What: /sys/power/
Date: August 2006
Contact: Rafael J. Wysocki <rjw@sisk.pl>
Description:

The /sys/power directory will contain files that will provide a unified interface to the power management subsystem.

What: /sys/power/state
Date: August 2006
Contact: Rafael J. Wysocki <rjw@sisk.pl>
Description:

The /sys/power/state file controls the system power state. Reading from this file returns what states are supported, which is hard-coded to 'standby' (Power-On Suspend), 'mem' (Suspend-to-RAM), and 'disk' (Suspend-to-Disk).

Writing to this file one of these strings causes the system to transition into that state. Please see the file Documentation/power/states.txt for a description of each of these states.

What: /sys/power/disk
Date: September 2006
Contact: Rafael J. Wysocki <rjw@sisk.pl>
Description:

The /sys/power/disk file controls the operating mode of the suspend-to-disk mechanism. Reading from this file returns the name of the method by which the system will be put to sleep on the next suspend. There are four methods supported:
'firmware' - means that the memory image will be saved to disk by some firmware, in which case we also assume that the firmware will handle the system suspend.
'platform' - the memory image will be saved by the kernel and the system will be put to sleep by the platform driver (e.g. ACPI or other PM registers).
'shutdown' - the memory image will be saved by the kernel and the system will be powered off.
'reboot' - the memory image will be saved by the kernel and the system will be rebooted.

Additionally, /sys/power/disk can be used to turn on one of the two testing modes of the suspend-to-disk mechanism: 'testproc' or 'test'. If the suspend-to-disk mechanism is in the 'testproc' mode, writing 'disk' to /sys/power/state will cause the kernel to disable nonboot CPUs and freeze tasks, wait for 5 seconds, unfreeze tasks and enable nonboot CPUs. If it is in the 'test' mode, writing 'disk' to /sys/power/state will cause the kernel to disable nonboot CPUs and freeze tasks, shrink memory, suspend devices, wait for 5 seconds, resume devices, unfreeze tasks and enable nonboot CPUs. Then, we are able to look in the log messages and work out, for example, which code is being slow and which device drivers are misbehaving.

The suspend-to-disk method may be chosen by writing to this file one of the accepted strings:

'firmware'
'platform'
'shutdown'
'reboot'
'testproc'
'test'

It will only change to 'firmware' or 'platform' if the system supports that.

What: /sys/power/image_size
Date: August 2006
Contact: Rafael J. Wysocki <rjw@sisk.pl>
Description:

The /sys/power/image_size file controls the size of the image created by the suspend-to-disk mechanism. It can be written a string representing a non-negative integer that will be used as an upper limit of the image size, in bytes. The kernel's suspend-to-disk code will do its best to ensure the image size will not exceed this number. However, if it turns out to be impossible, the kernel will try to suspend anyway using the smallest image possible. In particular, if "0" is written to this file, the suspend image will be as small as possible.

Reading from this file will display the current image size limit, which is set to 500 MB by default.

What: /sys/power/pm_trace
Date: August 2006
Contact: Rafael J. Wysocki <rjw@sisk.pl>
Description:

The /sys/power/pm_trace file controls the code which saves the last PM event point in the RTC across reboots, so that you can debug a machine that just hangs during suspend (or more commonly, during resume). Namely, the RTC is only used to save the last PM event point if this file contains '1'. Initially it contains '0' which may be changed to '1' by writing a string representing a nonzero integer into it.

To use this debugging feature you should attempt to suspend the machine, then reboot it and run

dmesg -s 1000000 | grep 'hash matches'

CAUTION: Using it will cause your machine's real-time (CMOS) clock to be set to a random invalid time after a resume.

What: /sys/power/pm_async
Date: January 2009
Contact: Rafael J. Wysocki <rjw@sisk.pl>
Description:

The /sys/power/pm_async file controls the switch allowing the user space to enable or disable asynchronous suspend and resume of devices. If enabled, this feature will cause some device drivers' suspend and resume callbacks to be executed in parallel

with each other and with the main suspend thread. It is enabled
if this file contains "1", which is the default. It may be
disabled by writing "0" to this file, in which case all devices
will be suspended and resumed synchronously.