Vantage
Media Processing Platform

Avid Integration Guide

2023.2

For
Vantage 8.1 UP5
Flip64 2023.4
Lightspeed Live Capture 3.6

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Resource	Contact Information
Telestream Technical Support Portal	Web Site: https://support.telestream.net
Vantage Technical Support	Web Site: telestream.net/telestream-support/vantage/support.htm
	US Enterprise Product Support: (877) 257-6245
	International Enterprise Support: +1 530-470-2036
	Terms and times of support services vary, per the terms of your current service contract with Telestream.
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Introduction

This guide helps you, as a Telestream Vantage operator/manager, understand, implement, and utilize Vantage to perform media transcoding and other digital media workflows in conjunction with Avid's editorial and asset management products.

This chapter provides an overview of how Vantage workflows are used in key Avid import and export applications: importing media into Avid from Vantage for editing, and exporting media from Avid to Vantage for encoding. The remainder of the guide focuses on implementation and application details.

Topics

- Overview
- Avid Product Integration in Vantage
- Supported Avid Products and Implementations
- Vantage Version Requirements
- Vantage/Live Capture Licensing Requirements
- Required Avid Components
- Network Adapters for Avid Shared Storage
- International Character Support
- Vantage to Avid—Delivering Encoded Media to Avid Systems
- Avid to Vantage—Ingesting Media into Vantage
- Accessing MediaCentral | Production Management Systems
- Best Practices and Tips

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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Overview

Avid's editing products are used throughout the broadcast, sports, and entertainment industries to edit and produce high value media. As such, they are operated by highly-skilled creative staff, often located in premium facilities.

The comprehensive integration of Vantage with Avid's products enables significant gains in productivity for almost every type of Avid user, from small production houses to large broadcasters producing national news programs. These dramatic productivity gains are made possible by making file- based and live media import and export processes faster, more automated, and less reliant on operator action.

Vantage can be integrated into Avid media processes from standalone Avid Media Composer edit systems to MediaCentral | Production Management asset management systems. Both single and multiple resolution assets can easily be created to meet your requirements.

Note: In this guide, references to Avid Media Composer generally apply to all three Avid editors: Media Composer, Newscutter, and Symphony.
Certain Vantage actions (Notify, Media Creation & Asset Monitor) have control labels in their inspector which may use the term *Interplay* in previous Avid versions. Avid's official product name is now *MediaCentral | Production Management*, or more briefly *Production,* both of which are used throughout this guide.
Also, in the context of this guide, the informal phrase *frame chase editing* is used to refer to Avid's Edit While Capture/Frame Chase feature.

Avid Product Integration in Vantage

Telestream provides Avid product integration with Vantage for workflows that utilize these actions, all implemented in the Vantage Avid Service:

- The Asset Monitor action—see Ingesting Master Clips | Subclips | Sequences.
- The Media Creation action—see Generating Avid-Compatible MXF OP-Atom Media.
- The AAF action—see Creating MXF Files for Frame Chase Editing.

For supported components see the Telestream web site or contact Telestream support.

Supported Avid Products and Implementations

Vantage workflows can be integrated with these Avid products:

- Avid MediaCentral Products:
  - MediaCentral | Production Management (PAM-Production Asset Management)—Vantage seamlessly integrates directly with PAM for both import and export.
- Avid NEXIS/ISIS—Avid's shared storage environment, a proprietary NAS device. The term *NEXIS* is used in this guide but ISIS is also supported. The terms ISIS or NEXIS as used in this guide should not be confused with older Avid Unity products.

Vantage and Live Capture can be integrated with these Avid system implementations:

- Stand-alone Avid editing systems with local storage
- Avid editing systems with network attached shared storage (Ex. Avid NEXIS)
- Avid editing systems with MediaCentral | Production Management

Vantage and Live Capture are tested for Avid compatibility as new versions are released.

Note: Avid MediaCentral components installed with Avid editors must use the MediaCentral | Production Management version qualified with the editing system. These include Media Indexer, Interplay Access, and Interplay Framework.
For details, see *Avid Editing Application Compatibility with MediaCentral | Production Management Releases* in the Avid Knowledge Base.

Vantage Version Requirements

Using Avid integration features with Vantage requires the following:

- Vantage 8.1 Update Pack 5 (UP5)
- Flip64 2023.4

Component Patch Requirements

In order to use current versions of Avid components, software update patches are required for Vantage 8.1 UP5.

Live Capture Support

Live Capture 3.6 is supported for use with Avid Integration features.

Contact your Telestream support team for details.

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Vantage/Live Capture Licensing Requirements

Avid components are enabled in Vantage and Live Capture systems with the following specific licenses:

Avid Service AAF Action

- Vantage systems—requires a Vantage Transcode Pro Connect with Avid Interplay Option (V-AVID) license
- Live Capture Systems—uses a default Live Capture with Avid Integration Option (LS-LIVE-AVID-OPT) license.

Avid Service Asset Monitor Action

- Vantage systems—requires a Vantage Transcode Pro Connect with Avid Interplay Option (V-AVID) license.
- Live Capture Systems—uses a default Live Capture with Avid Integration Option (LS-LIVE-AVID-OPT) license.

Avid Service Media Creation Action

- *Media Composer Mode*
  - Vantage Systems—requires a Vantage Transcode Pro license.
- *Interplay Mode*
  - Vantage Systems—requires a Vantage Transcode Pro Connect with Avid Interplay Option (V-AVID) license.
  - Live Capture Systems—uses a default Live Capture with Avid Integration Option (LS-LIVE-AVID-OPT) license.

Interplay Notifier (Notify action)

- Vantage Systems—requires a Vantage Transcode Pro Connect with Avid Interplay Option (V-AVID) license.
- Live Capture Systems—uses a default Live Capture with Avid Integration Option (LS-LIVE-AVID-OPT) license.

These Vantage components and capabilities are enabled without specific licenses in all Vantage products:

- Processing media files exported from Avid Media Composer.

Please contact your Telestream account manager or Telestream Customer Service (see *Contacting Telestream*) for information about purchasing Vantage licenses.

Required Avid Components

The following Avid components may be required for workflows communicating with MediaCentral | Production Management. The installation and configuration of Avid components is beyond the scope of this guide. They must be installed/configured by you (the customer) or an Avid representative:

- **Avid Interplay Web Services**—must be installed and configured. Current version is 2018.9.1.

- **Avid NEXIS Client**—must be installed and configured on all Live Capture or Vantage domain servers that use Live Capture or Vantage actions to write to Avid shared storage (NEXIS/ISIS) and communicate with MediaCentral | Production Management.

- **AAF File Location or AAF Temp File Location**—see *Media Creation Action Configuration* for details.

- **MXF File Location**—this must be on an indexed MediaCentral | Production Management Workspace. See *Media Creation Action Configuration* for details.

- The workspace/directory must be indexed by the Avid Media Indexer.

Required Information

Prior to designing and implementing Avid workflows in Vantage to access Interplay (MediaCentral | Production) systems, you (the customer or Avid representative) must have the following information about each system:

- NEXIS username and password

- NEXIS workspace/directory

- Web Services host

- Web Services port

- Production Workgroup

- Production Username

- Production Password

Note: Always connect to MediaCentral | Production Management and Web Services using a fully-qualified DNS name, which is registered with Forward and Reverse look up tables in DNS.

Use these specifications to define Avid connections in the Vantage Domain Console for use in Media Creation and Asset Monitor workflows, or define them statically or dynamically via variables, directly in your workflows. See *Accessing MediaCentral | Production Management Systems*.

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Network Adapters for Avid Shared Storage

Vantage domain servers being used with Avid shared storage must be equipped with an Avid-approved network adapter.

Note: For a list of supported network adapters, see the Avid Knowledge Base article https://avid.secure.force.com/pkb/articles/en_US/compatibility/Avid-NEXIS-Network-Switch-Infrastructure

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International Character Support

Vantage fully supports multiple byte characters. However, some third party components or interfaces used within Vantage do not.

These actions/encoders may impose practical limits when used in Vantage workflows:

- *Asset Monitor and Media Creation actions*—some Avid components may have restricted multiple byte character support, which may affect these actions. See associated Avid documentation for the latest information.
- *Notify and Deploy actions*—some Avid MediaCentral | Production Management components have restricted multiple byte character support, which affects how Notify and Deploy actions can interact with them.

MediaCentral | Production Management v2018.x or newer supports Unicode characters from the basic plane for asset and folder names as well as for content such as metadata or markers. This statement applies to Avid MediaCentral portfolio of products and does not include creative applications such as Avid Media Composer.

Unicode support is limited for file system objects and across platforms. Due to the complexity of consistently supporting Unicode file system objects across different platforms, Avid recommends avoiding non-English file system file and folder names. If your implementation cannot avoid this scenario, please make sure you fully test your solution in a complete MediaCentral production environment for all relevant use cases.

See the following Avid publications for more details:

- Media Composer
- MediaCentral | Production Management v2020.x Documentation

Vantage to Avid—Delivering Encoded Media to Avid Systems

Media and its associated metadata can arrive for processing in many ways and—in often unpredictable—formats. The challenge is keeping up with content arriving from news agency/wire feeds, bureau and stringer file deliveries, tapeless cameras, archive retrievals, and user-generated media and crowd sourcing, enabled by the ubiquitous cell phone.
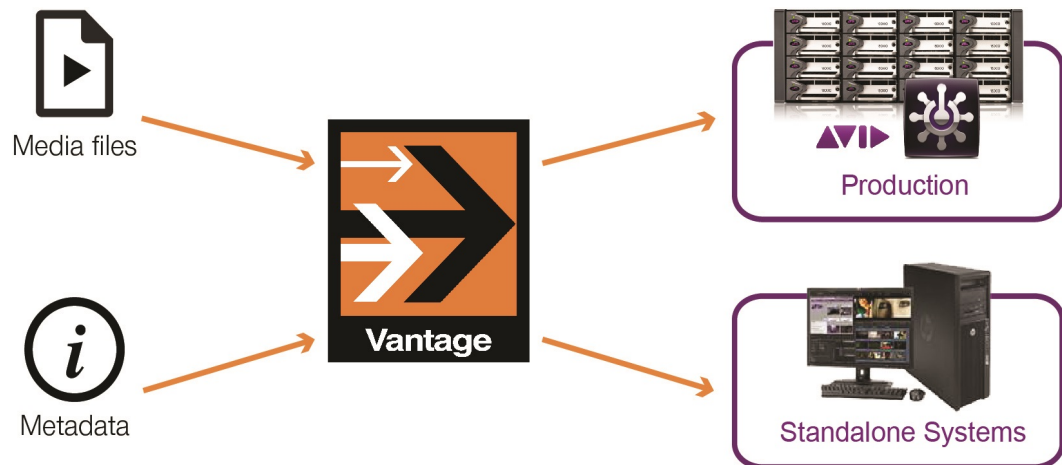
Most source media requires transcoding for conversion to house standards. Media may also require aspect ratio, frame rate conversion, or other essence modifications.

Vantage offers unparalleled transcoding/re-wrapping functionality and quality for automated ingest and export of heterogeneous media files. Vantage offers a comprehensive set of codecs and components that you can combine and configure in workflows to solve your media transcoding challenges, making Vantage an excellent choice for automated transcoding of source media to Avid platforms.
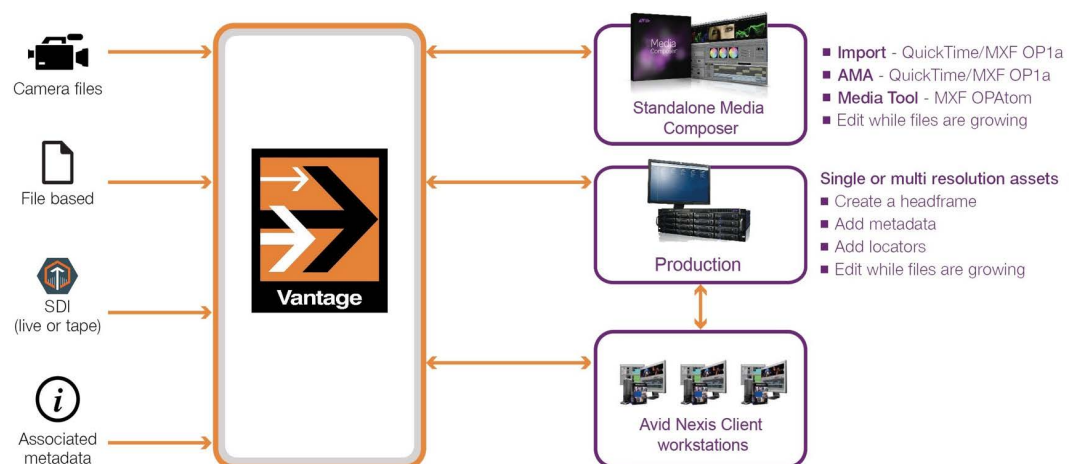
Encoders for Avid Media Processing

The following Vantage encoders can be implemented in Vantage workflows to support your Avid media processing requirements:

Media Creation Action

Media Creation actions are executed by the Vantage Avid Service.

Note: The Media Creation action is pass through only and performs no encoding.

Files created by the Media Creation action can be used to create single and multi-resolution assets for use in a MediaCentral | Production Management or Avid Media Composer environment:

- Media Composer Mode: For creating Avid-compatible AAF and MXF OP-Atom files including metadata that can be written to storage for ingest into a Media Composer editor.
- Interplay Mode: For creating Avid-compatible AAF and MXF OP-Atom files and metadata that is written to Nexis storage and automatically be checked-into MediaCentral | Production Management.

When delivering media directly to a MediaCentral | Production Management system, assets can include integrated User Property, Asset Locators, Asset Restrictions, and Headframe creation.

Open Workflow mode is supported in both Interplay and Media Composer modes for ingest into Media Composer supporting Frame Chase editing; metadata insertion is supported while files are being processed in Vantage, enabling near-real-time editing.

MXF Encoder

The MXF encoder is implemented in the Flip64 action. The MXF encoder creates media that can be imported in to an Avid editorial environment.

Files created by the MXF encoder in a Generic OP1a, IMX (D10), or Sony XDCAM HD MXF containers can be added to an Avid bin using Avid's MXF AMA plug-in.

Ancillary data in source files can be preserved as an MXF (SMPTE 436M) data track. Avid's AMA MXF plug-in reads SMPTE 436M and places it in the clip's data track.

MOB ID Generator and Interplay Notifier

In Media Creation workflows, use the Notify action to perform the following functions:

- Generate a MOB ID.
- Create a master clip in MediaCentral | Production Management (legacy function).
- Add metadata to a MediaCentral | Production Management clip.

- Specify or create a MediaCentral | Production Management Folder. Specifies the name of an existing MediaCentral | Production Management Access folder to target or create a MediaCentral | Production Management virtual folder(s) that does not exist in the configured MediaCentral | Production Management Folder path.

- Extract clip metadata from the master asset for use in Vantage workflows.

