NAME

cpuid - x86 CPUID access device

DESCRIPTION

CPUID provides an interface for querying information about the x86 CPU.

This device is accessed by lseek(2) or pread(2) to the appropriate CPUID level and reading in chunks of 16 bytes. A larger read size means multiple reads of consecutive levels.

The lower 32 bits of the file position is used as the incoming *%eax*, and the upper 32 bits of the file position as the incoming *%ecx*, the latter intended for counting *eax* levels like *eax=4*.

This driver uses */dev/cpu/CPUNUM/cpuid*, where *CPUNUM* is the minor number, and on an SMP box will direct the access to CPU *CPUNUM* as listed in */proc/cpuinfo*.

This file is protected so that it can be read only by the user *root*, or members of the group *root*.

NOTES

The CPUID instruction can be directly executed by a program using inline assembler. However this device allows convenient access to all CPUs without changing process affinity.

Most of the information in *cpuid* is reported by the kernel in cooked form either in */proc/cpuinfo* or through subdirectories in */sys/devices/system/cpu*. Direct CPUID access through this device should only be used in exceptional cases.

The *cpuid* driver is not auto-loaded. On modular kernels you might need to use the following command to load it explicitly before use:

$ *modprobe cpuid*

There is no support for CPUID functions that require additional input registers.

Very old x86 CPUs don't support CPUID.

SEE ALSO

Intel Corporation, Intel 64 and IA-32 Architectures Software Developer's Manual Volume 2A: Instruction Set Reference, A-M, 3-180 CPUID reference.

Intel Corporation, Intel Processor Identification and the CPUID Instruction, Application note 485.

COLOPHON

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