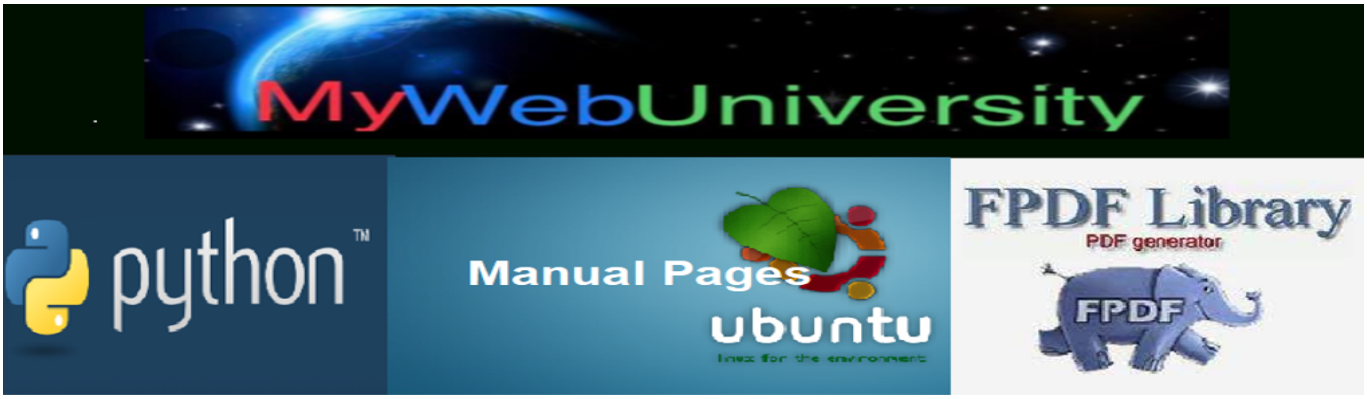

Rocky Enterprise Linux 9.2 Manual Pages on command 'adjtime.3'

$ man adjtime.3

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

NAME

adjtime - correct the time to synchronize the system clock

SYNOPSIS

#include <sys/time.h>

int adjtime(const struct timeval *delta, struct timeval *olddelta);

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

adjtime():

Since glibc 2.19:

_DEFAULT_SOURCE

Glibc 2.19 and earlier:

_BSD_SOURCE

DESCRIPTION

The adjtime() function gradually adjusts the system clock (as returned by gettimeof? day(2)). The amount of time by which the clock is to be adjusted is specified in the structure pointed to by delta. This structure has the following form:

```
struct timeval {
    time_t      tv_sec;     /* seconds */
    suseconds_t tv_usec;    /* microseconds */
};
```

If the adjustment in delta is positive, then the system clock is speeded up by some small percentage (i.e., by adding a small amount of time to the clock value in each second) un? til the adjustment has been completed. If the adjustment in delta is negative, then the

clock is slowed down in a similar fashion.

If a clock adjustment from an earlier adjtime() call is already in progress at the time of a later adjtime() call, and delta is not NULL for the later call, then the earlier adjustment is stopped, but any already completed part of that adjustment is not undone.

If olddelta is not NULL, then the buffer that it points to is used to return the amount of time remaining from any previous adjustment that has not yet been completed.

RETURN VALUE

On success, adjtime() returns 0. On failure, -1 is returned, and errno is set to indicate the error.

ERRORS

EINVAL The adjustment in delta is outside the permitted range.

EPERM The caller does not have sufficient privilege to adjust the time. Under Linux, the CAP_SYS_TIME capability is required.

ATTRIBUTES

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

Interface	Attribute	Value
adjtime()	Thread safety	MT-Safe

CONFORMING TO

4.3BSD, System V.

NOTES

The adjustment that adjtime() makes to the clock is carried out in such a manner that the clock is always monotonically increasing. Using adjtime() to adjust the time prevents the problems that can be caused for certain applications (e.g., make(1)) by abrupt positive or negative jumps in the system time.

adjtime() is intended to be used to make small adjustments to the system time. Most systems impose a limit on the adjustment that can be specified in delta. In the glibc implementation, delta must be less than or equal to (INT_MAX / 1000000 - 2) and greater than or equal to (INT_MIN / 1000000 + 2) (respectively 2145 and -2145 seconds on i386).

BUGS

A longstanding bug meant that if delta was specified as NULL, no valid information about

the outstanding clock adjustment was returned in olddelta. (In this circumstance, adj? time() should return the outstanding clock adjustment, without changing it.) This bug is fixed on systems with glibc 2.8 or later and Linux kernel 2.6.26 or later.

SEE ALSO

adjtimex(2), gettimeofday(2), time(7)

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/.