- Set a head frame in a MediaCentral | Production Management clip.

- Copy an existing asset from one Interplay Folder to another, optionally with the same Master MOB ID.

- Move a clip in MediaCentral | Production Management.

- Delete a clip from MediaCentral | Production Management.

- Check in a non-Avid asset such as a still image graphic file.

- Rename a clip to modify asset name.

- Check in an AAF file.

Note: For implementation and application details, see *Performing Avid-Specific Media Processing*.

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Avid to Vantage—Ingesting Media into Vantage

Once an edit is complete, the finalized sequence is ready to be sent to a play-out system, to syndication, or for online publication as quickly as possible.

Vantage workflows automate transcoding and delivery to your distribution platforms. For example, Vantage workflows can be used to automatically ingest MediaCentral | Production Management sequences and master clips, and to create media in distribution platform formats for Broadcast, cable/VOD, IPTV, online/mobile, and multi-screen viewing.
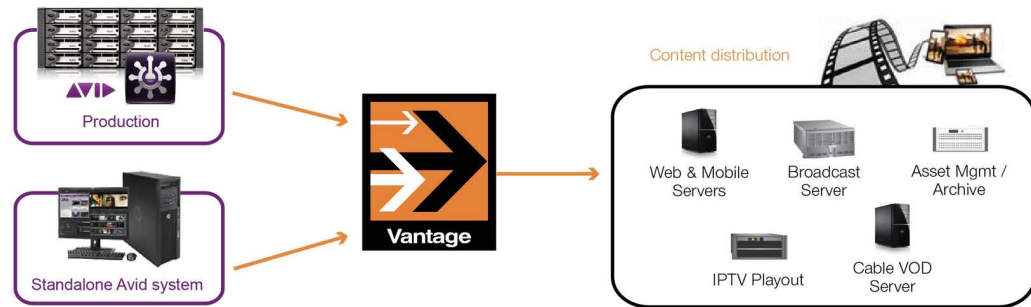
Avid editorial output can be processed in Vantage workflows in a variety of ways. By exporting media directly to Vantage, you can easily automate the creation of all required file types.

■ Automatically Ingesting Sequences and Master Clips from MediaCentral | Production Management

■ Processing Simplified AAF Files Exported from Media Composer

Automatically Ingesting Sequences and Master Clips from MediaCentral | Production Management

The Asset Monitor action monitors a virtual folder in MediaCentral | Production Management systems for both master clips and sequences to perform same-as-source-conversion, assembling the media as quickly as possible for processing by downstream Vantage actions in the workflow; typically production transcoding and related tasks.

Asset Monitor actions create a proprietary MP4 media file that references MXF OP-Atom files located on Avid shared storage for that asset and may also include additional transcoded media. The MP4 file also includes ancillary data extracted from the MediaCentral | Production Management assets data track. Additionally, a metadata XML file containing the MediaCentral | Production Management asset's user metadata and MediaCentral | Production Management System data is generated. The MP4 reference file and associated XML file can then be processed by downstream Vantage actions for transcoding and metadata extraction. Creation of an AAF from an Avid asset is also supported.

Note: For implementation and application details, see *Ingesting Master Clips | Subclips | Sequences*.

Processing Simplified AAF Files Exported from Media Composer

You can export AAF files for flattened and mixed down sequences from Avid Media Composer for processing by Vantage workflows designed with Post Producer (Edit) Compose and Conform actions. The features of these actions were designed in collaboration with Avid to meet the requirements of processing simplified AAF files.

The Compose action configured with a Simple AAF composer parses the AAF files and the Conform action transcodes the video, processing audio and data track (D-Track) MXF OP-Atom media referenced in the file ingested from storage.

Note: See the Post Producer Developer's Guide on the Telestream web site for general information on using Post Producer in Vantage, and for detailed information about exporting Simple AAF files.

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Accessing MediaCentral | Production Management Systems

Asset Monitor and Media Creation actions are configured to interact with a specific MediaCentral | Production Management system. System configuration may be manual—statically specifying a system which does not change on a job-by-job basis.

System specifications can also be dynamic, where you can use variables to identify the system dynamically for each job you execute. This is preferable when you may be accessing one of many Avid systems in a single workflow, based on run-time metrics. Dynamic, variable-driven workflows often simplify workflow design and utilization.

Topics

- Specifying an Avid System Statically
- Specifying an Avid System Dynamically

Specifying an Avid System Statically

Before you can configure an action with a static system, you identify the Avid MediaCentral | Production Management systems you use, and add them as connections in the Vantage Management Console.

When you use Avid connections to access different systems from a single workflow, the workflow must use Decide actions to examine an Avid server variable and branch to the appropriate branch, based on the value.

For each Avid system connection you require, follow these steps:

1. Open the Vantage Management Console (VMC), select Settings & Options and display the Avid tab, where you can create and configure Avid system connections:
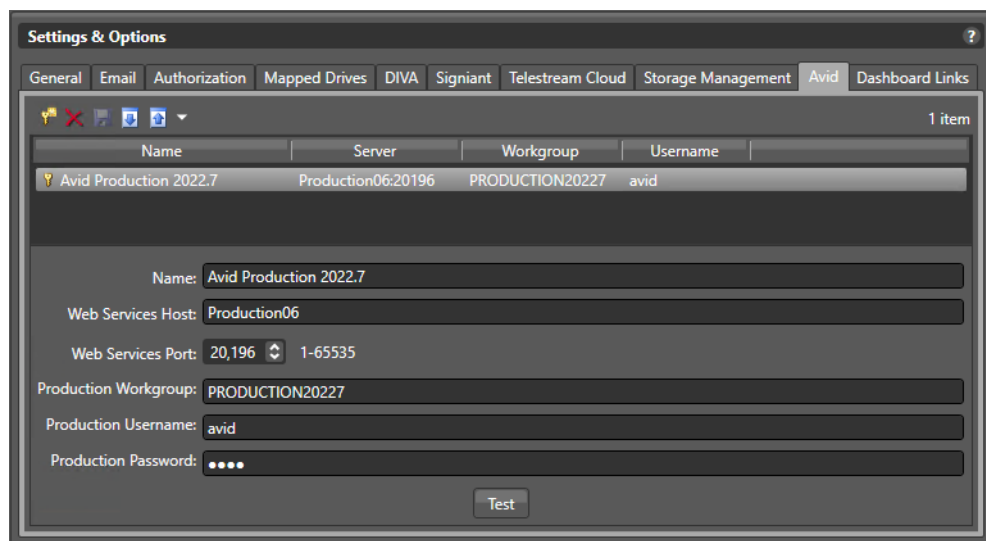
2. Click the Add... button in the toolbar (or right-click in the table and select Add new setting), and configure these fields:

   a. Name—enter a practical name for the Interplay server (for example, Interplay-Vantage Server).

   b. Interplay Web Services Host—enter the domain name of the Interplay server.

   c. Interplay Web Services Port—select or enter a port number (default 80).

   d. Interplay Workgroup—enter the work group name.

   e. Interplay Username—enter the user name expected by the Interplay server.

   f. Interplay Password—enter the Interplay user's password.

   For more details on configuring and managing Avid connections, click the **?** icon and read the Configuring Interplay Settings topic in the Domain Management Guide.

3. Click Test to confirm that Vantage can access the target server. If you have problems, determine the issue and retry.

With your Avid system connections created, return to Workflow Designer and continue with your Avid workflow implementation.

Specifying an Avid System Dynamically

To configure an action to interact with an Avid system dynamically—where the system may change on a job-by-job basis—follow these steps:

1. In the action inspector's Interplay Configuration menu, select Interplay:
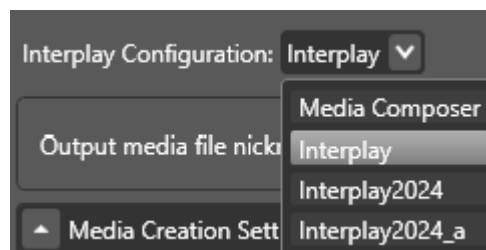
2. Open the Media Creations > Interplay Definition panel:
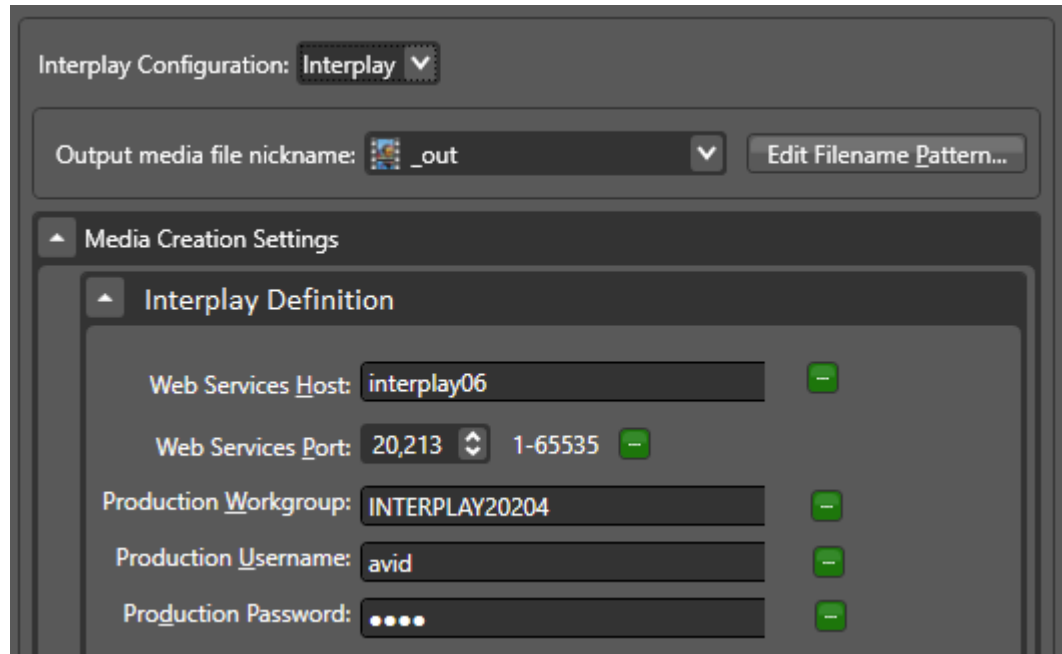
3. You can configure this panel with static information—so that it functions exactly the same as if you'd created a static Avid connection selected it—or, you can dynamically configure the control by click the green browse button, selecting a variable that represents this field:

a. Web Services Host—the domain name of the server.

b. Web Services Port—the server's port number (default 80).

c. Production Workgroup—the work group name.

d. Production Username—an authorized user name for accessing the server.

e. Production Password—the user's password.

For more details on configuring Avid connections, click the **M** icon and read the help page.

4. Now, upstream of this action—in the origin action (Watch, Receive, etc.) or other action preceding this one—identify the variables bound to this action and set their values as appropriate for the target server for this job.

Note: For comprehensive information about variables, see Utilizing Variables in an Action, in the Workflow Designer User's Guide.

Best Practices and Tips

The following best practices and tips are not specific to Avid integration with Vantage but may assist in your creation of end-to-end workflows.

Graphic File Checkin Requirements

After performing a Graphic File Checkin in the Notify action, the file must be imported into Avid Media Composer, with the Do not resize smaller images control checked.

Avid Log Files

Log files for web service calls made to Avid web services are available in Vantage. To configure writing of log files, do the following:

- Navigate to *C:\Program Files (x86)\Telestream\Vantage\Compo-nents\Avid.XXXX.X.X.XX* (where *Avid.XXXX.X.X.XX* is your Avid ComponentPac version*).
- Open *AvidCheckIn.exe.config* in a text editor and set the following then save:

```
<rules>
  <!-- Log levels are (Most restrictive to most Verbose): Off, Fatal, Error, Warn, Info, Debug, Trace -->
  <logger name="*" minlevel="Off" writeTo="logconsole" />
  <logger name="*" minlevel="Error" writeTo="logfile" />        Default
</rules>
```

```
<rules>
  <!-- Log levels are (Most restrictive to most Verbose): Off, Fatal, Error, Warn, Info, Debug, Trace -->
  <logger name="*" minlevel="Off" writeTo="logconsole" />
  <logger name="*" minlevel="Warn" writeTo="logfile" />        Set for Logging
</rules>
```

- Log files are written to *C:\Windows\System32\config\systemprofile\AppData\Roaming\Telestream\Logs* for user or support purposes.

Set Update Interval Setting in Media Composer

When using Open workflow mode and importing files into Avid Media Composer, the Update Interval setting must be set and the Media Composer application restarted.

If the setting is not made the files show Media Offline in the player window and must be manually updated from Avid Production Management.

Using Media Composer

In Media Composer under File > Settings > User > Capture > MXF Media Files:

- Enable 'During capture, clip is updated in Production Management' checkbox.
- Set Update Interval to 1 Minute (minimum Update Interval allowed).

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- Restart Media Composer.
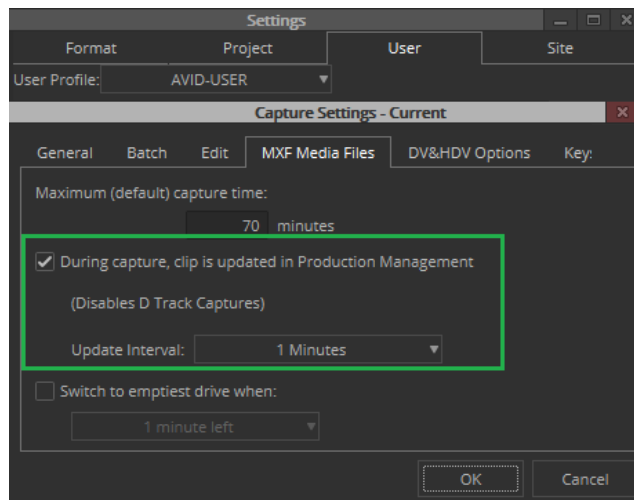
Ingesting Master Clips | Subclips | Sequences

Automatically ingesting master clips, sequences, and subclips as they are added or modified in a virtual folder in MediaCentral | Production Management is accomplished by workflows implemented with the Asset Monitor action.

Asset Monitor workflows are designed to quickly and efficiently generate a proprietary Telestream MP4 reference media file (with video, audio and ANC data) plus an external metadata file for processing by downstream actions or other workflows.

This chapter describes how the Asset Monitor action is implemented in Vantage, and how you can use it to automatically ingest master clips, sequences, and subclips into your workflow.

Note: If you are upgrading an Asset Monitor action built with a ComponentPac release prior to 8.0.1, certain controls may be missing (for example, Reprocess Assets on Modifications, Persist Assets, and Process Incomplete Assets) and the action must be rebuilt using ComponentPac 8.0.1 or later. See Reprocess Assets on Modifications, Persist Assets, and Process Incomplete Assets control descriptions under *Configuring an Asset Monitor Action* for details.

