HostedDatabase.com
Web Hosted Applications and Databases for Business

Application Case Study: Green IT Project Management

Version 1.0: February 20, 2009
Presented by: Marketing Department

Case Study

Case Study for Green IT Project Management Application

Project profile

Going "Green" is a mission of many companies around the globe not just for reasons of environmental responsibility, but also for cutting costs in these extremely tight economic times. *Green IT* efforts represent a specific focus area within enterprises that hold attention to this trend. Green IT leverages information technology to streamline operations, cut costly waste, and reduce the impact on the environment. IT typically consumes only about 10% of an organization's energy costs, but the net effect of a Green IT project is to go beyond just energy saving. To tackle the other 90%, a Green IT project extends into a variety of other departments, and to execute such an endeavor requires an effective project management function in order to identify and prioritize goals. A Green IT transformation can be a complex process.

This case study explores the use of the HostedDatabase.com *Project Management* web application for managing a Green IT project that insures good environmental stewardship. In the process, we'll outline many of the contemporary tasks included in such an effort.

We've also set up a demo application that you're welcome to run and explore. With the demo you can get some ideas about how you might structure your own Green IT project for your company.

- Go to www.HostedDatabase.com,
- Click the *Application User Login* button
- Enter "GreenIT" for Account Name, User Name and Password and click the *Login* button.
- Select the "GreenIT" application from the list and click the *Run Application* button.

VITAL STATISTICS:

- Number of project tasks – 16
- Project duration – 16 months
- Project budget – $1,200,000
- Number of users – 50

Business situation

The company, a manufacturer of hardware products for businesses and consumers with $175 million in annual revenue, was asked by the board of directors to plan and implement an enterprise-wide Green IT initiative. A green team was selected consisting of managers from nearly all departments needed to participate in the project in terms of defining tasks, assigning priorities, managing the status of various tasks, adjusting target dates, maintaining the budget and keeping good notes that document issues along the way.

The action plan for a Green IT project included four primary components: revising processes and metrics, optimizing efficiency of existing IT assets, revamping architecture and infrastructure, and positioning IT to enable green business practices. The components can be broken up into individual tasks in support of the Green IT project:

- **Server Virtualization** – Server virtualization is the most popular power-saving strategy for data centers. The process involves replacing physical servers with virtual servers controlled by hypervisor software running on fewer physical servers.
- **CPU Power Throttling** – For a quick ROI, the company plans to use CPU power throttling which is projected to result in 14% energy savings on existing equipment, hardware and operating system software that supports it.

- **Server Power Capping** – Capping the power drawn by servers. The power capping eliminates the need for over provisioning, allowing the company to reclaim trapped energy. The power allocations will be set in advance, based on previous server history.
- **Active Power Management** – The goal is to cut the amount of time PCs are powered-on by more than half, from 21 hours to 10.3 hours daily, estimating it will save about $750,000 on energy annually by deploying active power management solutions. Studies show that PCs stay on more than double the amount of time they need to. This translates to an amount of wasted energy that costs about $150 per system per year.
- **Alternative Energy Plan** – Alternative energy sources is an important characteristic of a green data center so the company will investigate relocating the data center where wind or hydro power is widely available. The company will also explore the use of solar energy rather than diesel for backup.
- **Determine Enterprise Power Draw** – The company shall determine the energy draw in kilowatts for each type of IT equipment. The energy draw can be obtained from manufacturers, or by using a tool like Kill-a-Watt from P3 which shows how much power a piece of equipment is consuming. For example, the average PC draws between 60-250 watts (0.25 KW). These numbers can be annualized by figuring out how many hours per year each asset is running.
- **Computer Hardware Recycling** – The company plans to follow the trend that 40% of companies already have in place, computer hardware recycling. Company issued cell phones will be part of this initiative.
- **Data Center Chargeback Model** – The company plans to determine data center usage on a per department basis so more use is charged back more heavily to the department with the most use.
- **Data Center Cooling and Airflow** – The company plans to reduce data center operational costs and carbon footprints by reducing the amount of power needed to run and cool the facilities. To do this, the company will recycle more than 302,000 gallons of water a day at the data center and will also collect rainwater off its roof and store it underground in a 50,000 gallon tank for cooling IT systems.
- **Energy Efficient Coding Practices** – Thought should be given to understanding how much power custom developed software applications will use even as they are being coded. The company's IT department shall advise developers to determine which query method for example, might save a watt of energy and choose that method even if it might make the process slower by a nanosecond or two.
- **Measure Data Center Energy Use** – The company's data center must be more energy efficient by deploying sensors measuring nearly all power consumption. The company will measure total data center energy use every 15 minutes and monitor at the subsystem level. This will develop baseline metrics and find trouble spots, taking measurements over the course of a year. The stated goal is to increase CPU utilization by 10% and cut power use by 5%. The long term goal is to obtain EPA Energy Star rating for the data center. The Power Usage Effectiveness (PUE) score compares the overall amount of energy used in the datacenter for all functions including computing, cooling, and power distribution, to the amount that just goes into computing. A lower PUE is better and a value of 1 is the goal.
- **Printer and Display Efficiency** – The company plans to encourage employees to print on both sides of paper and cut duplicate printing. The company shall also initiate a campaign to have employees turn off their screens if they are going to be away.
- **Software-as-a-Service Conversion** – The company will select SaaS solutions for the cost savings, but the move also can be seen as a green investment.

