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***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    ?

??

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

??

## CONFORMING TO

`ntp_gettime()` is described in the NTP Kernel Application Program Interface. `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/ssrApps/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/>.

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