Topics
- Overview
- Using Telestream MP4 Files
- Creating a Prototype Asset Monitor Workflow
- Configuring an Asset Monitor Action

Overview

The Asset Monitor action is executed by the Vantage Avid Service. It is unique in that (unlike most Vantage actions) it performs two tasks:

- Monitors a user-specified virtual folder on the target MediaCentral | Production Management database for new master clips, sequences, and subclips.
- Creates a Telestream MP4 reference file that can be consumed by downstream Vantage actions or other workflows.

The Asset Monitor action is designed as a same-as-source-converter, assembling media as quickly as possible for processing (typically production transcoding and related tasks) by downstream actions or other workflows.

This action is an origin action and can only be used as the first action in a workflow; however, it may be the only action in a workflow. Asset Monitor actions run when the workflow is activated and during the active time frame, if specified. The Asset Monitor action initiates a job each time a new media asset is discovered and generates the specified output; then it passes control to the next action (if any) in the workflow or potentially, other workflows.

The Asset Monitor action does not require additional Telestream components installed in the Vantage domain. The Asset Monitor can be used instead of using Avid Media Composer exports or Send to Playback from Media Composer.

Feature Summary

Here is a summary of the features of the Asset Monitor action:

- Queries for master clips, sequences, and sub clips referencing master clips; ingests and produces a Telestream proprietary MP4 file for use in downstream actions.
- If a sequence's timeline contains gaps, the Asset Monitor action replaces the gaps with black frames and silent audio.
- Supports mixed essences
- Supports inclusion of a data track in output files
- Supports up to 16 channels of rendered audio
- Supports audio channel labeling (master clips ONLY)
- Can be used as a replacement for traditional file exports from Media Composer (such as QuickTime Reference or MXF OP1a).

Note: For best results, use an isolated Production Management folder for monitoring or use a sub-folder under your bin folder. All assets including the bin must be checked into MediaCentral | Production Management.

Limitations

Here is a summary of the limitations of the Asset Monitor action:

- Is not a Media Composer effects render engine.
- Does not use Avid background services.
- Does not support overlapping timelines.
- Does not support audio-only assets.
- Does not support AMA-linked media.
- Has the same media render requirements as traditional file export methods.
- Requires a fully flattened/rendered timeline. Supports audio and video effects when rendered within the sequence timeline.
- Growing assets are ignored until they are complete.
- Does not support multi-layer video sequences.

Avid Version Requirements

Vantage and Live Capture are continually tested for Avid compatibility as new versions become available.

Avid Media Composer Sequence Requirements

In order to ingest and properly process Avid media, the Avid Sequence Asset Specifications must adhere to certain requirements.

For example, the Asset Monitor action can process three kinds of MediaCentral | Production Management assets—master clips, sequences, and subclips. Sequences may include:

- Gaps in the timeline—during processing, gaps are filled with black frames/silent audio.
- Mixed formats (codecs/resolutions)—segments that differ from the format of the first segment are transcoded to the first segment's format and the samples are stored in the output MP4.
- Transition effects—transition effects must be rendered before submitting the asset to the Asset Monitor action.
- Segment effects—tracks that contain segment effects must be rendered before submitting the asset.
- Multiple video layers—only one video layer is supported. Video layers must be flattened prior to submitting the asset.

Note: Segment effect rendering is effective for most commonly used compositions but may not work as expected for highly complex sequences.

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Processing Asset Types

Master Clip and Sequence Assets. When processing a multi-resolution asset from MediaCentral | Production Management, the largest media size is processed by default. This is not always the highest quality.

Note: When ingesting growing media into the Avid Production folder being monitored, the Asset Monitor processes the asset when the asset is complete.

AAF Generation

The Asset Monitor action creates an AAF file for use in other applications.

Telestream MP4 File Generation

The Asset Monitor action creates a Telestream MP4 media file that references MXF OP-Atom files located on Avid shared storage for the asset and may also include additional transcoded media. The MP4 file also includes ancillary data extracted from the MediaCentral | Production Management assets data track. Additionally, a metadata XML file containing the Production asset's user metadata and Production System data is generated. The MP4 file and XML file are passed to downstream actions in the workflow or to other workflows for transcoding and metadata extraction.

The Asset Monitor action treats the media format of the first segment of a sequence as the sequence's media format. The subsequent segments that differ in the format are transcoded to the sequence's format. The transcoded samples are stored in the MP4 output media.

Decoding Support

The action can decode a wide array of Avid formats including sequences containing mixed video resolutions such as HD with SD or clips set to different codec types (such as XDCAM with DNxHD). Supported formats include:

AVC-Intra	AVC-Ultra Long GOP
DNxHD	DNxHR
DV	DVCPro
DVCProHD	IMX
JPEG 2000 (J2K)	XDCAM
XAVC	

Metadata Preservation

Most MediaCentral | Production Management systems have been developed with a specific and often complex Production schema for metadata storage and manipulation

within a Production Workgroup, and contain asset-based metadata including custom user properties.

The metadata associated with an asset stored in the Production database is preserved by the Asset Monitor action within a metadata XML file. All ANC data contained in the asset's data track is also preserved in the MP4 file through special Telestream extensions to the MP4 container (see *Using Telestream MP4 Files* for information on processing and playing of these MP4 files). When the file is passed downstream, the associated XML file is also transferred, making the metadata available for extraction and processing as required.

Note: User-defined metadata that includes control characters is rejected by the Asset Monitor. If control characters exist in your asset's user-defined metadata, they must either be removed or you must check Ignore User Defined Metadata when configuring the Asset Monitor. The error message "*AvidSvc Monitor: GetUserAttributes Errors for interplay://[avid wg]/: There is an error in XML document ([x], [y]); hexadecimal value 0x07, is an invalid character. Line [x], position [y]*" is generated in this situation.

Typical Applications

The Asset Monitor action collects the system and user attributes for each asset and stores them in the generated output file. The values for the custom user attributes defined for that Production workgroup are also collected. The attributes that do not have any value set are not inserted into the output file.

Here are two examples of how the Asset Monitor processes Avid assets:

- If the asset's media sequence consists entirely of clips using a single codec type of the same quality level (such as AVC Intra 1080i @ 29.97) then the action performs same-as-source-conversion. The resulting output is a reference file pointing directly to the asset's MXF OP-Atom files residing on Avid's shared storage. In this case, other Vantage actions will use the native Avid media files directly during further media processing.

- Commonly, however, Avid sequences contain mixed media timelines. For example, different resolutions or different codecs. In a mixed-mode asset, the Asset Monitor action selectively converts media segments to match the format and codec type used in the first segment of the sequence. Thus, the MP4 file contains media segments created from the non-conforming segments (those in a format other than the one detected in the first clip) and direct references to the native Avid media files for the conforming segments (in the format of the first clip).

If a sequence's timeline contains gaps, the Asset Monitor action replaces the gaps with black frames and silent audio.

Using Telestream MP4 Files

Vantage proprietary MP4 files generated by the Asset Monitor action are processed by downstream Vantage encoding actions. These MP4 files must have fully authenticated access to the media files located in the Avid shared storage (NEXIS/ISIS).

Creating a Prototype Asset Monitor Workflow

The Asset Monitor action is an origin action—that is, it must be the first action in a workflow and may be the only action in a workflow. The Asset Monitor action as a dual-purpose action: It detects new or updated Avid media in MediaCentral | Production Management to process and initiates a job when detected. It generates a Telestream MP4 reference file and an XML file containing external metadata associated with the sequence or master clip.

These files are available to downstream actions or other downstream workflows for processing as appropriate (typically, production transcoding).

Here is a simple example:

In this workflow, three actions are implemented:

Asset Monitor—monitors a virtual folder in the target Production system for new sequences or master clips and initiates a job in Vantage. The ingested media is transcoded into an MP4 Reference file and the associated metadata is inserted into an XML file.

Flip64—configured with an XDCAM encoder, the action creates a high-resolution file.

Deploy—configured to deliver the broadcast format high-resolution file to an external system.

Configuring an Asset Monitor Action

Before this action can be configured, you must configure your Vantage domain for the MediaCentral | Production Management systems you are using. If you haven't already created at least one Avid MediaCentral | Production Management connection, perform that task now. See *Accessing MediaCentral | Production Management Systems* for details.

To configure an Asset Monitor action, follow these steps (Click **M** in the action inspector to view a detailed help topic):

1. Specify the Production system you plan to monitor, and configure the monitoring options as required.

2. Add your output(s) and configure them for processing.

3. When you are done configuring this action, click Save.

Asset Monitor Settings

Interplay Configuration. Specifies the Avid connection to use, which identifies the Production server that this action should monitor for new assets to ingest.

Interplay Folder. Specifies the MediaCentral | Production Management virtual folder path to be used for the output asset for example *Incoming Media\\Media Creation\\New Folder* or */Incoming Media/*. You may enter a known path; browse to an existing folder path; or bind to a folder path variable. For best results, Telestream recommends using a dedicated Interplay folder or a sub-folder under your bin directory.

Note: Interplay folder names are not case sensitive.

Note: The Asset Monitor action does not recursively scan Media Central | Production Management sub-folders. It scans for the assets in the configured folder.

Master Clips. When checked, specifies that master clips are ingested for processing; otherwise they are ignored.

Sequence Assets. When checked, specifies that sequence assets are ingested for processing; otherwise they are ignored.

Ignore Custom User Attributes. Asset Monitor gathers all the asset metadata into an Production Metadata output file, that includes system metadata, user metadata and contents of custom metadata fields defined for the Production Workgroup, by default. When this option is checked, the custom metadata fields are ignored. This option is used to address Web Service issues involving illegal characters in the custom metadata.

Reprocess Assets on Modifications. When unchecked, assets that have been processed will not be processed again when the asset is modified.

Persist Assets. When checked, saves the assets and their last-modified time stamps in Vantage persistent storage so they are not reprocessed after a system or service restart.

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When unchecked, processes all assets in a specified folder (conforming to other criteria, such as the last modified time of the asset being later than the date specified in Ignore Modifications Before). Will also process assets on a service restart.

Track Deleted Assets. When checked, tracks assets that were deleted from an Interplay folder. If the asset is added again later Vantage will not reprocess the asset when the asset reappears or if one of the Interplay services is restarted.

Process Incomplete Assets. When checked, processing an incomplete asset results in an immediate failure for that asset. Partially-offline and offline assets are processed as soon as they are discovered by the service, resulting in a failed job. The same asset will not be reprocessed when the asset becomes fully online. In customer environments where the Media Indexer service lags behind a new or modified asset's discovery, not checking this option will cause the Telestream Avid Service to process the asset in a subsequent scan after the asset comes fully-online.

When unchecked (default), the asset will continue to be processed in subsequent scans.

Ignore Asset Online Status. When checked, ignores the online/offline status of an asset and processes the asset.

Asset Name Pattern. String supplied to Production for filtering. The Asset Name pattern is a regular expression of the asset display name. It is passed through to the Web Service. For example: `.*rain.*`.

Ignore Modifications Before. Select timestamp value in order to ignore assets with modifications before specified date/time.

User Attribute Monitor. Specify a user attribute and monitor for changes to the user attribute metadata. If a change is detected, a new job is triggered.

A new job will not be triggered if the attribute value is changed to null (blank) or if changes are made while the service is not actively monitoring. When used in conjunction with Track Deleted Assets enabled, moving the asset, modifying metadata, then moving the asset back to its original folder will trigger a new job.

Interplay Folder Scan Interval. Specifies the number of seconds between two scans.

Web Service Request Timeout. Specifies the Web Service response time, in seconds, to wait for a response from the specified Production system before timing out.

The Vantage Avid Service uses the Web Service to gather assets and their properties. The Web Service Request Timeout time-out specifies how long the Vantage Avid Service waits for a response from the Web Service.

Web Service Wait Per Request. Specifies the wait time for Web Service requests in milliseconds. Non-zero values disables HTTP persistence.

The Vantage Avid Service uses the Web Service to gather assets and their properties. The Web Service Wait Per Request specifies how long the Vantage Avid Service waits between sending Web Service requests.

Generate Variables

The Master MOB ID, Source MOB ID and Tape Name are needed for Dynamic Relinking.

Master MOB ID. When checked, specify the variable to generate that contains the value of the master MOB ID for the ingested asset, for use in downstream actions.

Source MOB ID. When checked, specify the text variable to generate that contains the value of the Source MOB ID of the ingested asset, for use in downstream actions. The source MOB ID can be used to associate a high-res asset that is already in Production Management to link it to a Vantage/Flip64 proxy with the same MOB ID.

Tape Name. When checked, specify the text variable to generate that contains the value of the tape name of the ingested asset, for use in downstream actions.

Adding and Configuring Outputs

To add and configure outputs, follow these steps:

1. Add Outputs. Add (using the Add icon (the Plus sign button) in the Output component toolbar) your outputs by format. Add one output for each file you plan to generate. Output formats include:

AAF—Create an AAF of an Avid Asset.

Interplay Metadata—this file contains all metadata contained in the associated Production asset and references to associated media clips. It also contains references to the asset's data track which can be processed by Vantage. If there are frame-locators within the sequence or Master Clip they are preserved in XML. Downstream actions can extract specific metadata from the file as required.

Note: If you require the metadata file to have an XML extension instead of the default CML extension, select the output component to display the Container details panel in the details panel at the bottom. Click on the Browse button on the File Extension control and create a text variable, supplying the string [xml] as the default value. This causes the file to use an XML extension instead of the default CML extension.

MPEG-4 Reference—Telestream MP4 reference file, which contains proprietary MP4 extensions. Because of these extensions, only Telestream applications such as Switch v4.5 (or later) or Vantage transcoders are capable of decoding or playing the file.

Vantage transcoding actions processing these files must use Auto for Flip64. The MP4 file will reference native MXF OP-Atom file (video, audio and data) stored in Avid shared storage. No Avid files are moved or copied. If a track contains clips with a format other than that of the first clip in the sequence, the media samples are saved in the MP4 file. This file also references all data contained in the asset's data track which can be processed by Vantage.

Generating Avid-Compatible MXF OP-Atom Media

Re-wrapping media into Avid-Compatible MXF OP-Atom media for use in an Interplay environment or for Media Composer is accomplished by workflows implemented with the Media Creation action.

This chapter describes how the Media Creation action is implemented in Vantage and how you can use it in workflows to re-wrap media for an Interplay (MediaCentral | Production Management) environment or for a Media Composer environment.

Note: The listed license options do not support Edit While Ingest mode used with the AAF action. These require V-AVID or LS-LIVE-AVID-OPT license options.

Note: J2K interlaced files are not supported in AMT.

Topics

Overview

Media Creation actions are executed by the Vantage Avid Service.

The Media Creation action has two operational modes for generating MXF OP-Atom media files—one for an Interplay (MediaCentral | Production Management) environment and one for a direct Media Composer environment:

- **Media Composer Mode**. For creating Avid-compatible MXF OP-Atom media files and the associated AAF file, including User Property metadata for use within a Media Composer editor directly. On a Vantage system, this mode is enabled with a Transcode Pro license. On a Live Capture system, this mode is enabled with the default Live Capture license.

