Avid Integration Guide

For Vantage 6.3 UP5 or later
with
Telestream Media Transcoding & Analysis 2016.6+ or later
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Using the Asset Monitor Action 37

Overview 38
  Feature Summary 38
  Limitations 38
  Avid Version Requirements 39
  Telestream MP4 File Generation 39
  Metadata Preservation 40
  Typical Applications 40

Setting Up Interplay Access in Vantage 41
Using Telestream MP4 Files 42
Creating a Prototype Asset Monitor Workflow 43
Configuring an Asset Monitor Action 44
  Asset Monitor Settings 44
  Output Components 46
  Outputs Toolbar Icons 46
  Adding and Configuring Outputs 46

Using the Interplay Advanced Encoder 49

Overview 50
Transcoding Multi-Res Formats Plus H.264 Proxy 51
Transcoding Single-Res/Media Composer Formats 52
Configuring the Interplay Advanced Encoder 53
  Container Configuration 54
  Interplay Multi-Res and Single-Res Settings 54
    Web Services Settings 55
    Interplay Settings 55
  Physical File Settings and Asset Attributes for Multi-Res, Single-Res & Media Composer 56
    Physical File Settings 56
    Asset Attributes Settings 58
    Metadata Configuration Panel 59
    Headframe Configuration Panel 60

Example Workflows 61
  Simple Multi-Resolution Workflow 61
  Processing a News Feed with XML Metadata 62
  Keyframe Extraction for Interplay Access Workflow 64
  Processing Reuters News Feeds Workflow 66
Using the Avid AAF Encoder  69
Overview  70
Transcode/Direct Convert Formats  71
Transcode-only Formats  71
Configuring the Avid AAF Encoder  72
Interplay Container Configuration  73
General Settings  74
Avid Interplay Web Services Settings  74
Asset Attributes Settings  74
Physical File Locations Settings  75
Media Composer Container Configuration  77
Using the Avid AAF Encoder with Interplay  78
Required Avid Components  78
Required Information  79
Creating Interplay Assets  79
Using a Notify Action MOB ID Generator to Create MOB IDs  79
Using an Avid AAF Encoder Flip Action to Create a Master Asset  80
Example Workflows  81
Simple, Single-Resolution Workflow  81
Multi-Resolution & Keyframe Workflow (Parallel Workflow)  83
Multi-Resolution & Keyframe Workflow (Serial Workflow)  85
Processing a News Feed with XML Metadata Workflow  87

Using Notify and Identify Actions in Workflows  91
Creating MOB IDs for Interplay Workflows  92
Using MOB IDs in Workflows  93
Metadata XML File Structure  94
Configuring the Interplay Notifier's Web Services Host Connection  95
Performing Interplay Operations  97
Extracting a Master MOB ID  98

Using Vantage Playback Service for
Interplay | Transfer  101
Overview  102
Version Requirements  103
Avid Data Track Support  103
Transcode/Direct Convert Formats  103
Send to Playback & QuickTime Export Options  104
Implementing Avid-to-Vantage Media Processing Workflows  105
Supported Avid Interplay | Transfer Configurations  105
Avid Client & Transfer Engine on Dedicated Computers in Interplay ISIS Workgroup  105
Avid Client & Transfer Engine on One Computer—Shared Storage  106
Avid Client & Transfer Engine on an Edit Workstation with Local Storage  106
Installation Tasks  107
Installing the Vantage Playback Service  107
Configuring the Interplay Transfer Engine  109
Managing Transfer Engine Playback Devices  110
DVCPro HD Media  152
Sony XDCAM 4:2:2 50Mb Media  152
Sony XDCAM 4:2:0 Media  152
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The Avid Integration Guide helps Telestream’s Vantage users 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 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—Exporting Media to Vantage
- Pipeline—Network Video Capture and Playout
Overview

The comprehensive integration of Vantage with Avid systems 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 import and export processes faster, more automated, and less reliant on operator action. This illustration depicts the key Vantage-to-Avid and Avid-to-Vantage integration points.

Avid’s editing systems 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.

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

Note: In this guide, references to Media Composer generally apply to all three Avid editors: Media Composer, Newscutter, and Symphony. Throughout this guide, Avid Interplay—currently named Avid Interplay | Production—is usually referred to as simply Interplay. In the context of this guide, we use the informal phrase Frame Chase editing, referring to Avid’s Edit While Capture/Frame Chase feature.
Avid Product Integration in Vantage

Telestream provides Avid product integration in Vantage for workflows that utilize:

- The Asset Monitor action (Vantage 7.1 Update Pack 1 and later)
- Interplay Advanced Encoder (Vantage 7.0 and later, also qualified in Vantage 6.3 UP5 with Telestream Media Transcoding & Analysis 2016.6+)
- The following features or changes were implemented in Vantage 6.3 UP5:
  - Interplay Web Services Check-in
  - Avid Transfer Engine
  - The Interplay Advanced encoder and Avid AAF Encoder are in the Telestream Media Transcoding & Analysis Engine. You should always use the latest version. Contact Telestream Technical Support (Telestream Contact Information) for details.
  - Transfer Engine Send to Playback export to Vantage
  - Avid AAF Encoder (deprecated).
  - The Vantage Transcode Service’s Avid AAF Encoder (implemented by the Flip action) has been superseded by the Interplay Advanced Encoder and no additional Interplay | Production qualifications will be performed. All new qualifications, improvements and updates will be implemented in the Interplay Advanced Encoder.
  - Individual component installers available from the Telestream web site.
  - Telestream Media Transcoding & Analysis Engine
    - Supported Vantage versions require the Telestream Media Transcoding & Analysis 2016.6+ or later to obtain the Interplay Advanced encoder. Vantage 6.3 UP5 users must obtain and install it. For the latest supported components see the Avid Support Vantage Product Sheet on the Telestream web site.

For the latest supported components see the Avid Support Vantage Product Sheet on the Telestream web site.

These features have been tested with specific Avid versions and Vantage components:

- Asset Monitor and Interplay
- Interplay Advanced encoder and Avid AAF Encoder support for Avid Interplay
- Interplay Notifier (Notify Action) Support for Avid Interplay
- Transfer Engine Send to Playback
- Transfer Engine Ingest
- Media Composer
- Network Adapters for Avid Shared Storage—Vantage domain servers used with Avid shared storage must be equipped with an Avid-approved network adapter.
- International Character Support—Vantage fully supports multiple byte characters. However, some third party components or interfaces used within Vantage do not.
**Supported Avid Products and Implementations**

Vantage workflows can be integrated with the following Avid products:

- **Avid Interplay Asset Management Products**:  
  - PAM (Production Asset Management)—Vantage seamlessly integrates directly with PAM for both import and export.  
  - MAM (Media Asset Management)—Vantage workflows can ingest media exported from MAM. Contact Avid for further information about submitting media from MAM to Vantage workflows.

- **Avid ISIS**—Avid’s shared storage environment, a proprietary NAS device. The term *ISIS* as used in this guide should not be confused with older Avid Unity products.

- **Avid Interplay Transfer Engine (Interplay | Transfer)**—Interplay Transfer Engine (often referred to as *Interplay Transfer* or *Transfer Manager*) automates the transfer of media files in and out of Avid environments.

Vantage workflows can be integrated with the following Avid system implementations:

- Stand-alone Avid editing systems with local storage
- Avid editing systems with network attached shared storage such as Avid ISIS
- Avid editing systems with Interplay.

**Note:** Avid Interplay components installed with Avid editors must use the Interplay version qualified with the editing system. These include Media Indexer, Interplay Access, Interplay Framework, Interplay Transfer Client and ProEncode Client. For details, see *Avid Editing Application Compatibility with Interplay Releases* in the Avid Knowledge Base.
Vantage Version Requirements

This topic describes Avid integration features by Vantage version. You can use this list to determine what is the earliest version that provides the feature which you plan to use.

Vantage 6.3 UP5 and Later

The Interplay Advanced Encoder is implemented in Vantage 7.0 and later versions, but has been qualified in Vantage 6.3 UP5.

Note: Both Vantage versions require the Telestream Media Transcoding & Analysis 2016.6+ or later to obtain the Interplay Advanced encoder. Vantage 6.3 UP5 users must obtain and install it. For the latest supported components see the Avid Support Vantage Product Sheet on the Telestream web site.

Vantage 7.0 UP3 and Later

The Interplay Advanced Encoder in Transcoder 2017.8 is qualified with Vantage 7.0 UP3 and later versions.

Vantage 7.1 Update Pack 1 and Later

The Avid Service and its Asset Monitor action is implemented in Vantage 7.1 and later versions. Later versions of the Avid Service and Asset Monitor action, when released, are delivered in ComponentPacs.

Vantage Licensing Requirements

These Vantage components are enabled only with specific licenses:

- **Avid Service and Asset Monitor Action in Vantage 7.1 or later**—a Vantage Transcode Pro Connect with Avid Advanced option license
- **Interplay Advanced Encoder**—requires the following licenses (Transcoder 2016.12 or later):
  - For Media Composer: Vantage Transcode Pro
  - For Interplay: Vantage Transcode Pro Connect with Avid Advanced option
- **Avid AAF Encoder (deprecated)**—requires the following licenses:
  - For Media Composer: Vantage Transcode Pro
  - For Interplay: Vantage Transcode Pro Connect with Avid Advanced option
- **Avid Transfer Engine**—requires Vantage Transcode Pro Connect with Avid Advanced option.
• **MXF Encoder**—requires Vantage Transcode Pro.
• **Final Cut/Avid QuickTime Encoder**—requires Vantage Transcode Pro.
• **Notify Actions Interplay Notifier**—requires Vantage Transcode Pro Connect with Avid Advanced option.
• **Post Producer Compose and Conform Actions**—requires Post Producer.

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

• The **Vantage Playback Service**
• Processing media files exported from Avid Media Composer

Please contact your Telestream account manager or Telestream Customer Service (see *Telestream Contact Information*) for information about purchasing Vantage licenses.
Required Avid Components

The following components must be installed/configured by you (the customer) or Avid (Telestream cannot install or modify Interplay components or configurations):

- Avid Interplay Web Services must be installed and configured.
- The Avid ISIS client must be installed and configured on all Vantage domain servers deploying to Interplay, which is performed directly by the Telestream Media Transcoding & Analysis Engine.
- The workspace/directory must be indexed by the Avid Media Indexer.
- AAF Temp File Location. See Configuring the Interplay Advanced Encoder and Configuring the Avid AAF Encoder for details.
- MXF file location. This must be on an indexed Interplay Workspace. See Configuring the Interplay Advanced Encoder and Configuring the Avid AAF Encoder for details.

Required Information

Prior to Vantage workflow implementation, you (the customer or Avid) must have the following information:

- ISIS username and password
- ISIS workspace/directory
- Interplay Web Services host name
- Interplay Web Services port number
- Interplay username and password. (This may or may not be the same as the ISIS username and password.)
- Avid Service Framework Workgroup (ASF Workgroup) name.

Note: Always connect to Interplay and Web Services using a fully-qualified DNS name, which is registered with Forward and Reverse look up tables in DNS.
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 Support Vantage Product Sheet on the Telestream web site. Or, contact your Avid system administrator or contact Avid directly.

International Character Support

Vantage’s foundation and architecture fully supports multiple byte characters. However, some third party components or interfaces used within Vantage do not.

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

- *Interplay Advanced/Avid AAF Encoder*—The Avid Media Toolkit use in these encoders to communicate with Avid systems does not fully support multiple byte characters.
- *Notify and Deploy Actions*—Some Avid Interplay components have restricted multiple byte character support, which affects how Notify and Deploy actions can interact with them.

See the following Avid Interplay publications for more details:

- *Avid International Character Support (ICS)*
- *Media Composer*
- *Interplay | Production v3.7.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. An ever increasing 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.

The media usually requires transcoding for conversion to house standards. Media may also require aspect ratio, frame rate conversion, or other 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:

- Interplay Advanced Encoder
- Avid AAF Encoder (deprecated)
- Avid Transfer Engine
- MXF Encoder
- Final Cut / Avid QuickTime Encoder and QuickTime (Telestream) Encoder
- Legacy Avid-Compatible Encoders

Interplay Advanced Encoder

The Interplay Advanced encoder is implemented in the Flip action to produce MXF OP-Atom media with integrated delivery to ISIS/Interplay PAM systems for import into Avid Media Composer. The Interplay Advanced encoder eliminates the need for a separate Notify action in the workflow, except when additional file operations are required.

The Interplay Advanced encoder also includes integrated metadata processing, head frame input, and integrated delivery via Avid Media Toolkit, eliminating the requirement for a separate Notify action.

The encoder can be configured to create single or multi-res assets with these options:

- **Interplay Single Resolution**—for creating a high or proxy resolution media asset and checking it into Interplay.
- **Interplay Multi-resolution**—for creating high resolution media while simultaneously creating an H.264 proxy media file and checking them into Interplay.
  
  Both configurations support Frame Chase editing, adding User Property and Locator metadata, and setting a head frame within Interplay.

- **Media Composer**—for creating high or proxy resolution media assets in Avid environments without Interplay.

The Preserve Ancillary Data into SMPTE 436M data track option preserves ancillary data in the source by creating an MXF Op-Atom data file.

**Note:** For implementation and application details, see *Using the Interplay Advanced Encoder*.

Avid AAF Encoder (deprecated)

**Note:** The Vantage Transcode Service’s Avid AAF Encoder (implemented by the Flip action) has been superseded by the Interplay Advanced Encoder. No additional Interplay | Production qualifications will be performed on the Avid AAF Encoder. All
new qualifications, improvements and updates will be implemented using the Interplay Advanced Encoder.

The Avid AAF Encoder is implemented in Vantage in the Flip action. You can use the Avid AAF Encoder in workflows to produce single and multi-resolution Avid-compatible MXF OP-Atom media. The media is delivered to Avid shared storage (where it is accessible to Media Composer) using the same Vantage workflow.

In a multi-resolution workflow, after the media is fully ingested into Avid, an operator can switch to low-res format to conduct edits.

The Avid AAF Encoder can be configured to operate with Media Composer or Interplay.

- **Media Composer**—the Avid AAF Encoder creates Avid MXF Op-Atom media (video and audio) files along with an accompanying AAF file. The media files can be added to a project bin by importing the AAF file using any of Media Composer’s import methods.

- **Interplay**—you can encode and save Avid MXF Op-Atom media files directly to Avid shared storage (such as ISIS and automatically check them into Interplay. Frame Chase editing is also supported. In addition, media contains MOB ID data that can be extracted for use by downstream Avid AAF Encoder actions or other Vantage actions that require them.

The Avid AAF Encoder offers direct integration with an Avid Interplay environment and can be used as a functional alternative to the Avid Transfer Engine Encoder.

**Note:** For format support, and implementation and application details, see *Using the Avid AAF Encoder.*

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**Avid Transfer Engine**

The Avid Transfer Engine, implemented in the Flip action, is a legacy encoder for creating temporary video, audio and data files for delivery to an Avid Transfer Engine, without requiring Avid Interplay. Delivery is performed via a Deploy action in the workflow and requires that the Vantage Component for Avid Interplay Transfer Engine is installed.

**Note:** For format support, and implementation and application details, see *Ingesting Media into Avid via Interplay Transfer Engine.*

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**MXF Encoder**

The MXF encoder is implemented in the Flip 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.

**MXF Formats**

These formats may be restricted by your container selection:

- AVC Intra 50/100 720p/1080i/1080p
- DNxHD 720p/1080i/1080p
- DV/DVCPRO NTSC/PAL
- DVCPRO HD 720p/1080i
- IMX 30/40/50 NTSC/PAL
- XDCAM HD 4:2:0/4:2:2
- XDCAM HD EX 720p/1080i/1080p

**Note:** For information on using this encoder, display the associated help topic. In Workflow Designer, open a workflow with a Flip action (or create one and add a Flip action). Click the Inspector icon (upper left corner of the Flip action) to display the inspector. Select the MXF encoder and click the M button (upper right corner).

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**Final Cut / Avid QuickTime Encoder and QuickTime (Telestream) Encoder**

The Final Cut / Avid QuickTime encoder and the QuickTime (Telestream) encoder are implemented in the Flip action to create QuickTime media intended for use in Avid and Final Cut Pro editing systems. Files created by these encoders can be added to an Avid bin through the Avid QuickTime AMA plug-in or via an Import function. The Avid QuickTime AMA plug-in does not read or import Closed Caption tracks.

**Final Cut / Avid QuickTime Encoder**

- AVC Intra 50 and 100
  - 720p23.93/50/59.94
  - 1080i25/29.97
  - 1080p23.98
  - Same as Source
- DNxHD
  - 720p23.976/25/29.97/50/59.94
  - 1080i25/29.97
  - 1080p23.976/24/25/29.97
  - Same as Source
- DV/DVCPRO NTSC/PAL
- DVCPRO HD
  - 720p50/60
  - 1080i50/60
  - 1080p23.98
  - Same as Source
- HDV
  - 720p24/25/30/50/60
  - 1080i50/60
  - 1080p24/25/30
  - Same as Source
- IMX 30/40/50 NTSC/PAL
- ProRes 422 NTSC/PAL
- ProRes 422 HD
  - 720p23.976/24/25/50/60
  - 1080i50/60
  - 1080p23.976/24/25/29.97
  - Custom
- XDCAM HD 4:2:0 17.5/25/35 Mbps
  - 1080i50/60
  - 1080p24/25/30
  - Same as Source
- XDCAM HD 4:2:2 50 Mbps
  - 720p23.98/50/60
  - 1080i50/60
  - 1080p23.98/25/29.97
  - Same as Source
- XDCAM HD EX 35 Mbps
  - 720p24/25/30/50/60
  - 1080i50/60
  - 1080p24/25/30
  - Same as Source
- x264 H.264 - Custom
QuickTime (Telestream) Encoder

- DNxHD
  - 720p23.976/25/29.97/50/59.94 up to 440 Mbps
  - 1080i25/29.97 up to 220 Mbps
  - 1080p23.976/24/25/29.97/50/59.94/60 up to 440 Mbps
  - Same as Source
- IMX (D10) 30/40/50 NTSC/PAL
- ProRes 422 HD 4444, HQ, SQ, LT, Proxy
  - Custom
- XDCAM HD 4:2:2 50 Mbps
  - 720p23.98/50/60
  - 1080i50/60
  - 1080p23.98/25/29.97

Note: For information on using these encoders, display the associated help topic. In Workflow Designer, open a workflow with a Flip action (or create one and add a Flip action). Click the Inspector icon (upper left corner of the Flip action) to display the inspector. Select either encoder and click the M button (upper right corner).

