

Green Computing and Green IT Best Practices

on Regulations and
Industry Initiatives,
Virtualization,
Power
Management,
Materials Recycling
and Telecommuting

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GREEN COMPUTING AND GREEN IT BEST PRACTICES

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FOREWORD

There has never been a Green IT Guide like this.

Green Computing is *not* about the ins and outs of Green IT. Instead, it answers the top 100 questions that we are asked and those we come across in forums, consultancy and education programs.

It tells you exactly how to deal with those questions, with tips that have never before been offered in print.

This book is also *not* an exhaustive list of Green IT best practice and standards details. Instead, it introduces everything you want to know to be successful with Green IT.

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THE ROLE OF COMPUTER CONSULTANTS IN PROPAGATING GREEN COMPUTING

Green computing is not a relatively new practice in the industry. In fact, for so many years after this study has been officially rolled out to the public and to the computing industry, people from the computing industry have widely accepted this theory. However, because the information drive regarding this study has not been sustained after its launch, the incoming experts in the computing industry have thought that this theory is a long-by-gone story.

For this reason, the green computing theory must re-live its advocacy and this time, the need for other people to help propagate that the practice is still existing, a more experienced and reliable set of people is needed – computer consultants and practitioners.

Computer consultants are likely the most reliable people who can help disseminate the information regarding green computing. These people are believable in what they are to say because of their exposure in the use of computing resources. More so, they are actual users of the computing devices, too. People from the industry who are mere end-users of the computing device are at a lost in terms of how they can save resources when they begin using the computing device. These people who are considered zero-knowledge in the use of the computing resources are basically the spenders of the resources.

Thus, the need to educate and these people about green computing is a necessity in order to fully maximize the people's awareness regarding the study on how they can save computing resources for their computing activities. And educating these people about green computing is best done by the experts themselves – the computer consultants.

THE GLOBUS TOOLKIT TO EFFICIENTLY BUILD A GRID

The Computing Grid is such a detailed, highly complicated, and extremely intricate system to develop and build. It requires not only a skilled set of hands to build it and a highly intelligent mind to create it. More especially, it requires the usage of a highly advanced toolkit in order to effectively build it. Fortunately, a set of instruments has been developed to aid the development of a computing grid – the Globus Toolkit.

The Globus Toolkit is a highly advanced set of tools that can be used to help build and structuralize a computing grid. This toolkit was developed by a world leader in toolkit manufacturing – the Globus Alliance. The Globus toolkit is a highly identified toolkit that can help generate an effective computing grid because of its capability to suit in the protocols and standards of the Open Global Forum. As a highly compatible platform with the Open Global Forum it is capable of providing the following:

a. **Management of Resources Effectively and Efficiently.** This is through the use of the Grid Resource Allocation and Management standard or the GRAM. This is one of the more effective methods in allotting the resources efficiently.

b. **Information Service.** The ability of the Globus Toolkit to provide information regarding where the resources are getting into through a system known as the Monitoring and Discovery Service makes it effective and efficient.

c. **Security Against Threat.** The Globus Toolkit is fully aware of the various threats towards a system. For this reason, it created a highly sensitive threat detection system that will neutralize all possible threats to the system.

GRID DOCUMENTATION IN PPT FORMAT

In every project that is completed, it is mandatory that documentation is provided to the project owner. The documentation shall serve as the proof, manual, and point of reference of the whole project that has culminated. The documentation format may come in various formats. One of the leading formats that project makers are using is the PPT format. A PPT format is a file that is generated when it used the PowerPoint application software as the source software in developing the documentation.

A PowerPoint file is usually used as presentation documentation. This is best during the time that the whole project is being demonstrated to the project owners. Invariably, there are project owners who prefer to have a PDF file (a file that was generated by the Adobe program) because of the maximum ability of this Adobe file to generate a rather large documentation file. However, because the PowerPoint software is capable of deigning presentation documentation, more and more project makers are pushing the use of the PPT format as part of the documentation.

The PPT format as a Microsoft driven file is capable of being converted into other document format as long as the file format is being supported by the Microsoft Company. This flexibility of the software allow for the PPT format file to be chosen by majority of the project owners aside from the fact that a PPT file does not consume too much of the hard disk space of the computing device or machine.

HUGE PROJECTS UNDER THE GRID COMPUTING

It is just but normal that when a project is very huge, more resources are going to be utilized to achieve the completion of whole project and eventually attain its objective. Nonetheless, no matter how huge the project is, the project leader should always think about how they can maximize all of their resources.

More often projects that involve scientific and mathematical calculations are the ones considered as huge projects. These projects are often categorized as highly funded projects normally by a government institutions are the ones classified under the bracket of huge and highly sensitive projects. Typical examples of these are weather forecasting systems, land and mining projects, electronic commerce, and economic projections.

One of the best ways to make sure that the resources used on these projects are well utilized is the employment of the grid computing. Grid computing is a process of distributing the activities with the use of a single super power machine, which ties up a group of smaller devices with fewer resources. The grid computing works much like a networked system where the server supplies all the necessary resources to its clients known as the workstations. With the use of the grid computing, you do not need to purchase several more super computers in order to complete the project. All you need to have is a single super power device to “man” all of the other devices.

This type of a process is one of the more common set-ups that are being used not only with project-based systems but also in a business office setting.

THE IMPACT OF GREEN COMPUTING IN THE INDUSTRY

The industry is the major consumer of the computing devices. The industry relies too heavily with computing devices in their industrial activities. When the computing industry becomes incapable in sustaining the industrial needs in computers and other computing devices, the global market and industry shall surely suffer.

Since the resources in computing industry is losing control in the use of the computing resources, the experts in the field have thought about how they can combat the continuing saga in battling the problem of scarcity in computing resources. This movement led to the development of the Green Computing practice. This Green Computing study reveals that there is a way that can suppress the worsening problem about misuse and abuse in the use of the computing resources. Some of the formidable methods that can help a company save resources include the following green computing tips:

a. **Virtualization.** Virtualization is a technology that can help you save both hardware and software resources by creating a “similar environment” like an operating system or a peripheral device using your present resources. When the need for that virtualized application is over, then you can put back your original resource into its original state.

b. Power Management. The life of your physical devices relies on how effective and efficient you manage them. One of the classic examples is the efficient use of the portable system battery. By using the power management feature of your system, you can actually disable some features of your system that consumes too much battery usage. Not only will this save electric charging fee but also saving your battery from easily being worn out.

GRID COMPUTING AS A BETTER RESEARCH INITIATIVE TOOL

In the field of research and empirical analysis, it is not enough that researchers are supplied with the right of data to be analyzed and the right skills to conduct the research. In order to facilitate a better and well-developed research results, an efficient tool must work hand-in-hand with the skills and gathered data. One of the research initiative tools that a researcher can use is the grid computing tool.

The grid computing as a tool allows for the researchers to have a strong and maximized computer device to help facilitate the gathering and analysis of raw data. These pieces of data are fundamentally essential to further develop the conducted research. The computing grid is one of the things that that green computing has been pushing to the industry leaders. You see, when you employ grid computing in the industry, it is like purchasing so many hardware devices on a much cheaper cost to achieve ultra-faster processing mechanism in data analysis. This is, logically speaking, similar to buying a super computer however, at a much lesser cost. The monetary value of a super computer is so high that green computing advocates thought about making a great alternative on how to achieve the same efficiency but with a lot lower cost. This is, as has been emphasized, what the grid computing can do.

The researches being conducted these days require highly capable machines to calculate with efficiency. The pieces of data that are being used as input variables are so sensitive that a simple miscalculation can lead to great disaster in the whole research project. Any mistake or error can jeopardize and greatly create a hazardous effect on the yielded result.

THE NEED FOR AN EFFECTIVE COMMUNICATION PATH IN THE ORGANIZATION

Communication is such a critical and essential element not only in any organization but also to all humanity and the activities that they enact. It is through communication that all things become possible. It is through effective communication that people are able to build technology and achieve milestones. It is through communication that people understand one another and able to reach further.

In an organization, it is essential that they have an effective means of communicating with one another. Information is considered very vital in any activities in the organization. These pieces of information require to be channeled and communicated efficiently and effectively all throughout the organizational structure.

Organization leaders are fully aware of the importance that an effective conduit to channel these pieces of information can do for the company. Many organizations are spending hundreds of thousands of dollars just so they can ensure that the information is channeled with integrity and at a faster rate. For these people, an effective communication spells more profit, which is the focal objective of any company. Apart from that, these organizational leaders know that in order to build a systematic institution, they should start with educating their people on how important and pertinent every piece of information that they collect and gather and how they can communicate it is far great important. And in order to do that, they need to build a structure that will allow this vision to be realized - strong and robust pipeline where information will pass through with reliability and integrity.

GREEN COMPUTING: AN EFFECTIVE PROJECT INITIATIVE

These days, the number of people and the number of institutions that utilize the computing resources are ramping up very fast. Not only is this being felt in the computing industry but in the use of all resources both natural and synthetic.

Every big and small project that is being initiated by either private companies or by the government institutions geared towards tapping all possible technologies as part of a modernized industrialization is equal to the massive use in the resources that we have. Due to the seemingly non-stop project developments that are being initiated, the resources that we have are naturally depleting. It is for this reason that the concept of green computing was conceived.

The concept of Green Computing revolves around making sure that people are practicing how they can save resources when they use the computing technology. Some of the ways where green computing is being manifested are on the following:

a. **Recycled materials.** There are computer systems that seemingly are no longer functional for a specific process but applicable to some other things like simple word processing jobs and mathematical calculations. If you no longer find these systems, you can have these re-purposed or can be donated to other institutions.

b. **Virtualization.** This is probably one of the most useful technologies in the green computing arena. The capability to virtualize both the hardware and the software is an amazing wonder that green computing has.

c. **Proper use of the system devices like the monitors.** Instead of using the CRT or the Cathode Ray Tube monitors which emit large amount of electric heat that can damage the environment; you can opt at having liquefied crystal display of the LCD.

These are some of the means that green computing can greatly help in propagating maximum utility of the computing resources.

UNDERSTANDING THE GLOBAL GRID FORUM

The Global Grid Forum is a merged organization that took its merging in the year 2006 with the Enterprise Grid Alliance. This alliance resulted in a more solid group known as the Open Grid Forum, which became the place for a certain group of computers users, computer vendors, and software and hardware developers to formally unite their skills towards creating the world standards in the usage of the computing grid.

The Global Grid Forum when merged with Enterprise Alliance that produced the Open Grid Forum was an advocate in the clear definition of the principal functions that the organization should take. It pushed for the deliberate separation of functions to be performed by the whole organization. It pushed for the following major functions:

- a. Develop standards that relate to the grid and;
- b. Build communities internal to the grid community.

Along with these functions are the types of groups that will work on fulfilling these functions and these are the following:

1. The working group, which has a very defined role in the production of the standards for the grid;

2. The research team which will bring people in a common ground to potentially discuss any progress and development in their scope of area and be able to produce cases and relatively re-develop the working group; and

3. The community team which is a relatively new group which functions primarily in building communities that people can use and dwell into.

These functions are strictly mandated to perform their jobs and responsibilities based on the defined set of actions that are placed onto them.

THE EMPLOYMENT OF GRID COMPUTING IN A RISING TECHNOLOGY

The technology is a highly fascinating thing to ponder and think about. In every small thing that we see and every big leap that we experience in our lifetime, technology is a pivotal instrument that bridges the gap between being remote and industrialized.

One of the prime movers in the technology that we have these days is the use of the grid computing. This technology allows for the distribution of the PC efficiency where there is an extraordinary computing device with resources comparable to a super computer that acts as a “server” for a group of computers that then act as workstations that systematically work as a group in order to achieve a common goal.

Although it is naturally expensive to come-up or set-up a system of grid computing device, generally of the discoveries both in the field of science and medicine which requires highly scientific computation and analysis, are performed using the grid computing methodology. This is the only set of device that will be capable to handle these sorts of research and investigation with the maximum efficiency and reliability.

Typically, scientific investigations like seismic and earth movements, discovering never-been-tested drugs, and forecasting of the economy are being made and performed with the use of the grid computing. The high requirement for an exact derivation of results such as the abovementioned requires the employment of such technology. The geographical flexibility of the devices when formed in grid computing makes it highly probable and effective to be used in such requirements.

THE APPLICATION OF GRID COMPUTING IN A PROJECT

Grid Computing is considered the next embodiment in the field of computing arena. The computing grid has greatly shown its prowess and robustness in terms of fully maximizing the computing resources without paralyzing the individual features of the computing device.

Generally, of the major projects that entail massive information analysis require the use of an equally powerful computing mechanism to ensure that correct analysis of data shall be yielded after the processing. One of the more reliable computing systems being used universally is the computing grid. The computing grid allows for the correct analysis to come out even when the pieces of data that are being used as input variables are massively big and complex. Government projects like earthquake and climate simulation. Financial analysis and projection, and weather modeling systems are being analyzed and performed using the computing grid system. The capability of the computing grid to handle and control large amounts of data allowed for the system to handle such delicate and highly complex problems.

Although there are currently newer computing systems being developed to handle and control large projects, apparently the computing grid has a better and established image to handle projects that require handling of voluminous data files. Some of the highly controversial projects that employed the computing grid are the NASA's Information Grid, the National Science Foundation in National Technology and the American Express among others.

The Computing Grid systems allow for a powerful forecasting mechanism with a close to a 100% of accuracy and reliability. Because of this, many industry leaders have the confidence and trust to award the project to any organization that is an advocate of the Computing Grid systems.

HOW GREEN COMPUTING IMPACT DEVELOPMENT

In this age where resources are seemingly becoming scarce, the need to maximize all things – skills, devices, and all forms of resources – is becoming highly essential and mandatory. For this reason, many experts in the field of computing industry are thinking about how they can make sure that resources never come to a point that they will be extinct or no longer re-usable. One of the theories that many experts have agreed to be the prime resolution to the bloating issue of scarcity in resources is the green computing theory.

The Green Computing theory is the geared towards the right practice in using the computing resource in an efficient manner. You see, success comes to people who are able to utilize the resources in a maximized manner without affecting his or her capability to achieve the goal. This is the driving force behind the concept of green computing – maximize all minimized.

The technology that we have these days is such a complicated and intricate one. This same technology basically is dependent on a group of diverse and dynamic people whose learning experience, knowledge, and skill set bring about more issues in the utility of the hardware and software technologies that they currently have. For this reason, the need for an effective implementation of green computing should be properly addressed or given enough priority.

Many government institutions are strictly imposing the use of the green computing practice and industry leaders are positively responding to this call of the government. This is an indication that people are beginning to realize the importance of saving the resources for future generations to come.

GREEN COMPUTING MAKING GREAT IMPACT ON RESEARCH

Every one of us should be grateful to the technology that we are seemingly all enjoying. However, we must remember that every bit of technology that we have these days was the result of an intensive and scholastic research that great minds have untiringly hurdled. Research is such an integral element of technology; this is one aspect that humankind has learned to live with over century of years back.

Now, as things are becoming more complex and intricate, the study of research has extensively grown and developed to make it parallel with the growing demand for a better technology. However, because of the seemingly becoming complicated requisites to further develop the technology, the resources that are being used by researchers are little by little decreasing in volume and quantity apart from the reality that these resources are becoming highly expensive and difficult to locate.

It is for this reason that green computing is being highly advocated by many experts to the researchers. There are more and more highly defined devices and machineries that are being required in order to fulfill a research and the data that are being gathered are becoming highly sensitive that the requirement for a much efficient research tool is being required. Since, these tools are very important to yield at the results; there is no way that we can compromise the utility of these devices. As a way of making things lighter, the green computing theory teaches experts and researchers to make full utility in all the resources that they have. They should be able to make efficient use for whatever resources that they may have.

ADAPTING TO CHANGE IN AN ORGANIZATION

“Change is the only constant thing in this world.” This is an aphorism that every person in an organization is very familiar with.

