

Chapter 7

Green Computing to Green Business

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ABSTRACT

In recent years, environmental and energy conservation issues have taken the central theme in the global business arena. The reality of rising energy cost and their impact on international affairs coupled with the different kinds of environmental issues has shifted the social and economic consciousness of the business community. “Greening” the computing equipment is a low-risk way of doing business. It not only helps the environment but also reduce costs. It is also one of the largest growing trends in business today. Hence, the business community is now in search of an eco-friendly business model. This chapter highlights the concept of green computing, green business, and their needs in the current global scenario.

GREEN COMPUTING: AN INTRODUCTION

Energy is an increasingly scarce and expensive resource. This reality will continue to have a profound effect on how IT solutions are designed, deployed, and used in our day to day activities at different level of IT usages. Companies around the world are already facing, or are close to reaching the hard limits in the amount of power they can afford to consume. It has seen that server management and administration costs appear to consume

the largest part of data center costs. Therefore one would think of them as the limiting factors in data center growth in future. However, if one cap the power spends, it draws a box around the growth chart, with power becoming the limiting factor for future growth. On the other hand, the world governments are looking at energy consumption and the U.S. Congress mulling capping data center expenditures as a part of gross national power. This acts indeed one of the major key constraints to future industry growth in the USA. To deal with these constraints, organizations are attempting to limit or reduce the amount of energy they use. However, today’s most utilized approaches

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primarily focused on infrastructure optimization. This approach may be too narrow to deal with the power challenges of tomorrow. Methods of optimizing infrastructure usage are required that run the entire ecosystem, spanning the disciplines of application architecture and design, data center management, and IT operations.

Green computing is a rising trend that looks to establish itself as the preferred IT philosophy. It is not because of techies are tree-huggers, but because green solutions are affecting their bottom lines. Today, the term green computing embodies the entire life cycle of technologies, including research, manufacturing, use, and disposal. Green IT takes a much more holistic approach than it once did, especially as companies are brainstorming solutions to cut costs and increase revenue. Green computing benefits the environment in all dimensions. Reduced energy usage from green computing techniques translates into lower carbon dioxide emissions, stemming from a reduction in the fossil fuel used in power plants and transportation. Conserving resources means less energy is required to produce, use, and dispose of products. Put simply, saving energy and resources saves money. The advantages to green computing are realized on both large and small scales. Green technologies are available for an entire organization or for a single employee's workstation. Unfortunately, many companies and business owners are stalled by the initially larger investment in green technology, and fail to realize the long-term benefits and cost savings. According to Richard McNeal (2009), the green computing can be classified as:

System-Wide Green Computing

When investigating green alternatives for your entire organization, consider the technologies like cloud computing, virtualization etc.. Basically, cloud computing eliminates the need for hardware like servers. Virtualization in cloud computing also replaces hardware with "virtual" servers or

servers in "the cloud." Essentially, cloud computing allows companies to reduce their need for big, bulky, energy-consuming servers by relocating them on the Internet. Cloud computing may also be used in areas like networking, data storage, software applications, and operating systems, again, potentially reducing the need for hardware. As a result, businesses stand to save a lot of time, money, and resources on maintenance and support by switching to cloud computing set-ups.

Individual Green Computing

There are many other green computing techniques at the personal computer level. For instance, power management can be an easy and effective means of saving green while conserving energy. While many operating systems come with power-saving settings, there are also a variety of products that monitor and adjust energy levels to increase performance and reduce wasted energy. For instance, some surge protectors can sense when a master component (like a computer) is turned off, and respond by cutting off power to any peripheral machines, such as like printers and scanners.

System-Wide and Individual Green Computing

Finally, green computing initiatives can reap savings in both big and small ways. Technologies that save paper, like email, can have a huge impact on costs as well as the environment. As companies and employees develop methods and habits of conservation, simple practices like emailing memos or printing in smaller fonts can bring instant results. Additionally, policies like telecommuting or teleconferences pose additional benefits by reducing the amount of carbon dioxide produced by travel. Green computing is quickly emerging as the most effective means of utilizing technology. No matter whether your organization's needs are big or small, green IT can reduce costs,

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