Vantage
Application Note

Using Vantage TrafficManager Syndication

This App Note applies to Vantage Version 7.0 - 7.1 & later

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Note: This guide is written for video professionals who are familiar with using Vantage. To implement applications in Vantage, you should know how to create workflows and submit jobs. If you aren't familiar with Vantage, we suggest that you review the *Vantage User's Guide* and *Vantage Domain Management Guide* as needed.

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TrafficManager Syndication Overview

TrafficManager Syndication provides a very efficient means of ingesting and processing long and short-form syndicated broadcast content (multi-segment material). The following topics explain Syndication in detail, enabling you to implement your own system.

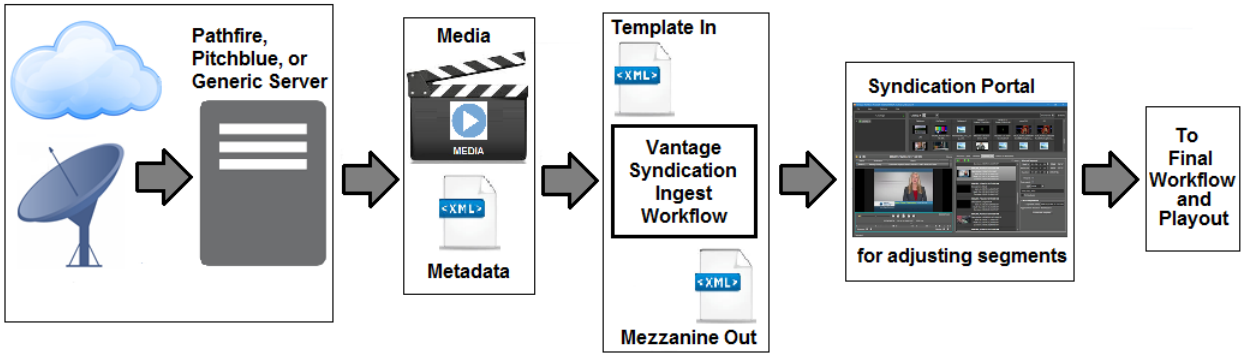
- Syndication Overview
- Syndicated Content Processing Workflow Overview
- Syndication Portal Features
- Syndication Processing in Detail
- Commercial Segment Management

Syndication Overview

These are the key features and functions of TrafficManager Syndication:

- Ingest programs and associated metadata from a catch server using the Catch and Syndicate actions in Vantage workflows. Files must be copied to a local file location, and the media must be assigned the nickname *Original*.
- Register shows and metadata into catalogs accessible from the Syndication Portal.

  Vantage Syndication includes a system nickname for attachments: *Syndication*. This nickname is a critical and integral part of Vantage Syndication workflows and is required as both an input to and output from the Syndication Portal.
- Create and manage syndication templates and portal configurations in the Vantage Management Console.
- Use the Syndication Portal to preview and adjust show segments and output to a publishing workflow. The portal produces the nicknames required for Syndication publishing workflows.
- Publish the syndicated content to an automation system using a publishing workflow in the Workflow Designer.



Syndicated Content Processing Workflow Overview

Syndicated programming differs from spots in that an entire show or long-form deliverable is included in the syndicated content. The accompanying metadata provides descriptive elements and information about included segments and breaks. In the ingest stage, files must be copied to a local file location, and the media must be assigned the nickname *Original* in order for workflows to operate successfully.

TrafficManager workflows automate the processing of syndicated media and metadata. Typically, syndicated and spot content and metadata are delivered via satellite or broadband delivery.

You can use the Management Console, to create templates (which describe proper segmentation of media and commercials, etc.) for use with particular shows. The template can be automatically matched with the show metadata to reformat the incoming show metadata into a mezzanine instruction file for the Syndication Portal.

The instructions from the XML metadata are used by the Syndication Portal to create a Segment List, which divides up the media into the multiple segments and variable breaks.

Catalogs containing media nicknamed *Original*, a proxy, and a syndication metadata attachment nicknamed *Syndication* are created for each job and accessed for operator processing in the Syndication Portal.

The Syndication Portal enables operators to preview and adjust segments and metadata, then submit the program files to a final Vantage workflow. Depending on the portal Syndication mode (Stitching or Segmenting), the portal outputs include a single media file (Stitching mode) or multiple segment files (Segmenting mode), an XML metadata file, and CML files. A third mode—Pass-Thru—allows operators to leave the program structure unchanged and manipulate only the timing data within the portal. In this mode, the portal outputs the media file and Syndication attachment, but no CML files. Essentially, the original media and attachment are passed through unaltered except for minor timing adjustments.

In the Syndication Portal, when a binder is added to the portal Segment List, if the << No Template >> option is used, the Syndication Portal creates a Segment List based on the original source XML file. With this option, the user can save the Segment List as a new template (if the portal configuration permits it).

Note: Stitching mode requires that all segments to be normalized to the same frame rate. If you add a commercial, its frame rate must match the program.

Certain Vantage actions are heavily used to process syndicated content:

- The Syndicate action transforms sidecar XML files into a format readable by the Syndication Portal and Automate action. If the Syndicate action is able to match the incoming sidecar XML with a Syndication template (via a match pattern), then the template is applied to the sidecar XML when it is transformed. The template may re-order segments or indicate that specific segments are *not included* in the final output. If a Syndicate action applies a template that specifies the same regrouped number for multiple segments, those segments will be joined.
- Flip actions (including Flip, Multiscreen, IPTV and others) transcode the syndicated media into proxy and thumbnail formats.
- A Register action registers the original media, thumbnail, proxy, and metadata attachment into the desired catalog.

In some cases the final workflow creates a new metadata file to accompany the final media. In other cases, the show segments need to be re-transcoded by Vantage to produce a new version. The output of the final workflow typically goes to a playout server for distribution.

Two simple example workflows are described at the end of this chapter where workflows are discussed *Syndication Workflows*).

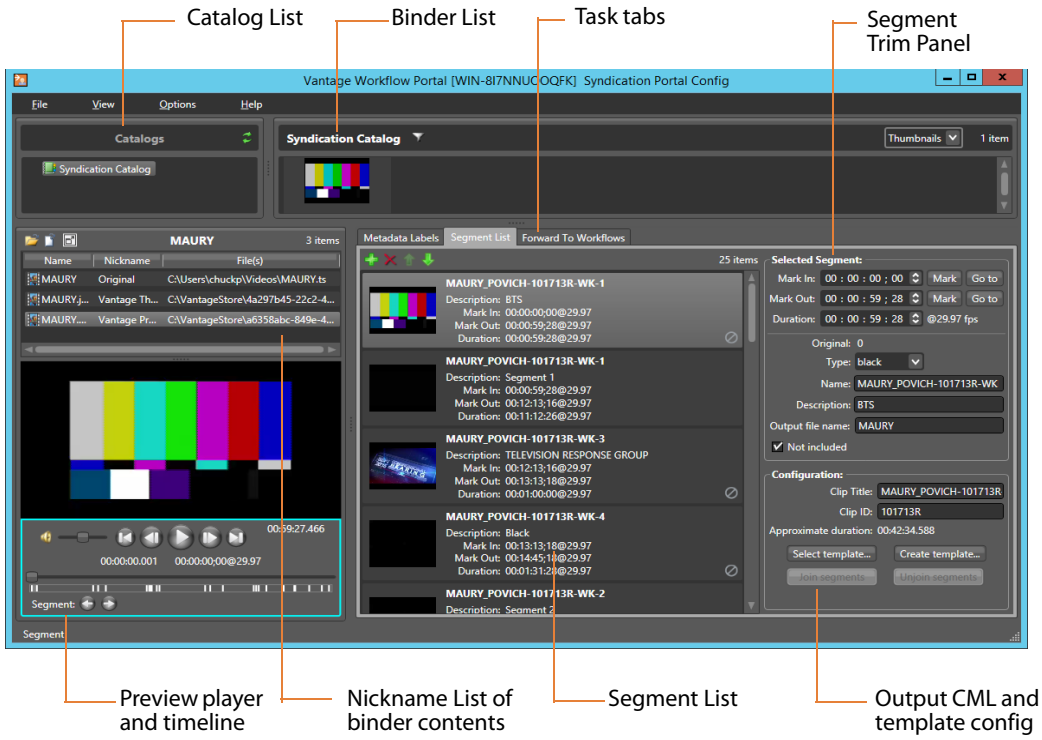
Syndication Portal Features

The Syndication Portal provides these configuration-specific features:

- Binders containing shows and metadata are dragged to the Segment List.
- A template specified in the Management Console portal configuration automatically divides the show into segments.
- Segments can be manually dragged to change order, new segments added and Type specified (black/program/commercial), and existing segments and metadata trimmed using the Selected Segment controls. Segments you want to leave out of the final program can be marked *Not included*. You can also Ctrl/Shift-select all or a group of segments and mark them *Not included*.
- Two or more consecutive or non-consecutive segments can be joined together when creating a template or when outputting media. Conversely, previously-joined segments can be selected and unjoined.
- When non-consecutive segments are joined, the lower segments automatically jump over intervening segments and move up directly below the segments being joined to form a contiguous segment group.
- In the portal, you can drag binders or segments into a segment group to insert the binder or segment into the group.
- Segments joined to a group of segments are assigned the same regrouped number. This information is made available to be passed on to downstream automation systems from Vantage. For a complete description of joining segments, see *Commercial Segment Management*.

