

LAWO DokuWiki

vsmPanel - Daylight Saving Time (DST) Adjustment Procedure

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vsmPanel - Daylight Saving Time (DST) Adjustment Procedure

1. Introduction

The following adjustment procedure applies to installations which run the vsmStudio internal Event-Scheduler, and which manage scheduled events while clocks are adjusted between summertime and standard time. Events scheduled for the 'lost hour' respectively the 'additional hour' require remapping at runtime. This description describes the full adjustment procedure.

Installations which are using the integrated event scheduler of vsmStudio require a LTC or NTP synchronised time base. An additional client PC is used to run a vsmPanel in the so called DST Fix Mode. In countries with daylight saving time DST-regulations, several events may need correction as vsmStudio internally runs on UTC time. To allow for an error-free DST change, a few tasks will require manual interaction during the installation process.

2. Requirements

It is important to ensure all components involved in the DST FIX process meet at least the below specifications. In case of questions, please get in touch with our support team to verify software versions are suitable for a proper DST FIX.

It is important to check the status of the related events *after* the DST FIX process. In case you find any unexpected adjustments, please refer to chapter for help.

The adjustment procedure requires a client PC / an additional client PC which will run vsmPanel in "**DST Fix Mode**". As vsmPanel is licensed per seat, you may need to "sacrifice" one vsmPanel license for the adjustment process. Also, a separate panel configuration must be added to the configuration, containing all existing scheduled channels. The client PC must have an active network connection to the vsmStudio servers. To avoid user errors, this panel template should run in "**Read Only**" mode. This additional panel is supposed to run 'around the DST adjustment phase', in other words: from a *few hours before* the actual adjustment, until a *few hours after*. Starting the prepared vsmPanel at 1:00am and shutting it off at 4:00am would perfectly fit.

It is assumed, that an affected installation is already prepared to run the Event-Scheduler time-synchronously. vsmTimeSync is running and synchronizes a server cluster. The installation is synchronous with the entire infrastructure (may require LTC interface or other synchronization methods). The vsmPanel host is time-synchronous to a facility-wide network time. In case vsmTimeSync or the LTC Interface are required, but not available, you will find installation guides at the end of this document.

Software Versions:

- **vsmPanel v3.0.102 or higher** installed on client PC
 - .net 4.5.2 SP1
 - Windows 7 32bit or 64bit or higher
 - Direct X supported graphic card (limited graphic support without Direct X support)
- **vsmStudio B1744 or higher**
 - Windows Server 2008 R2 64bit or higher
 - Open network ports 8000, 8001 and 8002 TCP
 - VC++Runtime 2010

Please note that it is not necessary to update all vsmPanels within your environment. Only the vsmPanel which will handle the DST adjustment needs to meet the requirements listed above.

In case required:

- **LTC Interface FW 0.09 or higher** connected to each vsmServer via USB Interface
 - PAL 25 fps non-drop frame supported
 - NTSC 30 fps non-drop frame supported
 - LTC clock deliver UTC time (local time only supported for installations without event scheduler)
 - CDM20814_WHQL_Certified_Driver for USB Com Port Simulation
- **vsmTimeSync v3.0.1 or higher** installed on each vsmServer
 - .net 4.5.2
 - open network port 8031 UDP
 - Windows Server 2008 R2 64bit

3. Preparation

All Windows Servers delivered from Lawo will have the newest Windows Updates installed. In case you have purchased your own HP Server (please ask for current supported hardware). Lawo provides a self-installing Windows Server image which should be used to install the servers. The client PCs can be standard, out of the box, Windows installations, but (at least) .NET 4.5.2 must be installed.

In case you like to update the existing vsm installation make sure that all available Windows Updates are performed before you continue. Also make sure that the LTC Interface will run the latest firmware and the right USB Driver is installed.

All software will be provided in zip containers.

4. Installation and Setup of vsmPanel in DST Fix Mode

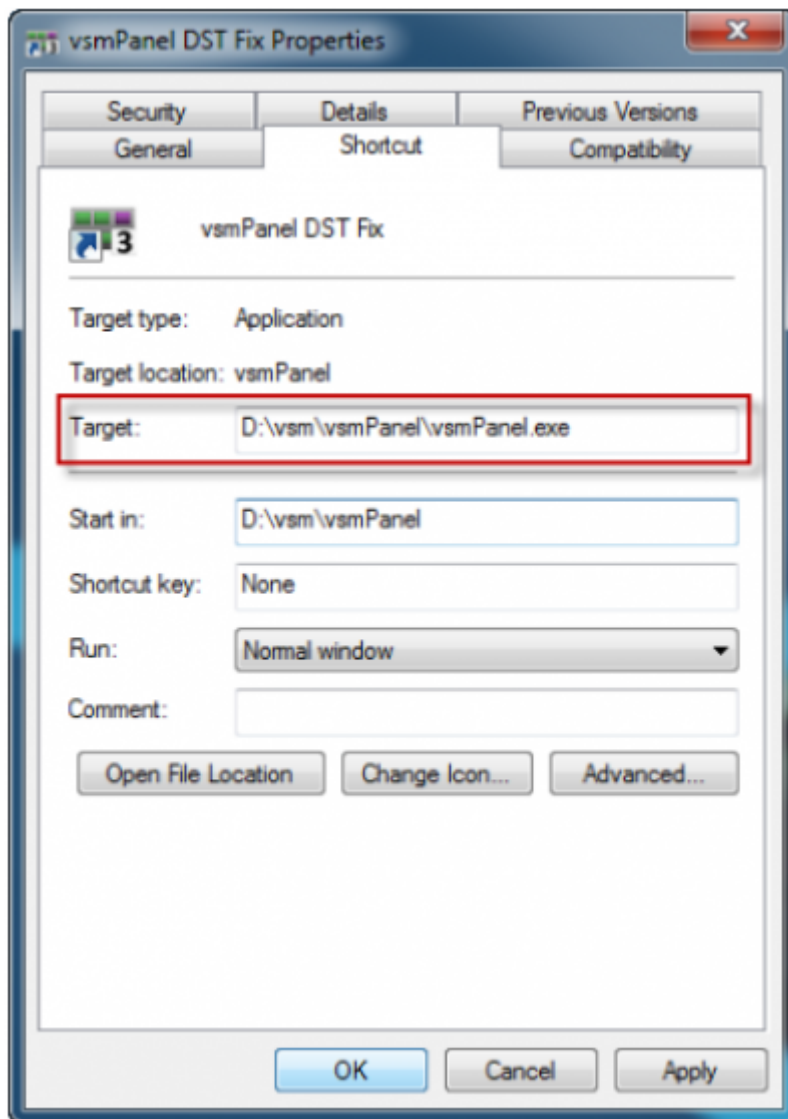
Extract the vsmPanel.zip package into a folder of the client PC. Depending on the operating system, choose the 32bit version (x86) or the 64bit version (x64). Please ensure that all needed add-on software is installed in advance (see requirements above). The installation wizard will guide you through the installation process.

