

## Knowledge Base Article



## DeltaV - Recommended Adjustments Related to Daylight Saving Time (DST) Changes

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<b>Article Status:</b>	Approved
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<b>Required Action:</b>	As Needed
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### Recent Article Revision History:


Revision/Publish	Description of Revision
14 Jun 2012	Added a note that KBA has been superseded by KBA NK-1100-1194.

(See end of article for a complete revision history listing.)

### Affected Products:

Product Line	Category	Device	Version
DeltaV	Workstation Software	VE210x DeltaV Workstation	v10.x
DeltaV	Workstation Software	VE210x DeltaV Workstation	v7.x
DeltaV	Workstation Software	VE210x DeltaV Workstation	v8.x
DeltaV	Workstation Software	VE210x DeltaV Workstation	v9.x



This Knowledge Base Article, **AP-0700-0008**, is superseded by  **NK-1100-1194: Microsoft Cumulative Time Zone Update**. Please refer to this KBA for the latest Microsoft cumulative time zone update for Windows Operating systems that is tested and approved for use on DeltaV Systems.

Knowledge Base Article **AP-0700-0008** explains the latest changes to the Daylight Saving Time (DST) transition dates in different world areas. In the United States, the adjustment was made to comply with the Energy Policy Act of 2005 and was implemented in the spring of 2007. Therefore, starting in 2007, DST starts on the second Sunday in March and ends on the first Sunday in November.

The DST changes affect time zones in the United States and Canada, except Arizona, Hawaii, Puerto Rico, the U.S. Virgin Islands, and American Samoa. Additionally, Mexico does not follow the DST rules as applied in the United States and Canada.

Microsoft initially addressed system changes due to the new DST policy through updates available from article KB931836, which was released in February 2007. Microsoft later released a series of cumulative time zone updates, with KB942763 being the last documented in this Knowledge Base Article. Microsoft recently released last August 2009 the cumulative update KB970653. This update includes all time zone changes that were signed in to law after update 942763 was created. See the complete list of time zones updated after KB942763 in the following table.

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Registry Subkey Name	Display name
W. Australia Standard Time	(GMT+08:00) Perth
SA Pacific Standard Time	(GMT-05:00) Bogota, Lima, Quito
SA Western Standard Time	(GMT-04:00) Georgetown, La Paz, San Juan
SA Eastern Standard Time	(GMT-03:00) Cayenne
Greenland Standard Time	(GMT-03:00) Greenland
Morocco Standard Time	(GMT) Casablanca
Pakistan Standard Time	(GMT+05:00) Islamabad, Karachi
Paraguay Standard Time	(GMT-04:00) Asuncion
Kamchatka Standard Time	(GMT+12:00) Petropavlovsk-Kamchatsky
Fiji Standard Time	(GMT+12:00) Fiji, Marshall Is.
Montevideo Standard Time	(GMT-03:00) Montevideo
Coordinated Universal Time	(GMT) Coordinated Universal Time
Argentina Standard Time	(GMT-03:00) Buenos Aires
Central Brazilian Standard Time	(GMT-04:00) Manaus
E. South America Standard Time	(GMT-03:00) Brasilia
Egypt Standard Time	(GMT-02:00) Cairo
Iran Standard Time	(GMT +03:30) Tehran
Israel Standard Time	(GMT+02:00) Jerusalem
Mauritius Standard Time	(GMT+04:00) Port Louis
Pacific SA Standard Time	(GMT-04:00) Santiago
Arabic Standard Time	(GMT +03:00) Baghdad

The update that this article describes is a cumulative update rollup that includes all the changes that were previously released in Microsoft Knowledge Base (KB) articles 928388, 929120, 933360, 942763, 951072 and 955839.

Since this update from Microsoft (KB970653) is cumulative and supersedes previous time zone updates, users do not need to install (or uninstall) the previously released updates before installing the newer updates from KB970653.

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**Note** Even though DST rules have changed ONLY in specific regions, these may still impact customers outside of the affected countries if their systems connect and interact with systems based in DST-implemented areas. Each customer should evaluate their DeltaV system to determine how it interacts with outside systems.

