

**NAME**

SSL\_CTX\_set\_stateless\_cookie\_generate\_cb, SSL\_CTX\_set\_stateless\_cookie\_verify\_cb, SSL\_CTX\_set\_cookie\_generate\_cb, SSL\_CTX\_set\_cookie\_verify\_cb - Callback functions for stateless TLS1.3 cookies

**SYNOPSIS**

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

```
void SSL_CTX_set_stateless_cookie_generate_cb(
    SSL_CTX *ctx,
    int (*gen_stateless_cookie_cb) (SSL *ssl,
        unsigned char *cookie,
        size_t *cookie_len));
```

```
void SSL_CTX_set_stateless_cookie_verify_cb(
    SSL_CTX *ctx,
    int (*verify_stateless_cookie_cb) (SSL *ssl,
        const unsigned char *cookie,
        size_t cookie_len));
```

```
void SSL_CTX_set_cookie_generate_cb(SSL_CTX *ctx,
    int (*app_gen_cookie_cb) (SSL *ssl,
        unsigned char
        *cookie,
        unsigned int
        *cookie_len));
```

```
void SSL_CTX_set_cookie_verify_cb(SSL_CTX *ctx,
    int (*app_verify_cookie_cb) (SSL *ssl,
        const unsigned
        char *cookie,
        unsigned int
        cookie_len));
```

**DESCRIPTION**

**SSL\_CTX\_set\_stateless\_cookie\_generate\_cb()** sets the callback used by **SSL\_stateless(3)** to generate the application-controlled portion of the cookie provided to clients in the HelloRetryRequest transmitted as a response to a ClientHello with a missing or invalid cookie. **gen\_stateless\_cookie\_cb()** must write at most **SSL\_COOKIE\_LENGTH** bytes into **cookie**, and must write the number of bytes written to **cookie\_len**. If a cookie cannot be generated, a zero return value can be used to abort the handshake.

**SSL\_CTX\_set\_stateless\_cookie\_verify\_cb()** sets the callback used by **SSL\_stateless(3)** to determine whether the application-controlled portion of a ClientHello cookie is valid. The cookie data is pointed to by **cookie** and is of length **cookie\_len**. A nonzero return value from **verify\_stateless\_cookie\_cb()** communicates that the cookie is valid. The integrity of the entire cookie, including the application-controlled portion, is automatically verified by HMAC before **verify\_stateless\_cookie\_cb()** is called.

**SSL\_CTX\_set\_cookie\_generate\_cb()** sets the callback used by **DTLSv1\_listen(3)** to generate the cookie provided to clients in the HelloVerifyRequest transmitted as a response to a ClientHello with a missing or invalid cookie. **app\_gen\_cookie\_cb()** must write at most **DTLS1\_COOKIE\_LENGTH** bytes into **cookie**, and must write the number of bytes written to **cookie\_len**. If a cookie cannot be generated, a zero return value can be used to abort the handshake.

**SSL\_CTX\_set\_cookie\_verify\_cb()** sets the callback used by **DTLSv1\_listen(3)** to determine whether the cookie in a ClientHello is valid. The cookie data is pointed to by **cookie** and is of length **cookie\_len**. A nonzero return value from **app\_verify\_cookie\_cb()** communicates that the cookie is valid. The integrity of the cookie is not verified by OpenSSL. This is an application responsibility.

## RETURN VALUES

Neither function returns a value.

## SEE ALSO

**ssl(7)**, **SSL\_stateless(3)**, **DTLSv1\_listen(3)**

## HISTORY

**SSL\_CTX\_set\_stateless\_cookie\_generate\_cb()** and **SSL\_CTX\_set\_stateless\_cookie\_verify\_cb()** were added in OpenSSL 1.1.1.

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