

# Using Post Producer Titler Engine with Vantage

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This App Note  
applies to  
Vantage versions  
6.3 and later

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# Synopsis

The Vantage Post Producer™ Titler Engine, powered by NewBlueFX®, is an optional, licensed feature designed to automate versioned titling of video assets.

Titler Engine uses templates created in NewBlue's Titler Pro™ Editor, which is available as a Windows and Mac OS program, or as a plug-in for top non-linear editors including Adobe Premiere. Together with these powerful video editing tools, Titler Engine enables high-level titling capabilities, and scalable and flexible titling applications.

The Titler Engine creates a series of high resolution image frames with Alpha channel support, which are delivered to a Post Producer Conform workflow to be integrated and composited into finished deliverables or mezzanine files.

Key advantages of Titler Engine include:

- Significantly higher quality video
- Full animation capabilities
- Easy-to-use, multi-platform graphic interface in both versions of Titler Pro Editor
- Automation application of iterative titles to multiple broadcast-quality assets.

Post Producer automates repetitive editing tasks for creating numerous iterations of promos, packaged content, and VOD deliverables. The Titler Engine option provides a powerful tool for compositing rich, animated titles with a minimum of operator input.

## Getting Started

Telestream recommends that you read the [Overview](#) as a first step, to understand the big picture.

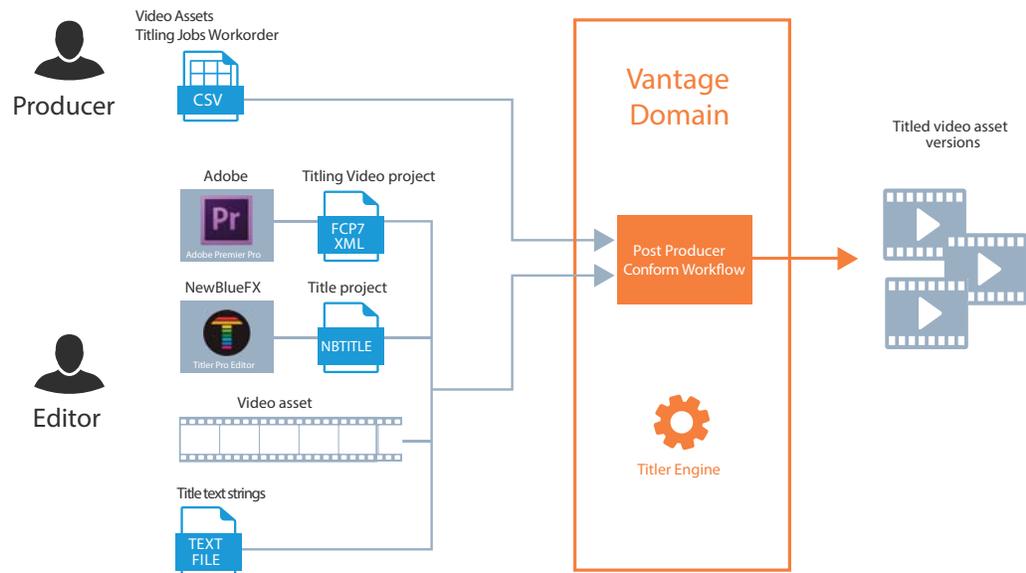
Next, install the software. If you haven't installed the Titling engine or you don't have Adobe Premiere or NewBlue Titler Pro, proceed to [Software Requirements](#) and then [Installing the Vantage Post Producer Titler Engine](#).

Next, jump into the [Quick Start](#) if you're familiar with Vantage and building workflows, and you want to start implementing titling in your Vantage domain.

# Overview

The typical process of titling video assets in Vantage involves the creation of titles, placing titles on the timeline of your source, supplying text for the titles, and creating a workorder with entries for each asset to process, as depicted in this illustration:

**Figure 1.** Typical Vantage Title Compositing Process



When these resources are created, you submit the workorder to a titling workflow, for rendering the composited asset for each job in the workorder.

## Quick Start

Here are the typical steps you'll take to configure your Vantage domain to use Post Producer Titler Engine:

1. *Install the Required Software*—before you can process any titling jobs, you need to meet the software requirements and install the appropriate software (see [Software Requirements](#)).
2. *Create a Titling Workflow*—Create at least one titling workflow, configured depending on your application and requirements, and activate them (see [Creating and Activating a Basic Title Processing Workflow](#) and [Creating a Workorder Title Processing Workflow](#)).
3. *Create a Workflow Schema*—If you're submitting multiple jobs at one time or using title variables, create a workorder scheme for job submission (see [Creating a Workorder Schema](#)).

**Note:** Telestream suggests that you review the [Resources and Programs for Titling Applications](#) to become familiar with the programs and file resources required for each titling job you process before you start implementing your application.

Once your Vantage domain is configured to process titling jobs, follow these typical steps to composite titles onto your video assets using Titler Engine:

1. *Create a Title Project*—you can create static or animated title projects using NewBlueFX Titler Pro (see [Creating Title Templates in Titler Pro](#)).
2. *Create a Titled Video Project*—create a project in Adobe Premiere, placing the NewBlueFX titles on the timeline (see [Creating Title Projects in Adobe Premiere](#)). Export the Premiere composition as FC7 XML.
3. *Create a Variables File with Title Text Strings*—Create a text for each title in a CSV file where you want to supply runtime strings (see [Using Variables Files](#)).
4. *Create a Workorder to Submit Jobs*—submit one or more video assets to a Vantage Post Producer workflow for title compositing and rendering as many titled output video files as required (see [Creating a Workorder CSV File](#)).

# Software Requirements

Before you can use the Post Producer Titler Engine in your Vantage domain, the following software must be installed and operating:

## Telestream Software

Your Vantage domain consisting of the following components should be installed, licensed, and operating properly.

- Vantage 6.3 Update Pack 4 or later (recommended, but not required).
- Post Producer 6.3.6 or later on a Lightspeed server with Windows Server 2012 R2, including DirectX 11.
- Post Producer Titler Engine—obtained from Telestream upon purchase. For installation details, see [Installing the Vantage Post Producer Titler Engine](#).

## NewBlue Software

- NewBlueFX Titler Pro Editor for Windows or Mac OS.

**Note:** The NewBlueFX Titler Pro Editor is not included with Vantage. It must be obtained from NewBlue. Go to [newbluefx.com/titling](http://newbluefx.com/titling) for a free trial version.

If you are using NewBlueFX Titler Pro Editor for Windows, you should install it on a workstation other than a Vantage Lightspeed server. The Titler Pro editor is not compatible with the Windows Server OS on the Lightspeed server.

When installed on a Windows platform, the default installation directory is C:\Program Files\NewBlueFX\Titler\TitlerStandalone.exe.

## Adobe Software

If you plan to use Adobe Premiere to produce titling projects, you should have access to Adobe Premiere Pro CC 2015.

**Note:** Adobe Premiere Pro is not included with Vantage. It must be purchased from Adobe. Goto [adobe.com/products/premiere.html](http://adobe.com/products/premiere.html).

# Installing the Vantage Post Producer Titler Engine

Installing the Titler Engine involves obtaining the installer and license, adding the license to your domain, and installing the Titler Engine on one or more Post Producer nodes. Each of these tasks is described in order, below.

