#### **NAME**

SSL\_CTX\_set\_read\_ahead, SSL\_CTX\_get\_read\_ahead, SSL\_set\_read\_ahead, SSL\_get\_read\_ahead, SSL\_CTX\_get\_default\_read\_ahead - manage whether to read as many input bytes as possible

#### **SYNOPSIS**

```
#include <openssl/ssl.h>
void SSL_set_read_ahead(SSL *s, int yes);
int SSL_get_read_ahead(const SSL *s);

SSL_CTX_set_read_ahead(SSL_CTX *ctx, int yes);
long SSL_CTX_get_read_ahead(SSL_CTX *ctx);
long SSL_CTX get_default_read_ahead(SSL_CTX *ctx);
```

### DESCRIPTION

SSL\_CTX\_set\_read\_ahead() and SSL\_set\_read\_ahead() set whether we should read as many input bytes as possible (for nonblocking reads) or not. For example if  $\mathbf{x}$  bytes are currently required by OpenSSL, but  $\mathbf{y}$  bytes are available from the underlying BIO (where  $\mathbf{y} > \mathbf{x}$ ), then OpenSSL will read all  $\mathbf{y}$  bytes into its buffer (providing that the buffer is large enough) if reading ahead is on, or  $\mathbf{x}$  bytes otherwise. Setting the parameter  $\mathbf{yes}$  to 0 turns reading ahead is off, other values turn it on. SSL CTX set default read ahead() is identical to SSL CTX set read ahead().

SSL\_CTX\_get\_read\_ahead() and SSL\_get\_read\_ahead() indicate whether reading ahead has been set or not. SSL\_CTX\_get\_default\_read\_ahead() is identical to SSL\_CTX\_get\_read\_ahead().

# **NOTES**

These functions have no impact when used with DTLS. The return values for SSL\_CTX\_get\_read\_head() and SSL\_get\_read\_ahead() are undefined for DTLS. Setting read\_ahead can impact the behaviour of the SSL\_pending() function (see SSL\_pending(3)).

Since SSL\_read() can return SSL\_ERROR\_WANT\_READ for non-application data records, and SSL\_has\_pending() can't tell the difference between processed and unprocessed data, it's recommended that if read ahead is turned on that SSL\_MODE\_AUTO\_RETRY is not turned off using SSL\_CTX\_clear\_mode(). That will prevent getting SSL\_ERROR\_WANT\_READ when there is still a complete record available that hasn't been processed.

If the application wants to continue to use the underlying transport (e.g. TCP connection) after the SSL connection is finished using **SSL\_shutdown()** reading ahead should be turned off. Otherwise the SSL structure might read data that it shouldn't.

# **RETURN VALUES**

**SSL\_get\_read\_ahead()** and **SSL\_CTX\_get\_read\_ahead()** return 0 if reading ahead is off, and non zero otherwise.

### **SEE ALSO**

ssl(7), SSL\_pending(3)

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