

GREEN IT SERVICE MANAGEMENT

An Overview of How a Service Management Framework Can Contribute to Your Green Goals

EXECUTIVE SUMMARY

It's not often that doing the fashionable thing, is the right thing to do. Green IT is one of those unique circumstances. Green IT, once contained to virtualization and reduction of power in the data centers, is now taking on a broader scope. Green IT is requiring IT Organizations to align even closer to the business than ever before and forcing IT to forge new relationships and alignment across Business Units with Facilities and Corporate Social Responsibility organizations. The challenges of adopting Green IT are many. Fortunately there is help. IT Service Management (ITSM) is a proven, mature framework that can be utilized to support Green IT programs. Green IT and ITSM share common goals, such as operational efficiencies and metrics based improvements. Existing processes and supporting ITSM tools can easily be adapted to support Green IT initiatives. ITSM provides the structure to be successful as well as for documenting and sharing the achievements. It takes discipline and an organized approach to achieve the benefits, but by leveraging best practices, such as ITSM, and having a clear vision and strategy, one can achieve significant rewards by pursuing Green IT!

GREEN... IT'S OVER THERE

It seems everywhere you look these days you are hearing about companies with "Green" initiatives. Whether it is the hotel where you are staying, the products you buy at the supermarket, or stores where you shop, many companies of the products you are using are advertising how they are pursuing being more Green. They are demonstrating how they are being less impactful on the environment, making a conscious effort to reducing their carbon footprint, reducing the amount of unnecessary waste that is put in landfills, reducing the emissions of harmful agents into the environment, or attempting to use

Green IT has historically been tied to reducing power in the Data Center. But that is now quickly changing and the scope of Green IT is expanding

recycled materials as much as possible. Regardless of the effort, the quest of being greener is becoming a more commonplace pursuit.

When looking at the IT industry, being Green is also becoming a frequent hot topic. However, it seems that most of the focus to date has been on how to reduce power consumption in the data center. Part of the reason can be attributed to product vendors pushing their wares which are primarily focused on data center energy reduction. Hardware vendors are producing higher-efficiency computing products. Software vendors are providing virtualization products that are helping improve

productivity, and therefore efficiency, out of the servers and storage devices already installed.

Now, by no means do we intend to discount these efforts and vendor wares. Some of the biggest gains an IT Organization may realize are facilitated by reducing power consumption in the data center. Even if energy rates do decline in the short-term, in the long term it is most likely that energy costs will continue to rise and IT will become even more expensive to operate.

How many times has an IT product been purchased to solve a discrete problem and yet the return on that investment was never realized? Was the product really defective, or was an organization just not able to use the technology properly to maximize the value of all of its features? In many cases one will find that the essential underpinning processes and procedures are not in place to support a new product or technology and the people in the organization do not have the appropriate level of training or have decided the change is not worth the effort. Therefore, in order to maximize the benefits, it is important to look at the holistic view of the organization: the People, Processes, and Technology.

WHAT IS GREEN IT?

Green IT is a term that represents much more than the efforts to reduce power consumption in the data center. It represents all of the tactics and strategies of an entire IT Organization to reduce the use of consumables and decrease the activities that have a negative impact. One of the biggest challenges an IT Organization faces is its dependency on the Business to make decisions that

OwlPoint defines Green IT as “The practice of applying strategic and tactical initiatives to pursue maximum efficiency of an Organizations application of Information Technology to limit consumption and minimize the impact to the environment.”

Proper Business and IT alignment is imperative for successful Green IT initiatives.

affect what the IT Organization can do. For instance, one easy way to reduce power consumption in the data center is to turn off some unused or underutilized servers. Is every server really being used all of the time? Do you know who uses what applications and if they are important to the business? The IT department requires detailed documentation on what services each server supports, good monitoring techniques, and a strong interactive relationship with the business to be able to review the use of IT services and determine where those opportunities for reductions are. Given the right information, the business can make the informed decision on where the IT department can make changes to reduce costs and be greener. Therefore, it is imperative that the IT Organization be able to work with the business to determine where the opportunities are for savings and for the business to be the decision maker.

