NAME

sigevent - asynchronous event notification

SYNOPSIS

#include <signal.h>

DESCRIPTION

Some operations permit threads to request asynchronous notification of events via a *struct sigevent* structure. This structure contains several fields that describe the requested notification:

Type	Member	Description
int	sigev_notify	notification method
int	sigev_signo	signal number
union sigval	sigev_value	signal value
int	sigev_notify_kqueue	kqueue(2) file descriptor
unsigned short	sigev_notify_kevent_flags	kevent flags
lwpid_t	sigev_notify_thread_id	LWP ID
void (*)(union sigval)	sigev_notify_function	callback function pointer
*pthread_attr_t **	sigev_notify_attributes	callback thread attributes

The *sigev_notify* field specifies the notification method used when the event triggers:

SIGEV_NONE No notification is sent.

SIGEV_SIGNAL The signal *sigev_signo* is queued as a real-time signal to the calling process. The value stored in *sigev_value* will be present in the *si_value* of the *siginfo_t* structure of the queued signal.

SIGEV_THREAD The notification function in *sigev_notify_function* is called in a separate thread context. The thread is created with the attributes specified in **sigev_notify_attributes*. The value stored in *sigev_value* is passed as the sole argument to *sigev_notify_function*. If *sigev_notify_attributes* is NULL, the thread is created with default attributes.

SIGEV_KEVENT A new kevent is posted to the kqueue *sigev_notify_kqueue*. The *udata* member of the kevent structure contains the value stored in *sigev_value*. The meaning of other fields in the kevent are specific to the type of triggered event.

SIGEV_THREAD_ID The signal *sigev_signo* is queued to the thread whose LWP ID is *sigev_notify_thread_id*. The value stored in *sigev_value* will be present in the

si_value of the *siginfo_t* structure of the queued signal.

NOTES

Note that programs wishing to use SIGEV_THREAD notifications must link against the POSIX Real-time Library (librt, -lrt).

SEE ALSO

aio_read(2), mq_notify(2), timer_create(2), siginfo(3)

STANDARDS

The *struct sigevent* type conforms to IEEE Std 1003.1-2004 ("POSIX.1").

HISTORY

The *sigevent* structure first appeared in FreeBSD 3.3.