Avaya Aura® Communication Manager
Methods For Updating Daylight Saving Time Rules

Localities worldwide routinely adjust their Daylight Saving Time (DST) rules. Communication Manager can automatically adjust for Daylight Saving Time based on the built-in DST rules for each locality. The DST rules are defined by the version of the "tzdata" Linux RPM included in the software.   If there is a change in these rules for a particular locality, Communication Manager may require software updates.

There are three methods for handling new DST rules. The availability and appropriateness of each method for a given system depends on that system's release and locality.

1. Recent Communication Manager releases have DST rules that were current at the time of release built into the software.
2. Patches – Some older releases do not have the rules built into the software. In some cases, patches are available to handle the new rules. These patches may be applied in addition to a patch already on the system, and supersede the DST rules originally included in the software (if any).
3. Manual procedures - In some cases, Communication Manager updates (i.e., patch or new release) may not be available soon enough to accommodate support of changing DST start and end dates. In these cases, manual procedures must be followed. The manual procedures may be the only option for older Communication Manager releases which are beyond End Of Manufacturer Support (EOMS) and do not have patches available.

Method 1: DST Rules Included in Launched Communication Manager Releases

Recent releases of Communication Manager have DST rules that were current at the time of release already built into the software. The following table shows the tzdata version included in Communication Manager releases:

Communication Manager Release	Software Load	tzdata version*
3.1.4	642.1	2007d
3.1.5	642.3	2007d
4.0.1	731.2	2007d
4.0.3	737.4	2007k
4.0.4	739.0	2007k
4.0.5	742.0	2007k
5.0	825.4	2007h
5.1	414.3	2007k
5.1.1	415.1	2008b
5.1.2	416.4	2008f
5.2	947.3	2008i
5.2.1	016.4	2009k
6.0	345.0	2010i
6.0.1	510.1	2010l

* See "Tzdata Versions" section below for more information regarding this column.

Method 2: DST Patches

The following Communication Manager Daylight Saving Time patches are available:

Communication Manager Release	Software Load	DST Patch	tzdata version*
2.0.1	221.1	00.1.221.1-12514.tar.gz	2006g
2.1	411.7	01.0.411.7-12514.tar.gz	2006g
2.1.1	414.1	01.1.414.1-12514.tar.gz	2006g
2.2	111.4	02.0.111.4-12514.tar.gz	2006g
2.2.2	122.0	02.2.122.0-12514.tar.gz	2006g
3.0	340.3	00.0.340.3-12514.tar.gz	2006g
3.0.1	346.0	00.1.346.0-12514.tar.gz	2006g
3.1	628.6	01.0.628.6-12514.tar.gz	2006g
3.1.1	628.7	01.1.628.7-12514.tar.gz	2006g
3.1.2	632.1	01.2.632.1-14809.tar.gz	2007h
3.1.3	640.2	01.3.640.2-12514.tar.gz	2006g
3.1.4	642.1	01.4.642.1-14809.tar.gz	2007h
3.1.5	642.3	01.5.642.3-14809.tar.gz	2007h
4.0	730.5	00.0.730.5-12514.tar.gz	2006g
4.0.1	731.2	00.1.731.2-14809.tar.gz	2007h
5.2.1[†]	016.4	02.1.016.4-19268.tar.gz	2011h
6.0.1[†]	510.1	00.1.510.1-19269.tar.gz	2011h

* See "Tzdata Versions" section below for more information regarding this column.
[†] The patches for CM 5.2.1 and CM 6.0.1 are custom patches not available on the Avaya Support Site. Contact Avaya Global Support Services or your service provider to obtain these patches.

If the desired patch is not shown in the table above, the change may already be incorporated into a released version of Communication Manager (see Method 1). If the DST change is not available in a patch or in a released version, then the date/time change must be made manually (Method 3).

Special Note for CM 5.2.1 Patch
The patch for CM 5.2.1 can also be used with SIP Enablement Services (SES) 5.2.1. Refer to SES 5.2.1 Documentation at http://support.avaya.com for patch installation procedures.

Special Note for CM 6.0.1 Patch
The patch for CM 6.0.1 can also be used with Avaya Aura® Solution for Midsize Enterprise 6.1 using the instructions below for CM 6.0 and greater.

To download the correct version of the Daylight Saving Time patch from support.avaya.com:

1. Go to http://support.avaya.com and click **sign in** then enter your login information

2. Click **Downloads** in the left hand navigation list

3. Begin to type **Communication Manager** in the Product Name field of the pop-up window and when Avaya Aura® Communication Manager appears as a selection

below, select it. If instead the A-Z List is clicked in the pop-up window and Avaya Aura® Communication Manger is selected, you will once again need to click **Downloads** in the left hand navigation list.