Part of the issue is quite often there is a significant communication gap between the business and the IT Organization. Beyond the simple relaying of IT demands and budget allocation from the business, and IT providing status and tech support back to the business, there isn't enough of the right, detailed level of discussions between business sponsors and the IT Organization to understand how IT is being used and its underlying costs.

To resolve this, and a fundamental requirement of being “greener”, an IT Organization should pursue a service management approach. Service management best practices, such as the IT Infrastructure Library (ITIL) or ISO 20000, provide a framework to establish the IT Organization as a service provider and develop a stronger

partnership with the business that is focused on service levels and costs of services. Once the Service Management approach is implemented and is a natural part of the fabric of the company, the IT Organization and the business can work together more effectively to determine how the company can save money, be Green, and still achieve the goals of the business.

LEVERAGING IT SERVICE MANAGEMENT TO BECOME GREENER

There are several reasons why IT Service Management (ITSM) is so important for Green IT. First of all, ITSM provides the framework to align IT services with the current and future needs of the business. By aligning IT Services to the Business needs ITSM achieves a harmonious alignment between the two. By leveraging those same principals IT will be ready to forge relationships and alignment across Business Units that were once deemed as unnecessary. Secondly, it provides the guidance to improve the efficiency of the organization. Successful ITSM implementations have defined visions, strategies, policies, processes, and procedures that the organization will leverage to make it easier to incorporate Green IT tactics to further improve the efficiency and Green posture of an IT Organization. Finally, by implementing Continual Service Improvement programs (CSI), an ITSM approach ensures that not only are today's Green IT solutions appropriately sized but ensures that the IT Organization is enabled to adapt to future Green requirements contributing to IT sustainability goals.

An IT Service Management (ITSM) approach closes the Business & IT alignment gap, increasing the effectiveness of Green IT initiatives.

Sharing a similar goal with Green IT, IT Service Management (ITSM) is rooted at driving operational efficiencies.

Let's take a closer look at the ITSM principles. There are a few significant areas that have a considerable impact in helping an IT Organization achieve Green IT maturity. We will take a look at these areas but these are only a few examples of how ITSM can help implement Green IT and other aspects of ITSM should not be ignored. The full benefit of ITSM is achieved when all parts of the framework are implemented and are working together.

ESTABLISHING A HEALTHY RELATIONSHIP BETWEEN IT AND THE BUSINESS

As mentioned earlier, it is the dialogue and relationship between the Information Technology Organization and the business that is foundational to achieving great savings and efficiency within the IT Organization. ISO 20000 specifically defines a relationship process called "Business Relationship Management". This relationship, along with other aspects of ITSM, enables the IT Organization to act as a service provider to the business and provide the necessary services at reasonable costs.

With the solid relationship in place, the IT Organization and the business can work together to identify areas of opportunity to become greener. Many organizations are going to have company-wide directives or initiatives to be Green. The IT group will play a part, but they are going to require input from the business and potentially short-term investments to facilitate the initiatives. For instance, if the IT Organization would like to monitor its power consumption in order to establish reduction goals and measure the effectiveness of Green IT tactics, there is probably going to be a cost. Since the costs for items such as monitoring software, related hardware, and

integration services are probably not in the budget, the initial costs may need to be paid by the business.

This is further highlighted by the fact that many IT Organizations do not pay electric bills, so there is no financial gain for the IT department when reducing energy consumption. IT will require other business groups to buy-in to the energy reduction initiative and help pay for the benefit.

The relationship with the business is also important when IT identifies other areas of improvement. For instance, it may be discovered that there are servers or applications that are in production that are rarely used. If IT brings this to the attention of the business, the business can make the decision of whether these applications are truly worth the cost they are paying for them. It is hard for IT to make this decision, and honestly, it is not the IT Organization's place to determine what applications are important for the business or not.

