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### ***Rocky Enterprise Linux 9.2 Manual Pages on command 'EVP RAND-CTR-DRBG.7ossl'***

***\$ 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\_DRBG\_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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3.0.7                    2023-07-13            EVP RAND-CTR-DRBG(7ossl)