

## **Choosing Energy Efficient Products**

Green computing is the need of the hour. It is the right time now to invest in environmentally sustainable IT solutions or else it will be too late. The word 'Responsibility' must supersede 'Obligation'. Negative impact on the environment is a serious concern and steps must be taken by everyone involved 'willingly' to overcome it. Top Management of an organization must exercise this important Corporate Social Responsibility (CSR) and adopt CSR initiatives that are environment friendly.

Following key CSR initiatives must be initiated:

- Maximizing Energy Efficiency of a Product
- Promoting Recycling
- Power Consumption Policies
- Saying 'No' to Hazardous Materials
- Supporting Programs such as 'Energy Star'
- Effective Waste Disposal Plan

When specifying products, customers should consider the power conversion losses of each component and invest only in Energy Efficient Products. Data center administrator who wants to make their operations more energy efficient should request a default pricing standard that includes specification of highly efficient components.

It is every consumer's primary responsibility to contribute towards saving the depleting environment by only purchasing energy efficient products. Today, top organizations have incorporated energy efficiency ratings with their products. For example, if you are interested in purchasing a component for your computer or the laptop you must go in with a product which is energy efficient not just by virtue of its claim but also supports it with an authentic rating of sorts. 'Energy Star' compliant computers, monitors and other household appliances make up for an ideal buy.

Going Green by investing in the right products will be a great service to our planet, serve our future generation well and ultimate save a lot of money in the process.

## **Eight Ways To Green Your Existing Data Center**

A business enterprise that exercises its Corporate Social Responsibility (CSR) diligently will stand to gain in the long run for sure. It will not only be able to comply with regulatory requirements set forth by the government but also end up creating a strong goodwill in the eyes of all its internal and external customers. It is therefore the responsibility of every corporation, irrespective of its size of operations to Go Green! And do it Now!!

The following eight ways to Green your Data Center must be explored by every organization:

1. **Assessment and initiatives:** The assessment of the current situation and a plan of action to follow must come straight from the top management of the organization. Awareness and participation across all levels of the organization can give the much needed impetus to such initiatives.
2. **Efficient design of data centers:** Airflow management should be instrumental in the design of your data center. Blanking panels can be installed inside server racks to facilitate airflow around your data center. Dynamic control of a server's internal fans can reduce the energy needed when the air in the datacenter is cooler.
3. **Full utilization of servers:** Server utilization rate must be scaled up to the desired levels. Typically, servers are often underutilized vis-à-vis their standard capacity. Follow the hot aisle/cold aisle layout for arranging equipment in the datacenter. The design lets cool air flow through the aisles to the servers' front-air intake, and lets hot air flow from the back of servers to the AC return ducts, therefore requiring less energy for cooling.
4. **Choice of hardware:** The choice of hardware that organizations use today seldom matches up to global benchmarks. 'Energy Star' rated products must be explored in order to get maximum energy efficiency from the hardware being used.
5. **Reducing carbon footprints:** By effectively managing power consumption of the IT systems in use an organization can easily mitigate the carbon dioxide levels that emanate from the data centers.
6. **Obsolete hardware:** Obsolete and outdated hardware must be done away with on priority basis first and replaced with an energy efficient alternate. Such green initiatives can certainly go in a long way in establishing an organization as a responsible social player. These must ideally be discharged for recycling purpose as these are very high on toxicity levels.
7. **Multi-core CPUs:** A lot of precious energy can be saved when two or more independent processors are combined into one multi-core processor. Look for software that is multi-threaded to take advantage of multi-core processor machines. "This falls in the lap of the software designers, they need to make sure their software is multi-threaded to take advantage of multiprocessor machines."
8. **Blade servers:** Cut the physical number of servers through high-density options, such as blade servers, and through virtualization. An optimized server in the form of a blade server computer can come in quite handy when it comes to saving energy and therefore must be given due consideration.

## SIX STEPS TO HALTING DATA CENTER ENERGY WASTE

Organizations of today rely heavily on the efficient running of their data centers. Any outage in the systems can have a significant impact on the operations and subsequently the profitability of an organization. Business continuity heavily depends upon the efficient running of these data centers.

A lot has changed from the earlier times when the computer systems were complex both in terms of operation and maintenance. Rapid technological advancement has made it possible to reduce power consumption to a large extent when it comes to running a data center. However, there is still much that can be achieved on this front.

Data center energy waste can be curtailed further as demonstrated through the following six steps:

- 1) Appoint a single executive sponsor/owner of your “Go Green” strategy. Energy consumption is too important to be owned by a committee. Companies should weigh the benefits and cost savings in tasking a single owner to champion, promote, and oversee energy consciousness throughout the organization, including driving “green” criteria in IT purchasing decisions.
- 2) Advocate energy conservation and going green in your data center. There should be high levels of awareness amongst the employees and all the stakeholders of the company regarding the planned Green initiatives.
- 3) Gain a better understanding of your server usage patterns. Many a times it has been observed that organizations are not fully utilizing the capacity of their servers. Servers run on invaluable energy 24/7 even when they are not in use. On top of that if these are not being optimally utilized they can prove a dampener to your Go Green endeavors.
- 4) Investigate new technologies that can power off servers when not in use in a safe, intelligent, and systematic manner. Virtualization is one such technique that can help in maximum utilization of the data center.
- 5) Establish and implement reasonable goals over time for reducing energy consumption in your data center.
- 6) Join associations for technology transfer of proven steps that improve energy efficiency in your data center.

There is a misconception that prevents most of the IT managers to implement some of the above mentioned steps. This revolves around a notion that energy efficiency comes at the cost of performance of the data center which is not true. On the contrary, an organization gains in terms of profitability and operational efficiency after implementing such Go Green initiatives.

## Green Hardware

Embracing energy efficient technology is the need of the hour. Many organizations have already embraced the Green IT revolution and made impactful changes in the way they operate. Eradicating the use of hazardous materials, maximizing energy efficiency and promoting recyclable material are some of the vital steps being taken by organizations of today to minimize the carbon footprint.

The IT industry in its totality must be lauded for the efforts they have taken in this regard. Most of the organizations of today implement such environment friendly initiatives as a part of their Corporate Social Responsibility (CSR) programs and not merely out of regulatory compliance. There is a lot that still needs to be done by finding alternative solutions to circuit boards and semi-conductors, considered extremely toxic components.

Every organization must consider the following Green Hardware initiatives:

- **Energy Star** – An initiative of the European Union, Energy Star ratings are widely regarded as the best indicators of environment friendly office equipment.
- **Servers** – Deploying energy efficient servers can go in a long way in ensuring a lesser burden on the environment. Again the 'Energy Star' rating program for servers can come in quite handy before your organization procures these products.
- **Green Networking** – Server consolidation and implementing virtualization solutions fall under the gamut of popular green networking initiatives that an organization must consider.
- **Recycling 'Retired' Hardware** – An organization must not discard obsolete hardware items in a reckless manner. It is their obligation towards the environment to ensure these are recycled for future use. Today, many new companies have come up that can effectively manage your hardware waste material and recycle these components as per EPA regulatory guidelines.
- **I/O Devices** – Input/Output devices such as monitors consume a lot of energy and put a lot of undue pressure on the environment. There is a serious need to consider Electronic Product Environmental Assessment Tool (EPEAT) certified green products. Today, EPEAT covers more than 3200 products across 45 different manufacturers and is a globally accepted green electronics registry.

It is every organizations responsibility to drive forward efficient, clean and green programs. Issues like climate change can effectively be addressed only when everyone plays their part diligently. Act now before it gets too late.