NAME

usleep − suspend execution for microsecond intervals

LIBRARY

Standard C library (*libc*, *−lc*)

SYNOPSIS

```
#include <unistd.h>

int usleep(useconds_t usec);
```

Feature Test Macro Requirements for glibc (see **feature_test_macros**(7)):

usleep():

```
Since glibc 2.12:
    (_XOPEN_SOURCE >= 500) && ! (_POSIX_C_SOURCE >= 200809L)
        || /* glibc >= 2.19: */ _DEFAULT_SOURCE
        || /* glibc <= 2.19: */ _BSD_SOURCE
Before glibc 2.12:
    _BSD_SOURCE || _XOPEN_SOURCE >= 500
```

DESCRIPTION

The **usleep**() function suspends execution of the calling thread for (at least) *usec* microseconds. The sleep may be lengthened slightly by any system activity or by the time spent processing the call or by the granularity of system timers.

RETURN VALUE

The **usleep**() function returns 0 on success. On error, −1 is returned, with *errno* set to indicate the error.

ERRORS

EINTR
: Interrupted by a signal; see **signal**(7).

EINVAL
: *usec* is greater than or equal to 1000000. (On systems where that is considered an error.)

ATTRIBUTES

For an explanation of the terms used in this section, see **attributes**(7).

Interface	Attribute	Value
usleep()	Thread safety	MT-Safe

STANDARDS

4.3BSD, POSIX.1-2001. POSIX.1-2001 declares this function obsolete; use **nanosleep**(2) instead. POSIX.1-2008 removes the specification of **usleep**().

On the original BSD implementation, and before glibc 2.2.2, the return type of this function is *void*. The POSIX version returns *int*, and this is also the prototype used since glibc 2.2.2.

Only the **EINVAL** error return is documented by SUSv2 and POSIX.1-2001.

NOTES

The interaction of this function with the **SIGALRM** signal, and with other timer functions such as **alarm**(2), **sleep**(3), **nanosleep**(2), **setitimer**(2), **timer_create**(2), **timer_delete**(2), **timer_getoverrun**(2), **timer_gettime**(2), **timer_settime**(2), **ualarm**(3) is unspecified.

SEE ALSO

alarm(2), **getitimer**(2), **nanosleep**(2), **select**(2), **setitimer**(2), **sleep**(3), **ualarm**(3), **useconds_t**(3type), **time**(7)