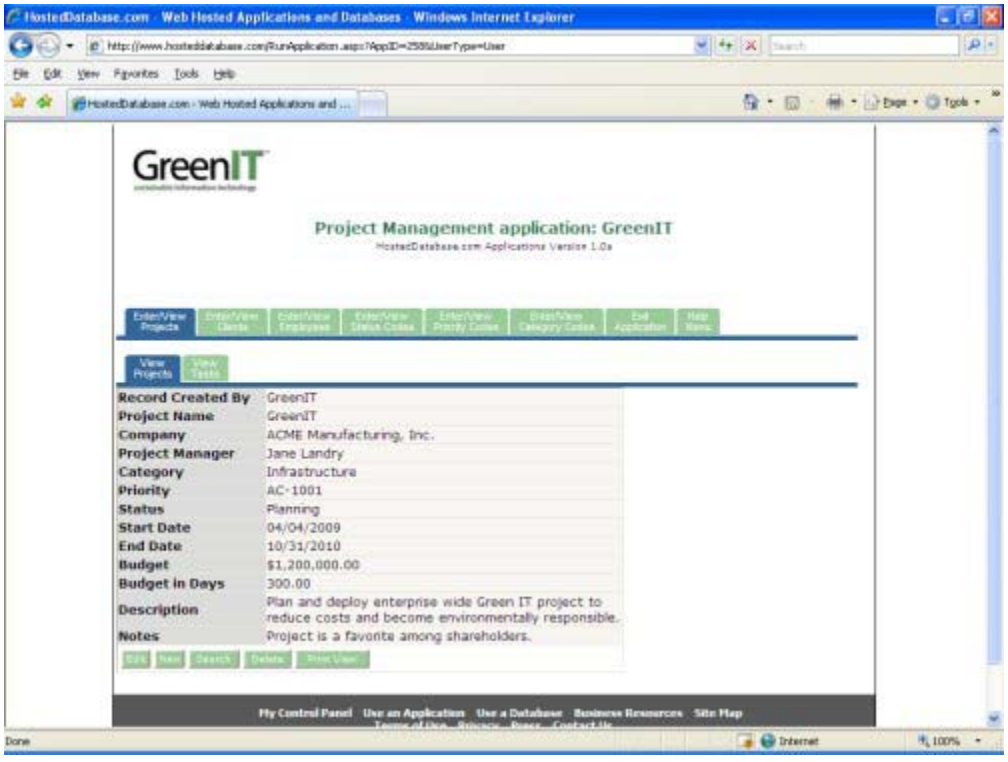
- **Telecommuting Programs** – The company shall institute guidelines to replace eco-unfriendly air travel with tools for virtual work, such as instant messaging (IM) and teleconferencing. In addition, general telecommuting programs shall be instituted. IT's role is significant when putting a telecommuting policy in place.
- **Carbon Footprint Calculator** – The company plans to develop a web-based carbon footprint calculator to estimate CO2 emissions.
- **Paperless Accounting** – The company shall develop IT solutions to encourage customers to take advantage of paperless billing and payments.