After a successful installation please create a shortcut for the vsmPanel.exe on the desktop of the client machine and name it "vsmPanel DST Fix". This is important, as the User Manual will refer to this

shortcut on the Desktop.



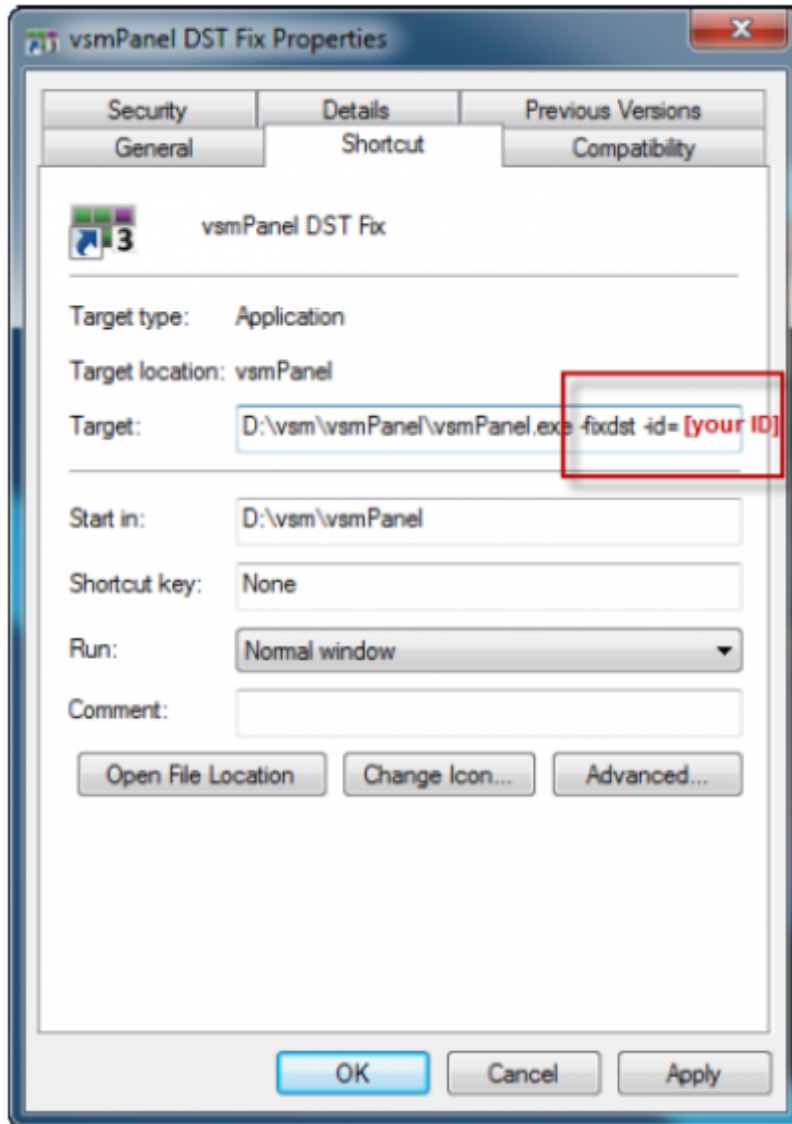
When this is done, right click this shortcut and select "Properties". You will see the following window (The target path could be different).