Legacy Avid-Compatible Encoders

This guide describes the most commonly utilized Vantage encoders used for producing Avid-compatible media. Vantage also provides several other encoders that are capable of creating Avid-compatible QuickTime and MXF media files. (Other encoders that produce Avid-compatible media may also be used in your Avid workflows.)

The best method for selecting the proper encoder and codec for a given application is to create a test workflow and run several test jobs through it, making modifications as necessary to see if it meets your encoding and delivery requirements.

In addition to the encoders discussed in this guide, Vantage provides encoders for supporting legacy Avid formats.

- Avid MediaStream encoder—creates files in MSS format, which are used by Avid MediaStream video servers.
- Avid OMF encoder—generates OMF files for use with Avid editing systems.
- Avid Vortex encoder—creates AVI files that are compatible with the Vortex News editing system.
- QuickTime Encoder—including legacy Avid codecs and many other codec types, including 1:1x, AVmp, DV, DV100, ABVB Board, Meridien Interlaced, Meridien Interlaced, Meridien Progressive, and NuVista Board codecs.
Note: These encoders are not described in this guide. For details about their use and implementation, open Workflow Designer, and create a workflow. In a Flip action, select the codec. Open the inspector and display its help page by clicking the M button in the upper right corner of the main window.

MOB ID Generator and Interplay Notifier

Use the Notify action, configured with a MOB ID Generator or Interplay Notifier, to perform the following functions:

- Generate a MOB ID
- Create a master clip in Interplay (legacy function)
- Add metadata to an Interplay clip
- Extract clip metadata from the master asset for use in Vantage workflows
- Set a head frame in an Interplay clip
- Copy a clip in Interplay
- Move a clip in Interplay
- Delete a clip from Interplay.

Note: For implementation and application details, see Using Notify and Identify Actions in Workflows.
Avid to Vantage—Exporting Media to 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 all distribution platforms. For example, Vantage workflows can be used to automatically ingest Interplay sequences and master clips, and to create media in distribution platform formats for Broadcast, cable/VOD, IPTV, online/mobile, and multi-screen viewing.

The output of Avid editorial 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.

Topics
- Automatically Ingesting Sequences|Master Clips from Interplay
- Accessing Avid Unity Storage
- Using the Vantage Playback Service for Avid Interplay Transfer Engine
- Processing QuickTime Movies Exported from Media Composer
- Processing MXF OP1a Files Exported from Media Composer
- Processing Simplified AAF Files Exported from Media Composer
- Encoding Formats
- Pipeline Wrappers
Automatically Ingesting Sequences|Master Clips from Interplay

The Asset Monitor action is designed to monitor a virtual folder in Interplay for both master clips and sequences perform same-as-source-conversion, assembling the media as quickly as possible for processing by downstream Vantage actions; typically production transcoding and related tasks.

Asset Monitor actions create an MP4 media file that references MXF OPAtom files located on Avid shared storage for that asset and may also include additional transcoded media. The MP4 file also includes VANC data extracted from the Interplay assets data track. Additionally, a metadata XML file containing the Interplay asset’s user metadata is generated. The MP4 reference file and associated XML file can then be processed by downstream Vantage actions for transcoding and metadata extraction.

Note: For implementation and application details, see Using the Asset Monitor Action.
Accessing Avid Unity Storage

Access to legacy Avid Unity storage systems is implemented in Vantage workflows via the Watch and Associate actions. You configure them to use the Avid File Detector. These Avid monitors are typically used for monitoring shared storage, generally in a mixed platform (OSX and Windows) environment, for media to be processed in Vantage.

You can use these actions to ingest QuickTime, OMF, OMFI, and MXF files from Editorial. (The Avid File Detector automatically flattens QuickTime reference movies.)

Using the Vantage Playback Service for Avid Interplay Transfer Engine

The Vantage Playback Service for Avid Interplay Transfer Engine is a Windows service installed on an Avid Transfer Engine server, for sending I-Frame media to Vantage workflows. Vantage Playback Service enables editors using Avid editorial products with Interplay Transfer Engine to save edit sequences as Telestream Intermediary Format (TIFO) files so that they can be processed by Vantage while the file is being written.

Avid Data Track Support

- 608/708 captions
- XDS data
  - Program Name
  - V-Chip/Content Advisory Information
  - Ratings
- Active Format Description

Transcode/Direct Convert Formats

- AVC Intra 50/100 720p, 1080i, 1080p
- DNxHD 720p/1080i/1080p
- DV/DVCPRO NTSC/PAL
- DVCPRO HD 720p/1080i
- IMX 30/40/50 NTSC/PAL
- Up to 16 audio channels

Note: 10-bit mastering quality video is processed as Full Quality (8-bit) by Vantage.

Note: For implementation and application details, see Using Vantage Playback Service for Interplay | Transfer.
Processing QuickTime Movies Exported from Media Composer

You can export clips or sequences from Avid edit systems as fully-contained QuickTime movies or as QuickTime reference movies for transcoding in Vantage.

QuickTime Reference Movie Export Requirements

When exporting reference movies, the following requirements apply:

- Audio is restricted to 2 channels
- Enable Flatten Video Tracks
- Enable Fill Spaces with Black
- Enable Render All Video Effects
- Enable Premix Audio Tracks
- Clips and sequences must contain a single video or audio essence type—mixed-codec sequences are not supported.
- The timeline must not contain long-GOP media, with the exception that XDCAM long-GOP is supported using the Telestream decoder in Transcoder 2016.7 or later.

Note: Data tracks are not exported in Avid QuickTime movies.

Processing MXF OP1a Files Exported from Media Composer

You can export clips or sequences from Media Composer as MXF OP1a files such as XDCAM, AS-11, or DNxHD for transcoding in Vantage. An MXF OP1a export can be performed using Media Composer’s Export, AMA File Export, and Send to FTP functions. For details on configuring and using these Media Composer functions consult the appropriate Avid documentation or your Avid representative.

The following MXF OP1a file types exported by Avid Media Composer methods can be processed in Vantage workflows:

Avid Export (Media Composer 7 and later)
- XDCAM HD, with 8 channels of audio

Avid AMA File Export (Media Composer 8 and later)
- AS-11
- DNxHD

Note: These media format can include an Avid Data track as a SMPTE 436M track.
Processing Simplified AAF Files Exported from Media Composer

You can export flattened, mixed-down and simplified AAF files from 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.
Pipeline—Network Video Capture and Playout

Telestream’s Pipeline is a network-based SDI video capture device that provides a platform for ingesting live or tape sources into Vantage to simultaneously create a high-res file for storage while creating a low-res proxy plus any number of additional file formats.

Pipeline provides direct support for MXF OP-Atom and OP1a media, and can connect directly into Avid Interplay/ISIS systems.

Encoding Formats

- DV25/50
- DVCPro25/50/HD
- IMX 30/40/50
- Apple ProRes 422 SD/HD up to 220Mb
- Avid DNxHD, up to 220Mb 10-bit.

Pipeline Wrappers

There are several ways to create files with a Pipeline System that can be used in Avid Media Composer systems. Wrapper selection is made in Pipeline Control, using the Wrapper menu:

![Pipeline Control Interface]

Here is a list of Pipeline wrappers and how they can be used in an Avid Environment:

**QuickTime (DV|DVCPro[25\50]|DVCProHD|IMX|DNxHD|ProRes)**

Files made with Pipeline’s QuickTime wrapper can be added directly to an Avid Media Composer via Avid’s built-in QuickTime AMA plug-in.

Avid AAF + MXF without Interplay (DV/DVCPro, DVCProHD, IMX, DNxHD)

Files made from Pipeline’s Avid AAF + MXF wrapper can be added directly to Avid Media Composer via Media Composer’s Media Tool or via the accompanying AAF file using Media Composer’s Import function.

Avid AAF + MXF with Interplay (DV/DVCPro, DVCProHD, IMX, DNxHD)

Files made from Pipeline’s Avid AAF + MXF wrapper (Interplay workflows) can be written directly to Avid shared storage and automatically checked into Interplay using Pipeline’s Interplay configuration settings. When using this scenario, captured files can be edited while being captured via Avid’s Frame Chase Editing.

MXF (OP1a) (DV/DVCPro, DVCProHD, IMX, DNxHD)

Files made with Pipeline’s MXF OP1a wrapper can be added directly to an Avid Media Composer via Avid’s MXF AMA plug-in.


MXF (OP-Atom) (DV/DVCPro, DVCProHD, IMX, DNxHD)

Files made with Pipeline’s MXF OP-Atom wrapper can be added directly to an Avid Media Composer via the Media Composer’s Media Tool.
Using the Asset Monitor Action

This chapter describes how the Asset Monitor action is implemented in Vantage, and how you can use it to automatically ingest master clips and sequences as they are added to a virtual folder in Interplay to quickly and efficiently generate a Telestream MP4 reference media file (with video, audio and ANC data) plus an external metadata file for processing by downstream actions or other workflows.

Topics

- Overview
- Setting Up Interplay Access in Vantage
- Using Telestream MP4 Files
- Creating a Prototype Asset Monitor Workflow
- Configuring an Asset Monitor Action

Note: The Asset Monitor action is available in Vantage 7.1 Update Pack 1 and requires a Vantage Transcode Pro Connect with Avid Advanced option license. When installing later versions of the Asset Monitor action, follow instructions in the Vantage Domain Management Guide, under the Installing ComponentPacs topic. For information on secured version control and ComponentPacs, see the app note entitled Using Vantage Secured Version Control.
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: It monitors a user-specified virtual folder on the target Interplay database for new master clips and sequences and then creates a Telestream MP4 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 file 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 on the Vantage domain server. 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:

- Queries for master clips and sequences referencing master clips; ingests and produces a Telestream MP4 file
- If a sequence’s time-line contains gaps, the Interplay Monitor action replaces the gaps with black and silence.
- Supports Mixed Essence and Filler
- Supports the inclusion of the Data Track in its output files
- Supports up to 16 channels of rendered audio
- Can be used as a replacement for traditional file exports from Media Composer (such as QuickTime Reference or MXF OP1a)
- Has the same media render requirements as traditional file export methods
- Requires a fully flattened/rendered timeline

Note: For best results, use an isolated Interplay folder for monitoring or use a sub folder under your 'bin' folder. All assets including the bin must be checked in to Interplay.

Limitations

Here is a summary of Asset Monitor action limitations.
The Asset Monitor action...

- Is not a Transfer Engine replacement
- Does not support sub-clips
- 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
- Does not detect offline, partially-offline or proxy-only media assets.

Avid Version Requirements

The Asset Monitor requires the following Avid component versions:

- Interplay 3.5 or later
- Avid Media Composer 8.2.13 or later
- ISIS/Nexis Client v4.7 or later

Telestream MP4 File Generation

The Asset Monitor action creates a Telestream MP4 media file that references MXF OPAtom files located on Avid shared storage for the asset and may also include additional transcoded media. The file also includes VANC data extracted from the Interplay assets data track. In addition, a metadata XML file containing the Interplay asset's user metadata 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.

By default, the Asset Monitor action uses the resolution of the first clip in a mixed-resolution sequence. The samples from subsequent clips that differ in codec/resolution are transcoded into the sequence's resolution and added to the MP4 media file. Otherwise, only the references to MXF files in the shared storage drive are saved in the MP4 file.

The action can decode a wide array of Avid formats, including DV, DVCPro, DVCProHD, IMX, DNxHD, DNxHR, XDCAM, XAVC, AVC-Ultra LongG and AVC-Intra. Sequences containing mixed video modes such as HD with SD or clips set to the project format but of different codec types such as XDCAM with DNxHD are also supported.

Note: The Avid.7.1.2.243042 ComponentPac must be installed to use the Asset Monitor action in Vantage 7.1 UP1 (Vantage_7.1_UP1_Setup_7.1.342.0.exe installer).
Metadata Preservation

Most Interplay systems have been developed with a specific and often complex Interplay schema for metadata storage and manipulation within an Interplay Workgroup, and contain asset-based metadata including custom user properties.

The metadata associated with an asset stored in the Interplay database is preserved by the Asset Monitor action within a metadata XML file. All VANC 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 will be 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 Interplay Metadata output file. The values for the custom user attributes defined for that Interplay 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 set to the Project format using a single codec type of the same quality level (such as XDCAM HD 4:2:2@50Mbps) then the action performs same-as-source-conversion. The resulting output is a reference file pointing directly to the asset's MXF OPAtom files residing on the Avid 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 these situations, simply performing same-as-source-conversion isn't possible. In a mixed-mode asset, the Asset Monitor action selectively converts media segments to match the format and codec type used in the first clip 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 and silence.
Setting Up Interplay Access in Vantage

When you add an Asset Monitor action to a workflow, it must be configured to utilize a specific Interplay system by name. Before you can configure an Asset Monitor action, you need to create an Interplay connection in the Vantage Management Console.

Once the connection to the Interplay system has been created, you can create workflows with an Asset Monitor action. Using an Interplay connection, the Asset Monitor action supplies the target Interplay system with the required credentials and communicates with the Interplay server to detect new media.

To configure an Interplay connection and test it, follow these steps:

1. Start the Vantage Management Console.
2. In Components > Settings & Options, display the Interplay tab.
   Vantage displays the Interplay configuration panel where you can create, configure, delete, and import and export Interplay connections:
   
   ![Interplay Configuration Panel]

3. Create and configure a connection, providing the following information:
   - Connection Name (to be used in the Asset Monitor Action)
   - Interplay Web Services Host
   - Interplay Web Services Port
   - Interplay Workgroup
   - Interplay Username
   - Interplay Password

   For details on configuration and managing connections, click the ? icon and find the Configuring Interplay Settings topic in the Domain Management Guide.

4. Click Test to confirm that Vantage can access the Interplay server. If you have problems, determine the issue and retry.
Using Telestream MP4 Files

These are the requirements for processing or playing Telestream MP4 files created by the Asset Monitor action:

- Vantage workflow actions ingesting (reading) the file must use the Telestream decoder option
- Switch 4.0 or later is required to play these files. Switch can process closed captions and other metadata included in the MP4 files output by the Asset Monitor.
- Any system processing or playing these MP4 files must have fully-authenticated access to the media files located in the Avid shared storage (ISIS/NEXIS).
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 Avid media 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 Interplay system for new sequences or master clips and initiates a job in Vantage. The ingested media is transcoded into an MP4 Reference file (*Using Telestream MP4 Files*) and the associated metadata is inserted into an XML file.

**Flip**—Configured with the Interplay Advanced encoder and Interplay Multi-Res, the action creates a DNxHD high-resolution file.

**Deploy**—Configured to deliver the DNxHD 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 Interplay systems you are using. If you haven’t already created at least one Interplay connection, perform that task now (Setting Up Interplay Access in Vantage).

**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.

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

1. Specify the Interplay 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 Interplay connection to use, which identifies Interplay server that this action should monitor for new assets to ingest.

**Interplay Folder.** Specifies the full Interplay folder path that Vantage should monitor for incoming media. For example: Incoming Media/Pacifica Project/Dailies/Pacifica Proj Bin/Monitor. For best results, use an isolated Interplay folder as the target folder. Or, use a sub-folder under your bin directory.

**Note:** Interplay folder names are case sensitive and should be entered exactly as shown in Avid Interplay Access or other Avid Interplay programs.

**Master Clips.** When checked, specifies that new master clips will be ingested for processing; otherwise they will be ignored.

**Sequence Assets.** When checked, specifies that new sequence assets will be ingested for processing; otherwise they will be ignored.

**Ignore Custom User Attributes.** When checked, specifies that custom user data (metadata with control characters) has been enabled in the Interplay Workgroup, creating non-compliant XML, which can not be processed in Vantage. Check this box when duplicated metadata has been detected during job processing (see Job Status tab).

**Asset Name Pattern.** String supplied to Interplay for filtering. The Asset Name pattern is a regular expression of the asset display name. It is passed through to the Interplay Web Service. For example: .*rain.*.
**Asset Persistence.** Specifies a path to an XML file—a valid UNC or drive-letter path—and the name of a processed assets XML file (one for each workflow. For example, `\MyVantageDomain\AssetPersistence\persistence.xml` or `D:\AssetPersistence\persistence.xml`.

**Note:** In a distributed domain, unless you limit each workflow to a specific Vantage Avid Service you must use a share; in a stand-alone domain, you can use a drive-letter.

The processed assets file is an XML file that tracks Interplay assets that have been processed, so that assets that have already been processed are not re-processed when a new scan occurs. Each entry contains a timestamp. If you make a change to an asset, the last-modified timestamp is updated so that asset can be reprocessed.

Follow these steps to create a processed assets XML file for each workflow:

1. Create a destination folder on the Vantage server where your XML file will be used and enter the path into the Asset Persistence field.
2. Manually add a filename with XML extension following the folder path. Example: `D:\AssetPersistence\persistence.XML`.
3. After the action has been configured (as described following), activate the workflow.
4. When the workflow is activated, it automatically creates the asset persistence XML file specified in the Asset Persistence field.

**Note:** If persistence is desired, each Asset Monitor workflow with a unique Interplay Directory requires a separate XML file. If you have multiple workflows, create a unique XML file for each one: persistenceWorkflowA.xml, persistenceWorkflowB.xml, etc.

