

NAME

`EVP_CIPHER_CTX_get_original_iv`, `EVP_CIPHER_CTX_get_updated_iv`, `EVP_CIPHER_CTX_iv`,
`EVP_CIPHER_CTX_original_iv`, `EVP_CIPHER_CTX_iv_noconst` – Routines to inspect
`EVP_CIPHER_CTX` IV data

SYNOPSIS

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

```
int EVP_CIPHER_CTX_get_original_iv(EVP_CIPHER_CTX *ctx, void *buf, size_t len);  
int EVP_CIPHER_CTX_get_updated_iv(EVP_CIPHER_CTX *ctx, void *buf, size_t len);
```

The following functions have been deprecated since OpenSSL 3.0, and can be hidden entirely by defining **OPENSSL_API_COMPAT** with a suitable version value, see **openssl_user_macros** (7):

```
const unsigned char *EVP_CIPHER_CTX_iv(const EVP_CIPHER_CTX *ctx);  
const unsigned char *EVP_CIPHER_CTX_original_iv(const EVP_CIPHER_CTX *ctx);  
unsigned char *EVP_CIPHER_CTX_iv_noconst(EVP_CIPHER_CTX *ctx);
```

DESCRIPTION

`EVP_CIPHER_CTX_get_original_iv()` and **`EVP_CIPHER_CTX_get_updated_iv()`** copy initialization vector (IV) information from the **`EVP_CIPHER_CTX`** into the caller-supplied buffer. **`EVP_CIPHER_CTX_get_iv_length(3)`** can be used to determine an appropriate buffer size, and if the supplied buffer is too small, an error will be returned (and no data copied). **`EVP_CIPHER_CTX_get_original_iv()`** accesses the ("original") IV that was supplied when the **`EVP_CIPHER_CTX`** was initialized, and **`EVP_CIPHER_CTX_get_updated_iv()`** accesses the current "IV state" of the cipher, which is updated during cipher operation for certain cipher modes (e.g., CBC and OFB).

The functions **`EVP_CIPHER_CTX_iv()`**, **`EVP_CIPHER_CTX_original_iv()`**, and **`EVP_CIPHER_CTX_iv_noconst()`** are deprecated functions that provide similar (at a conceptual level) functionality. **`EVP_CIPHER_CTX_iv()`** returns a pointer to the beginning of the "IV state" as maintained internally in the **`EVP_CIPHER_CTX`**; **`EVP_CIPHER_CTX_original_iv()`** returns a pointer to the beginning of the ("original") IV, as maintained by the **`EVP_CIPHER_CTX`**, that was provided when the **`EVP_CIPHER_CTX`** was initialized; and **`EVP_CIPHER_CTX_get_iv_noconst()`** is the same as **`EVP_CIPHER_CTX_iv()`** but has a different return type for the pointer.

RETURN VALUES

`EVP_CIPHER_CTX_get_original_iv()` and **`EVP_CIPHER_CTX_get_updated_iv()`** return 1 on success and 0 on failure.

The functions **`EVP_CIPHER_CTX_iv()`**, **`EVP_CIPHER_CTX_original_iv()`**, and **`EVP_CIPHER_CTX_iv_noconst()`** return a pointer to an IV as an array of bytes on success, and NULL on failure.

HISTORY

`EVP_CIPHER_CTX_get_original_iv()` and **`EVP_CIPHER_CTX_get_updated_iv()`** were added in OpenSSL 3.0.0.

`EVP_CIPHER_CTX_iv()`, **`EVP_CIPHER_CTX_original_iv()`**, and **`EVP_CIPHER_CTX_iv_noconst()`** were added in OpenSSL 1.1.0, and were deprecated in OpenSSL 3.0.0.

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