Organizational change is such a dynamic element that leaders are always thinking ahead of time. When an institution is not receptive to the changes that may occur, it shall be caught off-guarded that may lead to jeopardizing the whole structure of the organization; a danger whose effects can span for a very long time. This is the reason why leaders of the organization are putting enough resources in carefully studying and analyzing how they can combat and battle changes in the organization. Or to the least, determine the gravity that this change can generate as an impact to the organization.

One of the moving elements that brought out the rapid change in the organization is the presence of the technology. Technological advancement paved way for people to understand how to maximize their potentials in order to become more productive and worthy in an organization. However, this same technology is the reason that caused labor workers to be non-receptive to the technological change in the organization. Many workers felt threatened of being displaced because of the technology being far more efficient in doing the job more than them.

This is an issue that should have not existed in the first place because if these people were properly educated about how they are impacted and up to what extent they will feel the impact, they would have realized that technology can never replace their presence in the labor market.

IMPLEMENTING GREEN COMPUTING THAT IMPACT LEADERSHIP IN THE ORGANIZATION

In a company, a leader should demonstrate the principles and practice that he wants implemented all throughout the organization. It is when he enacts all the things that he wants done can his subordinates understand these principles and in turn enact these willingly.

Green computing is a crucial move for the industry leaders because of the widening gap that was recorded in the scarcity of resources for the computing activities. The Green Computing theory is a very intelligent move to make sure that resources in the company are well utilized and efficiently disposed. When every company in the business industry enacts in unison in combating resource scarcity, then one can be assured that when the time comes the resources for the computing industry goes out, the experts were able to locate new means and methods on how to generate new resources for the next generation.

Leaders are very potent instruments in making sure that we do not experience the sudden disappearance of these resources. They are supposed to be guarding their people in the proper usage of their company resource or non-compliance to this may result to a jeopardizing situation.

Company employees may think that this move is to save the company from spending too much but leaders must be able to properly educate them about the reasons why they should be enacting these moves. While it is true that part of the green computing move is to save money from being spent irrationally, however, more important to that is making sure that we are saving enough resources for future use.

THE BUSINESS IMPACT OF GREEN COMPUTING

Some companies associate green computing with additional overhead investments and costly reengineering of products. This is partially true but the long-term business impact of going green could outweigh the costs associated with it.

With the increasing environmental awareness of end-users and consumers, providing green computing solutions offers a lot of potential. The green market is a growing sector. Going green therefore could significantly improve the market position of companies. By offering products geared towards this market sector, their competitiveness will improve thus resulting to increased revenues.

To influence environmental business impact, companies need to recreate their marketing strategies. Companies should understand that consumers are increasingly looking for technology products that are more energy efficient. Marketing strategies should capitalize on this demand by launching more product information campaigns focusing on this concern.

Adopting scalable technologies is also being implemented today by leading IT solutions providers. Other technology providers could also adopt this model. In essence, companies must create solutions that will allow end-users to fully utilize computing hardware for multiple purposes. This is the reason why some of the biggest solutions providers are aggressively pushing IT virtualization schemes.

Through virtualization, users can effectively lower their hardware overhead costs through the use of virtual computing machines. It will also significantly lower their energy requirements thus transforming this savings into net corporate income. The progressive business impact of this scheme would be significant both for the providers and end-users.

There is money to be made on green computing. With proper marketing strategies and product innovations, it could definitely improve sales and competitiveness.

UNDERSTANDING THE ROLE OF ELECTRONICS ENGINEER IN CIRCUITRY DESIGN

An electronics engineer could play a leading role in the design of modern green computers. As the primary professional knowledgeable in microchip circuitry theory and other hardware electronics design, an electronics engineer could create eco-friendly computing machines. These then could be used efficiently by technology users for their business and personal computing needs.

To become an electronics engineer, one should undertake a four-year undergraduate study in electronic engineering. In some countries, electronics engineering is a five-year undergraduate course. After formal university studies, graduates of electronics engineering should take review lessons in preparation for their licensure and professional certification examinations.

Licensure for professional electronics engineers is a mandatory certification process in most countries. In fact, getting a license in electronic engineering is a requirement before graduates can practice their profession. Industries and government institutions usually look for electronics engineers that have professional certifications.

Electronics engineers can specialize in several fields. Computer electronics and circuitry is the most popular sub-field in electronics engineering. Some students prefer radio and telecommunications engineering and they could be hired as communications engineers by telecom companies. On the other hand, those that have genuine interest in microelectronics usually prefer signal and control systems electronics. They could be hired in space agencies, military institutions, and companies developing new lighting technologies.

The demand for electronic engineers is increasing nowadays. This is especially true for those specializing in miniaturized electronic processors used by modern computer systems. It is also becoming a very lucrative field with some professionals being hired by top hardware systems developers.

TECHNOLOGY'S FUTURE IMPACT: DEVELOPMENT OR DESTRUCTION?

The future impact of technology can go in two directions. First, technology can impact positively through the development of ultra modern communications technologies. On the other hand, the other impact of technology could be more menacing to the environment especially if current hazardous practices will not be changed.

On the positive side, technology can contribute significantly to the advance of modern societies. In fact, information technology could serve as the driving force of global development. Information can be used to bridge different markets thus encouraging production of goods and services.

Through the use of modern communication technologies, knowledge can be redistributed which could solve underdevelopment. Technology facilities can also promote commerce, increased productivity, and efficient delivery of basic services.

Not all is rosy though when it comes to the use of modern technologies. Most technology solutions today still pose significant hazards to people and the environment. Specifically, carbon emissions of modern technologies have contributed greatly to the global warming phenomenon. This event unleashes destructive climate changes that can ravage entire economies.

The use of hazardous materials on modern technologies also poses health related problems as well as global disposal problems. Tons of hazardous and toxic materials are dumped by corporations annually without implementing effective disposal solutions.

Energy inefficient technology products are also exacting great pressures on global energy supplies. This could have a long-term impact in the future especially if wasteful energy consumptions remain unchecked.

That is why it is extremely important to create eco-friendly and green technologies to maximize its potentials. Modern technologies therefore can be made sustainable and progressively productive.

GRID TECHNOLOGY: USHERING THE ADVENT OF EFFICIENT DISTRIBUTED POWER COMPUTING

Grid technology is a concrete application of distributed computing system. In distributed computing, several virtual computers with their concomitant thin client sub-systems are interconnected to a super computer. This networked Web of super computer and multi-tiered virtual computers operates on a shared bandwidth and performs very large computing tasks.

Grid technology is very useful for large IT infrastructures. Usually, huge data centers apply this technology in order to ensure double-redundant system for continues computing processes. Academic and scientific institutions also applies grid technology for their IT environments especially those that perform 24/7 monitoring and data storage activities.

Companies and businesses also apply grid technology to power their e-commerce services and to keep their virtual presence in cyber space. Super fast servers are normally being used by these companies that host a globally interconnected network of virtual machines. This network can serve millions of users in a single instance doing normal computing activities.

The double-redundancy mechanisms applied on grid architectures sometimes fail due to increased bandwidth usage from voluminous data downloads. There are also instances where total power failure can occur which could crash the system. These incidents however are getting very rare due to the increasing performance of super computers and installation of multi-tiered power supply systems.

Aside from the reliability of grid technology, it can also significantly reduce the IT infrastructure requirements of companies and non-profit institutions. Instead of maintaining numerous data centers or servers in different locations, they will only need one super computer to serve as the nerve center of their virtual network.

IMPACT INFORMATION TECHNOLOGY: THE RISE OF THE GLOBAL VILLAGE

The impact of information technology on society has been very profound. Specifically, modern communication technology not just improved communication methods; it also manifested its effects on all aspects of human activities.

The advances in information technology literally created a global village. Today, everyone can virtually interact with other people residing in other parts of the globe. The interaction is not limited to normal communication activities but also involve other productive endeavors such as business transactions, banking, and provision of services.

The transfer and flow of information also became faster and more flexible. Today, a company can operate with its data center hosted in another location. A company can also operate globally without maintaining a global work force. All they have to do is to set up a powerful data center that can serve the needs of customers transacting through a Website.

The possibility of building this kind of business organization can be primarily attributed to the development of modern information technology. This virtually leveled the playing field between giant corporations and start up online industries. Gone were the days where the fruits of international commerce can only benefit corporations that have global organizations.

Information technology is still developing. Its impact and achievements have already changed lots of commonly accepted human activities. With further developments, the impact of information technology on society will also increase. Companies need to continuously adapt to these developments and constantly calibrate their technical capabilities. In this way, their organizations could remain relevant in an advanced information society.

IMPACT TECHNOLOGY: POWERING THE GRAPHIC REVOLUTION OF MODERN COMPUTERS

Impact technology specifically refers to high-end graphics rendering system. Through the development of high impact graphic technologies, modern computers have been able to handle million-color graphics and display them seamlessly on any standard monitor. Impact graphics technologies also paved the way for the development of 2D and 3D graphics rendering.

Impact graphics technology was first developed in the early 1990s. Through years of development and refinements, it increased its color management efficiency thus enabling computer systems to recreate perfect graphics and interfaces. High impact graphics have been in use for games development, computer aided design, digital artistry, and digital movies. It is also being used as graphic support for displaying real time images using 3G communication technologies.

However, not every computer workstation will be able to handle high impact graphic technologies. Impact technology requires fast processors and powerful computer memory systems. This is to accommodate the high memory requirement of impact graphic cards so that the computer display system will be able to process millions of color data. That is why it is generally advised to have a high-end computer system in order to use high impact graphic technologies.

By utilizing high impact graphic technologies, end-users can also maximize the efficiency of their computer display systems. Most impact technologies require little energy consumption. The advanced configurations allowable on high impact graphic cards make them extremely efficient. Design professionals can benefit from high impact graphic technologies on two points. First, they can render full color 2D or 3D graphics and at the same time consume less energy to power the interface card.

INITIATIVE PLANNING: ENGAGING THE COMMUNITY TO ENHANCE BUSINESS INTELLIGENCE

Initiative planning is becoming a very popular method for developing organizational strategies. It has become part of every change management methodology in order to create holistic plans. Any type of organization, whether business, government or non-profit, can benefit from initiative planning methods.

Initiative planning is normally adopted by joint public and private institution. Usually, community natural resource projects utilize initiative-planning approaches in order to come up with a balanced project strategy. The method normally involves the participation of all stakeholders. This means the planning process does not only involve project leaders but the community as well.

Initiative planning also finds its way to technology issues. With the increasing popularity of the concept of social responsibility, enterprises are now engaging the community at large in developing solutions that could directly impact society. This is especially true in developing green technologies. A wide planning effort could be initiated by private enterprises involving not just their direct shareholders but also end-consumers. Through this method, socially responsible corporate strategies can be developed.

This kind of management approach is a relatively new concept. It is still being refined and new methodologies are being discovered to enrich the entire process of initiative planning. Companies therefore need to study its intricacies and start adopting some of its approaches. By having an open mind on initiative planning, business organizations will be able to accurately determine the public's sentiment as well as preferences. This will result in increased business intelligence, which could be very advantageous for companies practicing initiative-planning methods.

ORGANIZATION CHANGE MANAGEMENT: CATALYZING CHANGE THROUGH POLICY AND EXAMPLE

Organizations need to implement change management practices to ensure progressive corporate development. Change management involves the systematic implementation of organizational innovations. These innovations can also be reflected on the business process and on product development.

Organizational change management is a difficult process. That's because change, especially systemic change, normally encounters resistance from members of the organization. By implementing changes to the usual practices, employees as well as managers treat these as threats to their comfort zones. Thus, it is extremely important to handle change management as delicately as possible in order to avoid strong resistance.

There are two methods of change management. One is through strength of policy, which is a top to bottom approach of effecting organizational changes. The key to this method is the unification of top level and mid level managers who will be the catalysts of change. Strong and effective policies need to be instituted and the management team should thoroughly grasp these policies. In this way, they can decisively implement organizational changes and the unification of the entire organization would be easier. This method is ideal for corporate organizations and other entities that have strong organizational disciplines.

The other method to change management is the strength of policy by example. This is normally implemented by loose organizations that have weak organizational discipline. Changes are usually implemented gradually through pilot methods. In this way, other members of the organization can see the merits of change and can be convinced to emulate them. Non-profit organizations and loose federations can benefit from this method.

IMPORTANT ROLES OF A DEVELOPMENT ORGANIZATION IN GREEN COMPUTING

Development organizations play leading roles in promoting best practices and products that are more responsive to environment protection. This is especially pronounced across IT industries in terms of creating energy efficient technology solutions. The current goal is to make technology more sustainable and environment friendly.

An example of a technology oriented development organization is the Green Computing Impact Organization. It is a development organization dedicated to popularizing environmental awareness among end-users. It also helps consumers choose greener technology solutions through educational activities and information drives.

There are also development organizations that provide environmental impact assessment tools designed for information technology products. Specifically, the level of carbon emission and the energy efficiency of products are being measured through their environmental assessment tools. These tools are required test mechanisms for some public and private organizations procurement programs. In this way, end users will be able to determine if their technology solutions comply with existing environmental regulations and standards.

IT corporations and systems developers are also creating their own self-regulatory development organization. The goal of such industry-initiated development organization is to standardize computing practices to enhance efficiency especially in energy and power consumption of devices and large-scale data centers. Collaborations have been initiated also through this type of organization in creating eco-friendly product standards.

The role played by development organizations is vital in recreating the information technology industry. Through these organizations, companies and consumers would be more sensitive to the relationship of technology and environmental issues. In this way, the sustainability and efficiency of new technologies can be assured.

UNDERSTANDING ELECTRONICS ENGINEERING AS A MAJOR FIELD OF SPECIALIZATION

Electronics engineering is one of the oldest fields of study in engineering science. This engineering specialization covers electronic designs, theories and practices. Electronics engineering, in its modern interpretation, also encompass electrical engineering and every sub-fields associated with it.

Almost all American and European universities offer electronics engineering as a major field of study. To be able to become a professional electronics engineer, one should undergo formal university studies comprising of two years of basic science and mathematical studies. Another two or three years of taking up major engineering courses are required to complete the entire undergraduate studies.

Normally, electronics engineering students are required to undergo formal trainings in any major electronics or electrical engineering companies. Microelectronic engineering majors usually get their formal trainings from computer hardware developers especially those producing microprocessors and microchip systems.

Graduates of electronics engineering are also required to secure a professional license. After securing a license, they can then practice their profession in engineering and electronics production companies.

Modern technologies have a great demand for electronics engineering professionals. Their services are needed in the telecommunications industry, computer engineering and design, modern electronics and lighting systems, and sophisticated microchip productions. An electronics engineering professional could have lots of options outside the academe.

It is advantageous for electronics engineers to have sufficient knowledge of information technology systems. This field of specialization has become very robust especially with the growth of the IT sector.

Electronics engineers who want to have a career in computer industry should take further studies in computer engineering. They can also take certification courses offered by industry leaders for computer engineering professionals.

ADOPTING A GREEN DATA CENTER COULD ENHANCE CORPORATE VIABILITY

Some studies have shown that enterprise data centers consume more power than a typical office building. It is also a known fact that most data centers utilize only 15 percent of its total capacities. This is due to the normal practice of over capacitating IT environments and building redundant power supply and reserve computing power.

With the surge in power costs and diminishing energy supplies, companies are finding their energy overhead costs to be too prohibitive. This could impact significantly on the incomes of companies primarily because profit margins are being reduced by high energy requirements of data centers.

This situation pushes more companies to adopt green data centers that are energy efficient. Maximization of data center computing capacity is also being implemented. It is not surprising therefore to see companies rationalizing their data center energy use and maximizing computing capacity. The green initiative, as it is popularly called today, could increase profit margins and makes companies more socially responsible.

The common green data center initiative is the deployment of multiple virtual machines on a single physical environment. Instead of building redundant data centers with multi-tiered power and cooling requirements, virtualization allowed companies to maintain a single powerful data center running multiple machines. These virtual machines can perform serving tasks for thin client environments. In this way, power consumption can be reduced significantly and at the same time maximization of physical resources can be achieved also.

There is no doubt therefore that deploying green data centers could keep the stability of IT environments while maintaining the competitiveness and viability of business organizations.

