3.7. The `/proc` filesystem

The `/proc` filesystem contains a illusionary filesystem. It does not exist on a disk. Instead, the kernel creates it in memory. It is used to provide information about the system (originally about processes, hence the name). Some of the more important files and directories are explained below. The `/proc` filesystem is described in more detail in the `proc` manual page.

/proc/1

A directory with information about process number 1. Each process has a directory below `/proc` with the name being its process identification number.

/proc/cpuinfo

Information about the processor, such as its type, make, model, and performance.

/proc/devices

List of device drivers configured into the currently running kernel.

/proc/dma

Shows which DMA channels are being used at the moment.

/proc/filesystems

Filesystems configured into the kernel.

/proc/interrupts

Shows which interrupts are in use, and how many of each there have been.

/proc/ioports

Which I/O ports are in use at the moment.

/proc/kcore

An image of the physical memory of the system. This is exactly the same size as your physical memory, but does not really take up that much memory; it is generated on the fly as programs access it. (Remember: unless you copy it elsewhere, nothing under `/proc` takes up any disk space at all.)

/proc/kmsg

Messages output by the kernel. These are also routed to **syslog**.

/proc/ksyms

Symbol table for the kernel.

/proc/loadavg

The `load average' of the system; three meaningless indicators of how much work the system has to do at the moment.

/proc/meminfo

Information about memory usage, both physical and swap.

/proc/modules

Which kernel modules are loaded at the moment.

/proc/net

Status information about network protocols.

/proc/self

A symbolic link to the process directory of the program that is looking at /proc. When two processes look at /proc, they get different links. This is mainly a convenience to make it easier for programs to get at their process directory.

/proc/stat

Various statistics about the system, such as the number of page faults since the system was booted.

/proc/uptime

The time the system has been up.

/proc/version

The kernel version.

Note that while the above files tend to be easily readable text files, they can sometimes be formatted in a way that is not easily digestible. There are many commands that do little more than read the above files and format them for easier understanding. For example, the **free**program reads /proc/meminfo converts the amounts given in bytes to kilobytes (and adds a little more information, as well).