There are certain time zones that will have different DST rules from year to year. Because of this, new Microsoft DST updates must be installed each year. For example, the DST 2009 rule for the time zone in Jerusalem differs from that of 2008. If the applicable Microsoft Update for such areas is not yet available, you can use the TZEdit utility to update the system with the latest DST rules in effect.

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## Recommendations

Emerson Process Management strongly recommends that the following actions be taken by all customers in all world areas to prevent possible issues related to the DST changes:

- Update time zone information on all DeltaV systems according to the procedures in this article. This applies to **all** workstations and **all** servers in the system.
- After implementing the procedures in this article, ensure that **all** workstations and servers in the system are still set to the time zone of their respective geographical locations.

Click the following Microsoft links for more information about the DST changes:

[http://support.microsoft.com/gp/cp\\_dst](http://support.microsoft.com/gp/cp_dst)

[http://support.microsoft.com/gp/dst\\_topissues](http://support.microsoft.com/gp/dst_topissues)

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**Note** On DeltaV systems, the Events and History Data are stored in the database using Coordinated Universal Time (UTC). UTC time does **not** change with DST changes. Each stored value is always increasing in UTC from the previous value. Therefore, the actual timestamps of events and historical data should not be affected by the DST change. Past and current testing of DeltaV for DST changes has not revealed any issues with historical data collection.

Furthermore, users should **not** manually adjust the system time to account for the DST changes because this will change the UTC of the system and cause inconsistencies in historical data. Users should ALWAYS change the DST rules and **not** the system time to adjust for DST changes.

Microsoft provided updates for changing the DST transition dates of workstations or servers running on Windows XP SP2, Windows XP SP3, Windows Vista, Windows Server 2008 and Windows Server 2003 SP2. The following table shows the applicability of Microsoft update 970653 for each DeltaV version and Operating System:

<b>DeltaV Versions</b>	<b>Operating System</b>	<b>Applicability of the Microsoft Update</b>
V10.3.x	Windows Server 2003 SP2, Windows XP SP3, Windows Vista, Windows Server 2008	APPLICABLE. Download the update through the links provided below.
V9.3.1	Windows Server 2003 SP2 and Windows XP SP2	APPLICABLE. Download the update through the links provided below.
V9.3	Windows XP SP2	APPLICABLE. Download the update through the links provided below.
V8.4.x	Windows XP SP2	APPLICABLE. Download the update through the links provided below.
V8.3	Windows XP SP2	APPLICABLE. Download the update through the links provided below.
V9.3	Windows Server 2003 SP1	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.
V8.4.x	Windows Server 2003 SP1	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.
V8.3	Windows Server 2003	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.
V7.4.2	Windows Server 2003 SP1	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.
	Windows XP SP2	APPLICABLE. Download the update through the links provided below.
V7.4.1 and v7.4.0	Windows Server 2003 and Windows XP SP1	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.

V7.3 and v7.2	Windows Server 2003 and Windows XP SP1	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.
V7.1, v6.3.x, v5.x	Windows NT 4.0 and Windows NT Server 4.0 Windows 2000 (Stratus only, on v6.3.x and v7.1 only)	NOT APPLICABLE. Download and use the TZEdit utility through the link provided below.

### Download links for Server 2003 SP2, XP (SP2 or SP3), Server 2008 and Vista Systems (KB970653)

Microsoft recommends applying KB970653 to guarantee the consistency of the time zone database on all systems. For DeltaV systems on Windows Server 2003 SP1, Windows XP Service Pack 1 or older Operating Systems, follow the TZEdit instructions in the "Other Operating Systems" section below.

**For Windows Server 2003 Service Pack 2 systems:**

<ftp://ftp.emersonprocess.com/pickup/frstech/WindowsServer2003-KB970653-v3-x86-ENU.exe> (Size: 497 KB)

**For Windows XP Service Pack 2 and Service Pack 3 systems:**

<ftp://ftp.emersonprocess.com/pickup/frstech/WindowsXP-KB970653-v3-x86-ENU.exe> (Size: 500 KB)

**For Windows Vista and Windows Server 2008 systems:**

<ftp://ftp.emersonprocess.com/pickup/frstech/Windows6.0-KB970653-x86.msu> (Size: 1.2 MB)

Click the following link for more information on the KB970653 update:

<http://support.microsoft.com/kb/970653>

**Installation Instructions:**

1. Log in as administrator.
2. Close all DeltaV Applications.
3. Run the .EXE or .msu Microsoft update file and follow the prompts.