HIGH IMPACT COMPUTER: COMPUTER POWER AND VERSATILITY FOR BUSINESS AND HOME USE

High impact computers can be used in many ways. In fact, these kinds of computer systems are very versatile they can be used for business, professional, and home use. High impact computers are also becoming the standard workstation systems. They significantly increase the productivity of end users.

High impact computers are especially suitable for business computing. With the increasing practices of multi tasking and business process computing, high impact computers could be very effective tools. Loading simultaneous processes and significant amount of data is nearly impossible several decades ago. Early computer systems were excruciatingly slow and have less powerful processors. As technology advances, modern computers were developed to answer the needs of business computing. High impact computers can now store more data and can host multiple engines without affecting speed and performance.

High impact computers are also being used by independent professionals for their work. Computer aided designs for engineering and architectural structures are now possible. Through powerful computers, design specialists could render accurate graphics complete with specific space and dimension calculations. High impact computers also improved and greatly enhanced the creativity of other design professionals. Digital media can now be produced using computer technologies. Graphics, still photos, and movies can now be produced exclusively from a powerful computer system.

The entertainment value of high impact computers also improved. 3D gaming and interactive media can be flawlessly displayed on modern computers. Fast and powerful high impact computers are increasingly being used by lots of people as part of their home entertainment systems.

POSITIVE IMPACT OF TECHNOLOGY: CREATING SUSTAINABLE COMPANIES THAT FUEL GROWTH

The impact of technology on modern companies brought about dramatic changes in corporate organizations, work ethics, productivity, and social responsibility. These four aspects are the most important areas where modern technologies can be used to further improve modern companies.

Through information technology, companies can significantly alter their organizational structures without hampering their operations. Through the use of communication technologies, companies have the advantage of maintaining a tightly knit international work force without instituting a physical corporate structure. It is possible now for companies to attain global operations and reach the international markets through the use of technology.

The development of new work ethics can also be influenced by new technologies. The advances made by information technologies paved the way for virtual employees and offices. Companies now can maintain employees outside of physical facilities. All they have to do is to maximize the power of communication technologies and telecommute from home. This makes company operations more streamlined and efficient.

Modern technologies can also significantly increase productivity. By using advance machines, companies can produce more products while utilizing shorter man-hours. This is optimum productivity, which is beneficial for corporate growth and profitability.

Finally, modern technologies can also be used to enhance the promotion of corporate responsibilities. Specifically, by utilizing green computing systems and eco-friendly technologies, companies can contribute significantly to environment protection and preservation. These initiatives also pave the way for the creation of sustainable companies. In this way, production of consumer goods and materials could go on without destroying the environment.

INFORMATION TECHNOLOGY CONSULTING: PROVIDING EXPERT IT SUPPORT FOR BUSINESSES

Information technology consulting is not a new business endeavor. Since the development of modern communication technologies, IT consulting companies have been providing services to businesses. Specifically, they provide technical expertise and advice on how to optimize the technology infrastructures of companies. IT business consulting can also help companies develop their IT environments and make it a profitable business tool.

To fully understand the role of information technology consulting services, companies should know the three types of IT consultancies. There are IT consultants that provide professional technical services. These consulting firms can help companies build their IT environments from the design phase to actual technology deployments. They can also be utilized to improve current IT infrastructures or provide help in upgrading obsolete technologies. Usually, IT consulting firms that offer these kinds of services employ pools of technicians and developers as well as software engineers.

Another type of an IT consulting firm provides IT staffing services. If companies lack the necessary manpower for their IT environments, then the services of IT staffing companies could greatly help them. These IT consulting firms provide competent IT specialists that have the capabilities to maintain technology architectures and train in-house IT staff.

Lastly, there are also individual experts or specialists that can serve as IT management consultants. Companies that have stable IT environments and only need management expertise for better performance can benefit from the services of independent consultants. Independent consultants are top caliber IT specialists and practitioners. Companies can negotiate a contract with them or can get their services as the need arise.

MANAGING ORGANIZATION: EFFECTIVE WAYS TOWARDS NEW MANAGEMENT PRACTICES

Managing an organization is not a simple task. It involves meticulous planning, careful consideration of existing regulations, effective human resources allocation, and increasing productivity and efficiency. With the increasing demand to make organizations greener, management tasks also became increasingly complicated. Companies today have to respond to its social responsibility in creating organizations that are more eco-friendly.

Managing green corporations requires new skills as well as knowledge of current environmental standards. This means corporate planners need to invest anew on management training and installing new facilities to recreate products that comply with environmental regulations. At first glance, this initiative entails additional overhead cost. But the long term impact of creating a greener enterprise could overshadow the initial investments involved.

Managing a green organization should start at the highest levels. It means the drive towards eco-friendly management methods should have the official backing of top corporate executives. Top management support will enable middle level managers to implement necessary changes to the organization.

Of course, practices have to be changed also and this usually involves unifying the efforts of the entire organization. Employees must recognize their own social responsibility through effective change management methods. In this way, new policies as well as the institution of new practices based on greener standards can be followed without much resistance.

Managing an organization towards new and better practices is not easy. However, this can be accomplished especially with proper management methods and reorientation of the entire enterprise. With new organizational management methodologies, companies would be more sustainable and socially responsible.

DOING GREEN BUSINESS

Doing business is not all about profit making. Business is about satisfying your customers and most of all making sure economic, environmental and social aspects are taken into consideration.

In a world of digital technology, consumers are cautious of how the new information devices could affect their health and environment.

Nowadays, even kids are given the opportunity of playing digital device and the use of the computer with radio energy or magnetic device.

Examples of these are the Bluetooth ready mobile phones, computer wares such as WiFi, and wireless notebook card.

Green business is about doing business in computing whose main objectives are to reduce the use of hazardous materials, maximize energy efficiency during the product's lifetime, and promote recyclability or biodegradability of defunct products and factory waste.

They account for the triple bottom line also known as TBL, 3BL and People, Planet, Profit. This is taking into account the environmental and social performance of the business in addition to financial performance.

Doing green business is coordinating stakeholder interest rather than maximizing shareholder (owner) profit. Stakeholder refers to anyone who is influenced, directly or indirectly by actions of the firm. Green business is sustainability or eco-responsibility. It applies the ER3 principle, which is Eliminate, then reduce, reuse and recycle. This principle provide better results in terms of eco-performance, reduced IT costs and provide a more efficient overall operations.

It surely would be great to be considered in the market industry, as a business that is committed to serving its customers well and at the same time help towards the preservation of environment.

HEAR IT FROM THE GREEN

COMPUTER SPEAKERS

Green computing is one of the most important issues that need to be addressed to the people. Just for the United States alone about 4.2 million computers are used in homes or by businesses and soon these computers will be outdated. The increasing demand for information technology made electronic firms or computer manufacturers of coming up with new technologies. As this continues, those who can afford will get their stuff upgraded and some will gradually replaced their stuff with their old parts being thrown out.

As these parts are thrown, they create big trash that fills up the landfill space. Most people are not aware that these computer parts can be recycled and reused. Green computing is about reducing, reusing and recycling.

For people to become aware of this there are organizations that campaign for the advertising of selling green or environmentally friendly products. Green computer speakers talk about how hazardous the toxic chemicals on computer parts are to humans and the environment. It is for this reason that they encourage people to not just throw away their old parts at landfills as they contain toxic chemicals such as lead oxide, mercury, nickel, zinc and cadmium.

Green computer speakers oftentimes hold conferences to inform the public on ways to reduce the use of hazardous materials, promote recyclability or biodegradability of defunct products and factory waste. They try to introduce to the public ways to maximize energy with energy efficient products, thus conserving the use of energy and cost of power.

GETTING A GREEN IT JOB

It is better to be working with a company that puts value on people at work, its customers and its community. A company that has sense of value on the economic, environmental and social aspects is worth staying and serving.

In today's world, the most talented people in IT want to work with organizations that are considered environmentally and socially progressive. Those working for this kind of organization get credit at least for being a part of an environment conscious organization and for which they feel proud to become part as one.

Opportunities for Green IT jobs are available in the Internet. Those in the career market groups publish job listings for Green IT jobs. These groups specialize in connecting people with business skills with environmentally conscious employers. They cater service to employers that embrace sustainable business practices and have high quality environmental jobs. There are only a few green IT job providers on the net. Green IT jobs do not exist on any other general job Website.

Green IT jobs provide opportunities for advancement. It is a job that does something for the people, planet and same time receiving a commensuration pay. As people become conscious of using environmentally friendly products and services, the demand for Green IT jobs will increase. There is a wide range of jobs and skill requirements for green IT jobs however, the potential employment impact is substantial.

Know where your passion is, what you believe in, what you want to do and identify a career path. If you see green in your perspective, perhaps green IT job is designed for you.

THINGS TO KNOW ABOUT INFORMATION TECHNOLOGY ORGANIZATION

Businesses must improve their performance to survive and prosper in the future. In a globally competitive environment, information technology will not alone provide the needed performance improvements. It is evident that people practices and the alignment of organizations objectives have great influence on business performance.

Information technology organization involves people and the machines and the methods used to create those artifacts. To make them effective is to create an order on how they should be used. Each member of the organization should be able to understand their roles, responsibilities and decisions rights in terms of information technology organization.

Information technology organization is a system where all stakeholders, including the board, internal customers, and in particular departments such as finance, have the necessary input into the decision making process. It is focused on work system and ensuring that the work system are aligned with the rest of the organizational elements.

Consulting companies provides businesses with systematic approach to align their organizational elements and improve work systems so as they both support each other. It is necessary that update of the information technology organization is updated. This is needed in as much as when organizations tend to evolve and grow, the elements begin to lose support for each other, causing bureaucracy and receiving unresponsive response. This occurs when the focus is on the new product or service, instead of ensuring that infrastructure is sound.

An organized information technology makes processes easier to execute, facilitates timely information sharing, and enables consistent coordination between elements and layers of the organization.

WHAT IS ORGANIZATION TECHNOLOGY?

The rapid change in the computer environment has made it hard for some organizations to keep up with technology. There are some concerns that are not addressed and given solutions due to staff's inability to perform and absence of reference materials.

Technology refers to artifacts created by humans, like machines and the methods used to create those artifacts while organization refers to rules and policies that govern our lives, the guidelines to structure our lives. In businesses where technology is applied, it is important that there is organization technology. Organization technology is looking at the concept of applying the methods and materials to create an order.

Organization Technology is more about clearly understanding the roles, responsibilities and decisions rights. It includes participation of senior-level and technology participants on part time but routine basis. It requires centralized bodies that are specialized and dedicated technology staff. It needs based bodies for which rotational assignments are created to deal with particular efforts. Organization Technology is creating an orderly environment in a creative process.

Organization technology involves needs assessment, evaluation of the current state of technology and creation of success measures. It should outline the accessibility requirements from the perspectives of employees, your organization's processes, and current technology. Businesses should realize that through this assessments, purchase decisions and development of new technology will be taken into consideration.

Organization Technology involves documenting a comprehensive set of accessibility requirements and measures of success that owners can use to execute the design, development, and implementation steps.

There are consulting companies that helps businesses in the design and processes implementation and solutions of their organization technology.

TURNING OLD COMPUTER PARTS TO GREEN

The fastest growing trash products in the United States are electronics. Electronics or computer parts take a huge amount of landfill space and most people do not realize that these parts contain toxic chemicals such as lead oxide, mercury, nickel, zinc and cadmium, which are very hazardous to humans and the environment.

Green computing applies the ER3 principle, which is Eliminate, then reduce, reuse and recycle. Some parts of the computer can be re-used except for the chips that need upgrading and the mother boards to mount them. Consumers should be aware that almost all computer parts could be recycled and reused. This is also called computer recycling where old computer parts are recycled and refurbished into new, usable parts.

If you have an old computer and you would like to get rid of it, there are refurbishing businesses that fix and clean them. You can either resell or donate to schools and non-profit organizations, or send it to a recycling facility where metal, plastic and glass parts can be broken down and molded into new parts.

People nowadays, feel that it is cheaper to replace computer parts than have the parts fix as this entails labor costs. They also look for computer parts that are environmental friendly. Computer parts that can be recycled are as follows:

- Glass monitor
- Keyboard
- CD Rom drive
- Plastic case
- Cathode ray tube (CRT)
- Cables
- Copper in power cord
- Metal from circuit board
- Printer cartridges
- Batteries

GO FOR GREEN COMPUTERS

How much of your time is spent on using your computer? Does your work require you to be in front of the computer all the time? Do you have kids who use computer for playing and research? It seems that almost all makes use of computer for personal or business. The time you spent using your computer consumes energy and your exposure to the machine. Computers are of great help to us, and computer manufacturers continue to improve their products and service by developing products that are considered environmental friendly.

Green for computer is to work on a computer that helps conserve energy and is environmental friendly. Electricity is run by fuel and the high-energy costs today, raised the power bills and of which have been a concern by both the consumers and business managers. Computer manufacturers have developed energy efficient product lines to address this problem, thus using less electricity. In fact, almost all electronic firms are trying to develop energy efficient products that would out beat their competitor's brand.

A Green PC is a computer that has a number of options such as how to dim monitor when not use for some time, the use of LCD monitors to replace the CRT monitors, etc. Green for computer is to have a computer software which has the feature of turning the computer on suspend state but will not turn the computer off, thus less energy is used or a state where it will allow users to schedule the screen shutdown and hard drive before going to a suspend mode.

Go for green computers, and reduced your headaches on those high paying bills on energy.

A LOOK AT THE INFORMATION TECHNOLOGY INITIATIVE

A company with information technology organization should be able to work on their system with a plan or task and take a step in finding solutions to problems.

Companies who have information technology organization in placed, encourages each member to contribute their thinking, innovating, collaborating, cooperating, learning, and working skills at their maximum capability in order to make business successful.

Information technology initiative is a plan of action that seeks to inform people within the organization of the decisions reached after the assessment needs and evaluation of current technology being used by the company.

Some information technology initiative may involve the following:

1. **Infrastructure improvements.** A new hardware and software that will increase security for infrastructure, improve software deployment capabilities, improve server management and improve desktop management.
2. **Content Management.** The capability of bringing records management to a department's existing content management infrastructure.

3. **Security.** Place deployment of additional tools to improve the gathering and management of security event data as generated by various tools to protect intellectual property and assets.

Non-profit organizations provide information technology initiative as well in bringing to the minds of the people together eco-conscious consumers, businesses and conservation organizations on how to improve energy efficiency and reduce the power consumption of computers and servers. These organizations are committed to green technology.

Information technology initiative is not only a plan of action but also an endeavor that is to start or has begun. It seeks to inform readers of solutions to the problems and the decisions that they took. Look at your company's information technology initiative and validate how they work.

WHY ORGANIZATIONS IMPLEMENT GREEN

One of the fastest electrical loads in the business world today is the use of computers. As more computers are purchased and put into use, energy consumption is increased. In most cases, desktop computers are left continuously running even when not in used. This adds to the increasing energy burden and organization should do something about how to conserve this energy. It should also be noted that computers generate heat and require additional cooling which adds to energy costs. Thus, the overall energy costs become greater for companies.

An organization that is committed to energy conservation and environmental stewardship, must address the issue of computer use responsibility. Organizations should adopt conserving practices that will provide annual savings in the end. Organization should have implementation guides on energy saving strategies.

Organizations implement green in their business for fame. They want to create a favorable publicity that they care and this in return promotes goodwill. Goodwill means drawing more customers and increasing revenues. Other organizations implement ongoing green, as they fear that if they do not, competitors will beat them. Today, part of government regulations requires environmental conservation. Some organizations implement green for altruistic and moral reasons. They feel they are responsible for preserving the planet for their grandchildren and their grandchildren's grandchildren.

Organization's implementation of green depends on what the organization believes in, what it wants to do and how things are to be done. Be eco-responsible, reduce your IT costs and provide efficient performance on your operations.

