

**NAME**

RSA\_sign, RSA\_verify - RSA signatures

**SYNOPSIS**

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

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)**:

```
int RSA_sign(int type, const unsigned char *m, unsigned int m_len,  
             unsigned char *sigret, unsigned int *siglen, RSA *rsa);
```

```
int RSA_verify(int type, const unsigned char *m, unsigned int m_len,  
              unsigned char *sigbuf, unsigned int siglen, RSA *rsa);
```

**DESCRIPTION**

All of the functions described on this page are deprecated. Applications should instead use **EVP\_PKEY\_sign\_init(3)**, **EVP\_PKEY\_sign(3)**, **EVP\_PKEY\_verify\_init(3)** and **EVP\_PKEY\_verify(3)**.

**RSA\_sign()** signs the message digest **m** of size **m\_len** using the private key **rsa** using RSASSA-PKCS1-v1\_5 as specified in RFC 3447. It stores the signature in **sigret** and the signature size in **siglen**. **sigret** must point to **RSA\_size(rsa)** bytes of memory. Note that PKCS #1 adds meta-data, placing limits on the size of the key that can be used. See **RSA\_private\_encrypt(3)** for lower-level operations.

**type** denotes the message digest algorithm that was used to generate **m**. If **type** is **NID\_md5\_sha1**, an SSL signature (MD5 and SHA1 message digests with PKCS #1 padding and no algorithm identifier) is created.

**RSA\_verify()** verifies that the signature **sigbuf** of size **siglen** matches a given message digest **m** of size **m\_len**. **type** denotes the message digest algorithm that was used to generate the signature. **rsa** is the signer's public key.

**RETURN VALUES**

**RSA\_sign()** returns 1 on success and 0 for failure. **RSA\_verify()** returns 1 on successful verification and 0 for failure.

The error codes can be obtained by **ERR\_get\_error(3)**.

**CONFORMING TO**

SSL, PKCS #1 v2.0

**SEE ALSO**

**ERR\_get\_error(3)**, **RSA\_private\_encrypt(3)**, **RSA\_public\_decrypt(3)**

**HISTORY**

All of these functions were deprecated in OpenSSL 3.0.

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