- The Preview player allows previewing segments and final output. Typical player controls are included, and a timeline with Segment buttons to jump between segments give you full visibility and control of show contents.
- Output file name, Clip Title, and Clip ID are automatically supplied from the input metadata file, but you can change them if desired. When the Syndication Portal configuration is set for segmenting mode, the output file name can be set for each individual segment. You can also Ctrl- or Shift-click segments and click Join Segments to combine segments or even the whole show.
- The show and metadata can be submitted to a publishing workflow using the Forward To Workflow tab where the user selects the desired workflow and clicks Submit. This sends the output files to a final workflow for automated processing and distribution to an automation system or server.

Depending on the *Syndication Mode* configuration setting, the Portal generates new metadata XML and composition (CML) files for the segments (*Segmenting mode*) or a whole show (*Stitching mode*), or the original XML attachment with updated timing is passed through (*Pass-Thru mode*). The publishing workflow performs any required transcoding or other transformations and publishes the files to an automation system.



Syndication Processing in Detail

Use these steps to guide you in processing syndicated content.

1. Create a syndication catalog using Management Console > Catalogs.
2. Create a new syndication template using the Vantage Management Console > Syndication folder > Templates feature.

   Use the *Populate from XML* button to import an XML metadata file for the show you're planning to process. The Templates panel displays a list of show segments. You can move, add, and delete segments to adjust the template.

   For additional details, see the *Vantage Domain Management Guide*.
3. Create an ingest workflow that includes an origin action capable of ingesting a syndicated media file and accompanying sidecar metadata file. (For workflow details, see *Syndication Workflows*.)

   You can use a Catch action, a Receive, or a Watch/Associate combination to ingest new files, and a Copy action to localize the files. Files on a catch server are not accessible to downstream actions, so they must be localized.

   Also include Flip actions to create thumbnail and proxy files.

   Include a Syndicate action to apply the template to the sidecar file (or make the file readable by the portal if a matching template is not found), producing a mezzanine file nicknamed *Syndication*.

   The workflow must also include a Register action to register the files (including the XML file using the required nickname *Syndication*) into a binder for entry into the syndication catalog. The catalog must contain media nicknamed *Original*, a proxy, and a syndication metadata attachment nicknamed *Syndication* because these are required inputs to the Syndication Portal. (Note that only XML files for programs require the *Syndication* nickname; commercial files do not.)

   The portal can then be used to access the binder and its files from the catalog.
4. Create a publishing workflow suited to your needs. Typically, you'll want to start with a Receive action to accept the files submitted from the portal and an Automate or Conform action to convert the XML or CML files and the syndicated media to the desired formats.

   In Automate, you can select BXF or other automation formats for outputting to an automation system.

   Note: The *Syndication* nickname is required for the attachment file in both the Receive and Automate actions, and the CML nickname is also required by the Receive action in Stitching or Segmenting mode.
5. Create a Syndication Portal configuration using the Vantage Management Console > Application Configuration > Workflow Portal. Set the Mode to Syndication, and set the parameters in each tab.

   In Syndication Settings, specify the template you created as the Default template.

Also select a Syndication mode:

Stitching mode: Submitting from the portal generates a single CML file and a single Syndication XML file for the whole program. Stitching mode requires all segments to be normalized to the same frame rate. For example, if the program is 1080i/29.97 and you add a 720p/59.94 commercial, the ingest workflow must convert the commercial to 29.97 so that its frame rate matches the program.

Segmenting mode: Submitting from the portal creates a separate job for each included segment, and an output file name can be assigned to each segment output. A CML file and a Syndication XML file are created for each job.

Note: Use of the Stitching and Segmenting modes with the Conform action in publishing workflows requires the Telestream Vantage Post Producer option.

Pass-Thru mode: Submitting from the portal does not create a CML. Instead, the Original from the ingest workflow is made available to the publish workflow and a Syndication XML is generated based on the Segment List.

On the Forward To Workflows tab, select (Add) the publishing workflow. This provides a default configuration and template for the portal that operators can modify, depending on permissions.

For additional details, see the *Vantage Domain Management Guide*.

6. Open the Workflow Portal and use File > Change/Reload Application Configuration to load the Syndication Portal configuration created earlier.

   Refresh the catalogs, select the syndication catalog created previously, and drag one or more binders into the Segment List.

   The portal automatically displays all of the segments identified in the Syndication XML. You can use the portal to preview and adjust segments manually, including joining consecutive and non-consecutive segments (Ctrl-click to select 2 or more segments and click Join Segments or right-click and select Join Segments) to treat them as a single segment in the output. For a complete description of joining segments, see *Commercial Segment Management*.

7. Forward the updated show to the publication workflow by accessing the Forward To Workflows tab, selecting the workflow, and clicking Submit.

Media and metadata files are delivered to your automation system in ready-to-use formats.

Note: After you fine-tune the segments of a show, you can save the template from the portal using the Create Template button to save over the existing template or make a new one.

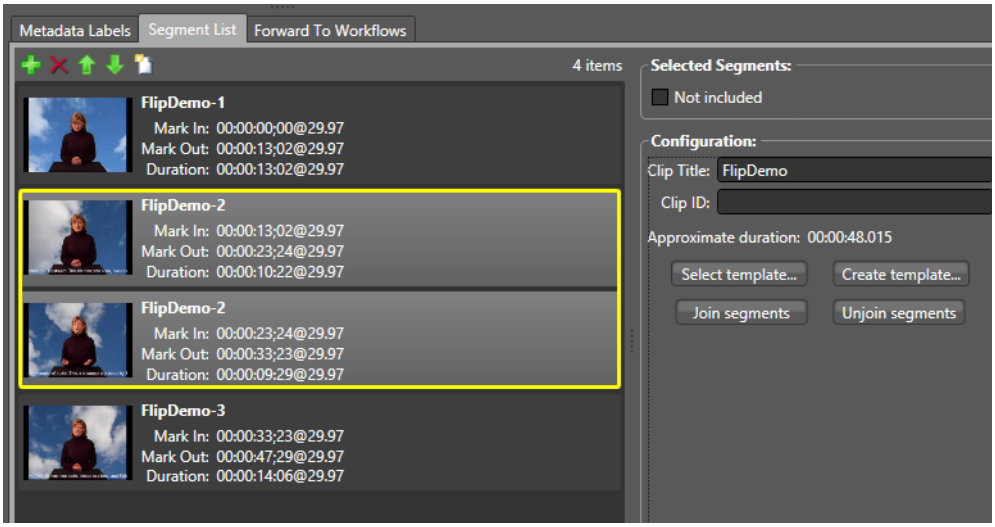
You also have the option when creating workflows to completely bypass the Syndication Portal, combine ingest and publishing into a contiguous workflow, and process all the files without human intervention.

For example workflows, see the last few pages in the TrafficManager Workflows chapter. Examples include ingest workflows, publishing workflows, pass-through workflows, and fully automated workflows that do not use the portal.

Commercial Segment Management

Syndication templates organize programs (the actual program material) into segments and segment groups using an identical structure for every episode. However, commercial segments have potentially different structures for each episode, depending on commercial length and number. You use the Regrouped feature in the template or the *Join segments* button in the Syndication Portal to couple commercial segments as required to accomplish a uniform segment output with varying numbers of sequential commercial segments.

