



Full credit is given to the above companies including the OS that this PDF file was generated!

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

\$ man BIO_f_cipher.3ossl

BIO_F_CIPHER(3ossl) OpenSSL BIO_F_CIPHER(3ossl)

NAME

BIO_f_cipher, BIO_set_cipher, BIO_get_cipher_status, BIO_get_cipher_ctx
- cipher BIO filter

SYNOPSIS

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

#include <openssl/evp.h>

const BIO_METHOD *BIO_f_cipher(void);

int BIO_set_cipher(BIO *b, const EVP_CIPHER *cipher,
                  const unsigned char *key, const unsigned char *iv, int enc);

int BIO_get_cipher_status(BIO *b);

int BIO_get_cipher_ctx(BIO *b, EVP_CIPHER_CTX **pctx);
```

DESCRIPTION

BIO_f_cipher() returns the cipher BIO method. This is a filter BIO that encrypts any data written through it, and decrypts any data read from it. It is a BIO wrapper for the cipher routines EVP_CipherInit(), EVP_CipherUpdate() and EVP_CipherFinal().

Cipher BIOs do not support BIO_gets() or BIO_puts().

BIO_flush() on an encryption BIO that is being written through is used to signal that no more data is to be encrypted: this is used to flush and possibly pad the final block through the BIO.

BIO_set_cipher() sets the cipher of BIO b to cipher using key key and IV iv. enc should be set to 1 for encryption and zero for decryption.

When reading from an encryption BIO the final block is automatically decrypted and checked when EOF is detected. BIO_get_cipher_status() is a BIO_ctrl() macro which can be called to determine whether the decryption operation was successful.

BIO_get_cipher_ctx() is a BIO_ctrl() macro which retrieves the internal BIO cipher context. The retrieved context can be used in conjunction with the standard cipher routines to set it up. This is useful when BIO_set_cipher() is not flexible enough for the applications needs.

NOTES

When encrypting BIO_flush() must be called to flush the final block through the BIO. If it is not then the final block will fail a subsequent decrypt.

When decrypting an error on the final block is signaled by a zero return value from the read operation. A successful decrypt followed by EOF will also return zero for the final read. BIO_get_cipher_status() should be called to determine if the decrypt was successful.

As always, if BIO_gets() or BIO_puts() support is needed then it can be achieved by preceding the cipher BIO with a buffering BIO.

RETURN VALUES

BIO_f_cipher() returns the cipher BIO method.

BIO_set_cipher() returns 1 for success and 0 for failure.

BIO_get_cipher_status() returns 1 for a successful decrypt and ≤ 0 for failure.

BIO_get_cipher_ctx() returns 1 for success and ≤ 0 for failure.

COPYRIGHT

Copyright 2000-2021 The OpenSSL Project Authors. All Rights Reserved.

Licensed under the Apache License 2.0 (the "License"). You may not use this file except in compliance with the License. You can obtain a copy in the file LICENSE in the source distribution or at <https://www.openssl.org/source/license.html>.

3.0.7 2023-07-13 BIO_F_CIPHER(3ossl)