NAME

vmsplice - splice user pages into a pipe

SYNOPSIS

#define _GNU_SOURCE /* See feature_test_macros(7)
*/"
#include <fcntl.h>
#include <sys/uio.h>

ssize_t vmsplice(int *fd***, const struct io vec ***iov***,**
unsigned long *nr_segs***, unsigned int** *fla gs***);**

DESCRIPTION

The **vmsplice**() system call maps *nr_segs* ranges of user memory described by *iov* into a pipe. The file descriptor *fd* must refer to a pipe.

The pointer *iov* points to an array of *iovec* structures as defined in <*sys/uio.h*>:

```
struct iovec {
void *iov_base; /* Starting address */
size_t iov_len; /* Number of bytes */
};
```

The *flags* argument is a bit mask that is composed by ORing together zero or more of the following values:

SPLICE_F_MOVE Unused for **vmsplice**(); see splice(2).

SPLICE_F_NONBLOCK Do not block on I/O; see splice(2) for further details.

SPLICE_F_MORE Currently has no effect for **vmsplice**(), but may be implemented in the future; see splice(2).

SPLICE_F_GIFT The user pages are a gift to the kernel. The application may not modify this memory ever, otherwise the page cache and on-disk data may differ. Gifting pages to the kernel means that a subsequent splice(2) **SPLICE_F_MOVE** can successfully move the pages; if this flag is not specified, then a subsequent splice(2) **SPLICE_F_MOVE** must copy the pages. Data must also be properly page aligned, both in memory and length.

RETURN VALUE

Upon successful completion, **vmsplice**() returns the number of bytes transferred to the pipe. On error, **vmsplice**() returns -1 and *errno* is set to indicate the error.

ERRORS

EAGAIN
SPLICE_F_NONBLOCK was specified in *flags*, and the operation would block.

EBADF
fd either not valid, or doesn't refer to a pipe.

EINVAL
nr_segs is greater than **IOV_MAX**; or memory not aligned if **SPLICE_F_GIFT** set.

ENOMEM
Out of memory.

VERSIONS

The **vmsplice**() system call first appeared in Linux 2.6.17; library support was added to glibc in version 2.5.

CONFORMING TO

This system call is Linux-specific.

NOTES

vmsplice() follows the other vectorized read/write type functions when it comes to limitations on the number of segments being passed in. This limit is **IOV_MAX** as defined in <*limits.h*>. Currently, this limit is 1024.

SEE ALSO

splice(2), tee(2)

COLOPHON

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