NAME

pthread_attr_setsigmask_np, pthread_attr_getsigmask_np − set/get signal mask attribute in thread attributes object

LIBRARY

POSIX threads library (*libpthread*, *−lpthread*)

SYNOPSIS

```
#define _GNU_SOURCE         /* See feature_test_macros(7) */
#include <pthread.h>

int pthread_attr_setsigmask_np(pthread_attr_t *attr,
                               const sigset_t *sigmask);
int pthread_attr_getsigmask_np(const pthread_attr_t *attr,
                               sigset_t *sigmask);
```

DESCRIPTION

The **pthread_attr_setsigmask_np**() function sets the signal mask attribute of the thread attributes object referred to by *attr* to the value specified in**sigmask*. If*sigmask* is specified as NULL, then an y existing signal mask attribute in *attr* is unset.

The **pthread_attr_getsigmask_np**() function returns the signal mask attribute of the thread attributes object referred to by *attr* in the buffer pointed to by *sigmask*. If the signal mask attribute is currently unset, then this function returns the special value **PTHREAD_ATTR_NO_SIGMASK_NP** as its result.

RETURN VALUE

The **pthread_attr_setsigmask_np**() function returns 0 on success, or a nonzero error number on failure.

the **pthread_attr_getsigmask_np**() function returns either 0 or **PTHREAD_ATTR_NO_SIGMASK_NP**. When 0 is returned, the signal mask attribute is returned via *sigmask*. A return value of **PTHREAD_ATTR_NO_SIGMASK_NP** indicates that the signal mask attribute is not set in *attr*.

On error, these functions return a positive error number.

ERRORS

ENOMEM
(**pthread_attr_setsigmask_np**()) Could not allocate memory.

VERSIONS

These functions are provided since glibc 2.32.

ATTRIBUTES

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

Interface	Attribute	Value
pthread_attr_setsigmask_np(), **pthread_attr_getsigmask_np**()	Thread safety	MT-Safe

STANDARDS

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

NOTES

The signal mask attribute determines the signal mask that will be assigned to a thread created using the thread attributes object *attr*. If this attribute is not set, then a thread created using *attr* will inherit a copy of the creating thread's signal mask.

For more details on signal masks, see **sigprocmask**(2). For a description of a set of macros that can be used to manipulate and inspect signal sets, see **sigsetops**(3).

In the absence of **pthread_attr_setsigmask_np**() it is possible to create a thread with a desired signal mask as follows:

- The creating thread uses **pthread_sigmask**(3) to save its current signal mask and set its mask to block all signals.

- The new thread is then created using **pthread_create**(); the new thread will inherit the creating thread's signal mask.
- The new thread sets its signal mask to the desired value using **pthread_sigmask**(3).
- The creating thread restores its signal mask to the original value.

Following the above steps, there is no possibility for the new thread to receive a signal before it has adjusted its signal mask to the desired value.

SEE ALSO

sigprocmask(2), **pthread_attr_init**(3), **pthread_sigmask**(3), **pthreads**(7), **signal**(7)