



CHANGE FOR THE BETTER WITH ENERGY STAR

Products that earn the ENERGY STAR® prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy. www.energystar.gov

North Thurston Public Schools Will Save \$45,000 by Putting Computers To Sleep

Free Network Management Tool Makes it Easy

Always on the lookout for new ways to stretch a limited budget, North Thurston Public Schools (NTPS) recently uncovered a \$45,000 annual energy savings opportunity that was literally sitting right in front of them. Even better, it required no capital expenditures and earned the school district recognition from the US Environmental Protection Agency (EPA) for helping to protect the environment.

"To put this in perspective, if my estimate holds true, this is equivalent to the electricity consumption for two elementary schools."

**Mr. Dean Martinolich, NTPS
Resource Conservation Manager**

How? Simply by putting idle computers to sleep. Using EPA's free *EZ GPO* network management tool, NTPS activated power management features -- standard in Windows 2000 and Windows XP operating systems. These features, also known as "sleep settings," place computers (hard drive, CPU, etc.) and monitors into a low-power sleep mode when idle. Having already activated sleep settings on all its monitors using *EZ GPO* one year earlier, NTPS activated sleep settings on 4,000 computers during regular software upgrades in Spring 2005, saving \$45,000 per year. In addition, NTPS, the largest school district in Thurston County (WA), will:

- Save close to 900,000 kWh annually, enough electricity to light over 700 homes for a year; and
- Prevent 600 tons of carbon dioxide pollution, equivalent to planting close to 200 acres of trees.

Power Management

Often-overlooked, "power management" features allow computers (CPU, hard drive, etc.) and monitors to enter a low-power sleep mode during periods of inactivity. Monitors and computers wake up in seconds when the mouse or keyboard is touched. While organizations have widely activated power management on monitors, power management of the computer has lagged behind. In fact, EPA estimates that only 5 percent of PCs have computer power management (CPM) activated, while as many as 70 percent of PCs utilize monitor power management (MPM).

"After activating sleep on the monitor using the *EZ GPO* tool, we saw the great potential for activating the same settings on the CPU as well. The savings were great and it was quick and easy using the *EZ GPO* tool,"
--Shawn Davis, NTPS Server Administrator.

Problem-Free Implementation with the *EZ GPO* Tool

Activating computer power management features was surprisingly straightforward, according to Shawn Davis, NTPS Server Administrator. To start, Mr. Davis successfully tested the *EZ GPO* software tool on 3 to 4 computers. Mr. Davis then decided to include *EZ GPO* as part of a routine security and service pack upgrade. To make his users aware of the change, he sent an email to recipients of the upgrade letting them know that their computers would go to sleep and that only a wiggle of the mouse or touch of the keyboard was necessary to awaken them.

Where the *EZ GPO* Tool Works Best

The *EZ GPO* tool works best and saves the most energy in certain types of computing environments.

Newer Chip and Operating Systems.

Because CPM works best on newer PCs, *EZ GPO* only activates CPM on computers powered by Pentium IV or newer chips running Windows 2000 or XP. NTPS has a homogeneous population of computers with Pentium IV chips and Windows XP. Consequently, every computer was capable of contributing to the energy savings.

Shared Computers Perfect for EZ GPO

Computer labs, or any large bank of shared computers, represent a tremendous energy savings opportunity. Computer labs are sporadically occupied, so PCs may be inactive for long periods of time. Often PCs are left on all night, wasting electricity. *EZ GPO* provides network administrators with a simple way to centrally manage computer sleep settings. As a result, idle computers – even if they are in a logged-off state – can enter a low power sleep mode. NTPS used *EZ GPO* to configure computers to enter sleep mode after 40 minutes of idle time.

"We knew most of the savings would be on those shared computers that are sometimes on 24/7. We were very excited to find that the *EZ GPO* even addressed computers in the logged off state", said Mr. Davis.

Distribute Routine Software Updates During the Day

Organizations that push out software patches during normal business hours are ideally suited for computer power management. Organizations that run software updates at night, however, need to take an additional step. These organizations typically leave PCs powered 24 hours a day so that they can receive updates after hours. If PCs are asleep, they won't get the updates. That's where another Windows feature called "Wake on LAN" comes in handy. The Wake on LAN feature can be configured to wake up sleeping computers in order to perform software updates. NTPS pushes out software patches during normal business hours. As a result, it did not need to utilize Wake on LAN features during its CPM rollout.

For More Information

Contact Steve Ryan, EPA, 202-343-9123, ryan.steven@epa.gov, www.energystar.gov/powermanagement

Technical Information About the *EZ GPO* Tool

NTPS installed *EZ GPO* using Altiris client management software during their anti-virus and Windows XP Service Pack 2 upgrades. *EZ GPO* is a free tool for network administrators who manage Windows client workstations using GPOs under Active Directory. *EZ GPO*:

- Provides network administrators with centralized control of user power management settings
- Sets appropriate power management settings for both the computer monitor and the PC
- Leverages existing infrastructure on Windows and Novell based networks
- Requires no special hardware or network processes.
- Allows management of power management settings for machines in either the logged -on or the logged -off state

How it Works

- Installs a client application via an MSI installer.
- Reads the desired power management settings that are set using GPOs in integer and string value format.
- Changes power management settings, stored client side as a binary string, using Microsoft's core Application Programming Interface.
- Intelligently selects only capable computers when activating "system standby." (Computers generally capable of using system standby run Windows 2000 or higher with Pentium 4 or newer chip sets capable of S3 standby mode.)

EZ GPO is available for free at www.energystar.gov/powermanagement.