4. Click on **Latest TN Circuit Pack, Server, and Media Gateway Firmware and Software Updates**

5. In the **Daylight Saving Time Patches for Servers running Communication Manager** table click on the appropriate load of Communication Manager (e.g., **632.1**).

6. Download the appropriate patch for the specific release of Communication Manager

7. The patches for CM 5.2.1 and CM 6.0.1 are custom patches not available on the Avaya Support Site. Contact Avaya Global Support Services or your service provider to obtain these patches.

To obtain patch installation instructions for releases through CM 5.2.1:

1. Go to http://support.avaya.com and click **sign in** then enter your login information

2. Click **Downloads** in the left hand navigation list

3. Begin to type **Communication Manager** in the Product Name field of the pop-up window and when Avaya Aura® Communication Manager appears as a selection below, select it. If instead the A-Z List is clicked in the pop-up window and Avaya Aura® Communication Manger is selected, you will once again need to click **Downloads** in the left hand navigation list.

4. Click on **Latest TN Circuit Pack, Server, and Media Gateway Firmware and Software Updates**

5. Click on **Communication Manager 2.0 and Later Software Update Procedures**. These command line procedures can be used for releases through CM 5.2.1. Refer to release specific documentation for Communication Manager web page interface instructions.

6. **Disregard** any text that instructs you to "deactivate all previous updates when applying a new update". Daylight Saving Time patches should be applied on top of currently activated patches and Service Packs.

7. **IMPORTANT** - After activating the appropriate Daylight Saving Time patch it is necessary to:
   a) re-enter any rules being used on the *daylight-savings-rules* SAT form
   b) re-select the time zone from the System Management Interface (SMI) web pages (pick a different time zone and click submit, then select the desired time zone and submit again).
   c) reboot the Server.
   These are essential additional steps to synchronize all the Linux and Communication Manager processes.

To obtain patch installation instructions for CM 6.0 and greater:

1. Go to http://support.avaya.com and click **Documentation** in the left-hand navigation list.

2. Click **View All Documents** from the Documentation menu.

3. Select **Avaya Aura® Communication Manger** from the A-Z List (under "A" for Avaya).

4. Select **6.0.x** from the Release pull-down menu.

5. Click on the document titled **Administering Avaya Aura^{TM} Communication Manager** (Doc ID 03-300509) in the Administration and System Programming section.

6. See **Chapter 21: Server Management** for instructions on applying the patch.

7. **Do not** deactivate any existing Communication Manager patches or service packs running on the system. Daylight Saving Time patches should be applied on top of currently activated patches and Service Packs.

8. After applying the appropriate Daylight Saving Time patch it is necessary to re-enter any *daylight-savings-rules* being used. See **Chapter 2: System Basics** in the document referenced above for these procedures.

9. Reselect the desired time zone using the System Platform Date/Time Configuration page (Set Time Zone button). See **Chapter 21: Server Management** in the document referenced above for instructions on setting the time zone.

10. After re-entering *daylight-savings-rules* and resetting the time zone reboot the Communication Manager Virtual Machine using the instructions **in Chapter 20: Managing System Platform virtual machines.**

Method 3: Manual Date/Time Changes

If an upgrade cannot be performed, or a DST patch cannot be applied, consult the Manual DST Procedure below for instructions on making date/time changes to your system.

Tzdata Versions

Tzdata is a Linux component, or RPM, created and maintained by Red Hat, Inc. This archive file is used by Communication Manager as part of the operating system, and defines "time zone data" (i.e., DST rules) worldwide. As new versions of tzdata are released by Red Hat, they are incorporated into Communication Manager. This file is included in the upcoming release of Communication Manager, and may be included in patches for the most recent releases being sold.

To get information about the contents of each version of tzdata, please refer to Red Hat's web site. Here are references to various versions of tzdata. If the links below do not work properly, you may need to copy/paste the URL directly into your browser.