- [Obtaining the Titler Engine Installer and License](#)
- [Installing the Titler Engine](#)
- [Adding the Titler Engine License](#)

## Obtaining the Titler Engine Installer and License

To obtain the Vantage Post Producer Titler Engine installer and a license, please contact your Telestream sales representative or your regional authorized Telestream distributor.

**Table 1.** Telestream Contact Information

Resource	Contact Information
Telestream, LLC	Web Site: <a href="http://www.telestream.net">www.telestream.net</a> Sales and Marketing Email: <a href="mailto:info@telestream.net">info@telestream.net</a> Telestream, LLC 848 Gold Flat Road, Suite 1 Nevada City, CA USA 95959
International Distributor Support	Web Site: <a href="http://www.telestream.net">www.telestream.net</a> See the Telestream Web site for your regional authorized Telestream distributor.

## Installing the Titler Engine

**Note:** The Titler Engine should only be installed on a node that is running Post Producer version 6.3.6 or later on Windows Server 2012 Lightspeed servers.

1. Obtain the Titler Engine installer file—*NewBlueTitlerServer-<version>.exe* or similar.
2. In the Domain Management Console, display the services in your domain.
3. Select the Edit service on the node where you want to install the Titler Engine.
4. Place this service in maintenance mode.
5. Run the installer on the Post Producer node where you just placed Edit service in maintenance mode, following the directions in the installer.
6. Back in the Management Console, return the Edit service you just updated to operational status (Exit Maintenance Mode).
7. Perform steps 3 through 6 for each additional Post Producer node where you want to add Titler Engine.

## Adding the Titler Engine License

Add the Titler Engine license to your Vantage domain. Vantage domain licenses are managed using the Domain Management Console.

At least one Titler Engine license is required to process Titler Engine jobs. Each license enables one Post Producer task to run at a time. To scale Titler Engine processing, for each license you add, you can process one additional Titler Engine task concurrent with other Titler Engine tasks.

**Note:** Titler Engine tasks are executed by the Vantage Edit service, which implements Post Producer and Titler Engine. A server that has the Edit service running is commonly called a Post Producer node.

If you have multiple Post Producer nodes (Windows 2012 Server Lightspeed servers where Post Producer has been installed), licenses are used by these servers to authorize task execution to the limit of the licenses.

# Resources and Programs for Titling Applications

In the topics and the examples which follow, you'll be reading about a variety of programs, as well as files, components, and other resources that are required by Vantage to implement video asset titling applications.

These topics introduce you to these items so that you'll be familiar with them and how they are used in titling.

- [Vantage Resources](#)
- [Creating Title Templates in Titler Pro](#)
- [Using Variables Files](#)

## Vantage Resources

Several Vantage resources are required for titling applications. Use this table to familiarize yourself with these resources, and how they are used.

**Table 2.** Typical Resources for Titler Engine Projects

Directory	Description
Composition (CML)	Post Producer Composition Markup Language files; used to specify title files and how they are applied to the video asset. Created manually, or automatically by converting Adobe Premiere FCP7 XML files using a Compose action workflow. CML files are submitted to a Titler Engine workflow to render a titled video asset.
Titler Pro Project (NBTITLE file)	Title templates are created using the NewBlueFX Titler Pro Editor. They define the title you've created, and are saved as NBTITLE files in a location accessible to Vantage. These files are selected when you place them in a timeline in Adobe Premiere, and then ingested into the titling workflow when your job runs.
Variables file	Variables files are text files in comma-separated value (CSV) format, and use the .csv extension.  Variables files contain the text values associated with each title you've created. Variables files are required for each job being processed.  <b>Note:</b> Variable files contain text strings for text variables in NBTITLE files. These are not Vantage workorder files.

**Table 2.** Typical Resources for Titler Engine Projects

Directory	Description
FCP7 XML file	<p>Titling projects saved from Adobe Premiere Pro. The projects can be processed in a Vantage workflow to automatically generate a CML file which you can submit to a Titler Engine workflow for processing.</p> <p><b>Note:</b> FCP7-XML is a standard supported by Apple Final Cut Pro 7 and Adobe Premiere Creative Cloud. Final Cut Pro X uses a different standard and is not supported by the current version of Post Producer.</p>
Workorder	<p>Workorder files are text files in CSV format. Each row typically identifies a source video asset, and all metadata required for the job. The purpose of a workorder is to promote large scale efficiency. Workorders enable you to prepare and submit an entire set of like jobs, generating multiple, titled video assets with one submission.</p>
Post Producer Titler Engine Workflow	<p>A Vantage workflow designed for processing single compositions or multiple compositions in workorders, and generating title video assets.</p>
Vantage Variables	<p>Variables for video assets and metadata required to support Titler Engine workflows that process jobs via workorders. The variables contain the runtime values associated with the job, extracted from the workorder.</p>
Workorder Schema	<p>Specifications for the fields in the type of workorders being submitted to a workflow. This scheme, or definition, permits the workflow to extract all of the metadata and assign it to the proper variable.</p>

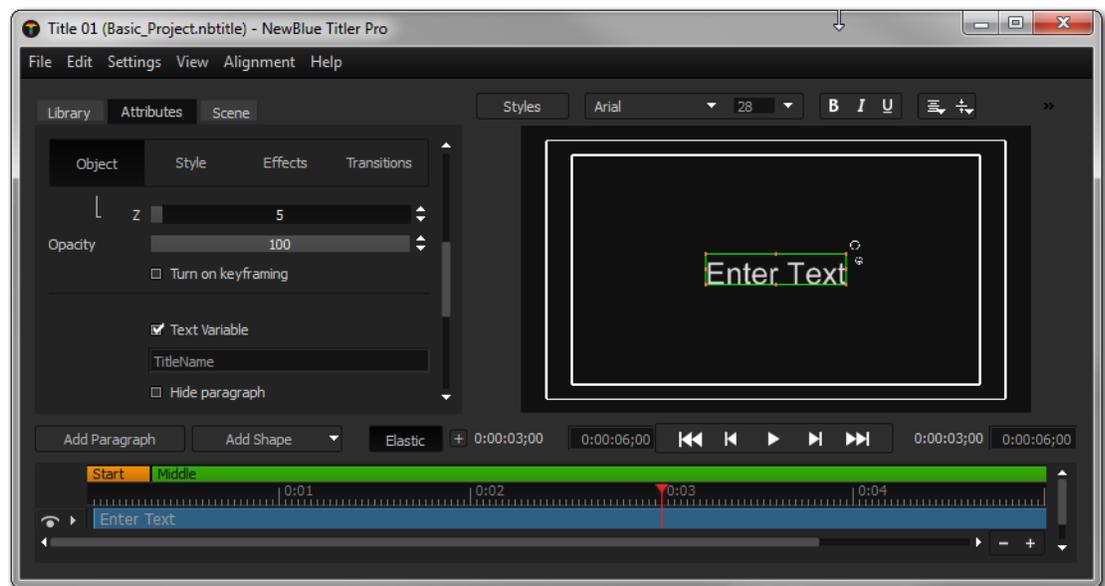
## Creating Title Templates in Titler Pro

The focus of this topic is describing how to text variables to identify paragraph objects in a title, and supply the text externally. (The sample text that you add to a title in Titler Pro is not used in Vantage.)

