2007 DAYLIGHT SAVING TIME CHANGE FAQ

In 2006 and 2007, a number of countries have altered the dates they observe Daylight Saving Time (DST). Packages have been released for all three versions of Red Hat Enterprise Linux. **There are a few details in the update to note.**

Source -

http://aa.usno.navy.mil/faq/docs/daylight_time.html

1. Australia is delaying the end of DST by one week for 2006 only, to support the Commonwealth games. Instead of ending at 3:00 a.m. on March 25, 2006 it will end at 3:00 a.m. April 2, 2006.

2. The U.S. Energy Policy Act of 2005 implements change for the US. Starting in March 2007, DST in the United States will begin on the second Sunday in March and end on the first Sunday in November.

3. Canadian Provinces Quebec (QC), Ontario (ON), Nova Scotia (NS), Nunavut (NU), Saskatchewan (SK), Manitoba (MB), New Brunswick (NB), Prince Edward Island (PE), Alberta (AB), British Columbia (BC), Newfoundland and Labrador (NL), Northwest Territories (NT), and Yukon (YK) will all follow US DST changes that will come into force in March 2007.

4. Western Australia has introduced a three year trial of DST which has already started on Dec 3, 2006 and ends on last Sunday in March.

5. The Bahamas will also follow US DST changes that will come into force in March 2007.

If you have any concerns, questions or problems with any of the DST changes, please contact your local Red Hat Support center at: http://www.redhat.com/support/service/GSS_phone.html

RED HAT DIRECTORY SERVER:

We have found that Red Hat directory Server is not affected by the recent DST bug found on March 9th 2007.

RED HAT ENTERPRISE LINUX 2.1

Supporting Links

http://rhn.redhat.com/errata/RHEA-2006-0282.html

http://rhn.redhat.com/errata/RHEA-2006-0279.html

Users of Red Hat Enterprise Linux 2.1 have three options to update their machines to a level where these DST updates have been fixed:

1: The initial fix for this requires an update to glibc to the following levels:

     glibc-2.2.4-32.23

     glibc-common-2.2.4-32.23

     glibc-devel-2.2.4-32.23

     glibc-profile-2.2.4-32.23

     nscd-2.2.4-32.23

2: In July, we released an updated glibc, which split out the tzdata information into its own package like Red Hat Enterprise Linux 3 and 4. You can update to both of these in the same fashion as Red Hat Enterprise Linux 3 and 4, by using the following packages:

     tzdata-2006m-3.el2_1

     glibc-common- 2.2.4-32.25

3: Update tzdata files by hand (without rpm intervention):

Updating the /usr/share/zoneinfo tree and in addition /etc/localtime is sufficient to address this issue. If TZ environment variables are being used, only updating /usr/share/zoneinfo will fix this issue.

RED HAT ENTERPRISE LINUX 3
Supporting Links

http://rhn.redhat.com/errata/RHEA-2005-655.html

Red Hat Enterprise Linux 3 users have additional choices, which are described below.

Update tzdata packages to the following level:

tzdata-2005m-1.EL3

This was our initial push of this change in tzdata. This includes changes for the US. One of the caveats here is Canada. Canada took a bit longer to decide whether to adopt this change and has since agreed to make the same changes. These changes are within the 2006d version of tzdata:

Supporting Links

http://www.timetemperature.com/tzca/daylight_saving_time_canada.shtml

A caveat of only updating tzdata is there is no built in mechanism to update /etc/localtime to the latest timezone unless you are presently running glibc-common version 2.3.2-95.40 or greater. If you are not on this version there are additional options:

1: Update both glibc-common and tzdata at the same time in the same up2date run or with rpm. This will lay down a new binary from glibc-common called tzdata-update which resides in /usr/sbin. The tzdata package is a requirement of glibc-common. Once this completes run:

/usr/sbin/tzdata-update

this will update /etc/localtime accordingly.

2: Update /etc/localtime by hand after installing the latest tzdata package. This can be done with a simple copy command:

cp /usr/share/zoneinfo/$CURRENT_TIMEZONE /etc/localtime

where $CURRENT_TIMEZONE is your local timezone (America/NewYork).

