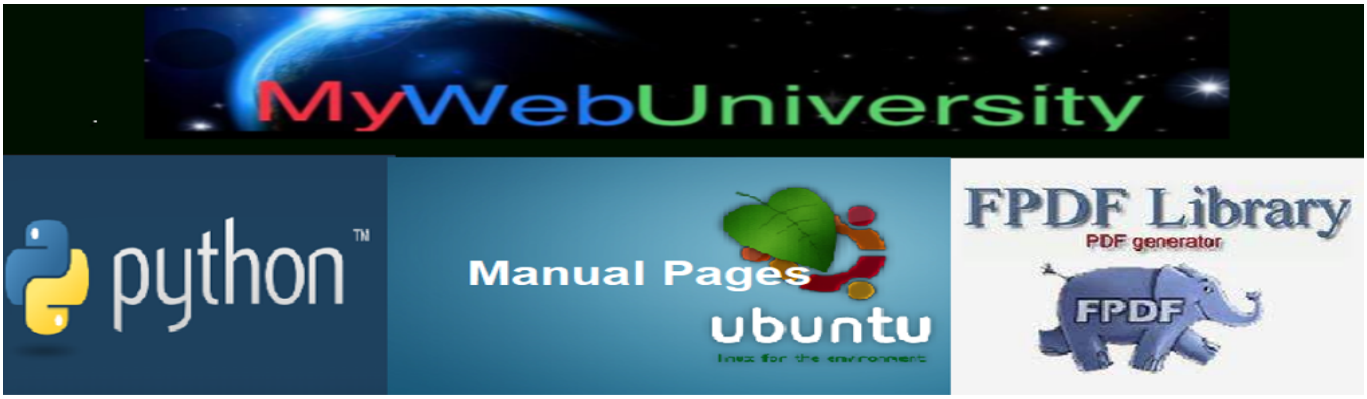

Rocky Enterprise Linux 9.2 Manual Pages on command '__ppc_get_timebase_freq.3'

$ man __ppc_get_timebase_freq.3

__PPC_GET_TIMEBASE(3) Linux Programmer'sManual __PPC_GET_TIMEBASE(3)

NAME

__ppc_get_timebase, __ppc_get_timebase_freq - get the current value of the Time Base Register on Power architecture and its frequency.

SYNOPSIS

```
#include <sys/platform/ppc.h>

uint64_t __ppc_get_timebase(void)

uint64_t __ppc_get_timebase_freq(void);
```

DESCRIPTION

__ppc_get_timebase() reads the current value of the Time Base Register and returns its value, while __ppc_get_timebase_freq() returns the frequency in which the Time Base Regis? ter is updated.

The Time Base Register is a 64-bit register provided by Power Architecture processors. It stores a monotonically incremented value that is updated at a system-dependent frequency that may be different from the processor frequency.

RETURN VALUE

__ppc_get_timebase() returns a 64-bit unsigned integer that represents the current value of the Time Base Register.

__ppc_get_timebase_freq() returns a 64-bit unsigned integer that represents the frequency at which the Time Base Register is updated.

VERSIONS

GNU C Library support for __ppc_get_timebase() has been provided since version 2.16 and __ppc_get_timebase_freq() has been available since version 2.17.

CONFORMING TO

Both functions are nonstandard GNU extensions.

EXAMPLES

The following program will calculate the time, in microseconds, spent between two calls to __ppc_get_timebase().

Program source

```
#include <inttypes.h>
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>
#include <sys/platform/ppc.h>
/* Maximum value of the Time Base Register: 2^60 - 1.
   Source: POWER ISA.  */
#define MAX_TB 0xFFFFFFFFFFFFFFF
int
main(void)
{
    uint64_t tb1, tb2, diff;
    uint64_t freq = __ppc_get_timebase_freq();
    printf("Time Base frequency = %"PRIu64" Hz\n", freq);
    tb1 = __ppc_get_timebase();
    // Do some stuff...
    tb2 = __ppc_get_timebase();
    if (tb2 > tb1) {
        diff = tb2 - tb1;
    } else {
        /* Treat Time Base Register overflow.  */
        diff = (MAX_TB - tb2) + tb1;
    }
    printf("Elapsed time  = %1.2f usecs\n",
           (double) diff * 1000000 / freq );
    exit(EXIT_SUCCESS);
}
```

SEE ALSO

time(2), usleep(3)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at https://www.kernel.org/doc/man-pages/.