Sample Workflows – Timed Text Flip

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Overview

Timed Text Flip is a sophisticated subtitle and captioning component that runs on the Telestream Media Framework in Vantage, providing an easy-to-use interface to read, write, and adjust subtitle and caption data; automating common captioning and subtitling conversion processes.

Caption data can be extracted from video files that have embedded caption data as well as from common caption and subtitle file formats such as SRT and EBU-STL, in addition to SCC which was already supported in other Vantage actions. Outputs include Internet caption files, such as TTML, as well as SCC, MCC, and "Same as Source" caption insertion into media files such as MXF and MOV.

Timed Text Flip also gives users the ability to create subtitle overlay graphic files for Vantage workflows that require burn-in subtitles. These graphic files can be customized in Timed Text Flip and are able to be used with Vantage actions that support graphic overlay burn-in filters. You can change the subtitle font, set text and background colors, and customize other settings.

Timing adjustments are also a feature of the Timed Text Flip action. Users can quickly adjust timecode parameters of source files such as drop frame to non-drop frame changes, frame rate conversions, and speed timing adjustments to fix drifting synchronicity of caption and subtitles within media files. This is critical for media transcoding workflows that require a frame rate conversion of a video file that is not in the proper format for delivery.

SCC files and subtitle overlay graphic files that Timed Text Flip generates are able to be used with other Vantage actions such as IPTV VOD and Multiscreen. All other generated files, including TTML and WebVTT, can be attached to media in a Vantage workflow that require a side-car captioning file for delivery.

Requirements – Licenses, Media, Metadata

Minimum Requirements
- Vantage v6.3 UP5 (or later) licensed with:
    - Vantage Transcode (**V-XCODE-SW**)
    - Vantage Timed Text Flip option (**V-TTFLIP-SW**)

Timed Text Flip Sample Workflows

The Timed Text Flip sample workflow package includes six (6) workflows that demonstrate how the Timed Text Flip option can be used in Vantage workflows requiring Closed Captions or Subtitles. All workflows use a Watch as an origin action. Other origin actions can be substituted where appropriate.

Creating MCC, SCC and Subtitle overlay files from an EBU STL

Timed Text Flip can be used to convert from one type of caption or subtitle format into a different format that is required for specific closed caption or subtitle workflows. The first two example workflows demonstrate how this can be done.

- The first workflow example converts an EBU-STL subtitle file into both MCC and SCC TV caption files.
- The second workflow example uses an EBU-STL subtitle file as an input and creates a subtitle overlay file as an output.

Workflow #1 – EBU STL to MCC and SCC
Creates MCC and SCC closed caption files from an EBU STL

Although an EBU-STL file does not contain CEA-608 or CEA-708 caption data, it can contain timing and text information that can be used by the Timed Text Flip action to create CEA-608 and CEA-708 output. In this example, the Timed Text Flip action is configured to read an EBU-STL file and create an SCC (CEA-608 only) and an MCC (both CEA-608 and 708) file for delivery.

Watch Action – The Watch action will submit media files matching specific parameters upon arrival in the monitored folder. In this case the Watch action only processes files that have an STL file extension.

Timed Text Flip Action – The Timed Text Flip action is configured to process an EBU-STL as an input and create CEA-608 and CEA-708 outputs converting the frame rate from 23.976fps to 29.97fps.

Deploy Action – The Deploy action simply copies the MCC and SCC file into a folder on the C:\ drive.

Workflow #2 – EBU STL to Subtitle Overlay
Create a QuickTime Subtitle overlay file from an EBU STL file

This workflow uses the same EBU-STL input file as workflow #1. Here the Timed Text Flip action reads the EBU-STL file and creates a QuickTime subtitle overlay that contains Timed Text data extracted from the input.

Watch Action – The Watch action will submit media files matching specific parameters upon arrival in the monitored folder. In this case the Watch action only processes files that have an STL file extension.

Timed Text Flip Action – The Timed Text Flip action is configured to process an EBU-STL as an input and create a QuickTime subtitle overlay file as its output.