2011h - http://rhn.redhat.com/errata/RHEA-2011-1128.html
2010l - http://rhn.redhat.com/errata/RHEA-2010-0673.html
2010i - http://rhn.redhat.com/errata/RHEA-2010-0381.html
2009k - https://rhn.redhat.com/errata/RHEA-2009-1214.html
2008i - https://rhn.redhat.com/errata/RHEA-2008-0969.html

2008f - https://rhn.redhat.com/errata/RHEA-2008-0941.html
2008b - https://rhn.redhat.com/errata/RHEA-2008-0506.html
2007k - https://rhn.redhat.com/errata/RHEA-2008-0185.html
2007h - http://rhn.redhat.com/errata/RHEA-2007-0928.html
2007f - http://rhn.redhat.com/errata/RHEA-2007-0689.html
2007d - http://rhn.redhat.com/errata/RHEA-2007-0128.html
2007c - http://rhn.redhat.com/errata/RHEA-2007-0104.html
2006m - http://rhn.redhat.com/errata/RHEA-2006-0745.html
2006g - http://rhn.redhat.com/errata/RHEA-2006-0622.html
2006a - http://rhn.redhat.com/errata/RHEA-2006-0277.html
2005m - http://rhn.redhat.com/errata/RHEA-2005-656.html

Changes to the tzdata file are cumulative. Files are named chronologically, with the year and a letter designation. Any higher-numbered file is more recent than a lower-numbered file. Newer files contain the most up-to-date information, including any current or updated information from older files. For example, 2007h contains all of the changes in 2007f and all previous versions from 2007. 2007h also includes the current or updated information from any file created in 2006, 2005, etc.

Following are some examples of how different countries were handled with different tzdata versions:

> **United States —** The 2005m version has most of the DST changes that went into effect in March 2007. Most US locations are covered with 2005m or later. Isolated US changes have been made to tzdata since then. For example, changes were made in 2007h to handle updates for specific counties in Indiana.

> **Canada** – The 2006a and 2006g versions have the main DST changes that went into effect in March 2007.

> **New Zealand** – 2007f contains New Zealand's DST updates.

> **Australia** – 2007g contains Australia's DST updates.

> **Russia** – 2011h contains Russia's DST changes for 2011

Manual Date/Time Change Instructions for Daylight Saving Time Adjustments

Localities worldwide routinely adjust their Daylight Saving Time (DST) rules. Communication Manager can automatically adjust for Daylight Saving Time; however, this is based on the built-in schedule dates for Daylight Saving Time for each locality. If there is a change in these schedules for a particular locality, Communication Manager may require software updates.

In some cases, Communication Manager updates may not be available soon enough to accommodate support of changing Daylight Saving Time start and end dates. The

manual procedures may be the only option for older Communication Manager releases which are beyond End Of Manufacturer Support (EOMS) and do not have patches available. This section provides instruction on how to manually make these changes.

The two tables below show specific country examples of changes beginning in 2007.

Example 1: US and Canada Changes – early 2007

Transition	Old Rules	New Rules
Daylight Saving Time Start Date	First Sunday in April at 2:00 AM	Second Sunday in March at 2:00 AM
Daylight Saving Time End Date	Last Sunday in October at 2:00 A.M	First Sunday in November at 2:00 A.M

Example 2: New Zealand Changes – late 2007

Transition	Old Rules	New Rules
Daylight Saving Time Start Date	First Sunday in October at 2:00 AM	Last Sunday in September at 2:00 AM
Daylight Saving Time End Date	Third Sunday in March at 3:00 A.M	First Sunday in April at 3:00 A.M

The Following steps must be followed in the exact order specified to be used as a manual procedure for servers running releases of Communication Manager that do not have a Daylight Saving Time patch available or have not upgraded to a release of Communication Manager with the required DST rules.

See the section at the end of the document for procedures specific to the 2011 DST changes for Russia.

Manual Procedure to Change Time for Start of Daylight Saving Time: [1]

1. If Daylight Saving Time rules other than 0 (zero) are being used in the *daylight-savings-rules* SAT form, these rules must be updated via the SAT to appropriately reflect the new Daylight Saving Time changes/adjustments.

2. After the Daylight Saving Time start date per the new rules occurs:

   a. If the Server is synchronizing to a network time server, use the following steps to disable synchronization.
   NOTE: Once synchronization with a network time server is disabled it is possible to experience clock drift on the

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[1] For duplicated Server-pairs, start with the stand-by Server first. After completion of the time-change on the stand-by Server, interchange Servers and perform the same steps to change the time on the other Server.

