



FlipFactory®

USING DVB/TELETEXT SCREEN SUBTITLING WITH FLIPFACTORY

This App Note
applies to
FlipFactory
versions
6.1 & later

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Synopsis

Subtitling is an important component of digital media, principally because it benefits the hearing-disabled community and allows for language translation. Additionally, it is becoming commonplace for governments to *require* subtitling as part of digital TV transmission.

Subtitling is available in FlipFactory in two different types: Open Subtitling (burnt-in) integrates subtitling directly into the video; DVB/Teletext Subtitling encodes subtitles into the transport stream. This App Note presents how to implement DVB/Teletext Subtitling in FlipFactory. (For Open Subtitling, consult Telestream App Note *Using Open Screen Subtitling With FlipFactory*.)

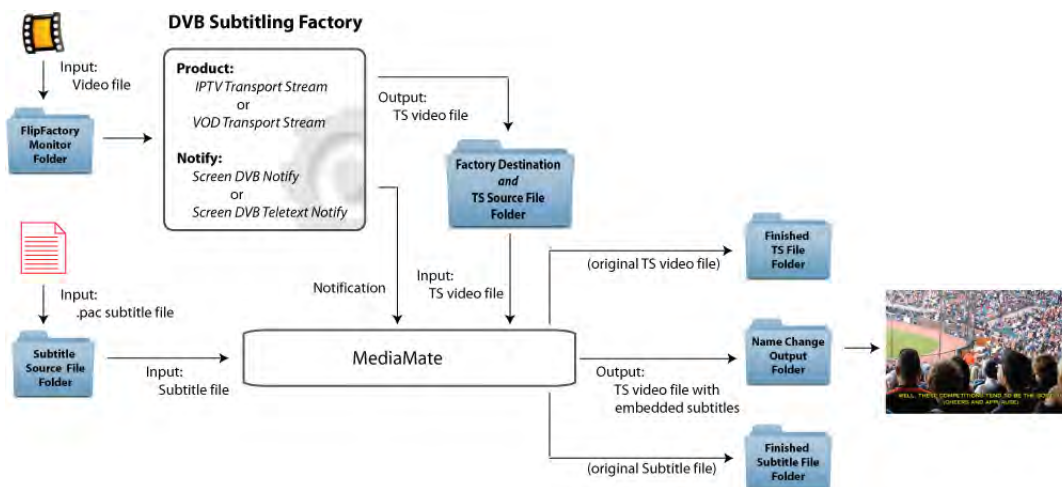
DVB (Digital Video Broadcasting) Subtitling is a technology that allows multiple subtitle streams to accompany video services. It is available in two different formats: bit-mapped and code-based (Teletext). Bit-mapped subtitling is the more common of the two formats. Subtitles are encoded into the digital transport stream, transmitted, and then reconstructed in the Set-top Box (STB) decoder using the ETS 300-472 and 743 standards.

Advantages of the DVB subtitling include:

- Well-proven and reliable technology
- Viewer on/off control of subtitle display
- Subtitle style, size, and position controlled by broadcaster
- All languages and alphabets are supported
- Efficient use of bandwidth
- HD compliant.

DVB/Teletext Subtitling for FlipFactory enables you to apply subtitles to video during the notification process. Subtitles are generated from subtitle files, which include details of text, timing, and format. FlipFactory DVB/Teletext Subtitling typically uses **.pac** subtitle files generated using software developed by Screen Subtitling Systems (www.screen.subtitling.com).

DVB/Teletext Subtitling for FlipFactory includes two products from Screen Subtitling Systems: *MediaMate* and *Screen Central Security Service*. FlipFactory is used to create a transport stream and notify MediaMate where to find source files to create video media with subtitles embedded in the transport stream. Either the *IPTV* or *VOD* Transport Stream product can be used:



DVB Bit-mapped Subtitling supports all character sets. DVB Teletext Subtitling supports: all European languages, Russian, Greek, Hebrew and Arabic.