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**Note** Although the Microsoft installation process does not require rebooting the system, we strongly recommend doing so to ensure that all applications and services running on the system are restarted after the new time zone rules take effect.

For DeltaV v8.3 and above, if a reboot cannot be performed, do the following steps after installing the Microsoft Update:

- a. Stop and restart Batch Historian, Batch History View, and Batch Operator Interface, if they are running.
- b. Stop and restart Process History View, if it is running.
- c. Close and re-open any DeltaV Operate pictures that contain Embedded Trends.

**This procedure does not apply to DeltaV releases earlier than v8.3.**

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### Other Operating Systems

A Microsoft tool can be used to change the DST transition dates for workstations running on Windows Server 2003 (SP1 and SP0), Windows XP Service Pack 1, or Windows NT 4.0 operating systems. The time zone editor tool (**TZEdit.exe**) can create and edit time zone entries

for the date and time settings in the Control Panel. This tool has been tested on DeltaV v7.4.1 running on Windows XP Service Pack 1 and DeltaV v6.3.4 on Windows NT. It has also been tested on systems with New Zealand time zone running on Windows Server 2003.

The following Microsoft link provides more information on the time zone editor.

<http://support.microsoft.com/kb/914387>

To download the time zone editor, click this link:

<ftp://ftp.emersonprocess.com/Pickup/FRSTech/tzedit.zip>.

#### **TZEdit.exe Installation and Operating Instructions:**

1. Extract the files from TZEdit.zip.
2. Double-click on the **TZEdit.exe** tool.
3. In the Time Zones list, select the time zone that needs to be changed, then click Edit.
4. In the Edit Time Zone dialog box, set the following:
  - Check the option for “Automatically set Daylight Saving Time”.
  - Example For North American Customers:
    - Change the Start Day to the Second Sunday of March, with time of “02:00:00”.
    - Change the Last Day to the First Sunday of November, with time of “02:00:00”.

The appropriate start time and end time can be viewed in Microsoft article 970653.

- Leave the Daylight bias at “+1:00”.
5. Click Ok in the Edit Time Zone dialog box.

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**Note** DeltaV systems that are: 1) connected to the Plant LAN, and 2) have installed applications that are connected and exchanging time-stamped data with systems in other time zones, should have those other time zones updated with this change. In this case, repeat Steps 4 and 5 above to update each time zone that may be affected.

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6. Click Close on the Windows Time Zone editor.
7. Open Control Panel, and launch the Date and Time Properties.
8. For the change to take effect:
  - Click the Time Zone tab.
  - Select a different time zone and click Apply.
  - Re-select the correct time zone (the time zone that was edited), and click Apply. Then click Ok.

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**Note** Steps 7 and 8 above **MUST** be performed for the updates to take affect. Otherwise, even a system reboot will not cause the change to take affect.

We strongly recommend that each system be rebooted after installing this update, to ensure that all applications and services running on the system restart after the new time zone rules take effect.

For v8.3 and above, if a reboot cannot be performed, do the following after installing the Update:

- a. Stop and restart Batch Historian, Batch History View, and Batch Operator Interface, if they are running.
- b. Stop and restart Process History View, if it is running.
- c. Close and re-open any DeltaV Operate pictures that contain Embedded Trends.

**This procedure does not apply to DeltaV releases earlier than v8.3.**

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## **Download links for the Process History View Hotfixes**


This hotfix resolves the following DST-related issues that occur in the Process History View (PHV). It applies to DeltaV v8.4.2, v9.3 and v9.3.1 systems. Click any of the following links to see the description of the issues:


[Reference # 91685](#)


[Reference # 84867](#)

[Reference # 77293](#)

Download the appropriate hotfix file for your DeltaV system from the link below and follow the installation instructions:

**For DeltaV v8.4.2 Systems:** Please refer to KBA  NA-0700-0042: *DeltaV v8.4.2 Software Updates*. Follow the link for **Reference #91685** to download the hotfix.

