

## Daylight savings time change

This document contains suggestions for working with time correction into and out of Daylight Savings Time. Refer to your MPE/iX documentation for details.

### Background

MPE/iX references time in two ways:

- MPE/iX date functions that include date, time, and time zone as displayed by `SHOWTIME` or `SHOWCLOCK`. This accesses the traditional MPE/iX clock and displays the local time.
- POSIX date functions that reference the MPE/iX date functions, mentioned above, and also reference the MPE/iX and POSIX `CI TZ` variable to display the local time.

Many applications like JobPak™, TranSpooler™, and others use both time references. Therefore, you must ensure that both MPE/iX and POSIX dates and times are synchronized. Depending on when you change the MPE/iX time, it is possible for the two time references to become unsynchronized, causing the system to inaccurately record time.

### MPE/iX date functions

MPE/iX date, time, and time zone functions do not automatically adjust for going into or out of Daylight Savings Time. You must manually set them. To do this, Nobix suggests you change the MPE/iX time zone value as well as the date and time.

The MPE/iX time zone value is stated in hours West or East of the Prime Meridian. You need to know which time zone you are in. For instance, California in the U.S.A. is in the Pacific time zone. For Standard Time, the MPE/iX time zone value is `W8:00`. For Daylight Savings Time it is `W7:00`. You change these values twice a year.

### POSIX date functions

POSIX date functions automatically adjust for going into or out of Daylight Savings Time. You do not have to adjust them.

According to law, local time changes at 2:00 a.m. However, POSIX date functions do not follow this standard. With POSIX functions, the local time changes as follows:

- At 1:00 a.m. on the specified Sunday in the fall
- At 3:00 a.m. on the specified Sunday in the spring

POSIX date functions reference the MPE/iX date functions and adjust accordingly. However, because of the difference in time between the moment you manually adjust the MPE/iX date functions and the moment when the POSIX automatic date functions adjust, the date recorded by the system can be inaccurate for a period of time until the two times synchronize. The following Fall and Spring Time Adjustment sections contain suggestions that can help minimize this affect.

The MPE/iX and POSIX `CI TZ` variable is used by the POSIX date functions and should be set in the MPE/iX `CI` environment as a system-wide Logon UDC. This allows the same value to be used for every user on the system. Once set, the `TZ` variable should not be changed. Reference the `TZTAB.LIB.SYS` file to find the appropriate `TZ` value for your geographic location.

The `TZTAB.LIB.SYS` file, supplied with your operating system, contains a listing of geographical locations, dates to change the time for fall and spring, and valid time zone values. If your geographical location uses

Daylight Savings Time, you can find the appropriate time zone value for your location in this easily viewable text file. Refer to your MPE/iX documentation for the format of each record in the list.

## Enabling POSIX (T)ime (Z)one adjustments

The JobPak software is dependent upon POSIX date functions for the management of spoolfiles in the NSD account on the HP3000. Before installing or updating JobPak, set the POSIX Time Zone variable for all users.

Set the TZ CI variable in the system-wide OPTION LOGON UDC.

```
SETVAR TZ "STDoffsetDST"
```

Syntax	Description
STD	The Standard Time Zone where the system is located.
offset	The value that must be added to local time to arrive at Coordinated Universal Time (UTC or Greenwich Mean Time). If the offset is preceded by a – (minus), the time zone is east of the Prime Meridian. The default is west of the Prime Meridian and has no preceding – (minus); + is assumed.
DST	The Daylight Savings Time Zone. If Daylight Savings Time is not used, leave this field empty.

Example:

```
Pacific Time    SETVAR TZ "PST8PDT"
Mountain Time  SETVAR TZ "MST7MDT"
Central Time   SETVAR TZ "CST6CDT"
Eastern Time   SETVAR TZ "EST5EDT"
```

To check the values that have been set for this variable, read the TZTAB.LIB.SYS file on your HP3000 system. This file contains a table that lists all the time zones and their associated variable values. **Do not** modify this file.

If JobPak version 6.1 is currently installed and running on your system and you change the TZ variable, you must stop JobPak and restart to enable the variable change.

## Fall time adjustment

To make the fall adjustment, change the MPE/iX time zone, date, and time.

If you change the MPE/iX time backwards before 1:01 a.m., POSIX time becomes one hour later than MPE/iX time until the MPE/iX time becomes 1:00 a.m., when they synchronize. If you change the MPE/iX time backward at 1:00 a.m. or after, POSIX time and MPE/iX time stay synchronized.

When you change the MPE/iX time zone value to reflect Daylight Savings Time, you cause the MPE/iX time to move backwards. Once you change the MPE/iX time zone value, MPE/iX uses its automatic time correction and slows its clock until it reaches the appropriate time. This can cause the system time to be inaccurate for approximately 24 hours. For this reason, Nobix suggests canceling the automatic time correction and explicitly stating the MPE/iX time.