STRATEGIC ORGANIZATION, AS A PROCESS

Strategic organization is the process of formulating, implementing and evaluating cross-functional decisions, which will enable organizations to achieve its objectives. It is a discipline effort to shape and guide what an organization is, what it does and why it does it.

Strategic organization is the highest level of management activity, usually formulated by Board of Directors and implemented by the organization's Chief Executive Officer (CEO) and executive team. It is an ongoing process which assesses the business and the industries that a company is involved. Each strategies are reassess annually or quarterly to determine how it has been implemented and find out if the strategy has succeeded or needs to be replaced with a new strategy in order to meet changes in new technology, new competitors, a new economic environment., or a new social, financial, or political environment.

The three main processes involved in strategic organization are:

1. Strategy formulation involves performing a situation analysis, self-evaluation and competitor analysis: both internal and external; both micro-environmental and macro-environmental. The objectives are set and a plan on how to achieve these objectives are laid out. This process determines where the organization is now, where it wants to go and how to get there.

2. Strategy implementation involves the allocation and management of sufficient resources which includes financial, personnel, time, and technology support. Specific tasks or processes are assigned to specific individuals or groups. It is at this stage where results are monitored, benchmarks and best practices are compared, the efficacy and efficiency of the process are evaluated and adjustments to the process are made, if needed.

3. Strategy evaluation involves measuring the effectiveness of the organizational strategy using the SWOT analysis. The strategy should have the characteristics of suitability, feasibility and acceptability.

THE WAY CLIMATE SAVERS COMPUTING INITIATIVE DO

Learn, discover the simple ways to save energy. Simple yet too profound to contain and this is what the Climate Savers Computing Initiative believes in. This comprehensible motto can be further expound to the power management instructions they formulated to completely execute the objectives of their organization which mainly centers in saving energy.

The power management instructions do not require the consumers and users to crucify themselves or else... but to teach us simple instructions that can be very beneficial and would trigger great changes. It starts off with knowing the power management features of your computer which are already featured in Windows and Macintosh operating systems.

The Climate Savers Computing Initiative has done considerable studies on how to reduce energy consumption, lessen the cooling costs, reducing the noise, and prolonging the battery life of your notebooks and laptops. And the good thing about the formulated power management instructions is the life-changing environmental impacts it produced.

The recommended strategy in power management settings would be:

1. The Monitor or the Display Sleep: the computer will automatically turn off after 15 minutes or less.

2. The Turn Off Hard Drives or the Hard Disk Sleep: likewise, the computer will automatically turn off in exactly 15 minutes or less.

3. The System Standby or the System Sleep: after 30 minutes or less the computer will automatically be in Sleep or Standby modes.

Though power management instructions may differ by operating systems the point is, there are actually OS that have featured this kind of setting to ensure something and that would be: the smooth operations of your computers while reducing the energy consumption of your computers.

THE CLIMATE SAVERS COMPUTING INITIATIVE

The movement towards organizations going environmentally friendly is supported by IT policies which aim to execute energy efficient practices. Companies cannot separate themselves in their obligation to the world which is to sell greener products. However, this kind of responsibility becomes challenging since people have various views in this going green concept.

With the participating of The Climate Savers Computing Initiative or CSCI that primarily promotes reduced computer power consumption. It is already recognized that CSCI has found the real solutions in lessening and completely eliminating detrimental environmental impacts because of data centers, servers, and technological innovations that consume power energy. The fact that any usage of electronic innovation is also taking part in greenhouse gases emissions has led the CSCI to seriously employ means and strategies that will reduce power consumption by 50 per cent when the year 2010 comes.

Energy efficient computers and servers are already manufactured by industry-leading companies and organizations which actually show a corporate social responsibility and sustainability. And with this kind of environment happening in the market, do you think that consumers and buyers will also be influenced in going green?

The most pressing challenge apparently lies in the consumers since the common notion created in the mindset of the general public is this: going green means spending more money. Though a lot of Americans are sincerely concerned about the welfare of the environment—and they also felt the consequences of environmental practices of green companies because the products they buy are becoming costly—they still believe that going green is quite expensive.

However, with the help of CSCI power management instructions being provided the mindset of consumers can be diverted to the great impacts that green products can actually provide. Going green can be expensive, but with proper education of the market such challenge can be overcome.

WHAT GREEN COMPUTING IMPACT ORGANIZATION SUPPLIES

The GCIO is primarily established with the aim of transforming the IT community from being an environmental liability to being an environmentally friendly community. Their driving mission is to be involved in educating and helping the users of enterprise technology by environment awareness and responsible information system procedures. IT system environmental audits, programs, and events, and the IT department were all molded in becoming responsible and accountable energy reduction consumption and electronic waste management. This whole mission of GCIO is directly linked to its aim which is: the protection of the Earth.

And since going green is a hot topic today, the Green Computing Impact Organization formulated the concept that would change the people's perspective about data centers. With the initiative of GCIO, companies all around the world have laid the strategies in saving energy, and lessen the costs of energy consumption by purchasing new products, hard wares, and services from greener companies.

For the record, GCIO supplies:

1. The environmental audits of an organization and its computing architectures.
2. The promotion and advocacy that is environmentally-related.

3. The programs and outreach projects that aim to educate enterprises on becoming responsible in the computation strategies.

4. A self-sufficient forum between enterprise users and the solution vendors with a non-interfering and secured manner.

To make going green simple for IT enterprises GCIO also provides planning processes that will further encourage other enterprises to adopt ecologically pleasant products and services. Also, GCIO encourages the manufacturers of new products and services to become conscientious about the products and services they offer to the consumers.

GREEN COMPUTERS INITIATIVES

Green computers initiative is not all about saving money, power sources but most importantly about our planet, our planet's welfare. With the increasing movements and initiatives towards going green, the response of the public and private sectors is overwhelming as well. They are now becoming open-minded in facing the issue and even companies are doing their part by manufacturing green products and services. There are already green computers available in the market that comes with biodegradable peripherals. And this only proves that green computers initiatives are doing a great job.

Eco-friendly computers, keyboards, flat-panel monitors and mice are now in mass production and is gradually dominating the market and affecting the consumer's lives. With the innovative designs of green computers and their peripherals—that can be traced back for more the 15 years now—the short life cycle and disposable nature of computers and its peripherals have been addressed well. Green computer initiatives have already “warned” computer manufacturers that use toxic materials and heavy metals such as cadmium, lead, and mercury and it turned out that many of these companies are also interested in such endeavor.

As a result, the modular design of computers which are considered to be ascetically brilliant and easily upgradeable, have been built. The modular design of green computers means the computer is upgradable, recyclable, reusable, and can be replaced by modern parts that bear the same qualities. The life span of a computer with modular design, together with its peripherals, is 7-10 years which is thrice the life span of an average computer. Also, another interesting fact about modular-designed computers is that: it can be buried in the ground and after three years or so, they will go back to the soil. And this only shows that zero waste product management is just achieved.

GREEN COMPUTING IMPACT

ORGANIZATION OVERVIEW

The technological advancements in data centers gave companies and corporations numerous opportunities and business successes. However, certain drawbacks of these technologies have also caused an unexpected raise in power energy consumption that is becoming a major issue. This issue has continued to become sensational since data centers use more power than all the televisions in the United States. In fact, data centers and servers in the US consumed two times the amount of electricity for the past six years.

Through GCIO your company's finances and consumption of valuable resources can be reduced and the costs that have been saved can even be invested in other needs of the company. The green image that your company can achieve will not only be helpful to your company but to our planet as well.

The free IT operation service provided by GCIO creates an influence in computation and assessment of environmental efficiency issues that can be used as a tool in planning and measuring the success of future endeavors of the company that deal with green migration. Most of all GCIO supplies information that would be helpful in constructing strategies and products. Also, opportunities for competitive bids which are identified primarily by allied vendors.

In fact, GCIO accepts applications for ecological audits of companies that belong in Fortune 1000 and other major agencies of the government of the United States. Even programs that are featured for expansion are provided with updated information which will be advantageous to both parties: the already established companies and the companies which are on their way to becoming a green organization.

GREEN ELECTRONICS COUNCIL

There have been a number of consortiums that seek strategies, frameworks, greener products, and services like the Climate Savers Computing Initiative, the Green Grid, the Green Computing Impact Organization and the Green Electronics Council. However, this article will further elucidate the latter consortium which is known because of its distinguished mission and goals. To inspire, to support the efficient design, to manufacture, to use, and to improve the electronic products to achieve a greater cause which is: a healthy, fair, and prosperous world.

On the other hand, the Green Electronics Council aspires to achieve the two main points which can be done through its partnership with the electronic industries and other concerned enterprises and electronic manufacturers that are interested to invest in greener products. These two major points are: the execution of market-driven systems that will be identified and be rewarded through its preferred environmental electronic products; and the building of well-informed professionals and organizations that have the capacity to design and control the life cycle of electronic products which will be beneficial in enhancing the organization's social and environmental functioning.

Some of the Green Electronic Council's programs are: Electronic Product Environmental Assessment Tool or EPEAT; the design for the environment or DfE training programs intended for electronic designers and makers; and the Green Electronic Design Awards which is currently on the process of becoming a certified program of GEC.

So far Green Electronics Council through the EPEAT program has produced environmental benefits such as 13.7 billion kWh of electricity savings, 24.4 metric tons of electronic materials, and 56.5 million metric tons of air pollution. And as the council continues to become stronger, the savings can be doubled after a couple of five years.

GOING GREEN CAN BE TRULY CHALLENGING

Manufactures of green products have been taking audacious strategies that are unquestionably gaining positive responses from the market and the buyers. Though many buyers are not yet convinced about the principles surrounding the Climate Savers Computer Initiative or CSCI, companies are still moving further with an unaffected attitude.

The greener IT products like data servers, data storage devices, printers, network connections, monitors and other computer peripherals are a part of a certain companies that is indispensable. With the implementation of power management featured on a certain greener product, almost 10 percent of overall power energy consumption can be saved.

Manufactures should be the one promoting the kind of mindset that consumers should have. That when the time comes that they have to purchase greener computers, they should look beyond the cost rather than the environmental impact it can provide to the world. The truth is, most people find themselves unaware about the energy and computation of power consumption they spent.

Finally, despite the challenges that green companies face they are still willing to give their helping hands to educate their consumers in exchange of, consumers patronizing their greener products. The kind of education they provide to the consumers are easily-understood especially when they are purchasing greener computer and some of these are:

1. The haunt for the Energy Star which can be found on the product itself and the Electronic Environmental Assessment Tool.
2. Purchase computers which have power saver settings.
3. Do your own research about computer models that burn less energy. This can be done by using free online power calculators.
4. Take a look into the manufacturer's policies if they are guided by environmentally formulated standards which may include the environmental history of the company.
5. Be vigilant to the packaging used and if the manufacturer allows offsetting the carbon emissions once you start using the product.

THE GREEN GRID FRAMEWORK

Certain organizations like the Green Grid internationally known nonprofit institution that aims to get connected to efficient IT services and products. As a global conglomerate, they primarily pioneer and design new data centers that facilitate business and the environment to become greener.

To move further, the Green Grid develops efficient data centers and business computing ecosystems that center on the following:

1. Metrics and models that centered on the user which can also be significant measurement of energy processes.
2. Standards development and strategies for IT and business processes produced by new technologies that are mainly designed in improving the data center performances against the already identified metrics.
3. The promotion of energy-efficient standards, processes, technologies, and measurements that would be valuable that have been adopted.

Moreover, the consortium of Green Grid offers membership in a circle of industry stakeholders that is united in achieving and advancing the entirety of the data center energy efficiencies. In response to the burning issue of environmental impacts of IT products and services and increasing energy consumption of such products, the Green Grid has come up with frameworks that would yield to data center energy productivity. The framework presents the answers to the common question raised by organizations that utilize electronics and have been paying higher bills. How do we control the energy consumption without dismissing the fact that critical IT services are what the customers actually demand?

The Green Grid has provided a technical analysis of the challenge in evaluating the energy efficiency of data centers, which can be done through the examination of different power sources and metrics and the feasibility of such power source implementation. Moreover, certain tools are proposed which can be utilized in optimizing data centers and energy utilization.

THE CSCI TOP SECRETS REVEALED

The Climate Savers Computing Initiative has been getting an immense support from organizations like Green Computing Impact Organization, World Wide Fund for Nature, Energy Star, National Rural Development Council, and Intel as its primary members.

The simple, easy to follow, and very idealistic steps in going green play a crucial role in slowing the climate change through your computer. Proper awareness of these steps will lead to power management.

The Step 1: you can start participating in the execution of energy efficiency by the “turn on power management” and by being informed with interesting and helpful facts that say: your power management setting can actually reduce half a ton of CO₂ which means \$60 a year of savings. Moreover, the standard computer desktop wastes half of the energy it utilizes as heat. Greenhouse gases and higher electricity bills are the apparent consequences of wasted energy.

The Step 2: this secret is revealed when you purchase an energy-efficient computer. For the record, a laptop or a desktop computer that bears the Energy Star label utilizes 15 to 25 per cent less energy on average form as compared to the standard new computer. When you decide to buy a computer with an Energy Star compliant PC especially the Energy Star 4.0 you actually save an annual greenhouse gas emission of 2.7 million vehicles or \$1.8 billion in energy costs alone.

The Step 3: this is done by unplugging your phantom power since putting all your electronics in one strip will not only save energy but it would be favorable for you when you switch them all off. When your electronics are not in use and you unplug them you are actually reducing 10% of your electric bill.

Live by these three steps provided by CSCI and you will definitely become an active member of an organization that aims to fight climate change and reduce power energy consumption.

THE EPEAT STANDARDS

Electronic Product Environmental Assessment Tool or EPEAT is a system that assists all types of consumers in evaluating, selecting, and comparing desktop computers, monitors, notebooks, depending on their environmental characteristics. In fact, EPEAT has formulated a clear-cut set of criteria in designing technological products especially in the part of manufacturers so that their products can create an impact to the environment and the target market.

The Institute of Electrical and Electronic Engineers or IEEE is an organization that has set guiding principles that manufacturers have to agree with when it comes to environmental performance standard for electronic products. Such criteria are contained in IEEE 1680. However, some criteria deal with:

1. Elimination and reduction of environmentally sensitive materials (e.g. hazardous substances like cadmium, mercury, lead, hexavalent, chromium, flame retardants and plasticizers, polyvinyl chloride and chlorinated plastics, etc.)
2. The selection of materials which can be contained in: total recycled plastic contents, renewable/bio-based plastic materials, and dematerialization.

3. The design for end of life which can be attributed in: the design for recovery through recycling system the used shredding; the complete removal of coatings or paints that are well-suited in reusing and recycling; the products that have removable enclosures; the marking of plastic components, and so and so forth.
4. The life cycle extension or the product longevity that should involve the service agreement or manufacturer warranty, upgradability, modular design, and availability of replacement parts.
5. The energy conservation criterion may include: power management system, the use of renewable energy, and the renewable energy standards.
6. The end of life management that deals with provision of product take-back service, the computation of recycling services, and the rechargeable battery recycling.
7. The corporate performance when it comes to execution of corporate environmental policies and environmental management system.
8. The packaging which is supposed to be nontoxic and the use of recyclable packaging materials should be seen in the recycled content materials.

These EPEAT standards are designed to be used in manufacturing products that would be essential in achieving green electronics as easy as possible.

TO HAVE A GREEN COMPUTER

The forces in making companies become greener and more ecologically friendly have already become intense. In fact many companies have already invested so much of their time, effort, and money in operations and products that supply more efficient energy consumption and reduce the costs of materials used in power sources. To address such issue, some initiatives and consortiums with the support of many multinational companies like Microsoft, IBM, HSBC, and Google promote the use of the greenest computers on Earth.

We are already aware about how powerful our computers can be, however the dilemma takes place when computers use electricity and power sources that in return produce carbon emissions. Also, more than 10 percent of energy becomes wasted whenever we use non-green computers since some companies still lack power management efforts and awareness.

