TELESTREAM

FlipFactory®
USING FILE STITCHING

This App Note applies to versions 6.1 & later

Using File Stitching
in FlipFactory

Synopsis

File Stitching is a powerful, interactive option which provides an easy way to submit a job with multiple input files, to a factory which produces a single output file – effectively, *stitching* multiple files together into a single file.

Note: *File Stitching is available in FlipFactory Version 6.1 (and later) New Media, New Media Broadcast, Pro SD, PRO HD, TrafficManager, NewsManager, and Ad Manager editions.*

Stitching enables an operator to review each clip and select mark-in and mark-out points, creating a list of media segments which can be stitched together and output in a completely different format, all in a single, automated job process.

Stitching operates on effectively, only on media with the these characteristics:

- The same essence
- the same frame size
- the same frame rate

Stitching should only be performed on files of the following file format and essence:

- QuickTime DV25
- QuickTime H.264
- QuickTime MPEG4
- Final Cut Pro IMX
- ProRes (with FlipFactory Version 7.0)

Stitching is ideal for removing black sections, or adding sponsorship in the middle of a clip.Or, you can use stitching for adding bumpers or trailers – or both – without resorting to an NLE, for example. You may have several clips or takes that you want to quickly combine into a single file and convert to Windows Media for review.

Or, for example, you can submit three segments, plus bumper, trailer and ads for a half-hour show, to a factory that combines them, and produce a proxy and an MPEG2 production output file. There are many other applications, as well.

Note: *This app note assumes that you know how to create and configure factories in FlipFactory and that you know how to submit jobs. If you don't know how to configure factories or manually submit jobs, please review the FlipFactory User's Guide for details.*

Principles of Operation

Stitching jobs can only be performed on files that QuickTime can play on Windows (.dv, mp4, m4v, etc.). You can stitch QT DV25, QT H.264, QT MPEG4, FCP IMX, and ProRes (using FlipFactory 7.0) files. If your input media is not yet wrapped in QuickTime, you can create a factory to perform that task for you (see topic following), and use the QuickTime-wrapped output files as input into your stitching factory.

Note: *Stitching requires that all input files are of the same essence, frame size, and frame rate. If your input files are not the same essence, frame size, and frame rate, you can set up a special factory to modify you input media into compliant output: same essence, frame size, and frame rate. This process must be performed before submitting the stitching job.*

To submit a stitching job, you use the Submit Job window. (You can't submit stitching jobs via a monitor.) The Submit Job window permits the operator to select input files in the proper sequence, and interactively select mark-in and mark-out points. When the last file has been selected and marked, the operator submits the job to the desired factory.

You can submit stitching jobs to any factory that can properly transcode the media into the specified output essence or format. A factory used as a stitching factory is not, strictly speaking, a *stitching* factory. Its the *job details* (created by the Job Submit window) – not the factory, that implements the stitching process.

During job processing, each input file is ingested in turn, and mark-in and mark-out points determine which content is actually decoded to baseband for processing and inclusion in the output file. The output file is opened on the first ingested file, and FlipFactory continues to encode the output media until the last file has been processed, when the file is closed and delivered.

Configuring a QuickTime Pre-processing Factory

Note: *This pre-processing factory is optional, and you won't need to use it if your input media is already in QuickTime format and can play in QuickTime on Windows.*

The QuickTime wrapper enables you to use the playback editor to interactively view the media and select mark-in and mark-out points. If your input media clips are not in QuickTime, set up a pre-processing factory to produce QuickTime media before submitting it to your stitching factory.

As an example, you can configure a pre-processing QuickTime factory in the following manner:

Monitor: Local Folder monitor – target directory (*C:\QTFactoryMonitor*, for example) on the FlipFactory server. Copy your input media clips to this directory for ingest and processing.

Product: QuickTime DV, Standard Definition NTSC (or other suitable QuickTime codec).

Destination: Local Folder destination – target directory (*C:\QTFactoryDestination*, for example) on the server. When jobs are done processing, your stitching-compatible QuickTime clips will be saved in this directory.