To join segments using the portal, use Ctrl/Shift-click to select multiple segments and use the Join segments button to join them. To join segments using the Syndication Templates Regrouped feature in the Management Console, select each segment, and use the Regrouped button to assign them the same segment number.

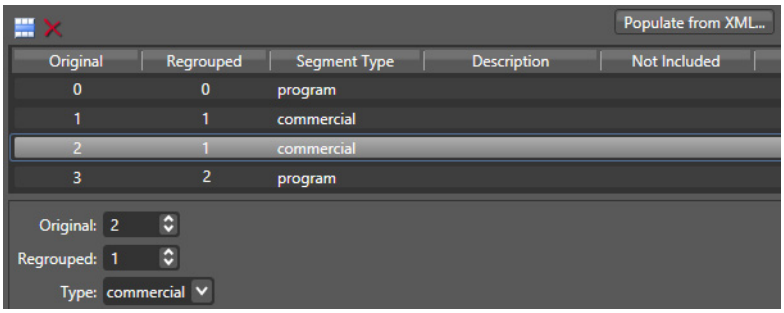


Joined segments are renumbered to share the same segment number, and in the portal they are moved automatically to contiguous positions in the segment list and grouped by a highlighting box (shown above).

The following example shows how segments are joined in a template using Regrouped:

Segment 0 (Program)	Original order: 0	Regrouped Order: 0
Segment 1 (Commercial)	Original order: 1	Regrouped Order: 1
Segment 2 (Commercial)	Original order: 2	Regrouped Order: 1
Segment 3 (Program)	Original Order: 3	Regrouped Order: 2

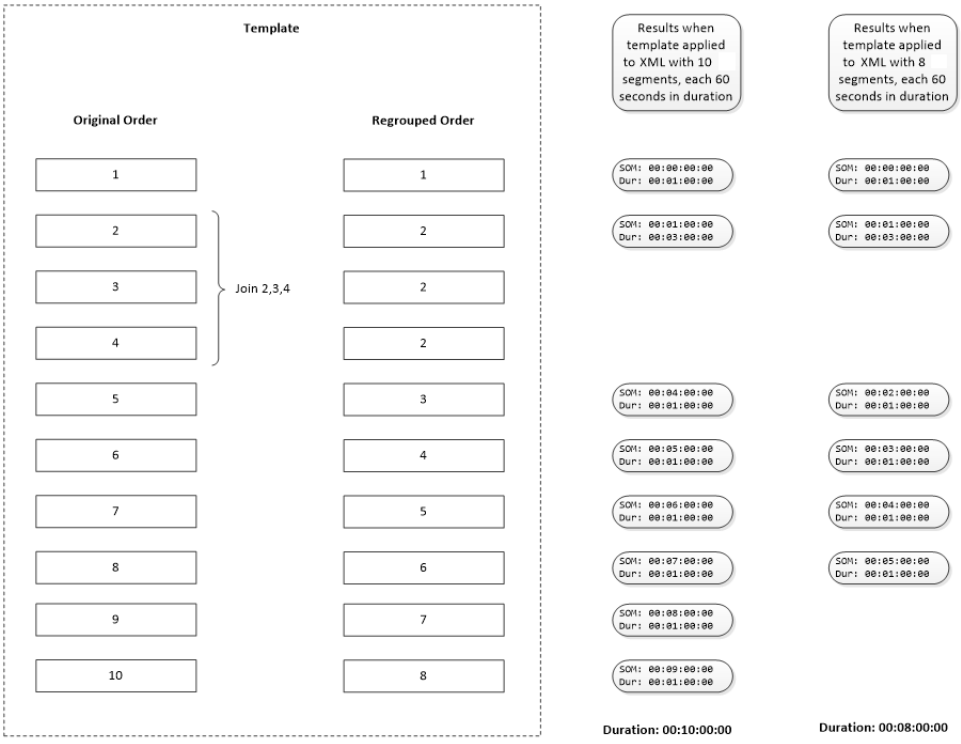
This template specifies that segments 1 and 2 will be *joined*. This is done using Regrouped to assign the number 1 to both.



When a clip is processed using this template, TrafficManager treats segments 1 and 2 (the commercial segments) logically as if they were a single segment.

For example, you submit a clip with 4 segments—Program > Commercial > Commercial > Program—and process it by the template described above, the generated clip has 3 segments—the commercial segments 1 and 2 from the original are joined into a single segment for the output.

This graphic explains how the output segments are formed:



By using the join capability when creating templates for a given type of syndicated media, you can guarantee that a specific structure is always presented to your automation system (ASDB or Syndication).

Syndication Workflows

You can design Syndication into a single workflow that does not use the Syndication Portal for operator intervention, or you can divide it into multiple workflows including manual operator intervention and adjustment using the Syndication Portal.

At a minimum your syndication workflow requires (1) ingest and copy functions that receive and localize media and attachment files, (2) a Syndicate action to apply the syndication template and nickname to the attachment, and (3) a Flip and a Communicate action, such as Automate, to output the media and attachment.

Syndicate Action

The Syndicate action processes and can apply a template to metadata accompanying syndicated content from providers like Pitchblue and Pathfire. The Syndicate action is part of TrafficManager, an optional, licensed feature of Vantage.

The Syndicate action rearranges segments according to a template or allows marking specific segments as *not included* in the final program. Use the Syndicate action in syndicated media ingest workflows to convert sidecar metadata XML files to a mezzanine format for use in downstream actions in the workflow, or for use in Syndication Workflow Portal to automatically display the segments and timing of the syndicated content.

The Syndicate action can also process an Analysis Report from the Analyze action when timing metadata is not otherwise available. To use the Syndicate action to process an Analysis Report for timing metadata, add an Analyze action and configure it to use Slate/Spot Analysis and Black Detection to identify color bars, slate, black, and active segments.

In the Syndicate action, select the Analysis Syndicator. It processes the Analysis Result XML to produce a Syndication XML that can be used by the Syndication Portal. When the Syndication Portal generates a segment list in this scenario, it will automatically create and describe segments for color bars, slate, black and active segments. A selection is also included to omit all black and color bars segments if you want to remove them automatically from your final output.

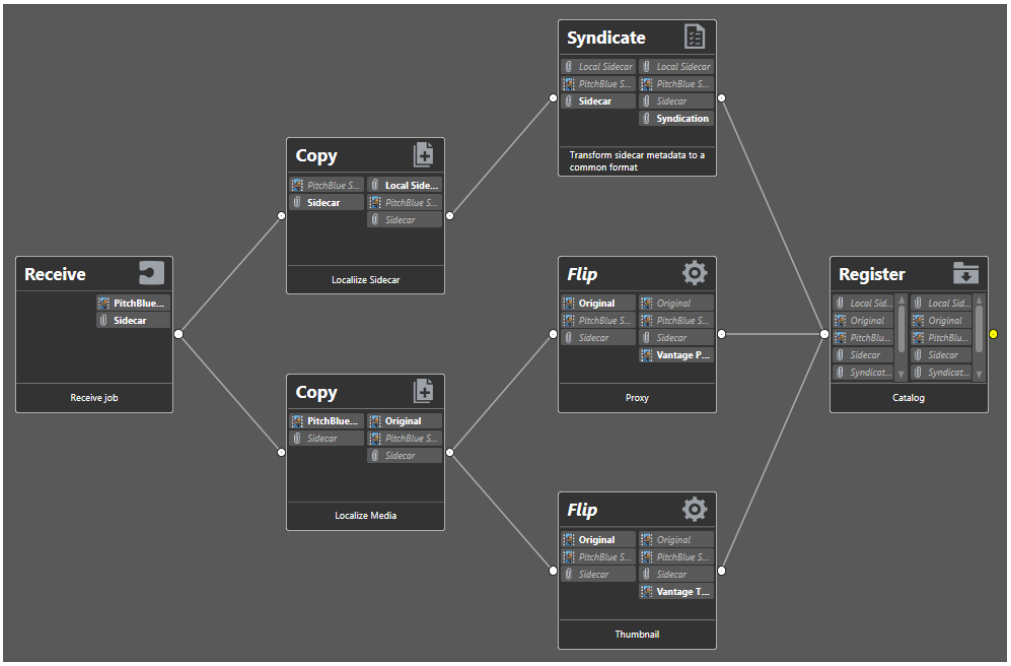
Simple Ingesting Workflow

The simple ingesting workflow (below) includes an origin action, such as a Catch, Receive, or Watch-Associate combination, to ingest a syndicated media file and accompanying sidecar metada file.