**Ignore Modifications Before.** Specifies a date in the past, beyond which no files should be ingested.

**Interplay Folder Scan Interval.** Specifies the number of seconds (5-120; default 60) that should occur between scans.

**Web Service Request Timeout.** Specifies the maximum number of seconds (5-120; default 60) to wait for a response from the specified Interplay system before timing out.

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

**Web Service Wait Per Request.** Specifies the wait time for Web Service requests in milliseconds (0-120; default 0). Non-zero values disables HTTP persistence.

The Avid Service uses Interplay Web Service to gather assets and their properties. The Web Service Wait Per Request specifies how long Vantage Avid Service waits between sending Interplay Web Service requests.
**Master MOB ID.** When checked, specifies the variable to generate that contains the value of the master MOB ID for the ingested asset. This variable is passed downstream for further use.

**Output Components**

An Output component generates a file in the format specified, utilizing the ingested input file from the specified Interplay.

**Outputs Toolbar Icons**

- **Up/Down Arrows.** Moves the selected output up and down the set, for organization/readability purposes. Alternatively, use drag-and-drop: select a component and drag it to its new location in the set.
- **Plus Sign.** Adds another output to this action. Click to select the type of output you want to add.

**Deleting an Output**

- **Delete.** To delete an output, click the X icon immediately right of the nickname menu.

**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:
   
   - **Interplay Metadata** - This file contains all metadata contained in the associated Interplay asset and references to associated media clips. It also contains references to all data contained in the asset’s data track which can be processed by Vantage. If there are Frame-locators within the sequence or Master Clip they will be 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. This file contains proprietary MP4 extensions, making it more useful than a standard MP4. Because of these custom extensions, only Telestream applications such as Switch v4.0 (or later) or the Vantage transcoders are capable of decoding or playing the file.

   Transcode actions implemented to transcode these MP4 files should be set up to use the Telestream decoder. The MP4 file will reference native MXF OPAtom file (video, audio and data) stored in Avid shared storage. No Avid files are moved or copied. If a
If there are Frame-locators within a sequence or Master Clip they are added to MP4 as a timed text stream.

2. **Select the Output Location.** Click Output Location and select from these choices:

   - **Available Vantage Store:** Write the file to any available store, selected dynamically at run-time. Use this option typically when you only have one store, or when you are going to access and use the file by nickname in a downstream action—a transport or staging action, for example.

     When you display the Vantage Folder Address Book, click the ? icon for more assistance. For more information on Vantage folder addresses, see the Vantage User Guide or the Vantage Domain Management Guide.

   - **Vantage Store/Folder:** Write the file to a specific Vantage store or folder. Select from the list, or click the Browse button to display the Vantage Folder Address Book where you can create, edit, and manage your Vantage folder addresses.

     When you display the Vantage Folder Address Book, click the ? icon for more assistance. For more information on Vantage folder addresses, see the Vantage User Guide or the Vantage Domain Management Guide.

   - **Path:** Write the file to a specific Windows file system server and directory. Manually enter a Windows share (UNC path) or drive letter (not recommended on Vantage arrays) or click Browse to navigate and select the location. Or, click the green Browse button and select a variable which supplies the fully-qualified path.

3. **Edit Filename.** Displays the Filename Pattern Editor and specifies the pattern for the file you are creating. Default: Base Name. 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 use the following tokens:

   - **Base Name:** The base name of the file, excluding the extension. The extension on the resulting file name is determined by the output you choose.
   - **Date:** Select the format to use by clicking on the token in the pattern field.
   - **Time:** Select the format to use by clicking on the token in the pattern field.
   - **Variable:** Select the variable to use or create a new one, and click OK.

   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 named ISCI is given the value 12H4JA678, wherever the ISCI variable token appears in the filename pattern it is replaced with that value.

4. **Select the Media Nickname.** Click the menu to select the nickname (or enter it manually) for this new file.
Using the Interplay Advanced Encoder

This chapter describes how the Interplay Advanced encoder is implemented in Vantage, and how to use it. The Interplay Advanced encoder is implemented in the Flip action to produce MXF OP-Atom media with integrated delivery to ISIS/Interplay PAM systems for import into Avid Media Composer.

Topics
- Overview
- Transcoding Multi-Res Formats Plus H.264 Proxy
- Transcoding Single-Res/Media Composer Formats
- Configuring the Interplay Advanced Encoder
- Example Workflows
Overview

The Interplay Advanced encoder is implemented in the Flip action to produce MXF OP-Atom media, with integrated delivery to ISIS/Interplay PAM systems for import into Media Composer. The Interplay Advanced encoder supports audio-only and video-only output, while the Avid AAF Encoder does not.

**Note:** In the Telestream Transcode & Analysis Engine 17.4 and later, Interplay Advanced encoder is implemented using Avid Media Toolkit version 2.13.4.1098 to include the formats, improvements, and fixes provided by Avid in this version.

The Interplay Advanced encoder enables you to create single- and multi-resolution assets for use in an Interplay PAM environment. The Interplay Advanced encoder integrates and augments the functionality provided in Vantage's Notify action's Interplay Notifier, and in Multi-Res automatic proxy generation. It includes integrated User Property and Locator metadata ingest processing, head frame input, and delivery with integrated Interplay Web Service check-in—all from a single Vantage Flip action—eliminating the requirement for a separate Notify action.

The options for Interplay delivery support Frame Chase editing and metadata insertion are supported while files are still being processed through a Vantage workflow, enabling near-real-time editing.


**Note:** Existing workflows utilizing the Flip action's Avid AAF Encoder and Notify action's Interplay Notifier are unaffected and can be used concurrently with new workflows utilizing the Flip action's new Interplay Advanced encoder.

The encoder can be configured to create single- or multi-res assets using these options:

- **Interplay Single-Res**—for creating high- or proxy-resolution media.
- **Interplay Multi-Res**—for creating high resolution media while simultaneously creating an H.264 proxy media file.
- **Media Composer**—for creating high- or proxy-resolution media in Avid environments without Interplay.

**Note:** The Media Composer option is available beginning in Telestream Media Transcoding & Analysis 2016.8. Beginning with Transcoder 2017.10, options include PCM or MPEG1 Layer 2 audio. You can choose which audio format regardless of the video format. You are no longer restricted to using MPEG Layer 2 for proxy files.
Transcoding Multi-Res Formats Plus H.264 Proxy

The Interplay Advanced Encoder Multi-Res option supports the following HD and SD codecs and profiles:

**Note:** This feature is available beginning with Telestream Media Transcoding & Analysis Engine version 2016.9.

- AVC Intra 4:2:2, XDCAM HD 4:2:2, DNxHD with H.264 Proxy
  - Hi-Res at 1080i
  - Hi-Res at 1080p (23.976 fps)
  - Hi-Res at 720p
  - H.264 Proxy @ 800kbps only
  - Telestream H.264 Proxy (1080i@29.97 and 1080i25 resolutions). RGB mode is not supported in this codec.

**Note:** The Telestream proxy codec encodes at approximately twice the speed of the H.264 codec and produces higher quality media.

- IMX NTSC/PAL with H.264 Proxy
  - Hi-Res at 525 (NTSC)
  - Hi-Res at 625 (PAL)
  - H.264 Proxy @ 800 Kbps/1.5 MB

Using Multi-Res with one of these codecs selected, an H.264 proxy is automatically created simultaneously with the high-resolution asset. The assets are dynamically linked—created with the same Mob ID. Both the high-resolution and proxy assets are simultaneously checked into Interplay and are available for Frame Chase editing.
Transcoding Single-Res/Media Composer Formats

All available codecs can be selected and used when using the Single-Res/Media Composer option. Multiple Flip actions in a workflow can be organized to execute independently (in separate, parallel branches) or serially.

**Note:** Using two single-resolution Flip actions to create a multi-resolution asset is not supported with the Telestream H.264 Proxy. Existing Interplay Advanced Patch workflows are not upgradeable due to improvements in the user interface. Existing Interplay Advanced Patch workflows are backward-compatible.

Supported formats:

- AVC Intra 4:2:0, AVC Intra 4:2:2, AVC Intra Direct Convert
- XDCAM HD 4:2:0, XDCAM HD 4:2:2, XDCAM HD Direct Convert
- XDCAM HD EX
- XAVC Intra 4:2:0, XAVC Intra 4:2:2, XAVC Intra Direct Convert
- DNxHD, DNxHD 8- and 10-bit Direct Convert
- IMX, IMX Direct Convert
- DV/DVCPro, DV/DVCPRO HD Direct Convert
- JFIF
- H.264 Proxy
- Telestream H.264 Proxy (RGB mode is not supported in this codec)

**CAUTION:** Single-Res Direct conversion of XDCAM HD 4:2:2 with the decoder set to Auto has been known to fail intermittently, depending on the input content. This intermittent failure can be eliminated by setting the decoder to Telestream.

- DNxHR (beginning in Telestream Transcode & Analysis Engine version 2017.4)
- Interplay container is limited to these UHDTV (Ultra HD) formats:
  - DNxHR Direct Convert
  - DNxHR LB (low bandwidth)
  - DNxHR SQ (standard quality)
  - DNxHR HQ (high quality)
  - DNxHR HQX (high quality 12-bit)
  - DNxHR 444 (cinema quality 12-bit)
- Media Composer—extended codec support.

**Note:** To enable EWC (Edit While Capture) for DNxHR workflows, disable Dynamic Relink in Avid Media Composer. If Dynamic Relink is enabled, Avid Media Composer will display a Media Offline error.
Configuring the Interplay Advanced Encoder

To configure the Interplay Advanced encoder, open the Flip action inspector and select Interplay Advanced Encoder from the Encoder list (top left):

Before configuring the media properties of the encoder, select the input media file by nickname, specify an optional filename pattern, and select the output media nickname (which applies to the entire set of MXF OP-Atom files generated by this encoder), as well as the output location for the media being generated.

**Note:** Each parameter that can be bound to a variable displays a green Browse button. Click it to select a variable. You can either configure the parameter manually at design time (providing the same static setting or value for each job), or select a variable, and then—at run-time—assign the variable’s value in an upstream action.

When using the Interplay Advanced Encoder for Media Composer, specify where to save the encoded media and associated AAF file in the Output Location.

When using the Interplay Advanced Encoder for Interplay, do not specify where to save the encoded media using the Output Location. Instead, specify the location in Physical File Location (see *Physical File Settings* below.)

**Note:** When any of the Interplay options are selected, the Output Location settings are not used. Instead, the media files are always delivered to the workspace and folder specified in Physical File Location.

Media files should be delivered to a subdirectory of the Avid MediaFiles directory, such as: `\ avidisis\MyWorkspace\Avid MediaFiles\MXF\Vantage`.

You can click each of the media components (Decoder, Video Stream, Video Codec, Audio Stream, Audio Codec, and Container) to configure them. Only the Container configurations are specific to Avid.
Next, click each component of the media—typically working right to left—Container, Video codec and Audio codec, Video Stream and Audio Stream, and Decoder—to configure it.

Decoder, Video Codec and Stream, and Audio Codec and Stream configurations are not specific to Avid, and are not covered in this topic—they are described in the context help. For specific details about any panel you’ve selected, display the context help by clicking the M button at the top right. For each control, hover over it to display its tooltip.

**Container Configuration**

*Note:* In the context of the Interplay Advanced Encoder, selection of the Interplay and Media Composer containers do not change the wrapper or file format; instead, they are used to specify the selected product as the target, and to configure the encoder to inter-operate correctly with it.

In the Interplay Advanced container panel (the block at the far right in the media stream) click the menu to select the Interplay Multi-Res, Interplay Single-Res, or Media Composer option to display the container’s configuration details panel directly below the stream building blocks.

Proceed to the topic for the container types you’re using (the are no Interplay Settings settings for Media Composer—only Asset Attributes):

- Interplay Multi-Res and Single-Res Settings
- Physical File Settings and Asset Attributes for Multi-Res, Single-Res & Media Composer

**Interplay Multi-Res and Single-Res Settings**

The Container configuration panel is comprised of several categories, to make configuration tasks easier. (Physical File Settings and Asset Attributes also apply to the Media Composer container, and are described in Physical File Settings and Asset Attributes for Multi-Res, Single-Res & Media Composer). Details for Interplay Multi-Res
and Interplay Single-Res are similar. Here is the detail panel for both containers, showing their common categories:

Open the each panel to configure it.

**Web Services Settings**

Web Services—Enter your Interplay Web Service Host, TCP Port, and login credentials.

**Note:** Always connect to Interplay and Web Services using a fully-qualified DNS name, which is registered with Forward and Reverse look up tables in DNS, although IP addresses may also be used.

**Interplay Settings**

Proceed to the topic for the option you’ve chosen:

- Interplay Settings for Interplay Multi-Res
- Interplay Settings for Interplay Single-Res

**Interplay Settings for Interplay Multi-Res**
ASF Workgroup—Specifies the name of the Avid Service Framework Workgroup. This value is case sensitive and matches the workgroup name under Services, in the Avid Workgroup Properties window.

Interplay Folder—Specifies the Interplay Database folder destination for the file associated with the codec selected.

Interplay Proxy Folder—Specifies the Interplay Proxy Database folder destination for the file H.264 proxy.

Update Interval—Specifies how often the AAF file is updated in number of frames in Interplay.

**Interplay Settings for Interplay Single-Res**

![Interplay Settings](image)

ASF Workgroup—Specifies the name of the Avid Service Framework Workgroup. This value is case sensitive and matches the workgroup name under Services, in the Avid Workgroup Properties window.

Interplay Folder—Specifies the Interplay Database folder destination for the file associated with the codec selected.

Update Interval—Specifies how often the AAF file is updated in number of frames in Interplay.

**Physical File Settings and Asset Attributes for Multi-Res, Single-Res & Media Composer**

**Physical File Settings**

Best practices assumes that MXF files are written to a subfolder under the root. For example, \Avid MediaFiles\MXF folder. Telestream recommends that your Vantage workflow save the MXF files to the folder \Avid MediaFiles\MXF \Vantage or a similar folder structure, under the root \Avid MediaFiles\MXF folder. See your Avid Interplay administrator to assure that any new folders created by Vantage are properly indexed so your media will be viewed as online.

Example: If the root path is \avidisis\Workspace\Avid MediaFiles\MXF\Vantage, new folders will be created beneath the \MXF folder as \MXF\Vantage.0, Vantage.1, etc.

Proceed to the topic for the container you’re using:

- Physical File Settings for Interplay Multi-Res
- Physical File Settings for Interplay Single-Res
Physical File Settings for Media Composer

Physical File Settings for Interplay Multi-Res

**AAF File Location**—Specifies the UNC path to Avid Storage to which the AAF file will be written.

**Proxy AAF File Location**—Specifies the UNC path to Avid Storage to which the Proxy's AAF file will be written.

**MXF File Location**—Specifies the UNC path to Avid Storage to which the selected codec's MXF OP-Atom media files will be written.

**Proxy MXF File Location**—Specifies the UNC path to Avid Storage to which the Proxy media files will be written.

**Delete Avid AAF and XML Support Files**—When checked, the AAF and XML support files deleted from their physical location after the media has been checked into Interplay.

**Physical Directory Control**—When set to Limit Files per Directory, determines the maximum number of MXF files per 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.

Physical File Settings for Interplay Single-Res
**AAF File Location**—Specifies the UNC path to Avid Storage to which the AAF file will be written.

**MXF File Location**—Specifies the UNC path to Avid Storage to which the selected codec's MXF OP-Atom media files will be written.

**Delete Avid AAF and XML Support Files**—When checked, the AAF and XML support files deleted from their physical location after the media has been checked into Interplay.

**Physical Directory Control**—When set to Limit Files per Directory, determines the maximum number of MXF files per 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.

### Physical File Settings for Media Composer

![Physical File Settings](image)

**AAF File Location**—Specifies the UNC path to Avid Storage to which the AAF file will be written.

**MXF File Location**—Specifies the UNC path to Avid Storage to which the selected codec's MXF OP-Atom media files will be written.

### Asset Attributes Settings

The asset attributes are the same for all three container types:

![Asset Attributes](image)

**Master MOB ID**—Specifies the master MOB ID. If blank, a Master MOB ID is generated internally (Single-Res only).

**Source MOB ID**—Specifies the source MOB ID. If blank, a Source MOB ID is generated internally (Single-Res only).

**Note:** Master and source MOB IDs can be generated from a preceding Notify action configured with the MOB ID Generator Notifier. See *Creating MOB IDs for Interplay Workflows*. The generated variables from the Notify action can be bound to these parameters. If MOB IDs are created using the Notify action's Interplay Notifier Create
Master Clip Interplay operation, the asset can't be edited using Frame Chase until the media is fully checked into Interplay, so this method is not recommended.

*Tape*—Specifies the tape name to be added to this asset’s metadata.

*Preserve Ancillary Data into SMPTE 436 Track*—Preserves Ancillary Data into a SMPTE 436 Data Track (not supported for proxy formats).

**Metadata Configuration Panel**

Metadata configuration is the same for both multi-res and single-res options, and there is no metadata configuration for Media Composer:

You can use the Metadata panel to add Locators and User Properties from an XML file or as individual items.

*Add Metadata from an XML Document*—Click Browse to locate and specify the fully-qualified path and file name of the metadata XML file to use. (See *Metadata XML File Structure*).

*Insert Locators*—Add individual Locators. Check to insert Locators manually. Click Add New Item and configure the comment, color, timecode, and track. Each Locator item contains Interplay Locator fields for adding Comments (can be bound to a variable), Color, Timecode (can be bound to a variable) and Track (must be set to a valid Video or Audio track such as V1 or A1, can be bound to a variable) data.

**Note:** Locator timecodes are relative to source start time. If enabled, the incoming timecode values are considered relative and are added to the Source Start Time.
(Locator Time Code = Start Timecode + Incoming time code). If unchecked, the incoming time codes are considered absolute time code values.

