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

$ man pthread_mutex_consistent.3p

PTHREAD_MUTEX_CONSISTENT(3PPOSIX Programmer's ManuPTHREAD_MUTEX_CONSISTENT(3P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

pthread_mutex_consistent ? mark state protected by robust mutex as con? sistent

SYNOPSIS

```
#include <pthread.h>
int pthread_mutex_consistent(pthread_mutex_t *mutex);
```

DESCRIPTION

If mutex is a robust mutex in an inconsistent state, the pthread_mu? tex_consistent() function can be used to mark the state protected by the mutex referenced by mutex as consistent again.

If an owner of a robust mutex terminates while holding the mutex, the mutex becomes inconsistent and the next thread that acquires the mutex lock shall be notified of the state by the return value [EOWNERDEAD]. In this case, the mutex does not become normally usable again until the state is marked consistent.

If the thread which acquired the mutex lock with the return value [EOWNERDEAD] terminates before calling either pthread_mutex_consis?

tent() or pthread_mutex_unlock(), the next thread that acquires the mu?
tex lock shall be notified about the state of the mutex by the return
value [EOWNERDEAD].

The behavior is undefined if the value specified by the mutex argument to pthread_mutex_consistent() does not refer to an initialized mutex.

RETURN VALUE

Upon successful completion, the pthread_mutex_consistent() function shall return zero. Otherwise, an error value shall be returned to indi?
cate the error.

ERRORS

The pthread_mutex_consistent() function shall fail if:

EINVAL The mutex object referenced by mutex is not robust or does not protect an inconsistent state.

These functions shall not return an error code of [EINTR].

The following sections are informative.

EXAMPLES

None.

APPLICATION USAGE

The pthread_mutex_consistent() function is only responsible for notify?
ing the implementation that the state protected by the mutex has been recovered and that normal operations with the mutex can be resumed. It is the responsibility of the application to recover the state so it can be reused. If the application is not able to perform the recovery, it can notify the implementation that the situation is unrecoverable by a call to pthread_mutex_unlock() without a prior call to pthread_mu?
tex_consistent(), in which case subsequent threads that attempt to lock the mutex will fail to acquire the lock and be returned [ENOTRECOVER?
ABLE].

RATIONALE

If an implementation detects that the value specified by the mutex ar?
gument to pthread_mutex_consistent() does not refer to an initialized mutex, it is recommended that the function should fail and report an [EINVAL] error.

FUTURE DIRECTIONS

None.

SEE ALSO

pthread_mutex_lock(), pthread_mutexattr_getrobust()

The Base Definitions volume of POSIX.1?2017, <pthread.h>