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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'X509_time_adj.3ossl' command

$ man X509_time_adj.3ossl

X509_CMP_TIME(3ossl) OpenSSL X509_CMP_TIME(3ossl)

NAME

X509_cmp_time, X509_cmp_current_time, X509_cmp_timeframe,

X509_time_adj, X509_time_adj_ex, X509_gmtime_adj - X509 time functions

SYNOPSIS

```
int X509_cmp_time(const ASN1_TIME *asn1_time, time_t *in_tm);
int X509_cmp_current_time(const ASN1_TIME *asn1_time);
int X509_cmp_timeframe(const X509_VERIFY_PARAM *vpm,
                       const ASN1_TIME *start, const ASN1_TIME *end);
ASN1_TIME *X509_time_adj(ASN1_TIME *asn1_time, long offset_sec, time_t *in_tm);
ASN1_TIME *X509_time_adj_ex(ASN1_TIME *asn1_time, int offset_day, long
                            offset_sec, time_t *in_tm);
ASN1_TIME *X509_gmtime_adj(ASN1_TIME *asn1_time, long offset_sec);
```

DESCRIPTION

X509_cmp_time() compares the ASN1_TIME in asn1_time with the time in <in_tm>.

X509_cmp_current_time() compares the ASN1_TIME in asn1_time with the current time, expressed as time_t.

X509_cmp_timeframe() compares the given time period with the reference time included in the verification parameters vpm if they are not NULL and contain X509_V_FLAG_USE_CHECK_TIME; else the current time is used as reference time.

X509_time_adj_ex() sets the ASN1_TIME structure asn1_time to the time

offset_day and offset_sec after in_tm.

X509_time_adj() sets the ASN1_TIME structure asn1_time to the time offset_sec after in_tm. This method can only handle second offsets up to the capacity of long, so the newer X509_time_adj_ex() API should be preferred.

In both methods, if asn1_time is NULL, a new ASN1_TIME structure is allocated and returned.

In all methods, if in_tm is NULL, the current time, expressed as time_t, is used.

asn1_time must satisfy the ASN1_TIME format mandated by RFC 5280, i.e., its format must be either YYMMDDHHMMSSZ or YYYYMMDDHHMMSSZ.

X509_gmtime_adj() sets the ASN1_TIME structure asn1_time to the time offset_sec after the current time. It is equivalent to calling X509_time_adj() with the last parameter as NULL.

BUGS

Unlike many standard comparison functions, X509_cmp_time() and X509_cmp_current_time() return 0 on error.

RETURN VALUES

X509_cmp_time() and X509_cmp_current_time() return -1 if asn1_time is earlier than, or equal to, in_tm (resp. current time), and 1 otherwise.

These methods return 0 on error.

X509_cmp_timeframe() returns 0 if vpm is not NULL and the verification parameters do not contain X509_V_FLAG_USE_CHECK_TIME but do contain X509_V_FLAG_NO_CHECK_TIME. Otherwise it returns 1 if the end time is not NULL and the reference time (which has determined as stated above) is past the end time, -1 if the start time is not NULL and the reference time is before, else 0 to indicate that the reference time is in range (implying that the end time is not before the start time if both are present).

X509_time_adj(), X509_time_adj_ex() and X509_gmtime_adj() return a pointer to the updated ASN1_TIME structure, and NULL on error.

HISTORY

X509_cmp_timeframe() was added in OpenSSL 3.0.

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