Installing DVB Screen Subtitling Software

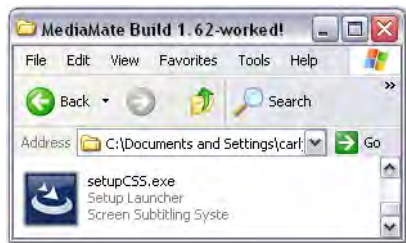
DVB/Teletext Subtitling for FlipFactory is a licensed option implemented as a *Notification*, which may be purchased, and downloaded by registered FlipFactory users from our Web site at: www.telestream.net (select *downloads*, click the FlipFactory icon, then log in).

To perform DVB/Teletext screen subtitling in FlipFactory, two programs provided by Telestream must be installed: *Screen Central Security Service* and *MediaMate*. A USB security dongle supplied by Telestream as part of the installation package is also required.

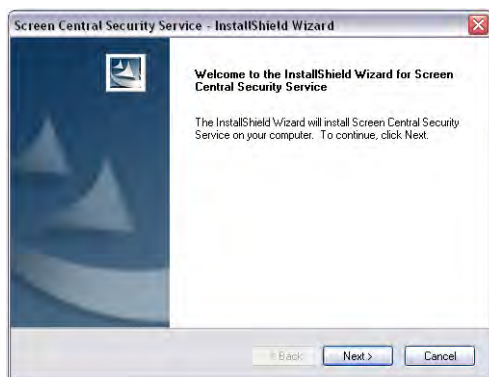
Note: *The Central Security Service **must** be installed prior to installing the MediaMate software.*

To install Screen Central Security Service follow these steps:

1. Unzip the CSS installer file to a known location on your computer and double click *setupCSS.exe* to execute the installer:



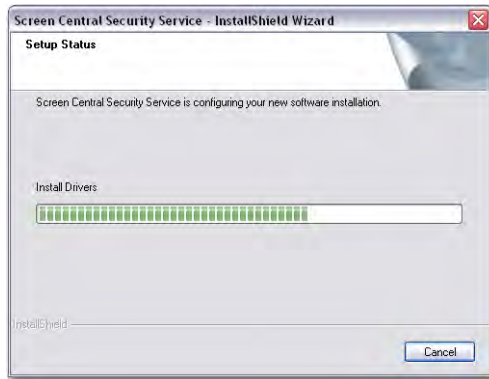
2. When the Welcome window displays, click *Next*.



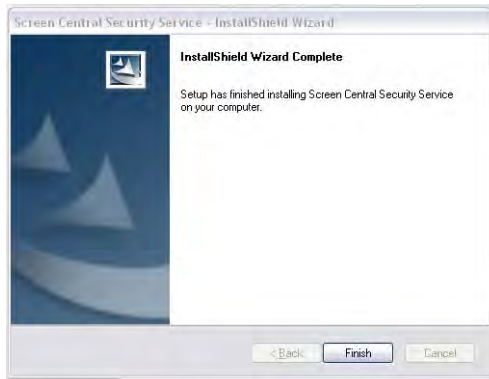
3. Enter requested information, select extent of users, and click *Next*.



4. Wait for the software to finish installing:

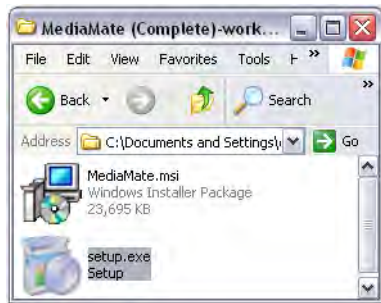


5. When installation is complete click *Finish*:

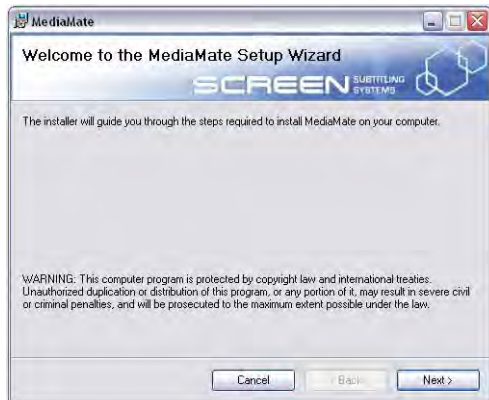


To install MediaMate follow these steps:

1. Unzip the MediaMate installer file to a known location on your computer and double-click *setup.exe* to execute the installer



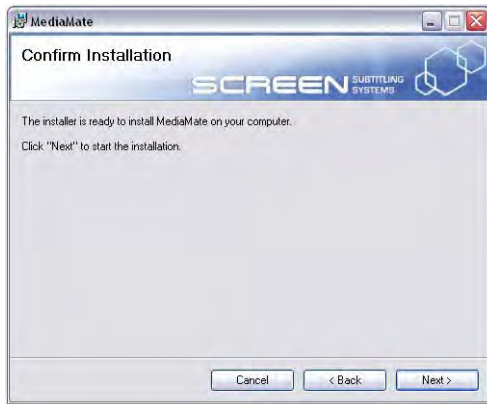
2. When the Welcome window is displayed click *Next*.



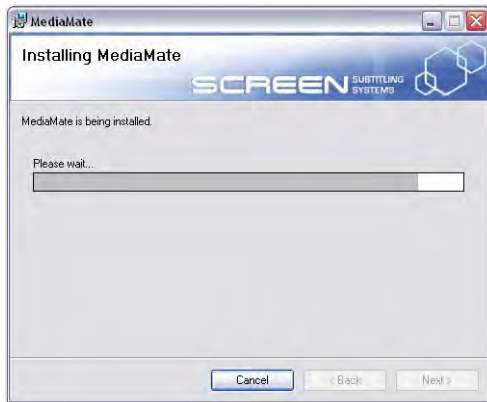
3. Select extent of users, and click *Next*.



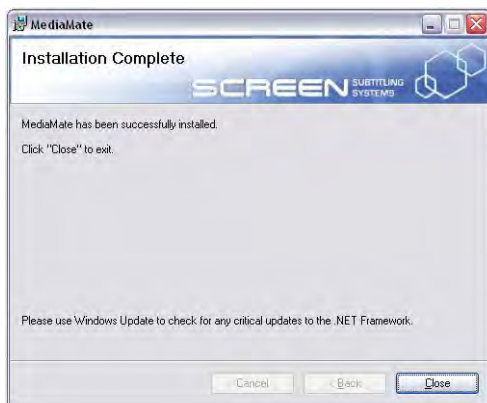
4. When the confirm window is displayed click *Next*.



5. Wait for the program to finish installing:



6. When installation is complete click *Close*:

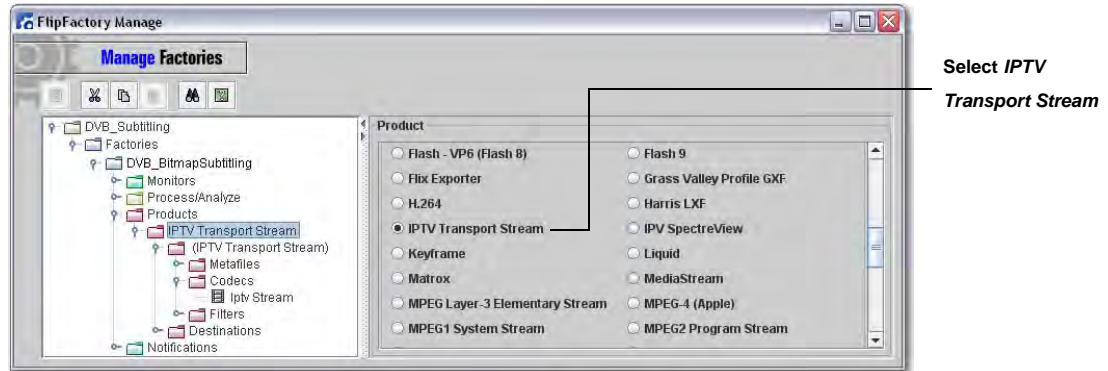


Creating a DVB/Teletext Subtitling Workflow

Note: This example requires FlipFactory Version 6.1 (or later) which has the DVB/Teletext Subtitling Option installed and licensed.

