



WM Software
ShutdownPlus®
Green

Whitepaper - Existing Operating Systems Power Management

How ShutdownPlus Green Is A Better Fit

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Every Server, Every User, Every Day™

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Introduction

Operating systems since Windows 95 have had built-in Power Management. By turning certain elements of the computer off when they are not in use, the computer uses less overall energy, and saves the company money. These elements include the monitor, the hard drive, and even the entire computer itself.

By default, the computer will turn off the display after 10 minutes of inactivity, and then go into a Standby, or Sleep, Mode after 30 minutes of inactivity. Hard disk drives and other peripherals also are turned off after inactivity.

The problem is these power management schemes only address part of the saving energy and therefore, money. One issue is users in general feel that power management is an annoyance, and many will turn off the power saving features of the computer. And even when these features are forced onto a user, their productivity declines and the computer becomes an annoyance to their job. The other issue is the built-in power management schemes do not meet the needs of the employees (minimal interruptions and elimination of things that hinder doing their job) while simultaneously meeting the needs of the company (minimize PC power usage/cost).

The built-in power management of the operating system is therefore not effective when a company needs to intelligently meet both goals and manage the power schemes of all of their computers.

ShutdownPlus Green is the solution to smart power management for the operating system, replacing the built-in power management subsystem. In tests, ShutdownPlus Green has saved:

- **Approx \$100 per computer per year**
- **550kg of CO₂ per computer per year**

What is Built-In

How is the built-in Power Management of the operating system used for saving energy? By turning off devices that are idle. For example,:

- **Monitor**
This is turned off typically after ten minutes. Not overly obtrusive because with a simple mouse movement or a key press on the keyboard, the monitor turns back on.
- **Hard drive**
These are powered down typically after an hour of inactivity.
- **Computer**
The computer is put into a Sleep state (S4) by default after 30 minutes (Windows 7) or 1 hour (Windows Vista).

What is Missing

While these do save energy, the built-in power management falls short in these areas:

1. Obtrusive to employees
Default settings are difficult to work with and trying to enforce them is logistically difficult
2. Ignore the IT staff's requirement for the computer being on during off hours
They ignore the standard patch windows that software companies and businesses/governments use to distribute patches.
3. Are not seamless and do not meet employee goals of not wanting to be interrupted or annoyed
Without warning, systems go into Sleep during working hours instead of waiting until after working hours
4. Do not recognize or distinguish if a user is logged on or not
5. Incapable of saving data when powering down

The ShutdownPlus Green solution

With ShutdownPlus Green, all of these concerns are addressed. It facilitates a better PC power management solution - it takes over and replaces the built-in power management features for the computer. How much of an impact does this have? Simple - the majority of PCs are kept running 24x7 in businesses and government. Have you wondered how many? According to the Lawrence Berkeley National Lab Report:

64% of business computers are left on 24x7

Namely, it configures itself to meet the unique goals of three groups:

- ***The Company***
Minimize the energy used by computers
- ***The Employee***
Get their work done with minimal interruptions.
- ***The IT Department***
Distribute patches to PCs overnight when user impact is low.

The vast majority of PC power consumption is during after hours and non-working days when the PC is left running and powered on.

Highlights of ShutdownPlus Green Power Schemes

It is possible to set the software with just a few parameters; none of which are in the built-in operating system.

- Working Hours defines when the computer should not be put into a low power state after a short period of idle time
- Working times defines Weekdays, Weekends, or Every Day
- Actions to take after idle time during and outside of working hours (Sleep, Hibernate, Shutdown, etc)
- Power off the computer if no user is logged on for a time period
- When to power on the computer for IT department patch management and general maintenance.

Managing ShutdownPlus Green Installations

Companies can manage ShutdownPlus Green in two ways:

- *Group Policies*
- *WM Software Product Management Console*

Either of these solutions can be seamlessly implemented in an IT department to fit whatever process the company or government uses.

Starting with Vista, power management could be enforced using Group Policies. However, this runs into the same limitations as the built-in power management that comes in the operating system mentioned previously. With ShutdownPlus Green's Group Policy function, a company can set the values for ShutdownPlus Green installations. This does apply to all computers by default, but can be configured for only certain groups, and the software can have Group Policy disabled for certain users.

Our WM Software Product Management Console allows settings for ShutdownPlus Green to be saved in a template and the template can be sent to one or more computers/groups from a centrally managed location. This allows custom configurations for different departments, and even exclusion/inclusion of certain computers.

WM Software has been running a "Green" product before the term became fashionable in its ShutdownPlus Standard and Professional software. This software, released in 1998, has most of the features of ShutdownPlus Green, plus scheduled restarts and shutdowns, and tasks that can be run to even lower TCO of desktop computers. Its "Green" technology was put into a separate product, ShutdownPlus Green, and other features were added to design ShutdownPlus Green.

Hardware and Software Requirements

The following hardware and software requirements are necessary to use this software:

- **Operating System.**
Windows XP Professional with Service Pack 2 or later installed, Windows Vista with Service Pack 1 or later installed, Windows 7, Windows Server 2003 with Service Pack 2 or later installed, Windows Server 2008 or 2008 R2.
- **Hardware.** A system with at least 256 Mb of RAM and a Pentium III or better CPU is required. The client consumes approximately 200kB RAM and 2MB Hard Drive space.

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About WM Software

We write Green software, utility software, and performance software for Microsoft® Windows® running Terminal Server, Server, and Desktop operating systems. Our goal is to create value-added software for companies of all sizes. Since incorporating in 1994, our software has always focused on innovative technology solutions for all industries across the globe. With our Microsoft Gold Partner Certification and other partner relationships, we work closely with our partners and leading industry organizations in developing our software. This benefits you by ensuring compatibility and longevity of service.

Our software has freed IT Departments from tedious administrative tasks without any end-user training or sacrificing security, as well as decreased support and costs. Our solutions target everyday problems that exist within any organization regardless of size, industry, or location. From Fortune 100 companies, to small companies and home users, our software saves money, increases ROI, saves time, and helps the environment. To get started, browse our products, arranged by operating system category, and download ones that match your situations. All software products can be downloaded and run for 30-days.

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