

Overview

It is increasingly important for companies to take environment into account with their IT decisions. Taking environmental actions is not expensive any more, on the contrary there are possibilities for savings in new technology and it is not only creating expenses but also a source of cost savings.

With today's technology it is quick and easy to implement environment friendly solutions to any company with practically any type of IT infrastructure. Saving starts from the day one and the solutions do not increase the work load of IT department, in fact in most cases they make life easier for the administrators.

Introduction

Information technology is environmentally friendly in a lot of ways. You can reduce traveling, minimize the use of paper, and optimize energy consumption. But it also imposes an environment load. In fact, information technology today produces globally as much CO₂ emissions as air travel. In this situation the companies are balancing with environmental issues and cost effective IT solutions.

In the past these two have not been walking hand in hand, but today things are different. Today there are multiple cost efficient solutions available that are also environment friendly. Many companies overlook these solutions as complex and expensive, when in reality they are easy to implement and create immediate savings. The fear of the complexity of the implementation and administration of the new solutions keep many companies from proceeding with the change despite the fact that this is not the case.

Implementing the environment friendly corporate culture will generate direct and indirect cost reductions in short and long term. The operating costs of the IT hardware will reduce starting

from the energy consumption and the administration of the hardware will become easier. We also have to remember the company and brand image, to which the environment friendly actions are only welcome. Many of the customers value environmentally minded companies who care the wellbeing of everyone of us.



Towards Green IT

According to the research by Info-Tech Research Group, companies see decreasing electricity use and decreasing of operational costs of IT as the most important source of cost savings. At the same time only few companies have actually taken actions on the matters, meanwhile the majority have raised the issue in their schedule for the coming year. Forrester Research report indicates that only 13% of the companies are monitoring the IT energy consumption.

It is important to carefully evaluate and analyze the current situation of the company since knowing the carbon footprint and how and where it adds up is crucial. After the problem has been broken down to the individual pieces it is possible to find the right solutions and the proper order to proceed.

It is important to start the changes as soon as possible, but everything does not have to be done at once. For example the hardware can wait until they are in the end of their lifecycle in the company, but the plans for the next generation of hardware has to be made in advance to successfully implement the environmentally friendly change in full.

In the planning stage the current situation has to be analyzed thoroughly: what type of hardware and solutions there are in use, what kind of impact on the environment the hardware has during its lifecycle including the manufacturing process, their operating costs as well as the cost of their disposal and recycling percentage. When we know the baseline we are able to calculate accurate total savings of the process and we can determine the viable options.

Where we are now?

The first step in the process is to find out the current situation, what kind of impact to the environment the used IT solutions and hardware have. What kind of materials the manufacturer has used to make the products, what kind of impact their manufacturing plants have on environment as well as how expensive it is to dispose and recycle

the hardware after they are no longer in use.

Not all of this information is readily available, but one can make well educated guesses and conclusions from the recycling costs of the hardware: it is more expensive to dispose dangerous and hazardous materials. So, when the recycling costs of a particular piece of hardware are higher, it is safe to assume it is less environment friendly process.



When choosing new hardware it is important to maximize the efficiency and the minimizing of the operating costs. Both of these are directly connected to the amount of energy consumed in the use and operating the hardware. The more efficiently the hardware is used and the less downtime it sees, the less energy is wasted. If the hardware is on idle for a long time, thus being unproductive, but still running, it is consuming energy that could be saved.

Good example of this is server virtualization where the capacity of one server is divided to multiple virtual servers, thus using most of the capacity of this one server rather than having multiple servers on idle

consuming energy by doing nothing. This concerns the workstations as well. Having a workstation running even though nothing productive is done with it means added costs with no added value to the company. It is important to not just emphasize on the tools but also how they are used.

There is more to save!

To further find saving by concentrating the use of the hardware it is important to have the administrative tools to measure the consumption of the hardware and also to control the consumption. These tools are important for new, less consuming hardware, but with these tools saving energy with older hardware is essential. With older, more consuming hardware, the percentual savings are high.



When a computer is consuming more energy, the savings compared to previous situation with the PC power management software are larger when the non-productive idle time is eliminated.

Green Snapper is the right tool for PC power management and consumption. With Green Snapper it is possible to monitor the electricity consumption of the computers and evaluate short and long-term reports of the consumption.

