Rocky Enterprise Linux 9.2 Manual Pages on command 'cpupower-idle-info.1'

$ man cpupower-idle-info.1

CPUPOWER-IDLE-INFO(1)   cpupower Manual   CPUPOWER-IDLE-INFO(1)

NAME

   cpupower-idle-info - Utility to retrieve cpu idle kernel information

SYNTAX

   cpupower [-c cpulist] idle-info [options]

DESCRIPTION

   A tool which prints out per cpu idle information helpful to developers

   and interested users.

OPTIONS

   -f --silent

      Only print a summary of all available C-states in the system.

   -e --proc

      deprecated. Prints out idle information in old /proc/acpi/pro?

      cessor/*/power format. This interface has been removed from the

      kernel for quite some time, do not let further code depend on

      this option, best do not use it.

IDLE-INFO DESCRIPTIONS

   CPU sleep state statistics and descriptions are retrieved from sysfs

files, exported by the cpuidle kernel subsystem. The kernel only up‐
dates these statistics when it enters or leaves an idle state, there‐
fore on a very idle or a very busy system, these statistics may not be
accurate. They still provide a good overview about the usage and avail‐
ability of processor sleep states on the platform.

Be aware that the sleep states as exported by the hardware or BIOS and
used by the Linux kernel may not exactly reflect the capabilities of
the processor. This often is the case on the X86 architecture when the
acpi_idle driver is used. It is also possible that the hardware over‐
rules the kernel requests, due to internal activity monitors or other
reasons. On recent X86 platforms it is often possible to read out
hardware registers which monitor the duration of sleep states the pro‐
cessor resided in. The cpupower monitor tool (cpupower-monitor(1)) can
be used to show real sleep state residencies. Please refer to the ar‐
chitecture specific description section below.

IDLE-INFO ARCHITECTURE SPECIFIC DESCRIPTIONS

  X86

    POLL idle state

    If cpuidle is active, X86 platforms have one special idle state. The
    POLL idle state is not a real idle state, it does not save any power.
    Instead, a busy-loop is executed doing nothing for a short period of
    time. This state is used if the kernel knows that work has to be pro‐
    cessed very soon and entering any real hardware idle state may result
    in a slight performance penalty.

    There exist two different cpuidle drivers on the X86 architecture plat‐
    form:

    "acpi_idle" cpuidle driver

    The acpi_idle cpuidle driver retrieves available sleep states
    (C-states) from the ACPI BIOS tables (from the _CST ACPI function on
    recent platforms or from the FADT BIOS table on older ones). The C1
    state is not retrieved from ACPI tables. If the C1 state is entered,
    the kernel will call the hlt instruction (or mwait on Intel).

    "intel_idle" cpuidle driver

In kernel 2.6.36 the intel_idle driver was introduced. It only serves
recent Intel CPUs (Nehalem, Westmere, Sandybridge, Atoms or newer). On
older Intel CPUs the acpi_idle driver is still used (if the BIOS pro?
vides C-state ACPI tables). The intel_idle driver knows the sleep
state capabilities of the processor and ignores ACPI BIOS exported pro?
cessor sleep states tables.

REMARKS

By default only values of core zero are displayed. How to display set?
tings of other cores is described in the cpupower(1) manpage in the
--cpu option section.

REFERENCES

https://uefi.org/specifications

FILES

/sys/devices/system/cpu/cpu*/cpuidle/state*

/sys/devices/system/cpu/cpuidle/*

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SEE ALSO

cpupower(1), cpupower-monitor(1), cpupower-info(1), cpupower-set(1),
cpupower-idle-set(1)

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