Title templates that you can use in Titler Engine are created using the NewBlueFX Titler Pro Editor. You can use the Titler Pro Editor desktop program, or you can use Titler Pro Editor as a plug-in directly in Adobe Premiere.

When Titler Pro runs, it displays the main window:

**Figure 2.** Titler Pro Main Window



**Note:** For information on using Titler Pro display Help in the program or refer to the NewBlue web site: <https://www.newbluefx.com/support/help-files/titler-pro-4/title-designer>.

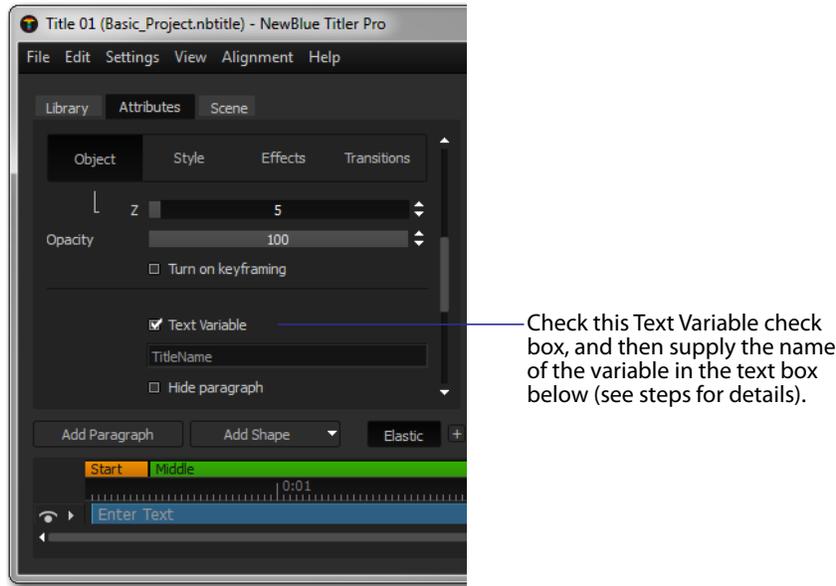
You can create simple or complex titles using Titler Pro.

### Specifying Text Variables

As part of creating a title, you need to enable a text variable for every paragraph object in your title where you want to supply the title's text value externally, and supply a variable name so it can be used in Titler Engine.

**Note:** You can also add titles with static text—text replacement at runtime via variables is an optional feature.

When you're done creating the title, save it for use in Adobe Premiere. When you are done creating the title in Titler Pro Editor desktop program, export a sample as a video file that can be dropped into Adobe Premiere for placement and timing verification.

**Figure 3.** Specifying the Text Variable and Name

Check this Text Variable check box, and then supply the name of the variable in the text box below (see steps for details).

For each text object to be used in Titler Engine, you should:

1. Add a paragraph object to the frame (you can add more than one).
2. Check the Text Variable checkbox.
3. In the text field below the checkbox, enter the name of the variable associated with the object. The variable name must be unique in a project.
4. Enter sample text and configure it.

The sample text should be of approximately the same length as the text specified for the job. Position it on the frame and set the font characteristics: size, style, face, color, etc. to be used for the job. Remember that the sample text is not used in Titler Engine; the text in the variables file is used. The text you enter here is just a placeholder.

In the variables file, you'll make an entry for each NBTITLE file, its variables and their text values to use in a given job. The Titler Engine uses this metadata to render the text on the frame during processing.

**Note:** The Force Render setting, which defaults to on, enables multi-pass rendering. To improve the rendering performance, uncheck this option to disable it.



## Using Variables Files

This topic describes how to make and use variables files in Titler Engine workflows—the syntax you must follow, making them accessible to workflows, and referencing them in your workflow’s Conform action.

Variables files enable Titler Engine to scale with complexity by supplying the appropriate text strings to the titler engine when the job runs, rather than embedding them at design time in the title itself. One variables file is required for each job you process in Vantage.

You can create a video with a single title and text string, or one with several titles at various points on the timeline, each with several text strings to render on the title. You can even supply a Vantage variable in place of a string in a variables file, and use the same variables file repeatedly, supplying the runtime strings identified with the Vantage variable for each job in the Workorder file. For details, see [Using Vantage Variables in Variables Files](#).

Variables files are text files in comma-separated value (CSV) format and use the .csv extension. In your Vantage workflow’s Conform action, you’ll identify a variables file or assign a variable so that you can use a different variables file on each job you submit to that workflow.

**Note:** Variables files are CSV files like workorders. However, they are different than workorder files and serve a different purpose in a titling workflow.

In a variables file, you identify one or more title projects and the variables and string values for that title, to supply the proper text for variables used in the project. For details on how variables files relate to Titler Pro projects along with examples, see [Creating Title Templates in Titler Pro](#).

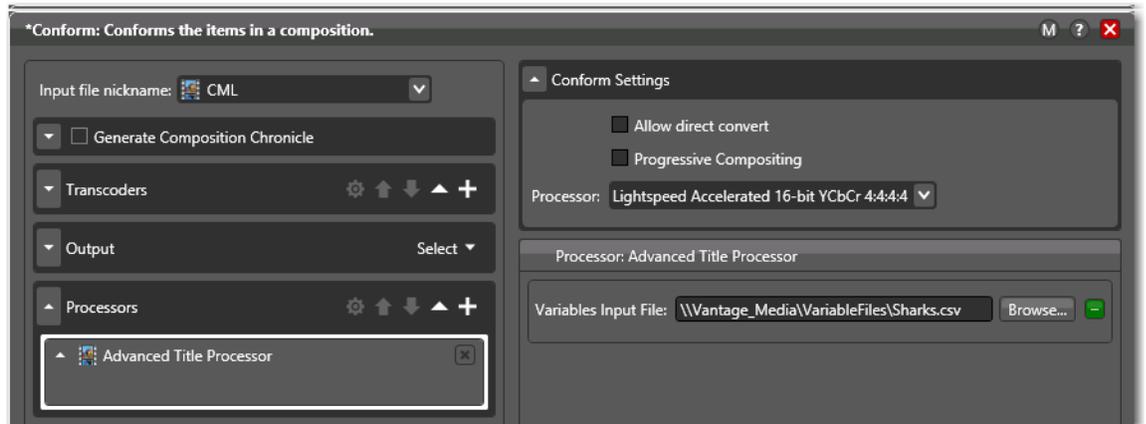
Typically, you’ll create variables files with a text editor program, such as Notepad++. For complex variables files, you might use Excel and export the file as CSV.

**Note:** When using Excel, save your CSV file as type CSV (MS-DOS).csv. Otherwise, you may introduce invisible characters that are unintended for use in Vantage workflows. For example, inferred quotes may be inserted, among other problems. If you encounter such problems, open the file in Notepad++ or another advanced text editor to display invisible characters, helping to identify and correct the problem. You can also use CSVpad, a Unicode-based CSV editor (available at [www.trustfm.net/software/utilities/CSVpad.php](http://www.trustfm.net/software/utilities/CSVpad.php)).

