

PowerMan TechNote – Power Configuration Tool

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Overview

The Power Configuration Tool (PowerConfig) is designed to complement Remote Power Manager (PowerMan). The tool is intended for situations where the user requires the computer to remain powered-on regardless of the activity level.

The administrator specified power configuration can be overridden in the following ways:

- Manual setting to prevent sleep/shutdown
- Prevent sleep/shutdown when specified protected program(s) are running
- Prevent sleep/shutdown when specified protected file(s) exists
- Disabled centrally configured power policy from applying
- Keep the screen on
- Prevent screen saver from activating
- Keep the system active when the Server service is running

PowerConfig also allows the administrator to pre-configure the following options:

- Policy based configuration of protected programs and files
- Enable/disable features available to user

PowerConfig prevents Windows power management from operating by preventing the system from enter the idle state. PowerConfig will not prevent a user or third-party program from *deliberately* shutting down or suspending the computer.

Regular use of the PowerConfig tool will reduce the energy efficiency of the PC and therefore increase the running cost. The program should only be used where absolutely required. PowerMan offers other features such as **Remote and Scheduled Wake** which may be used to activate a PC when access is required whilst still maintaining energy efficiency.

Preparation

PowerConfig requires the Microsoft .NET Framework Version 2.0. The Framework Redistributable Package (x86) can be downloaded from the following address:

http://www.microsoft.com/downloads/details.aspx?FamilyID=0856EACB-4362-4B0D-8EDD-AAB15C5E04F5&displaylang=en

Installation

PowerConfig may be installed either by the system administrator or by the user. To ensure optimum energy efficiency it is recommended that the tool is only made available to users who specifically request it.



PowerConfig Setup.msi Windows Installer Package 340 KB

A user may install PowerConfig as follows:

- 1. Open the PowerConfig Setup.msi file
- 2. Follow the on-screen instructions
- 3. Click Finish



PowerConfig does not require any policy settings and may therefore be easily deployed by a system Administrator using tools such as Microsoft Windows Group Policy, Zenworks etc.

Following installation a **light bulb** icon will be displayed in the System Notification Area (sometimes called the System Tray). This is located on the bottom right of the Windows desktop next to the clock.



Basic Configuration

PowerConfig can be easily configured in two distinct ways:

1. Simple manual configuration is made by right clicking the small **light bulb** icon and selecting **Force Computer Awake:**

| | Power Settings | |
|----------|--|-------------|
| | Sleep Computer | |
| | Hibernate Computer | |
| | Force Computer Awake | |
| | Settings | |
| | Exit |) =)) 11.10 |
| (Income) | er en ser se | 📙 🚍 🗤 11:19 |

This setting will prevent Windows Power Management from entering the idle state and therefore keep the system artificially active even when no user input or activity is detected. When the system is in this state the icon will change to a **light bulb and padlock**.

2. More complex configuration may be made by either double clicking on the icon or selecting **Settings** from the menu. The PowerConfig configuration dialog is displayed as follows:

| computer is currently allowed to sav | ve energy 💫 🔘 |
|--------------------------------------|---------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| ep screen on | |
| | 📃 Launch at startur |
| ep screen on | 🗖 Launch at |

The settings have the following meaning:

- Keep Screen On Prevent the screen from turning off. This option is only available when Force Computer Awake is selected.
- **Disable Screen Saver** Prevent the screen saver from becoming active. This option is only available when Force Computer Awake is selected.
- Force Computer Awake Override the current state and force the computer remain awake. This is the same as the option on the menu.
- Launch at Start-up Automatically start the program when the user logs on. The previous settings are retained and automatically applied.
- Enable Power Hotkey Configure pop-up function. When this is enabled the PowerConfig program can be activated by pressing Ctrl-Alt-P

Advanced Configuration

PowerConfig also offers a more advanced operation mode where it will monitor the status of a defined list of programs (sometimes called processes) and files. When a specified program (or file) is detected PowerConfig will automatically prevent the system from entering the idle state.

The list of protected programs may be easily configured using the **Programs** tab:

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| atus Programs | Files Powe | r Settings Abo | out |
|--|--------------------|-------------------------|--------------------------------|
| elect programs th | nat will keep syst | em awake. Rui | nning programs are highlighted |
| alg ATKOSD ccApp ccEvtMgr ccSetMgr ChkMail cmd ctfmon DefWatch devenv dexplore | | Browse Add Remove | notepad |

- 1. The left hand list displays currently running programs. To add a program to the protected process list select a program and click **Add**.
- 2. To add a program that is not currently running click **Browse** and locate the required program.
- 3. Similarly to remove a program from the protected process list select the program in the right hand list and click **Remove**
- 4. Programs which are currently running are highlighted blue.

Similarly, the list of protected file may be easily configured using the **Files** tab:

Data Synergy

| tus Programs Files | Power Settings About |
|----------------------------|--|
| ect files that will keep s | ystem awake. Currently present files are highlighted |
| revent Shutdown | |
| importantfile.txt | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | Add |
| | Add |

- 1. The list displays a list of protected files. To add a file to the protected list click Add.
- 2. A file does not need to currently exist to be added to the list. To add a file simply input the filename in the file dialog and press **Open**.
- 3. To remove a file from the protected list select the file in the list and click **Remove**
- 4. Files which are currently present are highlighted blue.

Energy Warning

Disabling the system from entering the idle state will significantly increase the energy consumption of a PC and should be used only when absolutely necessary.