Additionally, the workflow must include Flip actions to create thumbnail (optional) and proxy files, and a Syndicate action to apply the syndicate template to the sidecar file and assign the resulting attachment file the required *Syndication* nickname.

Note: Using the correct nicknames is essential. *Vantage Thumbnail* and *Vantage Proxy* nicknames are required to produce thumbnail and proxy files. The *Syndication* nickname produced by the Syndicate action is required by the Syndication Portal. The Original nickname must be used to represent the localized media.

Finally, the workflow must include a Register action to register the files and the template into the syndication catalog.



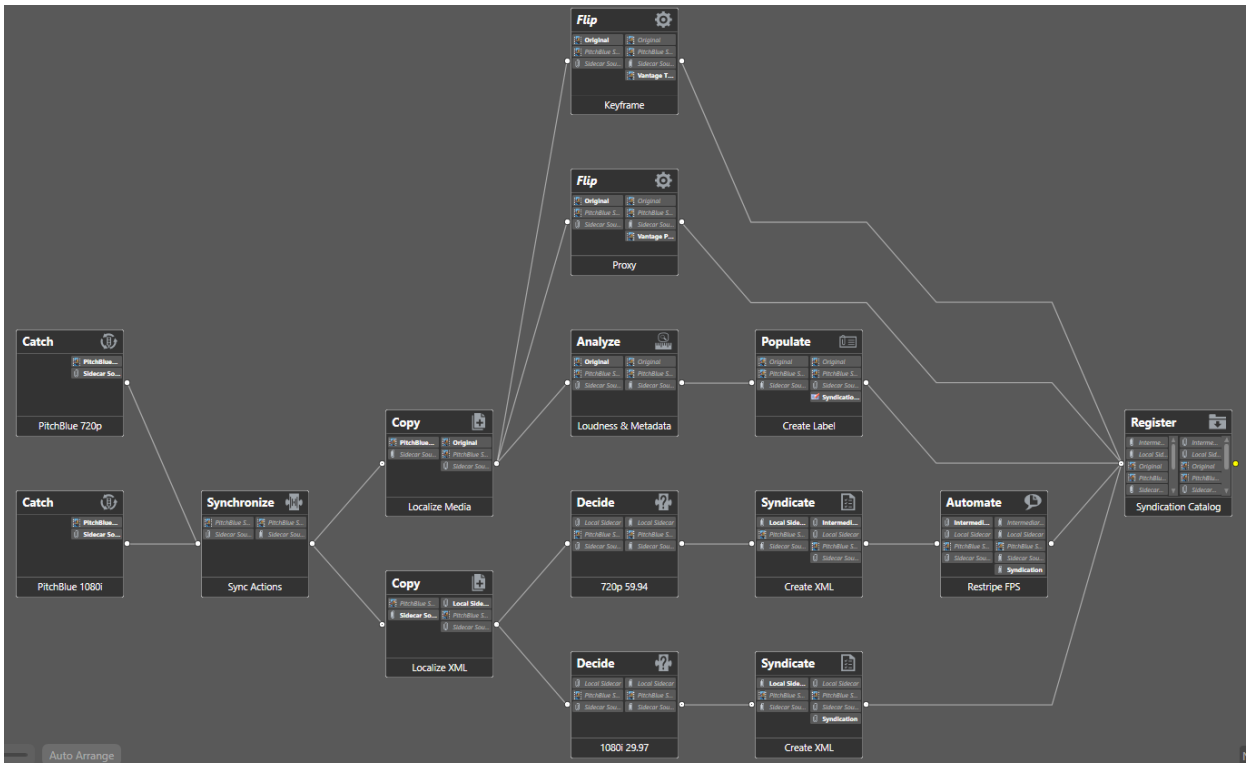
Example Ingesting Workflow

In the workflow below, two Catch actions monitor a catch server for two different video formats: 1080i/29.97 and 720p/59.94. Copy actions localize the media and XML metadata sidecar files and pass them to multiple branches. (Note that localization and the *Original* nickname are required.)

The XML file branch employs two Decide actions to examine the format and frame rate and pass the file through the branch corresponding to the correct format. Syndicate actions parse the XML attachments into the syndication template's format. The 720p branch includes an Automate action to restripe the XML attachment to the correct frame rate. The Syndication attachment file produced by one of the two branches gets registered into the syndication catalog by a Register action.

The upper three branches process the media file. Two Flip actions make Vantage Thumbnail and Proxy files that are registered into the syndication catalog by the register action. The third branch analyzes media loudness and video property metadata and produces variables that are populated into metadata labels. The original media and labels are then registered into the syndication catalog.

The resulting media, proxy, thumbnail, attachments, and metadata labels can be viewed and adjusted using the Syndication Portal.

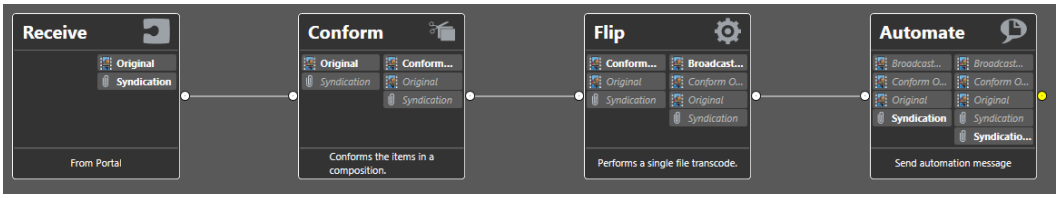


Simple Publishing Workflow

The simple publishing workflow (below) must be designed to suit to your needs. You'll need to start with a Receive action to accept the submitted files from the Syndication Portal. The attachment file output of the Receive action must be nicknamed *Syndication*.

The Automation action is used to convert the Syndicate attachment nickname to a format readable by automation systems.

When using the stitching or segmenting mode of the Syndication Portal, Conform consumes the CML media nickname to output a mezzanine file with the program timeline specified by the Syndication Portal operator. The Conform action output is then direct converted by a Flip action to produce a final broadcast output.



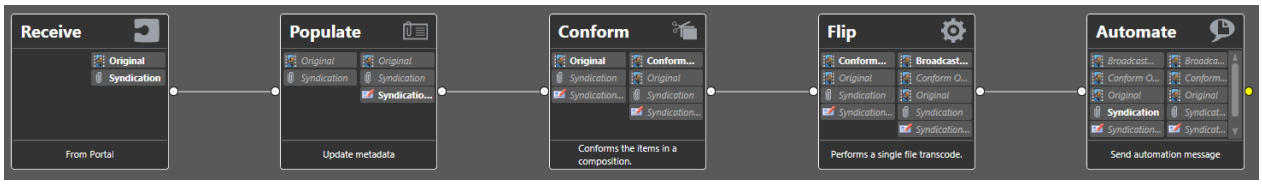
Of course, you can do far more sophisticated things with your workflows. These two workflows simply demonstrate the minimum you'll need when using the Syndication Portal.

Note: Use of the Conform feature requires the Telestream Vantage Post Producer option.

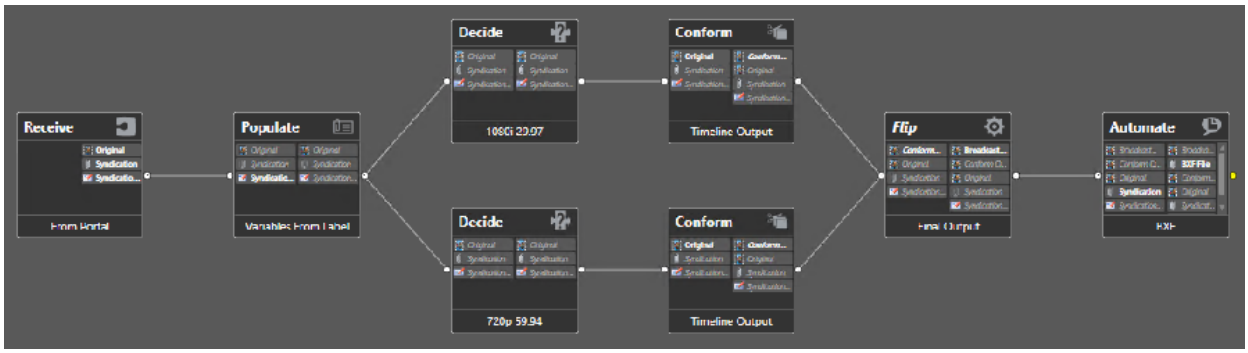
Example Publishing Workflow

The syndication publishing workflow receives media, Syndication XML attachment, and Syndication Label metadata from the Syndication Portal. A Populate action produces variables from the metadata labels, and an Automate action converts the Syndication attachment and metadata into a BXF-formatted attachment ready to send to an automation system.

