

NAME

`BIO_printf`, `BIO_vprintf`, `BIO_snprintf`, `BIO_vsnprintf` - formatted output to a BIO

SYNOPSIS

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

```
int BIO_printf(BIO *bio, const char *format, ...);
```

```
int BIO_vprintf(BIO *bio, const char *format, va_list args);
```

```
int BIO_snprintf(char *buf, size_t n, const char *format, ...);
```

```
int BIO_vsnprintf(char *buf, size_t n, const char *format, va_list args);
```

DESCRIPTION

BIO_printf() is similar to the standard C **printf()** function, except that the output is sent to the specified BIO, *bio*, rather than standard output. All common format specifiers are supported.

BIO_vprintf() is similar to the **vprintf()** function found on many platforms, the output is sent to the specified BIO, *bio*, rather than standard output. All common format specifiers are supported. The argument list *args* is a stdarg argument list.

BIO_snprintf() is for platforms that do not have the common **snprintf()** function. It is like **sprintf()** except that the size parameter, *n*, specifies the size of the output buffer.

BIO_vsnprintf() is to **BIO_snprintf()** as **BIO_vprintf()** is to **BIO_printf()**.

RETURN VALUES

All functions return the number of bytes written, or -1 on error. For **BIO_snprintf()** and **BIO_vsnprintf()** this includes when the output buffer is too small.

NOTES

Except when *n* is 0, both **BIO_snprintf()** and **BIO_vsnprintf()** always terminate their output with `'\0'`. This includes cases where -1 is returned, such as when there is insufficient space to output the whole string.

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