

NAME

pmcstudy - Perform various studies on a system's overall PMCs

SYNOPSIS

pmcstudy [*-i inputfile* | **-A** | **-T** | **-v** | **-m max** | **-e -exp** | **-E** | **-h** | **-fl -H**]

pmcstudy **-i** *inputfile*

pmcstudy **-v**

pmcstudy **-m** *max*

pmcstudy **-e** *exp-name*

pmcstudy **-E** *your-expr*

pmcstudy **-h**

pmcstudy **-H**

pmcstudy **-T**

DESCRIPTION

The **pmcstudy** program is designed to run various tests against your systems performance. There are roughly 20-22 canned tests that setup specific PMCs and then run various formulas on the output information. These formulas can be found in Intel documentation "Using Intel Vtune amplifier xe on NNN Generation Intel Core Processors". The NNN is either 2nd, 3rd, 4th or 5th generation i.e., Sandy Bridge, Ivy Bridge, Haswell and Broadwell. Currently the program only works on these four Intel processor types.

OPTIONS

The following options are available:

-i *filename*

If this option is supplied, instead of running a `pmcstat(8)` command to collect the current running information the filename will be read in as input instead.

-H This option will display the complete list of canned formulas that can be run including their names which can be input to the **-e** option.

-e *name*

Execute the canned test *name* on the running kernel.

-h If you add this option to the **-e** option the test will not execute but instead give you a small description of the test that would run.

-T This option will execute a test of every PMC to validate that they are working on your system. If a PMC does not show up in this test chances are the kernel `hwpmc(4)` driver needs updating with

new PMC information.

-m *num*

This option can restrict the number of one second samples that will be collected by your system when running a test (it bounds the time the test will run). Without this option the test will run for 1024 seconds or until the user types ctrl-c.

-v The verbose option adds debugging output to the command.

-E *expression*

This option can be used by those that have their own ideas on what formulas they want to run. The expression given to the **-E** option is a "formula". The formula can declare directly the PMCs by name or you can use an abbreviation %NNN. To find out the abbreviations on your system you may run the **-L** option. An example of a formula of your own might be **-E** "FP_ASSIST.ANY / INST_RETIRED.ANY_P" or using the abbreviations on a Haswell machine you would type **-E** "%176 / %150". You must have spaces between each entry and you may use parentheses to prioritize the operators. Add (+), Subtract (-), Divide (/) and Multiplication (*) are supported. You may also introduce constant numbers. For example you can do a standard efficiency test like **-E** "UOPS_RETIRED.RETIRE_SLOTS / (4 * CPU_CLK_UNHALTED.THREAD_P)".

-L This option will list all known PMCs and their abbreviation (%NNN).

-A Run all canned tests.

SEE ALSO

pmc(3), pmclog(3), hwpmc(4), pmcstat(8)

HISTORY

The **pmcstudy** utility first appeared in FreeBSD 11.0.

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