The local folder monitor and destinations are examples, and make it easy to identify where to drop the media and where to pick up your output – the QuickTime media. The codec you choose should be based on your production media requirements, of course.

This sample factory does not alter the frame rate, or use filters to modify the frame size.

Configuring Stitching Factories

Factories configured to stitch jobs are generally no different than factories configured for transcoding other types of media, except that stitching factories usually don't have monitors because stitching jobs are always submitted manually.

Before you stitch files in FlipFactory, you should determine the required characteristics of your output media, and then create and configure a factory in one of your accounts to produce the required output file. The output format you choose, the codec (and its configuration), plus destinations and optional notifications, filters, and process/analyze tools, are all dependent on your workflow and media production requirements.

Submitting Stitching Jobs

Stitching jobs can only be submitted manually – you should not add monitors to a factory intended for stitching jobs. However, you can submit stitching jobs to factories that are configured correctly for your intended output that already have monitors for processing normal, single-input files. The manual job submission process enables an operator to select each file in turn and scrub the file to select mark-in and mark-out points, as shown below.

To submit a file stitching job, follow these steps:

1. Open the FlipFactory console if it isn't already open.

2. Log into the account which contains the factory where you want to submit this file stitching job.

3. Next, click Submit Job on the console to display the Submit Job window and configure the general settings (at the top of the window):
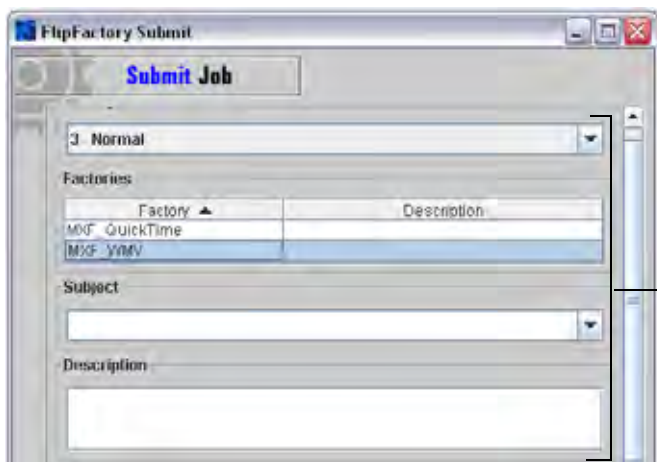
Select the job priority, factory, and optionally, enter a subject and description for this job.

4. Select the job priority, the factory to process this job, and optionally a subject and description.

5. Now, configure the stitch-specific settings (directly below the Description field).

6. Under Source, click File, to specify the type of source you're submitting (a series of files).

7. Next, in the drop down menu select Stitch Multiple Files.

8. Click Edit File List to display the Select Source Movie dialog.

Click to save your EDL for use later.

Click Edit File List to select clips and assign in/out points.
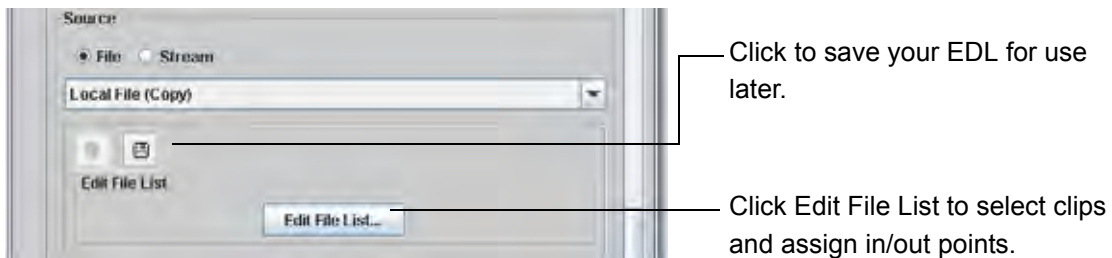
Note: *When you're done creating the EDL list, you can save it as a custom source – click the disk icon to name to save it for re-use. For example, you might have a specific pre-roll and trailer that is used many times, each time with a different primary clip.*

