



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

\$ man pthread_attr_setaffinity_np.3

PTHREAD_ATTR_SETAFFINITY_NPLinux Programmer's MaPTHREAD_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 attribute 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`. Typically, 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)`.

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?Interface ? Attribute ? Value ?

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

?`pthread_attr_getaffinity_np()` ? ? ?

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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 cpusetsize 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

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