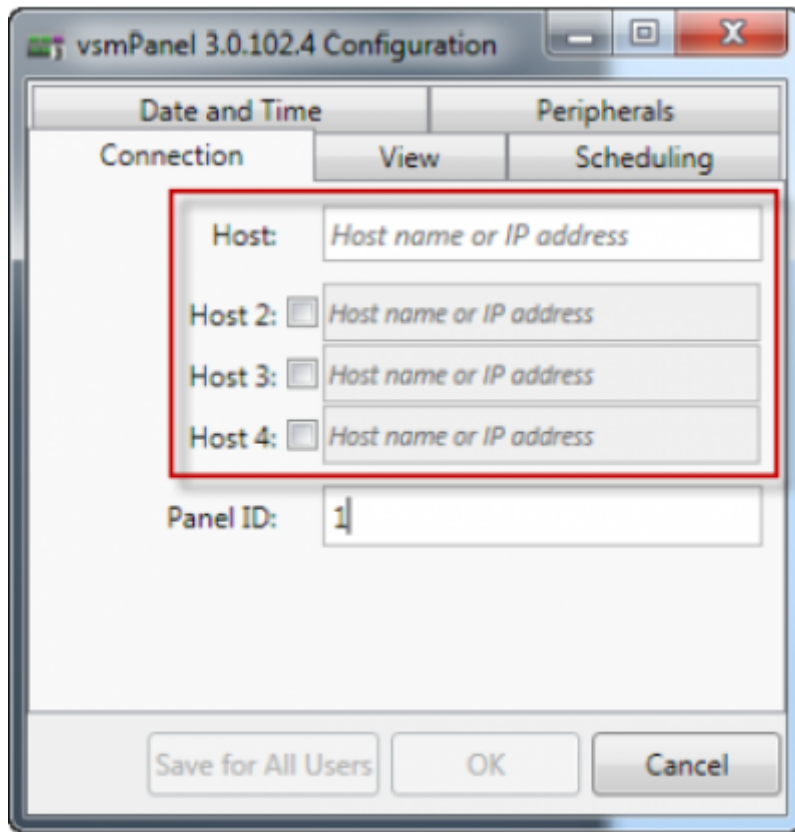
As the just created shortcut will be used to initiate the DST adjustment procedure, addition information has to be added to the Target settings of the shortcut: The Target field should be changed to the following:

hdd:\[Path chosen]\vsmPanel.exe -fixdst -id=<ID>

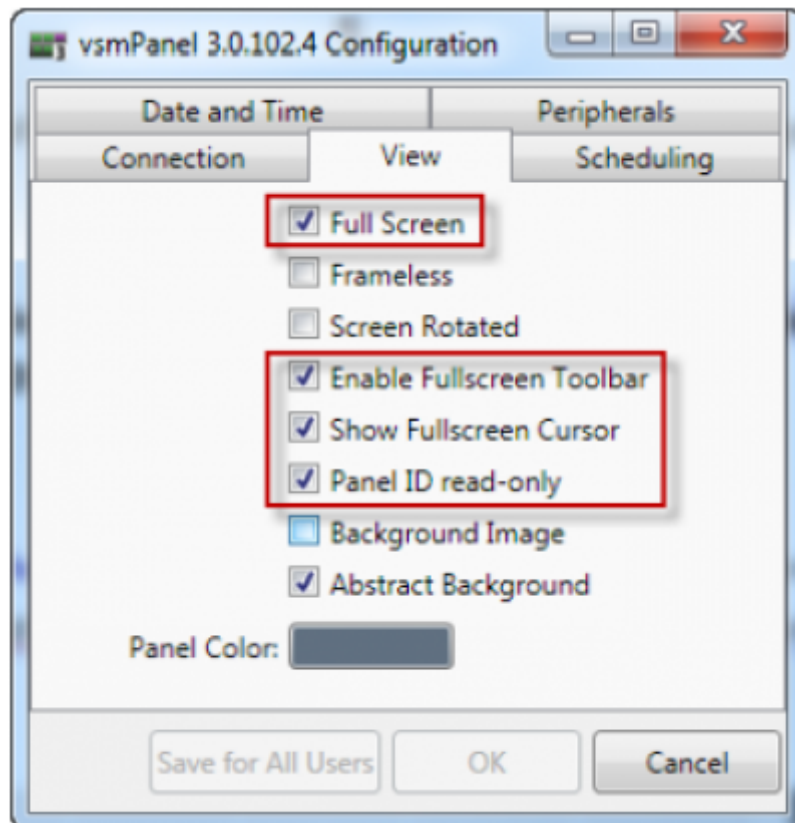
Where <ID> is replaced by the panel ID of the DST adjustment panel that has been created in the configuration (see chapter 5, below).



After pressing the “OK” button, start the vsmPanel using this shortcut. The following window will appear.



Make sure that you will fill in the IP addresses of all vsmServers. This guarantees that in case of a failure of one server at the time that the vsmPanel is started, the vsmPanel will still find the other vsmServer. When this is done, please select the Tab "View" and make the following settings:

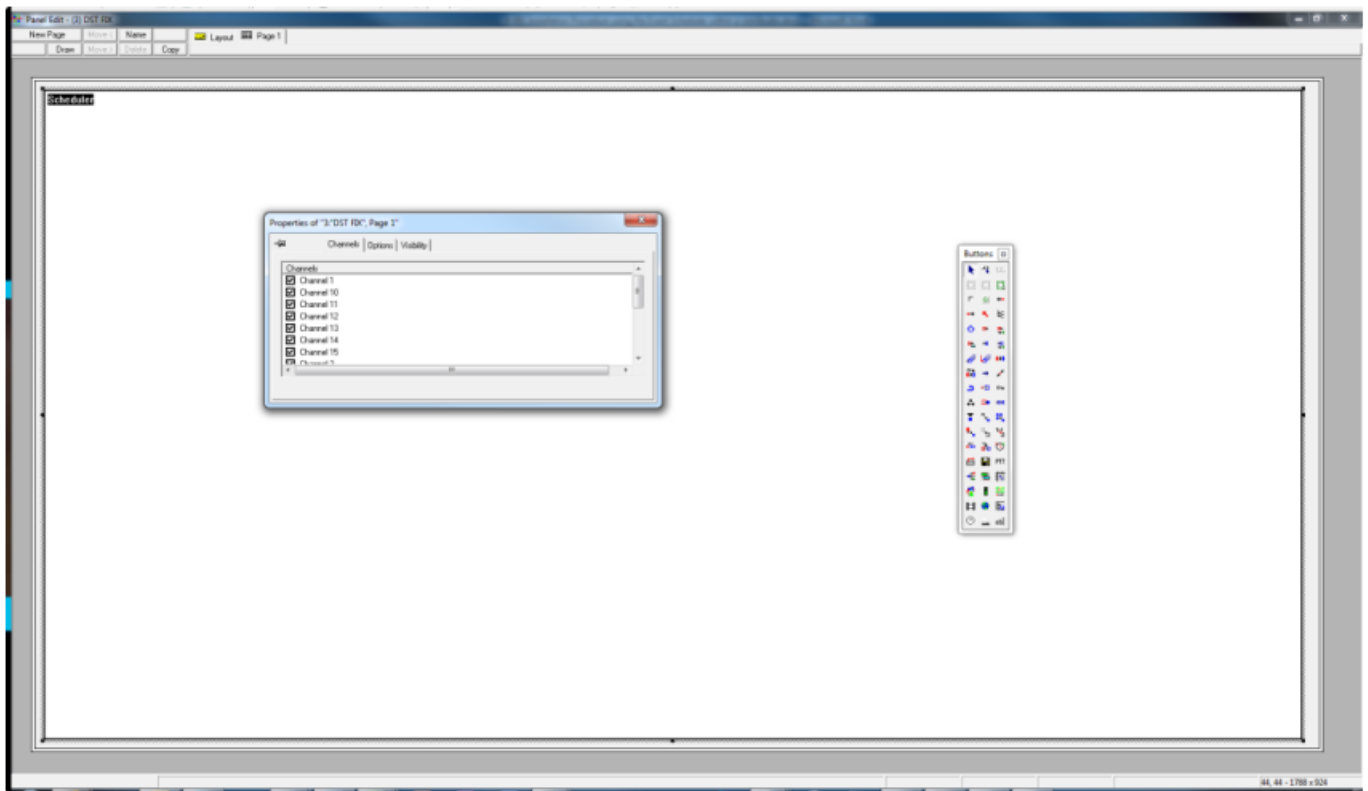


The most important setting is “Panel ID read-only”. This will ensure that Users cannot change the Panel ID, which would cause the DST adjustment to not work. When all the settings are done, please press ok and the vsmPanel will start.

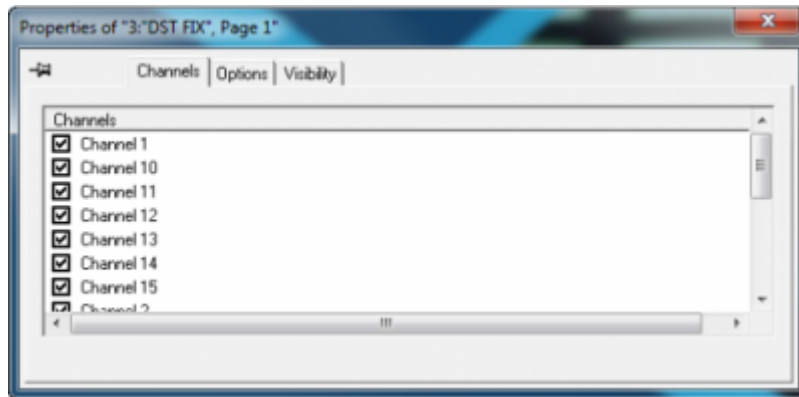
5. Configure a DST Fix Mode Panel within vsmStudio

In order to perform a successful DST adjustment, the vsmPanel must have access to a panel which has access to all channels used within vsmStudio. Therefore it is necessary to create a new panel, which should fit the screen resolution of the client PC used for the DST adjustment. The panel’s ID should be a currently unused ID and the same ID is used in the vsmPanel shortcut setup as described above in chapter 4.

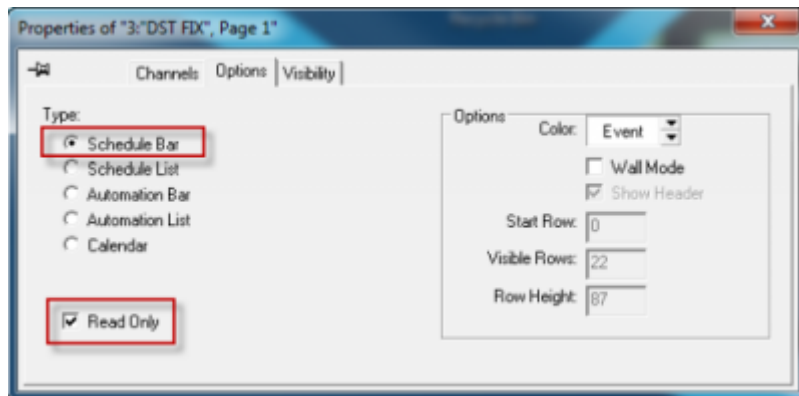
This panel does not require anything apart of an “Event Scheduler Page Item”.