Communication Manager server. Clock drift occurs when the time on the server slowly deviates or drifts from the correct time. If the clock drift becomes too great the server time should be set to the correct time manually (see below for instructions on setting the time manually).

     i. Select **Configure Server** from the Maintenance Web Interface.

     ii. Click the **Continue** button to proceed until a **Configure individual services** radio button is available.

     iii. Select the **Configure individual services** radio button and click the **Continue** button.

     iv. Select **Configure Time Server.**

     v. Note the IP address or host name of the network time server and copy it to a safe place. This is needed when the synchronization to the network time server is enabled again. Select the **This computer synchronizes with the duplicated server** radio button on duplicated servers and the **Use Local Clock** radio button on non duplicated servers. It is important to note that these choices might be different depending on the release of Communication Manager Software. As long as the choice other than **Use these Network Time Servers** is selected, meaning the **Use these Network Time Servers** radio button is **NOT selected**, the synchronization with network time servers will be disabled.

     vi. Click the **Change** button and a success message should be displayed.

     vii. Click the **Close window** button.

b. Manually set the server time to be correct.
NOTE: When setting the time manually via the Maintenance Web Interface on Servers running Communication Manager 3.1.2 there is a known issue that can cause the server to perform a reset! To fix this known issue contact your technical support organization and request patch 12768 or any combo patch or Service Pack (Service Pack 12866 or later 3.1.2 Service Packs) containing it.

     i. Select **Server Date/Time** from the Maintenance Web Interface

     ii. Set the time on the server to the correct time for Daylight Saving Time and click the **Submit** button.

REPEAT THIS PROCEDURE ON THE SECOND SERVER OF DUPLICATED SERVER PAIRS!!

REPEAT THIS PROCEDURE ON ANY ESS or LSP SERVERS ALSO AFFECTED BY THE DST EXTENSION.

No further changes are required until after the Daylight Saving Time start date using the old rules occurs.

NOTE: Do NOT enable synchronization with the network time server during this interval.

3. After the Daylight Saving Time start date using the old rules occurs, the time is automatically adjusted forward one hour on the Server. **NOTE: It is very important to let this transition occur and let the Server make the automated time adjustment before taking additional steps!**

    a. At the appropriate time, the time will be set forward one hour automatically on the server. **NOTE: At this point you cannot set the time back! You must wait one full hour after the time is automatically set forward before trying to manually set the time back!** After waiting at least one hour, manually set the time to be correct.
   NOTE: When setting the time manually via the Maintenance Web Interface on Servers running Communication Manager 3.1.2 there is a known issue that can cause the server to perform a reset! To fix this known issue contact your technical support organization and request patch 12768 or any combo patch or Service Pack (Service Pack 12866 or later 3.1.2 Service Packs) containing it.

        i. Select **Server Date/Time** from the Maintenance Web Interface.

        ii. Set the time on the server to the correct time for Daylight Saving Time and click the **Submit** button.

    b. If synchronization to a network time server was previously disabled in step 1, use the following steps to enable it.
   NOTE: When enabling synchronization to a network time server via the Maintenance Web Interface on Servers running Communication Manager 3.1.2 there is a known issue that causes the synchronization to fail! To fix this known issue contact your technical support organization and request patch 12868 or any combo patch or Service Pack containing it. If the patch is applied while synchronized to a network time server, the *Change* button on the *Configure Time Server* page must be clicked to activate the fix.

        i. Select **Configure Server** from the Maintenance Web Interface

        ii. Click the **Continue** button to proceed until a **Configure individual services** radio button is available

        iii. Select the **Configure individual services** radio button and click the **Continue** button

        iv. Select **Configure Time Server**

        v. Select the **Use these Network Time Servers** radio button and provide the Network Time Server information.

        vi. Click the **Change** button and the message **Successfully added NTP information** should be displayed.

        vii. Click the **Close window** button.

REPEAT THIS PROCEDURE ON THE SECOND SERVER OF DUPLICATED SERVER PAIRS!!

REPEAT THIS PROCEDURE ON ANY ESS or LSP SERVERS ALSO AFFECTED BY THE DST EXTENSION.

Manual Procedure to Change Time for End of Daylight Saving Time: [2]

1. If Daylight Saving Time rules other than 0 (zero) are being used in the *daylight-savings-rules* SAT form, and the rules were not previously changed/adjusted to appropriately reflect the new rules, they must be updated via the SAT.

