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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'des_crypt.3' command

$ man des_crypt.3

DES_CRYPT(3) Linux Programmer's Manual DES_CRYPT(3)

NAME

des_crypt, ecb_crypt, cbc_crypt, des_setparity, DES_FAILED - fast DES encryption

SYNOPSIS

```
#include <rpc/des_crypt.h>
int ecb_crypt(char *key, char *data, unsigned datalen,
        unsigned mode);
int cbc_crypt(char *key, char *data, unsigned datalen,
        unsigned mode, char *ivec);
void des_setparity(char *key);
int DES_FAILED(int status);
```

DESCRIPTION

ecb_crypt() and cbc_crypt() implement the NBS DES (Data Encryption Standard). These routines are faster and more general purpose than crypt(3). They also are able to utilize DES hardware if it is avail? able. ecb_crypt() encrypts in ECB (Electronic Code Book) mode, which encrypts blocks of data independently. cbc_crypt() encrypts in CBC (Cipher Block Chaining) mode, which chains together successive blocks. CBC mode protects against insertions, deletions and substitutions of blocks. Also, regularities in the clear text will not appear in the cipher text.

Here is how to use these routines. The first argument, key, is the

8-byte encryption key with parity. To set the key's parity, which for DES is in the low bit of each byte, use des_setparity(). The second argument, data, contains the data to be encrypted or decrypted. The third argument, datalen, is the length in bytes of data, which must be a multiple of 8. The fourth argument, mode, is formed by ORing to? gether some things. For the encryption direction OR in either DES_EN? CRYPT or DES_DECRYPT. For software versus hardware encryption, OR in either DES_HW or DES_SW. If DES_HW is specified, and there is no hard? ware, then the encryption is performed in software and the routine re? turns DESERR_NOHWDEVICE. For cbc_crypt(), the argument ivec is the 8-byte initialization vector for the chaining. It is updated to the next initialization vector upon return.

RETURN VALUE

DESERR_NONE

No error.

DESERR_NOHWDEVICE

Encryption succeeded, but done in software instead of the re? quested hardware.

DESERR_HWERROR

An error occurred in the hardware or driver.

DESERR_BADPARAM

Bad argument to routine.

Given a result status stat, the macro DES_FAILED(stat) is false only for the first two statuses.

VERSIONS

These functions were added to glibc in version 2.1.

Because they employ the DES block cipher, which is no longer considered secure, ecb_crypt(), ecb_crypt(), crypt_r(), and des_setparity() were removed in glibc 2.28. Applications should switch to a modern cryptog? raphy library, such as libgcrypt.

ATTRIBUTES

For an explanation of the terms used in this section, see at? tributes(7).

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?Interface ? Attribute ? Value ?

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?ecb_crypt(), cbc_crypt(), ? Thread safety ? MT-Safe ?

?des_setparity() ? ? ?

??

CONFORMING TO

4.3BSD. Not in POSIX.1.

SEE ALSO

des(1), crypt(3), xcrypt(3)

COLOPHON

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