

PROLOG

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NAME

`msgget` — get the XSI message queue identifier

SYNOPSIS

```
#include <sys/msg.h>
```

```
int msgget(key_t key, int msgflg);
```

DESCRIPTION

The `msgget()` function operates on XSI message queues (see the Base Definitions volume of POSIX.1-2008, *Section 3.225, Message Queue*). It is unspecified whether this function interoperates with the realtime interprocess communication facilities defined in *Section 2.8, Realtime*.

The `msgget()` function shall return the message queue identifier associated with the argument *key*.

A message queue identifier, associated message queue, and data structure (see `<sys/msg.h>`), shall be created for the argument *key* if one of the following is true:

- * The argument *key* is equal to `IPC_PRIVATE`.
- * The argument *key* does not already have a message queue identifier associated with it, and `(msgflg & IPC_CREAT)` is non-zero.

Upon creation, the data structure associated with the new message queue identifier shall be initialized as follows:

- * `msg_perm.cuid`, `msg_perm.uid`, `msg_perm.cgid`, and `msg_perm.gid` shall be set to the effective user ID and effective group ID, respectively, of the calling process.
- * The low-order 9 bits of `msg_perm.mode` shall be set to the low-order 9 bits of `msgflg`.
- * `msg_qnum`, `msg_lspid`, `msg_lrpid`, `msg_stime`, and `msg_rtime` shall be set to 0.
- * `msg_ctime` shall be set to the current time, as described in *Section 2.7.1, IPC General Description*.
- * `msg_qbytes` shall be set to the system limit.

RETURN VALUE

Upon successful completion, `msgget()` shall return a non-negative integer, namely a message queue identifier. Otherwise, it shall return `-1` and set `errno` to indicate the error.

ERRORS

The `msgget()` function shall fail if:

EACCES

A message queue identifier exists for the argument *key*, but operation permission as specified by the low-order 9 bits of `msgflg` would not be granted; see *Section 2.7, XSI Interprocess Communication*.

EEXIST

A message queue identifier exists for the argument *key* but `((msgflg & IPC_CREAT) && (msgflg & IPC_EXCL))` is non-zero.

ENOENT

A message queue identifier does not exist for the argument *key* and `(msgflg & IPC_CREAT)` is 0.

ENOSPC

A message queue identifier is to be created but the system-imposed limit on the maximum number of allowed message queue identifiers system-wide would be exceeded.

The following sections are informative.



EXAMPLES

None.

APPLICATION USAGE

The POSIX Realtime Extension defines alternative interfaces for interprocess communication (IPC). Application developers who need to use IPC should design their applications so that modules using the IPC routines described in *Section 2.7, XSI Interprocess Communication* can be easily modified to use the alternative interfaces.

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

Section 2.7, XSI Interprocess Communication, Section 2.8, Realtime, flock(), mq_close(), mq_getattr(), mq_notify(), mq_open(), mq_receive(), mq_send(), mq_setattr(), mq_unlink(), msgctl(), msgrcv(), msgsnd()

The Base Definitions volume of POSIX.1-2008, *Section 3.225, Message Queue, <sys_msg.h>*

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