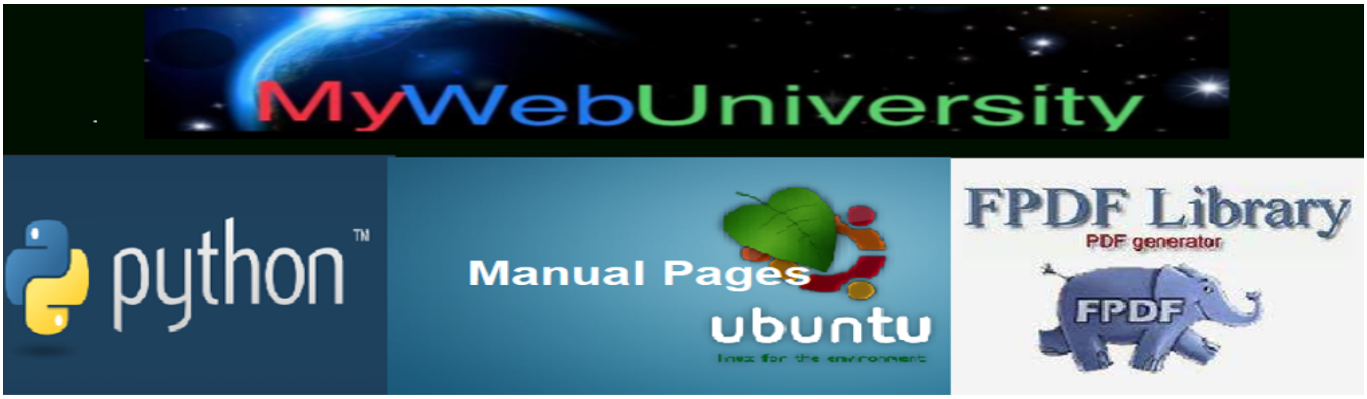

Rocky Enterprise Linux 9.2 Manual Pages on command 'pthread_attr_setaffinity_np.3'

$ man pthread_attr_setaffinity_np.3

PTHREAD_ATTR_SETAFFINITY_NP(3) Linux Programmer's Manual PTHREAD_ATTR_SETAFFINITY_NP(3)

NAME

pthread_attr_setaffinity_np, pthread_attr_getaffinity_np - set/get CPU affinity attribute in thread attributes object

SYNOPSIS

```
#define _GNU_SOURCE             /* See feature_test_macros(7) */
#include <pthread.h>
int pthread_attr_setaffinity_np(pthread_attr_t *attr,
                size_t cpusetsize, const cpu_set_t *cpuset);
int pthread_attr_getaffinity_np(const pthread_attr_t *attr,
                size_t cpusetsize, cpu_set_t *cpuset);
```

Compile and link with -pthread.

DESCRIPTION

The pthread_attr_setaffinity_np() function sets the CPU affinity mask attribute of the thread attributes object referred to by attr to the value specified in cpuset. This at? tribute determines the CPU affinity mask of a thread created using the thread attributes object attr.

The pthread_attr_getaffinity_np() function returns the CPU affinity mask attribute of the thread attributes object referred to by attr in the buffer pointed to by cpuset.

The argument cpusetsize is the length (in bytes) of the buffer pointed to by cpuset. Typ? ically, this argument would be specified as sizeof(cpu_set_t).

For more details on CPU affinity masks, see sched_setaffinity(2). For a description of a set of macros that can be used to manipulate and inspect CPU sets, see CPU_SET(3).

RETURN VALUE

On success, these functions return 0; on error, they return a nonzero error number.

ERRORS

EINVAL (pthread_attr_setaffinity_np()) cpuset specified a CPU that was outside the set supported by the kernel. (The kernel configuration option CONFIG_NR_CPUS defines the range of the set supported by the kernel data type used to represent CPU sets.)

EINVAL (pthread_attr_getaffinity_np()) A CPU in the affinity mask of the thread attributes object referred to by attr lies outside the range specified by cpusetsize (i.e., cpuset/cpusetsize is too small).

ENOMEM (pthread_attr_setaffinity_np()) Could not allocate memory.

VERSIONS

These functions are provided by glibc since version 2.3.4.

ATTRIBUTES

For an explanation of the terms used in this section, see attributes(7).

??

?Interface ? Attribute ? Value ?

??

?pthread_attr_setaffinity_np(), ? Thread safety ? MT-Safe ?

?pthread_attr_getaffinity_np() ? ? ?

??

CONFORMING TO

These functions are nonstandard GNU extensions; hence the suffix "_np" (nonportable) in the names.

NOTES

In glibc 2.3.3 only, versions of these functions were provided that did not have a cpuset? size argument. Instead the CPU set size given to the underlying system calls was always sizeof(cpu_set_t).

SEE ALSO

sched_setaffinity(2), pthread_attr_init(3), pthread_setaffinity_np(3), cpuset(7), pthreads(7)

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/.