PowerConfig warns when a protected program or file is active by displaying the following warning:



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Sometimes another, external, program can prevent the computer from entering the idle state. PowerConfig warns about this by displaying the following warning:

| The computer is currently prevented from sleeping | |
|--|---|
| WARNING: Energy consumption will be increased. | 8 |
| Another program is forcing the computer to remain active | |

Viewing Power Settings

PowerConfig can be used to display the currently active power settings. These are the policy settings that will apply when the computer is not being prevented from idling. The remaining time display indicates **approximately** how long must elapse before the idle state is reached. Moving the mouse of pressing any keys will reset this time to the Idle Timeout.

PowerConfig allows the user (unless this feature has been disabled by the Administrator) to disable the centrally defined power settings. To disable these settings select the checkbox at the bottom of the tab. This box is only shown when the PowerMan service is detected.

| Power Settings | | | | |
|--|------------------------------|-----------|--|--|
| Status Programs | Files Power Settings About | | | |
| Active Power Settings | | | | |
| Scheme Name: | PowerMan Managed (AC) | 5 | | |
| Idle Action: | Do nothing | | | |
| Idle Timeout: | 00:00:00 Remaining: 00:00:00 | | | |
| Monitor Timeout: | 00:00:00 | | | |
| Disk Timeout: | 00:00:00 | Configure | | |
| | | | | |
| | | | | |
| | | | | |
| Disable centrally managed power settings | | | | |
| | | Done | | |



Administration Features

PowerConfig is also supports configuration using Windows Group Policy (or directly via the relevant registry settings – see Appendix). The following section explains the available policy settings which may be configured with the **PowerConfig5.adm** file.

| Power Configuration | | |
|---|---------------------------|----------------|
| Protected Programs | Setting | State |
| - | 🛞 Protected Programs | Enabled |
| Display Properties | 😭 Protected Files | Not configured |
| Description: | 🗃 User Protected Programs | Enabled |
| Configure programs that, when running, | 🗃 User Protected Files | Not configured |
| will prevent the computer from sleeping or shutting down when idle | 😭 User Force Awake | Not configured |

- 1. **Protected Programs** Allows configuration of additional protected programs that will prevent the computer from entering the idle state. These are not displayed user and cannot be changed by the user. Programs are specified as **only the program name** (no path) and should be configured **without** a file extension.
- Protected Files Allows configuration of additional protected files that will prevent the computer from entering the idle state. These are not displayed user and cannot be changed by the user. Filenames should be **fully qualified** (e.g. including a drive letter and path) and should contain a file extension.
- 3. User Protected Programs This option allows the administrator to enable/disable the user's ability to add protected programs. When this option is disabled the **Programs** tab is hidden. This option does not disable any programs defined by the Administrator.
- 4. **User Protected Files** This option allows the administrator to enable/disable the user's ability to add protected files. When this option is disabled the **Files** tab is hidden. This option does not disable any files defined by the Administrator.
- 5. **User Force Awake** This option allows the administrator to enable/disable the user's ability to select Force Awake. When this option is disabled the user will not be able to force the computer to remain awake.

PowerConfig also supports the following PowerMan policies:

 Hide Power Tools – When this policy is enabled the user will be unable to press the Config button to amend the current policy settings or disable centrally managed policy. The current applicable settings are still displayed to the user.

Remember: For performance reasons the policy settings are only processed when PowerConfig starts. Therefore, if you are testing policy settings you must restart PowerConfig to see the settings become active. In a normal operation scenario this should not matter as settings will not change very frequently.



Appendix – Policy Settings Reference

PowerConfig is designed, primarily, for configuration with the Microsoft Windows group policy tools supplied with all recent versions of Windows Server. An Administrative Template (ADM) file is supplied to simplify this process.

PowerConfig may also be configured by manually creating a suitable settings and importing them into the system registry of the deployed workstation computers. This section documents the supported policy settings and their default values.

General Information

Unless otherwise noted all settings are of type REG_DWORD. True is indicated by 1. False is indicated by 0. Where no value is specified for a setting (it is missing) a sensible default value is assumed.

The policy settings are stored in either of the following registry keys. Where both settings are configured those in **HKEY_CURRENT_USER** take precedence:

HKCU\Software\Policies\Powerman\PowerConfig HKLM\Software\Policies\Powerman\PowerConfig

The available policy settings are as follows:

| Registry Setting Name / Type | Meaning |
|------------------------------|---|
| UserPrograms | Disable the programs tab and ignore any user specified protected programs. This does not have any impact on administrator |
| | specified programs. |
| 0=Disable | |
| 1=Enable (default) | |
| UserFiles | Disable the files tab and ignore any user specified protected files. This does not have |
| REG_DWORD | any impact on administrator specified files. |
| 0=Disable | |
| 1=Enable (default) | |
| UserForce | Disable the force awake option. |
| REG_DWORD | |
| 0=Disable | |
| 1=Enable (default) | |

The administrator may also specify additional protected files and programs. This have the same affect as those configured by a user. These settings are stored in the following registry keys:

HKCU\Software\Policies\PowerMan\ProtectedPrograms HKCU\Software\Policies\PowerMan\ProtectedFiles

HKLM\Software\Policies\PowerMan\ProtectedPrograms HKLM\Software\Policies\PowerMan\ProtectedFiles



To configure a protected file or program for a specific user use the HKCU key. To configure the option for all users select the HKLM key.

| Registry Setting Name / Type | Meaning |
|------------------------------|---|
| AnyName | Add the specified value to the protected |
| REG_SZ | program or file list. The value name is not important (you can use the program/file name or simply a number). |
| e.g. | |
| program1=cmd | Program names should be configured without a file extension or path (e.g. cmd) |
| or | Files names should be fully qualified including a path and file extension (e.g. |
| file1=c:\specialfile.txt | c:\specialfile.txt) |