

IEEE Standards Interpretation for IEEE Std 1003.1™-2001 IEEE Standard Standard for Information Technology -- Portable Operating System Interface (POSIX®)

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Interpretation Request #64

Topic: sched.h, option shading. **Relevant Sections:** XBD sched.h Page: 1004 Line: 0
Section: pthread_attr_getschedparam

The pthread_attr_getschedparam() and pthread_attr_getschedparam() interfaces are part of the threads option. However, they take as an argument a pointer to a sched_param structure. This structure is declared in sched.h, which is dependent on the process scheduling option.

Below, [x> and <x] represent the opt-start and opt-end symbols.

The thread option needs to require the presence of sched.h:
Change the specification of sched.h from

NAME
sched.h - execution scheduling (REALTIME)

SYNOPSIS

[PS] [x> #include <sched.h> <x]
to

NAME
sched.h - execution scheduling

SYNOPSIS

[THR|PS] [x> #include <sched.h> <x]

Perhaps better, pthread_attr_getschedparam() and pthread_attr_setschedparam() should be part of an option that requires both threads and process scheduling, such as thread execution scheduling (of which pthread_setschedparam() and pthread_getsched-

param() are part).

Change the specifications of pthread_attr_get/schedparam from

NAME

pthread_attr_getschedparam, pthread_attr_setschedparam - get and set the schedparam attribute

SYNOPSIS

[THR] [x> #include <pthread.h>

int pthread_attr_getschedparam(const pthread_attr_t *restrict attr, struct sched_param *restrict param); int pthread_attr_setschedparam(pthread_attr_t *restrict attr, const struct sched_param *restrict param); <x] to (something like)

NAME

pthread_attr_getschedparam, pthread_attr_setschedparam - get and set the schedparam attribute (REALTIME THREADS)

SYNOPSIS

[THR TPS] [x> #include <pthread.h>

int pthread_attr_getschedparam(const pthread_attr_t *restrict attr, struct sched_param *restrict param);

int pthread_attr_setschedparam(pthread_attr_t *restrict attr, const struct sched_param *restrict param); <x]

Interpretation Response #64

The standard is unclear on this issue, and no conformance distinction can be made between alternative implementations based on this. This is being referred to the sponsor.

Rationale for Interpretation

None.