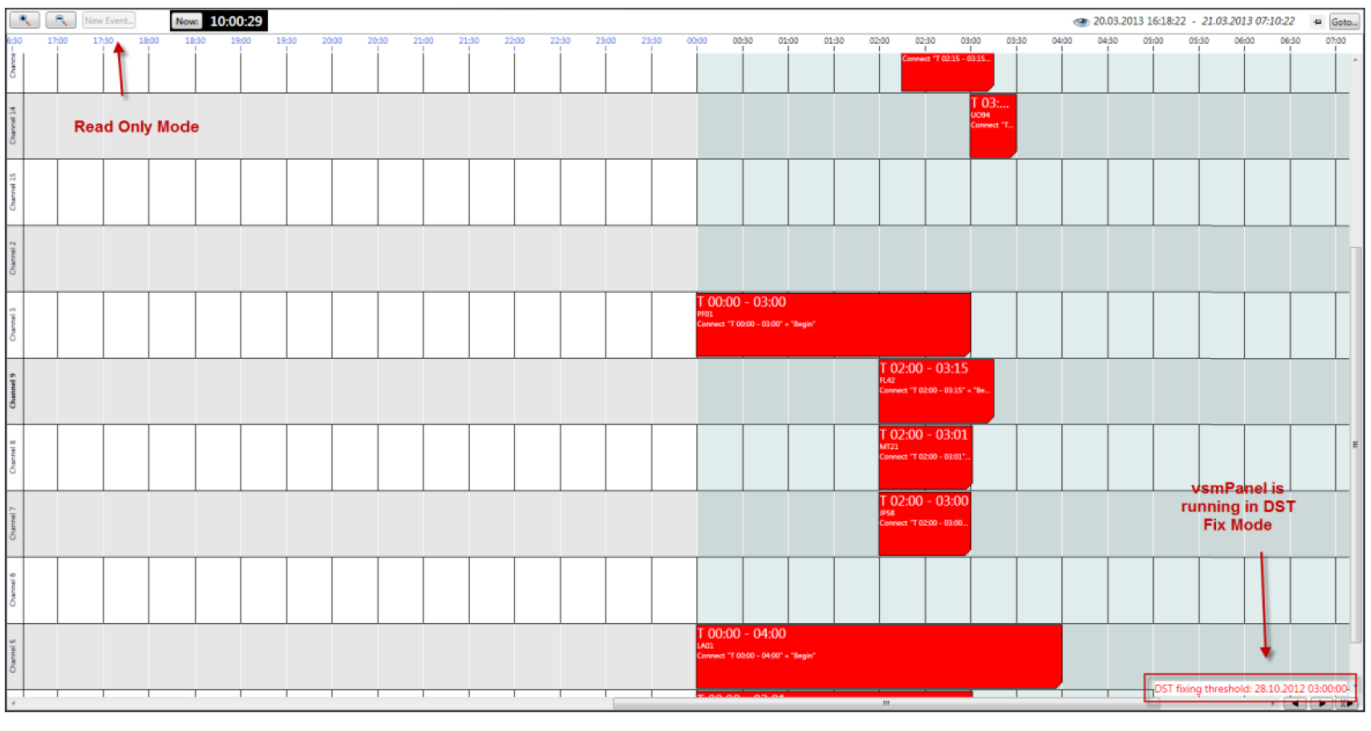
This Event Scheduler Page Item must have every available channel selected. Channels not marked will not have DST adjustment applied. Please remember to check this from time to time, as new Channels are not automatically added.



After selecting all the channels, navigate to the “Options” tab of the property box. Please tick “Read Only” and ensure that “Schedule Bar” is selected.

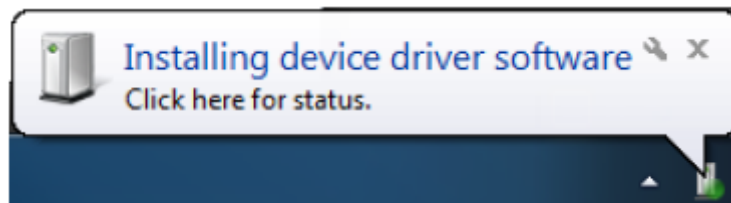


When this has been done, close the Panel Editor, save the configuration and synchronise the changes to the other vsmServers. The vsmPanel on the client PC should now show the EventScheduler with all Events in Read Only mode and in the bottom right-hand corner the DST fixing threshold is displayed, which indicates that the vsmPanel is started in DST adjustment Mode.

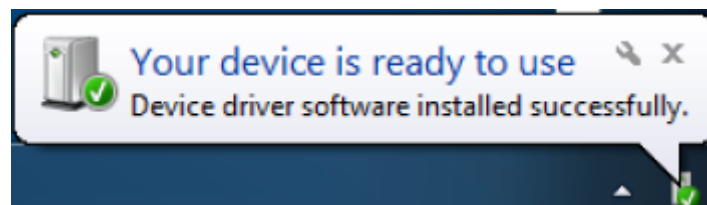


Appendix A: Installing the LTC Interface Driver

Connect the LTC Box with the vsmServer using the provided USB cable. The Plug and Play feature of Windows will start the installation process.



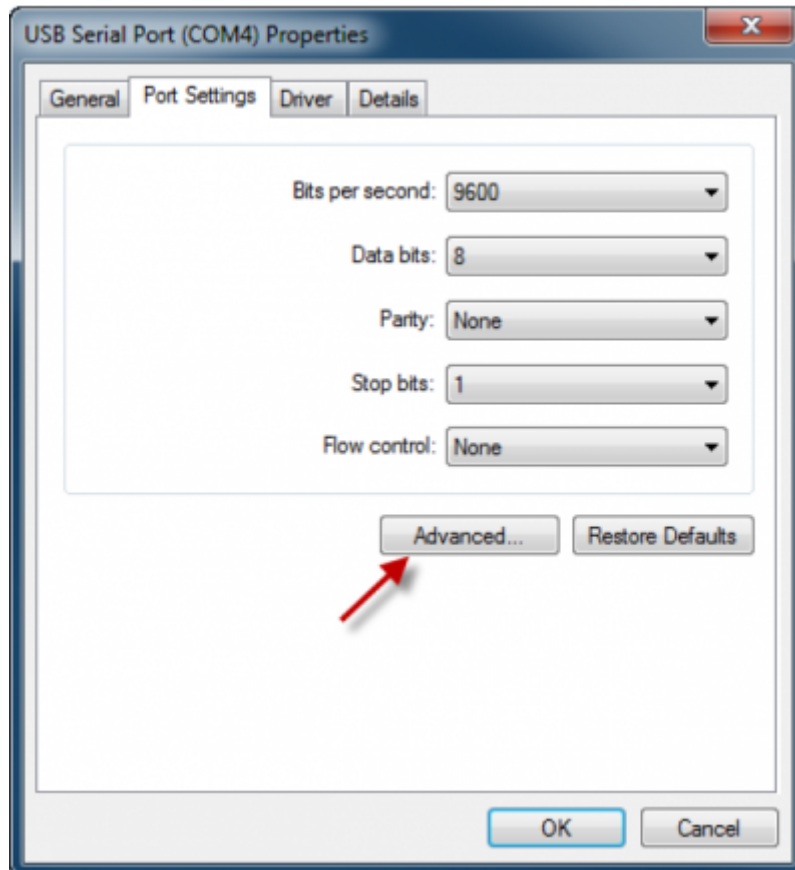
When the driver was successfully installed you will see the message below. To check which COM is used navigate into the Windows Device View (*normally COM4*)