DEFINING IT SERVICES AND USING FINANCIAL MANAGEMENT

When acting like a service provider, it is necessary to bundle your wares into service offerings. As an IT Organization, these service offerings are called IT Services. Each IT Service may have options and levels of service, but can be individually ordered by the business and be associated with a cost, whether or not a chargeback method is implemented.

Defining IT Services and associating all activities within the IT department with a Service is important, especially when attempting to drive cost efficiency. In the earlier example of determining whether or not all applications running on a server are important,

Frequently Green IT is driven by company-wide directives or initiatives requiring input and investment from the business to succeed.

operations are made simpler and costs savings easier to find when a complete services model is implemented. A list of IT services, with their defined level of service can be provided directly to the business group which has requested them. The business can then review the services and determine which ones are no longer needed.

Therefore, when wondering if a few applications on a server that is not used much anymore can be retired, one can contact the proper business group and ask the specific question: Are these applications really needed and are they worth the amount of money that is ultimately being spent for them?

Service levels are the same thing. Do all services require 24x365 service desk support, or are only a few services that critical? Are all services required to run 24 hours a day, or can a few be turned off during periods of inactivity? These types of options can be driven into defined service levels and have varying costs associated with them. Many Green IT objectives can be clearly defined in service levels and have associated costs levels, making it easier to see how a service can be made greener as well as save costs by pursuing it. Furthermore if the business desires to limit certain types of IT services because of the impact to the business or environment, additional costs could be associated with the service and the monies used to implement future green initiatives or fund carbon offsetting programs.

Developing "Green" Service Level Options is a tactic to market and drive adoption of Green IT services to your internal business customers.

Another example of the need for defining IT services is when setting up virtualization. Server and storage virtualization are excellent methods of driving IT efficiency by pooling resources across devices and being able to support a larger demand of IT services across a smaller set of equipment. However, one of

the major issues with virtualization and cloud computing is that virtual sessions and applications get deployed into the virtual environment and forgotten about. These wasted resources are no better than having a server running in the data center that is no longer being used by anyone. It will be that much more important that virtual instances are setup as IT services, that they are documented well, and are charged directly back to the business who uses them. This will help keep the operations running efficiently and the business will be responsible for keeping the costs down.

Addressing power consumption in the Data Center requires IT alignment with Facilities, typically not commonplace in most organizations today.

EFFICIENT OPERATIONAL PROCESSES

One of the strongest ties between taking a service management approach and pursuing Green IT are the benefits of using ITSM's defined operational processes. Beyond the larger strategy and the relationship between IT and the Business, ITSM defines best practices for managing IT operations. If you want to ensure that you are following defined practices that will achieve Green IT goals, and continuously improve the efficiency of your IT operations to keep costs to a minimum and maximize your Green IT implementation, then it is going to be critical that process and procedures are adhered to, that metrics are defined and measured, and there is a defined continuous improvement process which utilizes those metrics and drives for improvement.

A Configuration Management Database (CMDB) is a great tool to help collect, report & analyze data that supports your Green IT initiative.

There are many areas that the ITSM disciplines can be incorporated to manage Green IT. One example is Change Management. Change Management is being used today by many organizations to reduce risks and in many cases to achieve compliance requirements, such as Sarbanes Oxley. However, the

Change Management process can easily be enhanced to incorporate Green IT items when evaluating a Request For Change (RFC). As an example, take a request for change that was submitted to install a new server to support a new application that is going to be rolled out. As part of the process of reviewing a change, the change can be evaluated to make sure that the server is configured with the minimum defined Green specifications. Is the server configured with an approved processor, and are the hard-drives Green approved? Does it meet size or heat specifications for placement in the datacenter? Does the device meet Energy Star 4.0 minimums?