- **Interplay Mode**. For creating Avid-compatible MXF OP-Atom media files and metadata that can be written to NEXIS/ISIS storage and automatically checked-into Production. On a Vantage system, this mode is enabled with a Transcode Pro Connect license containing the Advanced Avid Option. On a Live Capture system, this mode is enabled with the Live Capture Avid Option.

When writing media into Avid shared storage and checking the asset into a Production system, the asset can include integrated User Properties, Asset Restrictions, Locators, and a Head Frame file. Additional operations can be added by using a Notify Action.

In addition, if the workflow is set into an Open Workflow mode, Frame Chase (Edit While Capture) can be enabled allowing a media file to be edited as it is being written into Production.

Note: The Media Creation action does not perform any transcoding. Files are re-wrapped into Avid compatible MXF OP-Atom files. Therefore, the video must already be in the desired essence format.

If the video in the file you want to add/update does not contain video in the appropriate format, it should first be processed through a Flip64 or Capture action to produce MXF OP1a or TIFO media containing video in the proper format. For Flip64 or Capture configuration details, consult the appropriate guides available on the Telestream website.

This action is open workflow capable if the Open Workflows license is installed; right-click the action and select Workflow Mode > Open. Open Workflows must also be enabled for the current workflow and in the Vantage Management Console > Settings. For Open Workflow configuration details, consult the Vantage Domain Management Guide available on the Telestream website.

Media Creation Codec Support

The Media Creation action supports pass-through of:

- AVC Intra 50
- AVC Intra 100
- AVC Long GOP G12/G25/G50
- DNxHD 444 / HQX / HQ / SQ / LB
- DNxHR 444 / HQX / HQ / SQ / LB
- DV based 25 / 50 /100
- H.264 800Kbps / 1.5Mbps / 2 Mbps Proxies
- IMX 30 / 40 / 50
- XAVC Long GOP 25 / 30 / 50
- XAVC Intra 50 / 100
- XAVC Intra Class 300 CBG / VBR
- XAVC Intra Class 480 CBG / VBR
- XDCAM HD 18 / 35
- XDCAM HD 50
- XDCAM EX 35

Note: AVC Intra 2K/4K 444 formats are not currently supported for Avid/Flip64 workflows.

Note: Flip64 supports creation of Open MXF XDCAM HD for use in the Media Creation action as well as TIFO files for open, Edit While Ingest workflows.

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Configuring Media Creation Workflows

A variety of workflows can be configured using the Media Creation action for delivery to MediaCentral | Production Management systems. These include but are not limited to single resolution and multi-resolution workflows, metadata processing, and the generation of Avid classic proxies as needed.

Single Resolution Mezzanine Workflow

- Watch Action (Set to Open mode)—origin action, configured to monitor for sources.
- Flip64 Action (Set to Open mode)—transcode to the appropriate media format with Avid specific settings. TIFO and MXF OP1A are supported.
- Media Creation Action (Set to Open mode)—write Avid OP-Atom and AAF to Avid Storage and check asset into Production. Select TIFO or MXF OP1A as input depending on type specified in Flip64 action.
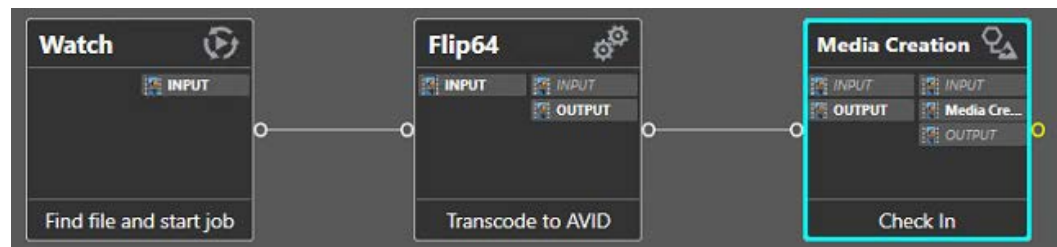
Note: When creating Open MXF XDCAM HD files with Flip64 for use in the Media Creation action, configure partition settings in Flip64 as specified below.
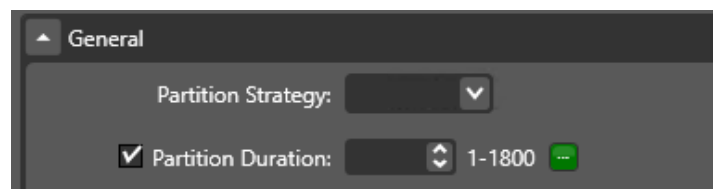
Partition Strategy—Select 'Place essence container in the body partition, the Index Tables are placed in the partition following essence partitions + RIP'.

Partition Duration—Enable and set to 5 seconds.

Simple Live Capture to Production Workflow

- Capture action (Set to Open mode)—origin action, create MOB IDs, Capture into Avid format. TIFO and MXF OP1A are supported.

- Media Creation Action (Set to Open mode)—write Avid OP-Atom and AAF to Avid Storage and check asset into Production. Select TIFO or MXF OP1A as input depending on type specified in Capture action.
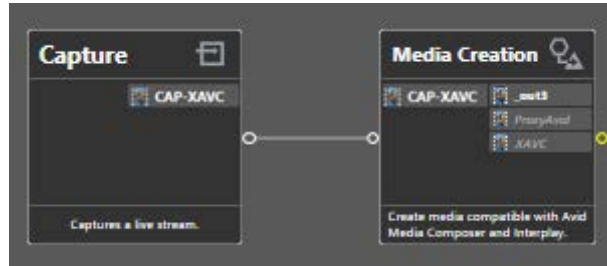
Note: MPEG-1 Layer 2 audio is supported in Media Creation for Avid Proxy format created by Capture.

Media Creation Action Configuration

Configuring a Media Creation action involves three distinct steps:

- Select the format of your input file for proper decoding. See *Input Formats*.

- Configure the high-level controls for the Media Creation action to perform as specified, regardless of whether you are delivering media to Media Composer or an Interplay system. See *Configuring the Media Creation Action*.

- Configure Media Composer controls or Interplay controls, based on your target system. See *Configuring Media for Media Composer | Interplay Ingest*.

Input Formats

Select. Specifies Auto | AIFF | MXF OP1a | TIFO | Wave. See *Media Creation Codec Support* for supported formats.

- Select *Auto Input* to ingest media which is in a video/audio format supported by your Media Composer or a MediaCentral | Production Management environment for re-wrapping into Avid-compatible MXF OP-Atom files.

- Select *AIFF Input* to ingest media from an AIFF input file for re-wrapping into Avid-compatible MXF OP-Atom files.

- Select *MXF OP1a Input* when you are processing Open MXF OP1a files created by Lightspeed Live Capture. For other supported file formats, select Auto or TIFO.

- Select *TIFO Input* when you are capturing video in open workflow mode in TIFO format and want to re-wrap it into Avid-compatible MXF OP-Atom files. TIFO input is Open Workflow capable.

- Select *Wave Input* when you are ingesting media from a WAVE input file for re-wrapping into Avid-compatible MXF OP-Atom files. Each Wave input supports one-channel-per audio track(s). This input component should only be utilized when you are processing WAVE files. Submitting non WAVE files to this input will result in job failures. For other supported file formats select Auto, MXF OP1a or TIFO.

AIFF Input

The AIFF Input component re-wraps media into Avid-compatible MXF OP-Atom files. AIFF Input supports one-channel-per audio track(s). When using a Media Creation action with AIFF Input, it is not Open workflow capable.

Note: Controls with a green Browse button may be bound to a variable to dynamically assign their value. The variable must have a value when this action executes. You can assign the value in a previous action in the workflow or use the variable's default value. Click Browse to select the variable or create a new one.

Input Toolbar Buttons

Gear > Convert To. Changes the input from one type to another. Alternatively, right-click and select the format from the list. This saves you the effort of re-configuring an input when you just want to change the input container/format.

Delete. To delete this input, click the X icon in the upper right corner.

Input Configuration

Source. Click Select to display the input source dialog and specify the file to process, by nickname or by a unique file name. You can only use an input nickname one time in a given action.

To attach a file by nickname (which is typical), select the nickname of the file from the menu. The file must have been ingested or created by an upstream action in the workflow.

To attach a file by file name, manually enter the fully-qualified path and file name, click Browse to navigate and select the file (which may not yet exist in the directory, so you must manually enter the file name), or click Browse to select a variable which has been created in an upstream action and contains the fully-qualified path to the file.

Container Settings

Start Timecode Option. Specifies the edit rate to use. The edit rate is required for proper timecode calculations in Media Composer projects.

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Auto Input

The Auto Input, as implemented for the Media Creation action, ingests media which is in a video/audio format supported by your Avid Media Composer/MediaCentral | Production Management system for re-wrapping into Avid-compatible MXF OP-Atom files. This is the default input component for the Media Creation action.

There are no user-configurable options for this decoder.

Note: Auto Input supports one video track. Audio must contain one track per channel otherwise the job will fail.

Note: Controls with a green Browse button may be bound to a variable to dynamically assign their value. The variable must have a value when this action executes. You can assign the value in a previous action in the workflow or use the variable's default value. Click Browse to select the variable or create a new one.

Input Toolbar Buttons

Gear > Convert To. Changes the input from one type to another. Alternatively, right-click and select the format from the list. This saves you the effort of re-configuring an input when you just want to change the input container/format.

Delete. To delete this input, click the X icon in the upper right corner.

Input Configuration

Source. Click Select to display the input source dialog and specify the file to process, by nickname or by a unique file name. You can only use an input nickname one time in a given action.

To attach a file by nickname (which is typical), select the nickname of the file from the menu. The file must have been ingested or created by an upstream action in the workflow.

To attach a file by file name, manually enter the fully-qualified path and file name, click Browse to navigate and select the file (which may not yet exist in the directory, so you must manually enter the file name), or click Browse to select a variable which has been created in an upstream action and contains the fully-qualified path to the file.

MXF OP1a Input

The MXF OP1a Input component e-wraps media into Avid-compatible AAF/MXF OP-Atom files. Each MXF OP1a Input supports one video stream and one or more PCM audio tracks, plus an ANC stream.

MXF OP1a Input is Open workflow capable. NOTE - The MXF OP1a decoder supports open workflows, but only with files created by Live Capture.

Note: Controls with a green Browse button may be bound to a variable to dynamically assign their value. The variable must have a value when this action executes. You can assign the value in a previous action in the workflow or use the variable's default value. Click Browse to select the variable or create a new one.

Input Toolbar Buttons

Gear > Convert To. Changes the input from one type to another. Alternatively, right-click and select the format from the list. This saves you the effort of re-configuring an input when you just want to change the input container/format.

Delete. To delete this input, click the X icon in the upper right corner.

Input Configuration

Source. Click Select to display the input source dialog and specify the file to process, by nickname or by a unique file name. You can only use an input nickname one time in a given action.

To attach a file by nickname (which is typical), select the nickname of the file from the menu. The file must have been ingested or created by an upstream action in the workflow.

To attach a file by file name, manually enter the fully-qualified path and file name, click Browse to navigate and select the file (which may not yet exist in the directory, so you must manually enter the file name), or click Browse to select a variable which has been created in an upstream action and contains the fully-qualified path to the file.

Container Settings

Open File Support. When checked, the workflow starts transcoding this stream as soon as the file is opened and media is being written to it in real time. Input supports one video track. Audio must contain one track per channel otherwise the job will fail.

Open File Timeout. Specifies the maximum amount of time in seconds to wait after the file has stopped growing before assuming that file is finished being written to and has been closed.

Process Origin as Precharge. Specifies processing of MXF origin as Precharge Frames.

TIFO Input

The TIFO Input component implemented in the Media Creation action supports capturing media in Open workflow mode in TIFO format for re-wrapping into Avid-compatible AAF/MXF OP-Atom files.

TIFO format is required for Avid classic proxies. Specification of Avid Picture Essence Coding Type is also supported. See Specifying Avid the Picture Essence Coding Type in the Avid Integration Guide.

TIFO Input is Open Workflow capable.

Note: TIFO Input supports one video track. Audio must contain one track per channel otherwise the job will fail.

Note: Controls with a green Browse button may be bound to a variable to dynamically assign their value. The variable must have a value when this action executes. You can assign the value in a previous action in the workflow or use the variable's default value. Click Browse to select the variable or create a new one.

Input Toolbar Buttons

Gear > Convert To. Changes the input from one type to another. Alternatively, right-click and select the format from the list. This saves you the effort of re-configuring an input when you just want to change the input container/format.

Delete. To delete this input, click the X icon in the upper right corner.

Input Configuration

Source. Click Select to display the input source dialog and specify the file to process, by nickname or by a unique file name. You can only use an input nickname one time in a given action.

To attach a file by nickname (which is typical), select the nickname of the file from the menu. The file must have been ingested or created by an upstream action in the workflow.

To attach a file by file name, manually enter the fully-qualified path and file name, click Browse to navigate and select the file (which may not yet exist in the directory, so you must manually enter the file name), or click Browse to select a variable which has been created in an upstream action and contains the fully-qualified path to the file.

Container Settings

Open File Support. Check to enable Open File support, indicating that you want to start processing this stream as soon as the file is created and media is being written to it in real time.

Open File Timeout. Specifies the maximum amount of time to wait after the file has stopped growing before assuming that file is finished being written to and has been closed.

Avid Picture Essence Coding Type

Set Avid Picture Essence Coding Type. Specify coding type for creation of Avid proxy formats. Default is Auto.

Note: For AVCI 50, AVCI 100, XAVCI 50, XAVCI 100 formats, sets the MXF descriptor for compliance.

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Wave Input

The Wave Input component re-wraps media into Avid-compatible MXF OP-Atom files. Each Wave Input supports one-channel-per audio track(s).

Wave Input is not Open workflow capable.

Note: Controls with a green Browse button may be bound to a variable to dynamically assign their value. The variable must have a value when this action executes. You can assign the value in a previous action in the workflow or use the variable's default value. Click Browse to select the variable or create a new one.

Input Toolbar Buttons

Gear > Convert To. Changes the input from one type to another. Alternatively, right-click and select the format from the list. This saves you the effort of re-configuring an input when you just want to change the input container/format.

Delete. To delete this input, click the X icon in the upper right corner.

Input Configuration

Source. Click Select to display the input source dialog and specify the file to process, by nickname or by a unique file name. You can only use an input nickname one time in a given action.

To attach a file by nickname (which is typical), select the nickname of the file from the menu. The file must have been ingested or created by an upstream action in the workflow.

To attach a file by file name, manually enter the fully-qualified path and file name, click Browse to navigate and select the file (which may not yet exist in the directory, so you must manually enter the file name), or click Browse to select a variable which has been created in an upstream action and contains the fully-qualified path to the file.

Container Settings

Start Timecode Option. Specify start timecode to use.

Start Timecode Option. Specifies the edit rate to use. The edit rate is required for proper timecode calculations in Media Composer projects.

