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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'pthread_timedjoin_np.3' command

$ man pthread_timedjoin_np.3

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

NAME

pthread_tryjoin_np, pthread_timedjoin_np - try to join with a termi?

nated thread

SYNOPSIS

```
#define _GNU_SOURCE          /* See feature_test_macros(7) */
#include <pthread.h>
int pthread_tryjoin_np(pthread_t thread, void **retval);
int pthread_timedjoin_np(pthread_t thread, void **retval,
                         const struct timespec *abstime);
```

Compile and link with -pthread.

DESCRIPTION

These functions operate in the same way as pthread_join(3), except for the differences described on this page.

The pthread_tryjoin_np() function performs a nonblocking join with the thread thread, returning the exit status of the thread in *retval. If thread has not yet terminated, then instead of blocking, as is done by pthread_join(3), the call returns an error.

The pthread_timedjoin_np() function performs a join-with-timeout. If thread has not yet terminated, then the call blocks until a maximum time, specified in abstime, measured against the CLOCK_REALTIME clock. If the timeout expires before thread terminates, the call returns an error. The abstime argument is a structure of the following form,

specifying an absolute time measured since the Epoch (see time(2)):

```
struct timespec {
    time_t tv_sec;     /* seconds */
    long   tv_nsec;    /* nanoseconds */
};
```

RETURN VALUE

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

ERRORS

These functions can fail with the same errors as pthread_join(3).

pthread_tryjoin_np() can in addition fail with the following error:

EBUSY thread had not yet terminated at the time of the call.

pthread_timedjoin_np() can in addition fail with the following errors:

ETIMEDOUT

The call timed out before thread terminated.

EINVAL abstime value is invalid (tv_sec is less than 0 or tv_nsec is greater than 1e9).

pthread_timedjoin_np() never returns the error EINTR.

VERSIONS

These functions first appeared in glibc in version 2.3.3.

ATTRIBUTES

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

?	?	?
?Interface	? Attribute	? Value ?
?pthread_tryjoin_np(),	? Thread safety	? MT-Safe ?
?pthread_timedjoin_np()	?	? ?

CONFORMING TO

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

EXAMPLES

The following code waits to join for up to 5 seconds:

```
struct timespec ts;
int s;
...
if (clock_gettime(CLOCK_REALTIME, &ts) == -1) {
    /* Handle error */
}
ts.tv_sec += 5;
s = pthread_timedjoin_np(thread, NULL, &ts);
if (s != 0) {
    /* Handle error */
}
```

BUGS

The pthread_timedjoin_np() function measures time by internally calcu? lating a relative sleep interval that is then measured against the CLOCK_MONOTONIC clock instead of the CLOCK_REALTIME clock. Conse? quently, the timeout is unaffected by discontinuous changes to the CLOCK_REALTIME clock.

SEE ALSO

clock_gettime(2), pthread_exit(3), pthread_join(3), pthreads(7)

COLOPHON

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