NAME

amdtemp - device driver for AMD processor on-die digital thermal sensor

SYNOPSIS

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

```
device amdtemp
```

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

```
amdtemp_load="YES"
```

DESCRIPTION

The **amdtemp** driver provides support for the on-die digital thermal sensor present in AMD Family 0Fh, 10h, 11h, 12h, 14h, 15h, 16h, and 17h processors.

For Family 0Fh processors, the **amdtemp** driver reports each core's temperature through sysctl nodes, named *dev.amdtemp.%d.core{0,1}.sensor{0,1}*. The driver also creates *dev.cpu.%d.temperature* in the corresponding CPU device's sysctl tree, displaying the maximum temperature of the two sensors located in each CPU core.

For Family 10h, 11h, 12h, 14h, 15h, 16h, and 17h processors, the driver reports each package's temperature through a sysctl node, named *dev.amdtemp.%d.core0.sensor0*. The driver also creates *dev.cpu.%d.temperature* in the corresponding CPU device's sysctl tree, displaying the temperature of the shared sensor located in each CPU package.

SYSCTL VARIABLES

The following variable is available as both sysctl(8) variable and loader(8) tunable:

dev.amdtemp.%d.sensor_offset
Add the given offset to the temperature of the sensor. Default is 0.

SEE ALSO

coretemp(4), loader(8), sysctl(8)

HISTORY

The **amdtemp** driver first appeared in FreeBSD 7.1.

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CAVEATS

For Family 10h and later processors, "(the reported temperature) is a non-physical temperature measured on an arbitrary scale and it does not represent an actual physical temperature like die or case temperature. Instead, it specifies the processor temperature relative to the point at which the system must supply the maximum cooling for the processor's specified maximum case temperature and maximum thermal power dissipation" according to *BIOS and Kernel Developer's Guide (BKDG) for AMD Processors*, http://developer.amd.com/resources/developer-guides-manuals/.