### NAME

kvm\_read, kvm\_read2, kvm\_write - read or write kernel virtual memory

## LIBRARY

Kernel Data Access Library (libkvm, -lkvm)

### SYNOPSIS

#### #include <kvm.h>

ssize\_t

kvm\_read(kvm\_t \*kd, unsigned long addr, void \*buf, size\_t nbytes);

ssize\_t

kvm\_read2(kvm\_t \*kd, kvaddr\_t addr, void \*buf, size\_t nbytes);

#### ssize\_t

kvm\_write(kvm\_t \*kd, unsigned long addr, const void \*buf, size\_t nbytes);

## DESCRIPTION

The **kvm\_read**(), **kvm\_read2**(), and **kvm\_write**() functions are used to read and write kernel virtual memory (or a crash dump file). See **kvm\_open**(*3*) for information regarding opening kernel virtual memory and crash dumps.

The **kvm\_read**() and **kvm\_read2**() functions transfer *nbytes* bytes of data from the kernel space address *addr* to *buf*. Conversely, **kvm\_write**() transfers data from *buf* to *addr*. Unlike their SunOS counterparts, these functions cannot be used to read or write process address spaces.

The **kvm\_read2**() function uses a different type (*kvaddr\_t*) for the *addr* argument to allow use of addresses larger than ULONG\_MAX when examining non-native kernel images.

## **RETURN VALUES**

Upon success, the number of bytes actually transferred is returned. Otherwise, -1 is returned.

# SEE ALSO

kvm(3), kvm\_close(3), kvm\_getargv(3), kvm\_getenvv(3), kvm\_geterr(3), kvm\_getprocs(3), kvm\_nlist(3), kvm\_open(3), kvm\_openfiles(3)

## HISTORY

The kvm\_read2() function first appeared in FreeBSD 11.0.