A Conform action produces the media files from the adjusted segments that were updated in the portal, and a Flip action renders the media into the final output format for submitting to the broadcast server.



Here's another more complex version of the same workflow. In this version, two branches of the media, 1080 and 720, are available. Decide actions test the video and forward it to one branch or the other depending on the format.



Note: Use of the Conform feature requires the Telestream Vantage Post Producer option.

Example Syndication Pass-Thru Mode Workflow

For Syndication workflows, the Pass-Thru mode is available for users who want to transcode the original media file (such as the original MPEG transport stream) in its entirety without altering the structure and deliver it to the broadcast server. However, they may wish to manipulate the timing data within the Syndication Portal. The updated timing data (in the Syndication attachment published by the portal) is processed by a standard automation notification plugin (such as BXF) available in the Automate action to prepare the data for use by a specific automation system.

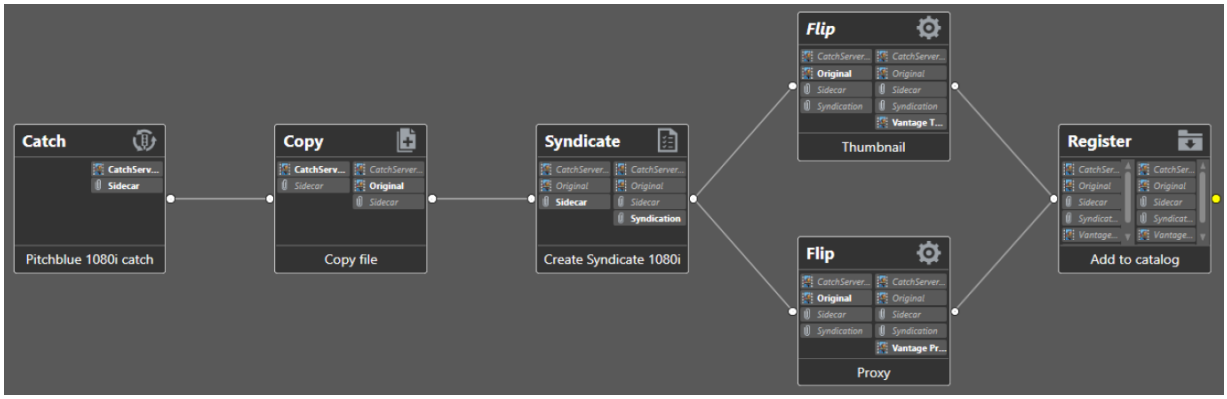
To set up Pass-Thru mode, the Syndication Portal configuration in the Vantage Management Console must have the Template set to <<*No Template*>> and the Syndication Mode set to *Pass-Thru*.

Ingest Workflow for Pass-Thru Mode

The Ingest workflow for the Pass-Thru configuration is similar to the ingest workflows for other Syndication scenarios. The source media file is localized from the catch server and a generic Syndication attachment is created. (Note that localization and the *Original* nickname are required.) A thumbnail and proxy are also generated and finally all information is registered into a Catalog.

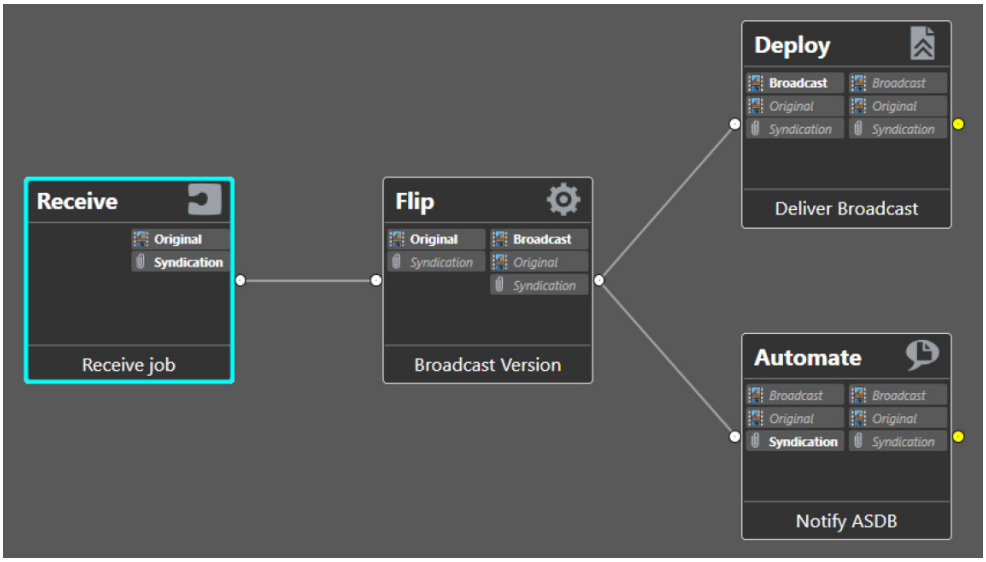
The difference appears when the Portal operator submits a job. In this scenario, the portal operator performs the same function that the Syndicate action performs in some workflows—creating a specific set of timing information.

Instead of a Syndicate action applying a template to produce a Syndication attachment with updated segment and timing information, the portal operator does these functions by manipulating the material ingested by the Pass-Thru ingest workflow below.



Publishing Workflow for Pass-Thru Mode

The publish workflow below serves as the target workflow for a Portal in the Pass-Thru mode. The Receive action expects the Original nickname and the Syndication attachment, but it does NOT expect any CML files (no Conform actions are included) because the portal does not output CML files in Pass-Thru mode. The attachment

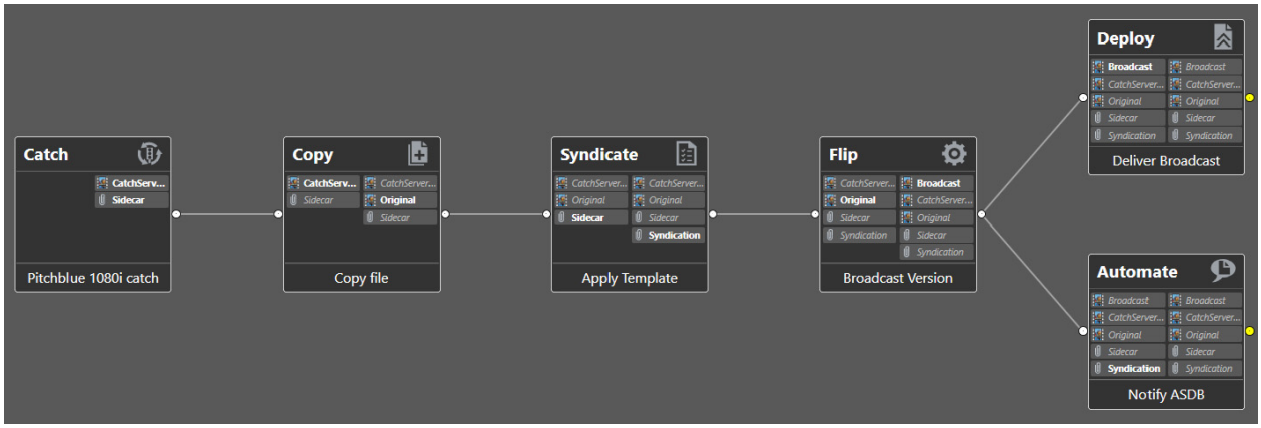


Syndication Fully Automated Workflow

In the workflow shown below, the Syndication process is entirely automated, bypassing the Syndication Portal. Material arrives on the catch server, the Catch action detects the media and sidecar files, and the copy action localizes them.

The Syndicate action applies a specific syndication template (with included/not-included segment information) and the updated attachment (with new timing information from the template) is produced as the Syndication attachment.

