

Preparing Your Systems for Daylight Savings Time



Steps to take before DST begins

In 2005, the U.S. Government made a decision to extend Daylight Savings Time (DST) by 4 weeks, beginning in March 2007. This change means that DST will now start the second Sunday in March and end the first Sunday in November. Businesses should check their systems prior to the start of DST to avoid scrambling to catch up. The new Daylight Savings Time may affect your computers and your business critical processes.

IT Departments need to understand that there is no simple list of things to do to ensure that systems are ready for the DST change. Rather, it is a process.

Take an Inventory of All Systems & Applications

Whether you're running AIX, Solaris, HP-UX, Red Hat, SLES, or the various flavors of Windows, you need to determine what level(s) of the operating system (OS) you are running. This may also include network equipment, SAN switches and directors, storage subsystems, and their management interfaces and other system utilities.

Consult Your Vendors

You should work with the vendor (IBM, SUN, HP, Microsoft, Cisco, etc.) to determine what steps are required in order to make your OS ready for the DST change.

This may involve applying a patch or a set of patches, upgrading the OS to a newer release that already has the fixes included, editing files in unsupported OS levels, or doing nothing if you are already at a level that includes the fixes.

Remember that an application may not be supported on a newer OS level, so you should verify that the software vendor supports the new OS level prior to any upgrades. Put another way, moving to a newer OS level may require an application upgrade to support the new OS level.

Certain older OS levels may not have patches or fixes available. In that case, an OS upgrade may be the only option, and require a corresponding application upgrade as well.

In some cases, there are workarounds for out-of-support OS levels. For instance, with AIX, you can manually specify when to start and stop DST by setting the TZ environment variable in the **/etc/environment** file.

An example for the US Central time zone:

```
TZ=CST6CDT,M3.2.0,M11.1.0
```

"M3.2.0" means to go on DST starting in month 3 (March), week 2, and Day 0 (Sunday).

"M11.1.0" means 1st Sunday in November.

NOTE: You must reboot the system before March 11, 2007 so all processes running will pick up the new time change.

Another important point to remember about taking this approach is that this change must be re-implemented if the system is upgraded to a higher level that does not contain the fix, or if patches are applied that alter this file.

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Check Java Code

Similarly, Java code must be checked to see that it is at minimum levels that include the fixes for the DST change. It is also very important to know that Java code can exist not only at the OS level, but it may also be embedded in the application code. The patches that are applied at the OS level will not be applied to the Java that is embedded within an application.

You must check with the application vendor to determine the steps necessary to get the embedded Java ready for the DST change. Again, this may require applying vendor supplied patches, editing specific files, or a complete application upgrade.

The steps that you'll have to take will largely depend on how current you are on your OS, Java and applications. There may be little to do, or you could be looking at major OS and application upgrades in order to prepare for the DST change.

DST and NTP

Typically, networked PCs and servers running any version of windows or Linux/UNIX are synchronized using network time protocol, otherwise known as NTP. An important thing to understand is that the NTP server synchronizes to Universal Coordinated Time, or UTC. This is the time that is sent to the client systems, and there is no adjustment made at the time server for DST.

NTP packets do not contain information regarding local time zone offset or DST rollover information. DST rules are resident on each system and as a result, these systems will need to be modified in order to be compliant with the new DST changes.

Available Patches

Microsoft has released a patch for Windows 2003 and XP service Pack 2. This patch will update the PCs with the DST rules for 2007 and beyond. Microsoft is not going to supply a patch for older Windows 2000, XP (pre-Service Pack 2), NT, 98 and 95 PCs as they have passed their support dates.

However, the DST rules on these older Operating Systems may be manually edited for the new rules with a Microsoft program called "TZedit". Refer to the following link for more information:

<http://www.softshape.com/cham/manual/tzedit.htm>

Additional information

LINUX administrators should contact their vendors and refer to websites such as <http://www.linux.com/howtos/TimePrecision-HOWTO/tz.shtml>

The site describes necessary changes to the file: /usr/share/zoneinfo as well as other requirements.

UNIX administrators should contact their vendors and refer to websites such as <http://www14.software.ibm.com/webapp/set2/sas/f/enews/2006/10/DSTupdate.html>

For information related to adjusting the Java clock during time changes, refer to the following website: <http://www.javaworld.com/javaworld/jw-12-2006/jw-1201-dst.html>

The information in this white paper is provided AS IS without warranty. Such information was obtained from publicly available sources, is current as of January 31, 2007 and is subject to change. More specific information about the capabilities of products described should be obtained from the suppliers of those products. This document provides general guidance, and should not be viewed as a comprehensive analysis or assessment of Daylight Saving time issues or considerations.