Green Web Hosting for Monitoring Carbon Foot Print - A Perspective View

M. Praneesh and M. Sangeetha

Abstract--- *Green Computing is a branch that studies, develops and promotes techniques for improving every efficiency and reducing waste in the full life cycle of computing equipment from initial manufacture, through delivery, use, maintenance, recycling and disposal in an economically realistic way. This paper describes current green computing principles and approaches for reducing energy use and ultimately, the carbon foot print. Finally, we discuss how the green web hosting is monitoring and minimize their carbon footprint.*

Keywords--- *Green Computing, Foot Print, Energy Savings*

I.   INTRODUCTION

GREEN has become a popular term for describing things that are good for the environment, generally healthful and more recently economically sensible. Green is important to all sectors, irrespective of their area of operation. We adopt green practices for both customer acquisition and service. Using e-documentation where ever possible is not only a green practice but also a convenient way of interacting with customers.

II.   APPROACHES AND ISSUE FOR GREEN COMPUTING

The motivation for the Green Computing is to reduce waste through green computing is clear, although identifying appropriate green techniques for a given situation from among the many available is challenging. One of the major issue is reducing consumption by printing documents double-sided, viewing documents on screen, powering off electrical devices that are not in use, placing a computer in sleep mode or powered off when not in use, and similar techniques are effectively free, save for the minimal extra effort involved.

III.   GREEN LIGHT FOR ENERGY SAVINGS

A few years back, all green data center initiatives, indeed all green IT initiatives revolved around one central point namely energy savings. As a result, there was suddenly a fad around energy and OEMS launched Marketing Compaigns proclaiming their energy-efficient devices. While green in data center is still largely centered around saving energy cost; Space conservation, green buildings, responsible disposal of e-waste and the use of local materials to reduce the overall

M. Praneesh, Assistant Professor, Department of Computer Science, Sankara College of Science and Commerce. E-mail: raja.praneesh@gmail.com
M. Sangeetha, BE Student, Kalaignar Karunanidhi Institute of Technology, Coimbatore. E-mail: thisilla.sangeetha@gmail.com

Carbon footprint are gradually coming into the picture. The reasons are evident power has always been, and still remains a big issue in India. Not only are we loosing a third of our power in the way of transmission losses, most of our power is also coming from burning coal. There for, Indian data centers are increasingly looking to optimize their power resources.

IV.   GREEN PRINTING

Green Printing is a vital role in green computing and also is related to a movement where we can make use of recycled paper and reduce the Quantum of resources related to printing. Printer vendors are aware of what is happening in the market and have taken steps towards that and have taken steps towards that and have implemented the technology that and have implemented the technology on their devices, on both software as well as hardware. On the hardware part the device is recycled parts like cartridges are reusable. The devices are manufactured from an energy management stand-point and their energy consumption is less than that of preceding generations. Presently, most Multi-Function devices have duplex printing available on a device so that employer can go for monochrome printouts. On the software side, there are lot of applications that as having a scan or soft copy of the documents. They may not be direct initiatives for green printing but these are technologies that help reduce print levels, which in turn contribute to the green printing initiatives. Saving paper is a vital component in any green printing iniative. Upgrading machines can reduce energy consumption, some examples of technology that can help here include.

    (i)   Rapid Fusing technology
    (ii)   Quick Fix Toners.

(i). Rapid Fusing technology

In a normal printer or copies, the drum is always heated so that once the printout comes, the ink sticks to the paper. This consumes a lot of energy. With the new technology, the machine immediately goes into sleep mode when not in use so that the drum is not heated continuously.

(ii) Quick Fix toners

Toners get struck to the paper only when it is heated through a drum. Toner is basically granules. The drum is heated and toner falls on the drum and from there it gets pasted into the paper. Quick fix toners require less heating of the drum and fixing assembly and get pasted on the paper rapidly saving energy.

Tips and Tricks for Green Printing

1. Consolidation of printers leads to savings in power consumption.
2. Back to Back printing set as default leads to significant savings on paper.
3. Secured printing leads to savings in paper and power.
4. Use Recycled cartridges which leads to reduction in e-waste.
5. Always recycle paper; collect used paper so that the fiber can be used again.

V.   GREEN WEB HOSTING

Inorder to reduce the adverse impact on the ecological system and total carbon footprint caused due to various hosting related operations, a lot of web hosting provides are currently using precautions that will cut down the electrical power utilization. This specific power usage although unavoidable, is the single most important that is responsible to a substantial carbon foot print. This emerging strategy of web hosting carbon foot print – reducing procedure is basically referred to as Green Web Hosting. It is turning out to be much more appealing to online business clients who also desire to be able to perform their role in saving the fast perishing essential environmental components by looking at green webhosting solutions.

Presently there are several methods which web hosting companies as well as data centers will consider in order to enable reduction of the carbon foot prints caused by their operations. However, the procedures are to use the renewable energy options in order to power their web server along with various other devices that are used within their data centers.

Carbon foot print is the measure of the generation of carbon dioxide gas due to the causative activities by any operation and its volume is measured in pounds. There is tremendous heat generation due to the electrical activities of web service and other equipment located in small and large data centers. Also these web servers use electricity generated by power stations which use non-renewable energy resources such as diesel, coal, fossil-fuels, and their ecological harmful derivatives. Collectively, these sources cause harmful emissions which form the green house effect and release other harmful components in the atmosphere which causes extreme ecological hazards.

Green Web Hosting is a measure by which these carbon foot prints can be reduced. Planting more and saving existing trees, saving energy and electricity using paperless offices, employing optimal recycling policies, optimally recycling the heat energy for cooling the data enters, optimal data center construction and floor-planning which takes care of the hot-spots will cause less heat generation, using better electrical technology and lighting energy generated through wind, solar, and tidal power preventive solutions.

VI.   CONCLUSION

Critics have claimed that Green Computing Strategies do not save money as the set up Cost for eco- friendly electronics is more than what we save but we personally feel that even if the set up cost is higher than what we save we still can aim towards saving our mother earth using these green computing techniques. In this paper we have analyzed and studied how to minimize the carbon footprint through web hosting as well as green computing approach like techniques and methods.

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