Example:

To change the MPE/iX date backward in time:

1. Select a time at or after 1:01 a.m.
2. Stop JobPak, TranSpooler, and any other applications that log the date and time.
3. Logon as **MANAGER.SYS**.
4. Change the MPE/iX time zone.  
`SETCLOCK ;TIMEZONE=<your time zone value for Standard Time>`
5. Stop all time correction taking place on the system.  
`SETCLOCK ;CANCEL`
6. Set the date and time.  
`SETCLOCK DATE=MM/DD/YY; TIME=HH:SS;NOW`

### **Spring time adjustment**

To make the spring adjustment, change the MPE/iX time zone, date, and time.

The POSIX time begins to change at 2:00 a.m., at which time it becomes one hour later than MPE/iX time. If you change the MPE/iX time forward before 2:00 a.m., the POSIX time becomes one hour later than MPE/iX time until 2:00 a. m., when it becomes one hour earlier than MPE/iX time. At 3:00 a.m., MPE/iX and POSIX times synchronize.

If you change the MPE/iX time forward after 2:00 a.m. but before 3:00 a.m., the POSIX time becomes one hour earlier than the MPE/iX time until 3:00 a.m. At 3:00 a.m., MPE/iX and POSIX times synchronize. If you change the MPE/iX time forward after 3:00 a.m., the POSIX time differs from the MPE/iX time beginning at 2:00 a.m. until the moment you change the MPE/iX time.

Due to these anomalies, Nobix suggests setting the time forward after 2:00 a.m. but before 3:00 a.m. This minimizes the period of time (exactly one hour) that the MPE/iX and the POSIX time references differ.

Example:

To change the MPE/iX date forward in time:

1. Select a time between 2:00 a.m. and 3:00 a.m.
2. Stop JobPak, TranSpooler, and any other applications that log the date and time.
3. Logon as **MANAGER.SYS**.
4. Change the MPE/iX time zone.  
`SETCLOCK ;TIMEZONE=<your time zone value for Daylight Savings Time>`
5. Stop all time correction taking place on the system.  
`SETCLOCK ;CANCEL`
6. Set the date and time.  
`SETCLOCK DATE=MM/DD/YY; TIME=HH:SS;NOW`

Disclaimer: Because this document contains suggestions that are specific to the Hewlett-Packard MPE/iX operating system and POSIX, and how Nobix products perform on those operating systems, Nobix cannot warrant that the above recommendations are error free and is not liable for any inaccuracy, error, or omission relative to these recommendations, regardless of cause. To ensure accuracy, refer to your HP documentation.

## Update for daylight savings time change

This document contains updated, late breaking information about the JobQue (formerly called JobTime) software from Nobix, Inc. and how this application was affected by the time change into Standard Time that has just occurred. If you had issues with JobQue during this time change, this document explains these issues and explains how they have been corrected. These corrections ensure that the upcoming change into Daylight Savings Time that will occur in the spring will be handled smoothly by JobQue.

### Following Nobix suggestions for time change

There are two days in the year that require MPE/iX system operators to reset the system clock to adjust for Standard and Daylight Savings Time. One is in October and the other is in April. On these days, it is important that operators follow suggestions made by Nobix to ensure that the system reports the date and time correctly to applications that reference it, like JobQue.

If operators choose not to follow these suggestions, jobs scheduled to run on the day of the time change might not run at all or might run at the wrong time. To avoid these problems, refer to the Nobix document called Daylight Savings Time Change and to your MPE/iX documentation for details about setting the system clock.

### Known bugs and fixes for JobQue

The following table contains information about known software bugs and the results of bug fixes that are included in the JobPak 6.1d update.

Symptom	Cause	Resolution
Schedules that reference a calendar that specifies a day without a time did not run at all on the day of the time change.	<p>JT08SXL, the main scheduler, identified the start of a day at 00:00:00, midnight. When the main scheduler asked the POSIX date routines for the start of the day of the time change, POSIX returned the time of 1:00 a.m. This caused the main scheduler not to run jobs scheduled for the day of the time change because 00:00:00, midnight, did not occur in the current day.</p> <p>In April, POSIX returns 11:00 p.m. of the previous day as the start of the day of the time change, which might have caused the main scheduler to run the previous day's schedules twice.</p>	Changed JT08SXL and JT14SXL to adjust for the 1:00 a.m. and 11:00 p.m. start of day on the day of the time change.
Schedules ran one hour earlier than they should have on the day of the time change.	<p>In JT14SXL, the schedule compiler, the hour of the day is calculated as hours from midnight. Because the day of the time change in October has 25 hours instead of 24, JobQue ran schedules one hour earlier than it should have.</p> <p>In April the day of the time change has 23 hours, which would have caused JobQue to run schedules one hour later than it should have.</p>	Changed JT14SXL to compensate for the longer or shorter days on the days of the time change.