2. After the Daylight Saving Time end date using the old rules occurs, the time is automatically adjusted back one hour on the Server. **NOTE: It is very important to let this transition occur and let the Server make the automated time adjustment before taking additional steps!**

   a. If the Server is synchronizing to a network time server, use the following steps to disable synchronization.
   NOTE: Once synchronization with a network time server is disabled it is possible to experience clock drift on the S8xx0 series server. Clock drift occurs when the time on the server slowly deviates or drifts from the correct time. If the clock drift becomes too great the server time should be set to the correct time manually (see below for instructions on setting the time manually).

      i. Select **Configure Server** from the Maintenance Web Interface.

      ii. Click the **Continue** button to proceed until a **Configure individual services** radio button is available

      iii. Select the **Configure individual services** radio button and click the **Continue** button

      iv. Select **Configure Time Server**

         Note the IP address or host name of the network time server and copy it to a safe place. This is needed when the synchronization to the network time server is enabled again. Select the **This computer synchronizes with the duplicated server** radio button on duplicated servers and the **Use Local Clock** radio button on non duplicated servers. It is important to note that these choices might be different depending on the release of Communication Manager Software. As long as the choice other than **Use these Network Time Servers** is selected, meaning the **Use these Network Time Servers** radio button is **NOT selected**, the synchronization with network time servers will be disabled.

      v. Click the **Change** button and a success message should be displayed.

      vi. Click the **Close window** button.

   b. Manually set the server time to be correct.
   NOTE: When setting the time manually via the Maintenance Web Interface on Servers running Communication Manager 3.1.2 there is a known issue that can cause the server to perform a reset! To fix this known issue contact your technical support organization and request patch 12768 or any combo patch or Service Pack (Service Pack 12866 or later 3.1.2 Service Packs) containing it.

      i. Select **Server Date/Time** from the Maintenance Web Interface

      ii. Set the time on the server to the correct time for Daylight Saving Time and click the **Submit** button.

REPEAT THIS PROCEDURE ON THE SECOND SERVER OF DUPLICATED SERVER PAIRS!!

REPEAT THIS PROCEDURE ON ANY ESS or LSP SERVERS ALSO AFFECTED BY THE DST EXTENSION.

No further changes are required until after the Daylight Saving Time end date, using the new rules occurs.

NOTE: Do NOT enable synchronization with the network time server during this interval.

3. After the Daylight Saving Time end date using the new rules occurs, take the following steps

   a. Manually set the time to be correct.
   NOTE: When setting the time manually via the Maintenance Web Interface on Servers running Communication Manager 3.1.2 there is a known issue that can cause the server to perform a reset! To fix this known issue contact your technical support organization and request patch 12768 or any combo patch or Service Pack (Service Pack 12866 or later 3.1.2 Service Packs) containing it.

      i. Select **Server Date/Time** from the Maintenance Web Interface
      ii. Set the time on the server to the correct time for Standard Time (non Daylight Saving Time) and click the **Submit** button.

   b. If synchronization to a network time server was previously disabled in step 1, use the following steps to enable it.
   NOTE: When enabling synchronization to a network time server via the Maintenance Web Interface on Servers running Communication Manager 3.1.2 there is a known issue that causes the synchronization to fail! To fix this known issue contact your technical support organization and request patch 12868 or any combo patch or Service Pack containing it. If the patch is applied while synchronized to a network time server, the *Change* button on the *Configure Time Server* page must be clicked to activate the fix.

      i. Select **Configure Server** from the Maintenance Web Interface
      ii. Click the **Continue** button to proceed until a **Configure individual services** radio button is available
      iii. Select the **Configure individual services** radio button and click the **Continue** button
      iv. Select **Configure Time Server**
      v. Select the **Use these Network Time Servers** radio button and provide the Network Time Server information.
      vi. Click the **Change** button and the message **Successfully added NTP information** should be displayed.
      vii. Click the **Close window** button.

REPEAT THIS PROCEDURE ON THE SECOND SERVER OF DUPLICATED SERVER PAIRS!!

REPEAT THIS PROCEDURE ON ANY ESS or LSP SERVERS ALSO AFFECTED BY THE DST EXTENSION.

Manual Date/Time Changes for Russian 2011 rule for CM4.0.x and below.

On February 8, 2011, Russian President Dmitry Medvedev issued a decree that Russia would observe year-round DST. Under the decree, all clocks in Russia were advanced one hour on 27 March 2011 as usual, but are not to change back the following October, effectively making Moscow Time UTC+4 permanently.

For CM releases not under AVAYA Manufacturer Support (CM4.0.x and below) the following steps should be done to setup the correct time zone:

a) Select the time zone from the System Management Interface (SMI) web pages. Time zone selection should be in ETC/GMT-x format where x is the new offset for the time zone where the CM system is located (important note: DO NOT use time zone name or ETC/GMT+x format). For example, Moscow Time is normally displayed as UTC+4 however the proper selection in the SMI web pages is ETC/GMT-4.

For more information on Russian time zones consult:
http://en.wikipedia.org/wiki/Time_in_Russia

b) Reboot the Server. This is an essential step to synchronize all the Linux and Communication Manager processes.

c) Cancel DST role using "set time" SAT form then save translations.