

**NAME**

**smu** - Apple System Management Unit Driver

**SYNOPSIS**

To compile this driver into the kernel, place the following lines in your kernel configuration file:

```
device smu
```

**DESCRIPTION**

The **smu** driver provides support for the System Management Unit (SMU) found in many Apple G5 systems. This includes most Power Macintosh G5 and all iMac G5 systems.

The Apple SMU controller provides software power management and thermal control functionality, and is responsible for managing system cooling devices.

**HARDWARE**

Chips supported by the **smu** driver include:

- Apple System Management Unit

**THERMAL MANAGEMENT**

The **smu** driver provides basic automatic thermal management. Without a userspace daemon providing more advanced control, the driver will attempt to maintain system temperatures in a conservative range through coarse-grained control of system cooling devices (see below). Automatic kernel-level thermal control will take over if more than 3 seconds elapses between userspace cooling setting adjustments.

**SYSCTL VARIABLES**

The **smu** driver provides power management services and thermal readout through a sysctl interface. The following sysctls can be used to control the power management behavior and to examine current system power and thermal conditions.

*dev.smu.%d.server\_mode*

Restart after power failure behavior (1 causes system to reboot after power cut, 0 causes system to remain off).

*dev.smu.%d.target\_temp*

Target system temperature, in degrees Celsius. The **smu** driver will attempt to adjust fans to maintain the temperature of the warmest component in the system at or below this level.

*dev.smu.%d.critical\_temp*

System critical temperature, in degrees Celsius. If any component in the system exceeds this temperature, the machine will be shut down within 500 ms.

*dev.smu.%d.fans.%s.minrpm*

Minimum allowed speed for this fan.

*dev.smu.%d.fans.%s.maxrpm*

Maximum allowed speed for this fan.

*dev.smu.%d.fans.%s.rpm*

Current speed for this fan. The fan speed can be adjusted by changing this sysctl. If more than 3 seconds elapses between fan speed adjustments, the kernel will resume automatic control of the fan.

*dev.smu.%d.sensors.%s*

Current reading from this sensor. Four sensor types are supported. Temperature sensors are in units of degrees Celsius, current sensors in milliamps, voltage sensors in millivolts, and power sensors in milliwatts.

## LED INTERFACE

The **smu** driver provides an led(4) annunciator interface at */dev/led/sleepled*.

## SEE ALSO

acpi(4), led(4), pmu(4)

## HISTORY

The **smu** device driver appeared in FreeBSD 8.0.

## AUTHORS

The **smu** driver was written by Nathan Whitehorn <[nwhitehorn@FreeBSD.org](mailto:nwhitehorn@FreeBSD.org)>.