It is also possible for the administration to determine the power settings of all computers in for example one department without the need to physically visit the computers. All the computers can be configured to power-on at specific time so they are on when employees arrive in the morning and valuable working time is not spent waiting for computers to power up.

From stream to a river

When the analyzing process is ready and the planning has started, it is important to remember that the details are important for achieving the most from the plan. To ensure sustainability even the smallest cost saving points must be taken into consideration, because these little streams of savings will generate a river of cost reduction in the big picture. When the planning process is done carefully, a company can be sure that their program to implement more environment friendly IT solutions is as thorough and effective as possible.

In most cases companies are concentrating their IT projects to achieve energy consumption conscious server cluster, including the HVAC systems, but they forget the workstations. Researches show that the workstations consume approximately 40% of all energy used by the IT hardware. Even if the company has taken actions concerning the workstations, they are mostly just directions for the use or the hardware has been replaced with units consuming less energy. Despite this, there are still idle time and energy wasted.

It is virtually impossible to have reliable information about the energy consumption without appropriate tools, like special software developed for the task. The efficiency of the directions for the use of office hardware are good to have available, but yet again, measuring their effectively is impossible without proper tools.

Due to this the centralized administration of the workstations is crucial in addition to the measurement tools.

Save the easy way

IT managers face many often conflicting demands. Computer security has to be kept up to date, but computers should be turned off whenever possible to save energy.

With Green Snapper companies can save both the environment and money. Green Snapper typically cuts the energy consumption of computer equipment – and the organization's annual electricity bill – by 20-30 € each, and the savings can be as much as 50 € per workstation. That's how much money Motiva estimated it would save per workstation (2006).

Green Snapper puts power in the hands of the administration. It is possible to turn off and turn on computers remotely, whenever required. The reports on workstations' electricity consumption can be acquired easily and quickly.

Green Snapper can be installed remotely, so there is no need to visit

each workstation. Startup is simple, and so is usage and upkeep of the system. Users do not have to do anything different than normal – Green Snapper does not interfere with their work in any way. Green Snapper integrates with most major IT environments and data management tools.



Green Snapper is especially suitable for supporting extended IT networks. Traditional Wake-on-LAN solutions usually demand changes in networking routers that might be in conflict with the organization's system security policies. Green Snapper has been designed so that there is no need to change network settings. Each subnetwork can be configured to use a proxy server, which the Green Snapper server automatically selects from among the subnetwork's workstations.

Complete solution

Green Snapper collects data and produces reports about energy consumed and savings achieved, so it is easy to keep an eye on its benefits. Based on these reports, it is possible to fine-tune the workstations' standby and power on times in order to increase the savings still further.

Green Snapper's reports give real data about the results of energy-saving measures. They show how much energy has been consumed before and after these measures have been put into effect – by department, by unit, and for the whole organization. This data can be used in environmental reports or on company web site. By fine-tuning the workstations' energy-saving characteristics, a company can make sure their environmental policies are implemented in action.

In addition to operating costs and energy consumption, a company has to arrange proper disposal and recycling of old IT devices. When the hardware has been chosen according to their minor environmental impact, the recycling costs usually stay below the cost of recycling similar conventional hardware.

Conclusion

In modern world it is profitable for companies in favor of PR, environment and due to lower costs steer their IT plan towards more environment friendly direction. Analyzing and evaluating the current situation gives the knowledge needed to proceed with the planning stage and to choose right procedures and solutions for the company's own individual needs.

Even though there are many different solutions available for lower energy consumption, it is vital to take the actions immediately to lower energy consumption. Centralized management of energy consumption and monitoring software helps from the start. This software can be implemented immediately with the old hardware and it seamlessly moves to the new

updated hardware once acquired.

The use of power measuring and management software will bring immediate cost savings and in most cases will pay itself with in just few months. It is important to know exactly where and how the energy is consumed so the right actions can be taken and the realized savings can be pointed out.

The best first step towards green IT is to invest in PC power management software and start saving environment and money.

References and more information:

Green IT: Why Mid-size Companies Are Investing Now, Info-Tech Research Group research for IBM, Dec'08 – Jan'09.

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Green IT by Christopher Mines and Euan Davis, Forrester Research, November 26, 2007

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