**For DeltaV v9.3 Systems:** Please refer to KBA  AP-0600-0155: *DeltaV v9.3 Software Updates*. Follow the link for **Reference #91685** to download the hotfix.

**For DeltaV v9.3.1 Systems:** Please refer to KBA  AP-0800-0091: *DeltaV v9.3.1 Software Updates*. Follow the link for **Reference #91685** to download the hotfix.

This hotfix resolves the following DST-related issues that occur in the Process History View (PHV). It applies to DeltaV v7.4.1 and v7.4.2 systems. Click any of the following links to see the description of the issues:

[Reference # 84867](#)

[Reference # 77293](#)

Download the appropriate hotfix file for your DeltaV System from the link below and follow the installation instructions:


**For DeltaV v7.4.1 Systems:** Please refer to KBA  AP-0600-0041: *DeltaV v7.4.1 Software Updates*. Follow the link for **Reference # 84867** to download the hotfix.

**For DeltaV v7.4.2 Systems:** Please refer to KBA  AP-0700-0068: *DeltaV v7.4.2 Software Updates*. Follow the link for **Reference # 84867** to download the hotfix.

This hotfix resolves the following DST-related issue that occurs in Batch History View (BHV). It applies to DeltaV v9.3.1. Click the following link to see the description of the issue:

[Reference # 92803](#)

Download the hotfix file for your DeltaV System from the link below and follow the instructions:

**For DeltaV v9.3.1 Systems:** Please Refer to KBA  AP-0800-0091: *DeltaV v9.3.1 Software Updates*. Follow the link for **Reference #92803** to download the hotfix.

#### Installation Instructions:

1. Download and unzip the hotfix package. Each package will contain a ReadMe file and an executable (exe) file.
2. Refer to the ReadMe file for the installation instructions. In some cases, users may need to remove hotfixes that were previously installed on the system. Each ReadMe file contains a list of the hotfixes that must be removed.
3. Double-click on the exe file to initiate the hotfix installation.

#### DeltaV Systems Using the OSI PI Historian

OSIsoft recommends systems using PI clients or servers to update their localhost.tz file on top of the Microsoft update, to ensure that both current and historical PI data appear correctly with both PI and non-PI clients.

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**Note** DeltaV applications do not use the localhost.tz file to obtain local time reference. Therefore, this recommendation applies only to DeltaV Systems where OSI PI clients are being used. This includes systems that use the PI Protocol Converter to obtain data from the DeltaV Historian.

Please see OSI Support Solution #3267OSI8 for more information. Questions or concerns about the use of the localhost file should be directed to OSISOFT support. Click the following link for more information on updating the localhost.tz for the DST change:

<http://techsupport.osisoft.com/Bulletins/3/4b68eec0-a6f1-4d11-813b-da11163943bd.htm>

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## Known Issues

**Note** All major releases of DeltaV from v7.3 and later have been tested to determine if any issues exist after making DST-related changes. This includes v7.3, v7.4.1, v7.4.2, v8.3, v8.4.1, v8.4.2, v9.3, v9.3.1, and v10.3. The latest release that runs on Windows NT, version v6.3.4, has also been tested. Users of older versions of DeltaV should expect similar issues as observed on the closest tested version.

For References **84870** and **84966** described below, please be aware that DeltaV applications are designed to work only with the time zone rules **currently** in effect, and not with different time zone rules from *previous* years.

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### Reference # 84867 (Observed in United States DST testing only)

Process History View chart does **not** display the DST time shift on the x-axis, in the November 4, 2007 transition from DST to standard time. Two consecutive "1 AM" indicators should be seen on the chart, but only a single "1 AM" is shown followed by a "2 AM". This has been resolved in v9.3.1 and v10.3. Hotfixes are available for v7.4.1, v7.4.2, v8.4.2 and v9.3.

### Reference # 77293 (Observed in New Zealand DST testing only)

PHV chart's x-axis is delayed by one hour compared to the timestamp before the transition from DST to standard time occurs on the first Sunday of April. This has been resolved in v9.3.1 and v10.3. Hotfixes are available for v7.4.1, v7.4.2, v8.4.2 and v9.3.

