**NAME**

semaphore.h – semaphores (**REALTIME**)

**SYNOPSIS**

**#include &lt;semaphore.h&gt;**

**DESCRIPTION**

The *&lt;semaphore.h&gt;* header shall define the **sem_t** type, used in performing semaphore operations. The semaphore may be implemented using a file descriptor, in which case applications are able to open up at least a total of {OPEN_MAX} files and semaphores. The symbol SEM_FAILED shall be defined (see *sem_open*()).

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int   sem_close(sem_t *);
int   sem_destroy(sem_t *);
int   sem_getvalue(sem_t *restrict, int *restrict);
int   sem_init(sem_t *, int, unsigned);
sem_t *sem_open(const char *, int, ...);
int   sem_post(sem_t *);

int   sem_timedwait(sem_t *restrict, const struct timespec *restrict);

int   sem_trywait(sem_t *);
int   sem_unlink(const char *);
int   sem_wait(sem_t *);
```

Inclusion of the *&lt;semaphore.h&gt;* header may make visible symbols defined in the headers *&lt;fcntl.h&gt;* and *&lt;sys/types.h&gt;*.

*The following sections are informative.*

**APPLICATION USAGE**

None.

**RATIONALE**

None.

**FUTURE DIRECTIONS**

None.

**SEE ALSO**

*&lt;fcntl.h&gt;*, *&lt;sys/types.h&gt;*, the System Interfaces volume of IEEE Std 1003.1-2001, *sem_destroy*(), *sem_getvalue*(), *sem_init*(), *sem_open*(), *sem_post*(), *sem_timedwait*(), *sem_trywait*(), *sem_unlink*(), *sem_wait*()

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