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

$ 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 terminated 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 de?scribed on this page.

The pthread_tryjoin_np() function performs a nonblocking join with the thread thread, re?turning 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, speci?fying 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 attributes(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 calculating a relative sleep interval that is then measured against the CLOCK_MONOTONIC clock instead of the CLOCK_REALTIME clock. Consequently, 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

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/.

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