

**NAME**

BIO\_new\_CMS - CMS streaming filter BIO

**SYNOPSIS**

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

```
BIO *BIO_new_CMS(BIO *out, CMS_ContentInfo *cms);
```

**DESCRIPTION**

**BIO\_new\_CMS()** returns a streaming filter BIO chain based on **cms**. The output of the filter is written to **out**. Any data written to the chain is automatically translated to a BER format CMS structure of the appropriate type.

**NOTES**

The chain returned by this function behaves like a standard filter BIO. It supports non blocking I/O. Content is processed and streamed on the fly and not all held in memory at once: so it is possible to encode very large structures. After all content has been written through the chain **BIO\_flush()** must be called to finalise the structure.

The **CMS\_STREAM** flag must be included in the corresponding **flags** parameter of the **cms** creation function.

If an application wishes to write additional data to **out** BIOs should be removed from the chain using **BIO\_pop()** and freed with **BIO\_free()** until **out** is reached. If no additional data needs to be written **BIO\_free\_all()** can be called to free up the whole chain.

Any content written through the filter is used verbatim: no canonical translation is performed.

It is possible to chain multiple BIOs to, for example, create a triple wrapped signed, enveloped, signed structure. In this case it is the applications responsibility to set the inner content type of any outer CMS\_ContentInfo structures.

Large numbers of small writes through the chain should be avoided as this will produce an output consisting of lots of OCTET STRING structures. Prepending a **BIO\_f\_buffer()** buffering BIO will prevent this.

**BUGS**

There is currently no corresponding inverse BIO: i.e. one which can decode a CMS structure on the fly.

**RETURN VALUES**

**BIO\_new\_CMS()** returns a BIO chain when successful or NULL if an error occurred. The error can be obtained from **ERR\_get\_error(3)**.

#### SEE ALSO

**ERR\_get\_error(3)**, **CMS\_sign(3)**, **CMS\_encrypt(3)**

#### HISTORY

The **BIO\_new\_CMS()** function was added in OpenSSL 1.0.0.

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