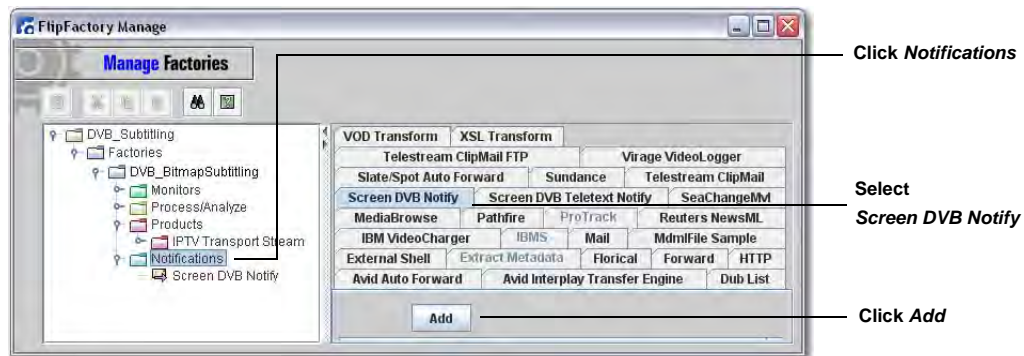
This workflow example creates a FlipFactory factory using the *Screen DVB Notify* (or the *Screen DVB Teletext Notify*) option. It creates a 3 Mbps transport stream with one DVB bitmap subtitle stream. To create this workflow, perform the following steps:

1. Create a factory and add a local monitor folder to place video media files to be processed by FlipFactory. (Alternatively, you can submit jobs manually.)
2. Right-click *Products* and select *New Product*, then select *IPTV Transport Stream* from the list of products:

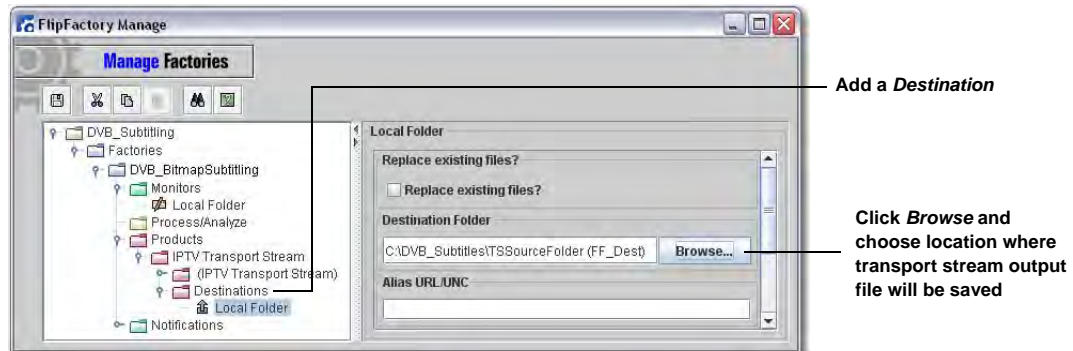


Note: This example uses the *IPTV Transport Stream* product, though the *VOD Transport Stream* product can also be used.

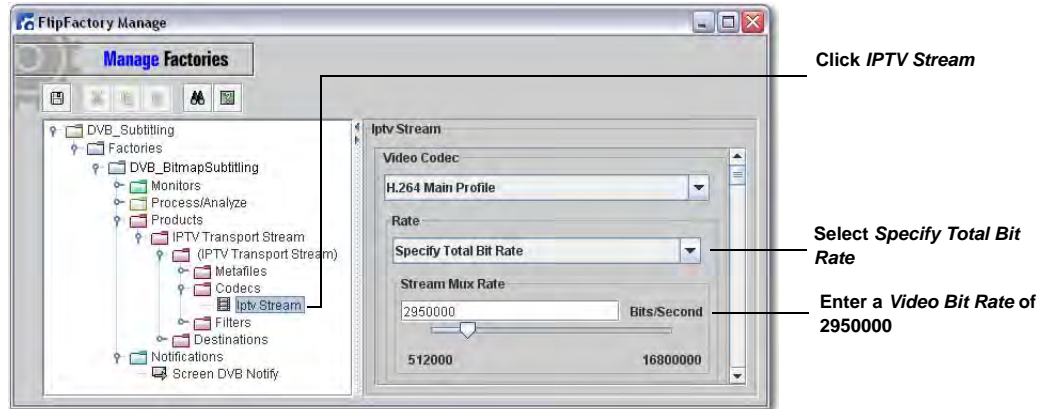
3. To add a notification for DVB/Teletext subtitling, click *Notifications*, select the *Screen DVB Notify* tab (or, alternatively, the *Screen DVB Teletext Notify* tab), and click *Add*.