- [Accessing Variables Files During Job Processing](#)
- [Variables File Syntax](#)
- [Single Title—Single Text Lines](#)

### Accessing Variables Files During Job Processing

Variables files must be stored in locations that are accessible by the Vantage Edit service that is processing the job task. The variables file specified for use in a given workflow is identified in the Conform action’s Advanced Title Processor component.

**Figure 5.** Specifying the Variables File in the Advanced Title Processor

To identify the file to use in this workflow, choose one of these methods:

- Manually enter the fully-qualified path and file name
- Click Browse and navigate to and select the file
- Click the green Variable Browse button and select the variable that represents the variables file path.

**Note:** Use a variable to identify the variables file when you want to use a different variables file on each job. The variable's value must be set by a prior action upstream in this workflow. Typically, you'll add the variables file field to the workorder schema. When entering jobs in a workorder, supply the fully-qualified path to the file.

## Variables File Syntax

The variables file may contain an unlimited number of title entries. One entry is required for each title project used in a project. A given title project can only be entered once in a variables file.

**Note:** If you want to use the same title project more than once in an asset, just duplicate the NBTITLE file and rename it. Then, make an entry for the new title file.

Each title entry consists of two rows of comma-delimited values, defined as follows:

- *Row 1*—The first value contains the file name of the title project, including the extension *nbtile*. For example: *MyTitle.nbtile*. Second and subsequent values contain the name of each variable in the title. For each variable you supply, the second row must contain a corresponding text string (which may be blank).
- *Row 2*—The first value must contain the same file name as provided in row 1.

Second and subsequent values must contain the value to assign the corresponding variable, and it must be surrounded by double straight quotes.

## Variables File Examples

Variables files vary in complexity, depending on the number of titles and text strings, and whether these strings are static—used for a single job—or variable, used for multiple jobs. These examples illustrate the entries you to make in each situation.

- [Single Title—Single Text Lines](#)
- [Single Title—Multiple Text Lines](#)
- [Multiple Titles](#)
- [Titles Using Vantage Variables](#)

### Single Title—Single Text Lines

In this example, a title has one paragraph, and only one title will be applied to the asset.

In Titler Pro, you check the Text Variable control and enter *OneLine* as the variable name. You've saved the project as *OneLineText.nbtitle*.

Now, in the variables file, make this entry:

```
OneLineText.nbtitle, TitleName
OneLineText.nbtitle, "Title Text"
```

When the job runs, the Conform action in the workflow passes the reference to the title file and the text string associated with the variable to the Titler Engine, using the NBTITLE file's paragraph settings for rendering the text according to your specifications.

### Single Title—Multiple Text Lines

In this example, the title has two paragraphs, one above the other. You can just keep adding variables and text strings as you need to, based on the title's design.

In the top paragraph, you enter the variable *TopLine*. In the second, bottom paragraph, you enter *BottomLine* as the variable name. You saved the project as *TwoLineText.nbtitle*.

Remember to ALWAYS check the Text Variable control.

Now, in the variables file, you make this entry:

```
TwoLineText.nbtitle, TopLine, BottomLine
TwoLineText.nbtitle, "Text on Top Line", "Text on Bottom Line"
```

When the job runs, the Conform action in the workflow passes the reference to the title file and the two text strings associated with the variables to the Titler Engine for rendering, using the NBTITLE file for rendering specifications.

### Multiple Titles

In this example, you plan to place three titles in a video asset—one at the beginning, one at 10 minutes in and one near the end of the video. You create three titles in Titler Pro, each with varying numbers of paragraphs.

For each paragraph in each title, you check the Text Variable control and enter a unique variable name and save each project.

In the variables file, you make these three entries:

```
Title_Begin.nbttitle,TopLine,BottomLine
Title_Begin.nbttitle,"Begin Title Top","Begin Title Bottom"

Title_10.nbttitle,TopLine,BottomLine
Title_10.nbttitle,"Title 10 Top Line","Title 10 Bottom Line"

Title_End.nbttitle,TitleText
Title_End.nbttitle,"This is the End Title Text"
```

When the job runs, Titler Engine will pass the variables and the text associated with them in sequence to the Titler Engine for rendering, using the associated NBTITLE file for rendering specifications.

### Titles Using Vantage Variables

For maximum flexibility, you can use Vantage variables in a variables file. This permits you to create one workflow, and a single variables file referencing one or more titles. In all similar projects, you supply the paragraph text in the workorder at runtime.

**Note:** For a comprehensive description of using Vantage variables throughout titling applications, see [Using Vantage Variables](#).

In this example, you plan to place three titles on a series of video assets—each used in a different time zone, a different geographic region, or a different time of day or week, for example. One title is placed at the beginning, one at 10 minutes in and one at the end of the asset. You create three titles in Titler Pro, each with varying numbers of paragraphs.

For each paragraph in each title, you check the Text Variable control and enter a unique variable name and save each project.

In the variables file, you make these entries:

```
Title_Begin.nbttitle,TopLine,BottomLine
Title_Begin.nbttitle,{{BeginTitleTop}},{{BeginTitleBottom}}
Title_10.nbttitle,TopLine,BottomLine
Title_10.nbttitle,{{TenTitleTop}},{{TenTitleBottom}}
Title_End.nbttitle,TitleText
Title_End.nbttitle,{{EndTitleText}}
```

The Conform action resolves the variables by ingesting the variables from the workorder, and passes the variables and the text strings associated with them in sequence to the Titler Engine for rendering, using the associated NBTITLE file for rendering specifications.

## Using Vantage Variables

This topic describes the various ways that you can use Vantage variables in your titling applications to simplify the process and more efficiently scale up your volume.

**Note:** Creating and managing Vantage variables is described in the Vantage Domain Management Guide.

When you want to produce multiple versions of assets using the same title or titles with varying text, you can use Vantage variables in one variables file, instead of hard-coding static text strings, which requires that you have a unique variables file for each job.

When you want to increase the ability to re-use a composition for variations of a titled asset—for example, different titles or different assets, you can replace hard-coded references to these resources with Vantage variables in the composition, and supply the specific file resources as part of a workorder.

Both of these use cases are described here:

- [Using Vantage Variables in Variables Files](#)
- [Using Vantage Variables in Compositions](#)

## Using Vantage Variables in Variables Files

You supply text strings for the variables in each title you're applying to an asset, as described in [Using Variables Files](#). However, using text strings in the variables file means that every time you submit a new job, you need to change the text strings or create another variables file. For higher volume applications, where you need to generate multiple versions of the same titled asset, an easier way to provide strings is to enter a Vantage variable in place of each string in the variables file.

When you are using Vantage variables in a variable file, you must use a workorder-based workflow. (Workorder-based workflows enable you to submit multiple jobs at one time, supplying runtime job values related to each job.) You need to modify the workorder schema to add fields for Vantage variable you use, and add the strings into the workorder before submitting it.

### Schema Example

First, add the variable fields to the workorder schema, as shown in this example:

**Figure 6.** Specifying Fields for Vantage Variables in a Workorder Schema

Field Name	Qualifier	Value Type	WorkOrder Index
TenTitleTop	Variable	Text	6
BeginTitleBottom	Variable	Text	5
EndTitleText	Variable	Text	8
TenTitleBottom	Variable	Text	7

You'll need to specify each field as a variable of type text, and specify the order (index) of the field in the list.

