



Lightspeed
Power Manager



Automated Power Management:

The Simple, Cost-Saving Solution You Can't Afford to Ignore

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LIGHTSPEED
— SYSTEMS —

Network solutions for safe online learning

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Introduction

Did you know that...

- As much as half of the work day, network computers are turned on, but idle?ⁱ
- Less than 40% of PCs are turned off at night and on weekendsⁱⁱ
- Turning off computers during nights, weekends, and holidays can save up to \$75 per PC, per year?ⁱⁱⁱ

Idle computers across your network are wasting energy—which means they are wasting money. With school budget cutbacks on the rise, the cost-saving benefits of power management cannot be overlooked. In their recent report, *How Much Money Are Your Idle PCs Wasting?*^{iv}, Forrester defines power management as:

Actively reducing the energy consumption of operating PCs and monitors by enabling lower power states during periods of inactivity — where the PC and monitor are drawing energy but no useful work is being performed (e.g., nights, weekends, holidays, and workday breaks).

Reducing this energy waste across your network can garner financial, environmental, and social rewards. According to the federal government's ENERGY STAR program, computer power management pays off by:

- **Cutting the electricity** used by PCs roughly in half, saving \$25–75 per PC annually.
- **Reducing office cooling loads**, saving an additional \$5–10 per PC annually, and as much as \$10–25 or more in warm climates.
- **Decreasing peak load demand charges** levied by utilities.
- **Enhancing data security** by reducing the chance that valuable information is displayed on unattended PCs.
- **Garnering public recognition** for preventing pollution. ^v

Despite these benefits to power management, the challenges of manual, or unautomated, power management generally make it difficult to enforce policies consistently across the network.

The Challenges to Power Management

It's hard to argue the financial and environmental benefits of reducing energy waste. But there are several challenges to managing power usage across a network.

1. **Resistant end users.** Computer users are impatient. They don't want to have to wait 5 seconds for a computer to come out of standby, or 20 seconds for a turned-off computer to power up. Typically, this is why users leave computers on—all day, all night, all weekend. Added together, this means that an always-on computer is actually in use less than 20% of the time that it is using energy. Many users are also unaware of the fiscal and environmental impact of leaving unattended computers on.

2. **Popular, but wrong and outdated, myths.** Many people still believe that the energy required to turn on a computer is greater than the energy consumed by an idle computer. In fact, the small surge of power to turn on a computer is much smaller than the power wasted by leaving an unused PC turned on.^{vi} In addition, the belief that turning a computer on and off will negatively affect its operation or the length of its lifetime is outdated and doesn't apply to newer CPUs^{vii}. Other users believe that utilizing screen savers conserves energy. In actuality, screen savers do not save energy, and often consume more.^{viii}
3. **Reliance on native system tools.** While Windows system tools and Group Policy can help with power management by allowing you to shut off computers at a specified time, they lack sophistication and flexibility, including the ability to set different policies for different users or machines and the ability to control hibernation or other power-saving features. In addition, these methods do not offer a way for machines to report their usage or power save functionalities to a central location, and lack the reporting to detail compliance with, and cost-saving benefits of, power management policies.
4. **Reliance on other energy-saving peripherals.** Users and administrators often believe that energy-conserving power strips can offer power savings, without the annual fee of software solutions. In reality, power strips do not turn off computers; they still require someone to turn off the PC. In addition, such peripherals don't report on savings, and they cost just as much or more up-front as software solutions.

The Benefits of Automation

Automated power management overcomes the challenges of manual power management, and delivers a quick return on investment, by enforcing power management policies from a central location. With automated power management, IT administrators can set rules for when PCs across the network are directed to low-power or shut-down states.