9. Navigate to and select the first file to submit for this job, and click Open to display the Stitch Multiple Files dialog, where you'll select your in and out points and add new clips repeatedly until you've added all clips for this job:
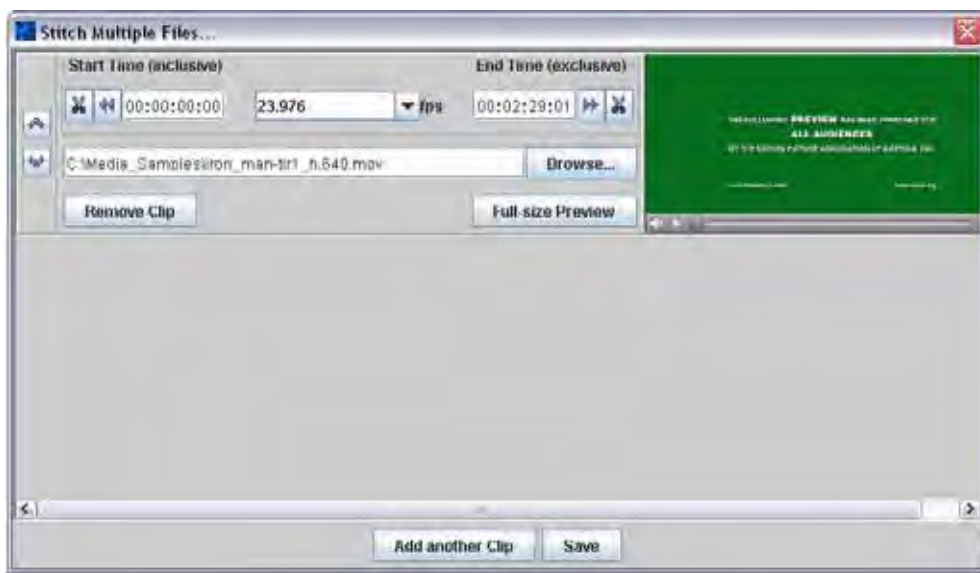
10. FlipFactory automatically detects the frame rate of the selected clip. However, you should validate that the detected rate is the actual rate of the clip. If the detected rate is incorrect, modify this value before selecting your mark your points. This ensures the accuracy of the start and end timecodes in relation to the actual number of frames per second in the clip.

11. Use the scrubber bar below the preview in the upper right corner to select and mark your start time and end time for this clip and dick Add Another Clip. Or, if you know the timecode, enter it manually. If you want to ingest and process the entire clip, just click Add Another Clip – by default, the start and end time values specify the entire clip. If you're submitting files with a fully-qualified path, it must be located directly on the FlipFactory server. Otherwise, you need to access a share and have a share path (\\networkcomputer\share\mediafile).