In case the driver was not found automatically, you have to manually install the driver. For this, navigate into the Windows Device View and search for a device called USB Serial Port. Double click the device, open the Driver Tab and install the driver. Browse to the location on the vsmServer where the CDM20814_WHQL_Certified_Driver is located (use the correct x86 or x64 version, depending on the operating system).

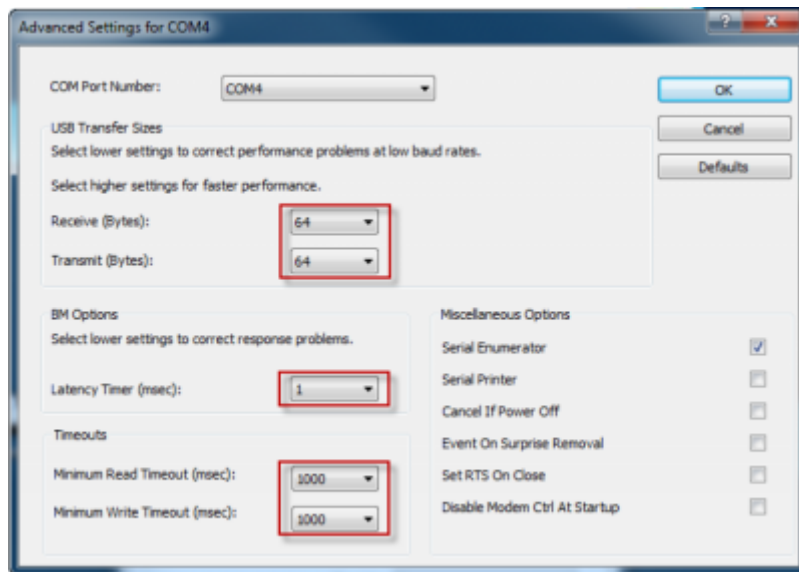
After the driver has been installed, please validate the settings of the driver.

To do this, double click the USB Serial Port Device (normally COM4) and navigate to the Port Setting Tab and click the Advanced Button.



In the next window please verify the following values:

- Receive = 64
- Transmit = 64
- Latency Timer = 1
- Minimum Read Timeout = 1000
- Minimum Write Timeout = 1000

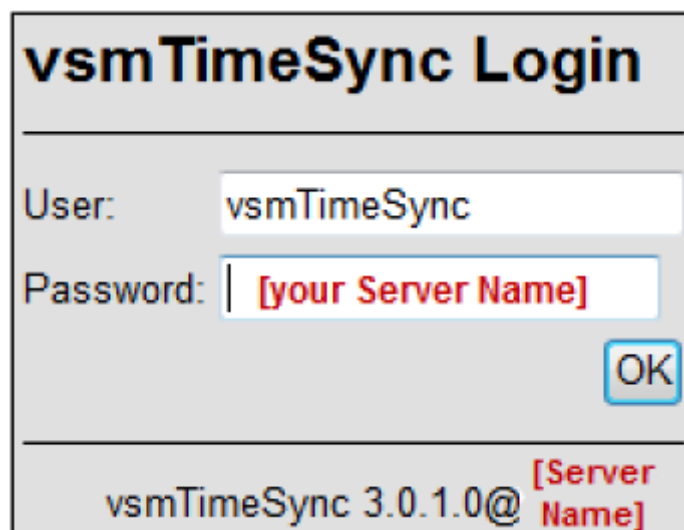


These settings must fit 100% otherwise the LTC synchronisation will not work properly.

Appendix B: Installation and Setup of vsmTimeSync

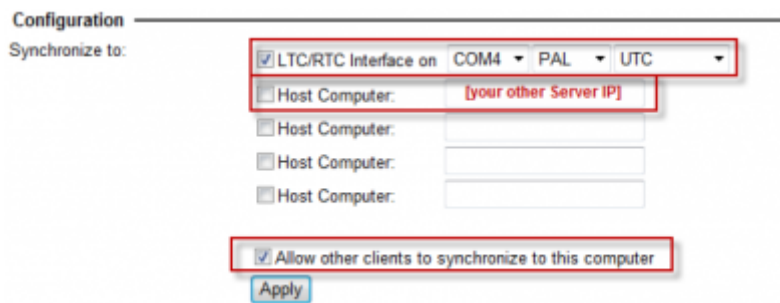
Extract the vsmTimeSync.zip package into the folder d:\vsm\vsmTimeSync of the vsmServers. Depending on the operating system choose the 32bit version x86 or the 64bit version x64. Please make sure that all needed add-on software is installed in advance (see Requirements above). The installation wizard will guide you through the installation process. Make sure you select the correct folder "d:\vsm\vsmTimeSync" during installation. The software will be installed as a Windows service. You will later find it in the service control GUI of Windows. The service's name is "vsmTimeSync".

After a successful installation open the Web browser and navigate to the vsmTimeSync configuration page using the URL: <http://localhost:8033>



In the User field enter the default user name "vsmTimeSync". In the password field enter the name of the server the vsmTimeSync is running on.