According to the Department of Energy's research into power management strategies, "Network software that enables power management for networked office equipment has the greatest energy savings potential of all measures selected."^{ix}

Automated power management overcomes the challenges of manual power management by:

- Removing the burden of power management from resistant end users
- Reducing the workload of power management from IT through time-saving automation
- Relying on proven best-practice models of power management, to ensure automated power management does not negatively impact active work or automated network upgrades
- Generating detailed reports of energy usage and cost-savings
- Making organizations eligible for green rebates from utility companies^x
- Enhancing security by directing more secure states on unattended computers

Best Practices for Automated Power Management

By utilizing best practices for PC Power Management, you can dramatically reduce the energy consumed by computers across your network, while ensuring that computers being actively used are not affected.

The Energy Star program recommends the following guidelines for automated power management best practices:

CPU:

A powered-on CPU uses 120 watts/hr; asleep it uses 30 or less (newer computers can be 1-3W).
Set computers to enter system standby or hibernate after 30-60 minutes of inactivity.

Monitor:

A powered-on monitor uses 150 watts/hr; asleep it uses 30 or less (newer monitors can use less than 6W in sleep mode).
Set monitors to enter sleep mode after 5-20 minutes of inactivity.

Beyond these best practices for power management, it is critical to select a power management solution that is flexible to the needs of your organization, to ensure that user and network needs are balanced with power management goals. To ensure the success of your power management plan, it is also important to select a solution that offers reporting on energy usage and cost savings.

Rebates by State

Many different utility companies and state programs offer rebates for the use of energy-saving solutions like Lightspeed Power Manager.

This table summarizes available rebates by state. If your utility company is not listed, contact them to see if you are eligible for any “PC power management rebate” programs. Generally you should expect to provide baseline and savings reports (readily available with Lightspeed Power Manager), an invoice with the Lightspeed Power Manager line item, and access to PCs for an audit by the utility company.

(We have attempted to consolidate the latest information on available rebates, but cannot guarantee any of these offers. Please contact the affiliated utility company or organization for more details and eligibility requirements.)

Arizona	APS	Offers rebates of \$.11/kWh or 50% of total cost. Find out more at: http://www.aps-solutionsforbusiness.com/ProjectCenter/Default.aspx?tabid=1879
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California	Alameda Power and Telecom	Offers rebates of .10/KW for KW saved.
	Anaheim Public Utilities	Find out more at: http://www.anaheim.net/utilities/adv_svc_prog/energy_efficiency_incentives/index.pdf
	City of Palo Alto Utilities	Offers rebates of \$15/seat. Find out more at: http://www.cityofpaloalto.org/civica/filebank/blobload.asp?BlobID=8056
	LA Dept of Water and Power	Offers rebates of \$15/seat. Find out more at: http://www.ladwp.com/ladwp/cms/ladwp008865.pdf
	SDG&E	Offers rebates of \$15/seat. Find out more at: http://sdge.com/business/esc/documents/FinalSBSS8-14.pdf
	PG&E	Offers rebates of \$15/seat. Find out more at: http://www.pge.com/includes/docs/pdfs/mybusiness/energysavingsrebates/rebatesincentives/efficiency/ref/computing/08businesscomputing.pdf
	Edison	Find out more at: http://www.sce.com/b-rs/rebates-savings.htm
	SMUD	Offers rebates of \$10/seat. Find out more at: http://www.smud.org/business/rebates/pdfs/networkPC_brochure.pdf
Florida	Gainsville Regional U.	Offers rebates of the lesser of \$40K or 50%. Find out more at: http://www.gru.com/Pdf/YourBusiness/ProductsServices/Rebates/Customized%20Business%20Rebate%20Form.pdf
Idaho	Avista	Offers rebates of \$10/seat. Find out more at: https://www.avistautilities.com/business/rebates/washington_idaho/Pages/incentive_14.aspx
	BPA	Offers rebates of \$10/seat. Find out more at: http://www.bpa.gov/corporate/contact/links.cfm
Illinois	DECO	Offers rebates of \$.07/KWh. Find out more at: http://www.illinoisbiz.biz/NR/rdonlyres/FDD4E9EB-2738-4018-8D00-2025A22E8549/0/PublicSectorElectricEfficiencyGuidelinesCombinedFINALJUNE92008.pdf
Iowa	Alliant Energy	Find out more at: http://alliantenergy.com/docs/groups/public/documents/pub/p015702.hcsp
Kansas	Kansas City Power & Light	Find out more at: http://www.kcplprograms.com/content/customrebatesretrofit
Kentucky	Duke Energy	Offers rebates for saved KW. Find out more at: http://www.duke-energy.com/pdfs/School_OH_Assessment_appl_pack_07a.pdf

