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## *Red Hat Enterprise Linux Release 9.2 Manual Pages on 'EVP_RAND-CTR-DRBG.7ossl' command*

***$ man EVP_RAND-CTR-DRBG.7ossl***

EVP_RAND-CTR-DRBG(7ossl) OpenSSL EVP_RAND-CTR-DRBG(7ossl)

NAME

EVP_RAND-CTR-DRBG - The CTR DRBG EVP_RAND implementation

DESCRIPTION

Support for the counter deterministic random bit generator through the

EVP_RAND API.

Identity

"CTR-DRBG" is the name for this implementation; it can be used with the

EVP_RAND_fetch() function.

Supported parameters

The supported parameters are:

"state" (OSSL_RAND_PARAM_STATE) <integer>

"strength" (OSSL_RAND_PARAM_STRENGTH) <unsigned integer>

"max_request" (OSSL_RAND_PARAM_MAX_REQUEST) <unsigned integer>

"reseed_requests" (OSSL_DRBG_PARAM_RESEED_REQUESTS) <unsigned integer>

"reseed_time_interval" (OSSL_DRBG_PARAM_RESEED_TIME_INTERVAL) <integer>

"min_entropylen" (OSSL_DRBG_PARAM_MIN_ENTROPYLEN) <unsigned integer>

"max_entropylen" (OSSL_DRBG_PARAM_MAX_ENTROPYLEN) <unsigned integer>

"min_noncelen" (OSSL_DRBG_PARAM_MIN_NONCELEN) <unsigned integer>

"max_noncelen" (OSSL_DRBG_PARAM_MAX_NONCELEN) <unsigned integer>

"max_perslen" (OSSL_DRBG_PARAM_MAX_PERSLEN) <unsigned integer>

"max_adinlen" (OSSL_DRBG_PARAM_MAX_ADINLEN) <unsigned integer>

"reseed_counter" (OSSL_DRBG_PARAM_RESEED_COUNTER) <unsigned integer>

"properties" (OSSL_DRBG_PARAM_PROPERTIES) <UTF8 string>

"cipher" (OSSL_DRBG_PARAM_CIPHER) <UTF8 string>

These parameters work as described in "PARAMETERS" in EVP_RAND(3).

"use_derivation_function" (OSSL_DRBG_PARAM_USE_DF) <integer>

This Boolean indicates if a derivation function should be used or not. A nonzero value (the default) uses the derivation function. A zero value does not.

## NOTES

A context for CTR DRBG can be obtained by calling:

```
EVP_RAND *rand = EVP_RAND_fetch(NULL, "CTR-DRBG", NULL);
EVP_RAND_CTX *rctx = EVP_RAND_CTX_new(rand);
```

## EXAMPLES

```
EVP_RAND *rand;
EVP_RAND_CTX *rctx;
unsigned char bytes[100];
OSSL_PARAM params[2], *p = params;
unsigned int strength = 128;

rand = EVP_RAND_fetch(NULL, "CTR-DRBG", NULL);
rctx = EVP_RAND_CTX_new(rand, NULL);
EVP_RAND_free(rand);

*p++ = OSSL_PARAM_construct_utf8_string(OSSL_DRBG_PARAM_CIPHER,
                                        SN_aes_256_ctr, 0);
```

```
*p = OSSL_PARAM_construct_end();
EVP_RAND_instantiate(rctx, strength, 0, NULL, 0, params);

EVP_RAND_generate(rctx, bytes, sizeof(bytes), strength, 0, NULL, 0);

EVP_RAND_CTX_free(rctx);
```

## CONFORMING TO

NIST SP 800-90A and SP 800-90B

## SEE ALSO

EVP_RAND(3), "PARAMETERS" in EVP_RAND(3)

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