For the record, personal computers and desktops consume about 110 watts of electricity. But with energy saving tools available in the market, the 110 watts can actually be reduced to 1-5 watts. Such product makes a green computer. Apart from green computers, air conditioning is also one of the electronics that consume a lot of energy, if in fact this can be avoided as well. Since air conditioning helps in the maintenance of computers, they should also be accountable in reducing electric bills. However, if it is possible not to install an air conditioning, you will not only consume less energy and produce less heat but you will definitely save 25 percent of your electricity bill.

Moreover, there are already virtually-manufactured desktops that can last for more than a decade. Since a typical PC should be disposed after three to five years of use, the disposal will even cause you a 10kg of waste. The environmental impact of such action is another story though that is also often highlighted in many circumstances. However, the point which needs to emphasize is that: e-waste can e solved through the new green technologies available in the market.

GREEN COMPUTING MEANS TO SAVE YOUR MONEY AND YOUR BUSINESS FINANCES

Al Gore is truly commendable with his documentary entitled The Inconceivable Truth which is about global warming and taking care of Mother Earth. On the other hand, the US Environmental Protection Agency that launched Energy star also deserves our round of applause for instituting the “green computing” program that involves disposal of electronic waste.

The trend about green computing is not another protocol of the government to clean its closet about its involvement to the real situation of this planet. It is about facing what lies ahead when it comes to reducing the operating costs since the demands for computing resources skyrocketed in only about a decade or so. Such movement initiated by the US government itself prioritizes the data center and computing resources efficiency out of the huge processing needs of every company. The program of green computing identifies the means and strategies needed in efficient consumption of energy in various IT technologies like monitors, climate control equipment and so on.

Green computing provides numerous financial benefits to companies and industries, and profit and nonprofit establishments and consumer goods. Since each of these organizations also gets affected when it comes to paying too much power bills due to the e-waste crisis, they are also the benefited subjects of the program as it continues to deliver successful changes. These corporations and organizations have been educating themselves and have been keeping their eyes on their finances through economical-energy computing or green computing. Millions of dollars will be saved since green computing targets near-term results, apart from the ecological friendly policies that the government has formulated say for instance the “carbon-neutral computing.”

GREEN COMPUTING INITIATIVE PLATFORMS

Achieving power efficiency has long been considered as the driving force by green computing initiatives. The market in sustainable computing products and the manufacturing processes of such products pave the way to a wide array of computing strategies that have environmental obligations through green computing initiative platforms. Power grids and distribution channels are the current infrastructures that present inexpensive, efficient, and modern computing platforms.

However, other computing initiative platforms that can also be beneficial and productive are:

1. Carbon free computing will indeed make everybody breathe easier. Carbon dioxide is mainly produced by fossil fuel burning power plants which can be best offset through projects like reforestation, alternative energy (e.g. solar and wind power sources), and stringent implementation of environmental conservation. On the other hand, carbon free products can be identified through logo programs that cover processors, full PC systems, and components. Carbon free computing certifications and logo programs clearly provide an education in understanding environmental impacts of products that eliminate carbon dioxide.

2. Solar computing will empower your PC with the energy from the sun. Solar computing platform is a clean and non-polluting energy. Solar boards are noiseless in operation unlike the noisy generators. The good thing about solar computing is it is self-sufficient and does not require refueling apart from it is practically maintenance free since it only requires annual changes of water for the batteries.

3. Energy efficient computing platform welcomes computing devices in the form of processors, digital media chipsets, and mobile and consumer electronic devices and so on that are designed to achieve energy-efficient performance and have power saving capabilities. Microsoft processors are the most recognized processors that can be used in green computing.

Such platforms have been constructed to meet the standards set by the green computing initiative programs and will be very favorable not just to the environment but to the people's welfare as well.

GREEN COMPUTING STRATEGIES THAT COMPANIES SHOULD BE AWARE OF

When we talk about Green Computing we address our concern to the IT innovations and products. Green computing involves the energy consumption of data centers which as we all know are notably powerful yet extremely expensive to operate. In U.S. alone, the power consumption they made in 2005 has doubled as compared to 2000. Data center servers, networking equipment, air conditioning, and so on, exhausted 1.2 per cent of U.S. power.

Then the chase and call for cheaper data center power has become a sensational topic and some multinational companies have already started to address such issue. Google and Microsoft are the known trendsetters in this case. Google is already constructing a data center on Columbia River in Oregon that is tapped to hydroelectric power and Microsoft is also following the footsteps of Google as it builds the same power source in Washington. Moreover, HSBC, a financial service company is also erecting a data center close to Niagara Falls with regard to green computing. Other data centers use coal-fired plants which are said to be cheaper source of power.

However, to fully cut or lower the power costs, tools and other network services and technologies should be also utilized. Server virtualization, multicore processors, grid computing, improved cooling, and use of blade servers and other technologies should be deployed. In improved cooling, apart from the use of air conditioning, building materials like tiles that have air holes can actually be utilized to enhance cooling. Virtualization will also make a great impact in green computing as servers run into different applications and multiple virtual machines and in turn causes increased utilization rates.

Improved cooling and virtualization are just some of the strategies that companies can adapt to fully achieve green building objectives.

THE CLIMATE SAVERS

COMPUTING INITIATIVE TOP TEN STRATEGIES

To ensure that people have learned and discovered the simple ways to save energy they have to reiterate as many times as possible the guiding principles in making their mission possible. Though their mission which is: to reduce computer power consumption by 50 per cent when 2010 comes is somewhat too idealistic, its possibilities cannot be questioned at all.

The power management campaign that they have initiated are already visible in operating systems such as Windows NT, Windows Vista, Windows 2000 and XP, Windows 98 and 95, Mac OS X, Mac OS 9, and Windows ME. And now they are busy promoting their movement which mainly comprised of easy to do power and energy saving strategies.

Their top ten easy ways to lessen or eliminate energy as you do green computing are as follows:

1. Execute the computer and the monitor power management.
2. Don't apply the screensaver feature. Just let your monitors in its dim mode.

3. When you decide to buy a computer, look for brand that contains ENERGY STAR label. This can be seen in the Climate Savers Computing catalog.
4. Disallow or lessen the brightness setting of your monitor. This doubles the energy consumption of your computer.
5. Peripherals like scanners, printers, speakers, and Web camera should be turned off if they are not in used.
6. Plug all your electronics in a single power strip and turn the power strip off when you are done using your computer.
7. If possible, choose and use laptops over desktops since laptops consume less power energy.
8. Always close the applications and your monitor if you are not using them.
9. To calculate the actual readings of your power consumption use a power meter. This will help you monitor the energy consumption so that you will know how much more energy you have to reduce.
10. Set up a multiple power schemes so that you can deal with various usage models without putting your computer in a standby mode.

CSCI: COMPUTER SCIENCE OR COMPUTER SOFTWARE CONFIGURATION ITEM?

The Internet can offer more than two meanings for the CSCI acronym. But if the talk is about computers, the acronym can only mean computer science of computer software configuration item. These two are different in concepts and also very different in uses.

As the computer software configuration item, the CSCI is a group of different software applications that were treated only as one entity through the CM or configuration management system. Each of these software application's configuration item can be managed separately, individually having their interfaces being documented properly.

The CSCI is mostly selected for the separate CM or any item that can be changed or configured for a certain computer software application. How the software applications included in this CSCI depends on the trade-offs that may be consisted of different several factors like the software function, size, host, support, reuse plans, concept, developer, and interface options. There are also the so-called CSCI entities and these include the different software products that need to be enhanced or utilized under contract. This also includes some elements that are needed for developing the software environment.

Meanwhile, the CSCI as computer science is mostly used for the degree. CSCI is a study of different algorithm and computation theories and how they are practically applied. Included to the subjects or courses being studied under the CSCI degree are the analysis of algorithms, concurrency theory, formal methods, theory of computation, databases, systems analysis, and computer graphics. Some schools may include computer programming in the curriculum but this will not be the focus of the CSCI degree. The emphasis will only be on the theories rather than how they are practiced.

EXPECTATIONS FROM THE CSCI DEGREE

CSCI or Computer Science is a bachelor's degree which is aimed at teaching students about the different concepts of computer. There are many universities, colleges, and other educational institutions offering the CSCI degree. Commonly, the course offers study of different theoretical parts of algorithmic reasoning and computations. It is usual for these educational institutions to include in the CSCI degree features like analysis of algorithms, theory of computation, concurrency theory, formal methods, systems analysis, and computer graphics.

Some universities and schools also include computer programming in the CSCI degree. However, computer programming is only a supporting subject for other computer science theories and lessons. It does not act as the central study of the CSCI degree.

There are also other universities and colleges which offer the computer science as a vocational program emphasizing on practice rather than theory of advanced computer programming. These courses usually focus on developing the skills of students and not the knowledge on theories about different algorithms. Anyway, those who want to study and focus more on computer programming can take course like software engineering or computer engineering rather than the CSCI degree.

Included to the CSCI degree fields are the mathematical foundations, software engineering, communications, artificial intelligence, system architecture, scientific computing, theory of computation, compilers, programming languages, data structures and algorithms, visual rendering, and scientific computing.

The CSCI degree is commonly studied for four years while others may take it shorter with different programs offered by some educational institutions. After finishing the CSCI degree, students are expected to master the theories on computation and information and how they are applied and implemented to the computer system.

CSCI MAJOR REQUIREMENTS

DISCLOSED

Normally, the Computer Science (CSCI) major entails five to six heavy-load semesters. Unfortunately, eight semesters are needed to be completed by those students who lack of math background. This is because CSCI major entail healthy quantities of mathematics—often from the mathematics within the course to the courses presented by the Mathematics Department.

Basically, the major courses are categorized into the following: foundation courses; electives; capstone; and core courses. There are also some supporting courses required. Of course, courses in CSCI major come in prerequisites. For this reason, youngsters who are planning to take CSCI major are advised to put MATH 125 and CSCI 127 on top of their list of courses in the early years of their academic career. Students of CSCI major also need to note that it is not enough for them to take and finish the courses that count up toward the major. Most often, it really pays for them to achieve a grade of C or above it; D is not considered as a passing grade in most entry-level. Students of CSCI major are also required to maintain a grade point average not lower than 2.5 in every course required in completing the major.

The following are the usual courses required to complete the major, these can range to 42 credits in CSCI:

- CSCI 135 Software Analysis and Design 1;
- CSCI 235 Software Analysis and Design 2;
- CSCI 335 Software Analysis and Design 3;
- CSCI 145 Computer Architecture 1;
- CSCI 245 Computer Architecture 2;
- CSCI 345 Computer Architecture 3;
- CSCI 150 Discrete Structures;
- CSCI 265 Computer Theory 1;
- CSCI 340 Operating Systems; and
- Five CSCI 300- and 400-level electives.

THE 12 GREEN COMPUTER COMPANIES

Melting ice caps, floods on major cities, hurricanes and typhoons on unexpected dates, strong natural calamities, weak soils, and intense heat during summer—these are just few of the obvious signs of the worsening environment. And everyone is responsible for this catastrophe. But the good news is that it's not yet too late to make a move. Consumers are now aware of the worsening situation of the environment and are now demanding for more earth-friendly products. That is why companies are shifting to become greener too.

Honda, Continental Airlines, Suncor, Tesco, Alcan, PG & E, S.C. Johnson, Goldman Sachs, and Swiss Re are just among the few companies known to produce goods that are environment-friendly.

In the Information Technology industry, there are also companies which are considered green. These are the green computer companies. Included to the list of top green computer companies are: the IBM Corporation of Armonk, New York; BT Group PLC of London; Qualcomm, Inc., of San Diego, California; Fujitsu America, Inc., of Boca Raton, Florida; and the Microsoft Corporation of Redmond, Washington. Other green computer companies are the: Network Appliance, Inc., of Sunnyvale, California; Hewlett-Packard Company of Palo Alto, California; Other World Computing of Woodstock, Illinois; Verizon Wireless of Basking Ridge, New Jersey; Computer Sciences Corporation of Falls Church, Virginia; and the Sun Microsystems, Inc., of Santa Clara, California.

The green computer companies are committed to only produce products that are earth-friendly and power efficient. With these efforts, anyone can say that a better future still awaits everyone. People will surely reap the fruits of continuously caring for the environment.

WHAT'S IN GREEN COMPUTER SCIENCE?

Problems with the environment have become more visible for more people as media and other groups promote for their solution. There is now what the people usually call as “green” like “green companies,” “green products,” “green foods,” and even “green courses.” A company having a tint of green means that a certain industry is making ways to protect the environment. Many people are now concerned with the environment and many are now aware which products are caring for welfare of the environment and which are not. There are also academic institutions that are becoming “greener.” There are even “green” Computer Science courses which does not only teach students about the basic theories of computer but also teaching them how to apply these theories without sacrificing the wellness of the environment.

“Green” in the industry of Information Technology means the more efficient use of computing resources while minimizing the negative impacts on the environment. This campaign started because of the undeniable state of the environment which does not only affect a portion of the world but the entire planet as well.

Greener computer science means the study of theoretical pillars of computation and information and how they are implemented or applied on certain computer system without sacrificing the environment. It is known that the Information Technology industry has also contributed a lot to the worse state of the environment through using materials that are not biodegradable and promoting products that use large amount of non-renewable energy. Thus, the industry is responsible for million tons of carbon dioxide emission to the environment which makes the global warming worse.

With greener computer science, the world can still enjoy the technology without risking the health of the environment.

GREEN OFF THE GRID AIMED FOR DATA CENTER ENERGY EVOLUTION

To green off the grid is good news to many people, especially to organizations. As what has been introduced by high tech vendors like Sun and Microsoft, The Green Grid has already launched initiatives for data center energy. In fact, The Green Grid is getting support among industry groups, government agencies, and users for structuring standards and efficient management of data center energy management.

It was presumed by the group called as Intelligent Energy Europe that in 2015 the expenses of energy for operating services will exceed the expenses of server hardware. Unfortunately, there is only limited information available on data center efficiencies. And most of this available information is departmentalized and proprietary. Now, The Green Grid, which is initiated by the leading high tech vendors such as Microsoft and Sun, is utilizing the setting of technology forum in San Francisco to address the problem. The group aimed to initiate new endeavor to enhance the energy data centers as well as the joint venture with the Distributed Management Task Force (DMTF).

Therefore, The Green Grid is formed for a significant mission. According to one official during phone briefing for analysts and press, this mission is to built up and advance technology, standards, measurements, and best performances around energy competence in the data center. This time, The Green Grid has reached a total of 150 members. These members are said to spell out technology framework that will set off the ways to devise and operate more effective data centers as well as to attain the actual measurement and management of energy resources.

RPI CSCI DEPARTMENT AND THE EDUCATIONAL INSTITUTION AS A WHOLE

The RPI or Rensselaer Polytechnic Institute is among the famous schools in New York. It was established in 1924 in Troy, New York by Stephen Van Rensselaer as the Rensselaer School. The academic institution was built to instruct students on how to apply science on the ordinary happenings in human life and living. RPI is actually the first school considered to be science and civil engineering oriented in an English-speaking country. It was just in 1861 that the school was named Rensselaer Polytechnic Institute. Until now, the school still lives up for its original purpose to promote science. To answer the demand for computer science of CSCI, the RPI has offered courses on CSCI.

There is the RPI CSCI Department in the said school which is composed of 24 faculty members. The faculty here is not just those who can averagely teach students but they are those who are nationally and internationally competent to teach. This RPI CSCI Department is also indulged in different researches on various areas like the computational science and engineering, bioinformatics, database systems, computer vision, networking, pervasive computing, parallel computing, robotics, semantic Web, theoretical computer science, and software design.

Moreover, aside from the bachelor's degree in CSCI, the RPI CSI Department also offers M.S. as well as Ph. D. degrees. About 450 undergraduate students are handled by the RPI CSCI Department while there are more or less 80 graduate students.

The school is expected to accept more students for the department to study the computer science and many of its features. Those who are interested to take computer science courses may consider enrolling in RPI. There are different feedbacks and reports where anyone can review the quality of CSCI education in the RPI.

