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Rocky Enterprise Linux 9.2 Manual Pages on command 'pread.2'

\$ man pread.2

PREAD(2) Linux Programmer's Manual PREAD(2)

NAME

pread, pwrite - read from or write to a file descriptor at a given offset

SYNOPSIS

```
#include <unistd.h>
```

```
ssize_t pread(int fd, void *buf, size_t count, off_t offset);
```

```
ssize_t pwrite(int fd, const void *buf, size_t count, off_t offset);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

```
pread(), pwrite():
```

```
  _XOPEN_SOURCE >= 500
```

```
  || /* Since glibc 2.12: */ _POSIX_C_SOURCE >= 200809L
```

DESCRIPTION

pread() reads up to count bytes from file descriptor fd at offset offset (from the start of the file) into the buffer starting at buf. The file offset is not changed.

pwrite() writes up to count bytes from the buffer starting at buf to the file descriptor fd at offset offset. The file offset is not changed.

The file referenced by fd must be capable of seeking.

RETURN VALUE

On success, pread() returns the number of bytes read (a return of zero indicates end of file) and pwrite() returns the number of bytes written.

Note that it is not an error for a successful call to transfer fewer bytes than requested (see read(2) and write(2)).

On error, -1 is returned and errno is set to indicate the cause of the error.

ERRORS

`pread()` can fail and set `errno` to any error specified for `read(2)` or `lseek(2)`. `pwrite()` can fail and set `errno` to any error specified for `write(2)` or `lseek(2)`.

VERSIONS

The `pread()` and `pwrite()` system calls were added to Linux in version 2.1.60; the entries in the `i386` system call table were added in 2.1.69. C library support (including emulation using `lseek(2)` on older kernels without the system calls) was added in glibc 2.1.

CONFORMING TO

POSIX.1-2001, POSIX.1-2008.

NOTES

The `pread()` and `pwrite()` system calls are especially useful in multithreaded applications. They allow multiple threads to perform I/O on the same file descriptor without being affected by changes to the file offset by other threads.

C library/kernel differences

On Linux, the underlying system calls were renamed in kernel 2.6: `pread()` became `pread64()`, and `pwrite()` became `pwrite64()`. The system call numbers remained the same. The glibc `pread()` and `pwrite()` wrapper functions transparently deal with the change. On some 32-bit architectures, the calling signature for these system calls differ, for the reasons described in `syscall(2)`.

BUGS

POSIX requires that opening a file with the `O_APPEND` flag should have no effect on the location at which `pwrite()` writes data. However, on Linux, if a file is opened with `O_APPEND`, `pwrite()` appends data to the end of the file, regardless of the value of offset.

SEE ALSO

`lseek(2)`, `read(2)`, `readv(2)`, `write(2)`

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.