

basic_profiling.txt

These instructions are deliberately very basic. If you want something clever, go read the real docs ;-). Please don't add more stuff, but feel free to correct my mistakes ;-). (mbligh@aracnet.com)
Thanks to John Levon, Dave Hansen, et al. for help writing this.

<test> is the thing you're trying to measure.
Make sure you have the correct System.map / vmlinux referenced!

It is probably easiest to use "make install" for linux and hack /sbin/installkernel to copy vmlinux to /boot, in addition to vmlinux, config, System.map, which are usually installed by default.

Readprofile

A recent readprofile command is needed for 2.6, such as found in util-linux 2.12a, which can be downloaded from:

<http://www.kernel.org/pub/linux/utils/util-linux/>

Most distributions will ship it already.

Add "profile=2" to the kernel command line.

```
clear          readprofile -r
                <test>
dump output    readprofile -m /boot/System.map > captured_profile
```

Oprofile

Get the source (see Changes for required version) from <http://oprofile.sourceforge.net/> and add "idle=poll" to the kernel command line.

Configure with CONFIG_PROFILING=y and CONFIG_OPROFILE=y & reboot on new kernel

```
./configure --with-kernel-support
make install
```

For superior results, be sure to enable the local APIC. If oprofile sees a 0Hz CPU, APIC was not on. Be aware that idle=poll may mean a performance penalty.

One time setup:

```
                opcontrol --setup --vmlinux=/boot/vmlinux

clear          opcontrol --reset
start          opcontrol --start
                <test>
stop           opcontrol --stop
dump output    oprofile > output_file
```

To only report on the kernel, run oprofile -l /boot/vmlinux > output_file

A reset is needed to clear old statistics, which survive a reboot.