NAME

pthread_mutex_timedlock - lock a mutex without blocking indefinitely

LIBRARY

POSIX Threads Library (libpthread, -lpthread)

SYNOPSIS

#include <pthread.h>
#include <time.h>

int
pthread_mutex_timedlock(*pthread_mutex_t *restrict mutex*,
    *const struct timespec *restrict abs_timeout*);

DESCRIPTION

The **pthread_mutex_timedlock**() function will lock *mutex*. If it is already locked the calling thread will block until the mutex becomes available or the timeout, specified by abs_timeout, expires. The time of the timeout is an absolute time and is not relative to the current time.

RETURN VALUES

If successful, **pthread_mutex_timedlock**() will return zero, otherwise an error number will be returned to indicate the error.

ERRORS

The **pthread_mutex_timedlock**() function will fail if:

[Er ENOTRECOVERABLE]
                 The *mutex* was created with the protocol attribute having the value
                 PTHREAD_PRIO_PROTECT and the calling thread's priority is higher than the
                 mutex's current priority ceiling.

[EINVAL]   The process or thread would have blocked, and *abs_timeout* specified a
                 nanosecond value less than zero or greater than or equal to 1 billion.

[EINVAL]   The *mutex* parameter is invalid.

[ETIMEDOUT]   The *mutex* could not be locked before the timeout expired.

[EAGAIN]   The *mutex* could not be acquired because the maximum number of recursive
                 locks for the *mutex* has been exceeded.

[EDEADLK]   The current thread already owns the *mutex*.

[EOWNERDEAD]   The argument *mutex* points to a robust mutex and the process containing the
                   previous owning thread terminated while holding the mutex lock. The lock was
                   granted to the caller and it is up to the new owner to make the state consistent.

[ENOTRECOVERABLE]
                   The state protected by the *mutex* is not recoverable.

SEE ALSO

pthread_mutex_consistent(3), pthread_mutex_destroy(3), pthread_mutex_init(3),
pthread_mutex_lock(3), pthread_mutex_trylock(3), pthread_mutex_unlock(3)

STANDARDS

The **pthread_mutex_timedlock**() function is expected to conform to ISO/IEC 9945-1:1996 ("POSIX.1").