NAME

cpuid − x86 CPUID access device

DESCRIPTIONS

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 only be read 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

This page is part of release 3.22 of the Linux *man-pages* project. A description of the project, and information about reporting bugs, can be found at http://www.kernel.org/doc/man-pages/.