Note: Audio-only Wave outputs may have frame rates which are incorrectly identified in Interplay Access. These include:
- 60 fps NDF/DF identified as 59.94 fps
- 30 fps NDF/DF identified as 29.97 fps
- 48 fps NDF/DF identified with no fps value
- 47.95 fps NDF/DF identified with no fps value

Configuring the Media Creation Action

Media Creation actions are executed by the Vantage Avid Service.

The Media Creation action enables you to create single and multi-resolution assets for use in a Media Composer or an Interplay (MediaCentral | Production Management) system:

 - Media Composer Mode: For creating AAF and Avid-compatible MXF OP-Atom files including metadata for ingest into a Media Composer editor.

 - Interplay Mode: For creating AAF and Avid MXF OP-Atom files and metadata that can be written to ISIS/NEXIS storage and automatically be checked-into MediaCentral | Production Management.

When delivering media directly to a MediaCentral | Production Management system, assets include integrated User Property and Headframe creation. Locator metadata can also be created; use a Notify action for delivery along with Interplay Web Service check-in into an Avid MediaCentral | Production Management workspace.

You can also create files for ingest into Media Composer in Open mode for Frame Chase editing; metadata insertion is supported while live video is being captured and the file is being processed in Vantage, enabling real-time editing.

Note: The Media Creation action does not perform transcoding. Files are re-wrapped into Avid-compatible MXF OP-Atom and AAF files. Therefore, the video must already be processed if required, with a supported codec. The Media Creation action supports a number of popular file formats. Consult the Avid Integration Guide for the list.

If the video in the file you want to add/update is not in a supported format, it should first be processed through a Flip64 action or Flip action to produce MXF OP1a media containing video in the proper format.

This action is Open workflow capable. It requires an Open Workflows license; right-click the action and select Workflow Mode > Open. Open Workflows must also be enabled for the workflow and at the domain level, in Vantage Management Console > Settings.

Note: Controls with a green Browse button may be bound to a variable to dynamically assign their setting or value. The variable must have a value when this action executes. You can assign the value to the variable in a previous action in the workflow or use the variable's default value. Click Browse to select the variable or create a new one.

Accessing a MediaCentral | Production Management System

Prior to designing and implementing Avid workflows in Vantage to access Interplay (MediaCentral | Production) systems, you (the customer or Avid representative) must identify each system, including credentials.

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Use these specifications to define Avid connections in the Vantage Domain Console for use in Media Creation and Asset Monitor workflows, or define them statically or dynamically via variables, directly in your workflows.

Asset Monitor and Media Creation actions are configured to interact with a specific MediaCentral | Production Management system. System configuration may be manual—statically specifying a system which does not change on a job-by-job basis.

System identification can also be dynamic, where you can use variables to identify the system dynamically for each job you execute. This is preferable when you may be accessing one of many Avid systems in a single workflow, based on run-time metrics. Dynamic, variable-driven workflows often simplify workflow design and utilization.

Note: Always connect to MediaCentral | Production Management and Web Services using a fully-qualified DNS name, which is registered with Forward and Reverse look up tables in DNS.

Note: Specific Avid systems that display in the Interplay Configuration menu are connections that have been configured in Vantage via the Management Console. For full details, see the Avid Integration Guide > Accessing MediaCentral | Production Management Systems.

To add a MediaCentral | Production connection to Vantage, follow these steps:

1. In the Vantage Management Console, in Settings & Options, display the Avid tab. The Interplay configuration panel enables you to create, configure, delete, import and export MediaCentral | Production Management system connections.

2. Create and configure a connection to the target system, providing the following information:

    - Connection Name

    - Interplay Web Services Host

    - Interplay Web Services Port

    - Interplay Workgroup

    - Interplay Username

    - Interplay Password

    For more details on configuring and managing connections, click the ? icon to display the topic in the Vantage Domain Management Guide.

3. Click Test to confirm that Vantage can access the target MediaCentral | Production Management server. If you have problems, determine the issue and retry.

Action Configuration Details

Select. Specifies Auto | AIFF | MXF OP1a | TIFO | Wave.

Interplay Configuration. Specifies Media Composer | Interplay | <<Avid System connections identified in the Management Console>>. There may be zero or more connections in the menu, depending on the connections you've created.

- *Media Composer*. Select to write AAF files to a specific location, and configure the Media Creation action to facilitate Media Composer ingest and use of the files.

- *Interplay*: A workflow-specified MediaCentral | Production Management system.

- <<Avid System connections identified in the Management Console>>. There may be zero or more connections in the menu, depending on the connections you've created. The list is dynamically generated from the MediaCentral | Production connections identified in the Vantage domain. See *Adding a MediaCentral | Production Management System to Vantage* (above) for details.

Output Media File Nickname. Specifies the nickname for the output file for use in downstream actions.

Edit Filename Pattern. Opens the Filename Pattern Editor. Enter the complete filename or a portion of the filename, and use the menu on the right side to select one or more tokens to insert to create the exact filename pattern you require. You can drag and drop a token to change its order relative to other tokens, thus changing its location in the filename.

You can use the following tokens:

- *Base Name*. The name of the file, without the extension.

- *Variable*. You select the variable to use.

The Variable token is replaced by the value it holds when the action executes. The variable should be set prior to execution of this action. For example, if a variable token ISCI is given the value `12H4JA678`, wherever the ISCI variable token is located in the filename pattern, it is replaced with that value.

- *Date*. The current date at the time the filename is constructed. Change the date format via the menu.

- *Time*. The current time at the time the filename is constructed. Change the time format via the menu.

Configuring Media for Media Composer | Interplay Ingest

Configuring Output for Media Composer

Media Creation Settings

Physical File Settings

AAF File Location. Specifies the UNC path to Avid storage where the AAF file will be written. The typical pattern is \\<*servername*>\<*workgroup folder*>\<*filename*>. For example: `\\avidnexispro\Interplay2021\AAF\AAF File1.aaf`.

MXF File Location. UNC path to Avid storage where the MXF OP-Atom media files will be written. The typical pattern is *servername**workgroup folder**Avid MediaFiles**MXF**file*. For example: `\\avidnexispro\Interplay2021\Avid MediaFiles\MXF\MXF File1.mxf`.

Note: Initial MXF path name must include the ***Avid MediaFiles\MXF*** string.

Delete AAF Sub-directory and Temporary Files. When checked, deletes the AAF files and temporary files after the media has been checked into Interplay. These files are not deleted if the job fails.

Create Unique Folder for AAF. When checked, creates a unique directory folder for the output AAF file.

Physical Directory Control. Specifies Limit Files per Directory | Do Not Limit Files per Directory.

 - *Limit Files per Directory*: When Limit Files per Directory is selected, specify the **Max Number of MXF Files in MXF Directory**. When the maximum is reached, a new directory is created with a numerical suffix (<dirname>.1, etc.) to store the next set of files. Range: 100 - 10,000. Default: 5,000.

 - *Do Not Limit Files per Directory*: When Do Not Limit Files per Directory is selected, there is no maximum.

Copy AAF File. Specifies Enable | Disable.

 - *Enable*: Specifies the **AAF Copy Directory** and option to **Overwrite Existing AAF File**.

 - *Disable*: Do not copy the AAF file. Local AAF file is temporary and disposed of per Vantage settings.

Note: If Overwrite Existing File is unchecked and a file with the same name exists in the destination directory, the job fails.

Configuring Media for Media Composer | Interplay Ingest |

Asset Attributes

Master MOB ID. Specifies the master MOB ID for this asset.

Source MOB ID. Specifies the source MOB ID for this asset.

Disable Data Track in the Output. When checked, disables creation of a data track in the output.

Material Name. Specify Use Media Name | Override. This name displays as the asset's display name unless a non-empty tape name is configured.

 - *Use Media Name*. Input media name is used to configure the asset name.

 - *Override*. Overrides default asset name with the user specified value. When selected, complete this control:

> **Material Name**. Specifies the name to use for the asset.

Note: To change the AAF folder name and filename use the Filename Pattern Editor to change the naming scheme.

Timecode

If the transcoded source uses drop frame timecode then output is drop frame. If transcoded source is non-drop frame then output is non-drop frame.

Timecode. Specifies timecode to use: Use Source Timecode | Override Timecode.

 - *Use Source Timecode*. Uses the source timecode detected in the media.

 - *Override Timecode*. Timecode detected in source file is used with no changes to the timecode in the output. When selected, provide:

> **Override Timecode**. Specify the timecode, frame rate, and drop frame or non-drop frame notation to use.

Input Type

Input Type. Specifies input type: Tape | Import. Complete these controls as appropriate:

> **Tape Name**. When Input Type is *Tape*, specifies the tape name of the asset.

> **Import**. When Input Type is *Import*, specifies the source package name of the asset.

Note: While Avid strongly recommends using Import for file based digital media workflows, this method does not allow for the Tape name field to be used for relinking. Tape mode may be used for traditional dynamic relinking using the Tape field.
Tape name data replaces the Asset Name set in the Vantage Filename Pattern Editor when not empty. To configure the Asset Name you must configure a User Property with the property name 'Display Name' along with the desired value. Consult the Avid Integration Guide for more details.

Asset Tag Properties

Tagged Values. Specifies Disable | Enable. When enabled, allows specification by filename or file nickname of an XML file containing tagged values for an asset.

> **Import Tagged Values**. When checked, allows specification by filename or file nickname of an XML file containing tagged values for an asset.
>
> > **File Nickname**. Select File nickname to identify the file by nickname.
> >
> > **File Name**. Manually enter or browse and select the fully-qualified path to the XML file.
>
> **Set Tagged Values**. When checked, allows specification of tagged value pairs that are displayed in the Media Composer bin. Click Add New Item and configure pairs. Each tagged value pair item contains metadata fields for the name and associated value for the tagged pair.

AAF Updates

AAF Update Interval. An AAF file, updated progressively, is made available for importing into Media Composer for editing, at the beginning of media capture. Specifies optional local AAF update interval time in milliseconds. Default is 0 (disabled).

Expected Maximum Duration. Expected duration in seconds, rationalized for 60 fps.

AAF Path. When checked, specifies the Path variable for use by downstream actions. Typically this is used in Open workflows to provide an intermediate AAF path while media files are still growing. The variable is set from the AAF action from the Input > Source > File name field.

Configuring Output for Interplay (MediaCentral | Production Management)

Media Creation Settings

Interplay Definition

Note: This set of controls is only displayed when you select Interplay and must provide the target system directly in the action. If you select an Interplay system that you have defined in the Vantage Management Console, these controls are not used.

Interplay Web Services Host. The DNS/IP address of the Interplay Web Services server.
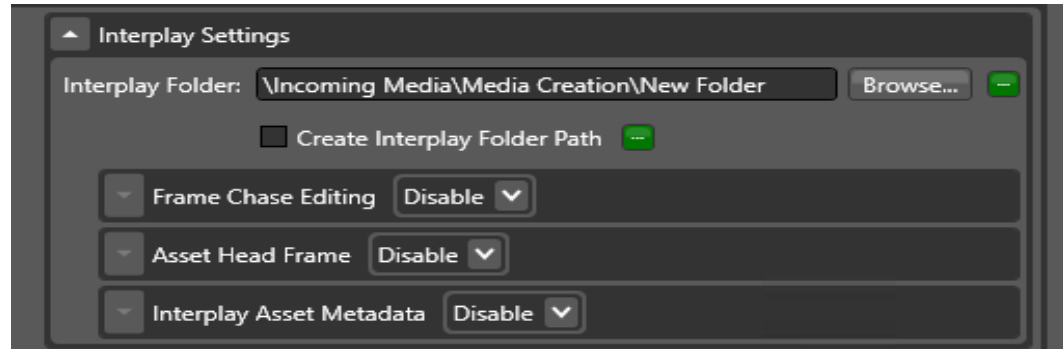
Interplay Web Services Port. The port being utilized by the Interplay Web Services server.

Interplay Workgroup. Name of workgroup (case-sensitive) associated with this Interplay system.

Interplay Username. Authorized user name.

Interplay Password. Authorized password.

Interplay Settings

Interplay Folder. Specifies the MediaCentral | Production Management virtual folder path to be used for the output asset for example `\Incoming Media\Media Creation\New Folder or /Incoming Media/`. You may enter a known path; browse to an existing folder path; or bind to a folder path variable.

Create Interplay Folder Path. When enabled, creates the Production virtual folder(s) that do not exist in the configured Interplay Folder path. When not enabled, the job fails if the Interplay folder path does not exist.

These top-level system directories in Production can't be modified:

– Catalogs
– Incoming Media
– Orphan Clips
– Projects
– Send To Playback
– Unchecked-In Avid Assets

Note: The following special characters are not allowed in folder names ? : / \ " < > |

Frame Chase Editing. Specified Enable | Disable. When enabled, creates a special type of Production asset, that can be edited while media ingest is in progress. The growing asset is available in the Production system, as soon as the initial check-in occurs. When the media capture ends, a final update is made to the Production system. This update changes the clip's type from an in-progress clip to a conventional master clip and updates the metadata. Configure these controls:

Interplay Frame Chase Interval. Specifies the frame chase interval (integer - number of milliseconds). Growing assets are checked into Production at the end of every specified frame chase interval.

Expected Maximum Duration. Specifies the expected maximum duration in seconds @60fps that is displayed in Interplay Access and Media Composer while a file is being processed. Once the file is complete and updated, the duration will show

the actual duration of the file. This applies to both open and closed workflow configurations.

Custom Metadata Management. When enabled allows for an Asset Name to be updated in MediaCentral | Production Management from an Open, Edit While Capture (Frame Chase) Lightspeed Live Capture workflow. Vantage updates and manages all Media Central Metadata.

Note: For improved Head Frame display performance in Interplay Access, enable Custom Metadata Management.

Asset Head Frame. Specifies Enable | Disable. When enabled, allows specification of a Head Frame source as generated by a Media Creation or Flip64 action. Creation of an open Head Frame is supported.

Asset Head Frame Source. Specifies Create | Set. Allows specification of a Head Frame source using Frame Number or Timecode (Create) or via an Asset Head Frame file (Set). Configure these controls:

- *Create*. Specifies Head frame using frame number or timecode (default).

Asset Head Frame Configuration. Specifies Specify Frame Number | Specify Timecode. Complete these controls as appropriate:

Frame Number. Creates and uses the first I-frame from the specified frame number in the input video track.

Specify Timecode. Creates and uses the first I-frame from the specified timecode in the input video track.

- *Set*. Specifies Head Frame using filename or nickname of the file generated:

File Nickname. Specifies the file by nickname. The file must have been ingested by an upstream action and assigned a nickname. Use this option when the file changes for each job.

File Name. Manually enter or browse and select the fully-qualified path to the file. The Vantage service that executes this action must have access to the file location. Use this option when you want to assign a static file, which is used for every job. If you assign a variable, the variable must be assigned the fully-qualified path and file name in an upstream action and the file can change for each job.