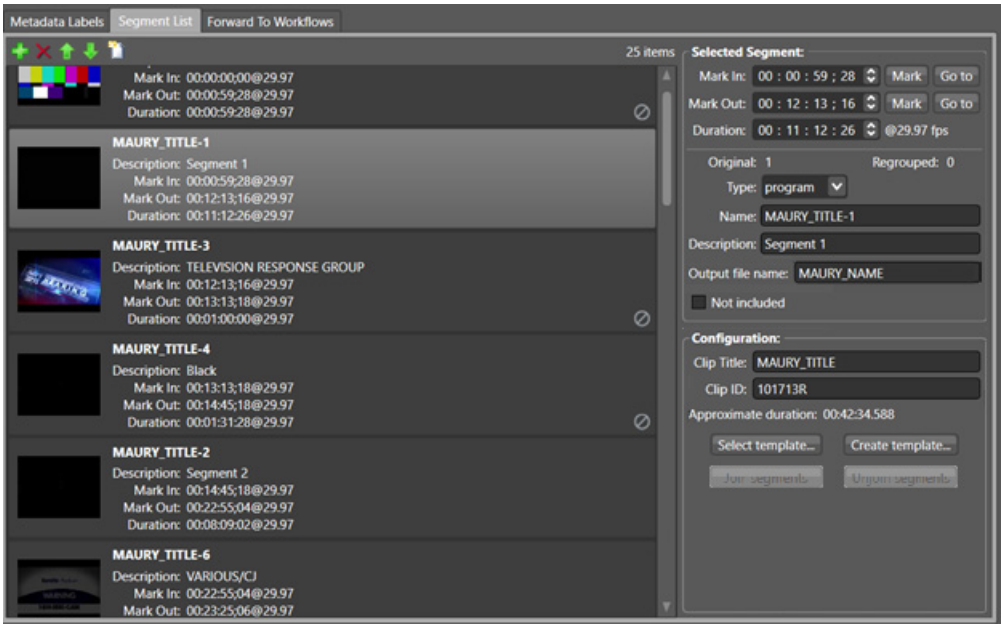
The Flip action creates the desired Broadcast media format, and the Deploy action delivers it. Concurrently, the Automate action accepts the Syndication attachment and (in this case) notifies an ASDB database with the updated timing information from the template applied in the Syndicate action.



Syndication Field Mappings

The Vantage Syndication portal allows several pieces of metadata to be entered on a per-clip and per-clip-segment basis. The following topics outline how those individual fields are used in a target workflow, specifically what values in a resulting notification are targeted and populated by this data.

Once the Syndication portal is loaded with a binder and the appropriate edits have been made (either template based or manually by a portal operator), the clip is ready for submission. To illustrate the mapping and behavior of the various metadata fields originating in the portal, assume the following configuration in the portal at the time of submission:

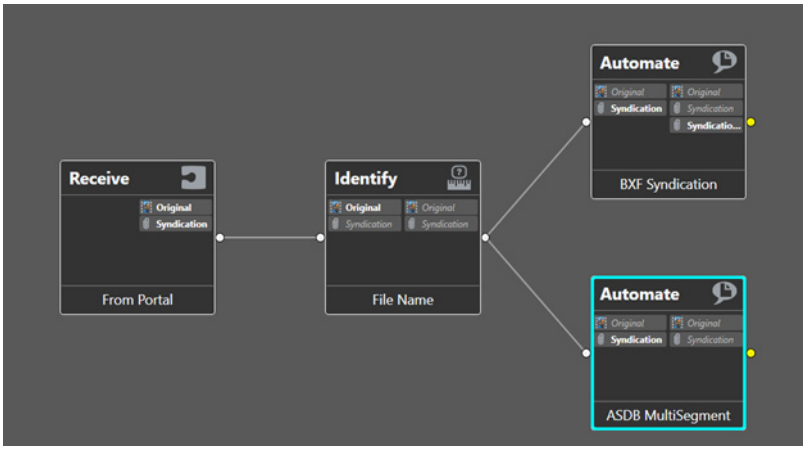


Configuration Details:

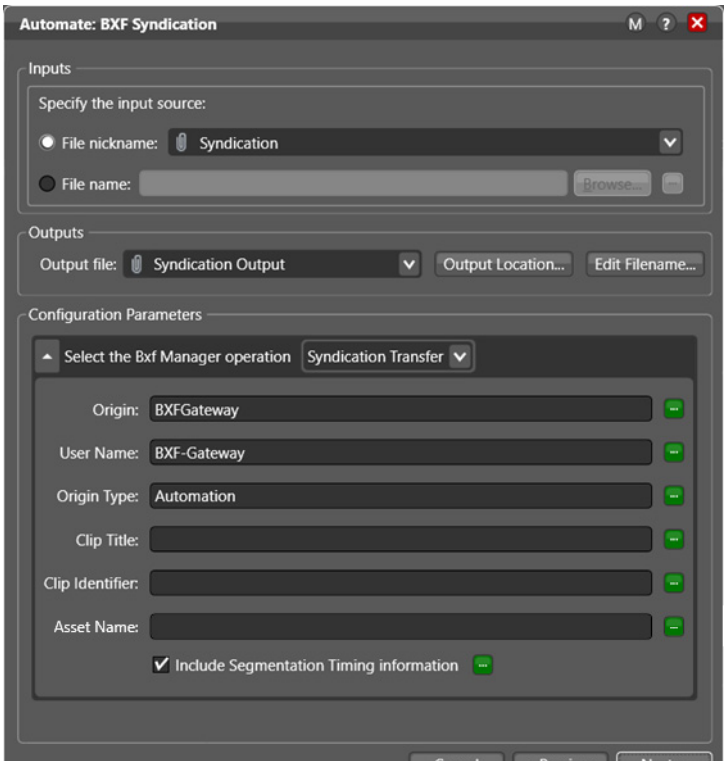
Output file name:	MAURY_NAME
Clip Title:	MAURY_TITLE
CLIP ID:	101713R
The first segment has a name of:	MAURY_TITLE-1
The first segment has a description of:	Segment 1

Target Workflow Configuration

For the purposes of illustrating the mapping of metadata, the following (very simple) workflow has been created:



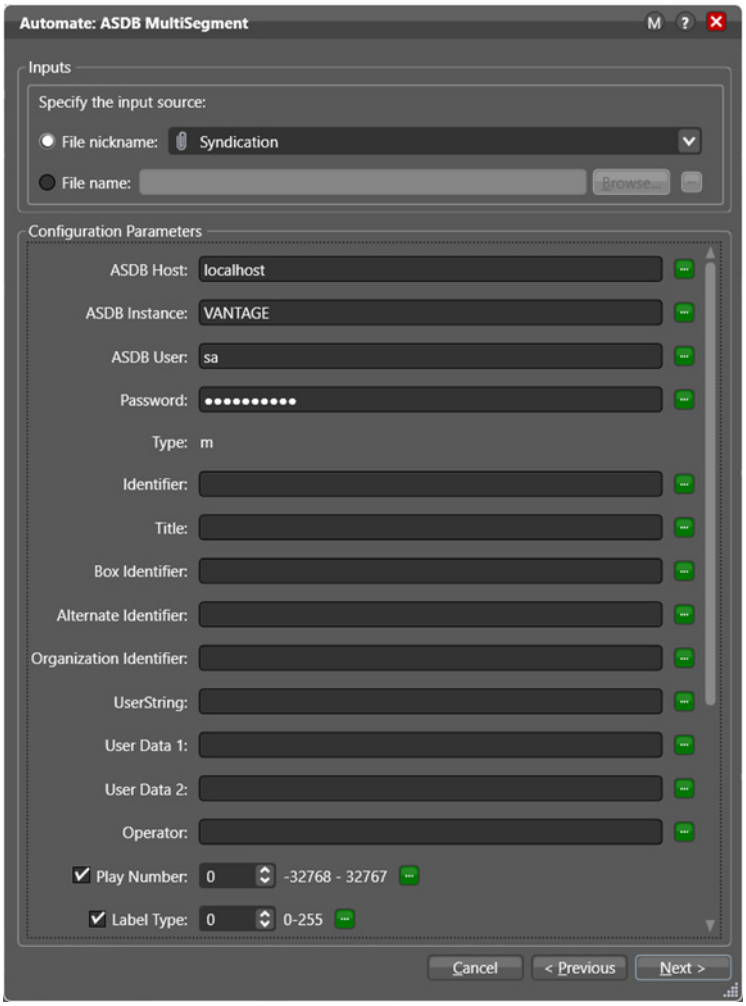
Within the workflow above, the BXF Syndication Automate plugin is configured as follows:



In the above configuration, no value is provided for the *Clip Title* or the *Clip Identifier* fields. These values are supplied by the Syndication input.