THE GREEN GRID CONSORTIUM

The Green Grid Consortium is among the industries of green computing. Green computing is the practice as well as the study of using the different computing resources more efficiently. What this practice is aiming for is to lessen the utilization of dangerous materials, promote the biodegradability or recyclability of different products, while maximizing the energy efficiency of different computing products.

The Green Grid Consortium is a worldwide, non-profit organization that mandates the enhancement of the energy efficiency within the information technology sector. The main objective of this organization includes giving aid to different IT industries in order to promote and create adoption of different standards or metrics that will measure the efficiency of datacenter power. It is also aiming to promote various technologies and processes that can help the data centers in improving the performance against different metrics.

There are several companies who are held responsible for the creation of The Green Grid Consortium. These are the AMD, Dell, APC, HP, IBM, Microsoft, Intel, SprayCool, Rackable Systems, VMware, and Sun Microsystems. These companies are the current board of directors of the organization. There are still other members in this non-profit organization like the 3M, Texas Instruments, Novell, Sungard, and Platform Computing.

It is said that membership in The Green Grid Consortium will be the key of any IT companies in participating with other IT industry stakeholders in improving energy efficiencies of data center.

Aside from The Green Grid Consortium, other industries are also famous in supporting the green computing principle. These are the Climate Savers Computing Initiative, Green Electronics Council, and the Green Computing Impact Organization, Inc.

CSCI: COMPUTER SOFTWARE CONFIGURATION ITEM

The CSCI or computer software configuration item is defined as a group of various software applications that were already treated as one unit through the configuration management. There is actually a designated CSCI for every configuration management or any item that can be configured for the benefit of the computer software application. Some professionals define CSCI as a configuration item that is software-based.

Configuration items or shortly referred to as CIs are used to form for the solutions of configuration management. It is commonly a collection of various objects like codes, requirements, documentation, and models that are related to certain function of a specific larger system. It is the configuration management system which observes the CI life by using combination of various tools and processes. This is important to ensure that the systems will not have any errors which are related to shortage of testing as well as CI incompatibilities. Since the CSCI is a software-based CI, then, it is only used and compatible with software applications.

There may be many CSCIs and each of these can be managed separately while there interfaces are being documented. Due to this, the CSCI can also be used for controlling the configuration of the system's architectural design through contractual specification or development products.

The CSCI may select different CIs based on many factors like the software function, developer, interface options, reuse plans, support concept, size, and host. Therefore, the CSCI entities may include software applications that need to be used or developed under contract. There may also be some software elements that are required for the better environment of software development.

CSCI DESIGN OF OBJECTIVES

There are four known industries that support the green computing. This is the practice or study on how to utilize various computing resources more efficiently through reducing the use of harmful materials, promoting recyclability and biodegradability, and maximizing energy use of various computing products. The four industries supporting this aims are The Green Grid, The Green Electronics Council, Green Computing Impact Organization, Inc., and the Climate Savers Computing Initiative or CSCI.

The CSCI aims to lessen the consumption of personal computer's electric power whether it is in an inactive or an active state. What the CSCI does is to provide different catalogs of various green products from the member organizations. They also give information on how to reduce the use of PC electric power consumption.

The CSCI can possibly do its primary design objective because all of its members as well as participating manufacturers are already committed to only produce products that will meet the specific power-efficiency objective of the group. Members are also committed to purchase products that are only considered power-efficient by the group.

The further goal of this reduction of electric power use is to also reduce the carbon dioxide emission coming from the personal computers. PCs are known to contribute about 54 million tons of carbon dioxide emission every year. And in the year 2010, CSCI is aiming to reduce this contribution to 50 percent.

Included to the many members of CSCI that lives with its design objectives are the Google, Intel Corporation, EDS, Dell, US Environmental Protection Agency, Microsoft, Hewlett-Packard, World Wildlife Fund, and Pacific Gas and Electric Company. Many other small companies and producers are also members of the CSCI. Through this effort, a better environment is expected to be seen in the years to come.

EE/CSCI COURSE DESCRIPTION

Computer Science course or CSCI is a broad course that needs the study of different concepts. Among them is the electrical engineering or EE as applied to the CSCI. This is mostly known as the EE/CSCI course. This course focuses more on the layered protocols, network architectures, local networks, network service interface, Internet protocols, addressing, link protocols, routing, long-haul networks, higher level protocols, and flow control.

To learn more on EE/CSCI, many professors recommend reading the book *Computer Networking: A Top-Down Approach Featuring the Internet* by KW Ross and JR Kurose. Other recommended references are the books *Unix Network Programming* and *Computer Networks: A Systems Approach*. These books are all important to the different topics covered by the course which commonly include application layer, network layer, transport layer, wireless and mobile networks, link layer, local area networks, security in computer networks, and multimedia networking.

Of course, there are different home works, exams, and projects needed in order to complete this course. Students of EE/CSCI are also expected to read all the recommended books or other references and they must attend classes regularly. The teacher for the course is at reach all the time through any means like mobile phone and email.

To excel in this course, other useful resources can be used like the books on programming, networking, and UNIX. Some of these are books about C programming, Internet engineering, and UNIX documentation.

This course is considered advanced since the student must at least be a junior in order to take EE/CSCI. This is also a very important component for completion of the Computer Science bachelor's degree.

GREEN COMPUTER POWER: NO LONGER TOO GOOD TO BE TRUE

Green computer power reduces power consumption. It was presumed that in the coming years, 2011 to be specific, computer power will be cut-off to 50 percent. This estimate is not for exaggeration. Sure, the current days does not yet offer solar-powered laptop or desktop but that does not mean this goal cannot be achieved anymore. This vision can be fulfilled by setting to realistic intermediary goal like the goals introduced by the intellectual people at the Climate Savers Computing Initiative. Essentially, the major players in the industry of computer like Intel, Google, Sun Microsystems, Dell, AMD, etc.

Computer Science has an ambitious goal yet near to realism, which is to reduce the power used by computers all throughout the world by half percent over the next three years. Currently, the average desktop manufactured today consumes over half the power that is sent to it while the regular server more than a third. Now, it was claimed that by simply enhancing the efficiency of hardware energy, employing virtualization, and utilizing programmed power management software will be enough to achieve the stated goal.

For the public to magnify the enhanced technologies that is introduced to the market, Computer Science has presented a catalog presenting numbers of the newest of green computer power offerings. This catalog presents both to individuals and enterprises an inclusive and searchable listing of Climate Savers Computing-compliant servers, desktops PCs, servers, motherboards, power management software, laptops, power supply, and power supply components. The site is a good start for people to conduct their initial search for energy-efficient computers, software, and components.

GREEN IT IS ON THE RISE

Green IT is currently on the rise and is in global phenomenon. More and more clients of IT suppliers these days are seeking for an offer of a more material-efficient, more energy-efficient, less dangerous, sustained by end-of-life reprocessing programs, and intended for better recyclability.

According to one survey for Green IT, there are over 50 percent clients nowadays who prefer the “greenness” of IT vendors whenever they are choosing for a supplier. One third of clients’ populations also perceive the green offerings of IT suppliers to be of great significance.

Additionally, 80 percent of the executives claimed that the importance of Green IT is growing in their respective organization.

Economy is the primary reason why the adoption for Green IT is given with great importance. More and more people want to enjoy the benefit this brings, which is a reduction on the operational cost. Because of this, numbers of Green IT suppliers are providing services that will allow clients to expand effective programs for IT Eco-Innovation and IT Eco-Efficiency. These are guaranteed to improve the clients’ financial outcomes and the environmental benefits of course will also be enhanced.

In most instances, Green IT is beneficial to clients in three main markets:

- Real Estate Professionals who are seeking out to improve environmental performance of profitable property as well as financial returns;
- Enterprise Executives, with answerability for Corporate Social Responsibility, Environmental Sustainability Programs, and
- IT and Finance; IT System Distributors and Manufacturers that aims to understand and communicate all the environmental features of their product.

GREEN PEAK COMPUTER LOWERS ENERGY AND MONEY EXPENSES

Green peak computer is in demand these days. People have realized that it is a far wiser decision to buy green PC. Apparently, more and more people were able to ponder that by using green PC they can save more energy; and eventually, save more money. This is proved by the fact that a usual desktop computer consumes 65 to 250 watts, while some other computers may consume more.

True, in order for one to see how much energy is being consumed by the device, all he has to do is to look at the label. Unfortunately, this is not applicable to computers because the label normally indicates the theoretical maximum and not the usual amount that is being consumed. Therefore, if the label of the computer says 300 watts, what can be consumed in the actual running might be 70 watts or 100 watts even in peak times even if all the drives operating. So by opting to green peak computer, the person can significantly cut down the amount of energy that is being used; consequently, lowering his costs. More significantly, the environment will be conserved.

Now, it has to be taken note that the market offers a wide range of computer choices that one will love to buy. Their designs are ideal but some of them may not truly be practical. For one to ensure that he can save energy and money and help the environment as well he can look for the following list when buying green computer: energy star; operating system; processor; size of the computer; computer PSU (Power Supply-Unit); environmental assessment; and graphic cards.

STUDENTS' CSCI SUBJECTS TO LEARN

CSCI or Computer Science courses are among the most in-demand for study today. This is due to the increasing demand of the IT industry for computer science professionals and also the continuously growing need for IT development. Though there are now a lot of computer courses to choose from, many students still settle to have CSCI. This may be taken as a bachelor's degree while some take this as a Master's Degree. There is also a doctorate degree for CSCI. Whatever the student chooses to indulge in, what is important is to know the different subjects needed to be learned in this course.

Computer science is actually the study as well as the science of theories of computation and information. It also includes the application and implementation of these theories to the computer systems. There are also many sub-fields of computer science and each of these fields emphasize on specific area like computer graphics, programming, and computation.

CSCI students, regardless of the educational institution, will likely study about the analysis of algorithms, theory of computation, concurrency theory, formal methods, systems analysis, database, and computer graphics. Other CSCI students may encounter studying computer programming but the treatment of this field is just theoretical, not focused. Those who want to study computer programming can just shift to software or computer engineering which teaches the field on a more focused manner.

Aside from the common CSCI fields, some students may also encounter studying the mathematical foundations, software engineering, communications, artificial intelligence, scientific computing, programming languages, system architecture, algorithms and data structures, and didactics.

BEST PRACTICES ORGANIZATION IN GREEN COMPUTING

The idea behind organization with best practice is that there is someone that implements a technique or a method that is more effective than others. Best practices organizations are those that set standards for others to copy or emulate. If there are best practices in business processes, there are also best practices organizations in green computing or green initiative.

Who are the best practice organizations?

Currently, there are communities that aim to draw information from best practice organizations. These organizations could help other businesses and homes. The end goal, of course, is to be able to reduce information technology related carbon emissions.

It was found out that IT is one of the significant contributors of carbon emissions. This is said to be almost the same as the aviation industry. It was also found out that the two principal generators of carbon emissions from IT are PCs and datacenters.

Organizations from the IT industry are now doing something to reduce carbon emissions by using energy efficient hardware. One of the best practice organizations is Google who is now giving a good example of using servers and cooling systems that reduces negative environmental impact. There are also other best practice organizations that use software that manages and measures their power consumption.

To give motivation and encouragement to the best practice organizations, there are communities now that give special awards. The awards are for those organizations that implement the use of hardware and software to reduce power consumption and others.

COMPLEMENTING INFORMATION TECHNOLOGY AND GOING GREEN

Going green is said to be the current hype. Going green means saving energy for the environment and at the same time being cost efficient.

Information technology is a booming business. However, there has been a lot of bad news about it. It has been said that the carbon emissions from information technology is the same as the carbon emissions from the aviation industry. There are calls to lower the carbon emissions caused by information technology.

Some companies are heeding the call. There are companies now who are making green initiative towards saving energy while still maintaining the same level of productivity.

First, they made some studies on how much energy they are consuming. Surprisingly, they found out that much energy is being used on modern servers. The companies solved this by using other networking equipment and devices that could control power usage in terms of loads and configurations. These devices provide the same functionality but could be manipulated in terms of amounts of power used.

Second, these companies found out that there is so much energy used for cooling due to heat generated. These companies have made changes in their purchasing decisions. They prefer devices that generate less heat. They also cut down the number of servers and devices in the data center.

They also made changes in their information technology by making consolidation and virtualization efforts. The first initiative is about deploying mission-critical applications that could minimize the number of servers. The second initiative is putting up chassis-based application delivery controllers. This would mean that virtualization is used at the server level and at the chassis and blade level also.

These initiatives are major changes in information technology strategies but can be quite useful in the campaign for green computing.

ORGANIZATION INFORMATION SYSTEMS FOR GREEN COMPUTING

Companies are learning lessons from best practices organizations that have taken the green initiative to save energy and at the same time be environmental conscious. There is a way to reduce the amount of energy used and this doesn't have to be bad news for companies.

How is this done?

They did this by changing the normal way of conducting their organization information systems.

First, they did small things. One of them is to change their networking equipment and other devices that provide the same functions but can be controlled in terms of power usage. This has been proven effective in saving operating costs for servers and other devices.

Second, it was found out that majority of the energy consumed is not used by the actual devices. A big percentage of the energy is used for cooling devices. The companies were able to make some changes by cutting down the number of servers and devices used.

Other changes in the organization information systems were done such as consolidation. This initiative means that consolidation is made in the data center. Deploying support mission-critical applications does this. In effect, consolidation would mean fewer servers, which means less power consumption and heat generation.

However, other companies who are planning to have changes in their organization information systems must do a balancing act. Fewer servers don't mean less operational efficiency. To be able to cut down on the servers and still maintain the usual workload, there is a need to deploy more application delivery controllers.

Companies who are planning to initiate green computing in their organization information systems can learn from these pioneer companies.

GREEN COMPUTING AS AN ORGANIZATION STRATEGY: IS IT POSSIBLE?

Green computing is the new wave today because of the recent concern for the environment and being energy efficient due to high costs. The question, however, is that “Is there a way that businesses can include green computing in their organization strategy without losing profits?”

Yes, there are ways. Giant companies are able to do it and still doing it. These companies were able to successfully integrate a green initiative in their organization strategy and still came out a winner.

How is this done?

The first things that these companies did are to reduce their power and heat usage. It is known that modern servers use so much power. However, there is other networking equipment and other devices that can be utilized which provide the same functions. The main difference is that amounts of power can be controlled based on load and configuration. Using this kind of equipment could save power and can be an effective organization strategy.

Another way to save energy is to save heat. Monitoring the BTUs generated by devices does this. If BTUS are decreased, then there is less heat. If there is less heat, then there is less cooling requirement. It is a fact that cooling requires a lot of energy.

Although the reduction of power and heat is not controlled by the organization, it can still do something. The organization strategy here is to make appropriate decisions on purchases and architecture. Purchasing devices that have ratings can certainly be useful. It can also decide on cutting the number of servers and devices in the data center.

There are still many things that an organization can do in terms of green initiative strategies. The most important factor is that the organization recognizes that green computing can do something good for the company as well as the environment.

STRATEGIC MANAGEMENT OF ORGANIZATION VIS-A-VIS GREEN COMPUTING

Green computing shall be staying for a while because the concept behind it is quite logical and ideal. It is logical because companies would naturally want to save energy and at the same time maintain the same level of productivity. It is ideal because it is good for the environment.

That is the reason why green computing can be included in strategic management of organizations. There are many organizations that are showing how they have implemented green initiative and still become successful in their business.

Although there are more complex initiatives such as virtualization and consolidation, companies were also able to make small steps. These small steps made a big difference.

1. Companies have implemented some basic conservation energy approaches. These includes turning off the computer when not being utilized and looking for ways to reduce the time using computers.

2. Other companies installed network printers and totally scrapped desktop printers. It is found out that much energy is saved when people has to go to another room to get their printouts.

3. There are other specific suggestions such as not using screensavers since these are using much energy, turning off the computer servers at night, turning off the computer system and others when going out for lunch or to other errands.

4. Avoiding the use of power strip to turn all the devices can also save much energy.

These are just a few practices that one can incorporate in their strategic management organization. The important thing is being aware that much energy is wasted and making some small steps to solve this.

