication technology. In active organization to increasing energy efficiently, improving information management. Designing objects and services that are beneficial for the environment.

### **Why Green Computing?**

In future, Green computing will very common to hear. Now a day's computer is very basic need of all humans. With the use of computer our life become very easier and also save our time and efforts but the use of computer also increase the power consumption and also generate a large amount of heat.

Large amount of power consumption and great heat generation increase the greater emission of green house gases like carbon dioxide (CO<sub>2</sub>) which has very harmful impact on our environment and natural resources. Personal computer & data centres consume a large amount of energy because they use various old technology and also don't have cooling system[3]. And as the result of this we get the polluted environment.

To decrease their impact the green computing comes into existence. There are different reasons of using green computing. Some of them are following:

- 1) Personal computer and electronic device consume a large amount of electricity which have very harmful impact on our environment. It provide different type of pollutant which pollute air, land and water. Electricity generated using the fossil fuel power.
- 2) Most of computers and electronic device produce a lot of heat which cause the emission of CO<sub>2</sub>. CO<sub>2</sub> is the green house gas with the increase of carbon dioxide in the environment the overall temperature also increases which leads to global warming[4].
- 3) While adopting of computers and its resources generate a lot of hazardous waste which are really damage our environment. It also generates heavy metal such as lead, mercury, cadmium into air.
- 4) Assembling of computer and its product release heavily use of toxic chemical for electrical insulation, soldering and fire production.

## **2. IMPLEMENTATION OF GREEN COMPUTING**

Green computing has been getting a lot of consideration because of raising environment concern and increasing concern.

- 1) We can put some simple efforts to save our environment:

Modern OS implement ACPI(Advance configuration and power interface) in system which help in power saving and also allow you to program monitor and hard disk to power down after a particular period of inactivity.

- 2). Use virtualization technology:

By using virtualization technology we can run multiple virtual machines on a single physical server.

3). Use energy star Labelled product:

As energy labelled product are manufactured by keeping in mind green computing features like less power consumption and recyclable product. Then product automatically shut down when not in use specific time[5].

4). Turn off your computer:

Always remember to shut down your pc when it is not used otherwise it will consume large power and emit carbon dioxide.

5). Use LCD rather than CRT:

As liquid crystal display takes less power as compare to CRT. Less power consumption leads to less carbon dioxide.

### **3. ADVANTAGES OF GREEN COMPUTING**

- 1) Green computing technique reduces the energy consumption which results into low carbon dioxide emission.
- 2) By using green computing techniques we can also save money that was spent in extra usage of energy and resources.
- 3) Green computing also applies changing government policy to encourage recycling.
- 4) Green computing also removes the risk which is existing in the laptop such as chemical known to cause cancer or nerve damage etc.
- 5) Use preserve resources which use less energy to produce use and dispose of product.

### **4. DISADVANTAGES OF GREEN COMPUTING**

- 1) Green computing quite costly.
- 2) Some computers which are green may be considered as underpowered.
- 3) Fast technology change.

### **5. CONCLUSION**

It can be seen that green computing is very necessary for protecting our environment. As the time increase the need of computers increase very fastly so that need of green computing also becomes very necessary. There are various advantages and disadvantages of green computing but as comparisons to barriers the advantages are more that's why need of green computing is important. In this paper we conclude that green computing is very important for neat and clean environment.

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