



Reduce Energy Costs and Go Green

With VMware Green IT Solutions

The IT Power Crisis

Energy consumption is a critical issue for IT organizations today. Computing equipment has become increasingly dense, energy costs are on the rise and many datacenters simply lack the power or space IT services require. Industry analysts estimate the annual cost of powering a server will soon exceed its acquisition cost.

Underutilized desktop and server hardware is at the root of the problem. Desktops and servers run at average utilization rates of only 8-15 percent yet while idle consume nearly as much power as they do when active. Hardware capacity is typically over-provisioned because it is hard to adjust dynamically. The result is too much hardware that is highly inefficient at delivering IT services.

Consequently, many IT organizations are looking for solutions that can help them reduce their energy costs and consumption while at least maintaining service levels and responsiveness to the business.

Go Green with Virtualization

VMware solutions can help reduce energy costs from the desktop to the datacenter by right-sizing your IT infrastructure. More than 100,000 customers—including all of the Fortune 100—rely on VMware to reduce costs, increase IT efficiency and go green.

Key Benefits:

- Reduce energy costs by 80 percent.
- Dynamically power down servers without affecting applications or end users.
- Green your IT infrastructure while improving reliability, availability and service levels.

"The Johnson Controls datacenter has been a much cooler, roomier space thanks to the virtual infrastructure. We've reclaimed 32 tons of cooling capacity, and have reduced 49KVA in power usage in the datacenter to 8.1KVA."

Philip Cramer, Johnson Controls

Reduce Power Costs and Increase Resource Utilization

VMware virtualization gives you the power to right-size your IT infrastructure through server consolidation and dynamic load balancing across a pool of physical servers. By running 10 or more applications in virtual machines on a single x86 server, your IT organization can dramatically increase server utilization and reduce energy costs.

VMware Distributed Resource Scheduler (DRS), a feature of VMware Infrastructure, continuously monitors capacity and resource requirements across your virtual infrastructure and ensures service levels while minimizing energy consumption. When excess capacity exists, VMware DRS intelligently consolidates workloads onto fewer servers without downtime or disruption and places unneeded servers on standby. When resources are required, VMware DRS brings powered-down hosts back online to ensure service levels are met.

VMware DRS allows IT organizations to right-size IT infrastructure in real-time and minimize power and cooling costs while delivering higher levels of availability and service to end users.

VMware Infrastructure has helped VMware customers reduce their energy costs and consumption by as much as 80 percent.

Improve Energy Efficiency for Corporate Desktop PCs

VMware solutions can also help you improve energy efficiency on the desktop. Many VMware customers are reducing their energy costs by using the VMware Virtual Desktop Infrastructure (VDI) solution to replace underutilized PC desktop hardware with thin clients that consume far less energy and do not need to be replaced as often.

With VMware VDI, administrators get the added manageability and control that comes with centralizing desktop images in the datacenter, while end users get convenient, flexible access to their own complete, customizable desktop.

VMware VDI extends powerful virtual infrastructure capabilities to the desktop, including dynamic workload balancing and distributed power management, which improve availability and efficiency.

Help Pay for Virtualization with Energy Efficiency Incentives

VMware virtualization is a proven solution for increasing energy efficiency, and many major utility providers now offer financial incentives for virtualization-based desktop and server consolidation projects. By participating in these incentive programs, you can achieve even greater financial savings and faster ROI with VMware virtualization solutions.

Contact your local utility provider to find out if they offer financial incentives for virtualization-based consolidation projects.

"VMware technology has helped us significantly reduce our energy consumption. This is the primary driver behind a six-figure rebate from Southern California Edison this year."

Jake Seitz, Enterprise Architect, First American Corporation

Minimize Your IT Carbon Footprint

VMware virtualization solutions have a positive impact on the environment as well as the financial bottom line. Every server virtualized with VMware is equivalent to removing 4 tons of carbon dioxide (CO₂) from the environment or taking 1.5 cars off the road annually.

Customer Success Stories

QUALCOMM is a "VMware First" company in which internal groups receive virtual machines instead of physical servers as a default policy. The company now has an allocation model that is based on resource needs, not server needs, and saves approximately \$19,000 per month in power and cooling costs.

Solvay Pharmaceuticals has just over 100 virtual machines and estimates saving more than \$1.5 million in hardware costs and annual power and cooling cost savings of \$67,000.

1800RADIATOR uses VMware Infrastructure for its new and improved disaster recovery strategy, and has dramatically cut power and cooling costs, receiving a \$6,000 PG&E rebate check in the process.

World Wildlife Fund in the United Kingdom has dramatically reduced its carbon footprint while using VMware to simplify management of their IT infrastructure and create an effective disaster recovery practice. After experiencing these benefits, the organization's IT team has been urging the entire global operation of WWF to implement VMware solutions.

First American Corporation is standardizing on VMware technology and has reduced desktop PC power consumption by 93 percent using Virtual Desktop Infrastructure (VDI).

Interior Health Authority consolidated 160 server workloads onto six physical servers with VMware ESX and estimates using approximately 80 percent less energy.

Wyse is saving \$30,000 per year on power and cooling with 85 percent CPU utilization and fully automated workload balancing with VMware DRS. They have 80 percent of their Windows environment in virtual machines.

Johnson Controls achieved a 20:1 consolidation ratio, driving consolidation up from 0.1 percent to 70 percent. They were on the verge of buying in-room chillers to handle the heat load but with virtualization they regained 32 tons of cooling capacity.

Huntsville Hospital reduced power usage across their environment by 72 percent using VMware Virtual Desktop Infrastructure (VDI) to satisfy its desktop manageability requirements, deploying thin clients to replace 400 desktop PCs.

"The expansion of our data centre was affecting our ability to deliver services promptly and efficiently and we were also becoming concerned about our power and cooling overheads. Virtualisation has helped us drastically reduce our power and cooling requirements while making our overall infrastructure far more efficient."

Jody Popplewell, Senior Network Administrator, Hull College

Go Green Today

For more information or to purchase VMware solutions, call 1-877-4VMWARE (outside of North America dial +1-650-427-5000), go to <http://www.vmware.com/company/contact.html> or visit the VMware online store at <http://www.vmware.com/vmwarestore/>. Or, search online for an authorized VMware reseller at <http://www.vmware.com/partners/>.