_set_user_properties_check:_ Check to set user properties manually. Click Add New Item and configure the name and value.

Each User Property item contains Interplay metadata fields for the Name (can be bound to a variable) of the property and for its Value (can be bound to a variable). If the Name of the Property does not currently exist in Interplay Vantage will create it before populating its value. The Name field is limited to 30 characters.

Headframe Configuration Panel

Headframe settings are the same for both multi-res and single-res options, and there is no headframe for Media Composer:

Set Headframe—Applies a headframe to the Interplay asset using an accessible UNC path to an image file (which can be generated using a Keyframe action prior to the Flip action.)

Filename—Accessible UNC path to the image file.
Example Workflows

The following topics describe an Interplay Advanced encoder workflow prototype and several Interplay Advanced encoder application examples.

- Simple Multi-Resolution Workflow
- Processing a News Feed with XML Metadata
- Keyframe Extraction for Interplay Access Workflow
- Processing Reuters News Feeds Workflow

Simple Multi-Resolution Workflow

This prototype multi-res workflow creates a DNxHD high resolution file along with an H.264 proxy file and deliver them to an Avid Interplay system for editorial. This workflow is the simplest example, and forms the basis for more complex workflows you can create to meet your encoding requirements.

Watch—Monitors a file folder for an incoming media file.

Flip—Configured with the Interplay Advanced encoder and Interplay Multi-Res, the action creates a DNxHD high-resolution file and an H.264 proxy-resolution file, simultaneously writing them to ISIS storage and checking them into Interplay where they can be edited using Frame Chase. Leave the MOB ID/Source ID fields blank to auto-generate them for this asset.

Note: For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.
Processing a News Feed with XML Metadata

This workflow processes news feeds and the associated metadata file as a single job and check them into Interplay for editorial. When the video file and associated XML file are identified by the Watch action, a job is started. The workflow extracts the metadata and populates a label, creates a key frame file for use in Interplay Access, for example, and transcodes the media file into both high-resolution and low-resolution files, checking all of the assets into Interplay with a single MOB ID.

![Workflow diagram](image)

**Note:** For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.

**Watch**—Monitors a file folder for an incoming media file, nicknamed *Original*.

**Associate**—Monitors a file folder for an attachment file—the media file’s associated metadata XML file—and submits the job for processing. At a minimum, you supply a nickname (*Metadata*, for example) and an accept pattern (*[Name]*.xml, for example).

**Transform**—Configured with the Attachment to Label function, uses a suitable XSLT style sheet which you supply, to transform the metadata in the XML file (*Metadata*) acquired from the preceding Associate action into a predefined label that you design. The label is passed to the Populate action for conversion to variables.

**Populate**—Configured with the Variable from Label Parameters function, populates variables with values obtained from the label created by the Transform action.

**Flip**—The first Flip action uses the Keyframes encoder, configured to extract a single, 320 x 240 keyframe from the media file at 00:00:01:00 and create a thumbnail JPEG file. The keyframe can be nicknamed *avid_headframe*, for example, and stored in a share.

**Identify**—Configured with the File Properties function, generates a variable (*File Name*, for example) with the path to the keyframe file.

**Flip**—The second Flip action uses the Interplay Advanced encoder with Interplay Multi-res to create an AVC Intra 4:2:2 high-resolution and an H.264 proxy-resolution file. Leave the MOB ID/Source ID fields blank to auto-generate them for this asset. The files are...
simultaneously written to ISIS storage and checked into Interplay where they can be edited using Frame Chase.

With Set Headframe enabled, using the path variable `avid_headframe`, for example, the keyframe file is also written to ISIS storage and checked in, along with the metadata extracted from the metadata XML file. The User Property and Locator metadata can be added from the variables you created in the Populate action or from an XML document.
Keyframe Extraction for Interplay Access Workflow

The purpose of this workflow is to illustrate how to extract a keyframe from a media file for use in setting the headframe in Interplay.

This workflow monitors for media files and submits a job. The first Flip action grabs the keyframe; Identify passes the path to the next Flip action, which uses the Interplay Advanced encoder’s Multi-Res option to encode a DNxHD high resolution file and an H.264 proxy file. Simultaneously, it writes these files to ISIS storage and checks them into Interplay. Frame Chase can be used to edit these files as they are transcoded.

**Note:** For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.

*Watch*—Monitors a file folder for an incoming media file, sets the nickname to *Original*, for example, and starts the job.

*Flip*—The first Flip action uses the Keyframes encoder, configured to extract a single, 320 x 240 keyframe from the media file at 00:00:01:00 and create a thumbnail JPEG file.

*Identify*—Configured with the File Properties function, generates a variable (*File Name*, for example) with the path to the keyframe file.

*Flip*—The second Flip action, configured with the Interplay Advanced Multi-res encoder, creates a DNxHD high-resolution and an H.264 proxy file, simultaneously writing them to ISIS storage and checking them into Interplay where they can be edited using Frame Chase.

With Set Headframe enabled, using the path variable *avid_headframe*, the keyframe file is also written to ISIS storage from the share, and checked in, along with the metadata extracted from the metadata XML file. The User Property and Locator metadata can be added from the variables you created in the Populate action or from an XML file (see *Metadata XML File Structure*).
With the keyframe extracted and checked into Interplay with the other assets, when an operator selects the asset in Interplay Access, the keyframe displays:

**Note:** Interplay Streaming Server is not supported in Interplay Access v3.5 or later. Thus, you cannot play media, create Locators, or create shot lists in Interplay Access v3.5 or later. Controls for these features have been removed from the Interplay Access user interface. Avid recommends that customers who currently rely on this functionality should remain on Interplay Production 3.4 until they can successfully transition their workflows to MediaCentral | UX. If you use a Vantage workflow with User Property and Locator metadata and are using Interplay Access v3.5 or later, you will not be able to access or view the User Property and Locator metadata.
Processing Reuters News Feeds Workflow

The purpose of this workflow is to process Reuters news feeds and the associated metadata file as a single job and check them into Interplay for editorial.

When the video file and associated XML file are identified by the Watch action, a job is started. The workflow extracts the metadata and populates a label, creates a key frame file for use in Interplay Access, for example, and transcodes the media file into both high-resolution and low-resolution files, checking all of the assets into Interplay with a single MOB ID.

**Note:** For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.

**Watch**—Monitors a file folder for an incoming media file, nicknamed *Original*.

**Associate**—Monitors a file folder for an attachment file—the media file's associated metadata XML file—and submits the job for processing. At a minimum, you supply a nickname (*Metadata*, for example) and an accept pattern (*[Name]*.xml, for example).

**Transform**—Configured with the Attachment to Label function, uses a suitable XSLT style sheet which you supply, to transform the metadata in the XML file (*Metadata*) acquired from the preceding Associate action into a predefined label (*news_summary_label*, for example) that you design. The label is passed to the Populate action for conversion to variables.

**Populate**—Configured with the Variable from Label Parameters function, populates a story variable with values obtained from the label created by the Transform action.

**Flip**—The first Flip action uses the Keyframes encoder, configured to extract a single, 320 x 240 keyframe from the media file at 00:00:01:00 and create a thumbnail JPEG file. The keyframe can be nicknamed *avid_headframe*, for example, and stored in a share.

**Identify**—Configured with the File Properties function, generates a variable (*File Name*, for example) with the path to the keyframe file.
**Flip**—The second Flip action, configured with an Interplay Advanced Multi-res encoder. The Flip action creates an AVC Intra 4:2:2 high-resolution and an H.264 proxy-resolution file—leave MOB ID blank to auto-generate one—simultaneously writing them to ISIS storage and checking them into Interplay where they can be edited using Frame Chase.

Locators are added from a separate XML file (see *Metadata XML File Structure*), and the story summary is added from the summary variable created in the Populate action.

The Set Headframe option is also set, to pick up and ingest the keyframe file for viewing with the asset in Interplay Asset.
Using the Avid AAF Encoder

This chapter describes the Avid AAF Encoder, and how to use it. The Avid AAF Encoder produces Avid-compatible MXF OP-Atom media for delivery to Avid edit programs and Interplay systems.

Note: Unlike the Interplay Advanced encoder, which can transcode high-resolution and proxy media in parallel with Frame Chase editing, the Avid AAF Encoder produces a single media file per Flip action, with Frame Chase editing in single-resolution workflows and in multi-resolution workflows where you generate a MOB ID using the Notify action (Creating MOB IDs for Interplay Workflows).

Topics

- Overview
- Configuring the Avid AAF Encoder
- Using the Avid AAF Encoder with Interplay
- Example Workflows

Note: To create, configure and manage workflows in Vantage, use Vantage Workflow Designer. If you are not familiar with Vantage workflows, refer to the Vantage User Guide, which you can access from the Help menu in Workflow Designer.
Overview

The Avid AAF Encoder is implemented in the Flip action to produce single and multi-resolution assets consisting of Avid-compatible MXF OP-Atom media. The Avid AAF Encoder features integrated delivery to Media Composer and check-in to Interplay using AMT. The Avid AAF Encoder may also be used in Avid environments without Interplay.

In single-resolution workflows, Frame Chase is supported. SMPTE 436 data is also supported. In multi-resolution workflows, when the files are ingested into Avid, an operator can switch low-res format to conduct edits.

The Avid AAF Encoder can be configured to integrate with Interplay and Media Composer.

- **Interplay**—the asset’s media file sets are delivered to the ISIS workspace in an Interplay environment and checked in automatically.
- **Media Composer**—the asset’s media file sets are delivered to a Media Composer-accessible file system (local drive, SAN/NAS or share) via a Transport action (Move or Copy). You import the asset into Media Composer to link media to an active editing project.

To create multi-resolution assets, multiple Flip actions can be used in a single workflow, either in parallel or in serial. It is common to place three Flip actions in a workflow in parallel: two configured with the Avid AAF Encoder to produce a high-resolution file and a proxy file. The third Flip action is configured with the Keyframe encoder to extract and save a JPEG file, for display as a headframe in Interplay Access.

**Note:** Telestream recommends that you only use the Avid AAF Encoder with Telestream Media Transcoding & Analysis Engine version 2014.11 or later.
Transcode/Direct Convert Formats

You can encode or direct convert media in the following media formats using the Avid AAF Encoder:

- AVC Intra 50 (4:2:0) and 100 (4:2:2) at 720p/1080i
- DNxHD 720p/1080i/1080p
- DV25
- DVCPro 25/50 NTSC/PAL
- IMX 30/40/50 NTSC/PAL
- XDCAM HD 4:2:0/4:2:2
- XDCAM HD EX 720p/1080i/1080p

Transcode-only Formats

You can encode media in the following media formats using the Avid AAF Encoder:

- H.264 Proxy 800kbps
- H.264 Proxy 1.5 | 2Mbps (Available when using the Telestream Media Transcoding & Analysis Engine 2014.14 or later.)
- JFIF (JPEG Interchange Format) NTSC/PAL

Preservation of Ancillary data is not supported with the Avid AAF Encoder’s H.264 Proxy codec.

**CAUTION:** Direct convert processing of XDCAM HD 4:2:2 with the decoder set to Auto has been known to fail intermittently, depending on the input media content. This intermittent failure can be eliminated by setting the decoder to Telestream.
Configuring the Avid AAF Encoder

The Avid AAF Encoder generates MXF Op-Atom media files, one file per video, audio and data tracks and an associated AAF file.

To configure the Avid AAF Encoder, open the Flip action’s inspector and select Avid AAF Encoder from the Encoder list. You can configure the Avid AAF Encoder to deliver media for use directly in Media Composer or for ingest into Interplay.

Note: Each parameter that can be bound to a variable displays a green Browse button. Click it to select a variable. You can either configure the parameter manually at design time (providing the same static setting or value for each job), or select a variable, and then—at run-time—assign the variable’s value in an upstream action.

Before configuring the encoder itself, select the input file by nickname, specify an optional filename pattern, and select the output media nickname (which applies to the entire set of MXF OP-Atom files generated by this encoder).

When using the Avid AAF Encoder for Media Composer, specify where to save the encoded media and associated AAF file in the Output Location.

When using the Avid AAF Encoder for Interplay, do NOT specify where to save the encoded media using the Output Location. The media files are always delivered to the workspace and folder specified in Physical File Location. Instead, specify the location in Physical File Location (see Physical File Locations Settings.)
**Note:** Media files should be delivered to a subdirectory of the Avid MediaFiles directory, such as: `\\avidisis\MyWorkspace\Avid MediaFiles\MXF\Vantage`.

Click each of the media components (Decoder, Video Stream, Video Codec, Audio Stream, Audio Codec, and Container) to configure them. Only the Container configurations are specific to Avid.

For specific details about each panel, display the context help by clicking the M button at the top right. For each attribute, you can always hover over the control to display its tool tip.

Select *Media Composer* or *Interplay* from the menu in the Container component (far right) and proceed to the appropriate topic.

- Interplay Container Configuration
- Media Composer Container Configuration

**Note:** In the context of the Avid AAF Encoder, selection of the Interplay and Media Composer containers do not change the wrapper or file format; instead, they are used to specify the selected product as the target, and to configure the encoder to inter-operate correctly with it.

### Interplay Container Configuration

Select *Interplay* as the container (at the far right) in the media stream building blocks to configure the encoder to inter-operate with your Interplay system.

The Avid AAF Encoder displays the container’s configuration details panel:

The configuration panel is comprised of individual panels, to make configuration tasks easier. Open the each panel to configure it.
General Settings

Here is the General panel:

Preserve Ancillary Data into SMPTE 436 Track—Preserves Ancillary Data into a SMPTE 436 Data Track (not supported for proxy formats).

Update Interval—Specifies how often Interplay is updated, in number of frames.

Avid Interplay Web Services Settings

Next, configure the Avid Interplay Web Services panel:

Avid Interplay Web Services—Enter your Interplay Web Service Host, TCP Port, and login credentials.

Note: Telestream recommends connecting to Interplay and Web Services using a fully-qualified DNS name, which is registered with Forward and Reverse look up tables in DNS. IP addresses may also be used.

Asset Attributes Settings

Configure the Asset Attributes panel:
**ASF Workgroup**—Specifies the name of the Avid Service Framework Workgroup. This value is case sensitive and matches the workgroup name under Services, in the Avid Workgroup Properties window.

**Note:** You can also obtain the name by navigating to the IP address of the Avid Web Services computer in a browser, scrolling to the bottom of the page, and selecting View Configuration.

**Interplay Folder**—Specifies the Interplay Database folder destination for the asset. For example, *Incoming Media/Vantage Newsfeed*.

**Master MOB ID and Source MOB ID**—specifies the Master and Source MOB ID to be used for this encode action. The value of these fields can be bound to an incoming variable or left blank.

- In Multiple Resolution Workflows: For workflows that generate multiple resolutions in parallel it is required that the MOB IDs be generated by a preceding Notify action configured with the MOB ID Generator Notifier (see *Creating MOB IDs for Interplay Workflows*) and then passed to the Flip action's Avid AAF Encoder as a variable. For workflows that generate multiple resolutions serially, the MOB ID fields can be auto-generated from the first Avid AAF Encoder Flip action and then passed to any downstream action that requires them (see sample workflows for details).

- In Single Resolution Workflows: For workflows that generate a single resolution, the MOB IDs can be generated automatically by leaving the value blank or can be populated with the MOB ID values passed via variables. MOB ID variables can be populated by using a Notify action, or from other actions that have extracted them from a previous Avid AAF Encoder Flip action (see sample workflows for details).

**Note:** MOB IDs are dynamically generated by the Avid Encoder, and should only be entered manually under unique circumstances—for example, to correct a one-time file error in an existing asset.

**Tape**—Specifies the tape name to be added to this asset's metadata.

**Drop Frame Timecode Format**—When checked, specifies media as a drop-frame timecode asset.

### Physical File Locations Settings

Next, configure the Physical File Locations panel:
Using the Avid AAF Encoder
Configuring the Avid AAF Encoder

**AAF File Location**—Specifies the UNC path to shared storage to which the AAF file will be written.

**MXF File Location**—Specifies the UNC path to shared storage to which the selected codec's MXF OP-Atom media files will be written.

**Delete Avid AAF and XML Support Files**—When checked, the AAF and XML support files deleted from their physical location after the media has been checked into Interplay.

Finally, configure the Physical Directory Control panel:

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

**Physical Directory Control**—When enabled, determines the maximum number of MXF files per 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.

---

**Note:** MXF files are written to a sub-folder under the workspace’s Avid MediaFiles folder: for example, the `\Avid MediaFiles\MXF` folder. Telestream recommends that your Vantage workflow save the MXF files to `\Avid MediaFiles\MXF \Vantage` or a similar folder structure. See your Avid Interplay administrator to assure that any new folders created by Vantage are properly indexed so your media will be viewed as online.

Example: If the path is `\avidisis\Workspace\Avid MediaFiles\MXF\Vantage`, new folders will be created beneath the `\MXF` folder as `\MXF\Vantage.0, Vantage.1, etc.`

The directory structure that the Media Composer encoder creates can not be modified. The MXF files are saved in the `\1` directory, and the XML file is auto-deleted.
Media Composer Container Configuration

Select *Media Composer* as the container (at the far right) in the media stream building blocks to configure the encoder to inter-operate with Media Composer.

The encoder displays the container’s configuration panel. The panel is comprised of individual panels, to make configuration tasks easier. Open each panel (General first) to configure it.

Preserve Ancillary Data into SMPTE 436 Track—Preserves Ancillary Data into a SMPTE 436 Data Track (not supported for proxy formats).

Here is the Asset Attributes panel:

*Master MOB ID*—Specifies the Master MOB ID to be used for this encode action. The value of these fields can be bound to an incoming variable (see *Creating MOB IDs for Interplay Workflows*) or left blank.

*Source MOB ID*—Specifies the Source MOB ID to be used for this encode action. The value of these fields can be bound to an incoming variable (see *Creating MOB IDs for Interplay Workflows*) or left blank.