Deploy Action – The Deploy action simply copies the Timed Text Flip action's output file into a folder on the C:\ drive.

Workflow #3 – TTML to Various Outputs
Creates multiple Timed Text outputs from a TTML input file

The input for this sample workflow is a TTML (Timed Text Markup Language) and the outputs are 5 different caption/subtitle files (MCC, SCC, Subtitle Overlay, WebVTT and SRT).

Watch Action – The Watch action will submit media files matching specific parameters upon arrival in the monitored folder. In this case the Watch action processes files that have an XML file extension.

Timed Text Flip Action – The Timed Text Flip action is configured to a TTML as an input and create 5 outputs (MCC, SCC, Subtitle Overlay, WebVTT and SRT).

Deploy Action – The Deploy action simply copies the Timed Text Flip action's output files into a folder on the C:\ drive.

Workflow #4 – Timed Text overlay with MP4
Read CC data from an input file and output an MP4 with burned-in (Open) Subtitles

This workflow's input is a QuickTime containing closed captions and the output is an MP4 with burned in (Open) subtitles.

Watch Action – The Watch action will submit media file(s) matching specific parameters upon arrival in the monitored folder. In this case the Watch action processes only files with an MOV extension.

Timed Text Flip Action – The Timed Text Flip action is configured to process the MOV file, extract the CEA-608/708 closed caption data and creates a QuickTime subtitle overlay file.

Identify Action – Identifies the file path of the QuickTime overlay file.

Flip Action – The Flip action uses the original MOV file and the QuickTime overlay file together to create an MP4 with Open subtitles.

Workflow #5 – CC to Overlay at Multiple Frame Rates
Read CC data from an input file and create multiple Subtitle overlays with differing Frame Rates

This workflow's input is a QuickTime containing closed captions and the outputs are multiple SCC closed caption files of varying frame rates.

Watch Action – The Watch action will submit media files matching specific parameters upon arrival in the monitored folder. In this case the Watch action processes QuickTime .MOV files only.

Timed Text Flip Action – The Timed Text Flip action is configured to accept a QuickTime file as an input and to create multiple SCC files of varying frame rates as its outputs.

Deploy Action – The Deploy action simply copies each Timed Text Flip action's output file into a folder on the C:\ drive.

Workflow #6 – Speed Change Increase Decrease
Read CC data from an input file and create multiple re-timed Subtitle overlays

This workflow's input is a QuickTime containing closed captions and the outputs are multiple re-timed SCC closed caption files.

Watch Action – The Watch action submits media files matching specific parameters upon arrival in the monitored folder. In this case the Watch action processes QuickTime .MOV files only.

Timed Text Flip Action – The Timed Text Flip action is configured to processes QuickTime .MOV files as an input and to create multiple SCC files, one re-timed at 99.9%, another at 100.1% and the final with no retiming applied.

Deploy Action – The Deploy action simply copies each Timed Text Flip action's output file into a folder on the C:\ drive.

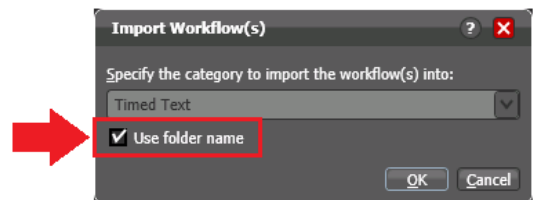## Installing and Using the Timed Text Flip Sample Workflows

Before installing the sample workflows you will need a Vantage server with an active Vantage license (see minimum requirements above). If you do not currently have a Vantage server with an active license, download the appropriate version of Vantage (and any required Update Packs) from the Telestream Vantage download page, and request an evaluation license from Telestream.

Installation process:

To load all the required Vantage items, media files and metadata carefully follow these steps.