Configuration Management is another area that will benefit Green IT significantly. One of the main components of Configuration Management is the implementation of a Configuration Management System (CMS) or Configuration Management Database (CMDB). If a CMDB is deployed, attributes for each Configuration Item (CI) can be defined. Typically these are items such as location, device type, and owner. There may be some very specific technical information about the CI. For a CI that is a server, organizations may choose to track how much memory it has or what operating system is running. Additional attributes related to Green IT can be defined and tracked supporting important Green IT decisions. For instance organizations could choose to track whether a device is rated Energy Star 4.0 compliant, or one could track energy consumption details for when the server is idle and when it is running at 100% CPU utilization. These attributes can then be used when looking for areas of improvement. This data could be used supporting a report identifying equipment that is known to be inefficient, such as a certain class server, and replace

the equipment with new devices that would provide significant cost savings due to reduction in energy consumption.

A review of each of the defined process areas within the ITSM framework being used will reveal that there are parts of each process that can be enhanced to incorporate Green IT and improve a company's Green posture.

CONTINUOUS IMPROVEMENT – DRIVING FOR MAXIMUM EFFICIENCY

It is not enough to say that a process exists or that an organization is efficient. Once a Service Management approach has been put in place, it is necessary to monitor its effectiveness and improve upon it. Continuous Improvement is one of the many and possibly most significant aspects of ITSM. It is also one of the greatest drivers for pursuing ITSM to support Green IT. Green IT is about efficient IT and to drive the maximum efficiency out of an IT Organization and its implemented technologies, one needs to measure how effective an organization is and continuously implement improvements that drive to efficiency goals.

All of the ITSM methodologies define improvement programs. ISO 20000 defines Continual Improvement which requires a published policy on service improvement and requires action on identified issues. ITIL Version 2 defines a Service Improvement Plan (SIP) as part of Service Level Management. The most significant is ITIL Version 3. Although, ITIL Version 3 is built upon the proven success of its predecessor, ITIL V2, one of

the greatest improvements is the definition of Continual Service Improvement (CSI). ITIL Version 3 is oriented around the lifecycle of a service and is divided into 5 components, the 5th one being Continual Service Improvement. It is important to highlight this difference, because it demonstrates the importance of the need for continual improvements.

Green IT implementation can easily be supported by existing IT Processes and Procedures.

When taken in the context of Green IT, organizations can use CSI to identify areas that have room for improving the “greenness” of a service. If

measurement of energy consumption of a particular service is being accomplished, it is possible to determine if the service is efficient, identify methods for reducing energy consumption, implement changes, and measure the affects and subsequent energy usage improvements.

Without formal processes in place and a defined method of evaluating process and service efficiency, it is nearly impossible to drive for exceptional efficiency. It requires measuring consistent

Aligning your Green IT goals with a continuous improvement process and defined metrics is a best practice that will maximize your Green IT returns.

processes, and gauging how much a specific change has affected a service. Regardless of the ITSM framework, it is important to establish the relationship with the business, define the IT services, associate costs with the Service, operate

consistently and effectively through defined operational processes, and finally have a formal improvement plan in place to drive to the efficiency goals that have established as part of the Green IT initiative.

IN SUMMARY

Green IT requires maximizing the efficiency of an organization's IT implementation. The challenges exist to reduce consumption of items within the IT supply chain such as Energy, Paper and Real estate. It is necessary to ensure that purchased items have the least impact on the environment and, on the reciprocal, dispose of waste in the most environmentally-friendly manner possible.

While ITSM is probably not the first thing that comes to mind when determining how to pursue Green IT, it is probably one of the most important aspects in developing a long-term approach to driving towards sustainability. Without the strategy to be Green, the support from the business, and the controls in place to ensure the organization is achieving the goals, efforts will be minimized to short-term gains that may or may not have the desired impact.

ITSM will provide for the structure to be successful as well as for documenting and sharing the achievements. ITSM may seem like an overwhelming mission. However, if keep things are kept simple and current best practices and capabilities are leveraged; one can probably implement basic components of ITSM in a short amount of time.

Just remember, it is not often when you have the opportunity to do the right thing and have it generate the return to the organization as Green IT does. You get to help protect the environment by saving money! It takes discipline and an organized approach to achieve the benefits, but by leveraging best practices, such as ITSM, and having a clear vision and strategy, you can achieve significant reward by pursuing Green IT!

ABOUT THE AUTHOR

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