GREEN COMPUTING FOR ENVIRONMENTAL IMPACT MANAGEMENT

Green computing is now the main thrust among big and small companies alike. This is because implementing green initiative means saving operational costs and at the same time lessening the negative environmental impact. Environmental impact management has been operationalized by other companies and have been relatively successful with them.

Some companies have undergone studies in which they wanted to measure how much energy is used and how much is being wasted. This environmental impact management decision specifically wanted to know the power consumed by the servers, networking devices and other IT devices in the data center. They used a metric system developed by a certain vendor consortium.

The results were quite surprising. The companies found out that only 40% out of the energy consumed is being actually used for the devices. The rest of the energy is used for cooling systems, air handlers and power supplies that could not be interrupted.

Due to these findings, these companies are now making small changes. Turning off unused equipment and better management of the cooling system had saved these companies a lot of energy costs. Others have switched from using desktop printers to network printers. The idea behind this is that when people have to walk a few meters to print, then there is less printing done.

Small things can make a big difference. These companies have decided to do an environmental impact management that could benefit the company funds and at the same time contribute to saving the environment.

GREEN INITIATIVE BUSINESS: GOOD FOR IT BUSINESS?

Green initiative is creating so much hype now in the IT industry. The idea behind green initiative is to reduce the negative environmental impact of IT and data centers. A study has found out that PCs and data centers give out so much carbon emissions that are comparable to the aviation industry!

There are many IT businesses that are starting on their green initiative implementation. However, many IT businesses are questioning the viability of planning and implementing a green initiative while not losing profits at the same time. Is that possible? Yes, it's possible.

The great thing is that there is a way in which IT business can save on energy and at the same time make their operations more efficient. This is done through consolidation and virtualization. Both reduce the negative impact on the environment while at the same time saving operational costs.

Modern servers and networking equipments use so much power. To be able to reduce the negative environmental impact of these, the required amount of power should be reduced.

Consolidation is also one of the business initiatives that can save energy. It is done by consolidating the number of servers deployed. Once the number of servers is reduced, the power consumption is also reduced. This is easily said than done. Consolidation initiative must naturally be done in such a way that efficiency is not decreased.

These are just some of the green initiatives that can be done. An organization must always strike a balance between green and business initiative. This would mean trying to achieve efficiency and at the same time being friendly to the environment.

ORGANIZATION PLANNING FOR GREEN COMPUTING

The idea behind green computing is to study and to practice the use of resources in an efficient way. The bottom line of green computing is to be able to maximize energy efficiency, promote recycling and reduce hazardous materials. An organization that achieves this successfully must need to have good organization planning.

Since green is the norm nowadays, many organizations are jumping into this. Some are announcing ways to save energy by using new hardware and services. Unfortunately, these companies don't practice organizational planning before undergoing a green computing process.

Not sure how to start with organization planning? Here are a few tips that could help an organization in planning to be green:

First, in organization planning, energy costs must be treated as one of the best practices. This would mean that it is at par with other goals such as performance optimization and cost reduction.

Second, to be able to start green computing, an organization must know its current energy usage. An organization must know which equipment uses energy and how much energy is being utilized. It must also know, which is efficient and which is wasteful. It is sad to note that organizations have no way of knowing how much energy is being consumed in one person. Energy usage is only seen in electricity bills that summarize the over-all consumption.

Third, to start a green computing initiative; organization planning must know who within the organization can help in the drive for energy efficiency. Organization planning must identify them and encourage them to participate.

TIPS FOR GREEN COMPUTING

STRATEGIC INITIATIVE

Green computing is an initiative that cropped out due to recent environmental concerns. Everybody must make an effort to contribute may it be a big or small company, home or university. Moreover, green computing is not just beneficial for the environment, it is also cost efficient.

Here are a few strategic initiatives that can be done to save energy but still maintain productivity:

1. Using screensavers means that energy is not saved. If a person has a screen saver in his monitor for more than 5 minutes, then there is wasted energy. If a screen saver shows some moving images, this is consuming as much energy as when you are using it. A black screen saver is better but this still consumes energy.
2. A person can enable power management features in his personal computer systems. There are computers and monitors that can be programmed to use lower energy especially if they are not being utilized. Putting computers in sleep mode could reduce as much as 60%. This is a lot of money when converted into cash bills. The good thing is that productivity here is not affected at all.

3. A person can also turn off his computer when not in use. There is no worry that the computer will be harmed when it is continuously turned on and off. If a person is going out on a weekend, he can also turn the power plug off.

These are small strategic initiatives that anybody can do in their work or in their home. Small things could also mean big things when put together.

GREEN COMPUTING: TIPS FOR STRATEGIC PLANNING ORGANIZATION

Organizations are now realizing that green computing is the means to reduce electricity costs and at the same time minimize negative environmental impact. Organizations are now undergoing several strategic planning to embrace this new concept. This is a norm that is spreading worldwide even among giant companies.

However, there are new organizations that don't know how to get started with their green initiative. They also don't have an idea how to incorporate green initiative with their organization strategic planning.

New organizations that are just starting with their green initiative must never feel that they are alone in this effort. The first thing that an organization must know is that there are many big companies who are making serious the same efforts. These companies are making their operations more energy efficient and they are successful on these ventures. Here are a few tips to get started:

1. The organization must know its current electricity usage. This means that it must be aware of its various equipment and how much electricity is being consumed. It must also consider how efficient these equipments in using electricity and how much are wasted.

2. The organization before embarking on its strategic planning for green initiative must know if it has executive support. If there is executive support, then there is assurance that funds will be appropriated for green initiative projects. This would mean that there is a serious commitment to provide green data centers.

Once these details are established, an organization can start on its green initiative for a more efficient and environment-friendly organization.

IMPLEMENTING GREEN COMPUTING IN A BUSINESS ORGANIZATION BENEFICIAL TO ALL

Profitability is the first and foremost concern of every business organization. However, with the recent developments in business and even in IT, companies are being made aware of the environmental effects that industries have. Social responsibility has been imposed on all business organizations.

In computing, green computing is implemented. By learning how to use company resources efficiently the company is able to lower costs and increase income. The other component of green computing is its focus on making the company use less of the computing products that use hazardous materials. Its environmental concern balances the company initiatives towards profitability.

In effect, when a company implements green computing it increases income but it is also mindful of its responsibility to earth's limited energy resources and to limit the harm it gives off to the environment.

For example, when the company used energy saving LCD monitors or less power consuming computer products it does not only lower energy costs but it also saves the resources used to produce the electricity. That is also one reason why a company should use at least 80% efficient power supply. Using programs that enable the computers to hibernate when not in use is also quite helpful. Green computing also encourages recycling. Whenever possible the company should not dispose computer products which can still be used. They can be donated to others who need them. Virtualization is also a good idea. This way the company would not have to invest greatly on capital investment. A business organization will be able to save money by running multiple logical or virtual computers using a single hardware.

INNOVATION ORGANIZATION: BOTH PROCESS AND PRODUCT INNOVATION ARE IMPORTANT

Innovation is a very important stimulus for organization growth. If an organization wants to gain competitive advantage over their competitors, innovation is important. If an organization is slow in innovating new ideas and products or services, other peer organizations could trample them eventually. If they are ahead of their game, more innovative organizations will easily be able to catch on. Innovation is the impetus of growth. With innovation of products or services, for example, customer base would like grow steadily. Its market share would surely be something that will become an asset to the company.

Most innovations are driven by customer insights. However, it should be noted that innovations are not limited to delivery of new products and services. Processes can be innovated too. Like product innovation process innovation can make an organization more profitable too. If companies become more efficient in its processes and resource usage, costs would lower and profits will likely go up.

Both product and process innovation must be given attention in the organization. And since the efficiency is something the company would always want, they could make use of efficient technologies while fixing or waiting for their next innovation. Implementing green computing has its use no matter from which side one looks at it. Efficiency is improved when energy is saved because the company uses energy saving products. Processes are made efficient using efficient telecommuting lines.

On the part of computing product manufacturers, it is time to innovate new products which are environment friendly and energy cost saving. They should use materials that are not hazardous to the people using it and to the environment. Applications and programs should be developed for the same purpose.

ORGANIZATION INDUSTRY WIDE GREEN COMPUTING INITIATIVE

Although business organizations are primarily built with the aim of making profit companies also have social responsibilities. However, not all of them are quite willing to acknowledge this fact. While many companies makes efforts to balance profit making with their social responsibility, others go on making large profit without any regard for the harm they are doing to the environment and the whole society.

Fortunately, there are regulations that somehow force companies to face this fact. In some industries such as in IT, there are initiatives that point the organizations in the industry to create or manufacture efficient computing products and products that do not use harmful materials. Industry standards have been established so that companies will follow them and consumers will be benefited as well.

The Climate Savers Computing Initiative, for example, is there with an aim to improve efficiency in computing products. It is the aim of this initiative to encourage manufacturers to make their products energy efficient. This initiative specifically wants products to require less energy when not in use and when even in active state.

On the other hand, the Green Computing Impact Organization, Inc. is there to assist the end users to choose environment responsible products. This group has been pioneered by concerned IT leaders who want to promote the manufacture of more efficient computing products and to broaden the use of these products. This group work to take into account the actual and real savings they incur and the return on investment from using green products. They use the buying power of the group to drive the manufacturers and the vendors to offer more efficient and green products.

With such groups, more organizations will be educated and will be encouraged practice green computing and to use green computing products.

ORGANIZATION STRATEGIES: GREEN COMPUTING TOWARDS GREATER PROFIT MARGINS

Every business wants to earn. In fact, all businesses are built to gain income for the owners and its personnel. That is the reason why companies spend time to come up with organization strategies that will gain them a solid competitive advantage over their peer companies or competitors.

A company would typically start by formulating a company objective. Most often than not, the objectives are quantified so that performance and the outcomes can be measurable. Companies would then set out the policies and the plans. These are the actual strategies that will steer them towards achieving their goal. In some companies, these can be as detailed as possible. In some, maybe not but having more details is better as long as there is also room for flexibility along the way. Of course, all of the plans and policies will not be implemented without resources. Company resources would be allocated according to how top management see fit.

Again, all of these efforts are geared towards a better bottom line. With that said, it is also important that company information technology is not left out. The procurement of the most efficient system is quite imperative if the company wants to come out at an advantage. This is where the concept of green computing comes in. By employing the use of energy saving hardware for the system the company could save a lot of money. Virtualization is also one alternative for a company. It will save them money on hardware and even software investment. There are also certain telecommuting technologies that are in line with green computing. It will save the company more money so profit margins are surely to rise if implemented.

GREEN COMPUTING STRATEGY INITIATIVE: ANSWER TO COMPANY SOCIAL RESPONSIBILITY

Every company may have its unique mission and vision. One thing is for sure though. Each company aims to be profitable. In its every objective, there is an underlying concept of getting more efficient and having a better bottom line.

Since almost every company today uses a computer system, the concept of green computing should be applicable to each as well. In fact, green computing is very much in line with the company's goal for better efficiency and more productivity. So every time the company gets on the table to strategize company initiatives, it is quite important that a green computing strategy initiative is included.

While businesses are geared towards making profit, in green computing companies also take into consideration the social responsibility they have. So company success is not only measured merely by company income but by how the company is successful in energy conservation and in the use of environment friendly resources.

A good green computing strategy initiative, therefore, is one that promotes the use of recyclable materials. It promotes the efficient or maximization of the use of resources. It also discourages the use of hazardous materials.

In IT terms, this could translate to simple things such as the use energy saving LCD monitors. It could employ the use of green computing products that help reduce PC power consumption too. To maximize hardware usage, virtualization can also be implemented throughout the company IT system. Several cost saving telecommuting technologies that minimize infrastructure costs are even available for companies.

GREEN INFORMATION TECHNOLOGY SAVES AND EARNS THE COMPANY MONEY

Green computing focuses on the efficient use of resources. Not only that, green computing is geared towards resource efficiency in the aim of increasing company earnings and productivity. Companies practice green computing with the objective and the expectation of requiring fewer resources for more productivity, thus resulting to increased bottom line.

In most companies, green information technology is given much attention. When almost all companies want lower costs and lower investment costs, they all pay close attention on which items are worth investing on and which ones will require lower overhead costs.

It is important to take note that green computing involves not only hardware but people as well. The systems in place and the people running it must work together in order to be able to implement a green information technology. The implementation of such endeavor requires a good system. And it should also answer problems that are sophisticated in nature.

There are many ways a company can practice green computing. One way is through virtualization. The company can invest in one set of hardware. Then the company can run two or more logical systems. This will maximize the use of the hardware as a resource. It will also enable the company to save on capital investment for the hardware. Several software are now available to facilitate virtualization.

In addition to this, the company can also focus their efforts on cost saving specifically power saving. For instance, it can implement advanced configuration and power interface or ACPI in order to better manage the power consumption of hardware components.

More savings can be incurred if the company employs the use of power supplies that are more efficient. Storage systems and video cards should also be chosen appropriate.

KNOWLEDGE MANAGEMENT ORGANIZATION BEGINS WITH GREEN COMPUTING

Knowledge is power. To every company, knowledge is quite important in as much as it can be used to its advantage. That is why knowledge management is a very much important company activity. Companies create databases so that company managers and decision makers will be aided in making decisions. The company invest so much money to procure knowledge and so that this knowledge can be accessed by the right people in the company. Information systems are set up for this purpose. Information systems are also there to facilitate a smooth flow of activity. With better knowledge management, company performance can be improved.

Like any investment, a business allocates funds for knowledge management or on IT systems because they expect a certain amount of return from that investment. More specifically, they expect better performance and they expect to be more profitable.

In the procurement of the IT system, a company should as much as possible be conscious of the positive gains it will get when they implement green computing. The company will be able to save on energy costs if they use energy saving computing products. There are computer programs that allow the computers to automatically go on “sleep mode” when not in use. Even simple things such as using LCD monitors can mean a lot when it comes to conserving energy. Maximization on hardware usage is also a large part of it. The company, for instance, can implement virtualization so it will not have to invest heavily on hardware.

Since knowledge management and organization is aimed at gaining better performance there is no better way than to use efficient tools or efficient computing tools in its implementation.

IMPROVING ORGANIZATION PERFORMANCE THROUGH GREEN COMPUTING

Management of organization performance is an ongoing process for every company. Every year, each company would typically measure their performance and see whether their income has gone up or gone down and whether they have met their target for that specific year. In doing so, costs and company efficiency are always examined very closely. In terms of long term goals, the progress of the company is also measured. The implementation of policies and strategies are also important. And since management of organization performance is ongoing, strategy and policy adjustments are quite ongoing as well.

Organization performance is influenced by a number of things. One most important aspect is the workforce. Also important are the resources that they make use in the company operations. This being said, the company has to assess each and make adjustments where needed.

One way to improve organization performance is by lowering cost. With lower costs, the final income would surely be higher. In terms of computing, maximization on every resource such as the hardware would definitely lower capital investment and increase income. The same is accomplished through virtualization. Green computing would truly help improve organization performance. The company can make use of energy saving LCD monitors, for example. It can use computer programs that allow computers to switch to hibernate mode when not in use. And since green computing is also about social responsibility, promoting recycling is also another thing the company can do. Using computing products that use hazardous materials should also be avoided.

PROCESS ORGANIZATION: BETTER WORKFLOW EQUALS BETTER EFFICIENCY

Process organization is basically about improving company efficiency and improving the success of company processes. Since businesses and markets are always changing companies have to continuously assess their processes to ensure that they are still efficient and to check where there is a need for improvement. At times, due to some market changes, companies would have to restructure company processes to be able to catch up with the rest of the market.

In a world where computing is quite the norm, the flow of processes has been dependent on the flow of information which is largely facilitated by IT systems. More so with the advent of Internet, operational processes have in a way become IT and Internet based. This is paved by the easier communication facilitated by the technology today.

However, taking advantage of the latest technology could mean a lot of infrastructure investment and of course, a lot of money. Fortunately, there are also ways to minimize cost and maximize efficiency of resources. Virtualization could be implemented, for instance. With less capital or infrastructure investment, an entire IT system can be run efficiently. Company processes can be run through the system and things could go faster and even more efficiently. By employing recent telecommuting technologies, communication is facilitated with lower overhead cost increasing profit margin as a result.