*Tape*—Specifies the tape name to be added to this asset’s metadata.

*Drop Frame Timecode Format*—When checked, specifies the asset as drop-frame timecode.
Using the Avid AAF Encoder with Interplay

To use the Avid AAF Encoder with Interplay, certain Avid components must be installed and configured. Certain information is also required when you create workflows.

**Note:** When you use the Interplay container, Output Location settings are not used. The media files are delivered to the workspace and folder specified in Asset Attributes.

- Required Avid Components
- Required Information
- Creating Interplay Assets

**Required Avid Components**

- Avid Interplay must be installed, configured, and running.
- Avid Interplay Web Services must be installed, configured, and running.
- Avid shared storage, such as ISIS, must be installed and configured.
- The ISIS workspace/directory must be indexed by the Avid Media Indexer.
- An AAF directory and an Avid MediaFiles directory must exist in the Avid storage workspace.
- The Avid MediaFiles\MXF directory for the Workspace must be indexed by the Avid Media Indexer.

**Note:** To avoid potential problems, the AAF folder should not be in a folder or path that is indexed by the Interplay Media Indexer.

- The Avid ISIS client must be installed and configured on all Vantage domain servers deploying to Interplay, with proper credentials for read/write access to the required Avid workspaces.
- Workspaces must be mounted as UNC paths.

**Note:** The Avid ISIS client requires an interactive session to the desktop. This means that the user must be logged in, and that the logged in user must be the same user that is used for the Vantage Services. The credentials must match in Interplay as well as ISIS, and must include administrative rights.

- Interplay output folders must have already been created. Vantage cannot create Interplay folders.

**Note:** Telestream recommends connecting to Interplay and Web Services using a fully-qualified DNS name, which is registered with Forward and Reverse look up tables in DNS.
Required Information

When designing and implementing Avid AAF Encoder workflows, you should have the following information at hand:

- Avid shared storage (ISIS) username and password
- Avid shared storage (ISIS) workspace/directory
- Interplay Web Services host name and port number
- Interplay username and password (might not match the ISIS username/password.)
- Avid Service Framework Workgroup (ASF Workgroup) name.

**Note:** When you are installing software or otherwise modifying Avid programs or systems, always confer and coordinate with your Avid systems administrator to make these changes, including restarting any systems. Always refer to Avid documentation if you have questions about the use of Avid products.

Creating Interplay Assets

When using the Avid AAF Encoder in an Interplay environment, you can generate Interplay assets in two ways. Each method creates the master clip and MOB IDs used in the Avid AAF Encoder. The first method uses a Notify action with a MOB ID Generator prior to any Avid AAF Encoder Flip action in the workflow. The second method uses the first Avid AAF Encoder Flip action to auto-generate the required MOB IDs in the first Avid AAF Encoder Flip action of a workflow. Each method has benefits and limits.

**Using a Notify Action MOB ID Generator to Create MOB IDs**

To create a MOB ID using the Notify action’s MOB ID Generator, you add the Notify action preceding all Avid AAF Encoder Flip actions (see *Creating MOB IDs for Interplay Workflows*). The MOB ID Generator returns the Master and Source MOB IDs as variables, to be used by the Avid AAF Encoder Flip actions or other actions that require them.

The benefit of this method is that you can generate multiple media resolutions—all associated with the same master asset—in parallel. This is possible since the Notify action passes the master asset’s MOB ID variables to all downstream actions. With a Vantage array and sufficient number of Transcode services, all of the encoding can be performed faster than real-time, making the workflow time as short as possible. In this type of workflow, Frame Chase editing is supported.

If you want faster transcoding speeds and Frame Chase editing, implement your workflow using this method.

**Note:** The Notify action used to insert Locator metadata must be placed *after* the first (or only) Flip action in the workflow. Locators (represented by a TC value) cannot be added to an Interplay asset until the Master media asset contains that TC. Therefore, if the transcode had progressed to 01:10:00:00 and a Locator with a TC value of
01:10:10;00 was added to the asset, the process would fail. Placing the Notify action that adds Locator metadata after the Flip action insures that this situation won't occur.

See the Multi-Resolution & Keyframe Workflow (Parallel Workflow) for details.

**Using an Avid AAF Encoder Flip Action to Create a Master Asset**

An Avid AAF Encoder can auto-generate a Master MOB ID by leaving the Master MOB ID and Source MOB ID fields blank (see Interplay Container Configuration). When this method is used the Master MOB ID cannot be passed to any downstream action until the Avid AAF Encoder action's processing in complete.

By using an Identify action following the first Avid AAF Encoder Flip action you can extract and assign the Master MOB ID a variable, and pass it to one or more (often parallel) Avid AAF Encoder actions or any other action that requires the MOB ID.

Using this method, Frame Chase editing can be performed on the media encoded in the first Avid AAF Encoder action. After the first Avid AAF Encoder action is complete, you can generate additional media by using the Master MOB ID passed to it via a variable. The disadvantage of this method is that other resolutions required for this asset can only be created after the first Avid AAF Encoder action finishes. However, all subsequent actions can be executed in parallel.

If Frame Chase editing is a requirement and speed is not an issue, implement your workflow using this method.
Example Workflows

The following topics describe a prototype AAF workflow prototype and several Avid AAF Encoder application examples.

- Simple, Single-Resolution Workflow
- Multi-Resolution & Keyframe Workflow (Parallel Workflow)
- Multi-Resolution & Keyframe Workflow (Serial Workflow)
- Processing a News Feed with XML Metadata Workflow

Simple, Single-Resolution Workflow

The purpose of this simple, prototype single-resolution workflow is to create Avid-compatible MXF OP-Atom files, written to a specified storage location. An AAF reference file and temporary XML file is also generated. The AAF file contains a reference to the absolute location of the MXF media files.

**Note:** This workflow supports Frame Chase editing.

This workflow is the simplest example, and forms the basis for more complex Avid AAF Encoder workflows that you can create to meet your encoding requirements.

**Watch**—Monitors a file folder for an incoming media file.

**Flip**—Configured with the Avid AAF Encoder, the Flip action creates a low-res or high-resolution file in supported formats (see Overview).

In Interplay mode, the Avid Media Toolkit is used to deliver the files to Interplay. The Output Location is ignored. The media files are delivered to the location specified in Physical File Locations. The assets are added to the Interplay workgroup and folder specified in Asset Attributes. The master asset and MOB IDs are auto-generated by leaving the Master MOB ID and Source MOB ID fields blank.
The master video asset (Avid-compatible MXF OP-Atom) and associated audio files are written directly to Avid storage. Two additional files are written to storage—an XML file that contains format attributes, and an AAF file that initializes check-in to Interplay.

Once check-in is complete the files are no longer required. Vantage provides a UI checkbox to automatically delete these files from Avid storage.

In Media Composer mode, the MXF files are written to a location specified in the Output Location, which is accessible to Media Composer.
Multi-Resolution & Keyframe Workflow (Parallel Workflow)

The purpose of this basic, multi-resolution workflow is to create Avid-compatible MXF OP-Atom files with the Avid AAF Encoder, and an Avid headframe, in parallel. Frame Chase editing is supported within this workflow.

The Flip action communicates with the Interplay Web Services host to check the asset into the Interplay database. The master high resolution video asset (XDCAM HD 4:2:2), Avid Proxy (H.264) and associated audio files are written directly to Avid storage.

Two Notify actions are used to perform additional Interplay operations.

**Note:** For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.

*Watch*—Monitors a file folder for an incoming media file.

*Notify*—creates the MOB IDs bound to Vantage variable for use in subsequent Flip actions (see *Creating MOB IDs for Interplay Workflows*). This workflow creates both the hi-res and low-res files that are part of the asset and are dynamically linked by the Master MOB ID.

*Flip #1*—Configured with the Avid AAF Encoder, this Flip action is configured to create a high-resolution in XDCAM HD 4:2:2 (or other selected format—for supported formats, see *Transcode/Direct Convert Formats* and *Transcode-only Formats*). Bind the MOB IDs passed from the preceding Notify action to the respective Master and Source ID fields.

The Avid Media Toolkit is used to check the asset into the Interplay database. The master video asset (Avid-compatible MXF OP-Atom) and associated audio files are written directly to shared storage. Two additional files are written—an XML file that contains format attributes, and an AAF file that initializes check-in to Interplay. Once check-in is complete the files are no longer required. Vantage provides a checkbox to automatically delete these files from storage.

*Flip #2*—Configured with the Avid AAF Encoder and H.264 Proxy codec, the Flip action generates a proxy file and writes it to shared storage. To associate this resolution to the same asset as Flip #1, bind the Master MOB ID value passed from the preceding Notify action to this encoder’s Master MOB ID field.
Flip #3—The Flip action uses the Keyframes encoder, configured to extract a keyframe from the media file at 00:00:01:00 and create a thumbnail JPEG file. (Of course, any valid frame size and timecode can be specified.) The keyframe can be nicknamed `avid_headframe`, for example, and stored in a share.

Synchronize—Halts downstream action execution until all preceding actions are done.

Notify—Configured with the Avid Notifier, use the Set Headframe function to associate the JPEG file created from the Keyframe encoder with the master asset in Interplay for viewing in Interplay Access. To associate the Keyframe to this, bind the Master MOB ID value passed from the preceding Notify action to the Master MOB ID field in the Set Headframe dialog.
Multi-Resolution & Keyframe Workflow (Serial Workflow)

This multi-resolution workflow is functionally the same as the parallel example described above. However, Frame Chase editing can be performed only on the first resolution.

The Flip action (with Avid AAF Encoder) communicates with the Interplay Web Services host to check the asset into the Interplay database. The master high resolution video asset (XDCAM HD 4:2:2), Avid Proxy (H.264) and associated audio files are written directly to Avid storage.

A Notify action is used to perform additional Interplay operations.

![Workflow Diagram]

**Note:** For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.

**Watch**—Monitors a file folder for an incoming media file.

**Flip #1**—Configured with the Avid AAF Encoder, this Flip action is configured to create a high-resolution in XDCAM HD 4:2:2 (or other selected format—for supported formats, see Overview). My leaving the Master MOB ID and Source MOB ID blank the Avid AAF Encoder action auto-generates the asset and associated Master MOB ID.

Avid Web Services are used to check the asset into the Interplay database. The master video asset (Avid-compatible MXF OP-Atom) and associated audio files are written direct to shared storage. Two additional files are written—an XML file that contains format attributes, and an AAF file that initializes check-in to Interplay. Once check-in is complete the files are no longer required. Vantage provides a checkbox to automatically delete these files from storage.

Frame Chase editing can be performed on this asset.

**Identify**—Configured to extract the Master MOB ID from Media Properties of the XDCAM output media attachment of the preceding Avid AAF Encoder and assign it to a variable. Use this Master MOB ID variable for downstream actions.

**Flip #2**—Configured with the Avid AAF Encoder and H.264 Proxy codec, the Flip action generates a proxy file and writes it to shared storage. To associate this resolution to the same asset as Flip #1, bind the Master MOB ID variable passed from the preceding Identify action to this encoder’s Master MOB ID field.

**Flip #3**—The Flip action uses the Keyframes encoder, configured to extract a keyframe from the media file at 00:00:01:00 and create a thumbnail JPEG file. Of course, any valid
frame size and timecode can be specified.) The keyframe can be nicknamed avid_headframe, for example, and stored in a share.

**Synchronize**—Delays downstream action execution until all preceding actions are complete.

**Notify**—Configured with the Avid Notifier, use the Set Headframe function to associate the JPEG file created from the Keyframe encoder with the master asset in Interplay for viewing in Interplay Access. To associate the Keyframe to this asset bind the Master MOB ID value passed from the preceding Identify action to the Master MOB ID field in the Set Headframe dialog.
Processing a News Feed with XML Metadata Workflow

The purpose of this workflow is to process news feeds and their associated metadata file as a single job and check them into Interplay for editorial.

When a video file and associated XML file are identified by the Watch action and Associate action, a job is started. The workflow extracts the metadata and populates a label, creates a key frame file for use in Interplay Access, and transcodes the media file into both high-resolution and low-resolution files, checking the asset into Interplay.

Note: For help configuring each action, open the Inspector and click on the M icon in the upper right corner to display context help.

Watch—Monitors a target file folder for an incoming media file, nicknamed Original.

Associate—Monitors a file folder for an attachment file—the media file's associated metadata XML file—and submits the job for processing. At a minimum, you supply a nickname (Metadata, for example) and an accept pattern (*.xml, for example).

Transform—The Transform and Populate actions are used to extract metadata. The Transform action is configured with the Attachment to Label function, and uses a suitable XSLT style sheet which you supply to transform the metadata in the XML file (Metadata) acquired from the preceding Associate action into a predefined label (news_summary_label, for example). The label is passed to the Populate action for conversion to variables.

Populate—Configured with the Variable from Label Parameters function, populates a metadata story variable with text obtained from the label in the Transform action.

Notify—Creates the MOB IDs bound as variables for use in subsequent Flip actions (see Creating MOB IDs for Interplay Workflows).

Flip—The first Flip action, configured with the Avid AAF Encoder and Interplay container appropriately configured (for the Web Services host, and under Asset
Attributes, the workgroup, Interplay folder, and variables for MOB IDs), creates an XDCAM HD 4:2:2 high-resolution file.

Flip—The second Flip action, also configured with the Avid AAF Encoder and Interplay container appropriately configured (for the Web Services host, and under Asset Attributes, the workgroup, Interplay folder, and variables for MOB IDs), creates an H.264 proxy file.

Flip—The third Flip action uses the Keyframes encoder, configured to extract a keyframe from the media file and create a thumbnail JPEG file. The keyframe can be nicknamed *avid headframe*, for example, and stored in a share.

Notify—The first Notify, configured with the Set Headframe function, attaches the headframe file (by nickname) to the proper ASF workgroup, using the master MOB ID variable, to pick up and ingest the keyframe file for viewing the headframe of an asset in Interplay Asset.

Notify—The second Notify, configured with the Add Metadata to Clip function, configured with the ASF workgroup and master MOB ID variable, uses the metadata file to set user properties and locators.
Locators are added from a separate XML file, and the story summary is added from the summary variable created in the Populate action. This image depicts viewing Locators in Interplay Access:
Using the Avid AAF Encoder

Example Workflows
Using Notify and Identify Actions in Workflows

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

**Note:** The Avid AAF Encoder 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 Interplay workflows. The MOB ID Generator returns a MASTER MOB ID and a SOURCE MOB ID as Vantage variables.

**Topics**

- Creating MOB IDs for Interplay Workflows
- Using MOB IDs in Workflows
- Metadata XML File Structure
- Configuring the Interplay Notifier’s Web Services Host Connection
- Performing Interplay Operations
- Extracting a Master MOB ID

**Note:** The Notify action can be added to any Vantage workflow. To create, configure, and manage workflows in Vantage, use Vantage Workflow Designer. If you are not familiar with Vantage workflows, refer to the Vantage User Guide, which you can access from the Help menu in Workflow Designer.
Creating MOB IDs for Interplay Workflows

The purpose of the Master MOB ID in Avid is to uniquely identify an Interplay 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 Interplay asset, acting as a unique identifier.

You need to place the Notify action prior to the Flip action so that the Flip 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:

   ![MOB ID Generator Notifier](image)

2. Check options to produce Master and/or Source MOB IDs and select the variables to hold the MOB ID values:

   ![Generate Variables](image)

3. Click Next and then click Save to update the action and close the inspector.

MOB IDs can be ingested by the Interplay Advanced encoder and the Avid AAF Encoder when creating assets (see Using the Avid AAF Encoder) and by the Notify action’s Interplay Notifier notification type when performing Avid requests.

For example, you can pass a MOB ID to a second Avid AAF Encoder to create additional media files that will be associated with an Interplay asset. Or, you can pass it to a Notify action to interact with Interplay and perform a variety of operations on an Interplay asset by its MOB ID.
Using MOB IDs in Workflows

A MOB ID is a unique identifier in Avid Interplay 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 Interplay Workflows).
- Automatically, via the Interplay options in the Interplay Advanced encoder and the Avid AAF Encoder (see Extracting a Master MOB ID).
- Automatically, when creating Media Composer assets without checking them into Interplay. 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 an Interplay 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

In a Vantage workflow, the Notify action’s Interplay Notifier can be configured to ingest metadata contained in an XML file, which is passed along with the asset.

The XML file can contain Avid User Property and Locator metadata, and uses a simple schema structure, as shown in the example below.

It consists of two element types: <Entry> for adding Avid User Property data and <Locator> for adding Avid Locator data. Each element has child attributes, used to supply data for the Entry or Locator element you are defining. Multiple Entry and Locator elements are permitted.

The schema consists of two element types:

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

The Entry element has child elements that contain data values:

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

Likewise, the Locator element also has child elements that contain data values:

- Label—A comment for this locator
- Color—the display color for this locator
- Timecode—the absolute or relative timecode for this locator
- Username—the username, for login for Web Services or the Interplay Server
- Track—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.