Technical situation

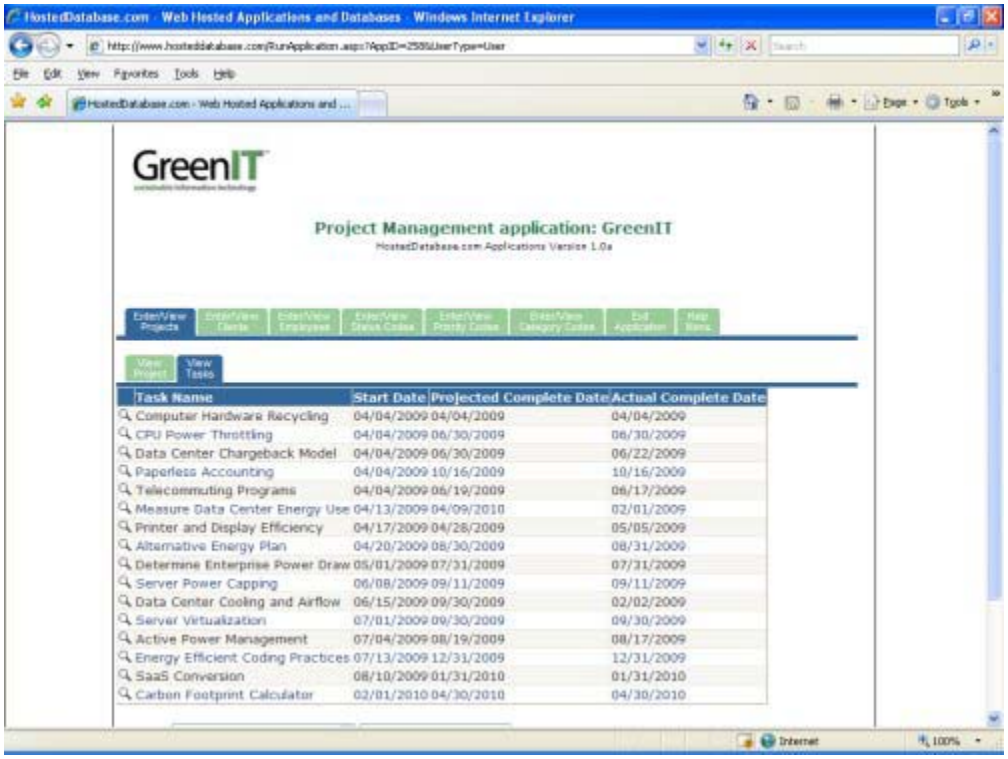
In order to make the project management application readily available to all participating parties over the web, the company chose to use an on-demand software solution from HostedDatabase.com. The Project Management application is quick to set-up and simple to use.

Solution

The HostedDatabase.com Greent IT Project Management application only contains a single project although the software can be used to manage any number of projects. Each project is defined in the View Projects tab which contains project-level data such as project name, project manager, category, priority, status, date range, budget, etc.



By clicking on the View Tasks tab, you can see all the various tasks associated with the project. Project tasks can be sorted in a number of ways such as by the Start Date field. From this single page, the status of the entire project can be summarized. Individual tasks can be updated by clicking on the hourglass icon on the left side of each task.