Since companies aim for efficiency, it might as well launch a full green computing initiative. It could also run its IT system with energy saving computer products and applications. This way the company can farther reduce cost and thereby increase profit.

SUPPLY CHAIN MANAGEMENT: PROCUREMENT, SOURCING AND LOGISTICS

It is the aim of every business to get as much income they can. In their aim to do so, they try to get as much competitive advantage over their competitors so they will come out on top in their line of business.

Supply chain management is the practice of coordinating the company's whole supply chain to make the company more profitable and more efficient. When done effectively, companies gain competitive advantage. This is because they get cheaper supplies. Yet they get supplies that give them the quality that they aim for and the quality that they expect from their suppliers. Of course, the timing is also another matter. It is important that the company just get the supplies when they need it. Or else, the company funds would be wasted on inventory when it could be earning elsewhere for the company in the meantime.

Supply chain management involves the planning and management not just of the logistics but the procurement, the sourcing and the conversion as well. In achieving a very effective supply chain management, company and its suppliers must work together in order to get some specifications right.

Procuring efficient IT systems and other machines is part of it too. Since the aim of the company is to be more efficient, green computing would be to their advantage. The company can deliver efficient systems if they are able to procure more efficient power supply, energy saving monitors and hardware and such. With such efficient systems, the company would be at an advantage.

In addition to that it is, of course, important that the company is very efficient in converting input to output so they can be delivered to clients using the least amount of time and the least amount of other resources.

GREEN TECHNOLOGY TAKES OFF

As energy costs soar, many people are using more efficient computers. This is reasonable because they both save money and help the earth. Green technology has finally arrived. Green technology is using science and technology to reduce environmental impact. Green computing often focuses on making information technology more efficient. To be effective, green solutions must be economically profitable, socially fair and environmentally sensible.

Energy standards were the start of green technology. In 1992, the United States Environmental Protection Agency launched the Energy Star. This is a labeling standard for energy efficiency in electronic equipment. Since 2006, this standard has been expanded and become more stringent, and other world regions have adopted similar programs for energy efficiency and electronic waste management. Twenty-six states have recycling programs for consumer electronics. Local governments can fine companies that sell outdated products or force them to recover old computers.

Many corporations also support green computing. The industry group Green Grid includes many big companies such as Microsoft, Intel, Dell, HP and IBM. The goal of these groups is to promote energy efficiency and computer recycling. Making hardware and software more efficient reduces wasted energy and material.

Green computing promotes virtualization. This means using less hardware for multiple purposes. Virtual networks can reduce hardware costs and electricity. Another trend is working from home. Telecommuters can save travel time, fuel and office space. People can be efficient in their resources and still produce results.

Anyone can practice green computing. Turning off computers when not in use saves energy. Using lighter and more efficient hardware helps too. Consumers can buy more recycled products. Reusing paper and printing less also saves material. Then, users can recycle paper.

Before buying computer products, consumers should first determine their needs. Maybe upgrading their hardware or software can suffice. Green computing makes good sense.

SUSTAINABLE IT: SOLUTIONS FOR A BETTER WORLD

The world is more complex now. Information technology has created many solutions to meet people's needs. Yet the earth contains only limited resources and has many ecological problems. To the rescue comes sustainable information technology. Sustainable IT offers a great solution to both the need for better technology and the need to care for the planet.

Plenty of sustainable IT focuses on better energy efficiency and using less toxic material. Using less energy and fewer resources to achieve better productivity is the key. Computers are more efficient today than before. Laptops, notebooks and mobile phones are lighter yet they can do more programs. Many appliances consume less electricity. The products today have less toxic chemicals than before. Lead and mercury are being reduced. The processes in making consumer electronics use less toxic metals.

Sustainable IT also comprise of more efficient work processes. For instance, working from home or telecommuting is becoming more popular today. With reliable Internet and phone connections, many people can work from home at least one day per week. Plenty have started their home businesses and have made great profits. Companies also have virtual conferences with people from other sites or countries. Teleconferencing reduces travel time, energy and money for the firm and employees.

Even IT corporations are reducing their environmental impact. First, the business people monitor and estimate their carbon emissions. Then, the company ties up with a group that reduces carbon emissions. Usually, these environmental groups would be planting trees, protecting wetlands or recycling products. For example, Dell and AMD are big technology companies that sell millions of hardware. Yet they are also reducing their “carbon footprint” by working with green groups.

Sustainable IT is not just possible today. It is vital and inevitable for everyone’s future.

ORGANIZATION MANAGEMENT LEADS TO GREEN COMPUTING

Leading a company is a challenge. Managers do not only focus on people and profits. They must also consider their company's effects on the planet. Fortunately, ideas from organization management can help any leader make good choices. Executives can do the right thing for the economy, society and environment.

Human resources are often involved in improving employee behavior. They also address issues among workers and hire people to do the job. Organization management can help employees apply green computing in their work. Leaders can educate and remind people to conserve energy and reduce waste.

There could be office meetings on dealing with paperwork efficiently but with less waste. Scratch paper and recycling bins can be put near photocopiers. The company can hold seminars on green computing and observe the results. Employees should remind each other to turn off their computers.

At times, people need to take time off from the office. A great solution to someone who wants to work from home is telecommuting. Telecommuting has become easier because of the Internet. Employees can work at home at their own pace. If they need help, they can email or call the office.

Occasionally, people from different parts of the world have to discuss something. Instead of meeting face-to-face, it is now possible to hold a virtual conference. Teleconferencing saves travel time, energy and money. Employees and companies can focus better on their tasks.

As labor costs rise in developed countries, many firms are outsourcing some of their operations. People from other countries do the work for them. Outsourcing offers many benefits to businesses. They reduce labor costs and increase profits. People in developing countries benefit from having more employment.

The environment also benefits when companies use resources more efficiently and reduce needless waste.

GREEN COMPUTING BOOSTS ORGANIZATION RESEARCH

In a perfect world, all information would be free and readily available to anyone. But the world is not yet perfect. Still, much data and information are easily accessible now.

Thanks to better information technology, people even from remote villages can see news and information in real time. Green computing has been a big help to many people.

One of the benefits of green computing is better organization research. In the past, data about companies have to be asked directly or researched in libraries.

Now, most companies have Websites that explain who they are and what they do. In fact, many corporations flood the radio, television and newspapers with their advertisements.

Organization research is now easier to do. One can simply type the organization name in an Internet browser. In most cases, the organization's Website would appear.

Searching for news and updates about an organization is simpler now. A person can use a search engine to look for company updates. One can browse news Websites as well.

For in-depth questions, it still makes sense to contact the organization directly. Now, there are various ways to do so. One can inquire immediately by phone, fax or email.

It is also possible to survey what other people think about an organization. To reach a wider audience, surveys can be done quickly via email or online forums.

Of course, there are still many reliable resources on organization research from libraries and government agencies. However, these information are often also available online.

With green computing, doing organization research is now easier and more productive.

PROJECT MANAGEMENT ORGANIZATION GOES GREEN

Handling a project takes time, effort and resources. To successfully organize and manage a project, the leader and members need to focus on the goal.

Nowadays, projects involve more people and have become more complex. It is important for computers and technology to be more efficient and responsive to the needs of people.

Project management organization is an ideal situation for green computing. Computing tools and information technology need to be both efficient and effective to succeed.

With the arrival of lightweight laptops and mobile phones, people can now travel and work at the same time. Managers can keep track of business wherever they are.

Current desktops, servers, printers and other hardware run on less electricity. People can do more programs and be productive while saving energy costs and electricity bills.

Another development of green computing is the virtual conference. People can meet and discuss issues with other people without leaving their offices.

Teleconferencing saves time, energy and money that would have been used for traveling. There would be more time and money to focus on completing projects.

Working from home is still another innovation in green computing. People have more options to do their job and engage in business at their own pace at home.

The Internet has enabled more individuals to apply green computing in their projects. They can write reports and look for information in the Internet.

People can communicate with others on the Internet to develop their projects. Doing things online can save a great deal of time, money and energy.

Following up on projects is faster and more effective with the telephone and Internet. Instead of sending snail mail, a quick phone call or email is often enough to get updates.

Project management organization is so much easier and effective when people use green computing.

GREEN COMPUTING INITIATIVE INCREASINGLY TAKES HOLD OF EVERY CORPORATE ORGANIZATION NOWADAYS

The Green computing technology or initiative is currently becoming more and more popular in various corporate organizations. However, there is actually nothing new about such innovative concept. The concept of green computing has been around since early 1992, when the Environmental Protection Agency (EPA) in US initially began the Energy Star project, which is a voluntary labeling program established to promoting energy efficiency among computer hardware of corporate organizations.

By definition, Green computing is basically the analysis and efficient use of an organization's computer resources. The process essentially begins from the manufacturers to producing various and favorable products that are potentially environment-friendly; through persuading the organization's IT department to preferring more environment- and socioeconomic-friendly alternatives, such as power management, virtualization, and proper recycling habits). Recommended measures include recycling, use of low-emission building materials, use of other energy technology options, plus other more green technologies.

Following are few of the energy-saving tips that every corporate staff or employee is encouraged to follow and practice daily:

- 1) Reducing CPU and other peripherals, especially when not in use for extended periods;
- 2) Carrying out all computer-related tasks during rigorous periods to leave the hardware off at other times;
- 3) Reducing and increasing power of energy-intensive peripherals (e.g., laser printer) only when necessary;
- 4) Preferring LCD monitors over CRT and notebook computers over desktop computers;
- 5) Reducing paper use and recycling them properly; and
- 6) Using various energy sources options for servers, computer stations, data centers, and networks.

Generally, organizations operating as green are potentially capable to maximizing their usage and benefits from its computer resources. Most importantly, green organizations gain notable recognitions worldwide for their huge and long-term contribution to the environment, society, and economy as a whole.

GREEN COMPUTING: CLIMATE CHANGE IMPACT REDUCTION STRATEGY

With climate change and other critical energy-related issues emerging, the Green computing functions as a substantial strategy to reducing or decelerating further adverse impacts. Many organizations worldwide have begun establishing various initiatives and efforts for the global fight against climate change. Following are several common performance tips used in the organization's computer systems, both at large and small sites.

1. Defragmenting computer hard drives regularly. Apparently, disk file fragmentation reduces efficient performance of computer systems. Regular defragmenting is hence essential and must be carried out consistently at all computer sites as possible. And while file sizes and disk capacities are continuously advancing, greater benefit can be gained from a defragmenter that can run automatically and constantly in the background without any form of disruption various resource systems.

2. Ensuring installation and regular updating of appropriate anti-virus and anti-spyware programs to every computer system.

Computer viruses can evidently cause a great deal of problems, hence hinder performance level of each machine.

3. **Increasing memory.** Unless memory of operating systems and other applications used by the organization are increased, performance of computer systems or any particular machine cannot be maximized.

4. **Reducing the number of programs being used and ran by individual machine.** A single running program normally chips away system resources and memory. Hence, it is very important to check over user systems and servers to ensure that all programs are running well and efficiently.

5. **Opting for faster hard drives.** Although hard drives are perceived by many as not highly significant due to their speed, they remain as occasional interruptions to computer systems performance.

In conclusion, organizations consistently applying these few tips of “going green,” not only enhance and maximize performance but they also contribute largely in the fight against global climate change.

GREEN COMPUTING: AN EFFECTIVE INITIATIVE TO ENERGY AND RESOURCE MANAGEMENT

For many years now, responsible environmentalism and energy conservationalism were not normally associated with computer systems and technology. But with “going green” currently advocated, there are various ways of practicing Green computing with technology, which are as follows.

1. Maintaining easily managed network systems can save a lot of time and resources. Apparently, an organized network system reduces network maintenance server requirements hence saving use of resources, such as electricity, hardware, and other more.

2. Cutting down on paper, electricity, hardware, and toner. Color settings of printers should constantly be checked. By calibrating printer settings, an individual can eventually save substantial amount of money while producing high-quality printed documents. A floor lamp with an energy efficient bulb is preferable than overhead ones, saves time and energy, and non-stressing to the eyes.

3. **Virtualizing the actual work setting** offers the employees the capability to work from the comforts of their home without compromising productivity. Such work set-up allows employees to even save money from daily use of gasoline and exposure to various pollutions.

4. **Preferring a remote, electronic management system.** This system provides a more efficient printing resolution enabling favorable productivity thus, ensuring both customer and employee contentment.

5. **Monitoring and regulating staff Internet access and use.** Content filter solutions prove to be effective tools in reducing and/or eliminating potential Internet problems. Doing these help increase staff efficiency and productivity while achieving a safe Internet environment for every employee.

6. **Using Voice over Internet Protocol (VoIP)** can save substantial time and money among employees since the service is either free or low cost.

In conclusion, the process of organizations “going green” does not only concern computers and technology, but also involves responsible conservation and management of energy and resources.

HOW CAN AN ORGANIZATION BENEFIT FROM MICROSOFT POWERPOINT TRAINING OF STAFF

Companies who recognize the significance and essentiality of staff training are usually those that thrive and endure successfully in their various lines of businesses. For one thing, career advancement and skills development among organizational staff are vital for an organization to achieve its set goals and objectives effectively. One of the common training courses organizations mostly allow their staff to attend would be the Microsoft (MS) PowerPoint training course.

Specifically, although MS PowerPoint training appears to be a continuing investment, it however provides short-term benefits for the company. The fee for a day or two-day training course for instance, provides the company of a staff who is better equipped to carrying out the a task or job. Hence, the company was able to increase both productivity and quality work of its staff.

Moreover, the trained staff can even pass the knowledge and skills learned to his/her colleagues or co-workers. Any template this staff may have created while still working at the organization can be used even regardless if he/she leaves the company.

In addition, MS PowerPoint training boosts staff morale and the organization's recruiting potentials. Normally, staff sent off to training or workshop come to realize and confirm their value to the company. As a result, they would rather opt and are rather encouraged to stay than go somewhere else.

Generally, the process of learning new things and developing new skills can basically keep individuals to appreciate and enjoy more their current jobs. Staff becomes more confident and knowledgeable making their work less difficult and frustrating. Consequently, highly equipped and valued staff apparently performs effectively and efficiently for the organization.

K A I Z E N : A N E F F E C T I V E A P P R O A C H T O I M P R O V I N G O R G A N I Z A T I O N R E S O U R C E S Y S T E M S A N D P R O C E S S O U T P U T

Incremental or continuous improvement is what Kaizen is all about. Specifically, Kaizen originated from the Japanese words ‘Kai’ meaning “change”; and ‘Zen’ meaning “for the better.” Kaizen basically illustrates incremental progress and improvements by an individual performing a certain job daily at his/her work.

When Kaizen is practiced by all staff across the organization, an overall incremental improvement is achieved. Kaizen enables everyone to contribute to the organization’s resource systems and process output. There are five basic steps in carrying out Kaizen, which include: 1) problem identification, 2) problem analysis, 3) formulation of idea, 4) idea selection, and 5) implementation.

Furthermore, the organization needs to ensure a thorough monitoring for every new procedure implemented; from beginning to end. Thorough monitoring enables overseeing of how the process progresses, checking of results, searching out possibilities, identifying and admitting mistakes (if there are any), and doing better in succeeding attempts, in case the entire process failed. Consequently, these scenarios resulted for the recommendation of a PDCA (Plan-Do-Check-Act) cycle when an organization should decide and encourage all staff to carry out and practice Kaizen daily.

Employing the PDCA cycle involves several rules for improvement. These rules include 1) no to make excuses, 2) focusing on how to do that task rather than how to explain it, 3) develop courage and not fear to commit failures, 3) avoiding procrastination, 4) taking problems as challenges and avenues for gained wisdom, 5) never giving up, and other more.

In conclusion, an organization's growth, efficiency, and success mainly depend on the capabilities and potential of staff and resources. Likewise, capabilities and potential of every single staff depend on the quality of training and type of motivation acquired.