Maine	State	Offers rebates that usually cover 35% of any installation costs. Find out more at: http://www.energymaine.com/pdfs/6_08_EMBusCMiscApp.pdf
Minnesota	Alexandria Light and Power	Find out more at: http://www.alutilities.com/for_business/rebates/alexandria_custom_insert.pdf
	Austin Public Utilities	Find out more at: http://www.austinutilities.com/files/pdf/CI_Custom_App_2007.pdf
Missouri	Empire District Utilities	Offers rebates of 50% of audit. Find out more at: http://www.empireprograms.com/content/index
	BPA	Offers rebates of \$10/seat. Find out more at: http://www.bpa.gov/corporate/contact/links.cfm
Ohio	Duke Energy	Offers rebates for KW saved. Find out more at: http://www.duke-energy.com/pdfs/School_OH_Assessment_appl_pack_07a.pdf
Oregon	Oregon DOE	Offers rebates of 25.5% of total cost. Find out more at: http://oregon.gov/ENERGY/CONS/BUS/tax/pass-through.shtml
	BPA	Offers rebates of \$10/seat. Find out more at: http://www.bpa.gov/corporate/contact/links.cfm
	Energy Trust of Oregon	Offers rebates for \$10 per seat for power management software. Find out more at: http://energytrust.org/trade-ally/updates-and-events/insidernewsletter/11-04-2009/program-updates/existing-buildings.aspx
Washington	Avista Utilities	Offers rebates of \$10/seat. Find out more at: https://www.avistautilities.com/business/rebates/washington_idaho/Documents/Power%20PC%20Web%200308.pdf
	Benton P.U.D.	Offers rebates of \$17/seat. Find out more at: http://www.bentonpud.org/pdf/CRC/LEEP/LEEP%20Authorization%20Application%20for%20Incentives.pdf
	Any PUD in Washington	Offers rebates of 17/seat.
	BC Hydro	Offers rebates of \$6/seat. Find out more at: http://www1a.bchydro.com/ecatalog/product_list.jsp?m=1&st=0&c=179&p=1.188.179
	BPA	Offers rebates of \$10/seat. Find out more at: http://www.bpa.gov/corporate/contact/links.cfm

Wisconsin	WE Energies	Offers rebates of \$6/seat. Find out more at: http://www.focusonenergy.com/files/Document_Management_System/Business_Programs/specialtymeasure_incentiveapplication.pdf
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The Lightspeed Solution

Lightspeed Power Manager provides a cost-effective, easy-to-use, flexible solution to your school network's automated power management needs.

Lightspeed Power Manager provides sustainable energy savings across your network. Power Manager monitors energy usage and directs low-power states and shutdown times. Centralized controls allow network administrators to create and enforce conservation policies in sync with the needs of users. A quick return on investment and ongoing cost savings are documented with detailed reports.

Power Manager balances user needs in tandem with energy conservation. Users will be alerted before a computer is going to shut down, and given the option to bypass the shut-down. You can customize inactivity definitions for your needs.

Lightspeed Power Manager provides powerful, easy-to-use features for managing your power usage.

- Easy deployment using Active Directory or LDAP group policies to push out client software.
- Centralized controls with the familiar Lightspeed interface.
- Power event overrides to accommodate weekly software updates.
- Workstation grouping, to simplify large deployments.