12. Continue adding clips and adjusting their start and end time values as necessary. Use the arrows at the left to re-organize clips ordinally, and click Remove Clip to delete a clip from the list. If you add a clip with a different frame rate, you'll be warned. You can also effectively add and remove a clip by clicking Browse and selecting a new clip.
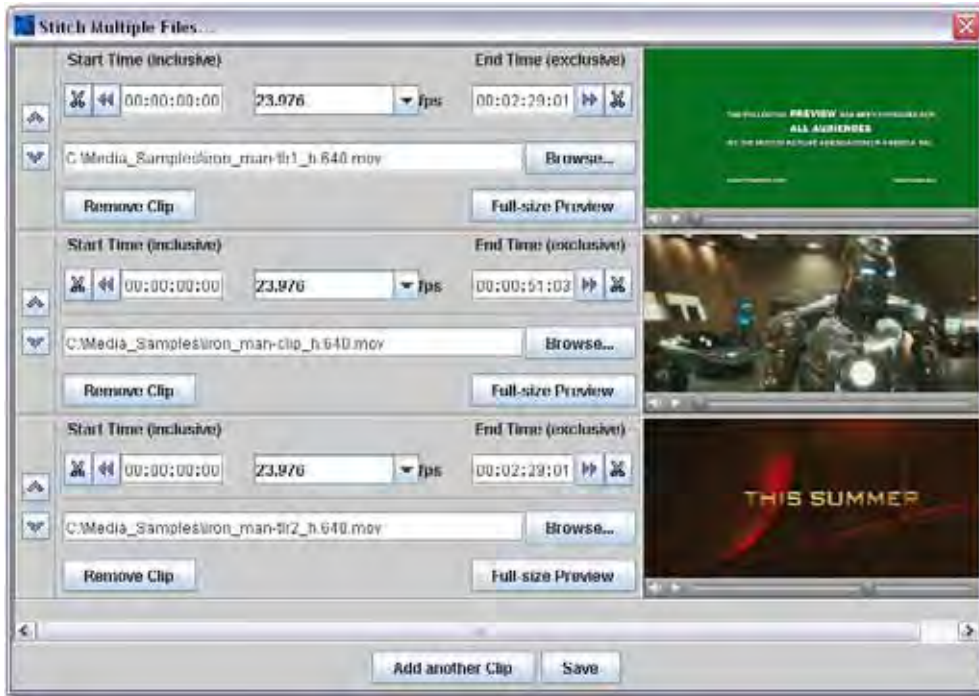
13. When you're done adding clips and adjusting their start and end time values and you're ready to submit this job, click Save to save the EDL list. The list is saved in specific directory for Flip-Factory, and no user-specified name is required. Notice that each clip, along with its frame rate and start and end time values are displayed directly in the Submit Job window.

14. This is a convenient way for you to double-check your work before submitting the job. Make sure each clip is listed in order, and start and end time values are correct.

15. Before submitting the job, configure the general settings (at the bottom of the window):

Select or enter the content name and optionally, select a specific Flip Engine (if in an array).

Optionally, select a store and enter metadata.

Click Flip It! to submit the job.
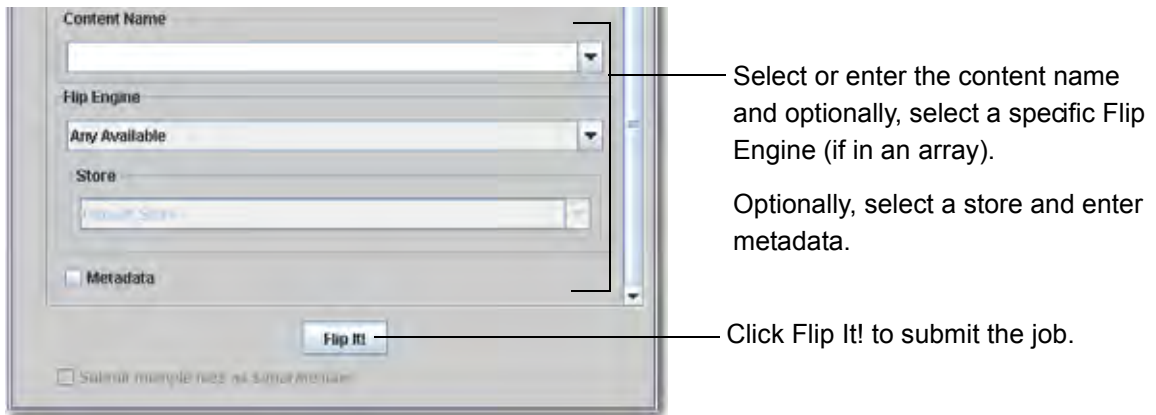
16. Select (or enter) content name, select a specific Flip Engine if you're working in a FactoryArray and need a specific Flip Engine to process this job (due to licensing or other configurations), and a specific store, as required. Optionally, check metadata and enter it.

17. To submit the job, click Flip It! FlipFactory will ingest this job, and pass it to the specified factory to process each input file, transcode the media, and produce the output file specified by you in the factory.

You can observe the job's progress by displaying the Job Status window, and view the results by double-clicking the job entry in the job table. When the job is complete, FlipFactory delivers the combined clips in a single output media file, directly to the destination specified in your factory (or to the default store if no destination is specified).

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