

**NAME**

EVP\_PKEY\_print\_public, EVP\_PKEY\_print\_private, EVP\_PKEY\_print\_params,  
EVP\_PKEY\_print\_public\_fp, EVP\_PKEY\_print\_private\_fp, EVP\_PKEY\_print\_params\_fp - public  
key algorithm printing routines

**SYNOPSIS**

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

int EVP_PKEY_print_public(BIO *out, const EVP_PKEY *pkey,
                          int indent, ASN1_PCTX *pctx);
int EVP_PKEY_print_public_fp(FILE *fp, const EVP_PKEY *pkey,
                              int indent, ASN1_PCTX *pctx);
int EVP_PKEY_print_private(BIO *out, const EVP_PKEY *pkey,
                            int indent, ASN1_PCTX *pctx);
int EVP_PKEY_print_private_fp(FILE *fp, const EVP_PKEY *pkey,
                               int indent, ASN1_PCTX *pctx);
int EVP_PKEY_print_params(BIO *out, const EVP_PKEY *pkey,
                           int indent, ASN1_PCTX *pctx);
int EVP_PKEY_print_params_fp(FILE *fp, const EVP_PKEY *pkey,
                              int indent, ASN1_PCTX *pctx);
```

**DESCRIPTION**

The functions **EVP\_PKEY\_print\_public()**, **EVP\_PKEY\_print\_private()** and **EVP\_PKEY\_print\_params()** print out the public, private or parameter components of key *pkey* respectively. The key is sent to **BIO** *out* in human readable form. The parameter *indent* indicates how far the printout should be indented.

The *pctx* parameter allows the print output to be finely tuned by using ASN1 printing options. If *pctx* is set to NULL then default values will be used.

The functions **EVP\_PKEY\_print\_public\_fp()**, **EVP\_PKEY\_print\_private\_fp()** and **EVP\_PKEY\_print\_params\_fp()** do the same as the **BIO** based functions but use **FILE** *fp* instead.

**NOTES**

Currently no public key algorithms include any options in the *pctx* parameter.

If the key does not include all the components indicated by the function then only those contained in the key will be printed. For example passing a public key to **EVP\_PKEY\_print\_private()** will only print the public components.

**RETURN VALUES**

These functions all return 1 for success and 0 or a negative value for failure. In particular a return value of -2 indicates the operation is not supported by the public key algorithm.

**SEE ALSO**

**EVP\_PKEY\_CTX\_new(3)**, **EVP\_PKEY\_keygen(3)**

**HISTORY**

The functions **EVP\_PKEY\_print\_public()**, **EVP\_PKEY\_print\_private()**, and **EVP\_PKEY\_print\_params()** were added in OpenSSL 1.0.0.

The functions **EVP\_PKEY\_print\_public\_fp()**, **EVP\_PKEY\_print\_private\_fp()**, and **EVP\_PKEY\_print\_params\_fp()** were added in OpenSSL 3.0.

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