Interplay Asset Metadata. Specifies Disable | Enable. When enabled, allows metadata to be added via a file using a (Interplay) Production metadata file or manually using Add Asset Restrictions, Add Asset Locators, or Add User Properties controls.

Note: The XML for Avid User Property Metadata and Locators uses a simple structure. It consists of two Element types: <Entry> for adding Avid User Property data and <Locator> for adding Avid Locator data. Each Element has several attributes, used to

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supply data for the Entry or Locator element you are defining. Multiple Entry and Locator elements are permitted.

Import Metadata File. Allows specification of an Production Asset Metadata file by file path or nickname. Various parameters such as User Properties and Locators can be added via an XML file.

Add Asset Restrictions. When checked, allows manual addition of Asset Restrictions. A restriction is a span of an asset that indicates a clip, or a portion of a clip, whose use is limited in some way, such as through intellectual property rights management or content compliance. There are 2 options for setting the Restriction:
  - In Frame Number / Out Frame Number
  - In Timecode / Out Timecode
The Frame Number options are enabled by default and values entered in Timecode fields are ignored. Disable the Frame Number options to use the In Timecode and Out Timecode values.
If Frame Numbers are used, the In Frame Number and Out Frame Number are offsets from the beginning of the clip. A Frame Number is considered invalid if it is negative or if it extends past the duration of the clip.

Note: Jobs complete successfully, and assets are created, even if a restriction was unable to be added to the database. This can occur, for example, if an Asset Restriction uses a non-existent frame number or timecode value. However, such failures with Production transactions in setting the asset metadata will not result in job failures.

Note: Unlike other Interplay Access metadata features, the following special characters are allowed ? : / \ " < > |.

Add Asset Locators. When enabled, allows the addition of frame locators and associated attributes for assets. These include Comment, Color, Timecode, Frame Number, and Track.

Add User Properties. When enabled, allows the addition of Avid User Properties. If the name of the User Property does not exist, it is created and populated with the associated value.

Note: When viewed in Interplay Access, copied clips may intermittently include a random number sequence appended to the display name (EX.*Dup_12345678*). Specifying 'Display Name' for Name in Add User Properties metadata field prevents this from occurring.

Physical File Settings

AAF File Location. Specifies the UNC path to Avid storage where the AAF file will be written. The typical pattern is \\<*servername*>\<*workgroup folder*>\<*filename*>. For example: `\\avidnexispro\Interplay2021\AAF\AAF File1.aaf`.

MXF File Location. UNC path to Avid storage where the MXF OP-Atom media files will be written. The typical pattern is *\\servername\workgroup folder\Avid MediaFiles\MXF\file*. For example: `\\avidnexispro\Interplay2021\Avid MediaFiles\MXF\MXF File1.mxf`.

Note: Initial MXF path name must include the **\Avid MediaFiles\MXF** string.

Delete AAF Sub-directory and Temporary Files. When checked, deletes the AAF files and temporary files after the media has been checked into Interplay. These files are not deleted if the job fails.

Create Unique Folder for AAF. When checked, creates a unique directory folder for the output AAF file.

Physical Directory Control. Specifies Limit Files per Directory | Do Not Limit Files per Directory.

 - *Limit Files per Directory*: When Limit Files per Directory is selected, specify the **Max Number of MXF Files in MXF Directory**. When the maximum is reached, a new directory is created with a numerical suffix (<dirname>.1, etc.) to store the next set of files. Range: 100 - 10,000. Default: 5,000.

 - *Do Not Limit Files per Directory*: When Do Not Limit Files per Directory is selected, there is no maximum.

Copy AAF File. Specifies Enable | Disable.

 - *Enable*: Specifies the **AAF Copy Directory** and option to **Overwrite Existing AAF File**.

 - *Disable*: Do not copy the AAF file. Local AAF file is temporary and disposed of per Vantage settings.

Note: If Overwrite Existing File is unchecked and a file with the same name exists in the destination directory, the job fails.

Asset Attributes

Master MOB ID. Specifies the master MOB ID for this asset.

Source MOB ID. Specifies the source MOB ID for this asset.

Disable Data Track in the Output. When checked, disables creation of a data track in the output.

Material Name. Specify Use Media Name | Override. This name displays as the asset's display name unless a non-empty tape name is configured.

 - *Use Media Name*. Input media name is used to configure the asset name.

Override. Overrides default asset name with the user specified value. When selected, complete this control:

Material Name. Specifies the name to use for the asset.

Note: To change the AAF folder name and filename use the Filename Pattern Editor to change the naming scheme.

Timecode

If the transcoded source uses drop frame timecode then output is drop frame. If transcoded source is non-drop frame then output is non-drop frame.

Timecode. Specifies timecode to use: Use Source Timecode | Override Timecode.

 - Use Source Timecode. Uses the source timecode detected in the media.

 - Override Timecode. Timecode detected in source file is used with no changes to the timecode in the output. When selected, provide **Override Timecode**. Specify the timecode, frame rate, and drop frame or non-drop frame notation to use.

Input Type

Input Type. Specifies input type: Tape | Import. Complete these controls as appropriate:

> **Tape Name**. When Input Type is *Tape*, specifies the tape name of the asset.
>
> **Import**. When Input Type is *Import*, specifies the source package name of the asset.


Note: While Avid strongly recommends using Import for file based digital media workflows, this method does not allow for the Tape name field to be used for relinking. Tape mode may be used for traditional dynamic relinking using the Tape field. Tape name data replaces the Asset Name set in the Vantage Filename Pattern Editor when not empty. To configure the Asset Name you must configure a User Property with the property name 'Display Name' along with the desired value. Consult the Avid Integration Guide for more details.

AAF Path. When checked, specifies the Path variable for use by downstream actions. Typically this is used in Open workflows to provide an intermediate AAF path while media files are still growing. The variable is set from the AAF action from the Input > Source > File name field.

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Avid Multi-Res Configuration using Flip64

The Media Creation action supports TIFO x264 inputs with an Avid compatible proxy format (up to 16 channels of MPEG-1 Layer 2 audio) and a compatible high-res format created by Flip64 (see Flip64 Settings for Avid Proxies).

Note: The Media Creation action supports TIFO files with MPEG-1 Layer 2 audio.
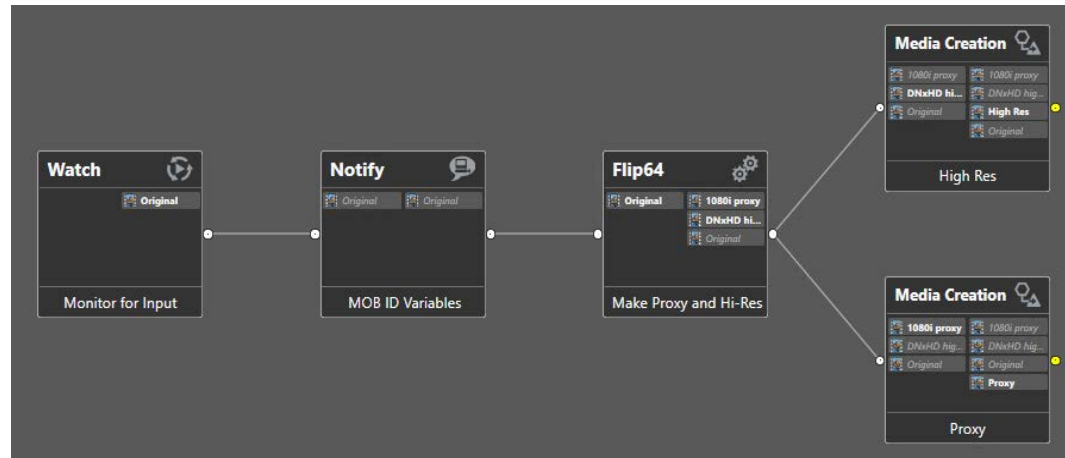
Avid Multi-Res Workflow using Flip64

- Watch Action—origin action.
- Notify Action—generates Master MOB and Source MOB ID variables. These variables are bound in the Media Creation actions and allow the high-res and proxy assets to be toggled using Dynamic Relinking in Media Composer.
- Flip64 Action—creates TIFO outputs, one for proxy and one for high-res.
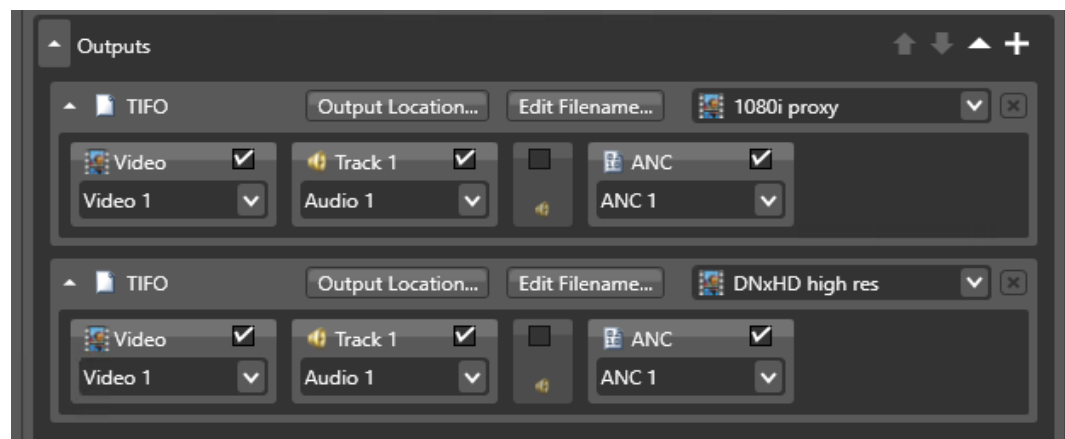
- Media Creation Actions—parallel actions (for proxy and high-res) for delivering assets to Avid systems.

Configuring the Notify action to generate Media Creation variables.

1. Select MOB ID Generator Notifier.

2. Configure to generate Master MOB ID and Source MOB ID variables.

Note: For workflows which use Capture instead of Flip64 to generate proxies, Master MOB and Source MOB ID variable generation is specified in the Capture action configuration so a Notify action is not required.

Configuring the Flip64 action x264 proxy TIFO output.

1. Create a Flip64 action configured with a TIFO output container.

2. For the Video track, select x264 from the Video Codec drop down and configure.

Note: Enter the x264 configuration settings detailed in the Flip64 Settings for Avid Proxies document available from Telestream.

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3. For the Audio track, select PCM or MPEG-1 Layer 2 audio. For PCM set the appropriate *Number of Channels, Sample Rate* of 48,000 Hz, and *Format* to 16 or 24 bits. For MPEG-1 Layer 2 audio, set *Channel Configuration* to Mono, *Bit Rate* to 48 kbps, and a *Sample Rate* of 48,000 Hz.

Configuring the Flip64 action high-res TIFO output.

1. Create a Flip 64 action configured with a TIFO output container.

2. Select a supported format from the TIFO container's Video Codec drop down. See *Media Creation Codec Support*.

3. Configure PCM audio, setting the appropriate *Number of Channels*, a *Sample Rate* of 48,000 Hz, *Format* to 16 or 24-bits.and the *Number of channels per track* set to 1.

Configuring the Media Creation proxy action.

1. Create a Media Creation action configured with a TIFO input container.

2. Set the Avid Picture Essence Coding Type to the appropriate proxy setting (800 kbps, 1.5 Mbps, or 2 Mbps). See *Specifying the Avid Picture Essence Coding Type* for required values.

Configuring the Media Creation high-res action.

1. Create a Media Creation action configured with a TIFO input container.

2. Set the Avid Picture Essence Coding Type to Auto. If ingesting AVCI 50/100 or XAVCI 50/100, select the appropriate value. See *Specifying the Avid Picture Essence Coding Type* for required values.

3. Bind the Master MOB ID and Source MOB ID variables, generated previously in the Notify action, in the Asset Attributes panel.

4. For both Media Creation actions, select Import (Source Package Name) for the Input Type in the Asset Attributes panel. See *Using Import vs. Tape Input types*.

5. Enter a value for the Source Package name. See *Guidelines for Multi-Res Input Type Name Management*.

Note: Import (Source Package Name) value specified must be the identical for both Media Creation actions.

Guidelines for Multi-Res Input Type Name Management

When working in a multi-res workflow, it is important to use Import (Source Package Name) properly. In particular, you should keep the following in mind:

1. Whenever you create a new Import (Source Package Name), Media Composer generates a new source ID, even if the name you type exactly matches that of an existing Import (Source Package Name). You cannot dynamically relink media that does not share a source ID.

2. Do not use the same name for two different assets or different names for the same asset. This will result in incorrect media association.

3. When using the Tape Name input type, do not use the Avid reserved tape name of *New Tape*.

4. Input Type names are case-sensitive (***inputname1*** and ***InputName1*** are considered distinct) so maintain a consistent naming convention throughout a project.

Note: Historically, using a tape name was common because most material was digitized from tape. For example in Avid Media Composer, creating a 'New tape' creates a new tape Source MOB ID. With most sources now being file based, the correct descriptor type to select is Import with specified Source Package Name. Depending on the descriptor type selected, Avid Media Toolkit follows slightly different rules for naming files and Master MOB IDs. It is not necessary to create a tape name to be able to set the 'tape name' property in the resulting media asset. For configuration details see *Using Import vs. Tape Input types*.

Dynamic Relinking

Avid uses the Input descriptor information to check whether one of the two media are proxies can be dynamically relinked or not. In the case of Dynamic Relinking using two Media Creation actions (one high-res, the other a proxy) the Input descriptors must be the same. This is best achieved by using a variable.

Note: Tape name data replaces the Asset Name set in the Vantage Filename Pattern Editor when not empty.


Using Import vs. Tape Input types

Avid strongly recommends using Import mode for file based digital media workflows, but this method does not allow for the Tape Name field to be used for relinking.

Tape mode may be used for traditional dynamic relinking but the Tape name value specified in the Media Creation action will replace the Asset Name set in the Vantage

Filename Pattern Editor (when not empty). In order to use Tape mode and properly configure the Asset Name and Tape name in Media Composer and Interplay Access, do the following:

- Enable **Interplay Asset Metadata** and check *Add User Properties*. Click Add New Item and set Name to the reserved value of *Display Name*. Provide a value (ex. *Name of the File*) or bind to variable which provides a value.

- Under **Input Type**, select *Import* and provide a value (ex. *Import*) or bind to variable which provides a value. Avid recommends using *Import*.

