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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'CMS\_add1\_recipient.3oss1' command**

**\$ man CMS\_add1\_recipient.3oss1**

CMS\_ADD1\_RECIPIENT\_CERT(3oss1) OpenSSL CMS\_ADD1\_RECIPIENT\_CERT(3oss1)

### NAME

CMS\_add1\_recipient, CMS\_add1\_recipient\_cert, CMS\_add0\_recipient\_key -  
add recipients to a CMS enveloped data structure

### SYNOPSIS

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

```
CMS_RecipientInfo *CMS_add1_recipient(CMS_ContentInfo *cms, X509 *recip,  
EVP_PKEY *originatorPrivKey,  
X509 *originator, unsigned int flags);
```

```
CMS_RecipientInfo *CMS_add1_recipient_cert(CMS_ContentInfo *cms,  
X509 *recip, unsigned int flags);
```

```
CMS_RecipientInfo *CMS_add0_recipient_key(CMS_ContentInfo *cms, int nid,  
unsigned char *key, size_t keylen,  
unsigned char *id, size_t idlen,  
ASN1_GENERALIZEDTIME *date,  
ASN1_OBJECT *otherTypeid,  
ASN1_TYPE *otherType);
```

## DESCRIPTION

`CMS_add1_recipient()` adds recipient `recip` and provides the originator `pkey` originatorPrivKey and originator certificate `originator` to `CMS_ContentInfo`. The originator-related fields are relevant only in case when the `keyAgreement` method of providing of the shared key is in use.

`CMS_add1_recipient_cert()` adds recipient `recip` to `CMS_ContentInfo` enveloped data structure `cms` as a `KeyTransRecipientInfo` structure.

`CMS_add0_recipient_key()` adds symmetric key `key` of length `keylen` using wrapping algorithm `nid`, identifier `id` of length `idlen` and optional values `date`, `otherTypeid` and `otherType` to `CMS_ContentInfo` enveloped data structure `cms` as a `KEKRecipientInfo` structure.

The `CMS_ContentInfo` structure should be obtained from an initial call to `CMS_encrypt()` with the flag `CMS_PARTIAL` set.

## NOTES

The main purpose of this function is to provide finer control over a CMS enveloped data structure where the simpler `CMS_encrypt()` function defaults are not appropriate. For example if one or more `KEKRecipientInfo` structures need to be added. New attributes can also be added using the returned `CMS_RecipientInfo` structure and the CMS attribute utility functions.

OpenSSL will by default identify recipient certificates using issuer name and serial number. If `CMS_USE_KEYID` is set it will use the subject key identifier value instead. An error occurs if all recipient certificates do not have a subject key identifier extension.

Currently only AES based key wrapping algorithms are supported for `nid`, specifically: `NID_id_aes128_wrap`, `NID_id_aes192_wrap` and

NID\_id\_aes256\_wrap. If nid is set to NID\_undef then an AES wrap algorithm will be used consistent with keylen.

## RETURN VALUES

CMS\_add1\_recipient\_cert() and CMS\_add0\_recipient\_key() return an internal pointer to the CMS\_RecipientInfo structure just added or NULL if an error occurs.

## SEE ALSO

ERR\_get\_error(3), CMS\_decrypt(3), CMS\_final(3),

## HISTORY

CMS\_add1\_recipient\_cert and CMS\_add0\_recipient\_key were added in OpenSSL 3.0.

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3.0.7                    2023-07-13   CMS\_ADD1\_RECIPIENT\_CERT(3openssl)