1. Time Differential Factor - TDF

This is a description of how OpenVMS should be configured to prevent these very common situations where Xview shows a different time than the OpenVMS system time after a daylight savings time transition, which occurs twice a year.

The first thing to remember is that MISER handles the system time change at 2AM on the appropriate days, changing the actual OpenVMS system time forward one hour in the Spring and back one hour in the Fall. This has generally worked without incident.

The problem arises when Xview displays a different time from that seen when issuing the **SHOW TIME** command from a DCL prompt. The result of the **SHOW TIME** command is correct, however it is one hour off from the time displayed by the Xview command window. Naturally customers are concerned when they see an incorrect time in Xview, even though the MISER system is continuing to use proper timestamps elsewhere.

The logical thinking is to set the OpenVMS system up using a GMT based timezone. The main point is that the OpenVMS system should not be told it is responsible for daylight savings time. Unfortunately when that question is asked when installing a MISER system, people often seem to indicate that the OpenVMS system does DST. This is not correct, MISER handles the DST.

Setting the correct timezone on a MISER system really is not particularly relevant most of the time anyhow. Most MISER systems do not transmit this information to any external system, the only thing that matters is the time itself.

The Time Zone in VMS needs to be set to GMT, and then the time differential between Greenwich and your site needs to be set.

U.S. Time Zone	Differential (hrs)
Eastern	-5
Central	-6
Mountain	-7
Pacific	-8

Here is how systems should be set up (unless something else has changed in the past few months). When setting up a system, the command:

```
LTNMVB$ @SYS$MANAGER:utc$time_setup "" "both"
```

should be executed. This will produce a display like:

```
LTNMVB$ @SYS$MANAGER:UTC$TIME_SETUP "" "BOTH"
%UTC-I-UPDTIME, updating Time Zone information in SYS$COMMON:[SYSEXE]

   Configuring the Local Time Zone

    TIME ZONE SPECIFICATION -- Main Time Zone Menu

      1) Australia       11) GMT            21) Mexico         31) Turkey
      2) Brazil          12) Greenwich      22) NZ             32) UCT
      3) CET             13) Hong Kong      23) NZ-CHAT        33) US
      4) Canada          14) Iceland        24) Navajo         34) UTC
      5) Chile           15) Iran           25) PRC            35) Universal
      6) Cuba            16) Israel         26) Poland         36) W-SU
      7) EET             17) Jamaica        27) ROC            37) WET
      8) Egypt           18) Japan          28) ROK            38) Zulu
      9) Factory         19) Libya          29) Singapore
     10) GB-Eire         20) MET            30) SystemV

      0) None of the above

Select the number above that best represents the desired time zone: 11

You selected GMT as your time zone.
Is this correct? (Yes/No) [YES]:

    GMT Time Zone Menu

       1) GMT             12) GMT10          23) GMT-7          34) GMTPLUS5
       2) GMT0            13) GMT11          24) GMT-8          35) GMTPLUS6
       3) GMT1            14) GMT12          25) GMT-9          36) GMTPLUS7
       4) GMT2            15) GMT13          26) GMT-10         37) GMTPLUS8
       5) GMT3            16) GMT-0          27) GMT-11         38) GMTPLUS9
       6) GMT4            17) GMT-1          28) GMT-12         39) GMTPLUS10
       7) GMT5            18) GMT-2          29) GMTPLUS0       40) GMTPLUS11
       8) GMT6            19) GMT-3          30) GMTPLUS1       41) GMTPLUS12
       9) GMT7            20) GMT-4          31) GMTPLUS2       42) GMTPLUS13
      10) GMT8            21) GMT-5          32) GMTPLUS3
      11) GMT9            22) GMT-6          33) GMTPLUS4

      0) None of the above

Select the number above that best represents the desired time zone: 21

You selected GMT-5 as your time zone.
Is this correct? (Yes/No) [YES]:

    Default Time Differential Factor is -5:00.


    Configuring the Time Differential Factor (TDF)

    Enter ? anytime for help
```

```
    [0]     Exit
    [1]     Set the Time Differential Factor
    [2]     Display the Time Differential Factor

Please pick an option number [2]: 1

    The Time Differential Factor (TDF) is the difference between your
    system time and Coordinated Universal Time (UTC).  UTC is similar
    in most repects to Greenwich Mean Time (GMT).

    The TDF is expressed as hours and minutes, and should be entered
    in the hh:mm format.  TDFs for the Americas will be negative
    (-3:00, -4:00, etc.); TDFs for Europe, Africa, Asia and Australia
    will be positive (1:00, 2:00, etc.).

Enter the Time Differential Factor [-5:00]:

    If this is a seasonal time change, it may also be necessary to
    modify the system time.  Generally, seasonal time changes result
    in adding 1:00 hour, or adding -1:00 hour to the system time.

Do you wish to modify the local system time [N]:

    NEW SYSTEM TIME DIFFERENTIAL FACTOR = -5:00.

Is this correct? [Y]:

    SYSTEM TIME DIFFERENTIAL FACTOR = -5:00  (-18000 seconds).
    LOCAL SYSTEM TIME               = 30-MAR-2001 14:07:45.25.
```

Upon reboot, you will have a system that will always display the proper system time in Xview and it will be a problem nevermore. The only issue you could have is if doing **XNTP** with an external system, however this has yet to be done with any system and is easily solved by just doing a little work in TIMER.

Note that OpenVMS's mechanism for timezone is subject to change in the future, in which case this document would require some update.