



Rocky Enterprise Linux 9.2 Manual Pages on command 'ntp_gettimex.3'

\$ man ntp_gettimex.3

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

NAME

ntp_gettime, ntp_gettimex - get time parameters (NTP daemon interface)

SYNOPSIS

```
#include <sys/timex.h>

int ntp_gettime(struct ntptimeval *ntv);

int ntp_gettimex(struct ntptimeval *ntv);
```

DESCRIPTION

Both of these APIs return information to the caller via the ntv argument, a structure of the following type:

```
struct ntptimeval {
    struct timeval time; /* Current time */
    long maxerror; /* Maximum error */
    long esterror; /* Estimated error */
    long tai; /* TAI offset */
    /* Further padding bytes allowing for future expansion */
};
```

The fields of this structure are as follows:

time The current time, expressed as a timeval structure:

```
struct timeval {
    time_t    tv_sec; /* Seconds since the Epoch */
    suseconds_t tv_usec; /* Microseconds */
};
```

maxerror

Maximum error, in microseconds. This value can be initialized by `ntp_adjtime(3)`, and is increased periodically (on Linux: each second), but is clamped to an upper limit (the kernel constant `NTP_PHASE_MAX`, with a value of 16,000).

esterror

Estimated error, in microseconds. This value can be set via `ntp_adjtime(3)` to contain an estimate of the difference between the system clock and the true time. This value is not used inside the kernel.

tai TAI (Atomic International Time) offset.

`ntp_gettime()` returns an `ntptimeval` structure in which the time, maxerror, and esterror fields are filled in.

`ntp_gettimex()` performs the same task as `ntp_gettime()`, but also returns information in the tai field.

RETURN VALUE

The return values for `ntp_gettime()` and `ntp_gettimex()` are as for `adjtimex(2)`. Given a correct pointer argument, these functions always succeed.

VERSIONS

The `ntp_gettime()` function is available since glibc 2.1. The `ntp_gettimex()` function is available since glibc 2.12.

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

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?ntp_gettime(), ntp_gettimex() ? Thread safety ? MT-Safe ?

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CONFORMING TO

ntp_gettime() is described in the NTP Kernel Application Program Inter-

face. ntp_gettimex() is a GNU extension.

SEE ALSO

adjtimex(2), ntp_adjtime(3), time(7)

NTP "Kernel Application Program Interface"

?<http://www.slac.stanford.edu/comp/unix/package/rtems/src/ssrIApps/>

ntpNanoclock/api.htm?

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A

description of the project, information about reporting bugs, and the

latest version of this page, can be found at

<https://www.kernel.org/doc/man-pages/>.

Linux

2020-11-01

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