After successfully logging on, the main configuration page of vsmTimeSync is displayed. Setup the LTC source and the synchronisation between the vsmServers.



In the first row select which COM port is connected to the LTC/RTC interface. By default it is COM4 (find the defined COM Port in the Device Manager of Windows). In the next combo box you need to select if the Time Code Generator will deliver PAL with 25fps non drop frame or NTSC 30fps non drop frame. The last combo box will provide the values UTC and local Time. The only supported LTC for systems using the Event Scheduler is UTC, so therefore it has to be sure that the attached Time Code Generator will deliver a UTC time base. Local Time can only be used on systems without the Event Scheduler.

To guarantee a stable time synchronisation, even when LTC is lost on one or more vsmServers, we will also define the other vsmServers as Hosts. Therefore set the mark in front of the Host Computer and type in the IP address of the other vsmServers. Do not put in the IP address of the local machine you are working on.

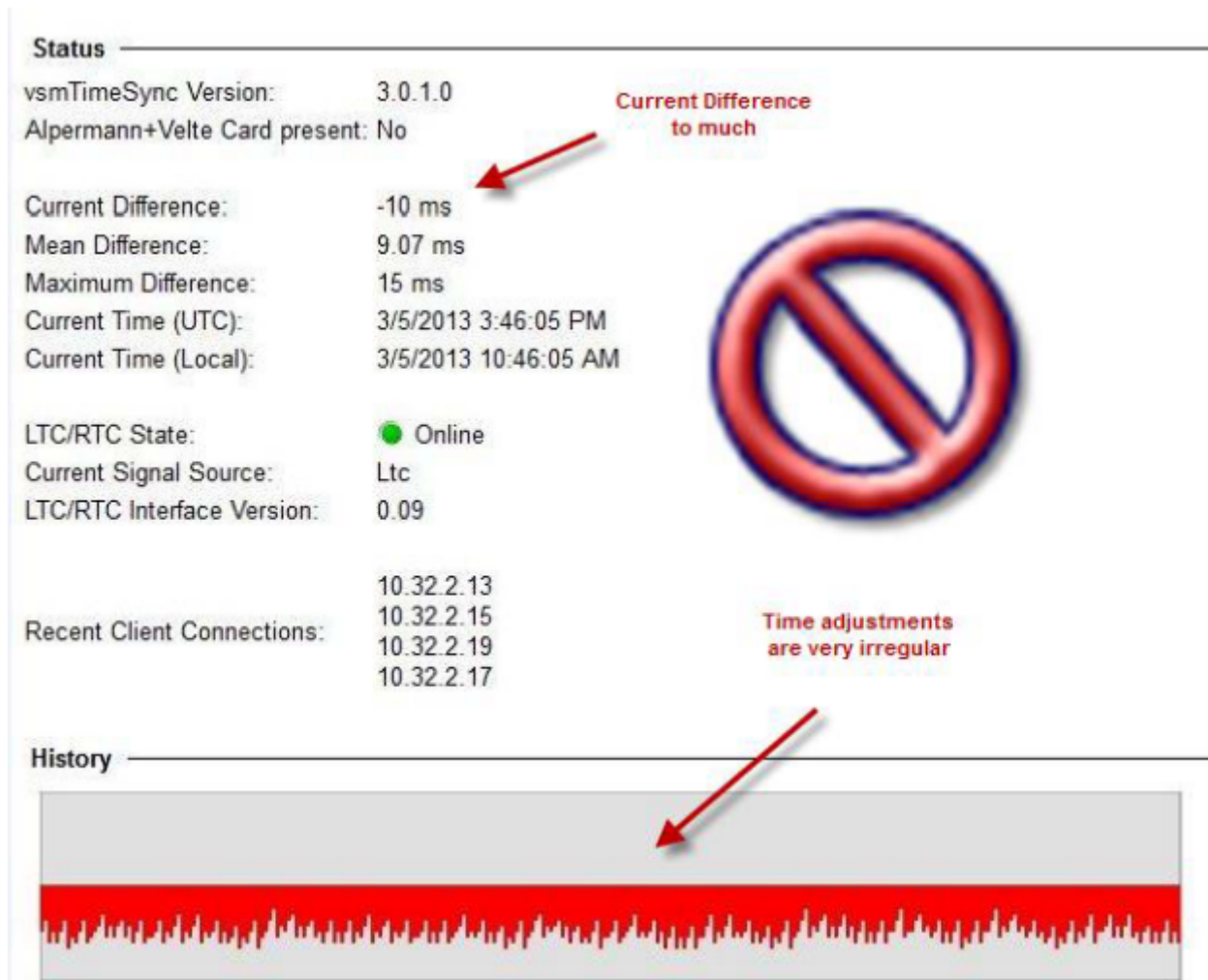
To allow the other vsmServers to connect and synchronise their time with this server, set the mark for "Allow other clients to synchronize to this computer".

These settings have to be deployed to each vsmServer

When every vsmServer has been prepared, please open the configuration GUI of vsmTimeSync on every vsmServer again and validate that there is a stable time synchronisation.

The displayed "Current Difference" must be around +/- 5ms max. Please note that the vsmTimeSync needs a while to synchronise the time, as the service has to calibrate the round trips within the network and will include the delay of the network into the time calculation.

The following picture shows the result of a bad/wrong LTC reference signal from the Time Code Generator. This will result in instable time adjustments.



In such a case, check the settings of the Time Code Generator and ensure correct cabling and termination. Please also remember that the supported settings of the LTC Interface are:

- PAL 25fps non drop frame
- NTSC 30fps non drop frame

Appendix C: What if...?