## Variables File Example

Now, in your variables file, enter the variables where the strings are normally entered:

```
Title_Begin.nbttitle,TopLine,BottomLine
Title_Begin.nbttitle,{{$BeginTitleTop}},{{$BeginTitleBottom}}
Title_10.nbttitle,TopLine,BottomLine
Title_10.nbttitle,{{$TenTitleTop}},{{$TenTitleBottom}}
Title_End.nbttitle,TitleText
Title_End.nbttitle,{{$EndTitleText}}
```

Surround each variable with braces and start it with 2 dollar signs.

## Workorder Example

Finally, as you add your jobs to a workorder, supply the text strings appropriate to each job in their respective fields.

## Summary

When the job is processed, the Workorder action assigns the string to the Vantage variable in the workflow, and the Conform action uses the variable to send the string to the Titler Engine for rendering.

## Using Vantage Variables in Compositions

Typically, compositions do not reference external resources or metadata symbolically. They are usually hard-coded into the CML.

However, when you need to title multiple versions of the same category of an asset; for example, a 60-second commercial in many languages, instead of creating a different CML for each asset you want to process, you can add Vantage variables to the CML element which references the file. Use a workorder-based workflow and enter the filename for each job in the workorder. As in the previous example, you always need to modify the workorder schema to add fields for each string variable you use.

**Note:** For more information on flexible referencing of resources and metadata in compositions, see *Using Nicknames, Expressions, Variables, and Constants in Compositions*, in the *Post Producer Developer's Guide*.

Of course, you can also use Vantage variables to supply specific NBTITLE files at run time or make other dynamic changes to the CML using Vantage variables.

# Title Processing Examples

**Note:** This section assumes that you are familiar with Vantage and Vantage Post Producer workflows and configuration. For information on using Vantage and Post Producer, please refer to the guides for these products—Vantage User’s Guide and Post Producer Developer’s Guide—which can be downloaded from <http://www.telestream.net>.

There are three ways to process Post Producer jobs that include title files created by the Titler Engine:

- **Basic Title Processing**—Submitting a composition to a Conform workflow, which contains references to a single title file, using variable entries stored in a variable CSV file to render the title.
- **Title Processing Using Premiere Pro**—Submitting FCP7-XML from Adobe Premiere Pro CC for a project that includes one or more titles that were created and *templated* using the Titler Pro plug-in for Adobe Premiere or the standalone tool. This method requires a Compose action in the workflow, in order to convert the FCP7-XML to CML for use in Post Producer.
- **Title Processing Using Premiere Pro**—Submitting a workflow that starts with a Workorder Watch action, uses an existing CML template, and includes one or more titles that were created and *templated* using Titler Pro.

The method you choose depends on your workflow requirements. The methods are similar; the following examples describe the workflows for each method.

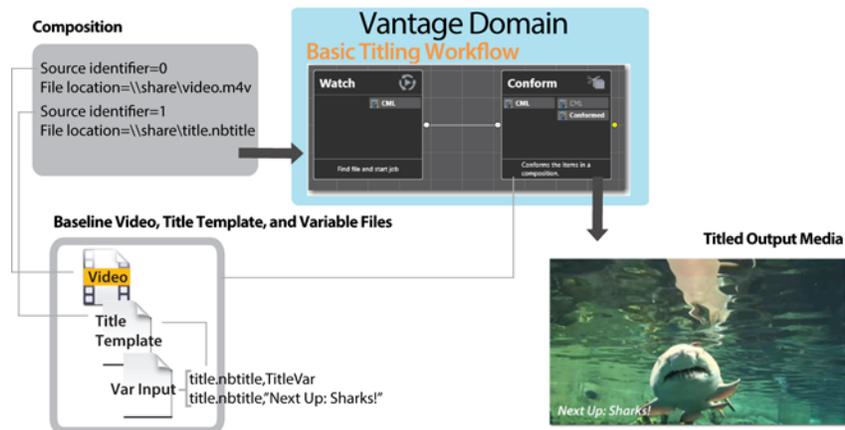
## Basic Title Processing

This example describes applying a single title to a single video clip. This is an excellent way to learn the basics of using the Titler Engine to render titles on video assets. In practice, most cases require applying one or more titles to a video, and perhaps a dozen or more variations of the title text for each version of your video asset.

In this example, you'll create a workflow and all of the files from scratch and supply your own source video; you won't be importing any resources from an example zip file.

**Note:** Without editing the assets on the timeline in the composition or specifying the title's font, location, etc. in Titler Pro, you have no control over the title in a composition. The purpose of this example is to help you understand each of the files and the metadata that are required, as depicted below.

**Figure 7.** Required Files and Metadata



Here are the four files that are required:

- *Video*—the source video file (you supply), in a Post Producer-supported format.
- *Title Template*—a template file, created in Titler Pro.
- *Composition*—The composition identifies a source video source and a title template source, each referenced as a fully-qualified path.
- *Variables*—a text file that contains at least one set of entries that identifies the template file, the text for the title and the name of the title's text variable.

**Note:** The variables file's title text variable and text string are obviously not needed for a one-off process; they are already in the template you made. The variables file permits scaling: for each asset you're titling, you can change the text on the fly.

Follow these steps to apply a title to your media using this method:

1. Identify your source video file and make sure that its format is supported by Post Producer. See the Post Producer Developer's Guide for details.
2. In Titler Pro, create your title. See [Creating a Basic Title Template](#).
3. Use a text editor to create a variables file—see [Creating a Variables File](#).

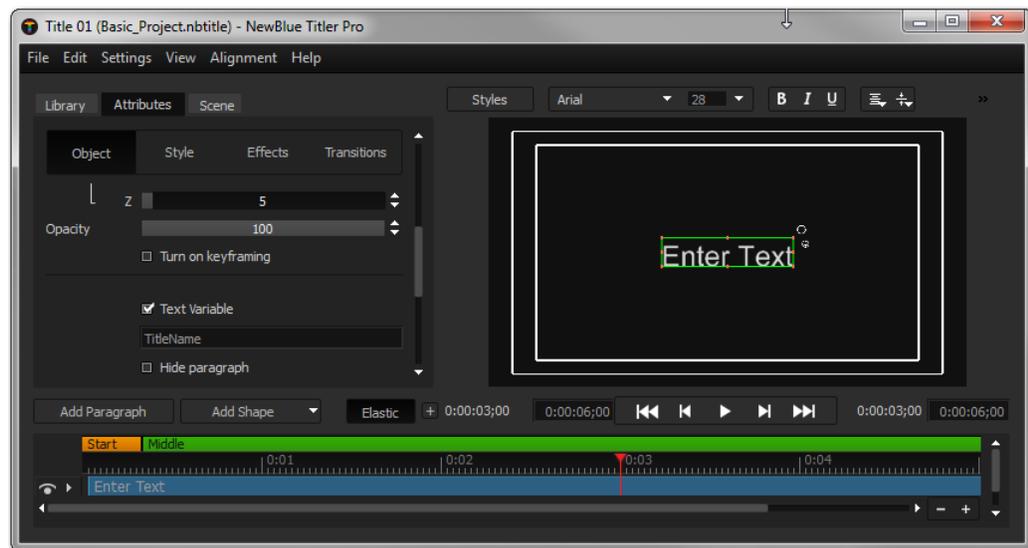
4. Use a text editor to create a composition that identifies the source video and the title file (see [Creating a Basic Title Composition](#)).
5. In Vantage Workflow Designer, create and activate a basic title processing workflow with a Conform action (see [Creating and Activating a Basic Title Processing Workflow](#)).
6. Submit your composition to the basic title processing workflow for title generation and compositing onto the source video and rendering of the titled output. You can drag and drop the composition from your Basic\_Title folder directly on to the Watch action in Workflow Designer or copy it to the watch folder you specified in the Watch action.
7. In Workflow Designer, display the Job Status tab. Watch your job run to completion. Double-click the job to display the binder. Play your output file to see the title.