Preparing your Vantage Server to run Timed Text workflows

1. Create a default input origin folder
    - o The preferred folder is C:\VantageIn. This will be the root folder that is monitored for new incoming media files by the workflow's Watch origin actions.
    - o Within C:\VantageIn, create TTML, DEMO608 and EBU-STL subfolders.
    - o Sample workflows have been set to monitor the C:\VantageIn subfolders respectively. If you choose to create a different folder location you must modify each workflow's origin action to point to your desired folder location. See Using the Sample Workflows below**.**
2. Copy the Timed Text Sample Workflow ZIP file onto a Vantage Server
    - o Unzip the Timed Text Sample Workflow ZIP into a local folder; preferably on a Media drive such as a Lightspeed's C:\ drive.
3. Open the Vantage Management Console (VMC) on the Vantage server
    - o **Import all Workflows**: From *VMC->Workflow Design Items->Vantage Workflows*, import all workflows by selecting the arrow next to the *Import* icon, select *Import Workflow(s)*. Select all workflow files contained in the \TTFlipSampleWorkflow\Workflows folder extracted from *Timed Text Flip Workflow ZIP* file. From the Import Workflow(s) dialog, check the *Use folder name* box, and then click *OK*. The Timed Text category is automatically added.

Using the Timed Text Flip Sample Workflows

After installing all of the Sample Workflow items as described above there are just a few small details to perform before you're ready to start using Vantage's Timed Text Flip sample workflows.

Preparing the Watch action

- If your default origin folder is not set to C:\VantageIn as described above, you must modify the Watch action to monitor a folder of your choice.

Workflow #1 - EBU STL to MCC and SCC

- If your default origin folder is not set to C:\VantageIn\EBU-STL as described above, you must modify the Watch action to monitor a folder of your choice.
- To submit to this workflow copy the STL test media file (*TearsofSteel25fps.stl)* located in the *..\Media\TearsofSteel* folder after unzipping the sample workflow package, into the folder being watched by this workflow. Alternatively you can manually submit this file either through the Workflow Designer or other submit clients.

Workflow #2 - EBU STL to Subtitle Overlay

- If your default origin folder is not set to C:\VantageIn\EBU-STL as described above, you must modify the Watch action to monitor a folder of your choice.
- To submit to this workflow copy the STL test media file (*TearsofSteel25fps.stl)* located in the *..\Media\TearsofSteel* folder after unzipping the sample workflow package, into the folder being watched by this workflow. Alternatively you can manually submit this file either through the Workflow Designer or other submit clients.

Workflow #3 - Input TTML to Various Outputs

- If your default origin folder is not set to C:\VantageIn\TTML as described above, you must modify the Watch action to monitor a folder of your choice.
- To submit to this workflow copy the TTML test media file (*demo608.xml)* located in the *..\Media\demoVideo608* folder after unzipping the sample workflow package, into the folder being watched by this workflow. Alternatively you can manually submit this file either through the Workflow Designer or other submit clients.

Workflow #4 - Timed Text overlay with MP4

- If your default origin folder is not set to C:\VantageIn\Demo608 as described above, you must modify the Watch action to monitor a folder of your choice.
- To submit to this workflow copy the QuickTime test media file (*demo608.mov)* located in the *..\Media\demoVideo608* folder after unzipping the sample workflow package, into the folder being watched by this workflow. Alternatively you can manually submit this file either through the Workflow Designer or other submit clients.

Workflow #5 - CC to Overlay Multiple Frame Rates

- If your default origin folder is not set to C:\VantageIn\Demo608 as described above, you must modify the Watch action to monitor a folder of your choice.
- To submit to this workflow copy the QuickTime test media file (*demo608.mov)* located in the *..\Media\demoVideo608* folder after unzipping the sample workflow package, into the folder being watched by this workflow. Alternatively you can manually submit this file either through the Workflow Designer or other submit clients.

Workflow #6 - Speed Change Increase Decrease

- If your default origin folder is not set to C:\VantageIn\Demo608 as described above, you must modify the Watch action to monitor a folder of your choice.
- To submit to this workflow copy the QuickTime test media file (*demo608.mov)* located in the *..\Media\demoVideo608* folder after unzipping the sample workflow package, into the folder being watched by this workflow. Alternatively you can manually submit this file either through the Workflow Designer or other submit clients.