NAME

EVP_PKEY_set1_RSA, EVP_PKEY_set1_DSA, EVP_PKEY_set1_DH, EVP_PKEY_set1_EC_KEY, EVP_PKEY_get1_RSA, EVP_PKEY_get1_DSA, EVP_PKEY_get1_DH, EVP_PKEY_get1_EC_KEY, EVP_PKEY_assign_RSA, EVP_PKEY_assign_DSA, EVP_PKEY_assign_DH, EVP_PKEY_assign_EC_KEY, EVP_PKEY_type - EVP_PKEY assignment functions.

SYNOPSIS

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

int EVP_PKEY_set1_RSA(EVP_PKEY *pkey,RSA *key);
int EVP_PKEY_set1_DSA(EVP_PKEY *pkey,DSA *key);
int EVP_PKEY_set1_DH(EVP_PKEY *pkey,DH *key);
int EVP_PKEY_set1_EC_KEY(EVP_PKEY *pkey,EC_KEY *key);

RSA *EVP_PKEY_get1_RSA(EVP_PKEY *pkey);
DSA *EVP_PKEY_get1_DSA(EVP_PKEY *pkey);
DH *EVP_PKEY_get1_DH(EVP_PKEY *pkey);
EC_KEY *EVP_PKEY_get1_EC_KEY(EVP_PKEY *pkey);

int EVP_PKEY_assign_RSA(EVP_PKEY *pkey,RSA *key);
int EVP_PKEY_assign_DSA(EVP_PKEY *pkey,DSA *key);
int EVP_PKEY_assign_DH(EVP_PKEY *pkey,DH *key);
int EVP_PKEY_assign_EC_KEY(EVP_PKEY *pkey,EC_KEY *key);

int EVP_PKEY_type(int type);
```

DESCRIPTION

EVP_PKEY_set1_RSA(), *EVP_PKEY_set1_DSA()*, *EVP_PKEY_set1_DH()* and *EVP_PKEY_set1_EC_KEY()* set the key referenced by **pkey** to **key**.

EVP_PKEY_get1_RSA(), *EVP_PKEY_get1_DSA()*, *EVP_PKEY_get1_DH()* and *EVP_PKEY_get1_EC_KEY()* return the referenced key in **pkey** or **NULL** if the key is not of the correct type.

EVP_PKEY_assign_RSA(), *EVP_PKEY_assign_DSA()*, *EVP_PKEY_assign_DH()* and *EVP_PKEY_assign_EC_KEY()* also set the referenced key to **key** however these use the supplied **key** internally and so **key** will be freed when the parent **pkey** is freed.

EVP_PKEY_type() returns the type of key corresponding to the value **type**. The type of a key can be obtained with EVP_PKEY_type(pkey->type). The return value will be EVP_PKEY_RSA, EVP_PKEY_DSA, EVP_PKEY_DH or EVP_PKEY_EC for the corresponding key types or NID_undef if the key type is unassigned.

NOTES

In accordance with the OpenSSL naming convention the key obtained from or assigned to the **pkey** using the **1** functions must be freed as well as **pkey**.

EVP_PKEY_assign_RSA(), *EVP_PKEY_assign_DSA()*, *EVP_PKEY_assign_DH()* and *EVP_PKEY_assign_EC_KEY()* are implemented as macros.

RETURN VALUES

EVP_PKEY_set1_RSA(), *EVP_PKEY_set1_DSA()*, *EVP_PKEY_set1_DH()* and *EVP_PKEY_set1_EC_KEY()* return 1 for success or 0 for failure.

EVP_PKEY_get1_RSA(), *EVP_PKEY_get1_DSA()*, *EVP_PKEY_get1_DH()* and *EVP_PKEY_get1_EC_KEY()* return the referenced key or **NULL** if an error occurred.

EVP_PKEY_assign_RSA(), *EVP_PKEY_assign_DSA()*, *EVP_PKEY_assign_DH()* and *EVP_PKEY_assign_EC_KEY()* return 1 for success and 0 for failure.

SEE ALSO

EVP_PKEY_new(3)

HISTORY

TBA