

NAME

BIO_s_fd, BIO_set_fd, BIO_get_fd, BIO_new_fd - file descriptor BIO

SYNOPSIS

```
#include <openssl/bio.h>

BIO_METHOD * BIO_s_fd(void);

#define BIO_set_fd(b, fd, c) BIO_int_ctrl(b, BIO_C_SET_FD, c, fd)
#define BIO_get_fd(b, c) BIO_ctrl(b, BIO_C_GET_FD, 0, (char *)c)

BIO *BIO_new_fd(int fd, int close_flag);
```

DESCRIPTION

BIO_s_fd() returns the file descriptor BIO method. This is a wrapper round the platforms file descriptor routines such as *read()* and *write()*.

BIO_read() and *BIO_write()* read or write the underlying descriptor. *BIO_puts()* is supported but *BIO_gets()* is not.

If the close flag is set then then *close()* is called on the underlying file descriptor when the BIO is freed.

BIO_reset() attempts to change the file pointer to the start of file using *lseek(fd, 0, 0)*.

BIO_seek() sets the file pointer to position **ofs** from start of file using *lseek(fd, ofs, 0)*.

BIO_tell() returns the current file position by calling *lseek(fd, 0, 1)*.

BIO_set_fd() sets the file descriptor of BIO **b** to **fd** and the close flag to **c**.

BIO_get_fd() places the file descriptor in **c** if it is not NULL, it also returns the file descriptor. If **c** is not NULL it should be of type (int *).

BIO_new_fd() returns a file descriptor BIO using **fd** and **close_flag**.

NOTES

The behaviour of *BIO_read()* and *BIO_write()* depends on the behavior of the platforms *read()* and *write()* calls on the descriptor. If the underlying file descriptor is in a non blocking mode then the BIO will behave in the manner described in the [BIO_read\(3\)](#) and [BIO_should_retry\(3\)](#) manual pages.

File descriptor BIOs should not be used for socket I/O. Use socket BIOs instead.

RETURN VALUES

BIO_s_fd() returns the file descriptor BIO method.

BIO_reset() returns zero for success and -1 if an error occurred. *BIO_seek()* and *BIO_tell()* return the current file position or -1 if an error occurred. These values reflect the underlying *lseek()* behaviour.

BIO_set_fd() always returns 1.

BIO_get_fd() returns the file descriptor or -1 if the BIO has not been initialized.

BIO_new_fd() returns the newly allocated BIO or NULL if an error occurred.

EXAMPLE

This is a file descriptor BIO version of “Hello World”:

```
BIO *out;
out = BIO_new_fd(fileno(stdout), BIO_NOCLOSE);
BIO_printf(out, "Hello World\n");
BIO_free(out);
```

SEE ALSO

[BIO_seek\(3\)](#), [BIO_tell\(3\)](#), [BIO_reset\(3\)](#), [BIO_read\(3\)](#), [BIO_write\(3\)](#), [BIO_puts\(3\)](#), [BIO_gets\(3\)](#), [BIO_printf\(3\)](#), [BIO_set_close\(3\)](#), [BIO_get_close\(3\)](#)