In addition to powerful, flexible features, Power Manager gives you access to comprehensive information about your energy usage and energy savings. Reports can be exported to PDF or .csv files, and viewed by designated users. Power Manager includes critical reports on your network energy usage, such as:

- Network power consumption
- Network savings reports
- Detailed workstation utilization

Lightspeed Power Manager is available as an add-on to any Lightspeed implementation.

Customer Testimonials

Since its launch in January 2009, Power Manager has been helping Lightspeed Systems customers save on energy consumption and power costs.



Sioux City Community Schools has been saving money and time with Power Manager's automated tools and robust management.

"We feel the product provides a clean interface and is easy to use and understand for administrators and users. Also it delivers robust management (grouping, scheduling, reporting, etc.). While we were only at about 85% of our enterprise covered, we were able to save over \$11,000 in one month. The ease of implementation and software made it virtually painless. We used this data to help adjust growth in our electrical budget in the coming year to help the district retain teachers rather than running computers for no reason when not necessary."

— Neil Schroeder, Director of Technology, Sioux City Community Schools



Moorpark USD implemented Lightspeed with the help of rebates from Edison and appreciates the automation and flexibility—as well as the Lightspeed Systems team.

"I like the fact that computers are not left on for days at a time anymore. We were able to set it up so that at 4:00 the countdown begins if a system is idle. If a user has stepped away from their system, they can abort the shutdown process. If they have forgotten to shut down their system, it does it for them. I also appreciate how easy the employees at Lightspeed are to work with. The engineers, sales folks, and helpdesk people have been great!"

— Julie Judd, Director of Technology, Moorpark USD



Panama Buena Vista has implemented Power Manager and has already seen total savings of more than \$21,000.

"We've been happy with ease of deployment and flexibility through use of multiple profiles. I rely on the comprehensive reporting in addition to policy-based functionality for power saving options."

— Terrell Tucker, Panama Buena Vista SD

Conclusion

Energy consumed by unattended, unused computers across your network can drain your budget, as well as natural resources. Yet users and IT staff are often too busy with other tasks to manually manage power usage. Lightspeed Power Manager helps you manage power costs and reduce energy consumption with automated control of PC power states, allowing you to realize a quick return on investment.

More Information

Calculate how much you can save with automated power management using the Energy Star online savings calculator: www.energystar.gov/ia/products/power_mgt/LowCarbonITSavingsCalc.xls

Find out more about Lightspeed Power Manager:

<http://www.lightspeedsystems.com/products/PowerManager.aspx>

About Lightspeed Systems

Lightspeed Systems Inc., founded in 2000, develops comprehensive network security and management solutions for the education market. We are committed to helping schools operate their networks effectively and efficiently, so educators can provide safe online teaching and learning environments.

Our software is used in more than 1,000 school districts in the United States, the United Kingdom, and Australia to protect more than 5 million students. For the past two years, Lightspeed Systems has been recognized on the Inc. 5,000 list as one of the fastest-growing private companies.

www.lightspeedsystems.com

ⁱ <http://it.med.miami.edu/x1159.xml>

ⁱⁱ <http://www.osti.gov/bridge/servlets/purl/821675-waYRd0/native/821675.PDF>

ⁱⁱⁱ http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_faq

^{iv} <http://www.forrester.com/Research/Document/Excerpt/0,7211,46693,00.html>

^v http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_enterprises

^{vi} <http://www.lbl.gov/Science-Articles/Archive/energy-myths3.html>

^{vii} <http://blogs.wsj.com/numbersguy/how-much-juice-is-your-computer-using-at-night-145/>

^{viii} <http://iscreensaver.com/green/>

^{ix} http://www1.eere.energy.gov/femp/pdfs/fupwg_sandiego_wise.pdf

^x Ask your utility company about “PC power management rebates.” Generally you should expect to provide baseline and savings reports (readily available with Lightspeed Power Manager), an invoice with the Lightspeed Power Manager line item, and access to PCs for an audit by the utility company.