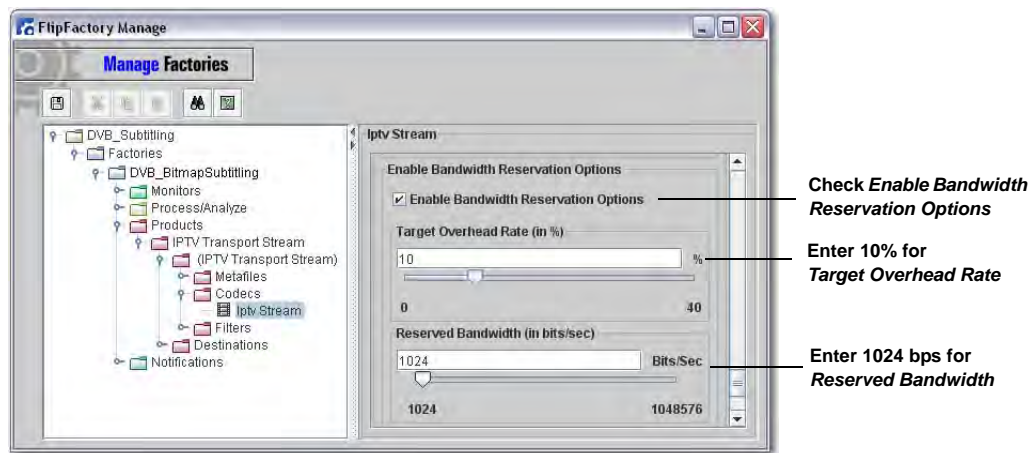
4. Add a *Destination* where the IPTV transport stream output file is saved (this destination must be the same as *Transport Stream File Scanning* location in the next step):



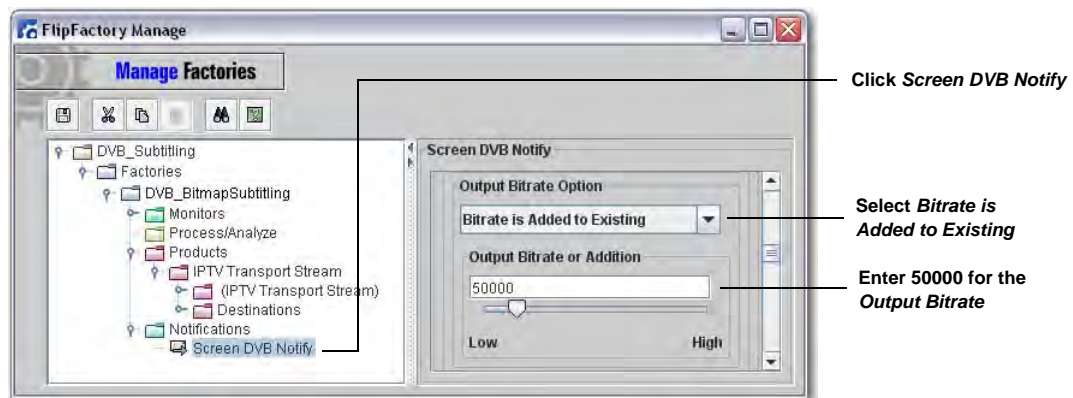
- Set the video bit rate in the IPTV codec: Click *IPTV Stream*, select *Specify Total Bit Rate* from the *Rate* pull-down menu, then enter 2950000 as the *Video Bit Rate*. This allows MediaMate (via *Notification*) to add an additional 50 Kbps to make a total bitrate of 3.0 Mbps:



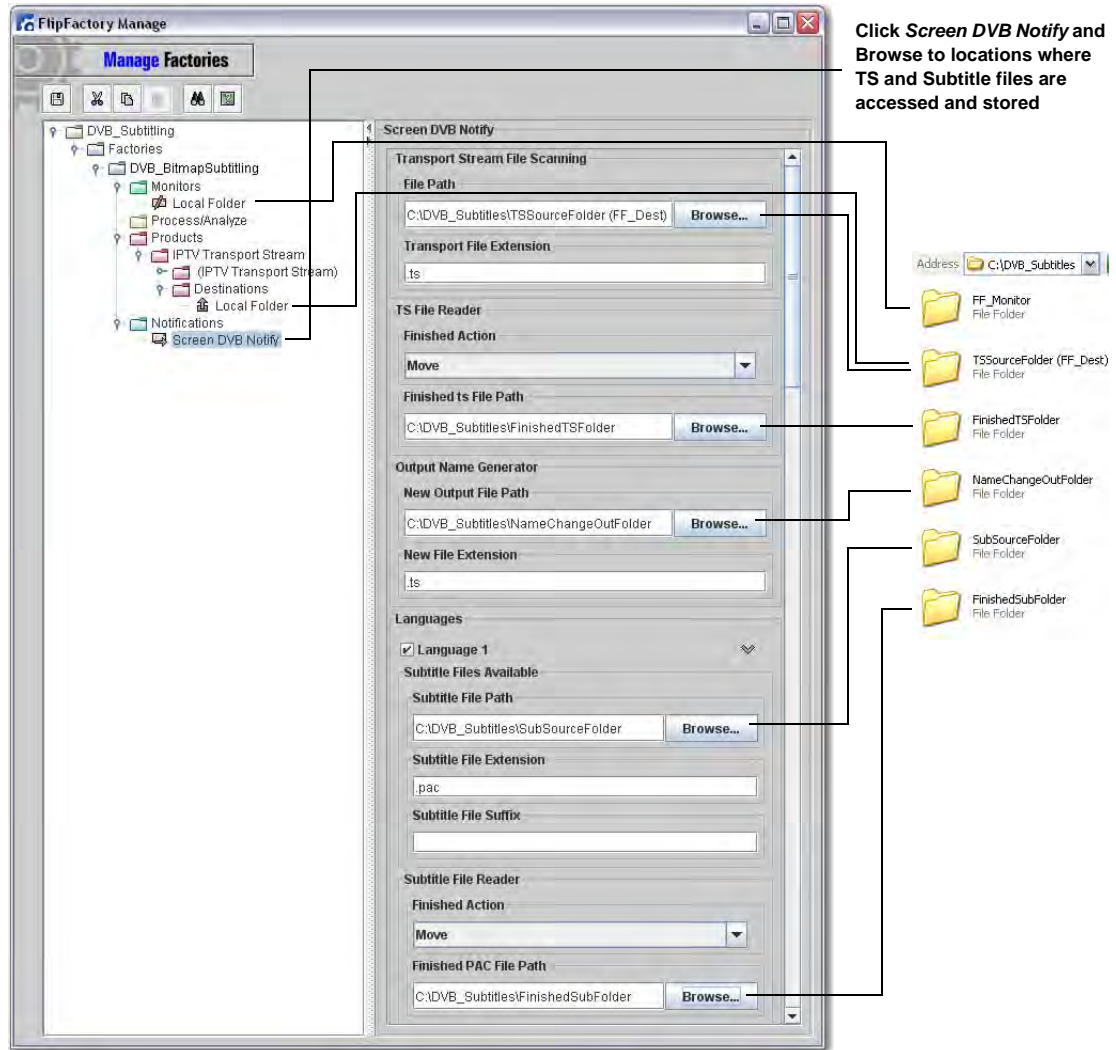
- To set *Bandwidth Reservation* check *Enable Bandwidth Reservation Options*, enter a *Target Overhead Rate* of 10%, and enter a *Reserved Bandwidth* of 1024 bps:



- Notify MediaMate of the amount of additional bit rate to be added for subtitles: Click *Screen DVB Notify*, select *Bitrate is Added to Existing* from the *Output Bitrate Option* pull-down menu, and enter 50000 to add 50 Kbps to the output bitrate:



8. Click *Screen DVB Notify* and browse to locations where transport stream and subtitle files are accessed and stored (consult the online help for details):

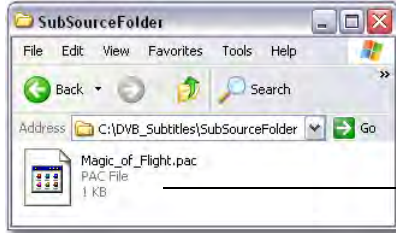


9. Click the Save icon to save the factory settings.

Testing Your DVB/Teletext Subtitling Workflow

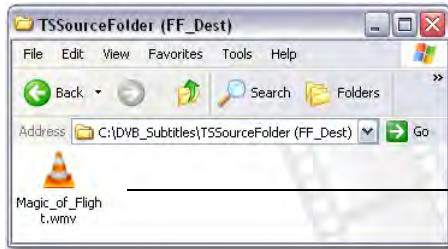
Now that you have created a factory to add DVB bit-mapped (or Teletext) subtitling to your output media, it should be tested to ensure that subtitling has been added successfully:

1. In FlipFactory, open the *Job Status* window to monitor factory progress.
2. Place the subtitle file (.pac) into the subtitle source folder as defined in *Screen DVB Notify* configuration:



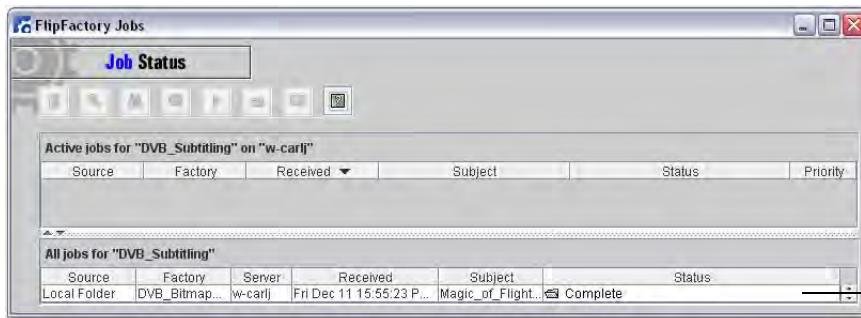
Place subtitle file into the subtitle source folder

3. Place the media file to receive subtitling into FlipFactory monitor folder. Make sure the subtitle and media files are identically named (except for extensions):



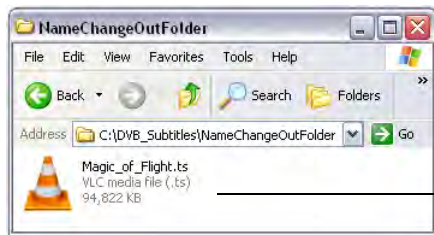
Place media file into FlipFactory monitor folder

4. Wait for the *Job Status* window to display "Complete":

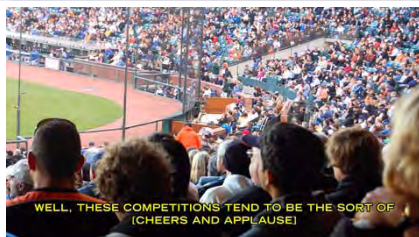


Wait for Complete

5. Examine the name change output folder to ensure that the new video media file has been created, then play the file to ensure that the that the subtitling has been successfully added:



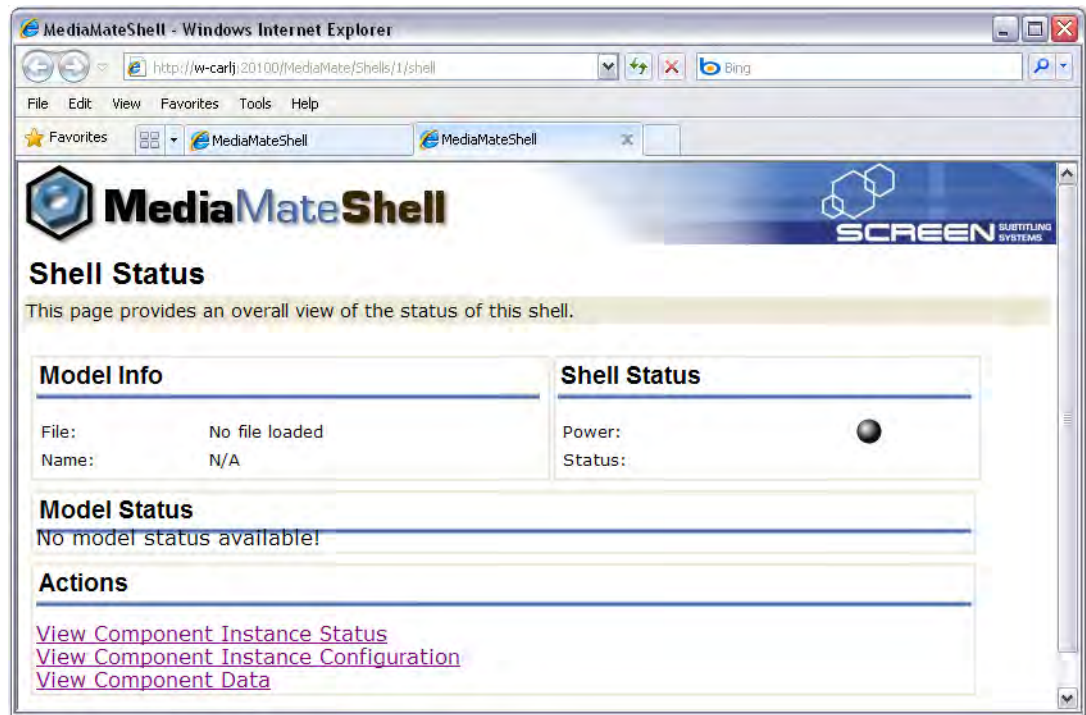
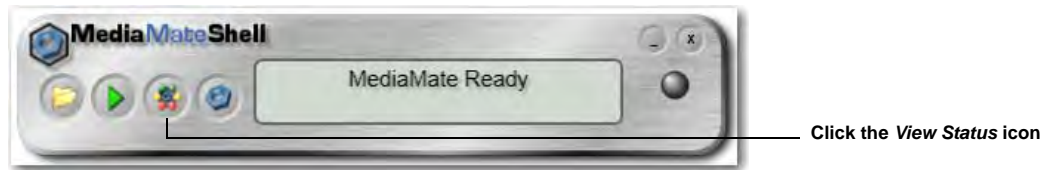
Play newly created media file located in name change output folder



View newly created media file with added DVB Subtitling

MediaMate Web Interface

The operation of MediaMate can be monitored by using the *MediaMate Web Interface*. This interface can be displayed by running the *MediaMate Shell*, then clicking on the *View Status* icon:



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FlipFactory has been designed for professionals skilled in the art of digital media transformation and workflow automation, to facilitate the automation of complex media operations and workflow that require a multitude of input and output media formats, delivery to numerous types of media devices and file systems, and notification of media systems including broadcast automation systems and media asset management systems.

The FlipFactory architecture and user interface is designed to provide maximum flexibility in the setup and configuration of these complex media transformations and workflow. In providing this high degree of flexibility, it is possible for media transformation and workflow processes to be configured that are impractical, likely to result in unexpected or unintended results, or beyond the limits of FlipFactory to perform satisfactorily. Additionally, FlipFactory may be executed on a platform that lacks the performance or capacity to perform the media transformations and workflow you've configured, which is your responsibility to specify. Telestream has chosen to implement FlipFactory to provide the greatest flexibility without limiting its functionality to only those transformations and workflow that are known with certainty to be within its performance capabilities, including those limits imposed by the platform upon which you have installed FlipFactory.

Therefore, you acknowledge that you may create transformations and workflow that are impractical or beyond your FlipFactory installation's limits, and Telestream does not warrant that each transformation or workflow you specify or use will complete without error.

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