

**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 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*. 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 [attributes\(7\)](#).

Interface	Attribute	Value
<b>pthread_tryjoin_np()</b> , <b>pthread_timedjoin_np()</b>	Thread safety	MT-Safe

**CONFORMING TO**

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

**EXAMPLE**

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 */
}
```

**SEE ALSO**

[clock\\_gettime\(2\)](#), [pthread\\_exit\(3\)](#), [pthread\\_join\(3\)](#), [pthreads\(7\)](#)

**COLOPHON**

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