NAME

kvm_open, kvm_close – specify a kernel to examine

SYNOPSIS

#include <kvm.h>
#include <fcntl.h>

kvm_t ∗**kvm_open(char** ∗*namelist*, **char** ∗*corefile*, **char** ∗*swapfile*, **int** *flag*, **char** ∗*errstr***);**

int kvm_close(kvm_t ∗*kd***);**

MT-LEVEL

Unsafe

DESCRIPTION

kvm_open( ) initializes a set of file descriptors to be used in subsequent calls to kernel VM routines. It returns a pointer to a kernel identifier that must be used as the *kd* argument in subsequent kernel VM function calls.

The *namelist* argument specifies an unstripped executable file whose symbol table will be used to locate various offsets in *corefile*. If *namelist* is NULL, the symbol table of the currently running kernel is used to determine offsets in the core image. In this case, it is up to the implementation to select an appropriate way to resolve symbolic references (for instance, using **/dev/ksyms** as a default *namelist* file).

corefile specifies a file that contains an image of physical memory, for instance, a kernel crash dump file (see **savecore**(1M)) or the special device **/dev/mem**. If *corefile* is NULL, the currently running kernel is accessed (using **/dev/mem** and **/dev/kmem**).

swapfile specifies a file that represents the swap device. If both *corefile* and *swapfile* are NULL, the swap device of the ‘‘currently running kernel’’ is accessed. Otherwise, if *swapfile* is NULL, **kvm_open( )** may succeed but subsequent **kvm_getu**(3K) function calls may fail if the desired information is swapped out.

flag is used to specify read or write access for *corefile* and may have one of the following values:

O_RDONLY	open for reading
O_RDWR	open for reading and writing

errstr is used to control error reporting. If it is a NULL pointer, no error messages will be printed. If it is non-NULL, it is assumed to be the address of a string that will be used to prefix error messages generated by **kvm_open**. Errors are printed to **stderr**. A useful value to supply for *errstr* would be **argv**[0]. This has the effect of printing the process name in front of any error messages.

kvm_close( ) closes all file descriptors that were associated with *kd*. These files are also closed on **exit**(2) and **execve**( ) (see **exec**(2)). **kvm_close( )** also resets the **proc** pointer associated with **kvm_nextproc**(3K) and flushes any cached kernel data.

RETURN VALUES

kvm_open( ) returns a non-NULL value suitable for use with subsequent kernel VM function calls. On failure, it returns NULL and no files are opened.

kvm_close( ) returns:

0	on success.

–1 on failure.

FILES

/dev/kmem
/dev/ksyms
/dev/mem

SEE ALSO

savecore(1M), **exec**(2), **exit**(2), **kvm_getu**(3K), **kvm_nextproc**(3K), **kvm_nlist**(3K), **kvm_read**(3K)

NOTES

Programs using **libkvm** are likely to be platform and release dependent.

Kernel core dumps should be examined on the same platform they were created on.