

**NAME**

RSA\_size, RSA\_bits, RSA\_security\_bits - get RSA modulus size or security bits

**SYNOPSIS**

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

```
int RSA_bits(const RSA *rsa);
```

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_size(const RSA *rsa);
```

```
int RSA_security_bits(const RSA *rsa);
```

**DESCRIPTION**

**RSA\_bits()** returns the number of significant bits.

**rsa** and **rsa->n** must not be **NULL**.

The remaining functions described on this page are deprecated. Applications should instead use **EVP\_PKEY\_get\_size(3)**, **EVP\_PKEY\_get\_bits(3)** and **EVP\_PKEY\_get\_security\_bits(3)**.

**RSA\_size()** returns the RSA modulus size in bytes. It can be used to determine how much memory must be allocated for an RSA encrypted value.

**RSA\_security\_bits()** returns the number of security bits of the given **rsa** key. See **BN\_security\_bits(3)**.

**RETURN VALUES**

**RSA\_bits()** returns the number of bits in the key.

**RSA\_size()** returns the size of modulus in bytes.

**RSA\_security\_bits()** returns the number of security bits.

**SEE ALSO**

**BN\_num\_bits(3)**

**HISTORY**

The **RSA\_size()** and **RSA\_security\_bits()** functions were deprecated in OpenSSL 3.0.

The **RSA\_bits()** function was added in OpenSSL 1.1.0.

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