

NAME

BIO_ADDR, BIO_ADDR_new, BIO_ADDR_clear, BIO_ADDR_free, BIO_ADDR_rawmake, BIO_ADDR_family, BIO_ADDR_rawaddress, BIO_ADDR_rawport, BIO_ADDR_hostname_string, BIO_ADDR_service_string, BIO_ADDR_path_string - BIO_ADDR routines

SYNOPSIS

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

typedef union bio_addr_st BIO_ADDR;

BIO_ADDR *BIO_ADDR_new(void);
void BIO_ADDR_free(BIO_ADDR *);
void BIO_ADDR_clear(BIO_ADDR *ap);
int BIO_ADDR_rawmake(BIO_ADDR *ap, int family,
                    const void *where, size_t whereLen, unsigned short port);
int BIO_ADDR_family(const BIO_ADDR *ap);
int BIO_ADDR_rawaddress(const BIO_ADDR *ap, void *p, size_t *l);
unsigned short BIO_ADDR_rawport(const BIO_ADDR *ap);
char *BIO_ADDR_hostname_string(const BIO_ADDR *ap, int numeric);
char *BIO_ADDR_service_string(const BIO_ADDR *ap, int numeric);
char *BIO_ADDR_path_string(const BIO_ADDR *ap);
```

DESCRIPTION

The **BIO_ADDR** type is a wrapper around all types of socket addresses that OpenSSL deals with, currently transparently supporting AF_INET, AF_INET6 and AF_UNIX according to what's available on the platform at hand.

BIO_ADDR_new() creates a new unfilled **BIO_ADDR**, to be used with routines that will fill it with information, such as **BIO_accept_ex()**.

BIO_ADDR_free() frees a **BIO_ADDR** created with **BIO_ADDR_new()**.

BIO_ADDR_clear() clears any data held within the provided **BIO_ADDR** and sets it back to an uninitialised state.

BIO_ADDR_rawmake() takes a protocol **family**, a byte array of size **whereLen** with an address in network byte order pointed at by **where** and a port number in network byte order in **port** (except for the AF_UNIX protocol family, where **port** is meaningless and therefore ignored) and populates the given **BIO_ADDR** with them. In case this creates a **AF_UNIX BIO_ADDR**, **whereLen** is expected to be the

length of the path string (not including the terminating NUL, such as the result of a call to **strlen()**).
Read on about the addresses in "RAW ADDRESSES" below.

BIO_ADDR_family() returns the protocol family of the given **BIO_ADDR**. The possible non-error results are one of the constants **AF_INET**, **AF_INET6** and **AF_UNIX**. It will also return **AF_UNSPEC** if the **BIO_ADDR** has not been initialised.

BIO_ADDR_rawaddress() will write the raw address of the given **BIO_ADDR** in the area pointed at by **p** if **p** is non-NULL, and will set ***l** to be the amount of bytes the raw address takes up if **l** is non-NULL. A technique to only find out the size of the address is a call with **p** set to **NULL**. The raw address will be in network byte order, most significant byte first. In case this is a **AF_UNIX** **BIO_ADDR**, **l** gets the length of the path string (not including the terminating NUL, such as the result of a call to **strlen()**). Read on about the addresses in "RAW ADDRESSES" below.

BIO_ADDR_rawport() returns the raw port of the given **BIO_ADDR**. The raw port will be in network byte order.

BIO_ADDR_hostname_string() returns a character string with the hostname of the given **BIO_ADDR**. If **numeric** is 1, the string will contain the numerical form of the address. This only works for **BIO_ADDR** of the protocol families **AF_INET** and **AF_INET6**. The returned string has been allocated on the heap and must be freed with **OPENSSL_free()**.

BIO_ADDR_service_string() returns a character string with the service name of the port of the given **BIO_ADDR**. If **numeric** is 1, the string will contain the port number. This only works for **BIO_ADDR** of the protocol families **AF_INET** and **AF_INET6**. The returned string has been allocated on the heap and must be freed with **OPENSSL_free()**.

BIO_ADDR_path_string() returns a character string with the path of the given **BIO_ADDR**. This only works for **BIO_ADDR** of the protocol family **AF_UNIX**. The returned string has been allocated on the heap and must be freed with **OPENSSL_free()**.

RAW ADDRESSES

Both **BIO_ADDR_rawmake()** and **BIO_ADDR_rawaddress()** take a pointer to a network byte order address of a specific site. Internally, those are treated as a pointer to **struct in_addr** (for **AF_INET**), **struct in6_addr** (for **AF_INET6**) or **char *** (for **AF_UNIX**), all depending on the protocol family the address is for.

RETURN VALUES

The string producing functions **BIO_ADDR_hostname_string()**, **BIO_ADDR_service_string()** and **BIO_ADDR_path_string()** will return **NULL** on error and leave an error indication on the OpenSSL

error stack.

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

SEE ALSO

BIO_connect(3), **BIO_s_connect(3)**

COPYRIGHT

Copyright 2016-2020 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>.