Here is an example of a metadata XML file, with one Entry and one Locator specified:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<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>Timecode (rel.|abs.): hh:mm:ss:ff</Timecode>
    <Username>username for WS/Interplay Server</Username>
    <Track>Valid video or audio track such as V1 or A1</Track>
  </Locator>
</Metadata>
</xml>
```
Configuring the Interplay Notifier’s Web Services Host Connection

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

1. Select the Interplay Notifier.

2. Click Next to configure connection details for Interplay Web Services:

3. Configure the following parameters for your system:
   - **WS Host**—Specifies the URL or IP address of the Avid Interplay 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.

   **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.
**Note:** Optionally, click Browse on any variable-enabled control to assign a variable, which you will configure upstream in another action to supply the run-time value.

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

5. Click Next to configure the action to perform the Interplay operation you require.
Performing Interplay Operations

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

Here are the Interplay 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, available in Vantage 6.3 UP4 or later, or as a standalone patch for previous versions.
- **Set Headframe**—Creates a headframe image from the specified source.
- **Copy Clip**—Copies the master asset.
- **Move Clip**—Moves the master asset.
- **Delete Clip**—Deletes the master asset. (The media files are not deleted.)

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.

**Note:** Optionally, click Browse on any variable-enabled control to assign a variable, which you will configure upstream in another action to supply the run-time value.
Extracting a Master MOB ID

Note: This is the original method implemented for obtaining a MOB ID; it is an alternative to the simpler Generate MOB ID method using variables (see Creating MOB IDs for Interplay Workflows). It is documented here for legacy purposes.

The purpose of the Master MOB ID in Avid is to uniquely identify an Interplay asset. In the context of a Vantage workflow, you can supply a MOB ID or the Interplay Advanced encoder can generate one automatically, depending on your workflow requirements.

Once a MOB ID has been inserted into media generated by the Interplay Advanced encoder, you can also extract it for use in other actions. For example, you can pass it to another Flip action to create other media files using the same MOB ID. Or, you can pass it to a Notify action to interact with Interplay and perform a variety of operations on an asset by its MOB ID.

Here is a prototype workflow that illustrates the organization of actions to support MOB ID extraction using this method.

To extract a MOB ID from a file created by the Interplay Advanced encoder, you add an Identify action to the workflow. Usually, you place the Identify action immediately after the Flip action (although the only real requirement is that the Notify action has the nickname of the target file that contains the MOB ID you want to extract).

The Master MOB ID is stored in the output media file's Abstract metadata field.
This figure depicts the Identify action Inspector, with a sample configuration:

To configure the Identify action, open the Inspector and follow these steps:

1. **Identifier**—Select Media Metadata from the list.
2. **Input Media File Nickname**—Select the Interplay Advanced encoder’s output media file nickname.
3. **Generate Variables**—Check Abstract and then select some variable to use to store the Master MOB ID for use downstream in other actions.
4. **Click Save** to update the action and close the inspector.
Using Vantage Playback Service for Interplay | Transfer

This application note focuses on setting up and implementing Vantage media processing workflows for transcoding and publishing I-frame media delivered by operators using Avid Media Composer and Interplay | Transfer.

**Note:** Topics in this chapter apply to Interplay | Transfer versions 2.7, 3.0.5, 3.2, 3.6.2, and 2017.2.1 (qualified with Interplay | Production 3.8). Where there are differences, they are noted.

**Topics**
- Overview
- Version Requirements
- Send to Playback & QuickTime Export Options
- Implementing Avid-to-Vantage Media Processing Workflows
- Transferring Sequences to Vantage
- Troubleshooting
- Telestream Intermediary Format (TIFO)
- Uninstalling Old Versions of the Vantage Playback Service
- Supported Avid Media Formats

**Note:** When you are installing software or modifying Avid programs or systems, always confer and coordinate with your Avid systems administrator or manager to make these changes, including restarting any services. Always refer to Avid documentation if you have questions about the use of their products.
Overview

Telestream’s Playback Service for Avid Interplay | Transfer enables editors using Avid Media Composer with the Interplay Transfer Engine to easily save sequences as Telestream Intermediary Format (TIFO) files. This enables open file workflows—where the files can be transcoded as they are being written, allowing you to create one or more encoded output files as the source file is being written.

The Vantage Playback Service for Avid Interplay Transfer Engine is a Windows service installed on an Avid Interplay Transfer Engine server. Vantage Playback Service enables editors using Media Composer with Interplay Transfer Engine to save edited sequences as Telestream Intermediary Format (TIFO) files so that they can be immediately processed by Vantage while being exported.

This illustration depicts an Avid-Vantage media processing workflow using Send to Playback:

In practice, an Avid operator sends a sequence from Media Composer to a playback device. The Interplay Transfer Engine transparently uses the Vantage Playback Service to save the media as a TIFO file and store it in a share monitored by a Vantage workflow. When a new file is identified, a job is started, and the media file is processed, transcoding the media to suit your requirements.

You can install the Playback service in any supported Avid configuration (see Implementing Avid-to-Vantage Media Processing Workflows) and on as many Interplay Transfer Engine servers as required, and you can create multiple playback devices and Vantage workflows to suit your media processing requirements.

When you have completed the implementation steps outlined in Implementing Avid-to-Vantage Media Processing Workflows, please proceed to Transferring Sequences to Vantage to learn how to utilize your Avid-Telestream media processing system. If you have problems with your system, review the Troubleshooting topic for assistance.
**Version Requirements**

Version requirements are listed by Vantage Playback Service version:

**Vantage Playback Service 2.7 | 3.0.5 | 3.2**

When using Vantage Playback Service version 2.7 | 3.0.5 | 3.2 (must match the version of Interplay | Transfer that you are using), the following versions are required:

- Vantage 6.2 or later
- Avid Interplay | Transfer version 2.7 | 3.0.5 | 3.2
- Microsoft .Net Framework 4.0
- Avid Media Composer 7.0 or later or NewsCutter 10.0 or later

**Vantage Playback Service 3.6.2**

The following versions are required when using Vantage Playback Service 3.6.2:

- Vantage 7.0
- Telestream Transcode & Analysis Engine 2017.4
- Telestream recommends using the Telestream decoder in your transcoder actions
- Avid Interplay | Transfer version 3.6.2
- Media Composer 8.0 or later.

**Vantage Playback Service 2017.2.1**

**Note:** The name of the installer is PlaybackServiceInstaller_TE_3.8.0.msi. When viewing the product from Programs and Features, the name is displayed as TE 3.8 PlaybackService V15.0. However, the correct version is 2017.2.1, and it was qualified with Interplay | Production 3.8.0.

The following versions are required when using Vantage Playback Service 2017.2.1:

- Vantage 7.1 UP1
- Telestream Transcode & Analysis Engine 2018.4

**Note:** Telestream recommends using the Telestream decoder in transcoder actions.

- Avid Interplay | Transfer version 2017.2.1
- Avid Interplay | Production 3.8.0
- Media Composer 2018.4 or later
Using Vantage Playback Service for Interplay | Transfer
Send to Playback & QuickTime Export Options

**Note:** In versions 8.10 through 2018.3 you are unable to login to Interplay | Production servers; however Avid fixed this issue in version 2018.4.

**Avid Data Track Support**

- 608/708 captions
- XDS data
  - Program Name
  - V-Chip/Content Advisory Information
  - Ratings
- Active Format Description

**Transcode/Direct Convert Formats**

- AVC Intra 50/100 720p, 1080i, 1080p
- DNxHD 720p/1080i/1080p
- DV/DVCPRO NTSC/PAL
- DVCPRO HD 720p/1080i
- IMX 30/40/50 NTSC/PAL
- Up to 16 audio channels

**Note:** 10-bit mastering quality video is processed as Full Quality (8-bit) by Vantage.

**Send to Playback & QuickTime Export Options**

Understanding your workflow requirements and choosing the right process for the job at hand is an important aspect in assessing which approach is best for your facility.

You can use either Send to Playback transfers or QuickTime exports, depending on your workflow requirements. Workflows implemented with Send To Playback transfers or QuickTime exports of QuickTime reference movies are limited to I-Frame media; QuickTime exports of self-contained QuickTime movies are not bound by this limit.

**Note:** When exporting QuickTime reference movies, there should be no source media on local drives, you should use black instead of Avid Filler, and render all effects.

In Media Composer, you can use the Send To Playback command to transfer sequences to Vantage for transcoding. This eliminates the need to perform a QuickTime export and is simpler, in that you don’t need to check export settings, for example. Send to Playback transfers preserve the composition timecode and support up to 8 audio channels.
The process is slightly different in Avid Assist, the viewing and logging application. In Avid Assist, you can directly select a single clip (or a series of shots) and then use the Send to Playback command to transfer the clip to Vantage. (In the background, the selected clip is added a sequence before the transfer occurs.)
Implementing Avid-to-Vantage Media Processing Workflows

Before you can submit media to Vantage workflows for processing, you need to make sure your Avid system is operational, install Telestream software, perform some configuration tasks, and create and activate a Vantage workflow.

- Supported Avid Interplay | Transfer Configurations
- Installation Tasks

Supported Avid Interplay | Transfer Configurations

Avid Interplay | Transfer supports three configurations (as noted in the Avid ReadMe):

- A dedicated Interplay | Transfer server connected to an Interplay environment with a shared storage system, such as ISIS.
- Standalone Interplay | Transfer software installed on an Avid editing system, connected to Avid shared storage without an Avid Interplay Engine. Each client must install both Interplay | Transfer and Interplay | Transfer client software.
- Standalone Interplay | Transfer software installed on an Avid editing system with local storage.

The following diagrams depict these Avid systems, including key software components.

Avid Client & Transfer Engine on Dedicated Computers in Interplay ISIS Workgroup

In this configuration, the Interplay Transfer Engine is hosted on a dedicated computer, separate from Media Composer client computers.
Avid Client & Transfer Engine on One Computer—Shared Storage

In this configuration, Avid editing clients are on a computer that also hosts Interplay Transfer Engine, utilizing Avid shared storage.

Avid Client & Transfer Engine on an Edit Workstation with Local Storage

In this configuration, Avid editing clients are on a computer that also hosts Interplay Transfer Engine, utilizing only local storage.
Installation Tasks

This topic assumes that your Avid system—Avid Interplay Transfer Engine and/or Media Composer clients—is already installed and operational.

Proceed with these steps:

1. **Installing the Vantage Playback Service**—Installing the Playback service on your Interplay Transfer Engine computer.

2. **Configuring the Interplay Transfer Engine**—Configuring the Interplay Transfer Engine to work with the Playback service.

3. **Managing Transfer Engine Playback Devices**—Creating a playback device entry in the Playback service.

4. **Managing The Vantage Playback Service**—Creating a playback device for the Interplay Transfer Engine.

5. **Configuring Media Composer for the Playback Service**—Configuring Media Composer to work with the Playback service.

6. **Setting up an Avid-Export Vantage Workflow**—Creating a workflow where the Watch action monitors the storage location identified by the playback device entry.

Installing the Vantage Playback Service

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

Use this topic to install the Vantage Playback Service on computers running Interplay | Transfer including Avid components for Avid shared storage support. Microsoft .NET 3.5 must also be installed. Make sure that the Vantage Playback Service version matches the version of Interplay | Transfer you are using.

**Note:** If your system has an older version of the Playback service on it, review **Uninstalling Old Versions of the Vantage Playback Service** before proceeding.

Vantage Playback Service V3.0.5 and later installers install 64-bit software for compatibility with the Avid Interplay Transfer Engine V3.0.5 or later. (Previous versions are 32-bit.)

Follow these steps to install the Vantage Playback Service:

- **Stopping AvSony & Pluto PlayServer Services**
- **Obtaining the Playback Service Installer**
- **Installing the Playback Service**

**Stopping AvSony & Pluto PlayServer Services**

If these services are running on an Avid Transfer server where you are installing the Vantage Playback Service, you should stop and disable them before using Vantage with...
Avid systems. They conflict with the Vantage Playback Service, preventing it from functioning properly.

1. Open the Services control panel (Control Panel > Administrative Tools > Services). For each service—AvSony and Pluto PlayServer—follow these steps to modify their startup property:
   a. Locate the service in the list.
   b. If the service is running, stop it.
   c. Right-click on the service and select Properties.
   d. Change the Startup type to Manual, click Apply and close the window.
2. When you're done, close the Services window.

Obtaining the Playback Service Installer

To obtain the Playback Service installer, follow these steps:

1. Go to the Telestream Web site Vantage Downloads page and log in.
2. Scroll down to view the tabbed area—click on the Additional Components tab.
3. Click on the Download Now link for the Playback Service for Avid Interplay | Transfer installer of the required version and download it.
4. Copy the installer to the computer where the Interplay Transfer Engine is installed or to a shared location that the computer can access.

Meeting Platform Requirements (version 3.6.2 only)

Review and perform the tasks as appropriate to satisfy these requirements:

1. Before running the Playback Service installer on a Windows 7 Professional or Windows Server 2012 R2 Avid Transfer Engine server, you must install the Visual C++ 2015 redistributable. The installer (vc_redist.x64.exe) is included with the Playback Service download package on the Telestream web site.
2. On clean images of Windows Server 2012 that have not been updated there is a dependency for a Windows DLL. During installation, this error is displayed: “PlaybackOutWorker.exe requires api-ms-win-crt-runtime-l1-1-0.dll”. This file is available in the Windows Server 2012 R2 (KB2999226) update.
   This update also requires other pre-requisites; Microsoft recommends running Windows Update directly on the server to resolve the dependencies.

Installing the Playback Service

The Playback service is typically installed on each computer running the Avid Transfer Engine which is going to be used to transfer media to Vantage.

To install the Vantage Playback Service, follow these steps:

Open/unzip the installer Zip file and run the TE Component Prerequisites installer to install all required DLL library files. Skip this step if you are using a version of the Avid Interplay Transfer Engine that is newer than V3.0.5.

1. Now, run the Playback Service installer.
2. If an Open File security warning displays, click Run to continue.
3. The installer displays the Welcome panel. Click Next.
4. **License Agreement Panel**—Select I Agree (if you do), and click Next.
5. **Select Installation Folder**—Accept the default folder or select another location and click Next.
6. **Confirm Installation**—Click Next to start installation.
7. **Installing Playback Service**—Wait for installation to complete.
8. If the Playback Service Manager window displays, do not enter any information. Just click Exit to close the window.
9. **Installation Complete**—Click Close to exit the installer.
10. After installation, double-click the `TSInstallPlaybackService` icon on the desktop to run the bat file, which deletes temporary files after installation.
11. Restart the computer.

**Configuring the Interplay Transfer Engine**

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes. Always restart the Interplay Transfer Engine after making changes to the Avid Interplay Configuration or the Telestream TransferManager Configuration.

Some settings in the Interplay Transfer Engine Configuration Manager must be set specifically to support the Vantage Playback Service. This is a one-time task.
To verify or update the settings, start the Interplay Transfer Engine Configuration Manager to display the Configuration Manager window (typically at C:\Program Files\Avid\Interplay Transfer Engine\TRANSFERMGRSERVERCONFIG\tmconfig.exe.)

Update these settings as necessary in the Playback panel (bottom center):

**Playback Transfers Enabled.** Check this option to enable playback transfers.

**Max. Simultaneous Playback Transfers.** Enter the value 4.

If you plan to add a playback device now, go to *Managing Transfer Engine Playback Devices* and continue. Otherwise Click OK to save the changes and close the program.

**Managing Transfer Engine Playback Devices**

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

For each destination folder you plan to use in your workflows, you must update the Interplay Transfer Engine to provide a dedicated playback device. (Typically, one destination folder for each workflow.) Each playback device must have a unique name and use a dedicated port number.

**Note:** You’ll set up at least one playback device initially, then add or modify devices as your workflow requirements change. For each playback device you have, you need to
create a corresponding playback device entry in the Vantage Playback Service Manager. Always restart the Playback service after making changes.

- Adding or Editing Playback Devices
- Deleting Playback Devices
- Restarting the Interplay Transfer Engine

**Adding or Editing Playback Devices**

To manage playback devices, start the Interplay Transfer Engine Configuration Manager to display the Configuration Manager Window. (C:\Program Files\Avid\Interplay Transfer Engine\TRANSFERMGRSERVERCONFIG\tmconfig.exe.)
In the Playback panel (bottom center), click Add, or select a playback device and click Edit to display this dialog:

Enter/update the following settings:

**Profile Name.** A descriptive phrase. For example, the destination share name or the media format for this workflow.

**Device Name.** The name of the device. This name should describe the purpose of the playback device or the workflow in which it is utilized. It cannot contain spaces.

**Service Host.** The name of the computer where the Transfer Engine and the Vantage Playback Service is running.

**Service Port.** The port number to be used for this file destination. Suggested ports: 8001-65535. This port number must match the port entered in the Playback Device entry in the Vantage Playback Service Manager (Adding or Editing Playback Devices). This is the parameter that ties the two entries together.

**Tape ID.** Specify the tape ID as appropriate.

**Catalog.** Check these options as appropriate for your requirements:

Click OK to save the playback device and close the dialog.

When you have created the playback device entry, the name is auto-generated and listed in the Playback panel’s Playback devices list (item 2, above: `<Profile Name>/{<ingest service computer:port>/<device name>}`).

When adding a device, be sure to add the corresponding playback device entry in the Playback Service Manager (see Adding or Editing Playback Device Entries). Restart both the Interplay Transfer Engine and the Playback service.

**Deleting Playback Devices**

Select the playback device you want to remove from the list in the Playback Devices list, and click Delete to remove the playback device.
Save and close the configuration program.

Be sure to delete the corresponding playback device entry in the Playback Service Manager (see Deleting a Playback Device Entry).

Restart both the Interplay Transfer Engine and the Playback service.

**Restarting the Interplay Transfer Engine**

Each time you make changes to your playback device list, you need to re-start the Interplay Transfer Engine program (not the Transfer Engine server) to obtain and publish the new list of Avid playback devices and ports.

