

**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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