

**NAME**

bio - I/O abstraction

**SYNOPSIS**

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

TBA

**DESCRIPTION**

A BIO is an I/O abstraction, it hides many of the underlying I/O details from an application. If an application uses a BIO for its I/O it can transparently handle SSL connections, unencrypted network connections and file I/O.

There are two type of BIO, a source/sink BIO and a filter BIO.

As its name implies a source/sink BIO is a source and/or sink of data, examples include a socket BIO and a file BIO.

A filter BIO takes data from one BIO and passes it through to another, or the application. The data may be left unmodified (for example a message digest BIO) or translated (for example an encryption BIO). The effect of a filter BIO may change according to the I/O operation it is performing: for example an encryption BIO will encrypt data if it is being written to and decrypt data if it is being read from.

BIOs can be joined together to form a chain (a single BIO is a chain with one component). A chain normally consist of one source/sink BIO and one or more filter BIOs. Data read from or written to the first BIO then traverses the chain to the end (normally a source/sink BIO).

**SEE ALSO**

[BIO\\_ctrl\(3\)](#), [BIO\\_f\\_base64\(3\)](#), [BIO\\_f\\_buffer\(3\)](#), [BIO\\_f\\_cipher\(3\)](#), [BIO\\_f\\_md\(3\)](#), [BIO\\_f\\_null\(3\)](#), [BIO\\_f\\_ssl\(3\)](#), [BIO\\_find\\_type\(3\)](#), [BIO\\_new\(3\)](#), [BIO\\_new\\_bio\\_pair\(3\)](#), [BIO\\_push\(3\)](#), [BIO\\_read\(3\)](#), [BIO\\_s\\_accept\(3\)](#), [BIO\\_s\\_bio\(3\)](#), [BIO\\_s\\_connect\(3\)](#), [BIO\\_s\\_fd\(3\)](#), [BIO\\_s\\_file\(3\)](#), [BIO\\_s\\_mem\(3\)](#), [BIO\\_s\\_null\(3\)](#), [BIO\\_s\\_socket\(3\)](#), [BIO\\_set\\_callback\(3\)](#), [BIO\\_should\\_retry\(3\)](#)