3: Simply re-run redhat-config-clock and save your settings. This will copy over the updated timezone file to /etc/localtime. This is the easiest method, but is troublesome if no X Windows server is running.

Once one of these steps has been run, you can verify the change has been successful with the following command:

zdump -v /etc/localtime | grep 2007

You should see that the switch to DST will begin on March 11, 2007 and end on November 4.

RED HAT ENTERPRISE LINUX 4
Supporting Links

http://rhn.redhat.com/errata/RHEA-2005-656.html

The steps are the same for Red Hat Enterprise Linux 4 as Red Hat Enterprise Linux 3, but the package versions change.

Update tzdata packages to the following level:

tzdata-2005m-1.EL4

This was our initial push of this change in tzdata. This includes changes for the US. One of the caveats here is Canada. Canada took a bit longer to decide on whether to adopt this change and has since agreed to make the same changes. These changes are within the 2006d version of tzdata:

Supporting Links

http://www.timetemperature.com/tzca/daylight_saving_time_canada.shtml

A caveat of only updating tzdata is there is no built in mechanism to update /etc/localtime to the latest timezone, unless you are presently running glibc-common version 2.3.4-2.20 or greater. If you are not on

this version there are additional options:

1: Update both glibc-common and tzdata at the same time in the same up2date run or with rpm. This will lay down a new binary from glibc-common called tzdata-update which resides in /usr/sbin. The tzdata package is a requirement of glibc-common. Once this completes run:

/usr/sbin/tzdata-update

this will update /etc/localtime accordingly.

2: Update /etc/localtime by hand after installing the latest tzdata package. This can be done with a simple copy command:

cp /usr/share/zoneinfo/$CURRENT_TIMEZONE etc/localtime

where $CURRENT_TIMEZONE is your local timezone (e.g., America/NewYork).

3: Re-run system-config-clock, and save your settings. This will copy over the updated timezone file to /etc/localtime. This is the easiest method, but is troublesome if no X Windows server is running.

Once one of these steps has been run, you can verify the change has been successful with the following command:

zdump -v /etc/localtime | grep 2007

You should see that the switch to DST will begin on March 11, 2007 and end on November 4.

JAVA PACKAGES
OVERVIEW:

It has come to our attention that there is a serious flaw in all Java packages due to the DST date change patches. This was found and made public on March 9th. Currently, no patch exists for this issue. Red Hat are awaiting patches from our partners, both BEA and IBM, for their respective packages so they can be pushed to RHN.

We do recommend that before updating with the patch utility from IBM, that you fully update your jvm to the latest version we ship in RHN, which is documented later in this paper.

GCJ

We have found that GCJ is not affected by this new bug.

Sun & BEA

For more detail on the nature of the problem and a temporary work-around suggested by Sun, for Sun and BEA packages, please see:

http://sunsolve.sun.com/search/document.do?assetkey=1-26-102836-1   or:

http://support.bea.com//support_news/Patch_for_2007_Daylight_Savings_Time_Changes.jsp

IBM Java

For the IBM Java package there is an updater which will implement the work-around. Red Hat have confirmed that this also resolves the issue until a permanent fix can be implemented. There are instructions provided within the fix that will assist with the installation. You'll need to ensure that you are using the latest available version of the IBM JRE from the RHEL extras channel.

Please see the below link for more information.

http://www-1.ibm.com/support/docview.wss?rs=3068&uid=swg21250247

Also the following kbase:

http://kbase.redhat.com/faq/FAQ_79_9864.shtm

Download IBM's work-around tool from here:

http://download.boulder.ibm.com/ibmdl/pub/software/dw/jdk/dst/jtzu-1.4.7c-est-mst.zip

- looks like the CR/LF terminators are off.

CAVEAT: You may need to run runjtzu.sh through dos2unix.

Unzip this file. You'll need to make sure you edit the runjtzuenv.sh file and point it to your JAVA_HOME. The file should look like:

[root@your-host jtzu]# cat runjtzuenv.sh

#set java path in JAVA_HOME
JAVA_HOME=/usr/lib/jvm/java-ibm/jre/

```
#set NOGUI
NOGUI=false
#set DISCOVERONLY
DISCOVERONLY=true
#set SILENTPATCH
SILENTPATCH=false

[root@your-host jtzu]#
```

You may wish to disable the use of the GUI if you don't have X-Windows installed and running on your system (otherwise you'll get an error).