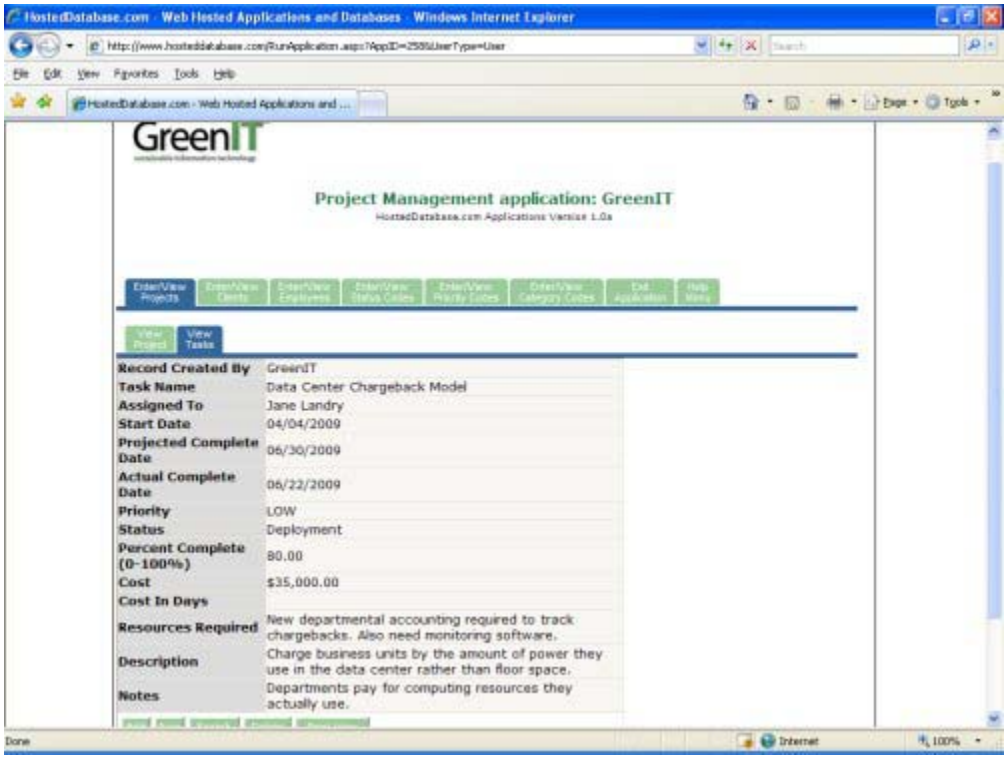


The project task detail view provides access to specific data elements pertaining to the task such as task name, assigned to (employee responsible), start date, projected/actual completion date, priority/status indicators, percent complete, cost in dollars and days, resources required, description and notes.

Application users may run the application and update/maintain these data elements on an as-needed basis and only if the appropriate permissions have been given to the user. For example, some users may have view-only privileges while others may edit task information (but not add or delete tasks). It is up to the account administrator to assign appropriate privileges for each application user.

Account administrators may create any number of application users and assign them to specific application instances. An application instance is created whenever you use the *Create a new application* tool in the Control Panel. You can create any number of instances of any application type. For example, you can create a Project Management application for your business and another for your church's food drive. The number of concurrent users allowed (users running an application at the same time) depends on the number of **user seats** you subscribe to. If you have 5 user seats, then any 5 of your defined users can be running applications at once.

Note that each HostedDatabase.com application instance may have its own logo image displayed in the top left corner of the application web page.



Benefits

The Greent IT Project Management application provided the means for the company to effectively manage a significant enterprise-wide project. The new on-demand project management application replaced a traditional on-premise software package that ran on the company's internal network. By opting for a hosted application, the company was able to avoid software upgrade and support fees charged by the vendor. In addition, the company avoided the need to use internal IT resources to manage software updates. HostedDatabase.com software updates are centralized and instantly available to all customers. Further, there was no need for hardware or operating system and enterprise database software licenses. But the biggest benefit was the flexibility of accessing the project management application from any web browser from any location with an Internet connection. Instant costs savings were realized by engaging HostedDatabase.com software in the cloud.

Account service level used

Green IT uses the HostedDatabase.com Application account service.

ACCOUNT DETAILS:

- Monthly subscription fee of $247.50.
- 50 user-seats (concurrent users) may access the application.
- Unlimited number of application instances.
- Unlimited bandwidth for data transfer.
- Unlimited application data storage.
- Unlimited and free technical support.