## Creating a Basic Title Template

**Note:** If you don't know how to use Titler Pro, refer to the Titler Pro User's Guide.

Run Titler Pro in stand-alone mode (typically, at *C:\Program Files\NewBlueFX\Titler\TitlerStandalone.exe*). When it starts, it displays the main window:

**Figure 8.** Creating a Simple, Single Line Title in Titler Pro



Create a title for this example—perform the following:

1. Select File > New to create a new title project. The default length of a title is 6 seconds—for this project, you don't need to change the length.
2. In the Attributes > Objects tab (displayed by default), about halfway down, make sure that the Text Variable control is checked (it is, by default). Replace *Text01* with *TitleName* to create this text variable in the title template. You'll use this variable later, to pass the text string into the Titler Engine when rendering the title.

3. Select File > Save and navigate to the location where you want to save the file—typically, the Post Producer node. (The location must be accessible to the Vantage Edit service.) Create a folder on the media drive and name it *Basic\_Title\_Project*. Name the file *Basic\_Title* and save the file.

## Creating a Variables File

The variables file is specified in the Variables Input File text field of the Conform action's Advanced Title Processor inspector panel. This file is a file that specifies the variables and text values to supply for NewBlueFX Titler templates.

Use a text editor or spreadsheet program to create a variables file with two lines identifying the title file, the title text variable, and its text value. For example:

```
Basic_Title.nbttitle,TitleName
Basic_Title.nbttitle,"Burned In Title"
```

The name of the title file you're using must be the first value on both lines. The second value on the first line is the name of the text variable you specified in the Titler Pro project; the second value in the second row contains the title's text value, and must be enclosed in straight double quotes.

The Advanced Title Processor uses the variable and text that you specify to render the title, as defined in the Title template. Thus, the output video file will have a title rendered using the *Basic\_Title.nbttitle* template, and the text *Burned In Title*.

Save this file on the Post Producer node in the same directory where you saved the title project file: *Basic\_Title\_Project*. Name the file *Basic\_Title\_Variables.csv*.

## Creating a Basic Title Composition

Use a text editor (NotePad++ for example), to create this CML file. You can copy and paste the XML illustrated below, and edit it to meet your requirements.

**Note:** Post Producer Composition Markup Language is documented in the Post Producer Developer's Guide, which is available on the Telestream Web site. Knowledge of CML is not typically required to use Post Producer Titler Engine.

This example composition specifies applying a title (referenced in the Source identifier 1 File element as *Basic\_Title.nbttitle*) onto a video file named *Baseline\_Video.m4v*, referenced in the Source identifier 0 File element.

Modify the name of the video file you plan to use as the video asset. Make sure that the path is accessible to the Edit Service on the Post Producer node. We recommend using an m4v file a few minutes long for testing.

**Figure 9.** Sample Post Producer Composition to Apply a Title

```
<?xml version="1.0" encoding="utf-8"?>
<Composition xmlns="Telestream.Soa.Facility.Playlist">
  <Source identifier="0">
    <File location="C:\Basic_Title_Project\>Baseline_Video.m4v" />
  </Source>
  <Source identifier="1">
```

```

<File location="C:\Basic_Title_Project\Basic_Title.nbttitle" />
</Source>
<Sequence layer="0">
  <Segment>
    <Video source="0">
      <Tail>
        <Edit mode="absolute" time="00:00:08.008" />
      </Tail>
    </Video>
  </Segment>
</Sequence>
<Sequence layer="1">
  <Segment>
    <Video source="1">
      <Tail>
        <Edit mode="absolute" time="00:00:08.008" />
      </Tail>
    </Video>
  </Segment>
</Sequence>
</Composition>

```

Although most users will never have to edit a CML file, this is an example which specifies the tail of both the source video and the title at 00:00:08:008, so that the title is conformed into the video on the timeline where the end of the title coincides with the end of the video. Of course, the title could be placed *anywhere* on the timeline.

Save this file in the *Basic\_Title\_Project* folder. Name the file *Basic\_Title\_Composition.xml*. You'll be submitting this file to your workflow in a moment.

## Creating and Activating a Basic Title Processing Workflow

**Note:** If you don't know how to use Workflow Designer, refer to the Workflow Designer User's Guide.

Use Workflow Designer to create this workflow and activate it. This workflow ingests a composition (CML) file and uses it to compose a new video per the specifications:

**Figure 10.** Prototype Basic Conform Workflow



This workflow has two actions, configured as described:

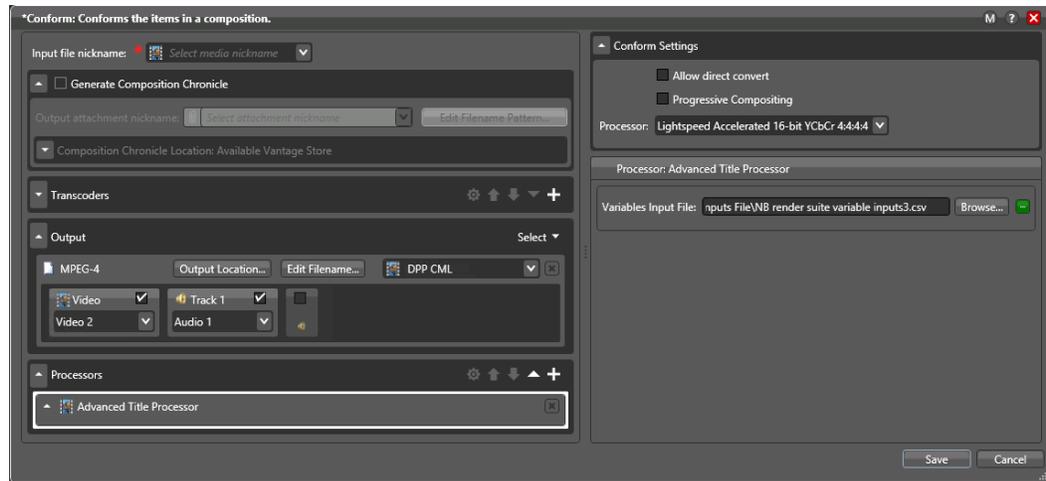
**Watch Action**—The Watch action monitors a location which you specify for new CML files. When one is identified it ingests the file, starts a job, and passes the file to the Conform Action.

**Note:** If your source media is not a Post Producer-supported format, you could create a separate workflow to transcode it and use a Forward action to pass the source to this

workflow by starting with a Receive action. Or, add a Flip action between the Watch action and the Conform action to transcode the video into a supported format.