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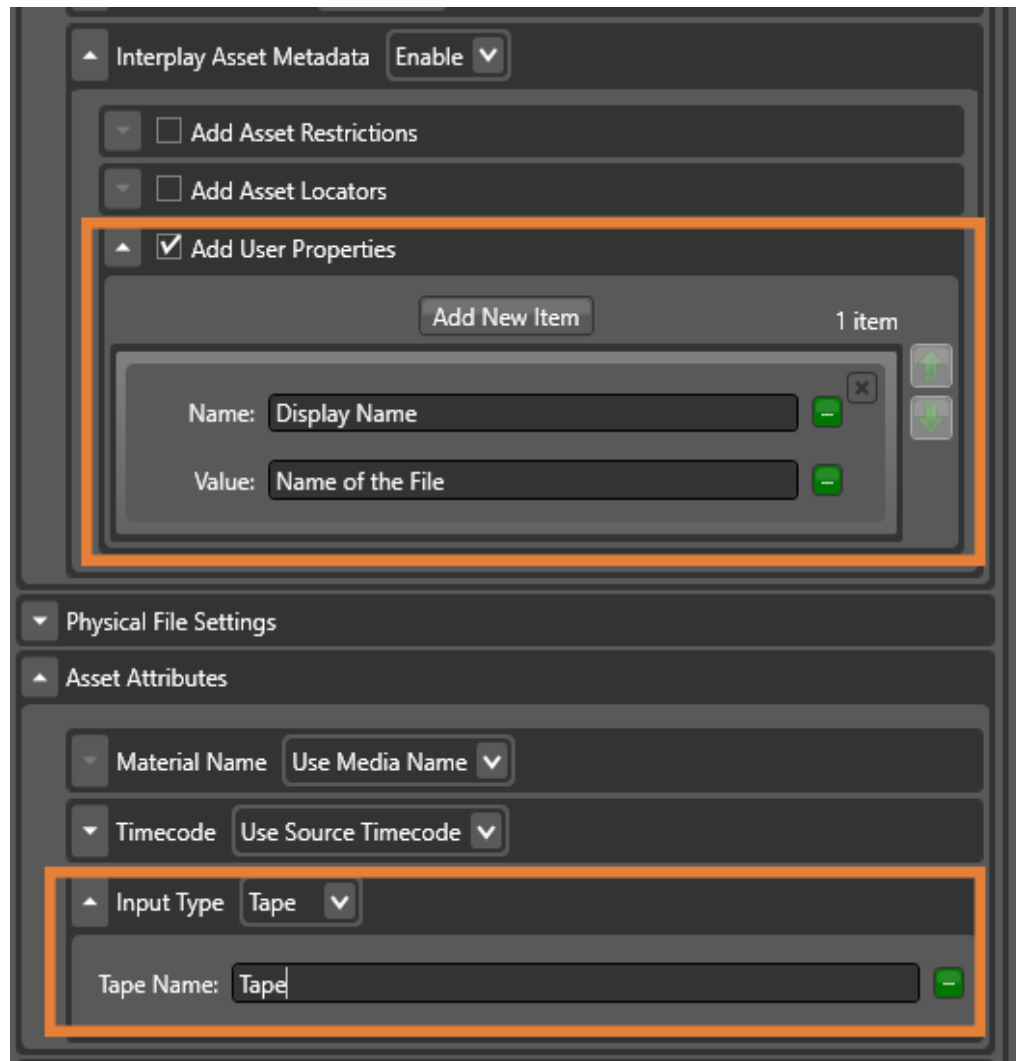
Requirements for Creating Proxies

Configuring the Resizing Filter in Flip64

For 720p 50/59.94 @ 2 Mbps proxies, the resizing filter in Flip64 must be used as indicated below.
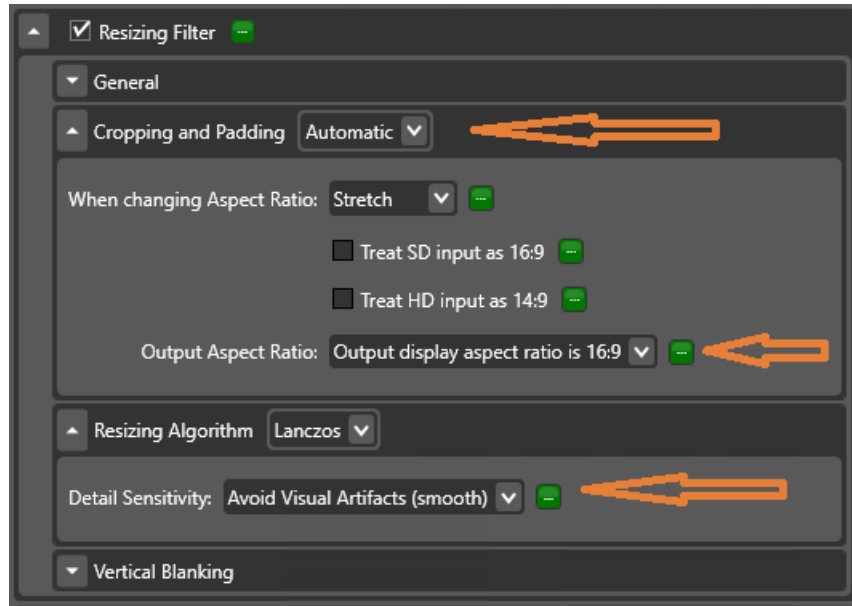
Specifying the Avid Picture Essence Coding Type

Avid Proxy Formats

In the Media Creation action under TIFO input, specify required Avid Picture Essence Coding Type for creation of Avid proxy formats. See Flip64 Settings for Avid Proxies and menu below for required settings.
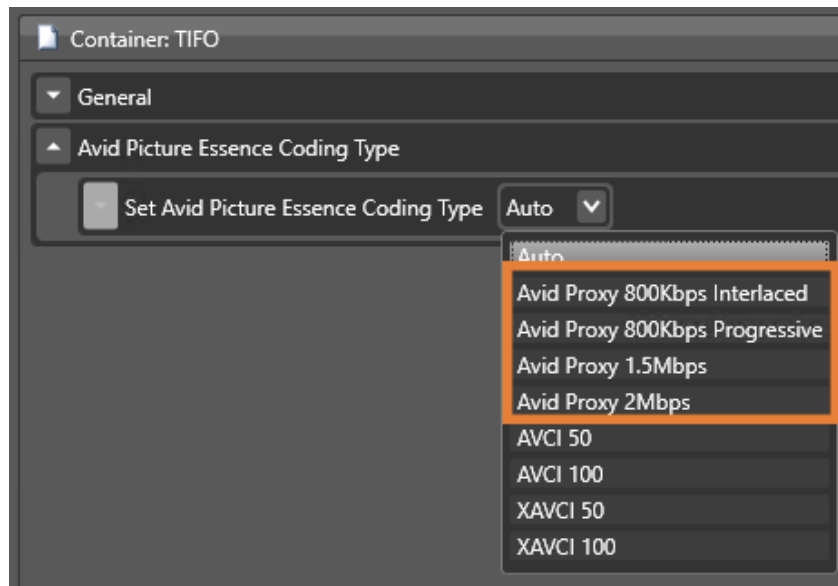
AVCI and XAVC Formats

In the Media Creation action under TIFO input, specify required Avid Picture Essence Coding Type for creation of AVCI and XAVC formats.

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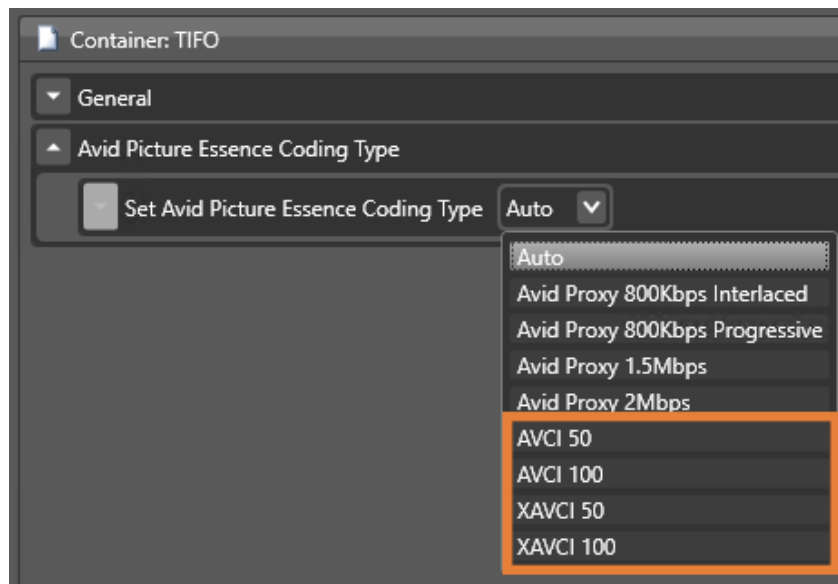
Note: When the input media does not have SMPTE RP2027 descriptors necessary for distinguishing AVCI from XAVCI formats, this configuration can be used to identify them correctly.

Creating MXF Files for Frame Chase Editing

To perform frame chase editing in Media Composer, you implement a Capture workflow with an AAF action to create the editable MXF files.

This chapter describes how the AAF action is implemented in Vantage.

Topics

Overview

The AAF action is implemented in the Vantage Avid Service. It ingests an AAF file and processes the MXF folder referenced in the AAF to create a file you can open in Media Composer for frame chase editing.

Avid Media Composer utilizes Persistent Media Record (PMR) files for information about the online status of file Media Object information (MOB).

Each PMR file provides an index in a form that an editor can quickly load all the file MOBs and their associated media files in the media directory in which the PMR file resides.

> **Note:** In order to perform Open Workflow, Frame Chase (Edit While Capture) processing of Media Creation outputs, you must bind the AAF Path variable (created in an upstream Media Creation action) to the Input Source File Name field. See Media Creation Action Configuration for details.

Configuring AAF Workflows

Typical AAF action workflow, with all actions set to Open mode:

- Capture action—Origin action captures live video, transcodes it and serializes it into a file.
- Media Creation action—Configured to rewrap the media for use in Media Composer with an AAF Path variable with Frame Chase editing mode enabled.
- AAF action—Configured for AAF input with Input Source File Name bound to AAF Path variable generated in the Media Creation action. Configure PMR Maintenance options as required.

> **Note:** Upon job initiation, the PMR update is performed almost immediately. This results in an action job status that indicates 100% along with the number of files processed. The job status will remain at 100% until creation of the AAF file is completed.

Frame Chase Editing with PMR/AAF

EDNOTE: This topic doesn't clearly specify what is being achieved.

Step 1 is not specific (similar to example) - what config must be changed to work as advertised? Enable Frame Chase Editing for example?

Submit a source ... is this a Live Capture workflow? If so step 2 - SUBMIT SOURCE is incorrect - you're capturing live video...

Can you use AAF w/o Capture for media in a file? Is it practical?

The AAF file created by the Media Creation action and ingested by the AAF action for PMR processing can be used for frame chase editing in Media Composer, without an Interplay | Production Management system.

1. Create an AAF workflow similar to the example workflow above.

2. Activate and submit a source to the AAF workflow.

3. From your Media Composer bin, import the output AAF file being generated by the workflow.

4. Edit While Capture/Frame Chase editing can now be performed.

5. Once the AAF workflow has completed in Vantage, re-import the AAF file into your Media Composer bin to close the asset.

Note: PMR workflows are only supported in single resolution configurations.

AAF Action Configuration

Input

Select. Select AAF and specify input source by file name or file nickname.

Output Media File Settings

Output Media File Nickname. Specifies the nickname for the output file.

Edit Filename Pattern. Opens the Filename Pattern Editor. Enter the complete filename or a portion of the filename, and use the drop-down menu on the right side to select one or more tokens to insert to create the exact filename pattern you require. You can drag and drop a token to change its order relative to other tokens, thus changing its location in the filename. You can use the following tokens:

- *Base Name*. The name of the file, without the extension.
- *Variable*. You select the variable to use.

The Variable token is replaced by the value it holds when the action executes. The variable should be set prior to execution of this action. For example, if a variable token ISCI is given the value *12H4JA678*, wherever the ISCI variable token appears in the filename pattern it is replaced with that value.

- *Date*. The current date at the time the filename is constructed. Change the date format using the drop-down menu.
- *Time*. The current time at the time the filename is constructed. Change the time format using the drop-down menu.

AAF Settings

PMR Maintenance

PMR Processing. Provides an index for the Media Composer application specifying the online status of MXF files in a shared media directory.   Options are None | Append | Rebuild.

- None. No PMR processing is performed. (Default)

- Append. Incrementally adds entries to the PMR file for the MXF files referenced by the input AAF media. The PMR files are created and maintained in that directory by the AAF action. Interoperability with PMR files created by other applications is not supported

- Rebuild. Deletes any existing PMR file in the directory and creates a new PMR file with entries for all the existing MXF files in the directory.

MXF Path Override. Override the location of MXF files referenced in the AAF file.

Project Name. Specify project name. Default is Vantage.

Performing Avid-Specific Media Processing

This chapter describes how to use Vantage's Notify and Identify actions in Avid MediaCentral | Production Management workflows. The Notify action has two functions for use in Production workflows: to create MOB IDs or perform various Avid operations. The Identify action enables you to extract MOB IDs for utilization in the workflow.

Note: The Media Creation action supports Frame Chase editing in single-resolution workflows, and in multi-resolution workflows when using Generate MOB ID. Select a Notify action's MOB ID Generator Notifier to create unique MOB IDs for use in Production workflows. The MOB ID Generator returns a MASTER MOB ID and a SOURCE MOB ID as Vantage variables.

Topics

- Creating MOB IDs for MediaCentral | Production Management Workflows
- Using MOB IDs in Workflows
- Metadata XML File Structure
- Configuring the Interplay Notifier's Web Services Host Connection
- Performing MediaCentral | Production Management Operations

Note: The Notify action can be added to any Vantage workflow. To create, configure, and manage workflows in Vantage, use the Vantage Workflow Designer. If you are not familiar with Vantage workflows, refer to the latest version of the Vantage User Guide located on the Telestream website.

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Creating MOB IDs for MediaCentral | Production Management Workflows

The purpose of the Master MOB ID in Avid is to uniquely identify a MediaCentral | Production Management asset. In the context of a Vantage workflow, you can generate a master or source MOB ID using the Notify action, depending on your workflow requirements. Master and Source MOB IDs are used to dynamically link files and metadata together to form an Production asset, acting as a unique identifier.

You need to place the Notify action prior to the Media Creation action so that the action has access to the variables holding the MOB IDs you generated.

To generate a MOB ID, you add a Notify action to the workflow Open the Notify action inspector and follow these steps:

1. Select the Notify action's MOB ID Generator Notifier:
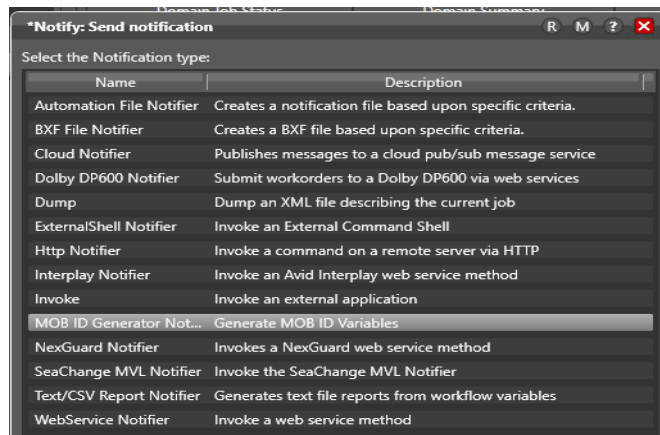
2. Check options to produce Master and/or Source MOB IDs and select the variables to hold the MOB ID values:
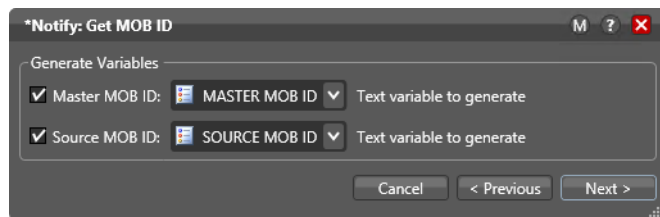
3. Click Next and then click Save to update the action and close the inspector.