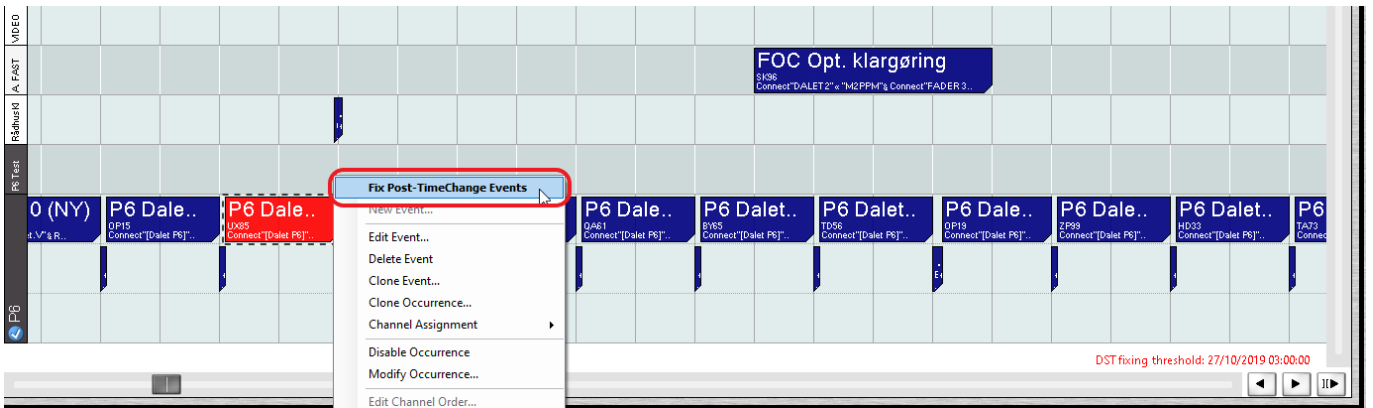
What if not all events have been corrected?

In very rare situations it might happen, that not all events get shifted. In that case, such events would be triggered 1 hour too early or one hour too late.

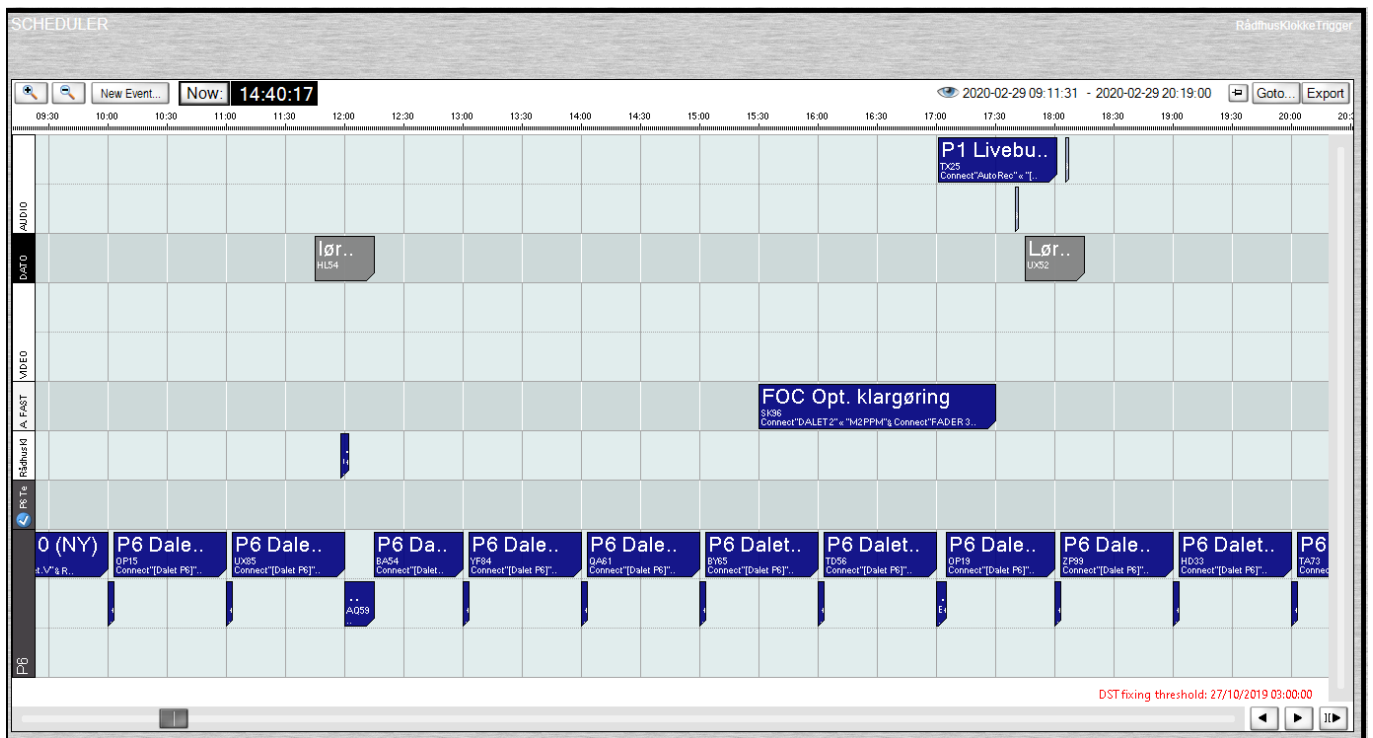
You can identify such “unshifted” events by opening the vsmPanel in DST Fix mode again and monitor all events “around” the time of the DST adaption. Events which have not been corrected are displayed in red.



To correct a specific event, right-click onto the event and select Fix Post-TimeChange Events.



The event will be corrected and is displayed in blue.



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