Further, because *Include Segmentation Timing information* is checked (enabled), the resulting BXF file will include the multisegment information (for each ENABLED segment from the Portal).

The ASDB MultiSegment notification is configured as follows:



The Identifier field and the Title field are not filled in. When these fields are not filled in, their values are taken from the input Syndication file.

The other fields for the ASDB syndication (for example, Box Identifier, Alternate Identifier, Organization Identifier, User String, User Data, Operator, etc.) are only taken from the Plugin UI. None of these fields will pull values from the provided Syndication input file.

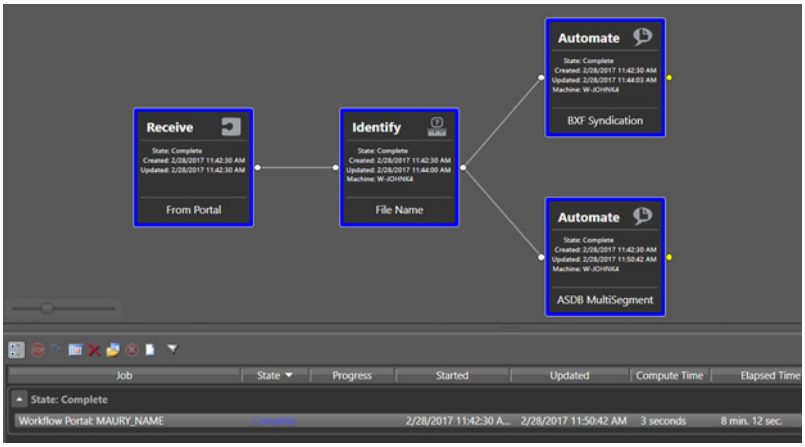
Job Submission

Recall from the original portal state at the time of submission, the following values were specified:

Configuration Details:

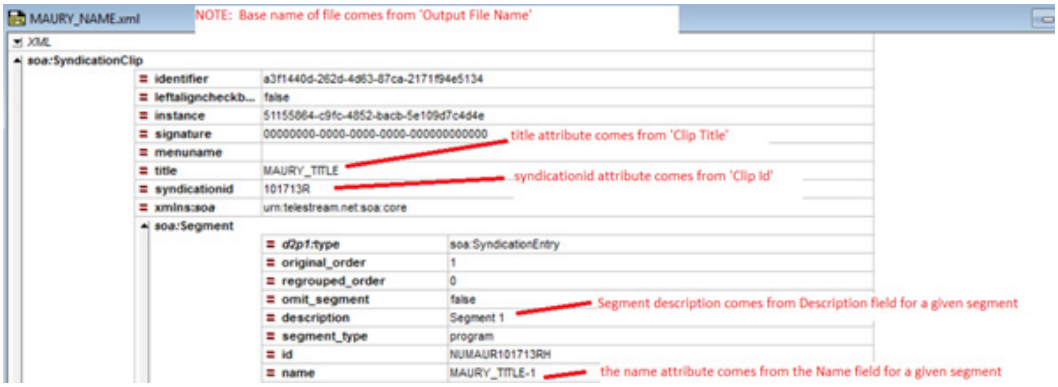
```
Output file name:                          MAURY_NAME
Clip Title:                                MAURY_TITLE
CLIP ID:                                   101713R
The first segment has a name of:           MAURY_TITLE-1
The first segment has a description of:    Segment 1
```

When a job is submitted to the preceding workflow, the following is observed in the workflow designer:



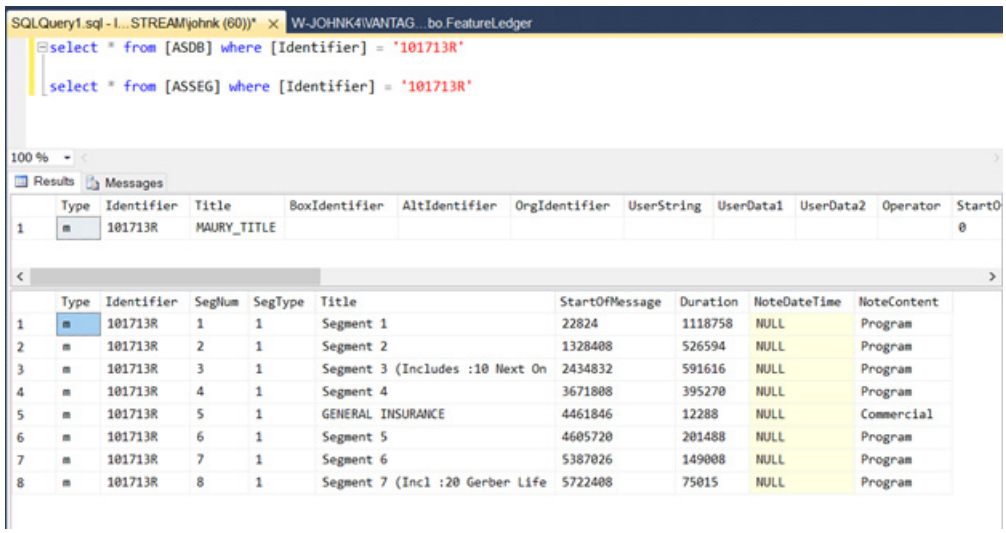
The name of the job references the value of the *Output File Name* field from the portal (MAURY_NAME).

As a result of the job being submitted, the portal creates a new instance of a Syndication clip (which is associated with the Nickname: *Syndication*). The contents of this file appear as follows:



ASDB MultiSegment Notification

When this Syndication file is consumed by the ASDB Syndication notification, the resulting information is placed into the ASDB database:



SQLQuery1.sql - I...STREAM\johnk (60))* | W-JOHNK4\VANTAG...bo.FeatureLedger

```
select * from [ASDB] where [Identifier] = '101713R'

select * from [ASSEG] where [Identifier] = '101713R'
```

100 %

Results | Messages

	Type	Identifier	Title	BoxIdentifier	AltIdentifier	OrgIdentifier	UserString	UserData1	UserData2	Operator	StartO
1	m	101713R	MAURY_TITLE								0

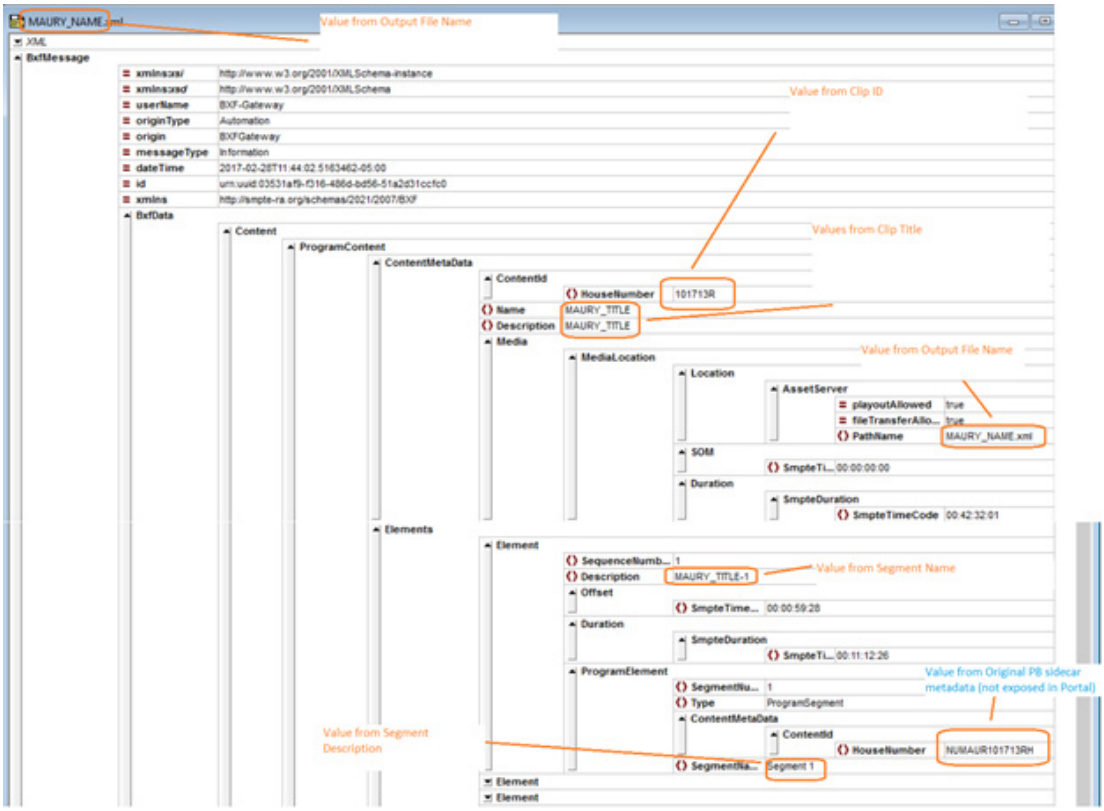
	Type	Identifier	SegNum	SegType	Title	StartOfMessage	Duration	NoteDateTime	NoteContent
1	m	101713R	1	1	Segment 1	22824	1118758	NULL	Program
2	m	101713R	2	1	Segment 2	1328408	526594	NULL	Program
3	m	101713R	3	1	Segment 3 (Includes :10 Next On	2434832	591616	NULL	Program
4	m	101713R	4	1	Segment 4	3671808	395270	NULL	Program
5	m	101713R	5	1	GENERAL INSURANCE	4461846	12288	NULL	Commercial
6	m	101713R	6	1	Segment 5	4605720	201488	NULL	Program
7	m	101713R	7	1	Segment 6	5387026	149008	NULL	Program
8	m	101713R	8	1	Segment 7 (Incl :20 Gerber Life	5722408	75015	NULL	Program