If using the GUI, select that you wish to update a single installation. You need to point the installer to the following directory:

/usr/lib/jvm/java-1.5.0-ibm-1.5.0.3/jre

PLEASE NOTE: This update is not deployed using the Red Hat package management utilities (rpm). As such, you will notice that the following files have changed when running an "rpm -V" check:

```
[root@your-host ~]# rpm -Va java-1.5.0-ibm
.......T
/usr/lib/jvm/java-1.5.0-ibm-1.5.0.3/jre/.systemPrefs/.systemRootModFile
S.5....T /usr/lib/jvm/java-1.5.0-ibm-1.5.0.3/jre/lib/core.jar
GCJ:
```

The GNU Java Compiler (gcj) project, which contains its own internal timezone database files, is still affected. The resulting issue here is binaries compiled with gcj and linked to the gcj runtime libraries will have incorrect timezone information.

Supporting Links (Red Hat Enterprise Linux 3, 4, 5)

Red Hat Enterprise Linux 3 http://rhn.redhat.com/errata/RHBA-2007-0080.html

Red Hat Enterprise Linux 4 http://rhn.redhat.com/errata/RHBA-2007-0080.html

Red Hat Enterprise Linux 5 https://bugzilla.redhat.com/bugzilla/show_bug.cgi?id=227888 (Targeted for Day0 errata)

IBM Java:

Supporting Links (Red Hat Enterprise Linux 2.1, 3, 4)

https://rhn.redhat.com/errata/RHEA-2007-0024.html

https://rhn.redhat.com/errata/RHBA-2007-0023.html

http://rhn.redhat.com/errata/RHBA-2006-0744.html

http://rhn.redhat.com/errata/RHBA-2006-0747.html

The following packages comprise IBM's Java releases:

IBMJava2-JRE-1.3.1-12 (RHEL 2.1)

java-1.4.2-ibm-1.4.2.6-1jpp

java-1.4.2-ibm-devel-1.4.2.6-1jpp

java-1.4.2-ibm-src-1.4.2.6-1jpp

java-1.4.2-ibm-demo-1.4.2.6-1jpp

java-1.4.2-ibm-plugin-1.4.2.6-1jpp

java-1.4.2-ibm-jdbc-1.4.2.6-1jpp

BEA Java:

Suppporting Links (RHEL3 & 4)

http://rhn.redhat.com/errata/RHEA-2007-0032.html

https://rhn.redhat.com/errata/RHEA-2007-0028.html

The following packages comprise BEA's JRockit 1.4.2_12 R27.1.0:

java-1.4.2-bea-1.4.2.11-1jpp

java-1.4.2-bea-console-1.4.2.12-1jpp

java-1.4.2-bea-demo-1.4.2.12-1jpp

java-1.4.2-bea-devel-1.4.2.12-1jpp

java-1.4.2-bea-jdbc-1.4.2.12-1jpp

java-1.4.2-bea-src-1.4.2.12-1jpp

Sun Java:

Although we do not ship Sun Java, the following URL has the information needed to bring your Java packages to a working revision:

http://java.sun.com/javase/tzupdater_README.html

RED HAT NETWORK SATELLITE

On Friday March 9th, Red Hat Network (RHN) released updated java-1.4.2-ibm and java-1.4.2-ibm-devel java packages into the Satellite 4.0, 4.1 and 4.2 channels for customers to upgrade to, in order to be in sync with the upcoming DST changes. There is also supporting

configuration changes made to several packages which also need to be upgraded on the Satellite.

Notes:

• previously released versions of java-1.4.2-ibm and

java-1.4.2-ibm-devel versions 1.4.2.6-1jpp.1.el3 (Enterprise Linux 3 version) and 1.4.2.6-1jpp.2.el4 (Enterprise Linux 4 version) within these channels do contain DST fixes and released originally on Feb 20th.

• The new versions released on March 9th was to address a bug discovered within those previous packages. This bug does not lead to any data corruption within the RHN Satellite 4.x product, but could lead to confusion as some times are displayed incorrectly as being off by 1 hour.