The MOB ID variables can be used to populate MOB ID fields within the Media Creation action, and the Notify action's Interplay Notifier notification type.

For example, you can pass a MOB ID to a second Media Creation action to create additional media files that are associated with a Production asset. Or, you can pass it to a Notify action to interact with Production and perform a variety of operations on a Production asset by its MOB ID.

Using MOB IDs in Workflows

A MOB ID is a unique identifier in Production Avid MediaCentral | Production Management systems. In the context of Vantage, there are several ways to create a MOB ID:

- Explicitly, using the MOB ID Generator in a Notify action (see *Creating MOB IDs for MediaCentral | Production Management Workflows*).

- Automatically, via the Interplay options in the Media Creation action.

- Automatically, when creating Media Composer assets without checking them into Production. The MOB IDs can be accessed downstream in these workflows.

The purpose of a MOB ID is to provide a unique identifier to associate components to a Production asset, which often is comprised of a set of files of the same content in different formats, plus head frames, XML files, etc., all associated with the primary asset.

In the context of a Vantage workflow, the Vantage Notify action's MOB ID Generator function returns a MOB ID that can be assigned a variable, which can then be used in downstream actions. For example, you can pass it to a subsequent Notify action to interact perform a variety of operations on an asset by its MOB ID.

Note: Only in unusual circumstances should a MOB ID be entered manually. For example, when rectifying an error such as a failed transcode. When you manually enter a MOB ID, that workflow can only be used to modify assets of the MOB ID you specify.

Metadata XML File Structure

XML files are used within Vantage workflows for ingesting a wide variety of metadata into Avid environments with:

•The Notify Action's Interplay Notifier

•The Media Creation Action in Interplay mode

•The Media Creation Action in Media Composer mode

MediaCentral | Production Management Metadata XML

MediaCentral | Production Management metadata can be ingested using a simple XML schema structure supporting Avid User Property, Locator and Restriction metadata, shown in the example below. This applies to the Notify Action's Interplay Notifier, and Media Creation Action in Interplay mode.

```xml
<Metadata>
  <Entry>
    <Tag>Avid Property Name</Tag>
    <Value>Data for Property</Value>
  </Entry>
  <Locator>
    <Label>Comment for Locator</Label>
    <Color>Color for Locator</Color>
    <Timecode>Absolute TC</Timecode>
    <Username>username for WS/Interplay Server</Username>
    <Track>Valid video or audio track such as V1 or A1</Track>
  </Locator>
  <Restriction>
    <Comment>Avid Property Name</Tag>
    <InTimecode>Absolute In Timecode</Value>
    <OutTimecode>Absolute Out Timecode</Value>
  </Restriction>
</Metadata>
```

The schema consists of three element types:

- **Entry**—for adding Avid User Property data.
- **Locator**—for adding Avid Locator marker data.
- **Restriction**—for adding Restriction information.

The **Entry** element has child elements that contain data values:

- *Tag*—for the name of the Avid User Property.
- *Value*—for the Avid User Property data.

The **Locator** element also has child elements that contain data values:

- *Label*—for a comment for this locator.
- *Color*—for the display color for this locator (Red, Green, Blue, Cyan, Magenta, Yellow, Black, White).

- *Timecode*—for the absolute or relative timecode for this locator (hh:mm:ss;ff or hh:mm:ss;ff).

- *Username*—for the username used for Web Services or the MediaCentral | Production Management Server login.

- *Track*—for the identity of the video or audio track (for example: V1 or A1). Multiple Entry and Locator elements can be defined in the XML file.

The **Restriction** element has child elements that contain data values:

- *Comment*—for a comment for this restriction.

- *InTimecode*—for the absolute In Timecode for this restriction (hh:mm:ss;ff or hh:mm:ss;ff).

- *OutTimecode*—for the absolute Out Timecode for this restriction (hh:mm:ss;ff or hh:mm:ss;ff).

Multiple **Entry, Locator,** and **Restriction** elements can be added to the XML file.

Media Composer Metadata XML

Media Composer metadata can be ingested using a simple XML schema supporting AAF metadata that can be added to a Media Composer BIN when the AAF is imported. This applies to the Media Creation Action in Media Composer mode.

XML for Media Composer AAF Tagged Value Pairs

Here is an example of a Media Composer metadata XML file, with specified AAF tagged value pairs.

```
<Metadata>
  <AAFEntry>
    <Tag>AAF PropertyA</Tag>
    <Value>AAF CommentA</Value>
  </AAFEntry>
  <AAFEntry>
    <Tag>AAF PropertyB</Tag>
    <Value>AAF Commentb</Value>
  </AAFEntry>
  <AAFEntry>
    <Tag>AAF PropertyC</Tag>
    <Value>AAF CommentC</Value>
  </AAFEntry>
</Metadata>
```

The schema consists of a single type:

- **AAFEntry**—for adding Tagged Property data and values.

The **AAFEntry** element has child elements that contain data values:

- *Tag*—for the name of the AAF Entry Property.

- *Value*—for the AAF Entry Property data.

Multiple **AAFEntry** elements can be added to the XML file.
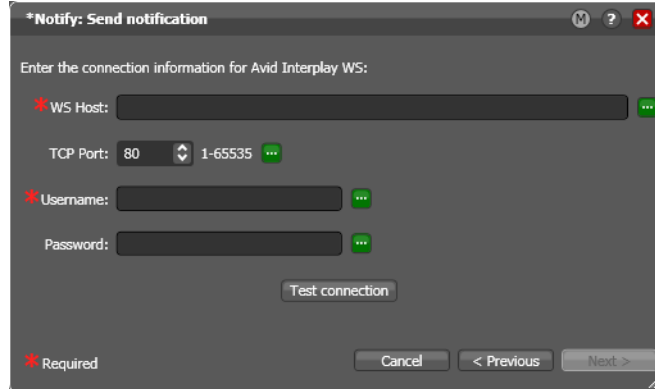
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Configuring the Interplay Notifier's Web Services Host Connection

To configure the Notify action's Interplay Notifier function to connect to your Interplay Notifier's Web Services host, display the Inspector and follow these steps:

1. Select the Interplay Notifier.
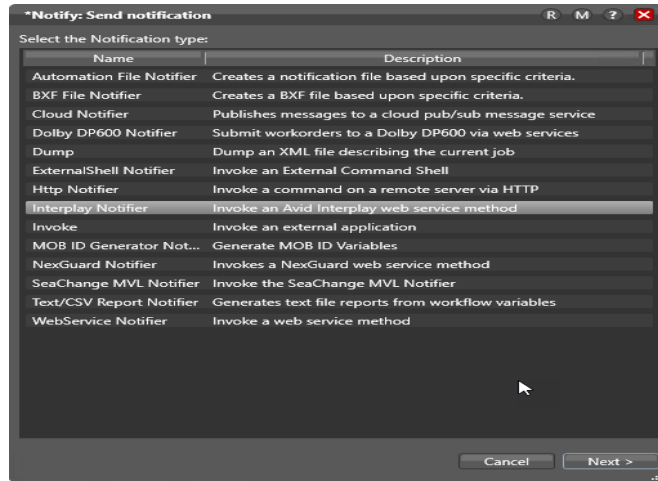
2. Click Next to configure connection details for Web Services.

3. Configure the following parameters for your system:

WS Host—specifies the URL or IP address of the Web Services host.

TCP Port—specifies the port number of the Web Services host you're connecting to.

Username and Password—specifies the username and password to connect with. (This is your Media Central | Production Management username/password).

Note: The Password field cannot be bound to a variable.

Test Connection—tests the WS Host settings. If they are correct and the Web Service is available, Vantage reports success. Otherwise, determine the problem and test the connection again. You can't continue until you have a successful connection.

4. Click Test Connection to verify your configuration and availability of the Avid Web Service.

5. Click Next to configure the action to perform the Production operation you require.

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Performing MediaCentral | Production Management Operations

After you've successfully configured the Notify action's Interplay Notifier to connect to your MediaCentral | Production Management Web Service, you can configure the action to perform various Production operations. Except for *Create Master Clip*, these operations all use a specific MOB ID (see *Using MOB IDs in Workflows*).

Here are the Production operations you can perform:

- *Create Master Clip*—creates a new, fully-formed master asset. Note that clips added to assets created using Create Master Clip cannot be Frame Chase edited.
- *Add Metadata to Clip*—adds metadata to the master asset (locators, user properties set in the Inspector, and from XML attachments). (Locator metadata can only be added after an asset contains at least one clip resolution.)
- *Extract Clip Metadata*—extracts metadata from the master asset.
- *Set Headframe*—creates a headframe image from the specified source.
- *Copy Clip*—copies an existing asset and optionally preserves the Master MOB ID of the source.
- *Move Clip*—moves the master asset.
- *Rename Clip*—renames Interplay assets.
- *Delete Clip*—deletes the master asset. (The media files are not deleted.)
- *Check In Graphic File*—checks in non-Avid assets, such as a JPG/PNG graphic file.
- *Check In AAF file*—checks in AAF files.

To perform a specific operation, select it. Next, complete the form for the operation you selected. Click Next and then click Finish to save and close the inspector.

Glossary

Throughout this guide and in numerous tools provided by Avid, various Avid specific terms are used as they relate to integrations with Vantage. This glossary details the terminology currently in use by Avid.

Avid User Applications

Avid Media Composer

An Avid non-linear editing program used for editing film and video.

Avid ProTools

Digital audio workstation used for music creation and production, sound for picture (sound design, audio post production and mixing) and, more generally, sound recording, editing and mastering processes.

Avid Interplay Access

Web-based client for MediaCentral | Production (Interplay | Production, Interplay) providing access to the Interplay workgroup from any location worldwide.

Avid Interplay Assist

Desktop video tool designed for operators to review and log video before it gets into the edit suite.

Avid Interplay Administrator

Administration control panel used in MediaCentral | Production environments.

Avid Link

Avid licensing, purchasing and update manager application used for a variety of Avid products. Also allows for creative collaboration, content sharing and promotion.

Avid NEXIS/ISIS Client Manager

This is the client software that gets installed on any system that needs access to Avid Media, including Vantage systems. The client is 'backwards compatible' so a new Nexis Client Manager release will generally work with older Isis hardware.

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Avid PathDiag

Diagnostic utility that allows validation of the Avid NEXIS storage group by quantifying the throughput (performance) of applications accessing Avid NEXIS workspaces including Vantage.

Avid Media Asset Management Systems

MediaCentral | Cloud UX

Work on MediaCentral news, editorial, production, graphics, and asset management projects and media from anywhere using a web browser.

MediaCentral | Production

The traditional Avid Production Management suite of tools, including Access and Assist, that is based on a product called 'Alien Brain'. This is the system that Vantage has traditionally integrated with over the years using AAF, IAE, Media Creation and Asset Monitor (aka Interplay Production, aka Interplay, aka PAM).

MediaCentral | Asset Management

The former Blue Order MAM system. Asset Management is a 'real' MAM designed for long term storage, cataloging and retrieval of media assets. Asset Management often works alongside Production, however our traditional integration has been with Production. Asset Management does have a back end Vantage integration, created and maintained by Avid, primarily for Proxy and web format creation. Vantage may have a supported path into Asset Management via MediaCentral based on NRE (non-recurring engineering) work performed for TV Globo this year (aka Avid Media Asset Management, aka MAM).

Avid Storage Systems

Avid ISIS 5000/5500/7000/7500

Older Avid storage systems and the 5000 and 7000 series are very different. 7000/7500 systems are fairly rare, expensive and difficult to manage. 5000/5500 are more common.

Avid NEXIS Pro

Current generation of the Avid storage platform with very different underlying hardware, however uses the same/similar network protocol and client software.

Avid Unity

Old, long EOL Avid storage systems. Not supported by Avid or Telestream.

Avid MediaCentral Production Components and Services

Avid MediaCentral Production Server

The database host and heart of the MediaCentral Production (aka Interplay Production, aka PAM) ecosystem. The database server in some cases may be more than a single server and in some cases may host other MediaCentral Production services. Telestream tools do not communicate directly with the Production server database.

Avid MediaCentral Web Services

The Web Services are the back-end web services which Vantage and other non-Avid Applications utilize for ingesting, monitoring and communicating with an Avid MediaCentral Production system. The web services may reside on a dedicated server or be hosted on another of the Production host system. In a purely Avid environment with no 3rd party applications there often is no Web Service host. There is also no limit to the number of web service hosts and in practice customers may have separate web service systems for the different 3rd party vendors (Telestream, EVS, Harmonic, etc). Vantage requires a properly configured web service host for MediaCentral Production integration (aka Interplay Web Services).

Avid MediaCentral Production – Media Indexer

The Avid MediaCentral Production Media Indexers are used to catalog and keep track of Avid Media files. A MediaCentral Production system will always have at least one dedicated Media Indexer but generally it is more common to see two of them which traditional was known as a 'HAG' (High Availability Group) but is now known as a NOMI (Network of Media Indexers). All Avid editor clients that are part of a MediaCentral Production environment also have a Media Indexer installed and running.

Note: Do not confuse Avid MediaCentral Media Index with Media Indexers. Media Index is a MediaCentral cataloging and searching tool and not something used with Telestream products.

MediaCentral Production Avid Service Workgroup

The name of the MediaCentral Production workgroup (aka Interplay Avid Service Workgroup).

MediaCentral Production 'Interplay Folder'

This is the virtual location of Assets within a MediaCentral Production system. This is not a file system location for media files, it is the location of assets within the MediaCentral Production (Interplay) database.

MediaCentral Transfer

MediaCentral Transfer (aka Transfer Engine, aka Transfer Manager, aka Interplay Transfer) is a tool used to automate the movement of media within a MediaCentral Production environment. This is a legacy application, however still fairly common.

iNews

Another MediaCentral editing tool used for news production.

Other Avid Products

Avid Airspeed

SDI ingest and playout device similar to Telestream's Live Capture product.

NuVista, Meridian, Adrenaline, Nitris and Artist IO

Various Avid SDI ingest and output hardware used in editors over the years. In some cases, like Meridian, that is also the codec that was used.

FastServe

Avid's broadcast server, similar to Omneon, Grass and Imagine playout servers.

Maestro

On-air graphics production systems.