**Managing The Vantage Playback Service**

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

You use the Playback Service Manager (also referred to as the Playback Service Configuration Utility) to manage playback device entries—providing one playback device entry for each playback device you have in the Interplay Transfer Engine.

You’ll typically set up at least one playback device entry initially, then add or modify entries in the Playback Service Manager as your playback device and workflow requirements change. Recall that for each playback device you have, you need to create a corresponding playback device entry in the Interplay Transfer Engine Configuration Manager. The Playback Service Manager publishes these device entries for use by the Playback service under control of the Interplay Transfer Engine.

- Starting the Playback Service Manager
- Adding or Editing Playback Device Entries
- Deleting a Playback Device Entry
- Restarting the Playback Service

**Note:** Each time you add, delete, or modify playback device entries, you need to restart the Playback service in order to obtain the current set of device entries. (See Restarting the Playback Service). Always restart the Interplay Transfer Engine after making changes to the Avid Interplay Configuration or the Telestream TransferManager Configuration.
Starting the Playback Service Manager

Double-click the TSPlaybackService_IF icon on the desktop, or navigate to the installation folder and start TSPlaybackService_IF.exe from there. When it starts, the Playback Service Manager window displays:

![Playback Service Manager](image1)

Adding or Editing Playback Device Entries

Click ADD or select an entry and click EDIT to display the Playback Device Entry dialog:

![Playback Device Entry](image2)

Update the following settings:

**Port.** The unique port number to be used for this destination path. Suggested ports: 8001-65535. This port number must match the port entered in the Playback Device entry in the Interplay Transfer Engine Configuration Manager ([Adding or Editing Playback Devices](#)). This is the parameter that ties the two entries—playback device and destination path—together.

**Note:** While you’re unlikely to select a port already in use and create a conflict, you can open a command window (Start > Run, enter `cmd` and press OK) and run `netstat` -a to obtain a list of ports in use on this computer.

Select one or more of these Name choices (at least one must be selected) to use these values when composing the file name for all files sent to this destination:

- **VideoID in Name.** Unique material identifier specified in TapeID or VideoID attributes in the Interplay environment.
- **NameID in Name.** Display name of the associated sequence in the Interplay environment.
**MobID in Name.** The internal system identifier used by Interplay to track the video sequence.

**TIFO File Destination.** Click Browse to navigate and select a server and folder or manually enter a fully-qualified path where the files are to be stored for retrieval by the target Vantage workflow, which monitors the destination path when the workflow is activated. The path may be a local path—although it is unlikely that all systems (Avid and Vantage) are running on the same computer—or a network server path. It should be a share with full read/write privileges, so that Vantage can access the media.

This path must be the same path configured in the Watch action of your target Vantage workflow (*Setting up an Avid-Export Vantage Workflow*).

When you’re done, click OK.

**Deleting a Playback Device Entry**

If you delete an Interplay Transfer Engine playback device, you should also delete the associated playback device entry in the Playback Service Manager.

**Restarting the Playback Service**

After modifying playback device entries in the Playback Service Manager, you must restart the Playback service to pick up the current set of entries for use by the Interplay Transfer Engine.

To restart the Vantage Playback Service, choose one of these options:

- In the Playback Service Manager, click the Restart TS_PlaybackService button.
- OR—
- Open the Windows Services (Control Panel > Administrative Tools > Services) panel, locate the TS_PlaybackService service, and click Restart.

**Note:** If you attempt to exit the Playback Service Manager after making changes to playback device entries, the program will display a restart dialog to remind you. Click Yes to confirm that you want to restart the service.
Configuring Media Composer for the Playback Service

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

To set up Media Composer to use the Playback service, follow these general steps:

1. Run Media Composer and display the Settings tab in the Bin window.
2. Double-click the Transfer item to display the Transfer Settings dialog.
3. In the Settings tab, select Direct Channel Output. Other settings may be configured per your requirements.
4. In the TMClient.ini tab, make sure that the settings are appropriate for your network environment.
5. Click OK when finished.

**Note:** For complete details on configuring Avid Media Composer, see its guide.

Setting up an Avid-Export Vantage Workflow

For each playback device you use, you need to create one or more Vantage workflows to monitor the destination folder. When the workflow is activated, it polls the directory and—for each new file added to the folder—it starts a job to process the media through the workflow:

Here is a simple, prototype workflow. Yours will be designed and configured to process the media exported from Media Composer to Vantage, to suit your media processing requirements.

The Watch action should be configured to poll the TIFO file destination path specified in the playback device entry in the Vantage Playback Service Configuration Manager (*Managing The Vantage Playback Service*).

**Note:** You can enable the Submit Immediately option in the Watch if you want to start the job as soon as the file is created, and encode the media as it is being written.
Transferring Sequences to Vantage

This topic describes a typical method (among others) of using Media Composer to send sequences to the Vantage Playback Service for processing by a Vantage workflow.

1. In Media Composer, select a sequence from a bin directory.

2. Select Transfer > Send To Playback > <Playback Device> or right-click the sequence and select Send To Playback > <Playback Device>.

3. Provide the sequence with a tape ID (no spaces allowed). The Interplay Transfer Engine won’t transfer the sequence without a Tape ID.

4. Click OK to send the clip.

The sequence is sent to the Interplay Transfer Engine, which sends it to the selected playback device. (If you attempt to send a sequence with the same tape ID as one already in the Transfer Engine an error displays. To overwrite the tape ID name, select the Overwrite option.)

The Interplay Transfer Engine connects with the Playback service to save the media as a TIFO file in the destination path specified by the playback device you selected.

**Note:** If there are un-rendered effects in the timeline, Media Composer renders the sequence automatically before the transfer starts.

When the sequence has been transferred, the TIFO file in the target folder is ingested by the Watch action in your workflow for processing.

**Note:** Processing TIFO files generated by the Vantage Playback Service in a Vantage workflow that are stored on ISIS storage can result in slow transcode times when you are using the TIFO decoder in the transcode action. Telestream recommends using the Telestream decoder in Telestream Transcode & Analysis Engine v2017.4 or greater if you are experiencing this issue.
Troubleshooting

If you are having problems successfully transferring a sequence to a workflow in Vantage, review these tips.

Note: If you are still having problems, contact Telestream Customer Service for assistance.

- Confirm that the target Transfer Engine is running.
- Confirm that the Vantage Playback Service is running. (Sometimes you have to start Playback service using the Windows control panel.)
- Make sure to restart the Playback service after adding or modifying a Playback device entry.
- Be sure to enter a Tape ID in a sequence.
- Confirm that Media Composer is connected to the Interplay | Transfer server (Transfer > Connect to Server).
- Confirm that your Vantage workflow is active in Workflow Designer.
- Confirm that your Vantage workflow's Watch action is monitoring the correct share.
- Confirm that the destination path in your playback devices is a share.
- Confirm that the share has full rights for everyone.
- Confirm that you are not referencing a local drive letter directory instead of a share.
- In the TMClient.ini tab, make sure that settings are appropriate for your network.
Telestream Intermediary Format (TIFO)

Telestream Intermediary Format (TIFO) is a proprietary, intermediate media wrapper format designed by Telestream as a lightweight, uniform, interchangeable file format to ensure interoperability among Telestream’s media processing solutions including Vantage, Episode, and Pipeline.

TIFO provides a low-overhead wrapper that is essence-agnostic, with metadata, timecode, and closed caption support. TIFO improves the ability to move media files between Telestream products with all media essence elements & metadata intact, preserving the widest range of transcoding options.

Workflow Considerations

TIFO format should be used when you are encoding your files with Vantage or Episode. TIFO files are unique, in that they can be transcoded as they are being written, allowing you to create multiple different output files much faster. TIFO files can also contain metadata such as closed captions and time code for processing by Vantage or Episode.

Usage Considerations

TIFO files are a Telestream proprietary format and aren’t playable or readable by non-Telestream applications. You should only use TIFO format if your workflow requires transcoding by Telestream workflow automation applications. The maximum length of a TIFO file is 12 hours.
Uninstalling Old Versions of the Vantage Playback Service

**Note:** Be sure to coordinate with your Avid systems administrator to make changes.

To determine if an old Vantage Playback Service is installed on a Media Composer computer, display the Add/Remove Programs | Programs and Features control panel. Locate the Playback service and note the version. Or, locate the PlaybackService_IF.exe file and display its properties to determine the version. Proceed to the appropriate topic for uninstallation, following.

### Uninstalling Playback Service V2.0 or Earlier

To uninstall the Playback service version 2.0 or earlier, follow these steps:

1. Open a command window and navigate to the folder where the Playback service files are located. Enter `cd <path to files>` and press the Enter key. *(For example: cd C:\Program Files\Telestream\Telestream_Avid_PlaybackService)*.

2. Run the command: `TS_PlaybackService.exe -Install /u`. This runs the uninstall function and you should see about thirty lines of text, followed by the phrase *Uninstalled successfully*.

3. Delete the following files:
   - TS_PlaybackService.exe
   - PlaybackService_IF.exe
   - TS_AvidPlaybackVC7.dll file

4. To make sure you have removed all files, in Windows Explorer run a search on the C drive with the search string: *Playback*. Delete all occurrences of these files.

5. Restart your computer.

### Uninstalling Playback Service Version 2.1 or Newer

To uninstall Playback Service v2.1 or later, follow these steps:

1. Close all applications.

2. Run the `TS_UnInstallPlaybackService` bat file—double-click the icon to uninstall the Playback service correctly (typically located on the desktop or in C:\Program Files (x86)\Telestream\Telestream_Avid_PlaybackService).

3. Locate and run the `PlaybackServiceInstaller_TE_x.x_Vxx.x.msi` file. If.

4. Select Remove, and click Finish.

5. If you can’t locate the file, display the Add/Remove Programs | Programs and Features control panel, locate the program and double-click it. Click Yes to remove the program.

6. When it finishes, restart your computer.
Supported Avid Media Formats

The following I-Frame media formats can be processed by Vantage via the Vantage Playback Service.

**Note:** 10-bit mastering quality video is processed as Full Quality (8-bit) by Vantage.

Support for ancillary data tracks includes:
- 608/708 captions
- XDS
  - Program Name
  - V-Chip/Content Advisory Information
  - Ratings
- Active Format Description

### Media Formats

#### HD Formats
- **720P Media Formats**
- **1080i Media Formats**
- **1080p Media Formats**

#### SD Formats
- **480i Media Formats**
- **480p Media Formats**
- **576i Media Formats**
- **576p Media Formats**
### 720P Media Formats

<table>
<thead>
<tr>
<th>720P Media Format</th>
<th>Rate (fps)</th>
<th>Frame Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNxHD 60 MXF</td>
<td>23.976</td>
<td>1280x720</td>
</tr>
<tr>
<td>DNxHD 90 MXF</td>
<td>23.976</td>
<td>1280x720</td>
</tr>
<tr>
<td>DNxHD 90 X MXF</td>
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### 576i Media Formats

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Ingesting Media into Avid via Interplay Transfer Engine

This application note describes how to set up and implement media processing workflows for automatically transferring Vantage-originated media into an Avid system for import into Media Composer via Interplay Transfer Engine.

**Note:** This application note applies to Interplay Transfer Engine V2.7.0 and V3.0.5. Where differences apply, they are noted.

**Note:** Unlike the Interplay Advanced encoder, which can transcode high-resolution and proxy media in parallel with Frame Chase editing, the Avid AAF Encoder produces a single media file per Flip action, with Frame Chase editing in single-resolution workflows only.

**Topics**

- Overview
- Software Version Requirements
- Licensing Requirements
- Supported Interplay Transfer Engine Configurations
- Implementing Avid-Telestream Workflows
- Troubleshooting
- Supported Avid Media Formats

**Note:** When you are installing software or otherwise modifying Avid programs or systems, always confer and coordinate with your Avid systems administrator to make these changes, including restarting any systems. Always refer to Avid documentation if you have questions about the use of Avid products.
Overview

To facilitate the automatic ingest of media from Vantage workflows into Avid systems via Interplay Transfer Engine, Vantage provides these Components in the Vantage Component for Avid Interplay Transfer Engine:

- Avid Transfer Engine encoder
- Telestream Receiver—an Avid Transfer Engine Data Handler Module (DHM)

Note: Avid’s DHM toolkit is used in Vantage to work with Interplay Transfer and Transfer Engine for playback and ingest transfers. These transfers are distinct from standard file transfers: they convert a sequence to/from a stream of video frames and audio samples that are transferred over a network. For example, during an ingest, the Transfer program accepts a multiplexed stream of video and audio and converts it into an Avid-compatible clip by wrapping it in MXF, AAF, or OMF format and checking the metadata into the Interplay Engine.

These components work together to enable Vantage workflows to automatically submit transcoded media to an Interplay Transfer Engine for background clip ingest, re-wrapping, and writing to an Avid editing storage volume (ISIS or DAS) for import into Media Composer by operators.

During Vantage workflow execution, the raw media stream is generated by the Avid Transfer Engine encoder (executing in a Flip action), and transmitted to the Telestream Receiver via a Deploy action, which passes it on to the Avid Transfer Engine as it is being encoded. The encoder creates the media in a video compression supported by Transfer Engine. Thus, no re-encoding is required when writing the media files to Avid storage. The Transfer Engine direct-converts the media to an Avid-compatible MXF OP-Atom file, and writes the media file in the correct directory for an Avid editing client to import.
Features

The Transfer Engine encoder and Receiver provide several features:

- Background ingest of media to the directory managed by the Avid linking model
- Deploys into standalone, network storage, and Interplay-equipped environments
- Works for both Direct Attached Storage and shared storage users
- Deploys into an Interplay PAM environment when the Transfer Engine is configured to notify the Interplay system upon receipt of media from a Vantage workflow.
- The Vantage Avid Transfer Engine encoder supports a broad set of media formats (see Supported Avid Media Formats).

These media processing workflows may require a dedicated Avid Transfer Engine server for deployment into an Interplay Production Asset Management system.

Transcode/Direct Convert Formats

You can encode media in the following media formats using the Transfer Engine encoder:

- AVC Intra 100 720p/1080i
- DNxHD 720p/1080i/1080p
- DV/DVCPRO NTSC/PAL
- DVCPRO HD 720p/1080i
- IMX 30, 40, & 50 NTSC/PAL
- XDCAM HD 4:2:0/4:2:2
Software Version Requirements

The following software versions are required:

- Vantage version 6.0 or later
- Avid Interplay Transfer Engine version 2.7.0* or 3.0.5
- Avid Interplay Transfer Client 32-bit installer that matches the Telestream version.
- Avid Media Composer 6.5 or later or NewsCutter 10.0 or later

*Interplay Transfer Engine 2.7.5 or other 2.7 versions is not supported.

Licensing Requirements

Use of the Vantage Avid Transfer Engine encoder requires a Vantage ProConnect License. Contact your Telestream account manager or Telestream Customer Service (see Telestream Contact Information) for information about purchasing Vantage licenses.
Supported Interplay Transfer Engine Configurations

Avid Interplay Transfer Engine supports the following configurations:
- Avid Client & Transfer Engine in Interplay ISIS Workgroup
- Avid Client & Transfer Engine with ISIS Shared Storage
- Avid Client & Transfer Engine with Local Storage

The following diagrams depict these Avid systems, including key software components from both Avid and Telestream. Avid components are indicated in purple; Vantage components in orange.

Avid Client & Transfer Engine in Interplay ISIS Workgroup

In this configuration, the Avid Client and Interplay Transfer Engine components are hosted on a dedicated Interplay Transfer server connected to an Interplay environment that includes an Avid ISIS shared storage system.

The Media Composer systems are on separate workstations, all sharing ISIS storage.

Avid Client & Transfer Engine with ISIS Shared Storage

In this configuration, Avid edit clients are on a single, standalone edit workstation that also hosts Interplay Transfer Engine, connected to Avid ISIS shared storage. Each client must also have Interplay Transfer Client installed.

As in the previous illustration, all Avid components share ISIS storage.
Avid Client & Transfer Engine with Local Storage

In this configuration, Avid edit clients are also on a single, standalone computer that hosts Interplay Transfer Engine.

In this case, however, the Avid clients utilize local storage.
Implementing Avid-Telestream Workflows

Before you can process media in Vantage workflows and automatically deliver it to an Interplay Transfer Engine, your Avid system must be operational and be configured appropriately. You must also install Telestream software, perform some configuration tasks on both systems, and create and configure one or more Vantage workflows.

**Note:** These procedures assume that your Avid system is already installed and is fully operational. Ensure that your Avid system is operational before proceeding.

Tasks include:

1. **Installing the Avid Interplay Transfer Client**—Installing the Avid Interplay Transfer Client on both the Avid and Vantage systems.

2. **Installing the Vantage Component for Avid Interplay Transfer Engine**—Installing the Telestream Receiver and configuring the Telestream TransferManager Client.

3. **Interplay Transfer Engine 3.0.5 Only—Installing Hot Fix**—Installing the Avid Hot Fix.

4. **Configuring the Transfer Engine**—Configuring the Interplay Transfer Engine to work with the Telestream TransferManager Client.

5. **Configuring the Telestream TransferManager Client**—Setting up the Vantage domain to identify the Transfer Engine servers you are utilizing.

6. **Sharing the Media Output Location**—Setting up the media output folder as a share.

7. **Setting up a Vantage Transfer Engine Workflow**—Creating a Vantage workflow to encode your media and deploy it to a specific destination folder that is monitored by the Telestream Receiver for automatic ingest via Avid’s Transfer Engine.

Installing the Avid Interplay Transfer Client

Use this topic to install the Avid Interplay Transfer Client.

**Note:** The Avid Interplay Transfer Client is presumed to already be installed on each Avid Transfer Engine server being used to transfer assets to another workgroup or playback device.

Install the appropriate version of the Avid Interplay Transfer Client on all Vantage servers running the Vantage Transport Service. Use the Avid Interplay Transfer Client 32-bit installer to install the 32-bit version on either a 32 or 64-bit operating system.
Installing the Vantage Component for Avid Interplay Transfer Engine

Use this topic to install the Vantage Component for Avid Interplay Transfer Engine on each Vantage domain computer running the Vantage Transport Service. The installer installs DLL library files, a configuration utility, a ReadMe file, and other miscellaneous files.

