

NAME

thermald – start Linux thermal daemon

SYNOPSIS

thermald [*OPTIONS*]

DESCRIPTION

thermald is a Linux daemon used to prevent the overheating of platforms. This daemon monitors temperature and applies compensation using available cooling methods.

By default, it monitors CPU temperature using available CPU digital temperature sensors and maintains CPU temperature under control, before HW takes aggressive correction action.

Thermal daemon looks for thermal sensors and thermal cooling drivers in the Linux thermal sysfs (/sys/class/thermal) and builds a list of sensors and cooling drivers. Each of the thermal sensors can optionally be binded to a cooling drivers by the in kernel drivers. In this case the Linux kernel thermal core can directly take actions based on the temperature trip points, for each sensor and associated cooling device. For example a trip temperature X in a sensor can be associates a cooling driver Y. So when the sensor temperature = X, the cooling driver "Y" is activated.

Thermal daemon allows one to change this relationship or add new one via a thermal configuration file (thermal-conf.xml). This file is automatically created (thermal-conf.xml.auto) and used, if the platform has ACPI thermal relationship table. If not this needs to be manually configured.

For manual configuration refer to the manual page of the thermal-conf.xml.

In some newer platforms the auto creation of the config file is done by a companion tool "dptfextract". This tool can be downloaded from "<https://github.com/intel/dptfextract>". It is suggested as parts of the install process, run dptfextract.

There can be multiple configuration files. User can select a configuration file via -config-file option to override the default selection. The default selection picks one of the file in the following order:

- /etc/thermald/thermal-conf.xml.auto

- /var/run/thermald/thermal-conf.xml.auto

- /etc/thermald/thermal-conf.xml

(*Assuming configure prefix=/ is used during build.)

There is another companion tool "ThermalMonitor", which presents a graphical front end. This allows the monitoring of sensors and changing of thermal trips to give the user more control. The source code of "ThermalMonitor" is a part of the thermald github source, in the tools folder.

OPTIONS

-h, --help

Show help options.

--version

Print thermald version and exit.

--no-daemon

Don't become a daemon: Default is daemon mode.

--loglevel=info

log severity: info level and up.

--loglevel=debug

log severity: debug level and up: Max logging.

--poll-interval

Poll interval in seconds: Poll for zone temperature changes. To disable polling, set to zero. Polling can only be disabled, if available temperature sensors can notify temperature change asynchronously.

--dbus-enable

Enable Dbus.

--exclusive-control

Act as exclusive thermal controller. This will use user-space governor for thermal sysfs and take over control.

--ignore-cpuid-check

Ignore cpuid check for supported CPU models.

--config-file

Specify thermal-conf.xml path and ignore default thermal-conf.xml.

--ignore-default-control

Ignore default CPU temperature control. Strictly follow thermal-conf.xml or thermal-conf.xml.auto. **--workaround-enabled** Enable special workarounds. This is currently used for /dev/mem based power control. **--disable-active-power** Disable active power management. This will not set active power limits.

SEE ALSO

thermal-conf.xml(5)