



PC Network Power Management Software

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Despite the advent of low-power processors and more efficient monitors, computer networks are among the fastest-growing consumers of plug load energy in most organizations. In 2007 the U.S. Energy Information Administration projected that the energy used by personal computers would grow 4.1 percent annually. Much of that energy use is fueled by our inefficient use of personal computers (PCs). The Lawrence Berkeley National Laboratory (LBNL) has estimated that 60 percent of PCs are left running after hours, and only 6 percent employ some level of power management.

According to the ENERGY STAR program, users can save \$25–\$75 in annual energy costs simply by activating the power management features on their individual computers. Personal computer power management software — which allows information technology (IT) managers to control individual PC power settings over an entire network of computers — multiplies those savings by incorporating power management throughout the system.

RELIABLE AND SIGNIFICANT SAVINGS

In light of these potential savings, Pacific Gas and Electric Company (PG&E) decided to evaluate the capabilities of power management software and verify its reliability and performance.

To conduct this evaluation, PG&E partnered with E Source, the U.S. Department of Energy, and utilities such as Southern California Edison, where extensive technical assessments were

conducted. By studying these partners' tests, it became apparent to PG&E that the energy savings generated by this class of software is reliable and significant.

One study published by LBNL in 2001 indicated that 14 terrawatthours of PC electrical consumption could be eliminated through power management — a figure that accounted for 40 percent of the nonresidential PC electrical consumption at the time. Considering a rate of eight cents per kilowatthour, that energy savings would lead to an annual cost savings of \$1.1 billion.

THE SOLUTION'S IN THE SERVER

While a number of companies have produced network power management software, the evaluations found the Surveyor Network Energy Manager to be particularly attractive because of its flexibility, ease of deployment, minimal maintenance, and two-year payback.

The Surveyor software is installed on the network server, from which it can put thousands of Windows-based computers and monitors into low-power states when they are not in use. Settings include *shutdown*, *standby*, and *hibernate* for PCs, and *sleep* for monitors. Flexible power profiles can be set by time of day, day of week, or day of year, and settings can be reset to override changes that users make during work hours. Information technology managers can easily change settings for all or part of a network, make necessary upgrades and backups, and perform other network maintenance — onsite or from a remote location.



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PC power management software has been used to save money and energy at school districts, government agencies, and corporations across North America. Users of this energy efficiency tool have achieved some satisfying benefits:

- **Reduced costs:** The U.S. Environmental Protection Agency estimates that using a PC's power management features can save \$25–\$75 in energy costs per PC annually. Networking that feature is sure to leverage those savings significantly, especially for large firms.
- **Saved energy:** The software reduces annual PC energy use by approximately one third, or 200 kilowatthours per PC. For a network of 50,000 PCs, the reduction can equal 10 gigawatthours — enough electricity to power more than 1,400 homes for an entire year.
- **Reduced need for air conditioning:** Lower PC energy consumption results in lower facility cooling costs, which translates to even greater savings.

- **Automatic report generation:** Detailed reports on energy consumption and trends in energy use are produced for each PC and for all workstations within a network. These reports provide IT managers the data necessary to fine-tune network settings and to recognize energy and dollars saved.

SAVE EVEN MORE WITH PG&E'S INCENTIVE PROGRAM

Pacific Gas and Electric now offers a rebate of \$15 per PC to companies that use PC power management software. To obtain more information about this incentive, please visit www.pge.com/mybusiness, contact your local PG&E Representative, or call PG&E's Business Customer Service Center at **800-468-4743**. Your representative will work with you to implement PC network power management software at your company.