NAME

BIO_socket_wait, BIO_wait, BIO_do_connect_retry - BIO connection utility functions

SYNOPSIS

    #include <openssl/bio.h>

    #ifndef OPENSSL_NO_SOCK
    int BIO_socket_wait(int fd, int for_read, time_t max_time);
    #endif
    int BIO_wait(BIO *bio, time_t max_time, unsigned int nap_milliseconds);
    int BIO_do_connect_retry(BIO *bio, int timeout, int nap_milliseconds);

DESCRIPTION

BIO_socket_wait() waits on the socket **fd** for reading if **for_read** is not 0, else for writing, at most until **max_time**. It succeeds immediately if **max_time** == 0 (which means no timeout given).

BIO_wait() waits at most until **max_time** on the given (typically socket-based) **bio**, for reading if **bio** is supposed to read, else for writing. It is used by **BIO_do_connect_retry()** and can be used together **BIO_read**(3). It succeeds immediately if **max_time** == 0 (which means no timeout given). If sockets are not available it supports polling by succeeding after sleeping at most the given **nap_milliseconds** in order to avoid a tight busy loop. Via **nap_milliseconds** the caller determines the polling granularity.

BIO_do_connect_retry() connects via the given **bio**. It retries **BIO_do_connect()** as far as needed to reach a definite outcome, i.e., connection succeeded, timeout has been reached, or an error occurred. For nonblocking and potentially even non-socket BIOs it polls every **nap_milliseconds** and sleeps in between using **BIO_wait()**. If **nap_milliseconds** is < 0 then a default value of 100 ms is used. If the **timeout** parameter is > 0 this indicates the maximum number of seconds to wait until the connection is established or a definite error occurred. A value of 0 enables waiting indefinitely (i.e, no timeout), while a value < 0 means that **BIO_do_connect()** is tried only once. The function may, directly or indirectly, invoke **ERR_clear_error()**.

RETURN VALUES

BIO_socket_wait(), **BIO_wait()**, and **BIO_do_connect_retry()** return -1 on error, 0 on timeout, and 1 on success.

SEE ALSO

BIO_do_connect(3), **BIO_read**(3)

HISTORY

BIO_socket_wait(), **BIO_wait()**, and **BIO_do_connect_retry()** were added in OpenSSL 3.0.

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