• More background information can be found at

http://www-1.ibm.com/support/docview.wss?rs=3068&uid=swg21250247

For Red Hat Enterprise Linux 3-based machines running RHN Satellite versions 4.0, 4.1 or 4.2, the newest version of java released is:

1.4.2.7-1jpp.4.el3 (from either 1.4.2.6-1jpp.1.el3 or 1.4.2.0-1jpp_13rh)

For Red Hat Enterprise Linux 4-based machines running RHN Satellite versions 4.0, 4.1 or 4.2, the newest version of java released is:

1.4.2.7-1jpp.4.el4 (from either 1.4.2.6-1jpp.2.el4 or 1.4.2.1-1jpp_2rh)

If the Satellite is a connected Satellite, version 4.1 or 4.2, then use the following up2date command:

 # up2date java-1.4.2-ibm java-1.4.2-ibm-devel rhn-satellite-config rhn-java-config rhn-java rhn-java-lib taskomatic

If the Satellite is a connected Satellite, version 4.0, then use the following up2date command:

up2date java-1.4.2-ibm java-1.4.2-ibm-devel rhn-satellite-config

Once installed, copy over the new tomcat configuration file:

cp /etc/sysconfig/rhn-satellite-prep/etc/tomcat5/tomcat5.conf/etc/tomcat5/tomcat5.conf

If it is a disconnected Satellite, login to RHN and go to the Satellite channel that matches the version of Satellite being used, such as Satellite 4.1 for Enterprise Linux 3AS and download the java-1.4.2-ibm, java-1.4.2-ibm-devel, rhn-satellite-config, taskomatic, rhn-java, rhn-java-lib & rhn-java-config (where the taskomatic & rhn-java* packages are only needed for 4.1 and 4.2 Satellites) packages onto the Satellite. To install these packages:

rpm -Fvh java-1.4.2-ibm*.rpm java-1.4.2-ibm-devel*.rpm rhn-satellite-config*.rpm rhn-java*rpm taskomatic*rpm

Copy over the new tomcat configuration file:

cp /etc/sysconfig/rhn-satellite-prep/etc/tomcat5/tomcat5.conf/etc/tomcat5/tomcat5.conf

For both connected and disconnected Satellites, a restart of the Satellite services will be required after the packages have been installed. This will require a few minutes downtime while all services are restarted:

service rhn-satellite restart

Note: Satellites 3.7 and older versions are not affected by this, only versions 4.0 and newer will be. It is also recommended to upgrade the tzdata package on the server. For more information on the DST changes,

please visit: http://kbase.redhat.com/faq/FAQ_80_7909.shtm

The IBM Java packages for Satellite are specifically for Satellite and have only been tested with Satellite. They **are not** intended for replacement on Java application systems as they are untested outside of Satellite.

ADDITIONAL ITEMS

Postgresql:

Versions of Postgresql 8.0 or greater use an internal mechanism for timezone data. Updates will need to be applied to correct the timezone information. Presently we only ship versions in the 7.x range and are exempt from this update.

Evolution:

Evolution uses a library called libical that maintains its own timezone data. This package will need to be updated to the following revision to ensure the latest timezone information is

being used:

evolution-1.4.5-19

http://bugzilla.redhat.com/228020
http://rhn.redhat.com/errata/RHEA-2007-0102.html

Evolution Data Server:

Evolution Data server uses a library called libical that maintains its own timezone data. This package will need to be updated to the following revision to ensure the latest timezone information is being used:

evolution-data-server-1.0.2-13.el4

http://bugzilla.redhat.com/228018
http://rhn.redhat.com/errata/RHEA-2007-0116.html

Support for legacy systems:

While Red Hat no longer supports legacy systems such as Red Hat Linux 7, 8, and 9, updated packages can be obtained from the community-supported site www.fedoralegacy.org. The site has updated glibc packages for these legacy releases on its download servers and mirrors. If updating the glibc package is not a viable solution for these systems, the recommended solution is to change these systems to utilize the GMT timezone, which is not affected by DST.

Supporting Links

http://www.fedoralegacy.org