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## ***Red Hat Enterprise Linux Release 9.2 Manual Pages on 'BIO\_lookup\_ex.3ossl' command***

***\$ man BIO\_lookup\_ex.3ossl***

BIO\_ADDRINFO(3ossl)          OpenSSL          BIO\_ADDRINFO(3ossl)

### NAME

BIO\_lookup\_type, BIO\_ADDRINFO, BIO\_ADDRINFO\_next, BIO\_ADDRINFO\_free, BIO\_ADDRINFO\_family, BIO\_ADDRINFO\_socktype, BIO\_ADDRINFO\_protocol, BIO\_ADDRINFO\_address, BIO\_lookup\_ex, BIO\_lookup - BIO\_ADDRINFO type and routines

### SYNOPSIS

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

typedef union bio_addrinfo_st BIO_ADDRINFO;

enum BIO_lookup_type {
    BIO_LOOKUP_CLIENT, BIO_LOOKUP_SERVER
};

int BIO_lookup_ex(const char *host, const char *service, int lookup_type,
                 int family, int socktype, int protocol, BIO_ADDRINFO **res);
int BIO_lookup(const char *host, const char *service,
               enum BIO_lookup_type lookup_type,
               int family, int socktype, BIO_ADDRINFO **res);
```

```
const BIO_ADDRINFO *BIO_ADDRINFO_next(const BIO_ADDRINFO *bai);
int BIO_ADDRINFO_family(const BIO_ADDRINFO *bai);
int BIO_ADDRINFO_socktype(const BIO_ADDRINFO *bai);
int BIO_ADDRINFO_protocol(const BIO_ADDRINFO *bai);
const BIO_ADDR *BIO_ADDRINFO_address(const BIO_ADDRINFO *bai);
void BIO_ADDRINFO_free(BIO_ADDRINFO *bai);
```

## DESCRIPTION

The `BIO_ADDRINFO` type is a wrapper for address information types provided on your platform.

`BIO_ADDRINFO` normally forms a chain of several that can be picked at one by one.

`BIO_lookup_ex()` looks up a specified host and service, and uses `lookup_type` to determine what the default address should be if host is `NULL`. `family`, `socktype` and `protocol` are used to determine what protocol family, socket type and protocol should be used for the lookup. `family` can be any of `AF_INET`, `AF_INET6`, `AF_UNIX` and `AF_UNSPEC`. `socktype` can be `SOCK_STREAM`, `SOCK_DGRAM` or 0. Specifying 0 indicates that any type can be used. `protocol` specifies a protocol such as `IPPROTO_TCP`, `IPPROTO_UDP` or `IPPROTO_SCTP`. If set to 0 than any protocol can be used. `res` points at a pointer to hold the start of a `BIO_ADDRINFO` chain.

For the family `AF_UNIX`, `BIO_lookup_ex()` will ignore the service parameter and expects the host parameter to hold the path to the socket file.

`BIO_lookup()` does the same as `BIO_lookup_ex()` but does not provide the ability to select based on the protocol (any protocol may be returned).

`BIO_ADDRINFO_family()` returns the family of the given `BIO_ADDRINFO`.

The result will be one of the constants AF\_INET, AF\_INET6 and AF\_UNIX.

BIO\_ADDRINFO\_socktype() returns the socket type of the given BIO\_ADDRINFO. The result will be one of the constants SOCK\_STREAM and SOCK\_DGRAM.

BIO\_ADDRINFO\_protocol() returns the protocol id of the given BIO\_ADDRINFO. The result will be one of the constants IPPROTO\_TCP and IPPROTO\_UDP.

BIO\_ADDRINFO\_address() returns the underlying BIO\_ADDR of the given BIO\_ADDRINFO.

BIO\_ADDRINFO\_next() returns the next BIO\_ADDRINFO in the chain from the given one.

BIO\_ADDRINFO\_free() frees the chain of BIO\_ADDRINFO starting with the given one.

## RETURN VALUES

BIO\_lookup\_ex() and BIO\_lookup() return 1 on success and 0 when an error occurred, and will leave an error indication on the OpenSSL error stack in that case.

All other functions described here return 0 or NULL when the information they should return isn't available.

## NOTES

The BIO\_lookup\_ex() implementation uses the platform provided getaddrinfo() function. On Linux it is known that specifying 0 for the protocol will not return any SCTP based addresses when calling getaddrinfo(). Therefore, if an SCTP address is required then the protocol parameter to BIO\_lookup\_ex() should be explicitly set to

IPPROTO\_SCTP. The same may be true on other platforms.

## HISTORY

The BIO\_lookup\_ex() function was added in OpenSSL 1.1.1.

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