*Conform Action*—The Conform action is configured to ingest the CML file and create a new video file with an embedded title applied using the Advanced Title Processor as shown following (bottom left corner, in the Processors panel - highlighted in white):

**Figure 11.** Conform Action Inspector



- *Input File Nickname*—Typically, *CML* to properly identify the type of file. Select the nickname of the CML file ingested by the Watch action.
- *Transcoder*—Any supported audio and video is permitted.
- *Output*—Any supported output format is permitted.
- *Processor*—Advanced Title Processor, configured with the fully-qualified path to the variables file you created. For example, `\\MyServer\Share\InputVar.csv`.

When you have created and configured your workflow, activate it so that you can submit your composition to it and process the job.

## Title Processing Using Premiere Pro

This example describes the recommended method of implementing titling applications. It involves using Titler Pro Editor to make titles, Adobe Premiere Pro to apply a title to a video asset, automatically converting the project to a Post Producer composition using a workflow with a Compose action, and submitting it to a Vantage workflow with a Conform that generates several titled videos.

**Note:** This example is not intended for implementation, you can just read it and glean the information you need to implement your own titling applications, referring back as necessary.

The CML required in this application of course, is more complex than the CML used in the basic example. Although users who are skilled in XML editing can author CML of this complexity manually, its more efficient to use Adobe Premiere Pro to title your video and create the composition automatically.

1. In Titler Pro, create titles and save them—each with a unique variable name, as illustrated below. (Refer back to [Creating a Basic Title Template](#) for basic help).
  - *TitlerEngineTextSample1.nbtile*—Text Variable: *Text1*
  - *TitlerEngineTextSample2.nbtile*—Text Variable: *Text2*
  - *TitlerEngineTextSample3.nbtile*—Text Variable: *Text3*
  - *TitlerEngineTextSample4.nbtile*—Text Variable: *Text4*

Save your NBTITLE templates in a location accessible to Vantage—for example, a folder on your Post Producer media drive or a network media folder accessible as a share.

2. Create a variables file to supply title strings for all of your templates—see [Creating a Variables File Using Vantage Variables](#), below, for details. (See [Using Vantage Variables in Variables Files](#) for using variables instead.
3. Identify a video file to use for each job. Make sure the format is supported by Post Producer. See the Post Producer Developer’s Guide or the Telestream Web site.
4. Create a project in Premiere which contains title sequences on the timeline, using the titles you designed earlier. See [Creating a Titling Project in Premiere](#).
5. In Vantage Workflow Designer, create and activate a pre-processing Compose workflow to convert the Premiere project into a composition. The Compose action should be configured with a Final Cut Pro 7 XML composer.
6. Submit the FCP7 XML file you created in Premiere to the conversion workflow for conversion to a composition. See [Creating a Workorder Title Processing Workflow](#) for details. (You could also integrate the Compose action directly in the publishing workflow, and eliminate the need for 2 workflows.)
7. In the Vantage Domain Console, create a workorder schema to support the workorder format you need. This means identifying the source video, each NBTITLE file you use, and any variables required, such as text strings if you used Vantage variables in the variables file. See [Creating a Workorder Schema](#) for details.
8. Now, create a workorder to process. See [Creating a Workorder CSV File](#) for details. The workorder must follow the field specification in the schema specified in the Workorder action.

9. Create a Conform workflow to process your files, and activate it.
10. Submit the workorder to the title processing workflow for title generation and compositing onto the source video to produce a titled output video for every job you submitted using the workorder.

## Creating a Variables File Using Vantage Variables

The text entries in this file differ from the one in the basic example. They use Vantage variables instead of static text strings for the title text.

When you use text strings, you have to create a separate variables file for every asset you want to apply a title to. Using a Vantage variable instead of a text string enables you to scale title production easily. You can use a single variables file for all jobs of the same type, employing a Vantage workorder to submit a series of job, each with its own title text string supplied as a variable for each job in the workorder.

1. Create a variables file in CSV format. For this example, the file contains:

**Figure 12.** Variables File with Vantage Variables

```

1 TitlerEngineTextSample1.nbttitle,Text1
2 TitlerEngineTextSample1.nbttitle,($Title1)
3 TitlerEngineTextSample2.nbttitle,Text2
4 TitlerEngineTextSample2.nbttitle,($Title2)
5 TitlerEngineTextSample3.nbttitle,Text3
6 TitlerEngineTextSample3.nbttitle,($Title3)
7 TitlerEngineTextSample4.nbttitle,Text4
8 TitlerEngineTextSample4.nbttitle,($Title4)

```

In this example:

- *TitlerEngineTextSample<n>.nbttitle* refers to each of the templates you just created
- *Text<n>* refers to each of the text variables used in the title template
- *{\$Title1}* (and the others) is a Vantage variable which references the string that is passed to the title template during processing. Instead of supplying the string directly (as in the basic example), in this model, the string is supplied in a workorder, where there is one row of metadata for each video asset to process.

## Creating a Titling Project in Premiere

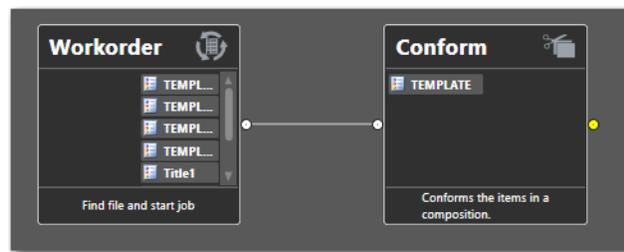
1. Rename non-title clips on the timeline that need to be replaced in iterative versions using the Vantage variable pattern *{\$Variable}.extension*, where *Variable* is the name of a Vantage variable, and *extension* is the extension of non-video media asset: .png, .psd, .aif, etc. Add the Vantage variable to your domain in the Vantage Management Console.
2. Also rename the title clips on the timeline with *{\$TemplateName}.nbttitle*, where *TemplateName* is the name of the Titler template you are using in this project. Every Vantage variable you use as a clip name must also be added to your domain.

- Export the Premiere project as an FCP XML file to a Vantage workflow with a Compose action that converts the XML file to a CML file. Store the CML file in a location where CML templates are stored and accessible by Vantage.

## Creating a Workorder Title Processing Workflow

This workflow is driven by a workorder, which enables you to submit multiple jobs at one time, with required metadata. It ingests a workorder file (a text file in CSV format) which references one composition (CML) file per job, the video asset and the title's text string, and uses it to compose a new, titled video:

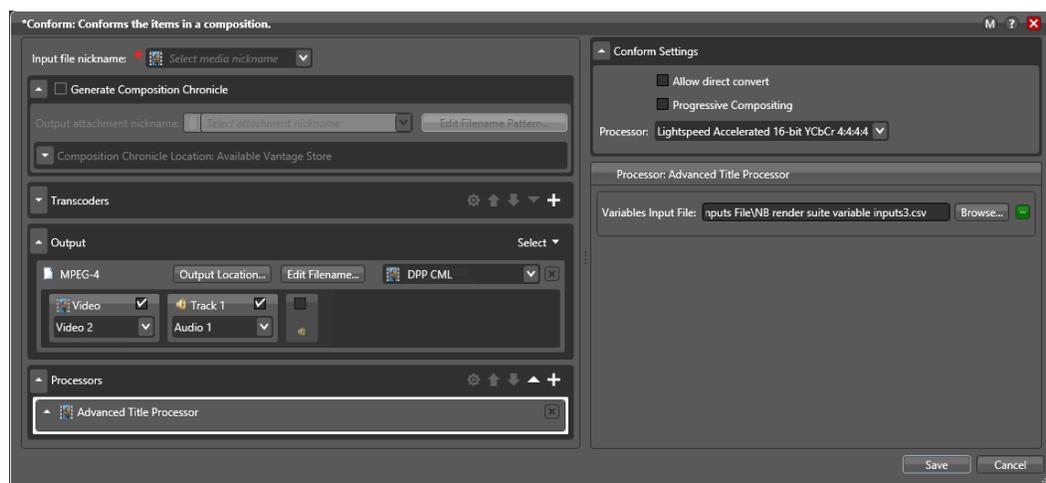
**Figure 13.** Prototype Workorder Title Processing Conform Workflow



**Workorder Action**—The Workorder action monitors a location for new workorder files. When one is identified it ingests the file, and starts a job for each entry, passing the referenced CML file and variables to the Conform Action.

**Conform Action**—The Conform action is configured to ingest the CML file and composite a new video file. The Conform action composites the titles on the video and encodes the finished assets, using the Advanced Title Processor (bottom left corner, in the Processors panel) to apply title variations to each output file, as shown following:

**Figure 14.** Conform Action Inspector



- Input File Nickname**—Typically, *CML* to properly identify the type of file.

- *Transcoder*—Any supported audio and video is permitted.
- *Output*—Any supported output format is permitted.
- *Processor*—Advanced Title Processor, configured with the fully-qualified path to the variables file. For example, \\MyServer\share\InputVar.csv.

## Creating a Workorder Schema

Workorder schemes are created in the Management Console: Fulfillment Schemes > Workorder Schemes. This workorder schema provides for a CML file, 4 title strings and 4 templates to be submitted, as depicted here (with fields in index order):

**Table 3.** Workorder Schema for Title Processing

Field Names	Value Type	Qualifier	Description
CML	Path	Media	Fully-qualified path to the Composition file to process.
Title1, Title2, Title3, and Title4	Text	Variable	Text string to use as title text.
Template1, 2, 3, and 4	Text	Variable	Name of template being used.

Create a new workorder scheme and name it Titler Engine Sample. Add each of the fields in order.

## Creating a Workorder CSV File

A workorder is a CSV file with job entities you want to submit to a workflow as a batch, rather than one at a time. Additionally, using a workorder, you can submit metadata for each job—providing efficient job submission scaling.

Workorder rows (including the file you're processing and the related metadata) must conform to the workorder schema that is specified in the Workorder action.

A typical workorder for title processing described in the example is depicted here:

```
CML PATH, TITLE1, TITLE2, TITLE3, TITLE4, NAME OF TITLE
TEMPLATE1, TEMPLATE2, TEMPLATE3, TEMPLATE4

\\VantageServer\CML\TitlerEngineTextSample1.cml,Jim Morris,Jim
Morris,Jim Morris,Jim Morris,TitlerEngineTextSample1,
TitlerEngineTextSample2,TitlerEngineTextSample3,TitlerEngineTextSample4

\\VantageServer\CML\TitlerEngineTextSample2.cml,Thomas Lee,Thomas
Lee,Thomas Lee,Thomas Lee,TitlerEngineTextSample1,
TitlerEngineTextSample2,TitlerEngineTextSample3,TitlerEngineTextSample4

\\VantageServer\CML\TitlerEngineTextSample3.cml,Tom Smith,Tom
Smith,Tom Smith,Tom Smith,TitlerEngineTextSample1,
TitlerEngineTextSample2,TitlerEngineTextSample3,TitlerEngineTextSample4
```

## Title Processing Using the Titler Engine Sample Project

This project describes the process of building an Adobe Premiere project with four different title templates, and applying different text to the titles generating seven uniquely-titled versions of video using the Post Producer Titler Engine.

**Note:** The purpose of this project is to illustrate the requirements and process of compositing multiple assets with multiple titles (each with one or more text elements), to produce a series of similarly-titled assets.

When you have completed this project, you will have the information and experience you need to implement similar, complex titling projects in your environment.

Download the [Titler Engine Sample Project.zip](#) file from the Post Producer demo page on the Telestream Web site. Save it on your Vantage Post Producer node's desktop and unzip it. (If you place these files in another location, you will need to make changes to the file paths in the workorder files.)

The files in this sample project zip file provide all the resources you need to process a video asset and generate titled output. Here is the set of directories that contain the different files needed to support this application:

**Figure 15.** Directories in the Titler Engine Sample Project

Name	Type
CML	File folder
CSV Workorders	File folder
FCPXML	File folder
Sources	File folder
Vantage Post Producer Workflow	File folder
Vantage Variables	File folder
Vantage Workorder Schema	File folder

The following table describes the contents of each folder.

**Table 4.** Sample Titler Engine Project Directories

Directory	Description
CML	Post Producer Composition Markup Language files; used to specify titles and how they are applied to the video asset. Created manually, or automatically by converting Adobe Premiere FCP7 XML files using a Compose action workflow. Sample CML files are submitted to the Titler Engine workflow to produce the output asset.
CSV Workorders	Workorder files are text files in CSV format. Each row identifies a source video asset, other assets such as title projects, and all metadata required for the job.
FCP7XML	Titling projects saved from Adobe Premiere Pro.
Sources	sample source video

**Table 4.** Sample Titler Engine Project Directories

Directory	Description
Vantage Post Producer Workflow	Sample workflow for processing workorders and generating title video assets; exported from Vantage in XML; must be imported into your domain to use.
Vantage Variables	The variables for video assets and metadata required to support the workorder in this project; exported from Vantage in XML; must be imported into your domain to use.
Vantage Workorder Schema	Specifications for the fields in workorders being submitted to this workflow.

Follow these steps to composite video assets in this sample project:

1. Open the Vantage Management Console display the Variables panel (select Workflow Design Items > Variables). Import all of the variables (template, text, and title XML files) from the Vantage Variables folder.
2. Also in the Management Console, display the Workorder Schemes panel (select Fulfillment Schemes > Workorder Schemes) and import the workorder schema (Titler Engine Workorder Schema Sample.xml) from the Vantage Workorder Schema folder.
3. Open Vantage Workflow Designer and import the workflow (Titler Engine Sample Demo.xml) from the Vantage Post Producer Workflow folder (select File > Import Workflow). Save it in a Titler Engine Workflow category, for example.
4. The Workorder action is configured to pick up workorders from D:\Workorder Watch, and ingest the CML file and all of the variables. Either change it to a directory of your choice or create this directory on the Post Producer Titler Engine server's media drive or a network media folder accessible as a share.
5. Select and activate the Titler Engine Sample Demo workflow.
6. Open the workorder file named *Submit this workorder to Titler Engine Sample workflow.csv* and change the media file paths to the proper paths on your system, so that they are correct.
7. Provided the files are on the desktop of the server, submit the file *Submit this workorder to Titler Engine Sample workflow.csv* to the workflow. A job will start and the workflow will create seven different composited outputs, each with four different title designs using different title text.

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