



Red Hat Enterprise Linux Release 9.2 Manual Pages on 'BIO_new.3ossl' command

\$ man BIO_new.3ossl

BIO_NEW(3ossl) OpenSSL BIO_NEW(3ossl)

NAME

BIO_new_ex, BIO_new, BIO_up_ref, BIO_free, BIO_vfree, BIO_free_all -
BIO allocation and freeing functions

SYNOPSIS

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

```
BIO *BIO_new_ex(OSSL_LIB_CTX *libctx, const BIO_METHOD *type);
```

```
BIO *BIO_new(const BIO_METHOD *type);
```

```
int BIO_up_ref(BIO *a);
```

```
int BIO_free(BIO *a);
```

```
void BIO_vfree(BIO *a);
```

```
void BIO_free_all(BIO *a);
```

DESCRIPTION

The `BIO_new_ex()` function returns a new BIO using method type associated with the library context `libctx` (see `OSSL_LIB_CTX(3)`). The library context may be `NULL` to indicate the default library context.

The `BIO_new()` is the same as `BIO_new_ex()` except the default library context is always used.

BIO_up_ref() increments the reference count associated with the BIO object.

BIO_free() frees up a single BIO, BIO_vfree() also frees up a single BIO but it does not return a value. If a is NULL nothing is done.

Calling BIO_free() may also have some effect on the underlying I/O structure, for example it may close the file being referred to under certain circumstances. For more details see the individual BIO_METHOD descriptions.

BIO_free_all() frees up an entire BIO chain, it does not halt if an error occurs freeing up an individual BIO in the chain. If a is NULL nothing is done.

RETURN VALUES

BIO_new_ex() and BIO_new() return a newly created BIO or NULL if the call fails.

BIO_up_ref() and BIO_free() return 1 for success and 0 for failure.

BIO_free_all() and BIO_vfree() do not return values.

NOTES

If BIO_free() is called on a BIO chain it will only free one BIO resulting in a memory leak.

Calling BIO_free_all() on a single BIO has the same effect as calling BIO_free() on it other than the discarded return value.

HISTORY

BIO_set() was removed in OpenSSL 1.1.0 as BIO type is now opaque.

BIO_new_ex() was added in OpenSSL 3.0.

EXAMPLES

Create a memory BIO:

```
BIO *mem = BIO_new(BIO_s_mem());
```

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