The Identifier of the new information in the ASDB is the corresponding data originating from the Clip ID field in the portal (via the syndicationid attribute in the Syndication XML file).

The Title of the main entry is the Clip Title. Each ENABLED segment is pushed into the ASSEG table with the Title field being populated from the Segment description attribute in the Syndication XML.

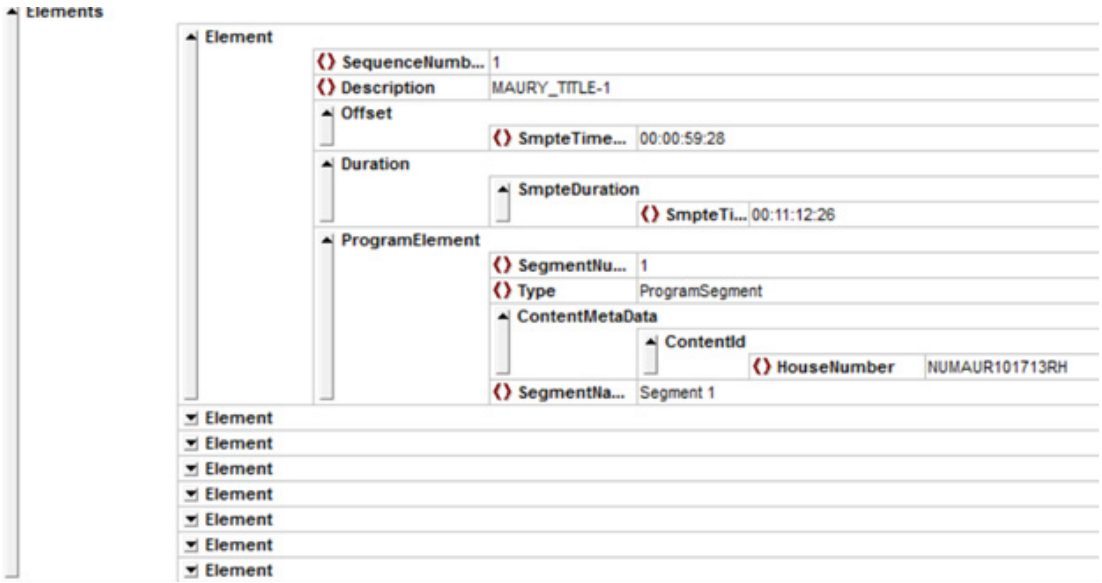
BXF Syndication Content Notification

The following BXF file that is generated when the BXF Notification is in Syndication Clip mode:



If the Segmentation Timing information checkbox was not enabled in the BXF Plugin setup, the segment information from the portal is NOT included in the resulting BXF

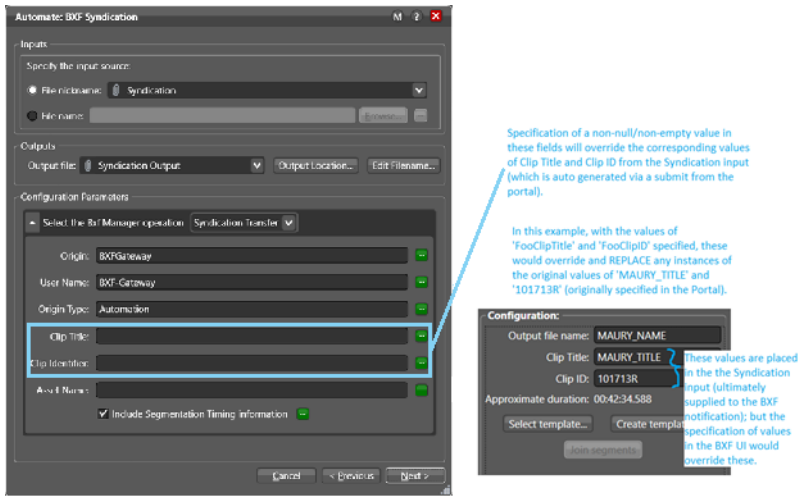
file. In the above example, if *Segmentation Timing Information* was NOT checked, the following would NOT have been generated and included in the resulting BXF file:



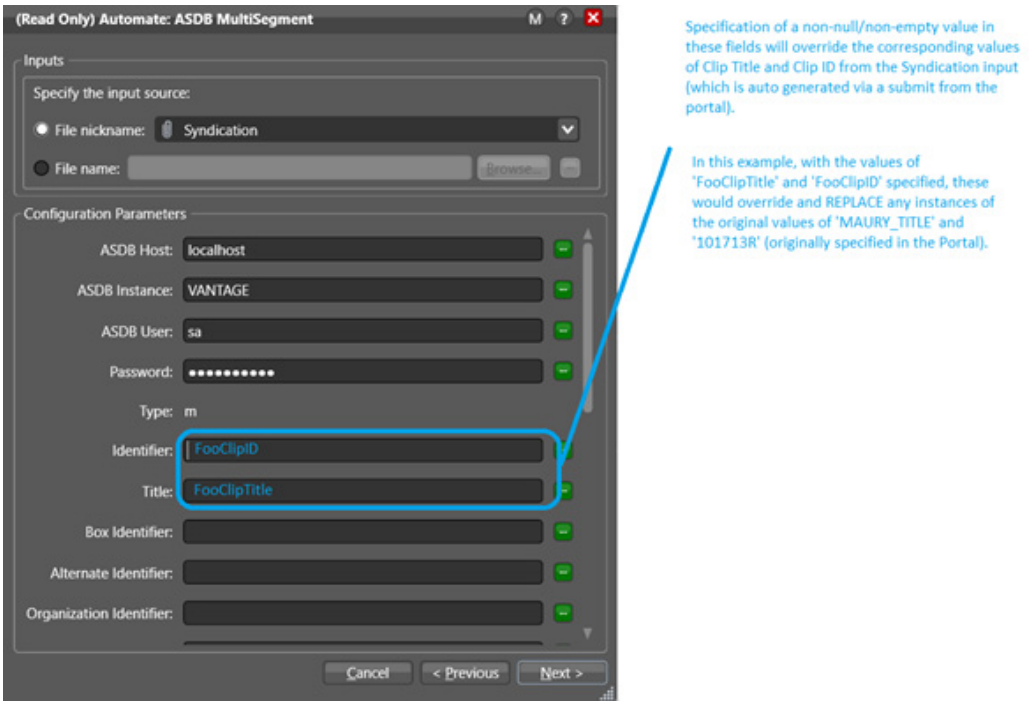
Overriding Default Behavior:

Both the BXF and ASDB Multisegment notification allow values to be specified in the UI which will override the values automatically generated from Portal metadata when a job is submitted.

Within the BXF notification, the Clip Title and Clip Identifier values may be specified directly in the UI. If these values are specified (either directly or via variable binding), they will be used in lieu of the corresponding field in the input Syndication file:



In a similar fashion, the same process could be performed in the ASDB MultiSegment notification:



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