In an All-in-One domain, you install them on the Vantage domain computer. In a distributed domain (Vantage array), you need to identify each computer in the domain where the Vantage Transport Service is running. Typically, the Vantage Transport Service is running on the database server. However, in a large domain where the database is hosted on a dedicated server, the Vantage Transport Service may be installed and running on multiple servers.

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

Perform these tasks to install the Telestream components:

- **Meeting Prerequisites**
- **Obtaining the Installer**
- **Performing the Installation**
- **Moving the Telestream Receiver to the Interplay Transfer Engine Server**

**Meeting Prerequisites**

Review and meet these prerequisites before proceeding with installation:

1. Have the following information available:
   - The name of the Transfer Engine server
   - The name you plan to assign the ingest device

2. Determine if the Transfer Engine is on the same domain/workgroup as the Vantage domain. If not, you should know the domain/workgroup name that the Transfer Engine is running in.

3. If any target computer has an older version of the Telestream Receiver DLL (*Telestream_Receiver.dll*) on it, delete it.
Obtaining the Installer

To obtain the Vantage Components for Interplay Transfer Engine installer:

1. Go to the Telestream Web site Download Vantage page and log in with your Telestream customer credentials.
2. Scroll down to view the tabbed area and display the Additional Components tab.
3. Under Avid Updates, click the Download Now link for the version you want: Vantage Component for Interplay Transfer Engine version 2.7 or version 3.0.5.
4. Copy the zip file to the target computer or to a share that the server can access.

Performing the Installation

Note: You must stop the Vantage Transport Service prior to installation.

To install the Vantage Components for Interplay Transfer Engine, follow these steps:

1. Open Add/Remove programs and look for the Vantage TM Interplay Components. If present, remove it.
2. Stop the Vantage Transport Service (either in Windows Services or in the Vantage Management Console).
3. Unzip the installer Zip file.
4. Run the TE Component Prerequisites installer (TE_Component_Prerequisites.msi) to install all required DLL library files.
6. If the Open File security warning displays, click Run to continue.
7. The installer displays the Welcome panel. Click Next.
8. License Agreement Panel—Read the license, click I Agree (if you do), and click Next.
9. Pre-Install Check Panel—make sure the Vantage Transport Service is stopped. Click Next to continue.
10. Select Installation Folder Panel—(default: C:\Program Files (x86)\Telesstream\Vantage) or click Browse to select the path where Vantage is installed. Click Next to continue.
11. Confirm Installation panel—Click Next to continue.
12. Installing Vantage TM Interplay Components—wait until complete, and click Next.
13. The installer launches the Telestream Transfer Manager Client. Configure these settings in the Primary Work Group panel to configure Interplay Transfer Engine:

**Workgroup Name.** Domain/workgroup name of the Transfer Engine server.

**Host Name.** Computer name of the Transfer Engine server.

(If you do not have this information at this time, it can be added later. See *Configuring the Telestream TransferManager Client.*)

If you are using more than one Transfer Engine servers add them to the Other Transfer Engine list. Use the Add, Edit, and Delete buttons to create a list of all the other Transfer Engine Servers that will be used.

**Note:** Since the servers in the Other Servers list obtain their license from the primary server, it must always be running. Make sure that the servers in the Other Servers list are running to prevent Vantage workflows from slowing down searching for servers.

14. Click Save to continue.
15. **Component Installation Almost Complete**—click Next to continue.
16. **Installation Complete**—Click Close to quit the installer.
17. Restart the Vantage Transport Service.

**Moving the Telestream Receiver to the Interplay Transfer Engine Server**

**Note:** If a Telestream_Receiver.DLL file already exists, always delete it first.

The *Telestream_Receiver.dll* file must be copied to each Transfer Engine you plan to use (those listed in the Primary Workgroup and Other Transfer Managers in WorkGroup list).

Follow these steps to copy the *Telestream_Receiver.dll* file to each Interplay Transfer Engine server you plan to include in Vantage-Avid media processing workflows:

1. In Windows Explorer, browse to the Vantage installation folder (default: `C:\Program Files (x86)\Telestream\Vantage`) and locate the file named *Telestream_Receiver.dll*.
2. Copy this file.
3. For Interplay version 2.7.0 only—in Windows Explorer, navigate to the Interplay Transfer Engine server, open the `C:\Windows\sysWOW64` directory and paste the file into the directory.
   For Interplay version 3.0.5 only—navigate to the Interplay Transfer Engine server, open the `C:\Windows\System32` directory and paste the file into the directory.

Repeat this process for every Transfer Engine in your list.
Interplay Transfer Engine 3.0.5 Only—Installing Hot Fix

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

For Interplay Transfer Engine 3.0.5 only, use this topic to install an Avid Hot Fix on each Transfer Engine you plan to use (those listed in the Primary Workgroup and Other Transfer Managers in WorkGroup list).

1. Locate the unzipped Vantage Components for Interplay Transfer Engine Version 3.0.5 installer folder.
2. Run the Avid Interplay Transfer Engine Patch 3.0.7.msp installer to install the required Avid Hot Fix.
3. Restart the computer.
Configuring the Transfer Engine

**Note:** Be sure to coordinate with your Avid systems administrator to make these changes or restart any computers.

After copying the *Telestream_Receiver.dll* file to your primary Transfer Engine (and other Transfer Engines as appropriate), each Transfer Engine configuration must be updated.

To manage ingest devices when using Interplay Transfer Engine delivery, start the Interplay Transfer Engine Configuration Manager (double-click the desktop icon). It displays this configuration window:

![Interplay Transfer Engine Configuration Window](image)

Use these steps to configure each Transfer Engine:

- **Specifying Interplay or Standalone Mode Delivery**
- **Adding or Editing Ingest Devices**
- **Deleting Ingest Devices**

**Specifying Interplay or Standalone Mode Delivery**

The Transfer Engine provides two methods for media file delivery: Interplay and Standalone Mode Delivery.

To use the Interplay method, check the Interplay Enabled checkbox in the Workgroup Settings panel in the upper left corner (as shown above) and configure the associated controls appropriately. To use the Standalone Mode Delivery method, uncheck it.
**Adding or Editing Ingest Devices**

**Note:** In the main panel, note the Ingest devices list in the top right Ingest panel.

In the Ingest panel, click Add or select an Ingest Device and click Edit to display this dialog:

![Ingest Devices Dialog](image)

Enter/update the name of the Ingest Device. The Ingest Device name must match the name of the Transfer Engine server.

Save and close the configuration program.

Restart the Interplay Transfer Engine to obtain and publish the new list of Avid ingest devices.

**Deleting Ingest Devices**

Select the device you want to remove from the list and click Delete to remove it.

Save and close the configuration program.

Restart the Interplay Transfer Engine to obtain and publish the new list of Avid ingest devices.
Configuring the Telestream TransferManager Client

To identify the Transfer Engine servers to the Vantage domain, start the Telestream TransferManager Client. To start the program, double-click the shortcut icon named TS_TMClientConfig.

Note: You should have installed this program on the Vantage server in an All-in-One domain, or in a Vantage array on every server running the Vantage Transport Service.

The purpose is to enable the Deploy action to communicate with the required Transfer Engine server or servers during workflow execution. (The Deploy action utilizes the Vantage Transport Service to perform its tasks.)

Follow these steps to configure the Telestream TransferManager Client:
- Configuring the Primary Workgroup
- Managing Multiple Transfer Engine Servers

Configuring the Primary Workgroup

To configure the primary workgroup, follow these steps:

1. In the Workgroup Name field, enter the domain or workgroup name of the Primary Transfer Engine server.
2. In the Host Name field, enter the host name of the primary Transfer Engine server.
3. Click Save and close the program.
Managing Multiple Transfer Engine Servers

In an environment with more than one Transfer Engine, the primary Avid Transfer Engine Server must be running for secondary servers to work. If the primary server is not running, media file transfers from Vantage to the Avid Transfer Engine will fail.

Each of the Vantage domain server (or servers) where the Vantage Transport Service is running require that their Transfer Engine Client Configuration identify the primary server as well as each of the secondary servers.

Adding/Editing Secondary Transfer Engine Servers

In each Telestream TransferManager Client in your Vantage domain, click Add or select a Transfer Engine server, and enter/update the name of each secondary Transfer Engine Server. (TE Servers 2, and 3, for example.)

Deleting Secondary Transfer Engine Servers

Select the secondary Transfer Engine server you want to remove from the list and click Delete to remove it. Then, click Save and close the program.
Sharing the Media Output Location

When a Flip action encodes media, you can specify where new files are written. You can write the file to an available store, specific Vantage store or folder, or other location where the files have been moved, as long as the Telestream Receiver can access the location as a share, with read access.

Upon notification by the Deploy action, the Telestream Receiver reads the media file from the share, using its UNC path. Telestream recommends using either the default Vantage Store (named VantageStore) or a specific path you specify. In a default Vantage installation, the default Vantage store folder is at the path: C:\VantageStore.

Share the media folder (for example, as \Vantage\store or a share name you choose for your specific path) so that the folder can be accessed the Telestream Receiver in your Avid system. The folder must be given read permission to allow the Telestream Receiver to read files.
Setting up a Vantage Transfer Engine Workflow

For each Transfer Engine you target, you should create a separate Vantage workflow to encode your media and deploy it to a specific destination folder that is monitored by the Telestream Receiver on behalf of the Transfer Engine.

- Prototype Transfer Engine Workflow
- Configuring the Flip Action
- Configuring the Deploy Action
- Smart SD/HD Transcoding Workflow

After configuring the workflow, you must activate it before you can start processing media for ingest into your Avid system.

**Note:** When an in-process Avid Transfer Engine Deploy action is stopped, the job state transitions to Stopped By User, but the Avid system doesn't stop ingesting the file until completion, and the progress bar continues to display progress.

Prototype Transfer Engine Workflow

Here is a simple prototype workflow for transcoding and deployment to Transfer Engine, depicted below. Your workflow of course, should be designed and configured to meet your media processing requirements. The essential actions are the Flip and Deploy actions.

The basic workflow includes a Watch action to pick up new media, a Flip action with the Avid Transfer Engine Encoder configured to encode media per Avid requirements, and a Deploy action to deliver the encoded media to the proper location. When the workflow is activated, it polls a directory and—for each new file delivered—it starts a job to process the media through the workflow.

The only requirements for this workflow is that it has a Flip action configured with an Avid Transfer Engine encoder, and a Deploy action to deliver the media to the target destination.
Configuring the Flip Action

The Flip action must be configured with the Avid Transfer Engine encoder, with specific settings, as shown below in the Flip action Inspector.

Configure the Flip action as follows:

- **Encoder**—Avid Transfer Engine Encoder
- **Input Media File Nickname**—Original or other to match the nickname specified in the Watch action
- **Output Media File Nickname**—Output or other to match the nickname specified in the Deploy action
- **Output Location**—Specified as required for your system. The location must be a share, and accessible as a UNC path by the Telestream Receiver on the target Transfer Engine server (see *Sharing the Media Output Location* for details).
- **Decoder**—Auto
- **Container & Video Codec**—see *Supported Avid Media Formats* for details.
- **Audio Codec**—PCM—see *Supported Avid Media Formats* for details.
Configuring the Deploy Action

In order for the Deploy Action to successfully deliver media to your Transfer Engine, it must be configured with certain settings, as shown below in the last panel of the Deploy action Inspector.

Configure the Deploy action as follows:

In the first panel (Copy and Deliver Files):

- **Deployment Type**—Avid Interplay Transfer Engine

In the second panel:

- **Media File Nickname to Deploy**—Output, or other to match the nickname specified in the Flip action.
- **Unity/LAN Share Workspace**—The name of the workspace that the deployed media should be placed in.
  - Leave blank to deliver to the default workspace that you set in the Transfer Engine Configuration utility under Workgroup Settings (top left)—for example, *Workspace 1*.
  - Enter another workspace when you want to override the setting in the Transfer Engine Configuration utility’s No-login Workspace for Incoming Transfers field for the purpose of delivering media to this workspace.
Optionally, bind this setting to a variable to specify the workspace name on a job-by-job basis. An upstream action must extract and supply the workspace name in the Vantage workflow.

- **Transfer Engine Host Name**—The hostname of the server where the primary Transfer Engine/Transfer Manager is running. (Listed in the Ingest Devices list, in the Avid Interplay Transfer Engine Configuration Utility window).

- **Ingest Type**—Specify the format of the output media to be deployed into Avid:
  AAF: Advanced Authoring Format (AAF) is a file format for post production and authoring. It supports audio, video, image, graphics, text, animation, and other forms of media. It also supports metadata that describes how to combine or modify individual sections of media, and supplementary media information.
  OMF: OMF Interchange (OMFI) is a platform-independent file format that stores both media (video, audio, graphics, animation) and the information describing how the media is edited together to form a sequence, referred to as a composition.

- **Metadata Tags**—Click Add New Item to create a new metadata item, and insert metadata tags and their values into the media file.

- **Insert Locators**—Click Add New Item to create a new comment locator, and insert a comment into the media file at the specified timecode. These locators display in the timeline and the comments display in the Markers window of the sequence in Media Composer.

### Smart SD/HD Transcoding Workflow

By binding the Unity/LAN Share Workspace field to a variable, multiple transcode actions in a workflow (each followed by a Deploy action) can dynamically deliver encoded media to different workspaces. This flexibility makes it easier to process media and automatically deliver it to the proper Avid workspace for further processing.

For example, in a smart SD/HD transcoding workflow you can process and deliver both HD and SD files to different workspaces from a single workflow, on a job-by-job basis.
When you bind the workspace to a variable, you need to specify the workspace name that you want to deliver to on a job-by-job basis. Use an upstream action to supply the workspace name to the Deploy action.

In this example workflow, the Identify and Examine actions determine the height of the video and whether curtains or letterhead are used, and the Decide actions act on SD and HD video, respectively, to route it to either an SD or HD Flip action. After transcoding, each Deploy action delivers the media to the appropriate workspace.
Troubleshooting

If you are having problems ingesting media into Media Composer from your Vantage workflow, review these tips.

**Note:** If you are still having problems, contact Telestream Customer Service (Telestream Contact Information) or your Avid systems administrator for assistance.

Confirm the following:

- The target Transfer Engine is running.
- For Interplay Transfer Engine version 3.0.5 only, the Avid Interplay Transfer Engine Patch 3.0.7.msp must be installed on the machine hosting the Avid Transfer Engine.
- The primary Transfer Engine is set and configured in the Avid Transfer Engine Configuration utility as well as the Telestream TransferManager Client(s).
- Your Vantage workflow is active in Workflow Designer.
- Your Vantage workflow’s Watch action is monitoring the correct folder or share for media that you are processing and sending to the Avid system.
- The Vantage media output location is set to the correct UNC path and that the share is properly configured.
- The Avid Interplay Transfer Client version matches the Telestream installer version.
- The Avid Interplay Transfer Client installed on the Vantage domain server is the 32-bit version.
- The Deploy Action Transfer Engine Host Name matches the value entered in the Telestream TransferManager Client Host Name field.
- The Vantage Transport Service is running.
- Media Composer is configured to the Primary Transfer Engine. (Settings>Transfer>TMClient.ini (tab).
- The 32-bit Telestream Receiver (Telestream_Receiver.dll) for Interplay Transfer Engine V2.7.0 is installed in the correct directory (C:\Windows\SysWOW64 folder).
- The 64-bit Telestream Receiver (Telestream_Receiver.dll) for Interplay Transfer Engine V3.0.5 is installed in the correct directory (C:\Windows\System32 folder).
- Authenticate all servers and workstations in the Avid and Vantage environment (Transfer Engine, Vantage & Media Composer).
- Interplay Delivery:
  - Confirm that the Avid Interplay Transfer Configuration settings are set appropriately for your environment.
  - Confirm that the appropriate ISIS Workspace is mounted.
- Security and firewall settings aren't preventing Vantage domain server access.
Supported Avid Media Formats

The following media formats can be processed by Vantage using the Avid Transfer Engine encoder. 10-bit mastering-quality video is processed as Full Quality (8-bit) by Vantage.

Audio is Uncompressed PCM at 48kHz, saved as a WAV file.

All formats except for AVC Intra can use Direct Convert encoders.

- AVCI Media
- DNxHD Media
- DV, DVCPro, and IMX Media
- DVCPro HD Media
- Sony XDCAM 4:2:2 50Mb Media
- Sony XDCAM 4:2:0 Media

AVCI Media

Supported audio: Uncompressed 48kHz PCM with 2, 4, 6, 8 or 16 channels, 16 or 24-bit, saved as a WAV file.

<table>
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<tr>
<th>Format</th>
<th>Rate (fps)</th>
<th>Frame Size</th>
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<tr>
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DNxHD Media

Supported audio: Uncompressed 48kHz PCM with 2, 4, 6, 8 or 16 channels, 16 or 24-bit, saved as a WAV file.

<table>
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**DV, DVCPro, and IMX Media**

Supported audio: Uncompressed 48kHz PCM with 2, 4, 6, 8 or 16 channels, 16 or 24-bit, saved as a WAV file.

### DV25 Format

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<td>720x480</td>
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<tr>
<td>DVCPro25 PAL</td>
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</table>

### IMX Format

<table>
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<th>Format</th>
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<tr>
<td>IMX 50 Mb NTSC</td>
<td>29.97</td>
<td>720x512</td>
</tr>
<tr>
<td>IMX 30 Mb PAL</td>
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<tr>
<td>IMX 50 Mb PAL</td>
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<td>720x608</td>
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</tbody>
</table>
Ingesting Media into Avid via Interplay Transfer Engine

Supported Avid Media Formats

**DVCPRO HD Media**

Supported audio: Uncompressed 48kHz PCM with 2, 4, or 8 channels, 16-bit, saved as a WAV file.

<table>
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<tr>
<th>Format</th>
<th>Rate (fps)</th>
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<tbody>
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<tr>
<td>DVCPRO HD 1080i</td>
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<td>1280x1080</td>
</tr>
<tr>
<td>DVCPRO HD 1080i</td>
<td>50</td>
<td>1280x1080</td>
</tr>
</tbody>
</table>

**Sony XDCAM 4:2:2 50Mb Media**

Supported audio: Uncompressed 48kHz PCM with 8 channels, 16 or 24-bit, saved as a WAV file.

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<th>Format</th>
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</tbody>
</table>

**Sony XDCAM 4:2:0 Media**

Supported audio: Uncompressed 48kHz PCM with 4 or 8 channels, 16 or 24-bit, saved as a WAV file.

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