### Reference # 84870 (Observed on all versions tested)

In Process History View charts and other DeltaV applications that can view archived data from previous years, the DST transitions for 2006 and earlier will also change. When viewing historical data from 2006, one will notice that the DST transition dates have changed to the second Sunday of March and the first Sunday of November.

### Reference # 84966 (Observed in United States DST testing only)

Batch History View displays incorrect timestamps for batches that ran through the October 2006 DST transition when viewed after the March 2007 DST transition.

### Reference # 90179 (Observed on v7.4.2, v8.4.2 and v9.3 testing)

This issue occurs after installing the standalone hotfix for **Reference # 84867**. On systems using the Newfoundland time zone, the chart DST FallBack occurs at midnight instead of at 00:00, so it will appear delayed by 24 hours in Process History View. This issue has been resolved in v10.3.

### Reference # 91685

This issue occurs after installing Microsoft Update KB942763 or newer Microsoft Updates for DST in time zones wherein the DST start or end transitions do not fall on a Sunday. For example, Arabic, Egyptian, and Israeli time zones fit into this category. No transition is seen in Process History View (PHV) on the actual start or end date, instead the transition is seen on the following Sunday. The PHV chart will be offset by one hour from the actual time during these days. This is resolved in v10.3. Hotfixes are available for v8.4.2, v9.3 and v9.3.1.

### Reference # 92803

This issue occurs after installing Microsoft Update for KB942763 in time zones wherein the DST start or end transitions do not fall on a Sunday. Arab, Egypt, and Israel time zones are some examples. No transition is seen in Batch History View (BHV) on the actual start or end date, instead the transition is seen the following Sunday. The BHV chart will be one hour off from the actual time during these days. Issue exists in v9.3 and v9.3.1. A hotfix is available for v9.3.1.

**Reference # 97214**

This issue was seen while testing the DST transitions using the Jerusalem time zone. After the Spring Forward in 2009 (2:00 AM on March 27), new events generated during the hour following 4:59 AM (1:59 UTC) will be displayed in PHV as having timestamps from 4:00 - 4:59 AM (1:00-1:59 UTC). After this set of incorrect timestamps, new events in the following hours would have correct timestamps, starting at 6:00 AM.

**Reference # 98825**

The 2009 Spring DST change for Chile's time zone (Santiago GMT – 4:00) should happen on March 14 at 23:59:59, however, Process History View shows the change on March 7<sup>th</sup> at 23:59:59. This issue will not occur in year 2010 and beyond.

**Complete Article Revision History:**

Revision/Publish	Description of Revision
14 Jun 2012	Added a note that KBA has been superseded by KBA NK-1100-1194.
23 Feb 2010	Revised the table showing the applicability of MS Update 970653 for Operating Systems used for v7.4.2.
03 Feb 2010	Modified to include the new MS Update 970653. Added the information and download link for the DeltaV hotfix on issue 92803.
28 May 2009	Added the information and download link for the hotfix 91685 for DeltaV v8.4.2. Added information about issue 98825. Re-arranged the list of known issues.
10 Mar 2009	Corrected the indicated size of the Windows Update for XP SP2 and XP SP3 from 5013 KB to 513 KB
06 Mar 2009	Included information and download link for hotfix 91685. Also added information about issue 97214.
13 Oct 2008	Updated article with the latest Microsoft DST update 942763. Removed link for Microsoft 933360. Added information on issues 91685 and 92803. Modified version applicability to include v9.3.1 and v10.3.
29 Oct 2007	Updated the article to include applicability of Microsoft 933360 update for the United States timezones, added link to download the Process History View hotfix, and added information on issue 90179.
28 Sep 2007	Updated the article to include information on new Microsoft Release Update 933360, applicability for New Zealand DST, and added issue 77293.
07 Mar 2007	Updated the article to:clarify applicability of the patch and reboot procedure, include tested DeltaV versions, additional information on PI systems, remove issues 84895/84894 and add issue 84966.
28 Feb 2007	Updated the article to include recommendations on installation of the update and to clarify recommendation to reboot each system.
22 Feb 2007	Added applicability of the patch to v9.3 and the procedure to use the tzedit utility
16 Feb 2007	Included the Microsoft Software Update details and the link to download the Update.
07 Feb 2007	Original release of article

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